

**Your reliable
partner for
intelligent
solutions.**

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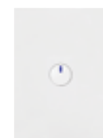


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Switches and Sockets

Building Automation

Trunking Systems

Stronger together



Together with our partners, employees and customers, we have a strong network that is even able to withstand serious crises.



Daniel Hager
Hager Group CEO

Dear customers, partners and friends of Hager Group,

We live in a time when the ability to react swiftly to changing circumstances is becoming increasingly important. In the face of unpredictability, however, it is equally important to remain focused on your chosen path and to respond to whatever life throws your way calmly, reflectively and with a level head.

There is a special strength in pulling together, in finding common ground, in talking to each other and understanding what the other party needs most and how we can support them. What 2020 and 2021 has shown us at Hager Group is that, together with our partners, employees and customers, we have a strong network that is even able to withstand serious crises. We have learned just how quickly nowadays seemingly distant events can have a global impact on us all. However, the fact that our world is growing ever smaller also presents us with an opportunity to address problems more quickly and effectively together; by being there for one another and finding solutions together.

It is this certitude that makes me look forward with optimism. It is up to us to turn the challenges of this time into opportunities.

Today, our awareness of the importance of our living and working environment is more heightened than ever. And never before have we had such an opportunity to have a positive influence on the design of these important living spaces.

Let us be courageous together and develop ideas about our contribution to achieving a low-carbon world. As a family company committed to sustainable business, we look forward to working with you on solutions that will make the world of tomorrow safer, cleaner and more enjoyable.

Committed to shaping our future together. In this, we continue to rely on the close relationships we have built up with you over the past 66 years.

A handwritten signature in black ink that reads "Daniel Hager". The signature is fluid and cursive, with a long horizontal stroke at the end.

Yours sincerely,
Daniel Hager

Under one roof

Members
of Hager Group

:hager

B.
Berker

ELCOM.

DAITEM

diagral

ENERGY STORAGE
E3A DC

B BOCCHIOTTI

B IBOCO

One family

The world is changing, and we are changing with it. As a family company, we have grown over the last sixty-five years to become a reliable partner to expert technicians and electrical wholesalers around the world. With more than 11,500 employees and annual sales of €2.3 billion, we have a huge capacity for innovation. All while remaining true to ourselves and to our values. And so we continue today, with a number of well-known brands, each with their own distinctive strengths, working together under the Hager Group umbrella.

Hager Forum in Obernai, France, is a place where we can work with customers and partners to shape the future. It is the perfect symbol of the innovative power of Hager Group.

hagergroup



Your trust

As a partner and customer, you can choose from the entire range of products and services offered by every member of our brand family. For our part, we rely on feedback, ideas and involvement of our customers and partners in the electrical trade. Precise market knowledge and our close relationship with the trade and with end customers have always been the cornerstone of our success. We are now active in more than 100 countries all over the world, yet remain as close to our customers and their individual needs as we have ever been.

Our strengths

We have huge opportunities ahead: the modernisation of existing buildings, intelligent building technology, digital services, new energy sources and technologies: all of this opens up new, exciting potential for you and for us. At the same time, our business requirements are becoming more and more complex. That's why it's so important for you to have Hager Group specialists supporting you with all their expertise. Together, we are stronger. Together, we will overcome the complex challenges of our time with simple, ingenious solutions, just as we have been doing for more than six decades.

Sustainable success with E3

As a family-run business, we think in generations and sustainability is at the core of our business approach. We constantly invest in our employees, their training and further education, optimise our ecological balance sheet, develop more energy-efficient processes and solutions. We operate worldwide and integrate high ethical standards in all our decision making processes. Our Corporate Social Responsibility approach is called “E3”.



Ethics

Our ethical principles determine how we behave towards our customers, our colleagues and society as a whole. Our Hager Group Ethics Charter is shared with all our employees, external customers, partners, suppliers and stakeholders to emphasise our engagement to ethical and sustainable business. Since 2007, we are signatories of the United Nations Global Compact, as such we give preference to suppliers and partners who, like us, respect the principles of ethical and sustainable business.

Environment

Considering products in terms of their lifecycles revolutionises the way in which we view product development, resource usage and our environmental footprint. We provide a full life cycle analysis of all our products and then a Product Environmental Profile (PEP). At a production level, we are continuously looking for ways to reduce our resources consumption. Currently, 16 of our production facility locations and 4 of our distribution centres are certified to the international environmental management standard ISO 14001, which defines globally recognised requirements for environmental management.



Energy

Contributing to the energy transition, our energy storage systems, integrated energy management systems and e-mobility solutions help our customers. It's all about using renewable energy sources, producing energy autonomously and optimising energy consumption. Our environmentally friendly, forward-looking solutions are now developed by Hager Energy.



Emotion at the heart of technology

Staying close to our customers has always been our priority at Hager Group. We're always ready to listen to customers and work towards joint solutions. It's part of our DNA.



Erwin van Handenhoven,
Hager Group Design
Studio Director

Just like the Hager brand, our designs establish a specific relationship between the product and its user, of generosity and intelligence. In our highly technical field, and in particular in the electrical solutions industry, design adds value. For years now, Hager has created a product identity.

To achieve this, we have chosen the perfect integration of design with technology and a very close relationship with our customers. Understanding users, integrating design very early on in the process of creating a product or application leads to solutions adapted to customers' needs, systematically tested to integrate user feedback. This is one of Hager's special features.

Balanced, serene, simple, and ingenious products is our ambition. The day-to-day work of our teams revolves around our ability to offer user-friendly, innovative, efficient, aesthetically pleasing, contemporary solutions to our customers. In a sense, our design is our signature; it is our DNA. It unites all of the products in our catalogue and represents the essence of our brand.

“We aim to add emotions in our technical products, so our solutions appeal to our customers.”

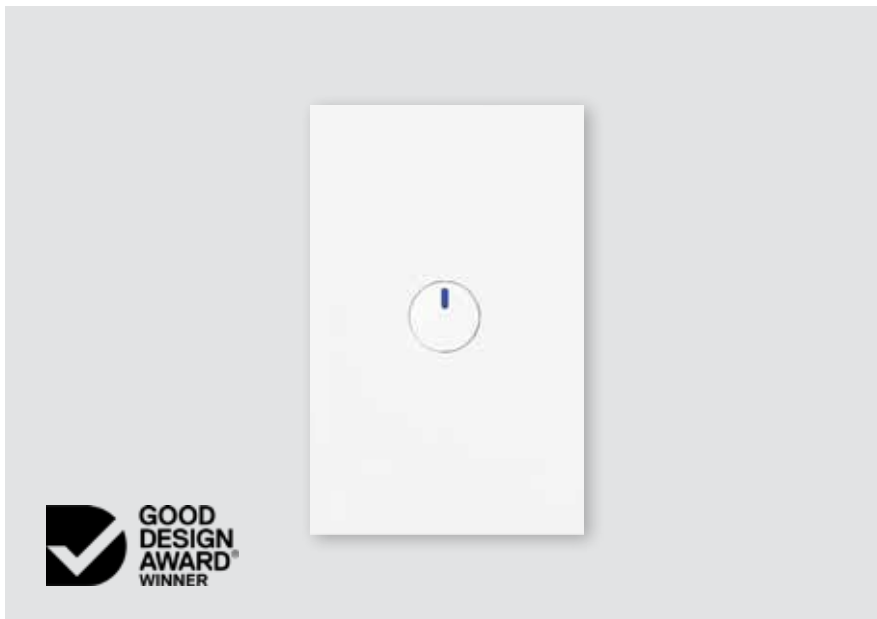
Erwin van Handenhoven

Outstanding design

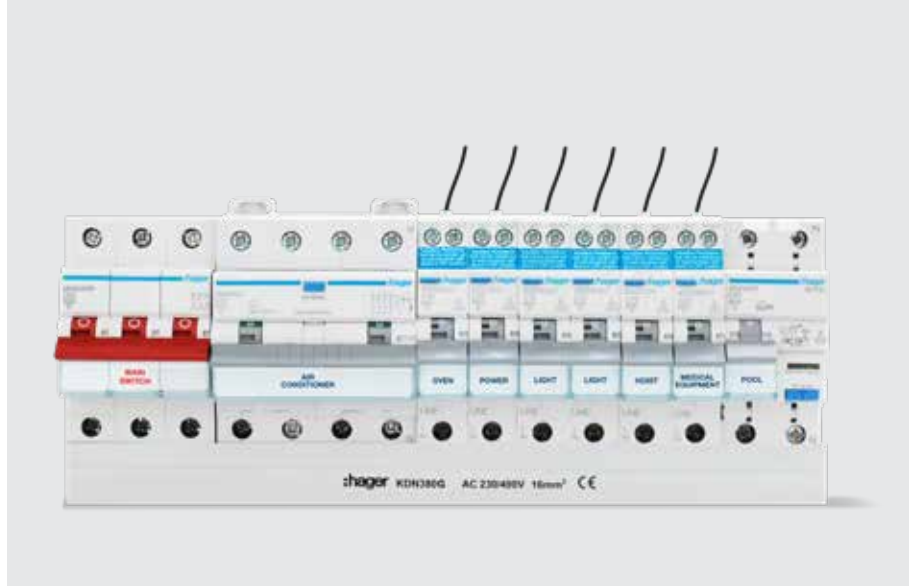
In the area of design, our efforts are regularly recognised by international awards that assess products based on aesthetics, ergonomics, ethics and emotion.



Be they for our allure and finesse ranges, which were launched in 2021 in Australia or for witty launched in France, our charging stations for electric vehicles; we have received a number of awards for our design. This includes a Red Dot Design Award, a Good Design Award (Chicago), a Janus Industry Award (awarded by the French Institute of Design), an iF Design Award, a German Design Award and an Australian Good Design Award.







Touching and inspiring

“Everything you see and touch highlights the notion of ease and quality.”

Daniel Hager

Hager has cleared the way for system improvements and a broader product offering, confirming our strong commitment to the Australian market. A market that remains bouyant and brimming with opportunity for growth, as many Australian contractors are not willing to compromise on quality, reliability or safety.

Most of the product ranges that we currently offer were specifically developed for the Australian market. This includes our onekonekt range of Modular Protection Devices for the residential and commercial sector, our invicta and performa ranges of panelboards and our Good Design Award winning range of Switches and sockets.

With more Australian-specific releases anticipated for the future and a broader product offering, we are always a step ahead when it comes to design and innovation.

Products approved. Quality certified.

To sell worldwide, Hager has to submit its products through many approval processes. To qualify, every piece of electrical equipment is constructed according to very precise standards and passes a set of precise controls to verify its ability to function and test its performance and reliability. Compliance with standards is monitored each year through testing inspections for every manufacturing site.

If every day in Australia, thousands of professionals use Hager products, this is not a coincidence! The quality of these products is thus recognised because they are carefully developed and monitored by strict controls.

To ensure this care and rigor, we have submitted all of our design processes, manufacturing, marketing services and professional accompaniment to an Independent organisation to perform checks and issue ISO 9001 certification.

These ISO 9001 certifications sign our commitment to a policy of continuous and shared progress. It is issued according to each country's different recognised and accredited certification bodies.





AS/NZS Standards

Hager design products that meet the highest quality and performance standards for markets all over the world. Without exception, this also applies to the Australian and New Zealand markets, for which we manufacture according to Australian and New Zealand standards. In conjunction with the AS/NZS 3000 wiring rules, Hager products are fit for purpose and meet the safety needs of the electrical installer and end user.



RCM Certification

To this end, Hager is a subscriber to the electrical equipment safety system (EESS). Compliance to Australian Standards, typically those products used in everyday homes throughout Australia and New Zealand, can be found at www.erac.gov.au. These products are also marked with the Regulatory Compliance Mark or RCM.

Hager project solutions



We provide a complete electrical solution for residential, commercial and multi-residential projects, from the main switchboard all the way down to the light switch on the wall.



Project Management

As part of the solution, our project team can offer end-to-end project management from quotation, and design services, to full assembly of packaged product solutions in switchboards, panelboards and group metering boards, delivery to site and after sales service.



How can we help?

- Quick quotation turnaround
- Design services (AutoCAD drawings with discrimination table)
- Fully assembled switchboards
- Packaged product solutions delivered on site
- Custom made solutions
- End-to-end project management

Customer Service & Nationwide Sales
P: 1300 850 253
F: 1300 424 372
E: customerservice@hagerelectro.com.au

hagerelectro.com.au



01 h3+ MCCBs

The h3+ Moulded Case Circuit Breakers (MCCBs) provide additional safety for electrical installations in commercial buildings. It also offers more efficiency in your installations and is suited for the quadro evo system.



02 ADC9 RCBOs

The Hager ADC9xxT RCBO or 'onekombo' is only one module wide, making it ideal for retrofit installations where space is limited. onekombo RCBO devices can be used in DIN Rail Enclosures and invicta Panelboards.



03 Surge Protection

Our Surge Protection Devices offer an extended range that suits residential, commercial and institutional applications. Available in single and three phase with ratings up to 100kA, there are more options to help reduce the risk to your electrical installations and connected devices.



06 Energy Meters

Our new Energy Meters provides end-to-end functionality with some unique features such as direct measurement up to 125A without a converter. We also offer Plug-in Meters with single or dual metering.



07 allure Switches and Sockets

A contemporary addition and evolution of our switches and sockets range, allure provides ease of installation and a beautiful aesthetic accentuated with a refined translucent edge.



08 finesse Switches and Sockets

Our architecturally inspired finesse range impresses with its minimalistic and precise design. The translucent edge that surrounds finesse creates a unique floating effect, accentuating the slim profile of 4mm.



04 Digital Time Switches

With Digital Time Switches, we now offer a range that can easily be programmed through Bluetooth®. You just have to pre-program your schedule on a mobile device and transfer via Bluetooth... job done!



05 Motion and Presence Detectors

Housed in a discrete slim design, our Motion and Presence Detectors have expanded performance with low 0.3W stand-by consumption, inrush current control to prevent aging of contacts due to LED, and dual technology for accuracy of detection.



09 coviva Micro Modules

When it comes to home retrofitting, less is more. No cabling, plastering or painting means a quicker installation and it's all possible thanks to our wireless coviva Micro Modules.

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Metering Enclosures and Switchboards

Our Metering Solutions and Switchboards ensure you have everything you need for your next installation. For diverse applications such as single homes or multiple units to commercial buildings, we supply ready to use solutions making your next job quick and simple.

The use of our innovative quadro M and quadro evo Switchboard Systems enable fast and efficient assembly that meet regulations and ensures your large projects are on time and within budget.



01

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Metering Enclosures

	Residential Meterboxes Page 26	General GMEs Page 30	QLD GMEs Page 31
No. of Meters	Single meter	Unwired - space for 6 or 9	Unwired - space for 8 or 12 Based on maximum meter footprint set out in Table 6.1 of the QLD SIRs
Wired	Unwired	Unwired	Unwired
DIN rail	- VYMBQ / V / NSW 24 pole - VYMB66 supplied with GD10T - VYMBQ-P / VYMBV-P are meters only enclosures.	32 pole	VYGMQ8 - 36 pole VYGMQ12 - 56 poles
Depth	VYMB66 series - 275mm VYMBQ/NSW/V series - 278mm	380mm	380mm
Material	1.2mm galvanised steel	1.5mm galvanised steel	1.5mm galvanised steel
Colour	RAL 7035	RAL 7035	RAL 7035
IP	IP23	IP23	IP23
N & E Links	N&E links with VYMBQ/NSW/V only	Split N&E links with bridged Neutrals	Split N&E links with bridged Neutrals
Doors	Padlockable flush door catch in VYMBQ/NSW/V series	Lockable door with 3 point locking system and padlockable swinghandle	Lockable door with 3 point locking system and padlockable swinghandle VYGMQ8 - Single door VYGMQ12 - Double door



Metering Enclosures

	VIC GMEs Page 32	SA GMEs Page 33
No. of Meters	Prewired for 4, 6 or 8 Unwired - space for 6 or 9	Prewired for 4, 6 or 8
Wired	Prewired or unwired	Prewired
DIN rail	VYGMV4 / VYGMV4W - 10 poles VYGMV6 / VYGMV6W / VYGMV8W / VYGMV9 - 14 poles VYGMV3W - 5 poles (VIC SIR Approval #VSIR141216B)	VYGMS4W - 10 poles VYGMS6W / VYGMS8W - 14 poles
Depth	380mm	380mm
Material	1.5mm galvanised steel	1.5mm galvanised steel
Colour	RAL 7035	RAL 7035
IP	IP23	IP23
N & E Links	Split N&E links with bridged Neutrals	Split N&E links with bridged Neutrals
Doors	Lockable door with 3 point locking system and padlockable handle	Lockable door with 3 point locking system and padlockable handle complete with 97000 key lock



Project Solutions

	quadro M Page 40	quadro Switchboards Enclosures Page 40	quadro evo Page 42
No. of Meters	Designed to specification	Designed to specification	Designed to specification
Wired	Prewired	Prewired	Prewired
Depth	150mm or 300mm deep modular frame	405mm depth in enclosure	600mm depth in enclosure
Material	1.6mm galvanised steel	1.6mm galvanised steel	1.6mm galvanised steel
Colour	RAL 7035 or orange	RAL 7035 or orange	RAL 7035
IP	IP30	IP65 - single door IP55 - double door	IP43 - Modular doors IP55 - cover panel with full high door
N & E Links	N&E up to 630A MEN point	N&E up to 630A MEN point	N&E up to 1600A MEN point
Doors	Lockable door with 3 point locking system and padlockable swinghandle	Lockable door with 3 point locking system and padlockable swinghandle	Full high door - 3 point locking system with rotary handle Modular doors - Quarter turn lock with triangular insert

Residential Meterboxes Single Dwelling

Our Residential Meterbox range is designed for single or multi-phase residential and commercial applications. These are suitable for temporary or permanent installations and complies with the Service Installation Rules of each Australian state.



Advantages:

- Strong and reliable
 - Safe and easy to use cable management
 - Supplied components make the difference
-

Characteristics:

- 1.2mm Z275 galvanised steel construction
 - Powdercoated inside and out in RAL7035 (light grey)
 - IP23 enclosure with a flush door catch
 - Patented cable retainers
 - Large UV stable cable entry
 - Knockouts for cable entry
 - Consumer Neutral and Earth Links
 - 24 pole DIN full length across
 - 12 mod busbar & 18 x pole fillers in state meterboxes
-

Expert tips



01

Complies with the AS/NZS 3012 standard and meets the requirements of service installation rules of each state.



02

The patented cable retainers have three secure cord retention areas allowing you to keep the door closed. A SNO15DA DIN mount socket outlet will finish the job nicely.



03

A strong door retainer means the door can remain open when needed, especially helpful during installation and maintenance.



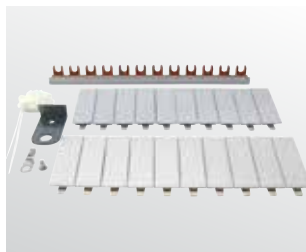
04

The large UV stable sliding cable entry has an easy screw tighten knob to keep cables safe and tidy. Also with rear cable knockouts for the meter section.



05

The N and E links are AS/NZS 61439.3 compliant and provided with RCD expansion to three circuits. Suitable for products with rated current up to 100A.



06

Generous component bag in the state meterboxes containing: 18x pole fillers, single phase 12 mod wide busbar, 2x cable ties and door padlocking kit.

Meterboxes approved for single residential installations.

Common features

- IP23
- 1.2mm galvanised steel chassis

Residential Meterboxes

- padlock knockout on door
- 75mm behind panel
- Supplied with a GD10T
- Unpainted

NSW Meterboxes

- RAL9002 powdercoated
- Flush door catch
- Consumer N&E links

QLD Meterboxes

- RAL7035 powdercoated
- Flush door catch
- Service isolation link
- Consumer N&E links
- Meter Neutral link cover

VIC Meterboxes

- RAL7035 powdercoated
- Flush door catch
- Service fuse
- Consumer N&E links
- Meter Neutral link

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VYMB66-U

Residential Meterboxes

Description	Characteristics	Dimensions (mm)	Cat ref.
Empty enclosure for universal use	Drilled black panel (with multiple meter/fuse pilot holes)	600h x 600w x 275d	VYMB66-D
- 75mm behind panel - Supplied with a GD10T - 3 padlock positions on door	Undrilled black panel	600h x 600w x 275d	VYMB66-U



VYMBQ

QLD Meterboxes

Description	100A brass terminals		Dimensions (mm)	Cat ref.
	16mm ²	25mm ²		
AS/NZS3012 compliant for temp to permanent	21	3	688h x 488w x 278d	VYMBQ
- 24 pole DIN Rail - Patented cable retainer - Service isolation link - Consumer N&E links AS/NZS 5112 compliant - Meter Neutral link cover	9	2		
Meters only enclosure			520h x 488w x 278d	VYMBQ-P
- Service isolation link				



VYMBNSW

NSW Meterboxes

Description	100A brass terminals		Dimensions (mm)	Cat ref.
	16mm ²	25mm ²		
AS/NZS3012 compliant for temp to permanent	21	3	688h x 488w x 278d	VYMBNSW
- 24 pole DIN Rail - Patented cable retainer - Consumer N&E links AS/NZS 5112 compliant	9	2		



VYMBV

VIC Meterboxes

Description	100A brass terminals		Dimensions (mm)	Cat ref.
	16mm ²	25mm ²		
AS/NZS3012 compliant for temp to permanent	21	3	688h x 488w x 278d	VYMBV
- 24 pole DIN Rail - Patented cable retainer - 12 module busbar - Service fuse holder - Meter Neutral link - Consumer N&E links AS/NZS 5112 compliant	9	2		
Meters only enclosure			430h x 488w x 278d	VYMBV-P
- Service fuse holder - Meter Neutral link				



GD10T

Accessories

Description	Characteristics	Cat ref.
Plastic sub-board	10 module wide DIN rail and no back	GD10T
Black panel - Undrilled	Suits VYMB66 series	VZMB003
White panel - QLD - Undrilled	Suits VYMBQ series and VYMBNSW	VZMB001
White panel - VIC - Undrilled	Suits VYMBV series	VZMB002
Replacement door	Suits VYMBQ, VYMBNSW, VYMBV	VZMB004
Accessory bag	Suits VYMBQ, VYMBNSW, VYMBV	★ VZGM012
H Shape accessory	H Shape intrusion barrier	★ VZMB009

Residential Group Metering Enclosures



Metering Enclosures

Our range of multi-tenancy metering enclosures are suitable for up to 9 tenants. For general applications, we have a choice of two ready to wire enclosures that will suit up to 6 or 9 meters, with abundant DIN space for Main Switch and Consumer Sub Mains. The robust enclosures are made of galvanised steel with a 3-point locking door, padlock facility or optional key lock cylinder and can either be mounted on a wall or stand alone on a cable access plinth for underground supply.

Residential Group Metering Enclosures

Our range of prewired and unwired enclosures for multiple tenancy installations are constructed with a robust 1.5mm galvanised steel and are complete with Consumer Neutral and Earth links. Prewired metering enclosures are fitted

with the relevant tenancy MCBs, Meter Fuse or Meter Isolators, Service Fuse Holders and suitable Main Switches to comply with Supply Authority Rules and Regulations in your state.



Advantages:

- Prewired for single meters only and unwired for multi-metering configurations.
- Key lockable and padlockable
- Tenancy main switch MCBs
- Pre-labelled for SIR compliance
- Consumer neutral and earth links
- Front panel removal for cable access and mounting

Characteristics:

- | | |
|----------------------|-------------------------|
| - Protection rating: | - IP23 |
| - Body: | - Galvanised steel Z275 |
| - Body thickness: | - 1.5mm |
| - Surface finish: | - Powdercoated RAL7035 |
| - Rating: | - 6kA for 0.1 sec |

Expert tips



01

Meet the requirements of service and installation rules for each state.



02

Prewired enclosure options available for VIC and SA. Unwired enclosures available for QLD to meet your single phase or 3 phase installation requirements.



03

There is ample DIN space in the board to accommodate tenancy Main Switch and public metering.



04

The slim key lockable handle is also padlockable and has a 3 point locking system for added security



05

Connection points for Neutral, Earth and Active links.



06

Easy to access cables with wall or plinth mounting.



07

Cable tie access points allow easy cable management within the enclosure.



08

Designed with the installer in mind, the easy to install Group Metering Enclosure will save you time.

Enclosure features

- Space for single phase or 3 phase metering
- Lockable
- IP23
- Hinged meter panel
- 32 pole of DIN space
- Consumer Neutral & earth links
- Depth behind panel 150mm
- Clearance front panel to door 175mm

Rating

- 6kA 0.1 sec

Material

- 1.5mm Galvabond Z275

Finish

- Powdercoated RAL 7035

Plinth features

- Removable front panel for easy cable access
- Complete with bolts for mounting
- Provision for Authority seals

Material

- 1.5mm Galvabond Z275

Finish

- Powdercoated RAL 7035

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VYGMN6

General Unwired Enclosures

Description	Characteristics	Cat ref.
600 x 600 meter panels	- 32 poles of DIN	VYGMN6
600 x 900 meter panels	- 32 poles of DIN	VYGMN9



VZGM002

Plinths

Description	Cat ref.
Suits VYGMN6, VYGMN9 enclosure - 400mm high	VZGM002



VZGM009

Accessories

Description	Characteristics	Cat ref.
Meter panels	Undrilled for 4	VZGM004
	Undrilled for 6	VZGM005
	Undrilled for 9	VZGM006
Universal Insulating panel (Active link)		VZGM007
Padlockable swing handle (no key and no cylinder insert)		VZGM008
Lock cylinder with key CL001		VZGM009
Lock cylinder with key 92268		FL73Z
Blank insert		FL78Z3AU
Pole fillers (10 pack)		JP012

Enclosure features

- Designed to be wall mounted
- Lockable
- IP23
- Hinged meter panel
- Depth behind panel 150mm
- Provision for consumer Neutral & Earth Links
- Segregated area for provision of main incomer
- Space for single and polyphase metering
- Consumer DIN space

Material

- 1.5mm Galvabond Z275

Finish

- Powdercoated RAL 7035

Accessories

- Joining kit allows 2 enclosures to be joined together
- DIN rail escutcheons can replace the incoming section to DIN section.
- Optional locks - CL001, 92268 or 97000

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QLD Unwired Enclosures

Description	Characteristics	Cat ref.
Single door enclosure	- Meter panel 725H x 725W - 36 poles of DIN space	★ VYGMQ8
Double door enclosure	- 2 x meter panels 725H x 550W ea - 56 poles of DIN space	★ VYGMQ12



VYGMQ8

Accessories

Description	Characteristics	Cat ref.
Joining kit		★ VYGMQJK
DIN rail escutcheon to convert MCCB section to DIN	Suits VYGMQ8 (Extra 34 pole of DIN space)	★ VYGMQ8E
	Suits VYGMQ12 (Extra 56 pole of DIN space)	★ VYGMQ12E
Universal Insulating panel (Active link)		VZGM007
Padlockable swing handle (no key and no cylinder insert)		VZGM008
Lock cylinder with key	CL001	VZGM009
	97000	VZGM010
	92268	FL73Z
Blank insert		FL78Z3AU
Neutral and Earth bar	125A, 24 Tunnel, 16mm ² Terminals	★ KP024
	125A, 36 Tunnel, 16mm ² Terminals	★ KP036
	Mounting feet for 160A bars	★ KP001
Din rail kit	Suits incomer section of VYGMQ8 Suitable for 3P MCB (80A-125A)	★ VZGM013
	Suits incomer section of VYGMQ12 Suitable for 3P MCB (80A -125A)	★ VZGM014
Pole fillers (10 pack)		JP012
Accessory bag	Suits VYGMQ8 and VYGMQ12 only	VZGM018
Undrilled black meter panel	Suits VYGMQ8 725mm (H) x 725mm (W)	VZGM015
	Suits VYGMQ12 725mm (H) x 550mm (W)	VZGM016



VYGMQJK



VYGMQ12E

Enclosure features

- Lockable
- IP23
- Consumer Neutral & earth links
- Hinged meter panel
- Depth behind panel 150mm
- SIR compliant labelling
- Segregated area for provision of Supply Capacity Control Device if required

Rating

- 6kA 0.1sec

Material

- 1.5mm Galvabond Z275

Finish

- Powdercoated RAL 7035

Prewired only features

- Prewired for single phase metering
- Tenancy Sub Main MCBs
- 100A service fuses

Unwired only features

- Space for single phase or 3 phase metering
- Consumer DIN space

Approvals

- VIC SIR Approval #VSIR141216B

Plinth features

- Removable front panel for easy cable access
- Complete with bolts for mounting
- Provision for Authority seals

Material

- 1.5mm Galvabond Z275

Finish

- Powdercoated RAL 7035

Technical information: [Page 37](#)



VYGMV6W

VIC Prewired Enclosures

Description	Characteristics	Cat ref.
For 4 single phase meters - Cables can easily be removed for 2 or 3 tenancy arrangements	- 4 x single phase 40A tenancy MCBs - 4 x 100A meter fuses - 10 poles of DIN (6 spare)	VYGMV4W
For 6 single phase meters - Cables can be removed for 5 tenancy	- 6 x single phase 40A tenancy MCBs - 6 x 100A meter fuses - 14 poles of DIN (8 spare)	VYGMV6W
For 8 single phase meters - Cables can be removed for 7 tenancy	- 8 x single phase 40A tenancy MCBs - 8 x 100A meter fuses - Space for public meter - 14 poles of DIN (6 spare)	VYGMV8W
For 3 three phase meters - Cables can be removed for 2 tenancy	- 3 x 100A meter fuses - 3 x three phase 32A tenancy MCB's - 5 pole of DIN space	★ VYGMV3W-3P



VYGMV6W

VIC Unwired Enclosures

Description	Characteristics	Cat ref.
600 x 600 meter panels	- 10 poles of DIN	VYGMV4
600 x 600 meter panels	- 14 poles of DIN	VYGMV6
600 x 900 meter panels	- 14 poles of DIN	VYGMV9



VZGM002

Plinths

Description	Cat ref.
Suits VYGMV4W enclosure - 400mm high	VZGM001
Suits VYGMV6W, VYGMV8W, VYGMV6, VYGMV9 enclosure - 400mm high	VZGM002



VZGM009

Accessories

Description	Characteristics	Cat ref.
Meter panels	Undrilled for 4	VZGM004
	Undrilled for 6	VZGM005
	Undrilled for 9	VZGM006
Universal Insulating panel (Active link)		VZGM007
Padlockable swing handle (no key and no cylinder insert)		VZGM008
Lock cylinder with key CL001		VZGM009
Blank insert		FL78Z3AU
Neutral lock bar		VZMB005
Pole fillers (10 pack)		JP012

Enclosure features

- Prewired for single phase metering
- Lockable
- IP23
- Consumer Neutral & earth links
- Hinged meter panel
- Depth behind panel 150mm
- SIR compliant labelling
- Segregated area for provision of Supply Capacity Control Device if required

Rating

- 6kA 0.1sec

Material

- 1.5mm Galvabond Z275

Finish

- Powdercoated RAL 7035

Plinth features

- Removable front panel for easy cable access
- Complete with bolts for mounting
- Provision for Authority seals

Material

- 1.5mm Galvabond Z275

Finish

- Powdercoated RAL 7035

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SA Prewired Enclosures

Description	Characteristics	Cat ref.
For 4 single phase meters - Cables can easily be removed for 2 or 3 tenancy arrangements	- 100A MCCB Main Switch - 4 x single phase 63A tenancy MCBs - 4 x single phase 63A MCB meter isolators - 10 poles of DIN (6 spare)	VYGMS4W
For 6 single phase meters - Cables can be removed for 5 tenancy arrangement	- 125A MCCB Main Switch - 6 x single phase 63A tenancy MCBs - 6 x single phase 63A MCB meter isolators - 14 poles of DIN (8 spare)	VYGMS6W
For 8 single phase meters - Cables can be removed for 7 tenancy arrangement	- 125A MCCB Main Switch - 8 x single phase 63A tenancy MCBs - 8 x single phase 63A MCB meter isolators - 14 poles of DIN (6 spare)	VYGMS8W



VYGMS6W

Plinths

Description	Cat ref.
Suits VYGMS4W enclosure - 400mm high	VZGM001
Suits VYGMS6W, VYGMS8W enclosure - 400mm high	VZGM002



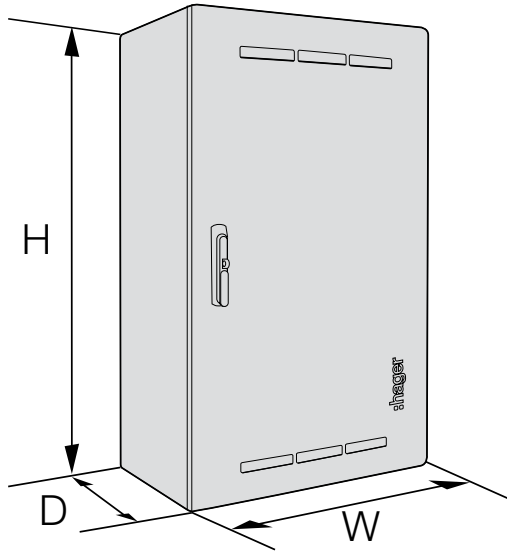
VZGM002

Accessories

Description	Characteristics	Cat ref.
Meter panels	Undrilled for 4	VZGM004
	Undrilled for 6	VZGM005
	Undrilled for 9	VZGM006
Universal Insulating panel (Active link)		VZGM007
Padlockable swing handle (no key and no cylinder insert)		VZGM008
Lock cylinder with key 97000		VZGM010
Blank insert		FL78Z3AU



VZGM010

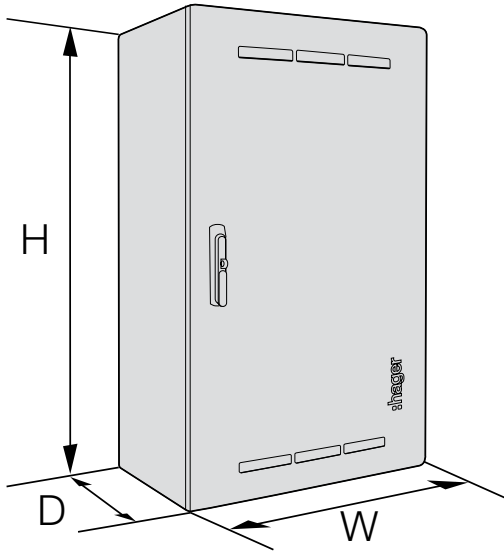


	VIC	QLD	NSW	ACT	General purpose (600 x 600)
24P DIN / Temp to Perm.	VYMBV	VYMBQ	VYMBNSW	VYMBNSW	
10P DIN	-		VYMB66-D	VYMB66-D	VYMB66-U
Meters only	VYMBV-P	VYMBQ-P	VYMBQ-P	VYMBQ-P	

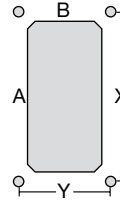
Dimensions (mm)	Enclosure			Panel			Depth behind panel
	H	W	D	H	W	D	
VYMB66	605	605	275	575	560	6	75
VYMBQ	688	488	278	480	460	6	75
VYMBQ-P	520	488	278	480	460	6	75
VYMBNSW	688	488	278	480	460	6	75
VYMBV	688	488	278	400	380	6	75
VYMBV-P	430	488	278	400	380	6	75

*Height of cable entry cover on top of enclosure = 9mm

	VYMB66-D (Drilled panel) VYMB66-U (Undrilled panel)	VYMBQ - with 24 pole DIN VYMBQ-P - Panel only	VYMBNSW - with 24 pole DIN	VYMBV - with 24 pole DIN VYMBV-P - Panel only
Material	1.2mm Z275 galvanised steel	1.2mm Z275 galvanised steel	1.2mm Z275 galvanised steel	1.2mm Z275 galvanised steel
Colour	Unpainted	Powdercoated RAL7035 (light grey)	Powdercoated RAL7035 (light grey)	Powdercoated RAL7035 (light grey)
Panel	Black - pre-drilled (-D) Black - undrilled (-U)	White BMC with cable knockouts	Black - predrilled	White BMC with cable knockouts
IP rating	IP23	IP23	IP23	IP23
Cable entries	Top and bottom entry and rear knockouts	6 rear knockouts into meter section and 115mm W cable entry on top	6 rear knockouts into meter section and 115mm W cable entry on top	6 rear knockouts into meter section and 115mm W cable entry on top
Electrical	- GD10T surface mount enclosure - 6mm Earth crimp lug	- Clear service isolation link fitted - Consumer neutral link - 3 x RCD Neutral links - Earth link	- Consumer neutral link - 3 x RCD Neutral links - Earth link	- Sealable meter neutral link - Sealable service fuse holder - Consumer neutral link - 3 x RCD Neutral links - Earth link
Component Bag	N/A	VYMBQ only: 20 x pole fillers 12 pole busbar (KDN180A) 3 x cable ties Door padlock kit 1 x 6mm cable lug 1 x sheet vinyl circuit ID labels 1 x meter neutral link cover	VYMBNSW: 18 x pole fillers 12 pole busbar (KDN180A) Cable ties Door padlock kit 1 x 6mm cable lug 1 x sheet vinyl circuit ID labels	VYMBV only: 18 x pole fillers 12 pole busbar (KDN180A) Cable ties Door padlock kit 1 x 6mm cable lug 1 x sheet vinyl circuit ID labels



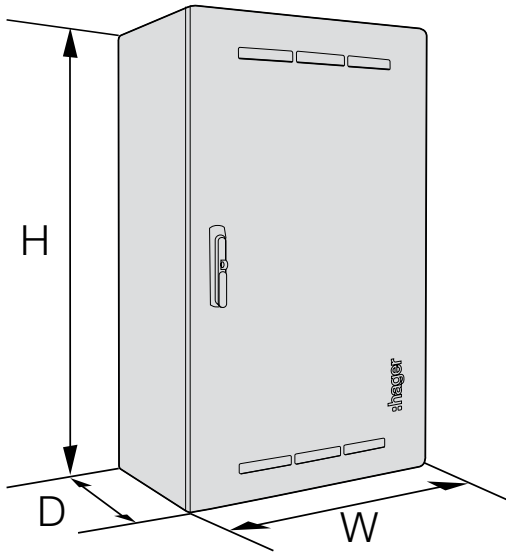
Dimensions (mm)	Enclosure			Panel			Clearance behind panel	Clearance in front of panel to door	Matching plinth
	H	W	D	H	W	D			
VYGMN6	1150	625	360	600	600	6	150	175	VZGM002
VYGMN9	1350	625	360	900	600	6	150	175	VZGM002



Plinth	Dimensions						
	H	W	D	X	Y	A	B
VZGM002	400	625	360	560	260	530	250

NOTE: For metering layout possibilities, please contact your local Hager Representative.

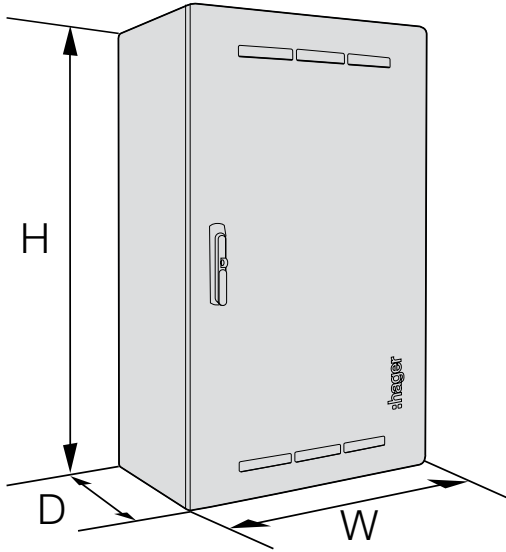
Cat. No.	VYGMN6	VYGMN9
Description	General 6 Unwired	General 9 Unwired
Design		
General	Accommodates multiple occupancy metering.	
	No access to Authority wiring without breaking Authority seal.	
	Enclosure manufactured from non-flammable Galvanised steel.	
	Dimensions meet all requirements of relevant area SIR	
	Panel can be fixed & sealed in compliance with relevant area SIR	
No obstruction for movement of the panel in the action of opening or closing		
Construction		
Enclosure	GME enclosures are made from 1.5mm Z275 hot dipped zinc plated steel with additional powder coating of 60micron to meet all corrosion requirements.	
Spread of fire	All openings are well below 5mm to prevent any spread of fire.	
Panel clearances	Clearance behind panel is 150mm. Clearance from panel to enclosure door of 175mm to accommodate all known domestic metering.	
Enclosure Ventilation and condensation drainage	Door is vented, 10mm holes in base for drainage.	
Sealing and locking	Swing handle on door of enclosure can be padlocked. Optional key locks CL001, 97000 or 92268 available as an accessory.	
Non removable fixed earth stud rear of panel	Permanent earthing facilities are provided	
Door	Hinged door with latch and retainer to retain door in the open position	
External finish	Ripple finish powder coat, 60micron - RAL 7035 (light Grey)	
Enclosure		
Form of construction	Form 1	Form 1
IP Rating	IP23	IP23
Meter Panel		
Vertically hinged	Y	Y
Pre Drilled holes	Complies to single phase metering footprint, as per relevant area SIR requirements. All holes are chamfered to ensure no sharp edges.	
Material	Reinforced phenolic resin.	
Compliance	Glow wire test to 960°C	
Construction & Supplemental equipment		
Wiring holes	Panel wiring holes are pre-moulded into panel (sealed) with "knock-out" membrane	
Fixing and Sealing	Panel is right side hinged with removable offset double hinge flap opening >80Deg. Tool req'd to open with separate sealing stud.	
Mounting of Equipment	Meter panel is designed & arranged for the mounting of Authority equipment only	
Cable	TriCab LSFLEX®R-30 (X-HF-110), flexible cable 0.6/1kV 110°C Oxygen Index >32, HCL Emission <0.5% Cross-linked, Thermoset, Elastomeric, Flame Retardant, Low Smoke, Zero Halogen Splash resistant to oil, skydrol, petrol, acid, sea water. Resists ozone and UV.	
Active links	NA	NA
NETEC brand	NA	NA
Meter Neutral Link 100A Black	(7 x 16mm ²)	(10 x 16mm ²)
Incomer termination	Unwired board, M/S as per installers preference	Unwired board, M/S as per installers preference
Supply Protection Device / Rating	Not supplied	Not supplied
Tenancy Sub Circuits	Not supplied	Not supplied
Plinth	VZGM002	VZGM002



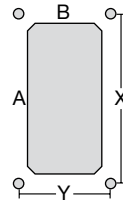
Dimensions (mm)	Enclosure			Panel			Clearance behind panel	Clearance in front of panel to door
	H	W	D	H	W	D		
VYGMQ8	1177	750	360	725	725	6	150	175
VYGMQ12	1177	1140	360	2 x 725	2 x 550	6	150	175

NOTE: For metering layout possibilities, please contact your local Hager Representative.

Cat. No.	VYGMQ8	VYGMQ12
Description	QLD 8 Unwired	QLD 12 Unwired
Design		
General	Accommodates multiple occupancy metering. Authority wiring area is segregated from consumer wiring. No access to Authority wiring without breaking Authority seal. Enclosure manufactured from non-flammable Galvanised steel. Dimensions meet all requirements of relevant area SIR Panel can be fixed & sealed in compliance with relevant area SIR No obstruction for movement of the panel in the action of opening or closing	
Construction		
Enclosure	GME enclosures are made from 1.5mm Z275 hot dipped zinc plated steel with additional powder coating of 60micron to meet all corrosion requirements.	
Spread of fire	All openings are well below 5mm to prevent any spread of fire.	
Panel clearances	Clearance behind panel is 150mm. Clearance from panel to enclosure door of 175mm to accommodate all known domestic metering.	
Enclosure Ventilation and condensation drainage	Door is vented, 10mm holes in base for drainage.	
Sealing and locking	Swing handle on door of enclosure can be padlocked. Optional key locks CL001, 97000 or 92268 available as an accessory.	
Non removable fixed earth stud rear of panel	Permanent earthing facilities are provided	
Door	Hinged door with latch and retainer to retain door in the open position	
External finish	Ripple finish powder coat, 60micron - RAL 7035 (light Grey)	
Enclosure		
Form of construction	Form 1	Form 1
IP Rating	IP23	IP23
Meter Panel		
Vertically hinged	Y	Y
Material	Reinforced phenolic resin.	
Compliance	Glow wire test to 960°C	
Construction & Supplemental equipment		
Wiring holes	Ø32mm panel wiring holes are pre-moulded into panel (sealed) with "knock-out" membrane	
Fixing and Sealing	Panel is right side hinged with removable offset double hinge flap opening >80Deg. Tool req'd to open with separate sealing stud.	
Labelling	Engraved labels with minimum 3mm height lettering. Permanent, legible and convenient	
Mounting of Equipment	Meter panel is designed & arranged for the mounting of Authority equipment only	
Active links	NA	NA
NETEC brand		
Meter Neutral Link 100A Black	(7 x 16mm ²)	(10 x 16mm ²)
Incomer termination	Unwired board, M/S as per installers preference	Unwired board, M/S as per installers preference
Supply Protection Device / Rating	Not supplied	Not supplied
Tenancy Sub Circuits	Not supplied	Not supplied
DIN poles / space	36 poles spare	56 poles spare



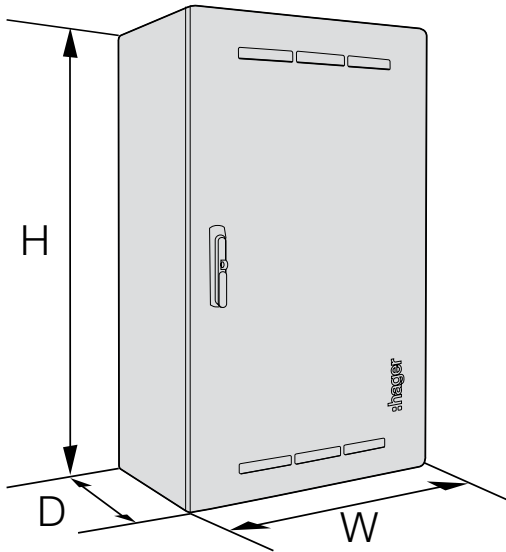
Dimensions (mm)	Enclosure			Panel			Clearance behind panel	Clearance in front of panel to door	Matching plinth
	H	W	D	H	W	D			
VYGMV4W	1050	440	360	600	415	6	150	175	VZGM001
VYGMV6W	1050	625	360	600	600	6	150	175	VZGM002
VYGMV8W	1350	625	360	900	600	6	150	175	VZGM002
VYGMV3W-3P	1050	625	360	600	600	6	150	175	VZGM002
VYGMV4	1050	440	360	600	415	6	150	175	VZGM001
VYGMV6	1050	625	360	600	600	6	150	175	VZGM002
VYGMV9	1350	625	360	900	600	6	150	175	VZGM002



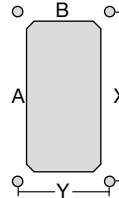
Plinth	Dimensions						
	H	W	D	X	Y	A	B
VZGM001	400	440	360	375	260	345	250
VZGM002	400	625	360	560	260	530	250

NOTE: For metering layout possibilities, please contact your local Hager Representative.

Cat. No.	VYGMV4	VYGMV6	VYGMV9	VYGMV4W	VYGMV6W	VYGMV8W	VYGMV3W-3P
Description	VIC 4 Unwired	VIC 6 Unwired	VIC 9 Unwired	VIC 4 Wired	VIC 6 Wired	VIC 8 Wired	VIC 3 Wired
Design	Accommodates multiple occupancy metering. Authority wiring area is segregated from consumer wiring. No access to Authority wiring without breaking Authority seal. Enclosure manufactured from non-flammable Galvanised steel. Dimensions meet all requirements of relevant area SIR Panel can be fixed & sealed in compliance with relevant area SIR No obstruction for movement of the panel in the action of opening or closing						
General	GME enclosures are made from 1.5mm Z275 hot dipped zinc plated steel with additional powder coating of 60micron to meet all corrosion requirements. All openings are well below 5mm to prevent any spread of fire. Clearance behind panel is 150mm. Clearance from panel to enclosure door of 175mm to accommodate all known domestic metering. Door is vented, 10mm holes in base for drainage. Swing handle on door of enclosure can be padlocked. Optional key locks CL001, 97000 or 92268 available as an accessory. Permanent earthing facilities are provided						
Construction	Hinged door with latch and retainer to retain door in the open position Ripple finish powder coat, 60micron - RAL 7035 (light Grey)						
Enclosure	Form of construction: Form 1 IP Rating: IP23						
Meter Panel	Vertically hinged: Y Pre Drilled holes: Complies to single phase metering footprint, as per relevant area SIR requirements. All holes are chamfered to ensure no sharp edges. Material: Reinforced phenolic resin. Compliance: Glow wire test to 960°C						
Construction & Supplemental equipment	Wiring holes: Panel wiring holes are pre-moulded into panel (sealed) with "knock-out" membrane. Fixing and Sealing: Panel is right side hinged with removable offset double hinge flap opening >80Deg. Tool req'd to open with separate sealing stud. Labelling: Engraved labels with minimum 3mm height lettering. Permanent, legible and convenient Mounting of Equipment: Meter panel is designed & arranged for the mounting of Authority equipment only Meter Isolator links: Meter isolation fuse arranged on panel as defined in Victorian SIRs Cable: TriCab LSFLEX®R-30 (X-HF-110), flexible cable 0.6/1kV 110°C Oxygen Index >32, HCL Emission <0.5% Cross-linked, Thermoset, Elastomeric, Flame Retardant, Low Smoke, Zero Halogen Splash resistant to oil, skydrol, petrol, acid, sea water. Resists ozone and UV.						
Active links	NA	NA	NA	NA	NA	NA	NA
NETEC brand							
Meter Neutral Link 100A Black	(5 x 16mm ²)	(7 x 16mm ²)	(10 x 16mm ²)	(5 x 16mm ²)	(7 x 16mm ²)	(10 x 16mm ²)	(7 x 16mm ²)
Incomer termination	Unwired board, M/S as per installers preference			Direct connect to 125A DIN Terminal Block - Hager KRN199 - <=35mm ² flexible cable			
Supply Protection Device / Rating	Not Supplied	Not supplied	Not supplied	LH901 / 100A	LH901 / 100A	LH901 / 100A	LH901 / 100A
Tenancy Sub Circuits	Not supplied	Not supplied	Not supplied	4 x MSN140 / 40A	6 x MSN140 / 40A	8 x MSN140 / 40A	3 x MSN332 / 32A
Plinth	VZGM001	VZGM002	VZGM002	VZGM001	VZGM002	VZGM002	VZGM002
	GME Plinths are made from 1.5mm Z275 hot dipped zinc plated steel with additional powder coating of 60micron to meet all corrosion requirements. With provision for authority seal.						



Dimensions (mm)	Enclosure			Panel			Clearance behind panel	Clearance in front of panel to door	Matching plinth
	H	W	D	H	W	D			
VYGMS4W	1150	440	360	590	415	6	150	175	VZGM001
VYGMS6W	1150	625	360	600	600	6	150	175	VZGM002
VYGMS8W	1350	625	360	900	600	6	150	175	VZGM002



Plinth	Dimensions						
	H	W	D	X	Y	A	B
VZGM001	400	440	360	375	260	345	250
VZGM002	400	625	360	560	260	530	250

NOTE: For metering layout possibilities, please contact your local Hager Representative.

Cat. No.	VYGMS4W	VYGMS6W	VYGMS8W
Description	SA 4 Wired	SA 6 Wired	SA 8 Wired
Design	Accommodates multiple occupancy metering. Authority wiring area is segregated from consumer wiring. No access to Authority wiring without breaking Authority seal. Enclosure manufactured from non-flammable Galvanised steel. Dimensions meet all requirements of relevant area SIR Panel can be fixed & sealed in compliance with relevant area SIR No obstruction for movement of the panel in the action of opening or closing		
General			
Construction	GME enclosures are made from 1.5mm Z275 hot dipped zinc plated steel with additional powder coating of 60micron to meet all corrosion requirements. All openings are well below 5mm to prevent any spread of fire. Clearance behind panel is 150mm. Clearance from panel to enclosure door of 175mm to accommodate all known domestic metering. Door is vented, 10mm holes in base for drainage. Swing handle on door of enclosure can be padlocked. Comes fitted with 97000 lock. Optional key locks CL001 or 92268 available as an accessory. Permanent earthing facilities are provided Hinged door with latch and retainer to retain door in the open position Ripple finish powder coat, 60micron - RAL 7035 (light Grey)		
Enclosure			
Wired according to AS/NZS 3000 & relevant SIR	Y	Y	Y
Complies with AS/NZS 61439	Y	Y	Y
Form of construction	Form 1	Form 1	Form 1
IP Rating	IP23	IP23	IP23
Meter Panel			
Vertically hinged	Y	Y	Y
Pre Drilled holes	Complies to single phase metering footprint, as per relevant area SIR requirements. All holes are chamfered to ensure no sharp edges.		
Material	Reinforced phenolic resin.		
Compliance	Glow wire test to 960°C		
Construction & Supplemental equipment			
Wiring holes	Panel wiring holes are pre-moulded into panel (sealed) with "knock-out" membrane		
Fixing and Sealing	Panel is right side hinged with removable offset double hinge flap opening >80Deg. Tool req'd to open with separate sealing stud.		
Labelling	Engraved labels with minimum 3mm height lettering. Permanent, legible and convenient		
Mounting of Equipment	Meter panel is designed & arranged for the mounting of Authority equipment only		
Meter Isolator links	Meter Isolator link arrangement on panel as defined in relevant area SIR. Except for SA Meter Isolator uses MSN163 MCB 63A, lockable in OFF position.		
Cable	TriCab LSFLEX®R-30 (X-HF-110), flexible cable 0.6/1kV 110°C Oxygen Index >32, HCL Emission <0.5% Cross-linked, Thermoset, Elastomeric, Flame Retardant, Low Smoke, Zero Halogen Splash resistant to oil, skydrol, petrol, acid, sea water. Resists ozone and UV.		
Active links			
NETEC brand	NA	NA	NA
Meter Neutral Link 100A Black	(5 x 16mm ²)	(7 x 16mm ²)	(10 x 16mm ²)
Supply Protection Device / Rating	HHA100U	HHA125U	HHA125U
Tenancy Sub Circuits	4 x MSN140 / 40A	6 x MSN140 / 40A	8 x MSN140 / 40A
Plinth	VZGM001	VZGM002	VZGM002
	GME Plinths are made from 1.5mm Z275 hot dipped zinc plated steel with additional powder coating of 60micron to meet all corrosion requirements. With provision for authority seal.		



quadro M 630A Modular Switchboard System



Flexible switchboard solution

From a simple metering panel to a main switchboard designed for up to 630A, our quadro M Modular Switchboard System offers a diverse range of options for power distribution in all multi-residential and commercial applications.



High level of finish

quadro M Enclosures have a welded galvanised steel construction and the complete quadro M range is finished off with a RAL7035 ripple powdercoating.

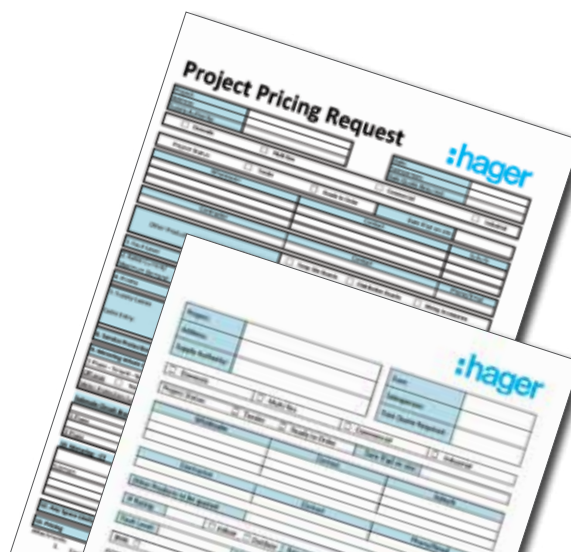


Full suite of devices

We provide a full solution of modules and kits including CT Chambers, Panelboard Kits, Main Switch Modules and Authority Modules which can be fully assembled, wired and fitted within the enclosure, tested and delivered to site.

Quotation service

Our team can provide you with technical and cost effective quoting solutions to single line diagram / quote requests backed by PowerCAD industry leading electrical software. For project quotes and to receive our Project Pricing Request Form, please contact us on **1300 850 253**.



quadro evo and h3+ Modular Switchboard System



A system evolved

quadro evo is our Main Switchboard for up to 1600A, suitable for large projects and provides more options of application. The system offers robustness, ease and flexibility of installations.



h3+ inside

With h3+ as a backbone, your electrical main distribution will have more capabilities, intelligence and safety options.



More space

The new quadro evo design offers accessibility and working space for better switchgear and cable installation as well as better busbar work and maintenance.



The complete choice

quadro evo offers 4 safety classes. With segregations 1, 2b, 3b, or 4b, there is a solution for projects of any dimensions.

Quotation service

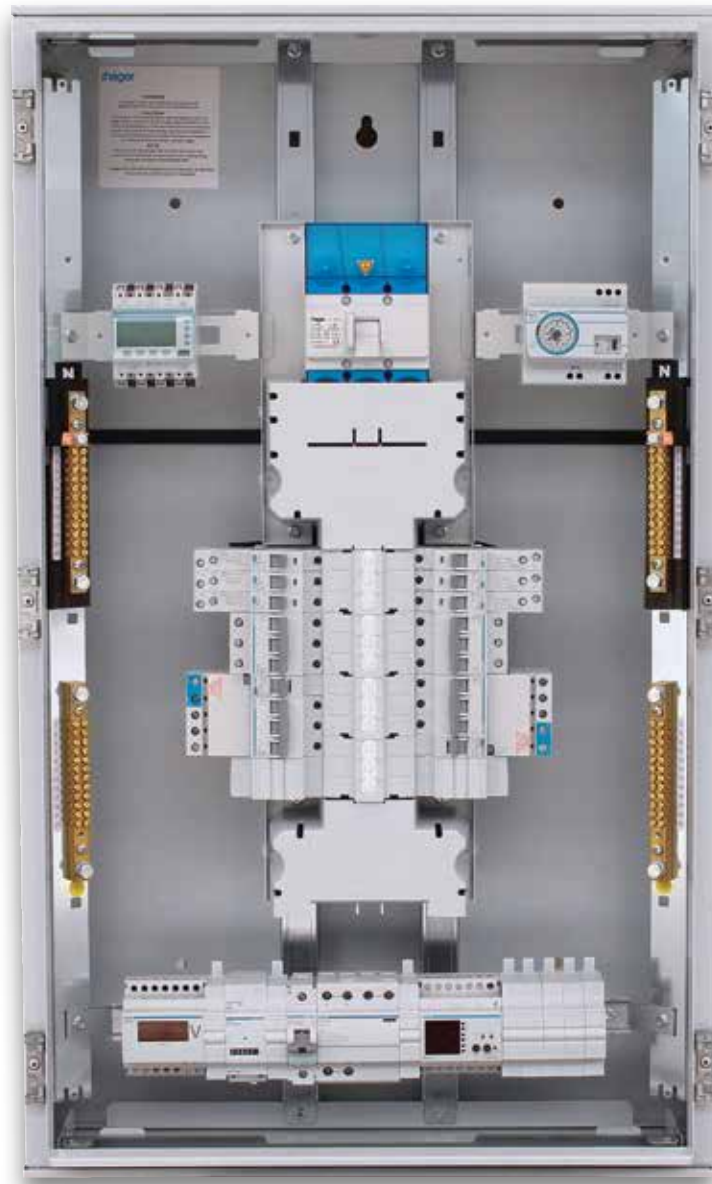
Our team can provide you with technical and cost effective quoting solutions to single line diagram / quote requests backed by PowerCAD industry leading electrical software. For project quotes and to receive our Project Pricing Request Form, please contact us on **1300 850 253**.



Panelboard Range

Our invicta Panelboards are designed to suit large home, light commercial or retail applications. The range comes fitted with 2 x 8 poles of DIN space and offers split N & E links for ease of cabling, a reversible door and optional MCB incomer link kit. These features make it the benchmark for multi-usage panelboards.

Our performa Panelboards are available up to 400A, in a stainless steel version, with split chassis or hybrid chassis and offers a comprehensive range of devices from protection to energy metering. Prefitted, wired and assembled in Australia, it guarantees full flexibility of configuration and reduced delivery time.



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Panelboards

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performa apex PLUS Panelboards
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No. of Poles	24, 36, 48, 60, 72	24, 36, 48, 60, 72, 96	24, 36, 48, 60, 72, 96
Chassis type	Standard	Standard	Standard or split
DIN rail	2 x 8 pole	2 x 6 pole	2 x 6 Pole & 24 Pole
Depth	135mm	200mm	200mm
Material	1.2mm galvanised steel	1.6mm galvanised steel	1.6mm galvanised steel
Colour	RAL 7035	RAL 7035 or X15 orange	RAL 7035 or X15 orange
IP	IP30	IP43	IP43
N & E Links	N&E links with large connection points	Split N&E links with bridged Neutrals	Split N&E links with bridged Neutrals
Doors	Lockable door (CL001)	Lockable door (CL001) with 3 point locking system	Lockable door (CL001) with 3 point locking system

performa Panelboard Accessories (apex and elite series)



Spare Chassis



Main Switch and Secondary Switch Kits



Gland Plates

References	JPDxxxxC	Main switch - JPA0xxxK Secondary switch - JPA0xxx0	For apex - JPAGPALU/JPAGPALUX For elite - JPEGPALU/JPEGPALUX
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performa elite Panelboards
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performa elite 400 Panelboards
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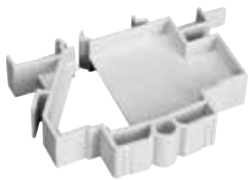


Extension Box



Tee-off Boxes
Page 67

24, 36, 48, 60, 72, 96	18, 30, 36, 42, 48, 60, 72, 96	Blank or 2 rows of 24 pole	3 pole fuse or MCCB
Standard or split	Standard or Hybrid	N/A	N/A
2 x 6 Pole & 24 Pole		Blank(mounting pan) or 48 pole	N/A
250mm	250mm	apex series - 200mm elite series - 250mm	250mm
1.6mm galvanised steel or 1.2mm 316 stainless steel	1.6mm galvanised steel or 1.2mm 316 stainless steel	1.2mm galvanised steel or elite series - 1.2mm 316 stainless steel	1.2mm galvanised steel
RAL 7035 or X15 orange	RAL 7035 or X15 orange	RAL 7035 or X15 orange	RAL 7035
IP66	IP66	IP43 (apex) IP66 (elite)	IP20
Split N&E links with bridged Neutrals	Split N&E links with bridged Neutrals	N & E links optional	N/A
Lockable door (CL001) with 3 point locking system and padlockable swinghandle	Lockable door (CL001) with 3 point locking system and padlockable swinghandle	Lockable door (CL001)	N/A



Pole Fillers

1 mod - JVCOPFL
1.5 mod - JPE015PFL
1 mod - JP012



Cylinder Inserts for elite Swinghandle

FLxxZ



Wall Mount Brackets

FL85Z



Smoke Seal

JPASMSEALx

Panelboard Solutions

invicta Panelboards



Developed as an optimised solution for small to medium commercial installations and large home projects. Available in 24, 36, 48, 60 and 72 pole.

onekombo

ADC9xxT, MSNxxxx, MDNxxxx



Our onekombo RCBO range offers a breaking capacity of 6kA, are type A rated and can be swiftly mounted with all other modular protection devices in invicta panelboards.

Add-On Block

Bx163T



The compact one module wide Add-On Block (AOB) can be used in combination with any Hager 3P MCB up to 63A.

performa Panelboards



Ideal for multi-residential, commercial and industrial applications. Available in 24 to 96 pole, with X15 orange colour and other options as set out below. More than 500 variations assembled in Australia for quick delivery. Also available as bottom fed.

Protection Devices

AxA1, Ax1, MSNxxxx, MDNxxxx, NDNxxxx, NTxxxx, HMxxxxT*



Our commercial single module RCBO range is available in 6kA (ADA1) or 10kA (AD1) breaking capacity. Both are type A and come with a functional earth lead.

**HMxxxxT is for elite 400 only*

Add-On Block

Bx163T



The compact one module wide Add-On Block (AOB) can be used in combination with any Hager 3P MCB up to 63A.

	apex	apex PLUS	elite	elite 400
IP rating	IP43	IP43	IP66	IP66
24 pole of additional DIN	✓	✓	✓	✓
Split chassis option		✓	✓	
Stainless steel option			✓	✓
Hybrid chassis option				✓

Features

- Available in 24, 36, 48, 60 & 72 poles
- 1.2mm tough powdercoated galvanised steel construction
- Powdercoated RAL7035 (light grey)
- IP30
- Complete with either a 160A or 250A main isolator switch prefitted
- Split earth and neutral links for easy cabling
- Fully type tested chassis
- 2 x 8 pole DIN space each side of main incomer
- Lockable door (CL001)
- Safety pole fillers remain with chassis when escutcheon is removed
- Circuit identification card
- Positive MCB alignment system

Technical information: [Page 68](#)

invicta Panelboards

Description	Characteristics	Cat. ref
With 160A main switch	24 pole chassis	JVC2400S16TW
	36 pole chassis	JVC3600S16TW
	48 pole chassis	JVC4800S16TW
	60 pole chassis	JVC6000S16TW
	72 pole chassis	JVC7200S16TW
With 250A main switch	24 pole chassis	JVC2400S25TW
	36 pole chassis	JVC3600S25TW
	48 pole chassis	JVC4800S25TW
	60 pole chassis	JVC6000S25TW
	72 pole chassis	JVC7200S25TW



JVC2400S16TW

Extension Boxes

Description	Characteristics	Cat. ref
Supplied without gland plates. Gland plates only required if mounting as a stand alone.	2 row 18 DIN	JVC0EXTDW



JVC0EXTDW

Accessories

Description	Characteristics	Width	Cat. ref
Incomer link kit	For 3Ø 80-125A MCB	4.5mod	JVC0M12
	For 3Ø up to 63A MCB	3 mod	JVC0M06
MEN kit			JVC0MEN
Gland plates			JVC0GPL
Safety pole fillers (10PK)			JVC0PFL
1 mod pole fillers (10PK)			JP012
Door lock and key (CL604)			JVCL604
Door lock and key (CL001)			JVC0LCK
Door lock and key (92268)			JVC92268
Spare keys (CL001)	2 keys		JVC0LSK
Document holder			JK2X007AU



JVC0M12

performa Panelboard Range

Our range of performa Panelboards is designed and assembled in Australia and can either be supplied standard or entirely loaded and wired.

The apex and apex PLUS series are available in 24 to 96 pole standard chassis, with 11 different split chassis options and 24 poles of additional DIN for the apex PLUS.

The elite series has an IP66 rating, is available in a high current standard or hybrid chassis and has a 316 stainless steel material option across the entire range.



Advantages:

- Hinged, removable and reversible door and escutcheon
- Can be supplied standard or fully loaded and wired
- Common accessories such as extension boxes, gland plates, handles and smoke seal
- Direct connection (no switch) option
- elite range has a maximised depth for air flow & cables

Characteristics:

- | | |
|------------------------------------|---|
| - Chassis sizes: | - 24, 36, 48, 60, 72, 96 |
| - Incomers: | - 160/250/400A isolator or 160A/200A MCCB |
| - apex PLUS features: | - 24 pole of additional DIN space |
| - apex PLUS split chassis options: | - 11 types |
| - elite rated current: | - 250A or 400A |



01

A tough 1.6mm galvanised steel construction with a ripple powdercoating in either RAL7035 light grey or X15 orange. The elite range also has a 316 grade stainless steel option.



02

The entire performa range has a three point locking system to ensure security and IP are maintained. All handles are key lockable, with additional key barrels available.



03

The apex and apex PLUS panelboards are ideal for internal applications with an ingress protection rating of IP43. The elite range is IP66 and ideal for external applications.



04

The new hybrid chassis accommodates Hager 'HMFxxT' 10kA MCB with a 27mm (1.5 mod) width. Available in 1, 2 or 3 pole versions, it will accept up to 35mm² flexible cable.



05

For complete protection against touching live parts once energized, safety caps and safety pole fillers are provided in all our performa panelboards for IP2X protection.



06

The one module RCD Add-On Block suits any Hager 10kA commercial MCB up to 63A. Providing 3 phase earth leakage protection for our performa panelboards.

4 easy steps to select your panelboard configuration

01

Pick your range

02

Pick your chassis

03

Pick your incomer

04

Pick your colour

01 apex - IP43



JPA2400S25TW

		02	03	04	
	JPA	####	###	T#	
		CHASSIS OPTIONS	INCOMER OPTIONS	COLOUR OPTIONS	
FULL CHASSIS	2400	24 pole chassis	NSS	No switch supplied	W Standard RAL 7035
	3600	36 pole chassis	S16	160A Isolating switch	X X15 Orange
	4800	48 pole chassis	S25	250A Isolating switch	
	6000	60 pole chassis	M16	160A MCCB	
	7200	72 pole chassis	M20	200A MCCB	
	9600	96 pole chassis			

01 apex PLUS - IP43 c/w additional 24 Pole DIN rail and 13 split chassis options



JPD3618NSSDW

		02	03	04	
	JPD	####	###	D#	
		CHASSIS OPTIONS	INCOMER OPTIONS	COLOUR OPTIONS	
FULL CHASSIS	2400	24 pole chassis	NSS	No switch supplied	W Standard RAL 7035
	3600	36 pole chassis	S16	160A Isolating switch	X X15 Orange
	4800	48 pole chassis	S25	250A Isolating switch	
	6000	60 pole chassis	M16	160A MCCB	
	7200	72 pole chassis	M20	200A MCCB	
SPLIT CHASSIS	9600	96 pole chassis			
	1812	36 pole 18T/12B			
	2418	48 pole 24T/18B			
	3012	48 pole 30T/12B			
	3618	60 pole 36T/18B			
	4212	60 pole 42T/12B			
	3630	72 pole 36T/30B			
	4224	72 pole 42T/24B			
	4818	72 pole 48T/18B			
	4842	96 pole 48T/42B			
	6030	96 pole 60T/30B			
	7218	96 pole 72T/18B			

NOTE:
T = Top
B = Bottom

01 elite - IP66 c/w additional 24 Pole DIN rail, 13 split chassis options and Stainless Steel material option

02 03 04

JPE	####	###	D#
-----	------	-----	----

	CHASSIS OPTIONS		INCOMER OPTIONS		COLOUR OPTIONS	
FULL CHASSIS	2400	24 pole chassis	NSS	No switch supplied	W	Standard RAL 7035
	3600	36 pole chassis	S16	160A Isolating switch	X	X15 Orange
	4800	48 pole chassis	S25	250A Isolating switch	S	Stainless Steel
	6000	60 pole chassis	M16	160A MCCB		
	7200	72 pole chassis	M20	200A MCCB		
SPLIT CHASSIS	9600	96 pole chassis				
	1812	36 pole 18T / 12B				
	2418	48 pole 24T / 18B				
	3012	48 pole 30T / 12B				
	3618	60 pole 36T / 18B				
	4212	60 pole 42T / 12B				
	3630	72 pole 36T / 30B				
	4224	72 pole 42T / 24B				
	4818	72 pole 48T / 18B				
	4842	96 pole 48T / 42B				
	6030	96 pole 60T / 30B				
	7218	96 pole 72T / 18B				

NOTE:
T = Top
B = Bottom



JPE4800S25DW

Panelboards

01 elite 400 - IP66 c/w 400A isolating switch, 4 hybrid chassis options and Stainless Steel material option

02 03 04

JPE	####	S40	T#
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	CHASSIS OPTIONS		400A isolating switch supplied as incomer	COLOUR/MATERIAL	
FULL CHASSIS	3600	36 pole chassis		W	Standard RAL 7035
	4800	48 pole chassis	X	X15 Orange	
	6000	60 pole chassis	S	Stainless Steel	
	7200	72 pole chassis			
	9600	96 pole chassis			
HYBRID CHASSIS	0612	6 x 1.5 mod + 12 x 1 mod poles			
	0624	6 x 1.5 mod + 24 x 1 mod poles			
	0636	6 x 1.5 mod + 36 x 1 mod poles			
	1248	12 x 1.5 mod + 48 x 1 mod poles			



JPE0612S40TW

NOTE: To provide sufficient room for cabling, the 2 x 6 mod DIN rails and 24 pole DIN rail usually supplied within the elite range of enclosures are not supplied in the elite 400.

Features

- Available in 24 to 96 poles
- 1.6mm tough powdercoated galvanised steel construction
- Galvanised steel gland plates as standard
- Split Neutral & Earth Links with bridged neutrals
- Type tested chassis
- Choice of incomer switches or MCCB device
- 2 x 6 pole DIN
- IP43 rated
- Fault current rated at 20kA for 0.2 sec
- Field reversible door and hinged escutcheon
- X15 orange option
- Flush handle with key lock
- Positive MCB alignment
- Safety pole fillers
- Circuit identification card

Technical information: [Page 69](#)



JPA2400NSSTW

apex Panelboards with direct connection

Description	Characteristics	Cat ref.
- No switch supplied (NSS)	24 pole	JPA2400NSSTW
- Chassis connection included	36 pole	JPA3600NSSTW
- Standard colour (W)	48 pole	JPA4800NSSTW
- Orange X15 option (X)	60 pole	JPA6000NSSTW
	72 pole	JPA7200NSSTW
	96 pole	JPA9600NSSTW



X15 orange option (X)

apex Panelboards with 160A isolating switch

Description	Characteristics	Cat ref.
- 160A isolating switch (S16)	24 pole	JPA2400S16TW
Colour options:	36 pole	JPA3600S16TW
- Standard colour option (W)	48 pole	JPA4800S16TW
- Orange X15 option (X)	60 pole	JPA6000S16TW
	72 pole	JPA7200S16TW
	96 pole	JPA9600S16TW

apex Panelboards with 250A isolating switch

Description	Characteristics	Cat ref.
- 250A isolating switch (S25)	24 pole	JPA2400S25TW
Colour options:	36 pole	JPA3600S25TW
- Standard colour option (W)	48 pole	JPA4800S25TW
- Orange X15 option (X)	60 pole	JPA6000S25TW
	72 pole	JPA7200S25TW
	96 pole	JPA9600S25TW

apex Panelboards with 160A MCCB

Description	Characteristics	Cat ref.
- 160A MCCB - HNB160U - can be adjusted down to 100A (M16)	24 pole	JPA2400M16TW
Colour options:	36 pole	JPA3600M16TW
- Standard colour option (W)	48 pole	JPA4800M16TW
- Orange X15 option (X)	60 pole	JPA6000M16TW
	72 pole	JPA7200M16TW
	96 pole	JPA9600M16TW

apex Panelboards with 200A MCCB

Description	Characteristics	Cat ref.
- 200A MCCB - HNB200U - can be adjusted down to 151A (M20)	24 pole	JPA2400M20TW
Colour options:	36 pole	JPA3600M20TW
- Standard colour option (W)	48 pole	JPA4800M20TW
- Orange X15 option (X)	60 pole	JPA6000M20TW
	72 pole	JPA7200M20TW
	96 pole	JPA9600M20TW

Features

- Available in 24 to 96 poles
- Removable 24 pole DIN section
- 1.6mm tough powdercoated galvanised steel construction
- Galvanised steel gland plates as standard
- Split Neutral & Earth Links with bridged neutrals
- Type tested chassis
- Choice of incomer switches or MCCB device
- 2 x 6 pole DIN
- IP43 rated
- Fault current rated at 20kA for 0.2 sec
- Field reversible door and hinged escutcheon
- X15 orange option
- Flush handle with key lock
- Positive MCB alignment
- Safety pole fillers
- Circuit identification card

Technical information: [Page 70](#)

apex PLUS Panelboards with direct connection

Description	Characteristics	Cat ref.
- No switch supplied (NSS)	24 pole	JPD2400NSSDW
- Chassis connection included	36 pole	JPD3600NSSDW
- apex PLUS features additional 24 pole DIN section	48 pole	JPD4800NSSDW
Colour options:	60 pole	JPD6000NSSDW
- Standard colour (W)	72 pole	JPD7200NSSDW
- Orange X15 option (X)	96 pole	JPD9600NSSDW



JPD6000NSSDW

apex PLUS Panelboards with 160A isolating switch

Description	Characteristics	Cat ref.
- 160A isolating switch (S16)	24 pole	JPD2400S16DW
- apex PLUS features additional 24 pole DIN section	36 pole	JPD3600S16DW
Colour options:	48 pole	JPD4800S16DW
- Standard colour option (W)	60 pole	JPD6000S16DW
- Orange X15 option (X)	72 pole	JPD7200S16DW
	96 pole	JPD9600S16DW

apex PLUS Panelboards with 250A isolating switch

Description	Characteristics	Cat ref.
- 250A isolating switch (S25)	24 pole	JPD2400S25DW
- apex PLUS features additional 24 pole DIN section	36 pole	JPD3600S25DW
Colour options:	48 pole	JPD4800S25DW
- Standard colour option (W)	60 pole	JPD6000S25DW
- Orange X15 option (X)	72 pole	JPD7200S25DW
	96 pole	JPD9600S25DW

apex PLUS Panelboards with 160A MCCB

Description	Characteristics	Cat ref.
- 160A MCCB - HNB160U - can be adjusted down to 100A (M16)	24 pole	JPD2400M16DW
- apex PLUS features additional 24 pole DIN section	36 pole	JPD3600M16DW
Colour options:	48 pole	JPD4800M16DW
- Standard colour option (W)	60 pole	JPD6000M16DW
- Orange X15 option (X)	72 pole	JPD7200M16DW
	96 pole	JPD9600M16DW

apex PLUS Panelboards with 200A MCCB

Description	Characteristics	Cat ref.
- 200A MCCB - HNB200U - can be adjusted down to 151A (M20)	24 pole	JPD2400M20DW
- apex PLUS features additional 24 pole DIN section	36 pole	JPD3600M20DW
Colour options:	48 pole	JPD4800M20DW
- Standard colour option (W)	60 pole	JPD6000M20DW
- Orange X15 option (X)	72 pole	JPD7200M20DW
	96 pole	JPD9600M20DW

Features

- Available in 24 to 96 poles
- Removable 24 pole DIN section
- 11 different split chassis options
- 1.6mm tough powdercoated galvanised steel construction
- Galvanised steel gland plates as standard
- Split Neutral & Earth Links with bridged neutrals
- Type tested chassis
- Choice of incomer switches or MCCB device
- 2 x 6 pole DIN
- IP43 rated
- Fault current rated at 20kA for 0.2 sec
- Field reversible door and hinged escutcheon
- X15 orange option
- Flush handle with key lock
- Positive MCB alignment
- Safety pole fillers
- Circuit identification card

Technical information: [Page 70](#)



JPD3618NSSDW



X15 orange option (X)

apex PLUS Panelboards with Split Chassis and Direct Connection

Description	Characteristics	Cat ref.
- No switch supplied (NSS)	36 pole 18 top / 12 bttm	JPD1812NSSDW
- Chassis connection included	48 pole 24 top / 18 bttm	JPD2418NSSDW
- Less 6 poles for split	48 pole 30 top / 12 bttm	JPD3012NSSDW
Colour options:		
- Standard colour (W)	60 pole 36 top / 18 bttm	JPD3618NSSDW
- Orange X15 option (X)	72 pole 36 top / 30 bttm	JPD3630NSSDW
	60 pole 42 top / 12 bttm	JPD4212NSSDW
	72 pole 42 top / 24 bttm	JPD4224NSSDW
	72 pole 48 top / 18 bttm	JPD4818NSSDW
	96 pole 48 top / 42 bttm	JPD4842NSSDW
	96 pole 60 top / 30 bttm	JPD6030NSSDW
	96 pole 72 top / 18 bttm	JPD7218NSSDW

apex PLUS Panelboards with Split Chassis and 160A Isolating Switch

Description	Characteristics	Cat ref.
- 160A isolating switch (S16)	36 pole 18 top / 12 bttm	JPD1812S16DW
- Less 6 poles for split	48 pole 24 top / 18 bttm	JPD2418S16DW
Colour options:		
- Standard colour (W)	48 pole 30 top / 12 bttm	JPD3012S16DW
- Orange X15 option (X)	60 pole 36 top / 18 bttm	JPD3618S16DW
	72 pole 36 top / 30 bttm	JPD3630S16DW
	60 pole 42 top / 12 bttm	JPD4212S16DW
	72 pole 42 top / 24 bttm	JPD4224S16DW
	72 pole 48 top / 18 bttm	JPD4818S16DW
	96 pole 48 top / 42 bttm	JPD4842S16DW
	96 pole 60 top / 30 bttm	JPD6030S16DW
	96 pole 72 top / 18 bttm	JPD7218S16DW

apex PLUS Panelboards with Split Chassis and 250A Isolating Switch

Description	Characteristics	Cat ref.
- 250A isolating switch (S25)	36 pole 18 top / 12 bttm	JPD1812S25DW
- Less 6 poles for split	48 pole 24 top / 18 bttm	JPD2418S25DW
Colour options:		
- Standard colour (W)	48 pole 30 top / 12 bttm	JPD3012S25DW
- Orange X15 option (X)	60 pole 36 top / 18 bttm	JPD3618S25DW
	72 pole 36 top / 30 bttm	JPD3630S25DW
	60 pole 42 top / 12 bttm	JPD4212S25DW
	72 pole 42 top / 24 bttm	JPD4224S25DW
	72 pole 48 top / 18 bttm	JPD4818S25DW
	96 pole 48 top / 42 bttm	JPD4842S25DW
	96 pole 60 top / 30 bttm	JPD6030S25DW
	96 pole 72 top / 18 bttm	JPD7218S25DW

Features

- Available in 24 to 96 poles
- Removable 24 pole DIN section
- 11 different split chassis options
- 1.6mm tough powdercoated galvanised steel construction
- Galvanised steel gland plates as standard
- Split Neutral & Earth Links with bridged neutrals
- Type tested chassis
- Choice of incomer switches or MCCB device
- 2 x 6 pole DIN
- IP43 rated
- Fault current rated at 20kA for 0.2 sec
- Field reversible door and hinged escutcheon
- X15 orange option
- Flush handle with key lock
- Positive MCB alignment
- Safety pole fillers
- Circuit identification card

Technical information: [Page 70](#)

apex PLUS Panelboards with Split Chassis and 160A MCCB

Description	Characteristics	Cat ref.
- 160A MCCB - HNB160U - can be adjusted down to 100A (M16)	36 pole 18 top / 12 bttm	JPD1812M16DW
- Less 6 poles for split	48 pole 24 top / 18 bttm	JPD2418M16DW
Colour options:	48 pole 30 top / 12 bttm	JPD3012M16DW
- Standard colour (W)	60 pole 36 top / 18 bttm	JPD3618M16DW
- Orange X15 option (X)	72 pole 36 top / 30 bttm	JPD3630M16DW
	60 pole 42 top / 12 bttm	JPD4212M16DW
	72 pole 42 top / 24 bttm	JPD4224M16DW
	72 pole 48 top / 18 bttm	JPD4818M16DW
	96 pole 48 top / 42 bttm	JPD4842M16DW
	96 pole 60 top / 30 bttm	JPD6030M16DW
	96 pole 72 top / 18 bttm	JPD7218M16DW



JPD3618NDW

apex PLUS Panelboards with Split Chassis and 200A MCCB

Description	Characteristics	Cat ref.
- 200A MCCB - HNB200U - can be adjusted down to 151A (M20)	36 pole 18 top / 12 bttm	JPD1812M20DW
- Less 6 poles for split	48 pole 24 top / 18 bttm	JPD2418M20DW
Colour options:	48 pole 30 top / 12 bttm	JPD3012M20DW
- Standard colour option (W)	60 pole 36 top / 18 bttm	JPD3618M20DW
- Orange X15 option (X)	72 pole 36 top / 30 bttm	JPD3630M20DW
	60 pole 42 top / 12 bttm	JPD4212M20DW
	72 pole 42 top / 24 bttm	JPD4224M20DW
	72 pole 48 top / 18 bttm	JPD4818M20DW
	96 pole 48 top / 42 bttm	JPD4842M20DW
	96 pole 60 top / 30 bttm	JPD6030M20DW
	96 pole 72 top / 18 bttm	JPD7218M20DW



JPA0EXT0W

Extension Box

Supplied blank with mounting pan or with 48 pole DIN rail, w/out gland plates top and bottom. Gland plates only required if mounting as a stand alone. CL001 keylock supplied.

Description	Characteristics	Cat. ref - Without DIN rail	Cat. ref - With DIN rail
apex series	Standard RAL7035, Grey	JPA0EXT0W	JPA0EXTDW
400H x 600W x 200D	X15 Orange door	JPA0EXTOX	JPA0EXTDX



JPD2418C

Chassis only

Description	Characteristics	Cat ref.
Chassis only - standard	24 pole chassis	JPD2400C
	36 pole chassis	JPD3600C
	48 pole chassis	JPD4800C
	60 pole chassis	JPD6000C
	72 pole chassis	JPD7200C
	96 pole chassis	JPD9600C
Chassis only - split	18/12 split chassis	JPD1812C
	24/18 split chassis	JPD2418C
	30/12 split chassis	JPD3012C
	36/18 split chassis	JPD3618C
	36/30 split chassis	JPD3630C
	42/12 split chassis	JPD4212C
	42/24 split chassis	JPD4224C
	48/18 split chassis	JPD4818C
	48/42 split chassis	JPD4842C
	60/30 split chassis	JPD6030C
	72/18 split chassis	JPD7218C



JPA0S25K

Incomer Kits - Main and Secondary

Description	Characteristics	Cat ref. - Main	Cat ref. - Secondary
Incomer kits to fit in 250A panelboards	160A isolating switch	JPA0S16K	JPA0S160
	250A isolating switch	JPA0S25K	JPA0S250
	160A MCCB	JPA0M16K	JPA0M160
	200A MCCB	JPA0M20K	JPA0M200
Chassis connection kit top/bottom	Shroud & spreaders	JPA0D25K	JPA0D250



FL85Z



JPA0SMSEAL1

Other Accessories

Description	Characteristics	Cat ref.
Aluminium Gland Plates (pair)	for apex	JPAGPALU
Aluminium Gland Plates (pair)	for apex - Orange x15	JPAGPALUX
Handle with keylock 92268	for apex	JPA0LCK9
Spare Key	CL001	JVC0LSK
Safety pole fillers	1 mod - 10 pack (JK01B)	JVC0PFL
Pole fillers	10 pack	JP012
Smoke seal	For apex and apex plus 800H or 1000H	JPASMSEAL1
	For apex and apex plus 1200H, 1400H or 1600H	JPASMSEAL2
Wall mounting bracket kit	4 pieces	FL85Z
Document holder	Adhesive backed	JK2X007AU
Keylock - 1/4 turn 92268	for extension box	JPA0LXT9
N & E link kit	for extension box	JPA0EXTNE
Mounting pan	for extension box	JPA0EXTMP
Joining Kits (suits apex range)	400x200mm	★ JPA400SBS
	800x200mm	★ JPA800SBS
	1000x200mm	★ JPA1000SBS
	1200x200mm	★ JPA1200SBS
	1400x200mm	★ JPA1400SBS
	1600x200mm	★ JPA1600SBS

Features

- Available in 24 to 96 poles
- Removable 24 pole DIN section at bottom
- Fully welded 1.2mm 316 stainless steel or 1.6mm powdercoated galvanised steel construction
- Increased depth to 250mm
- Removable gland plates as standard
- Split chassis option
- Split neutral & earth links with bridged neutrals
- Choice of incomer switches or MCCB device
- 2 x 6 pole DIN
- IP66 rated
- Fault current rated at 20kA for 0.2 sec
- X15 orange option
- Field reversible door and hinged escutcheon
- Swing handle with key lock
- Positive MCB alignment
- Safety pole fillers
- Circuit identification card
- CL001 key lock as standard

Technical information: [Page 72](#)

elite IP66 Panelboards with Direct Connection

Description	Characteristics	Cat ref.
- No switch supplied (NSS)	24 pole	JPE2400NSSDW
- Chassis connection included	36 pole	JPE3600NSSDW
Colour options:	48 pole	JPE4800NSSDW
- Standard colour (W)	60 pole	JPE6000NSSDW
- Orange X15 option (X)	72 pole	JPE7200NSSDW
- Stainless Steel - 316 grade (S)	96 pole	JPE9600NSSDW



JPE4800S25DW

elite IP66 Panelboards with 160A Isolating Switch

Description	Characteristics	Cat ref.
- 160A isolating switch (S16)	24 pole	JPE2400S16DW
Colour options:	36 pole	JPE3600S16DW
- Standard colour (W)	48 pole	JPE4800S16DW
- Orange X15 option (X)	60 pole	JPE6000S16DW
- Stainless Steel - 316 grade (S)	72 pole	JPE7200S16DW
	96 pole	JPE9600S16DW



X15 orange option (X)

elite IP66 Panelboards with 250A Isolating Switch

Description	Characteristics	Cat ref.
- 250A isolating switch (S25)	24 pole	JPE2400S25DW
Colour options:	36 pole	JPE3600S25DW
- Standard colour (W)	48 pole	JPE4800S25DW
- Orange X15 option (X)	60 pole	JPE6000S25DW
- Stainless Steel - 316 grade (S)	72 pole	JPE7200S25DW
	96 pole	JPE9600S25DW

elite IP66 Panelboards with 160A MCCB

Description	Characteristics	Cat ref.
- 160A MCCB - HNB160U - can be adjusted down to 100A (M16)	24 pole	JPE2400M16DW
Colour options:	36 pole	JPE3600M16DW
- Standard colour (W)	48 pole	JPE4800M16DW
- Orange X15 option (X)	60 pole	JPE6000M16DW
- Stainless Steel - 316 grade (S)	72 pole	JPE7200M16DW
	96 pole	JPE9600M16DW

elite IP66 Panelboards with 200A MCCB

Description	Characteristics	Cat ref.
- 200A MCCB - HNB200U - can be adjusted down to 151A (M20)	24 pole	JPE2400M20DW
Colour options:	36 pole	JPE3600M20DW
- Standard colour option (W)	48 pole	JPE4800M20DW
- Orange X15 option (X)	60 pole	JPE6000M20DW
- Stainless Steel - 316 grade (S)	72 pole	JPE7200M20DW
	96 pole	JPE9600M20DW

Features

- Available in 24 to 96 poles
- Removable 24 pole DIN section at bottom
- Fully welded 1.2mm 316 stainless steel or 1.6mm powdercoated galvanised steel construction
- Increased depth to 250mm
- Removable gland plates as standard
- Split chassis option
- Split neutral & earth links with bridged neutrals
- Choice of incomer switches or MCCB device
- 2 x 6 pole DIN
- IP66 rated
- Fault current rated at 20kA for 0.2 sec
- X15 orange option
- Field reversible door and hinged escutcheon
- Swing handle with key lock
- Positive MCB alignment
- Safety pole fillers
- Circuit identification card
- CL001 key lock as standard

Technical information: [Page 72](#)

elite IP66 Panelboards with Split Chassis and Direct Connection



JPE3012S25DW

Description	Characteristics	Cat ref.
- No switch supplied (NSS)	36 pole - 18 top / 12 btm	JPE1812NSSDW
- Chassis connection included	48 pole - 24 top / 18 btm	JPE2418NSSDW
Colour options:	48 pole - 30 top / 12 btm	JPE3012NSSDW
- Standard colour (W)	60 pole - 36 top / 18 btm	JPE3618NSSDW
- Orange X15 option (X)	60 pole - 42 top / 12 btm	JPE4212NSSDW
- Less 6 poles for split	72 pole - 36 top / 30 btm	JPE3630NSSDW
	72 pole - 42 top / 24 btm	JPE4224NSSDW
	72 pole - 48 top / 18 btm	JPE4818NSSDW
	96 pole - 48 top / 42 btm	JPE4842NSSDW
	96 pole - 60 top / 30 btm	JPE6030NSSDW
	96 pole - 72 top / 18 btm	JPE7218NSSDW



X15 orange option (X)

elite IP66 Panelboards with Split Chassis and 160A Isolating Switch

Description	Characteristics	Cat ref.
- 160A isolating switch (S16)	36 pole - 18 top / 12 btm	JPE1812S16DW
Colour options:	48 pole - 24 top / 18 btm	JPE2418S16DW
- Standard colour (W)	48 pole - 30 top / 12 btm	JPE3012S16DW
- Orange X15 option (X)	60 pole - 36 top / 18 btm	JPE3618S16DW
- Less 6 poles for split	60 pole - 42 top / 12 btm	JPE4212S16DW
	72 pole - 36 top / 30 btm	JPE3630S16DW
	72 pole - 42 top / 24 btm	JPE4224S16DW
	72 pole - 48 top / 18 btm	JPE4818S16DW
	96 pole - 48 top / 42 btm	JPE4842S16DW
	96 pole - 60 top / 30 btm	JPE6030S16DW
	96 pole - 72 top / 18 btm	JPE7218S16DW

elite IP66 Panelboards with Split Chassis and 250A Isolating Switch

Description	Characteristics	Cat ref.
- 250A isolating switch (S25)	36 pole - 18 top / 12 btm	JPE1812S25DW
Colour options:	48 pole - 24 top / 18 btm	JPE2418S25DW
- Standard colour (W)	48 pole - 30 top / 12 btm	JPE3012S25DW
- Orange X15 option (X)	60 pole - 36 top / 18 btm	JPE3618S25DW
- Less 6 poles for split	60 pole - 42 top / 12 btm	JPE4212S25DW
	72 pole - 36 top / 30 btm	JPE3630S25DW
	72 pole - 42 top / 24 btm	JPE4224S25DW
	72 pole - 48 top / 18 btm	JPE4818S25DW
	96 pole - 48 top / 42 btm	JPE4842S25DW
	96 pole - 60 top / 30 btm	JPE6030S25DW
	96 pole - 72 top / 18 btm	JPE7218S25DW

Features

- Available in 24 to 96 poles
- Removable 24 pole DIN section at bottom
- Fully welded 1.2mm 316 stainless steel or 1.6mm powdercoated galvanised steel construction
- Increased depth to 250mm
- Removable gland plates as standard
- Split chassis option
- Split neutral & earth links with bridged neutrals
- Choice of incomer switches or MCCB device
- 2 x 6 pole DIN
- IP66 rated
- Fault current rated at 20kA for 0.2 sec
- X15 orange option
- Field reversible door and hinged escutcheon
- Swing handle with key lock
- Positive MCB alignment
- Safety pole fillers
- Circuit identification card
- CL001 key lock as standard

Technical information: [Page 72](#)

elite Panelboards with Split Chassis and 160A MCCB

Description	Characteristics	Cat ref.
- 160A MCCB - HNB160U - can be adjusted down to 100A (M16)	36 pole - 18 top / 12 btm	JPE1812M16DW
	48 pole - 24 top / 18 btm	JPE2418M16DW
Colour options:	48 pole - 30 top / 12 btm	JPE3012M16DW
	60 pole - 36 top / 18 btm	JPE3618M16DW
- Standard colour (W)	60 pole - 42 top / 12 btm	JPE4212M16DW
	72 pole - 36 top / 30 btm	JPE3630M16DW
- Orange X15 option (X)	72 pole - 42 top / 24 btm	JPE4224M16DW
	72 pole - 48 top / 18 btm	JPE4818M16DW
- Less 6 poles for split	96 pole - 48 top / 42 btm	JPE4842M16DW
	96 pole - 60 top / 30 btm	JPE6030M16DW
	96 pole - 72 top / 18 btm	JPE7218M16DW



JPE3012M16DW



Split chassis option

elite Panelboards with Split Chassis and 200A MCCB

Description	Characteristics	Cat ref.
- 200A MCCB - HNB200U - can be adjusted down to 151A (M20)	36 pole - 18 top / 12 btm	JPE1812M20DW
	48 pole - 24 top / 18 btm	JPE2418M20DW
Colour options:	48 pole - 30 top / 12 btm	JPE3012M20DW
	60 pole - 36 top / 18 btm	JPE3618M20DW
- Standard colour (W)	60 pole - 42 top / 12 btm	JPE4212M20DW
	72 pole - 36 top / 30 btm	JPE3630M20DW
- Orange X15 option (X)	72 pole - 42 top / 24 btm	JPE4224M20DW
	72 pole - 48 top / 18 btm	JPE4818M20DW
- Less 6 poles for split	96 pole - 48 top / 42 btm	JPE4842M20DW
	96 pole - 60 top / 30 btm	JPE6030M20DW
	96 pole - 72 top / 18 btm	JPE7218M20DW



JPA0EXT0W

Extension Box

Supplied blank with mounting pan or with 48 pole DIN rail, w/out gland plates top and bottom. Gland plates only required if mounting as a stand alone. CL001 keylock supplied.

Description	Characteristics	Cat. ref - Without DIN rail	Cat. ref - With DIN rail
elite series	Standard RAL7035	JPE0EXT0W	JPE0EXTDW
400H x 600W x 250D	X15 Orange	JPE0EXT0X	JPE0EXTDX
	Stainless Steel (316 grade)	JPE0EXT0L	JPE0EXTDL



JPD2418C

Chassis only

Description	Characteristics	Cat. ref.
Chassis only - standard	24 pole chassis	JPD2400C
	36 pole chassis	JPD3600C
	48 pole chassis	JPD4800C
	60 pole chassis	JPD6000C
	72 pole chassis	JPD7200C
	96 pole chassis	JPD9600C
Chassis only - split	18/12 split chassis	JPD1812C
	24/18 split chassis	JPD2418C
	30/12 split chassis	JPD3012C
	36/18 split chassis	JPD3618C
	36/30 split chassis	JPD3630C
	42/12 split chassis	JPD4212C
	42/24 split chassis	JPD4224C
	48/18 split chassis	JPD4818C
	48/42 split chassis	JPD4842C
	60/30 split chassis	JPD6030C
	72/18 split chassis	JPD7218C



JPA0S25K

Incomer Kits (Main and Secondary)

Description	Characteristics	Cat. ref. - Main	Cat. ref. - Secondary
Incomer kits to fit in 250A panelboards	160A isolating switch	JPA0S16K	JPA0S160
	250A isolating switch	JPA0S25K	JPA0S250
	160A MCCB	JPA0M16K	JPA0M160
	200A MCCB	JPA0M20K	JPA0M200
Chassis connection kit top/bottom	Shroud & spreaders	JPA0D25K	JPA0D250



FL72Z



FL85Z

Other Accessories

Description	Characteristics	Cat. ref.
Aluminium Gland Plates (pair)	for elite	JPEGPALU
Aluminium Gland Plates (pair)	for elite - orange	JPEGPALUX
Safety pole fillers	1 mod - 10 pack (JK01B)	JVC0PFL
	1.5 mod - 3 pack	JPE015PFL
Pole fillers	10 pack	JP012
Cylinder inserts for elite swing handle	Key EK333	FL98Z
	CL001 & key	FL72Z
	92268 & key	FL73Z
	E-lock	FL741
	E-lock key	FL75Z1
Spare Key	Blank with ball bearing	FL78Z3AU
Padlockable swinghandle for elite	CL001	JVC0LSK
Padlockable swinghandle for E-Lock		FL78Z1AU
Wall mounting bracket kit	4 pieces	FZ630AU1
Document holder	Adhesive backed	FL85Z
Keylock - 1/4 turn 92268	for extension box	JK2X007AU
N & E link kit	for extension box	JPA0LXT9
Mounting pan	for extension box	JPA0EXTNE
JPE Plinth	Galvanised plinth	JPA0EXTMP
		★ JPEPLINTH

elite 400 features

- Fully welded 1.2mm 316 stainless steel or 1.6mm powdercoated galvanised steel construction
- Increased depth to 250mm
- Removable gland plates as standard
- 400A isolating switch supplied as incomer
- IP66 rated
- Fault current rated at 20kA for 0.2 sec
- X15 orange option
- Safety pole fillers

- Field reversible door and hinged escutcheon
- Swing handle with key lock
- Positive MCB alignment
- Circuit identification card
- CL001 key lock as standard

Standard chassis only features

- Available in 36 to 96 poles
- Split neutral & earth links with bridged neutrals

Hybrid chassis only features

- Utilises a hybrid chassis that combines a 1.5mod pole chassis with a 1mod pole chassis, giving it the ability to fit the HMFxxxT 80-125A, 10kA, 4.5mod MCBs, as well as the standard 10kA, 1-4mod device range.
- Available in 18, 30, 42 and 60 poles
 - Neutral & earth links with increased capacity for M8 lugs and two screw tunnel connections

Technical information: [Page 74](#)

elite 400 Full Chassis

Description	Characteristics	Current (In a)	Cat. ref.
- 400A isolating switch supplied fitted (240mm cable size - M10 cable lug)	36 pole	325A	JPE3600S40TW
	48 pole	375A	JPE4800S40TW
- Standard colour (W)	60 pole	375A	JPE6000S40TW
- Orange X15 option (X)	72 pole	375A	JPE7200S40TW
- Stainless steel 316 grade (S)	96 pole	375A	JPE9600S40TW



JPE4800S40TW

elite 400 with Hybrid Chassis

Description	Characteristics	Current (In a)	Cat. ref.
- 400A isolating switch supplied fitted (240mm cable size - M10 cable lug)	18P - 6x 1.5mod / 12x 1mod	320A	JPE0612S40TW
	30P - 6x 1.5mod / 24x 1mod	400A	JPE0624S40TW
- Standard colour (W)	42P - 6x 1.5mod / 36x 1mod	400A	JPE0636S40TW
- Orange X15 option (X)	60P - 12x 1.5mod / 48x 1mod	400A	JPE1248S40TW
- Stainless steel 316 grade (S)			



JPE0612S40TW



Stainless steel option (S)



JPE0EXT0W

Extension Box

Supplied blank with mounting pan or with 48 pole DIN rail, w/out gland plates top and bottom. Gland plates only required if mounting as a stand alone. CL001 keylock supplied.

Description	Characteristics	Cat. ref -	
		Without DIN rail	With DIN rail
elite series	Standard RAL7035	JPE0EXT0W	JPE0EXTDW
400H x 600W x 250D	X15 Orange	JPE0EXT0X	JPE0EXTDX
	Stainless Steel (316 grade)	JPE0EXT0L	JPE0EXTDL



JK4P208C1

Chassis only

Description	Characteristics	Current (In a)	Cat ref.
Chassis only - standard	36 pole chassis	325A	JK4P12C1
	48 pole chassis	375A	JK4P16C1
	60 pole chassis	375A	JK4P20C1
	72 pole chassis	375A	JK4P24C1
	96 pole chassis	375A	JK4P32C1
Chassis only - hybrid	18P - 6x 1.5mod / 12x 1mod	320A	JK4P204C1
	30P - 6x 1.5mod / 24x 1mod	400A	JK4P208C1
	42P - 6x 1.5mod / 36x 1mod	400A	JK4P212C1
	60P - 12x 1.5mod / 48x 1mod	400A	JK4P416C1



JPA0S25K

Incomer Kit (Main)

Description	Characteristics	Cat ref. - Main
Main incomer kit	400A	JPA0S40K



FL72Z



FL85Z

Other Accessories

Description	Characteristics	Cat ref.
Aluminium Gland Plates (pair)	for elite	JPEGPALU
Aluminium Gland Plates (pair)	for elite - orange	JPEGPALUX
Safety pole fillers	1 mod - 10 pack (JK01B)	JVC0PFL
	1.5 mod - 3 pack	JPE015PFL
Pole fillers	10 pack	JP012
Cylinder inserts for elite swinghandle	Key EK333	FL98Z
	CL001 & key	FL72Z
	92268 & key	FL73Z
	E-Lock	FL74Z1
	E-Lock key	FL75Z1
Spare Key	Blank with ball bearing	FL78Z3AU
	CL001	JVC0LSK
Padlockable swinghandle for elite		FL78Z1AU
Padlockable swinghandle for E-lock		FZ630AU1
Wall mounting bracket kit	4 pieces	FL85Z
Document holder	Adhesive backed	JK2X007AU
Keylock - 1/4 turn 92268	for extension box	JPA0LXT9
N & E link kit	for extension box	JPA0EXTNE
Mounting pan	for extension box	JPA0EXTMP

ATS / MTS features

- 63A - 400A 4 pole models
- Earth bar included
- Generous cable installation space
- Back plate mounted for easy access
- Non perforated top and bottom entry incoming and outgoing cable glands - Installer to perforate bottom gland plate as required depending on cable requirements
- Reversal door and key lock

IP rating

- IP65 for indoors (mild steel)

Finish

- Powdercoated RAL 7035

Material

- 1.2mm mild steel enclosure
- 1.5mm mild steel door

Standards

- Complies to AS/NZS 61439.2

Technical information: [Page 77](#)

ATS Enclosed Solutions

Description	ATS Type	Rating	Poles	Dimensions (mm)	Cat ref.
Mild steel enclosure with mounting plate and Earth bar	HIC406A	63A	4	500w x 650h x 250d	★ FL063ATSA
	HIC410A	100A	4	500w x 650h x 250d	★ FL100ATSA
ATS enclosed solutions include: - EAN bar - 2x terminal Shrouds - Bridging Bar - Voltage tapping and power supply kit	HIC416A	160A	4	500w x 650h x 250d	★ FL160ATSA
	HIC425G	250A	4	600w x 800h x 400d	★ FL250ATSA
	HIC440G	400A	4	600w x 800h x 400d	★ FL400ATSA



FL160ATSA

MTS Enclosed Solutions

Description	ATS Type	Rating	Poles	Dimensions (mm)	Cat ref.
Mild steel enclosure with mounting plate and Earth bar	HI452	160A	4	500w x 650h x 250d	★ FL160MTS
	HI454	250A	4	500w x 650h x 250d	★ FL250MTS
MTS enclosed solutions include: - EAN bar - 2x terminal Shrouds - Bridging Bar	HI454	400A	4	500w x 650h x 250d	★ FL400MTS



FL160MTS

MCCB features

- 50A - 630A 3 pole models
- Earth and Neutral bar included
- Generous cable installation space
- Back plate mounted for easy access.
- Non perforated top and bottom entry incoming and outgoing cable glands - Installer to perforate bottom gland plate as required depending on cable requirements.
- Reversal door and key lock

IP rating

- IP65 for indoors (mild steel)

Finish

- Powdercoated RAL 7035

Material

- 1.2mm mild steel enclosure
- 1.5mm mild steel door

Standards

- Complies to AS/NZS 61439.2

Technical information: [Page 78](#)



FL630CBA

MCCB enclosed solutions

Description	MCCB Type	Rating	Poles	Dimensions (mm)	Cat ref.
Mild steel enclosure with mounting plate, Neutral bar and Earth bar	HNC125H	50A to 125A	3	400w x 650h x 250d	★ FL125CBA
	HNC250H	100A to 250A	3	400w x 650h x 250d	★ FL250CBA
	HND400H	160A to 400A	3	600w x 800h x 300d	★ FL400CBA
MCCB enclosed solutions include:	HND630H	250A to 630A	3	600w x 800h x 300d	★ FL630CBA

- EAN bar
- 2x terminal shrouds
- External rotary handle

Description

Used in the riser duct of multi-storey buildings or as a ring main in shopping centres.

Material

- 1.5mm galvanised steel

Finish

- RAL 7035 light grey

Note

- Insulated cable entry plates
- Copper Links, Tee-off Connectors, Fuse Switch Disconnectors and MCCBs to be purchased separately.

Technical information: [Page 79](#)

Fuse Switch Tee-off Boxes

Description	Dimensions (mm)	Cat ref.
100/160A fuse - Suits 1 or 2 x LT052 (size 00 DIN blade fuses)	325w x 650h x 250d	TFS16023P
250A fuse - Suits 1 x LT150 (size 1 DIN blade fuses)	325w x 650h x 250d	TFS25013P
2 x 250A fuse - Suits 1 or 2 x LT150 (size 1 DIN blade fuses)	570w x 650h x 250d	TFS25023P
400A fuse - Suits 1 x LT250 (size 2 DIN blade fuses)	570w x 650h x 250d	TFS40013P
2 x 400A fuse - Suits 1 or 2 x LT250 (size 2 DIN blade fuses)	570w x 650h x 250d	TFS40023P



TFS16023P

MCCB Tee-off Boxes

Description	Dimensions (mm)	Cat ref.
1 x 160A MCCB - Suits 1 x X160 (HNA160U)	325w x 650h x 250d	★ TFMX16013P
2 x 160A MCCB - Suits 2 x X160 (HNA160U)	325w x 650h x 250d	★ TFMX16023P
4 x 160A MCCB - Suits 4 x X160 (HNA160U)	570w x 650h x 250d	★ TFMX16043P
1 x 250A MCCB - Suits 1 x X250 (HNB250U) or H250 (HNC250H)	570w x 650h x 250d	★ TFMX25013P
2 x 250A MCCB - Suits 2 x X250 (HNB250U) or H250 (HNC250H)	570w x 650h x 250d	✗ TFM25023P → ★ TFMX25023P
3 x 250A MCCB - Suits 3 x X250 (HNB250U) or H250 (HNC250H)	570w x 650h x 250d	★ TFMX25033P
2 x 400A MCCB - Suits 2 x HND400H	570w x 650h x 250d	✗ TFM40023P → ★ TFMX40023P



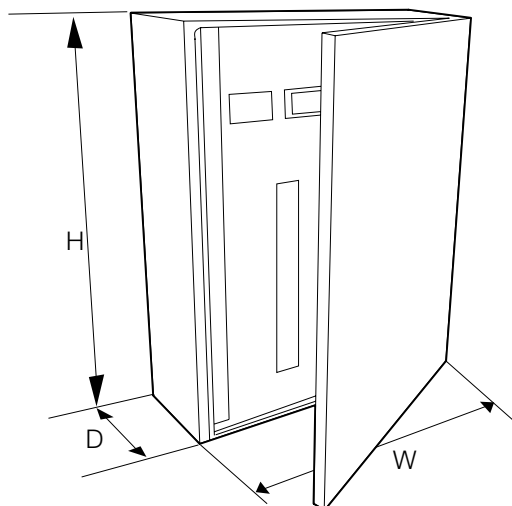
TFMX25023P

Tee-off Accessories

Description	Cat ref.
Copper Link bar with insulators, 4 tap-off 160A	★ KP160-4DG
Copper Link bar with insulators, 3 tap-off 250A	★ KP250-3ADG
Copper Link bar with insulators, 3 tap-off 400A	★ KP400-3DG
Copper Link bar with insulators, 3 tap-off 630A	★ KP630-3DG
End of the line kit - Suits 325mm width T-off enclosure - 4 insulators	TFL3254P
End of the line kit - Suits 570mm width T-off enclosure - 4 insulators	TFL5654P



TFL3254P



Enclosure dimensions (mm)		H	W	D
invicta	JVC2400xxxTW	800	480	135
panelboard	JVC3600xxxTW	900	480	135
	JVC4800xxxTW	1000	480	135
	JVC6000xxxTW	1128	480	135
	JVC7200xxxTW	1235	480	135
Extension box	JVC0EXTDW	350	480	135

Enclosure

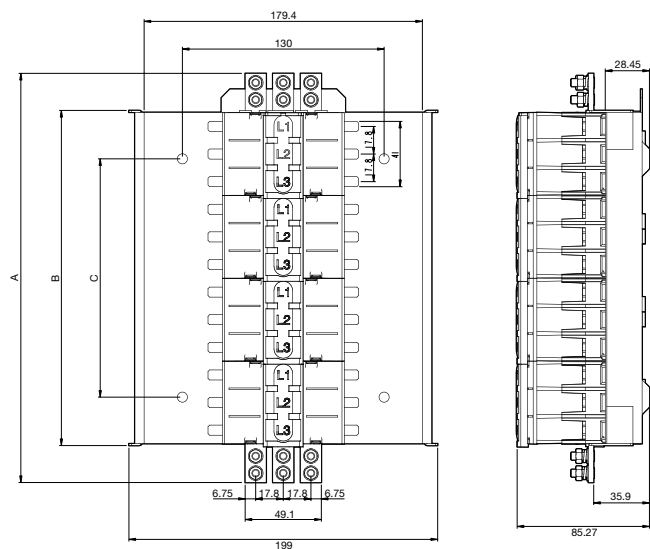
Material	1.2mm galvanised steel
Powdercoat	Ripple finish RAL7035 (light grey)

Mechanical

IP rating	IP30	
Split earth and neutral bars	Earth bars	12mm x 9mm
	Neutral bars	12mm x 9mm
	Single screw tunnel	7mm diameter (25mm ² cable)
	Rating	250A

Connections

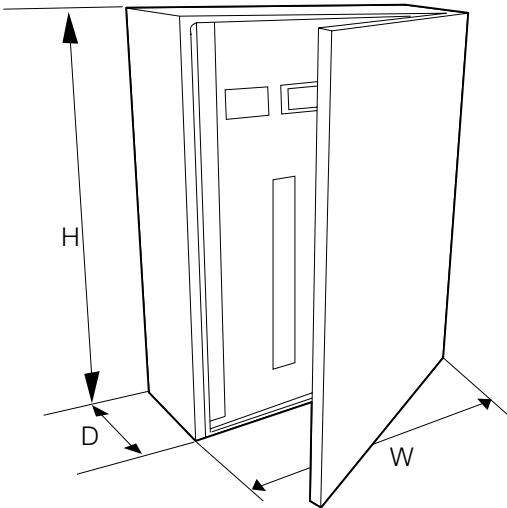
Main earth & neutral incomer	M10 bolt (30-44Nm max. torque)
160A isolator	M8 bolt (30-44Nm max. torque)
250A isolator	M8 bolt (30-44Nm max. torque)



Standard chassis

Dimensions (mm)	A	B	C
JVC2400xxxTW	263.7	216	153.6
JVC3600xxxTW	370.7	322.8	130.2
JVC4800xxxTW	477.7	429.6	183.6
JVC6000xxxTW			
JVC7200xxxTW			

Chassis Type	Standard Chassis
Compatible product series	MSNxxx and MDNxxx MCBs, 6kA, 6-63A, Type C and ADC9xxT RCBOs, 6kA, 6-32A, Type C, Add-On Block
Rated current (InA)	250A
Rated voltage (Un)	250V
Rated operational Voltage (Ue)	415V, 50Hz
Rated Insulation Voltage (Ui)	690V
Rated Impulse voltage (Uimp)	4kV
Rated short circuit capability	20kA, 0.2sec 40kA, peak
Rated short circuit withstand current of main busbar Icw,	20kA rms, 40kA peak, 200ms
Tee-Off Direction	Left / Right
Split Chassis	No
Tee-Off Isolator	Yes
Capped Tee-Offs	50 %
Split-In Field	No
Number of Poles, 18mm Pitch	From 24 to 48, 18mm Pitch
Output Phases	3P
IP rating	IP2x



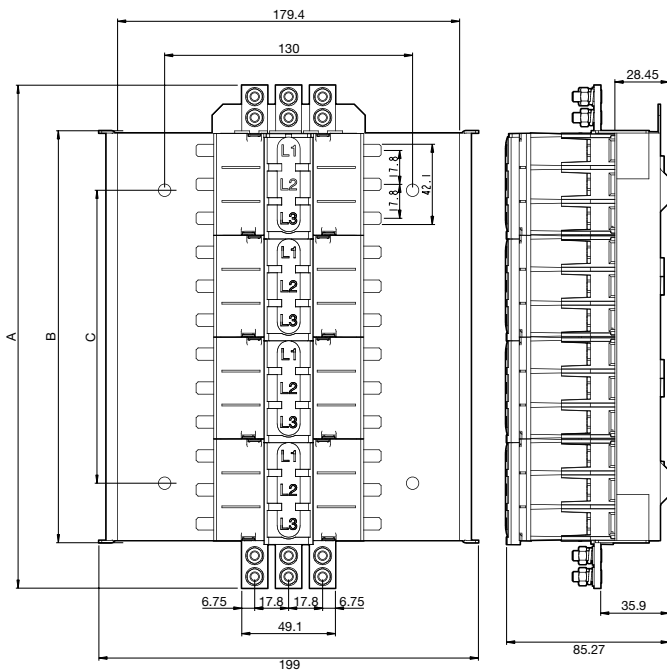
Enclosure dimensions (mm)	H	W	D
24 pole JPA2400	800	600	200
36 pole JPA3600	1000	600	200
48 pole JPA4800	1200	600	200
60 pole JPA6000	1200	600	200
72 pole JPA7200	1400	600	200
96 pole JPA9600	1600	600	200
Extension boxes JPA0EXT	400	600	200

Enclosure

Material	1.6mm galvanised steel
Powdercoat	RAL7035 (light grey) / X15 orange option
Gland plates	1.6mm galvanised steel top and bottom

Mechanical

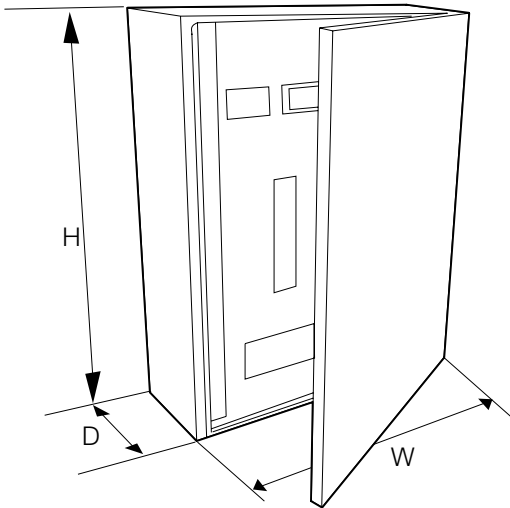
IP rating	IP43	
Split earth and neutral bars	Earth bars	15.9mm x 12mm
	Neutral bars	15.9mm x 12mm
Single screw tunnel	7mm diameter (25mm ² cable)	
M8 stud points	Top and Bottom	
Rating	250A	



Standard chassis

Dimensions (mm)	A	B	C
JPD2400C	263.7	216	153.6
JPD3600C	370.7	322.8	130.2
JPD4800C	477.7	429.6	183.6
JPD6000C	584.7	536.4	237
JPD7200C	691.7	643.2	290.4
JPD9600C	798.7	856.8	397.2

Chassis Type	Standard Chassis
Compatible product series	NTxxx, MSNxxx and MDNxxx MCBs, Ax1xxT and Ax1xxT RCBOs, Add-on Block
Rated current (InA)	250A
Rated voltage (Un)	250V
Rated operational Voltage (Ue)	415V, 50Hz
Rated Insulation Voltage (Ui)	690V
Rated Impulse voltage (Uimp)	4kV
Rated short circuit capability	20kA, 0.2sec
	40kA, peak
Tee-Off Direction	Left / Right
Split Chassis	No
Tee-Off Isolator	Yes
Capped Tee-Offs	50 %
Split-In Field	No
Number of Poles, 18mm Pitch	From 24 to 96, 18mm Pitch
Output Phases	3P
IP rating	IP2x



Enclosure dimensions (mm)

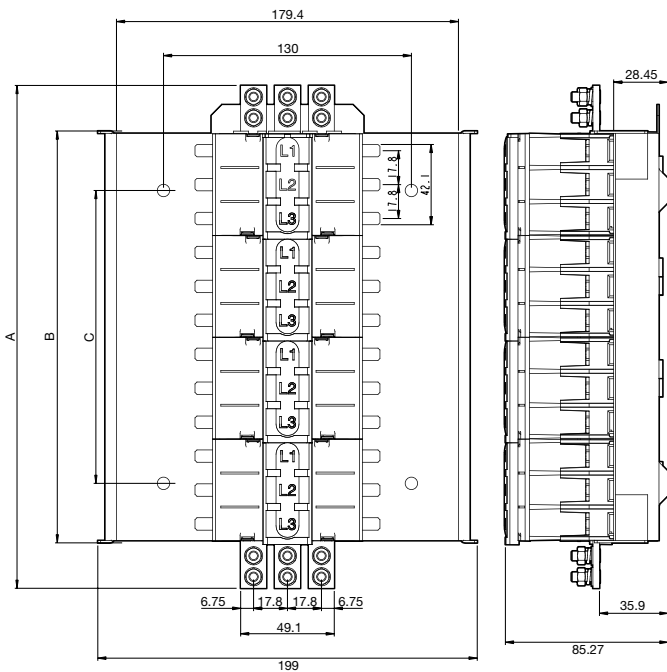
Std Chassis	Split Chassis	H	W	D
JPD2400		1000	600	200
JPD3600	JPD1812	1200	600	200
JPD4800	JPD2418	1200	600	200
	JPD3012	1200	600	200
JPD6000	JPD3618	1400	600	200
	JPD4212	1400	600	200
JPD7200	JPD3630	1400	600	200
	JPD4224	1400	600	200
	JPD4818	1400	600	200
	JPD3W60	1400	600	200
JPD9600	JPD4842	1600	600	200
	JPD6030	1600	600	200
	JPD7218	1600	600	200
	JPD4W78	1600	600	200
Extension boxes	JPA0EXT	400	600	200

Enclosure

Material	1.6mm galvanised steel
Powdercoat	RAL7035 (light grey) / X15 orange option
Gland plates	1.6mm galvanised steel top and bottom

Mechanical

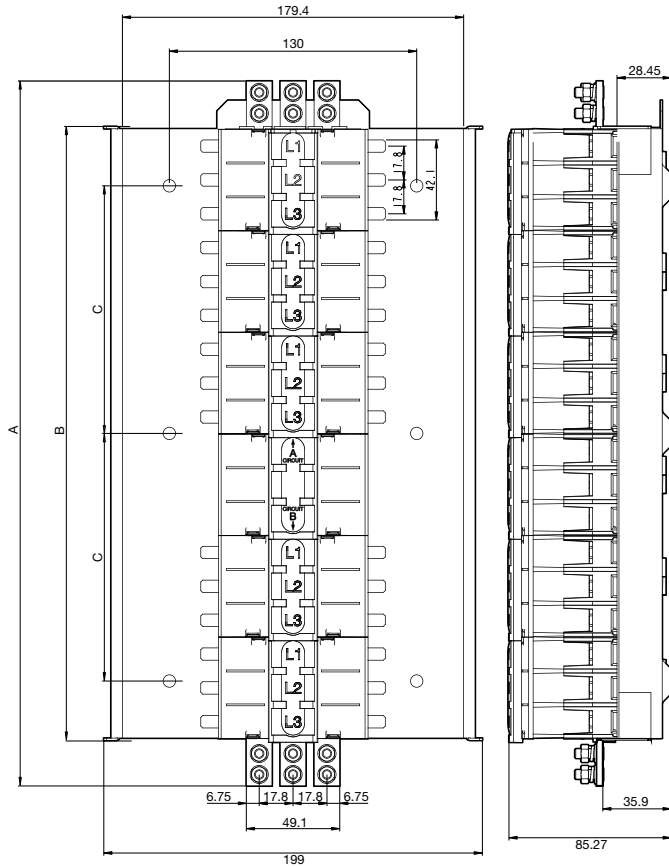
IP rating	IP43	
Split earth and neutral bars	Earth bars	15.9mm x 12mm
	Neutral bars	15.9mm x 12mm
Single screw tunnel	7mm diameter (25mm ² cable)	
M8 stud points	Top and Bottom	
Rating	250A	



Standard chassis

Dimensions (mm)	A	B	C
JPD2400C	263.7	216	153.6
JPD3600C	370.7	322.8	130.2
JPD4800C	477.7	429.6	183.6
JPD6000C	584.7	536.4	237
JPD7200C	691.7	643.2	290.4
JPD9600C	798.7	856.8	397.2

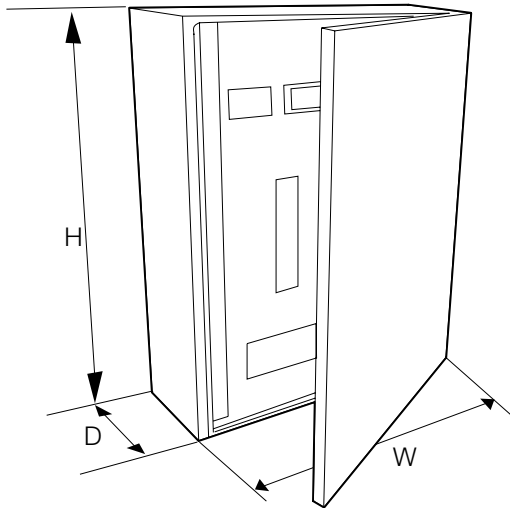
Chassis Type	Standard Chassis
Compatible product series	NDNxxx, NTxxx, MDNxxx and MSNxxx MCBs, ADA1, AD1, ACA1, AC1, AxA1 or Ax1 RCBOs, Add-on Block
Rated current (InA)	250A
Rated voltage (Un)	250V
Rated operational Voltage (Ue)	415V, 50Hz
Rated Insulation Voltage (Ui)	690V
Rated Impulse voltage (Uimp)	4kV
Rated short circuit capability	20kA, 0.2sec 40kA, peak
Tee-Off Direction	Left / Right
Split Chassis	No
Tee-Off Isolator	Yes
Capped Tee-Offs	50 %
Split-In Field	No
Number of Poles, 18mm Pitch	From 24 to 96, 18mm Pitch
Output Phases	3P
IP rating	IP2x



Split chassis

	A	B	C
Dimensions (mm)			
JPD1812C	370.7	322.8	130.2
JPD2418C	477.7	429.6	183.6
JPD3012C	477.7	429.6	183.6
JPD3618C	584.7	536.4	237
JPD4212C	584.7	536.4	237
JPD3630C	691.7	643.2	290.4
JPD4224C	691.7	643.2	290.4
JPD4818C	691.7	643.2	290.4
JK2B60PA	691.7	643.2	290.4
JPD4842C	798.7	856.8	397.2
JPD6030C	798.7	856.8	397.2
JPD7218C	798.7	856.8	397.2
JK2B78PA	798.7	856.8	397.2

Chassis Type	Split Chassis
Compatible product series	NDNxxx, NTxxx, MDNxxx and MSNxxx MCBs, AxA1 and Ax1 RCBOs, Add-on Block
Rated current (InA)	250A
Rated voltage (Un)	250V
Rated operational Voltage (Ue)	415V, 50Hz
Rated Insulation Voltage (Ui)	690V
Rated Impulse voltage (Uimp)	4kV
Rated short circuit capability	20kA, 0.2sec 40kA, peak
Tee-Off Direction	Left / Right
Split Chassis	Yes
Tee-Off Isolator	Yes
Capped Tee-Offs	50 %
Split-In Field	No
Number of Poles, 18mm Pitch	From 30 to 90, 18mm Pitch
Output Phases	3P
IP rating	IP2x



Enclosure dimensions (mm)

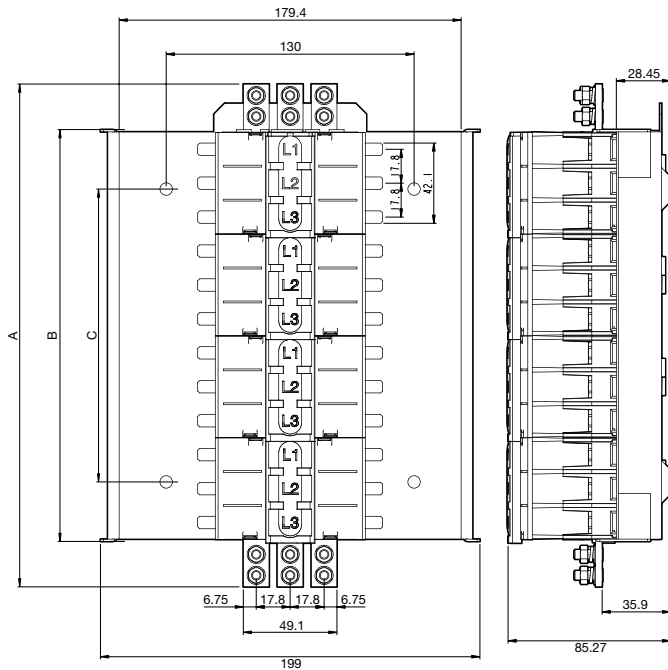
Std Chassis	Split Chassis	H	W	D
JPE2400		1000	600	250
JPE3600	JPE1812	1200	600	250
JPE4800	JPE2418	1200	600	250
	JPE3012	1200	600	250
JPE6000	JPE3618	1400	600	250
	JPE4212	1400	600	250
JPE7200	JPE3630	1400	600	250
	JPE4224	1400	600	250
	JPE4818	1400	600	250
	JPE3W60	1400	600	250
JPE9600	JPE4842	1600	600	250
	JPE6030	1600	600	250
	JPE7218	1600	600	250
	JPE3W60	1600	600	250
	JPE4W78	1600	600	250
Extension boxes	JPE0EXT	400	600	250

Enclosure

Material	1.6mm galvanised steel or 1.2mm 316 grade, stainless steel
Powdercoat	RAL7035 (light grey) / X15 orange option
Gland plates top and bottom	1.6mm galvanised steel or 1.2mm Stainless steel

Mechanical

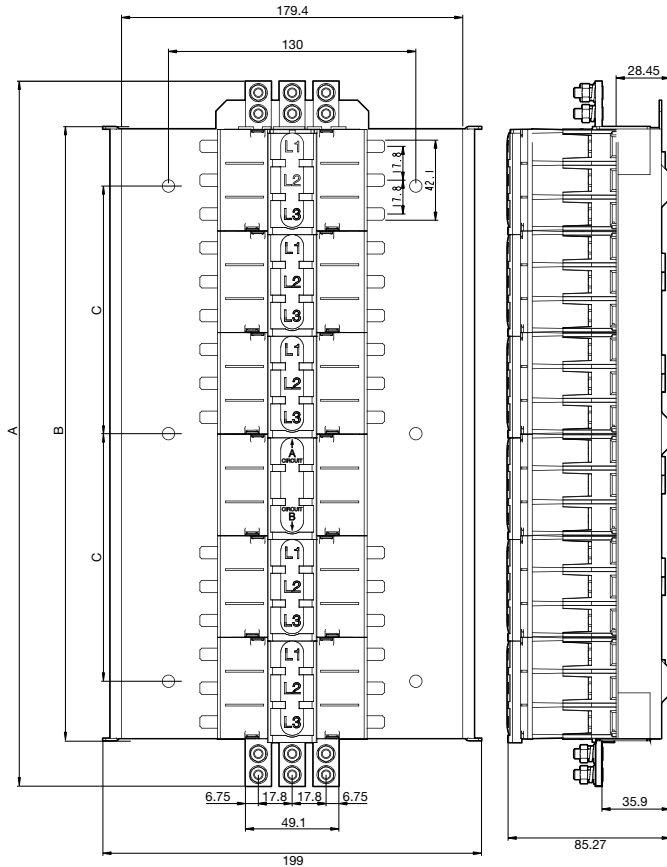
IP rating	IP66	
Split earth and neutral bars	Earth bars	15.9mm x 12mm
	Neutral bars	15.9mm x 12mm
Double screw tunnel	7mm diameter (25mm ² cable)	
M8 stud points	Top and Bottom	
Rating	250A	



Standard chassis

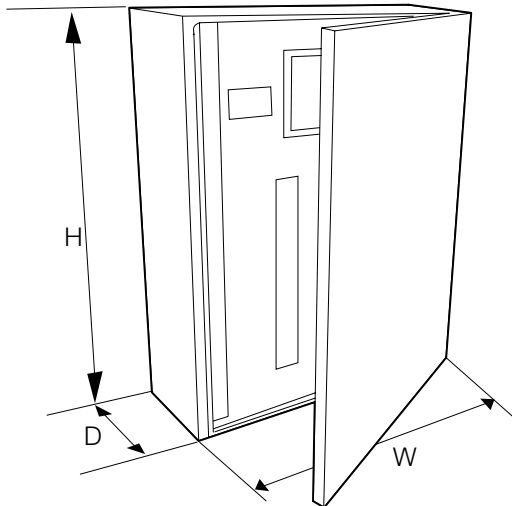
Dimensions (mm)		A	B	C
JPD2400C		263.7	216	153.6
JPD3600C		370.7	322.8	130.2
JPD4800C		477.7	429.6	183.6
JPD6000C		584.7	536.4	237
JPD7200C		691.7	643.2	290.4
JPD9600C		798.7	856.8	397.2

Chassis Type	Standard Chassis
Compatible product series	NTxxx, MDNxxx and MSNxxx MCBs, AxA1 and Ax1 RCBOs, Add-On Block
Rated current (InA)	250A
Rated voltage (Un)	250V
Rated operational Voltage (Ue)	415V, 50Hz
Rated Insulation Voltage (Ui)	690V
Rated Impulse voltage (Uimp)	4kV
Rated short circuit capability	20kA, 0.2sec 40kA, peak
Tee-Off Direction	Left / Right
Split Chassis	No
Tee-Off Isolator	Yes
Capped Tee-Offs	50 %
Split-In Field	No
Number of Poles, 18mm Pitch	From 24 to 96, 18mm Pitch
Output Phases	3P
IP rating	IP2x



Split chassis	A	B	C
Dimensions (mm)			
JPD1812C	370.7	322.8	130.2
JPD2418C	477.7	429.6	183.6
JPD3012C	477.7	429.6	183.6
JPD3618C	584.7	536.4	237
JPD4212C	584.7	536.4	237
JPD3630C	691.7	643.2	290.4
JPD4224C	691.7	643.2	290.4
JPD4818C	691.7	643.2	290.4
JK2B60PA	691.7	643.2	290.4
JPD4842C	798.7	856.8	397.2
JPD6030C	798.7	856.8	397.2
JPD7218C	798.7	856.8	397.2
JK2B78PA	798.7	856.8	397.2

Chassis Type	Split Chassis
Compatible product series	NTxxx, MDNxxx nd MSNxxx MCBs, AxA1 and Ax1 RCBOs, Add-on Block
Rated current (InA)	250A
Rated voltage (Un)	250V
Rated operational Voltage (Ue)	415V, 50Hz
Rated Insulation Voltage (Ui)	690V
Rated Impulse voltage (Uimp)	4kV
Rated short circuit capability	20kA, 0.2sec 40kA, peak
Tee-Off Direction	Left / Right
Split Chassis	Yes
Tee-Off Isolator	Yes
Capped Tee-Offs	50 %
Split-In Field	No
Number of Poles, 18mm Pitch	From 30 to 90, 18mm Pitch
Output Phases	3P
IP rating	IP2x



Enclosure dimensions (mm)

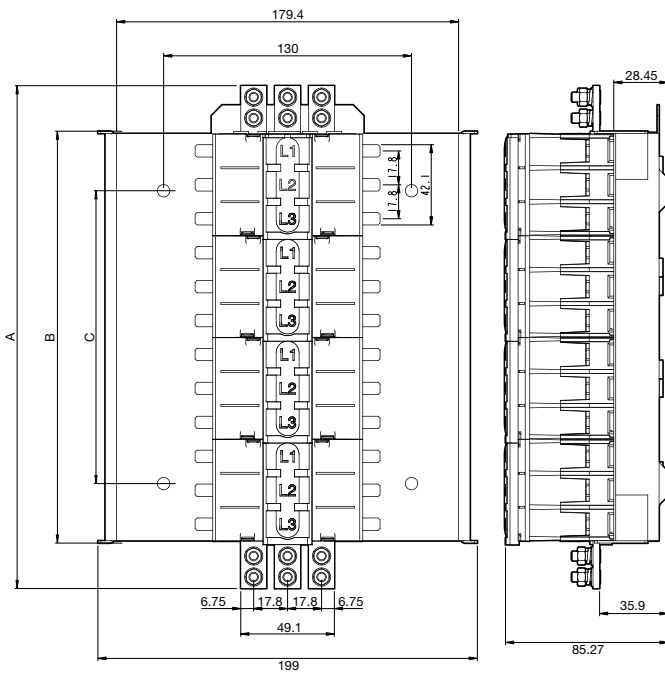
Std Chassis	Hybrid Chassis	H	W	D
	JPE0612	1000	600	250
JPE3600	JPE0624	1200	600	250
JPE4800	JPE0636	1200	600	250
JPE6000	JPE1248	1400	600	250
JPE7200		1400	600	250
JPE9600		1600	600	250
Extension boxes	JPE0EXT	400	600	250

Enclosure

Material	1.6mm galvanised steel or 1.2mm 316 grade, stainless steel
Powdercoat	RAL7035 (light grey) / X15 orange option
Gland plates top and bottom	1.6mm galvanised steel or 1.2mm Stainless steel

Mechanical

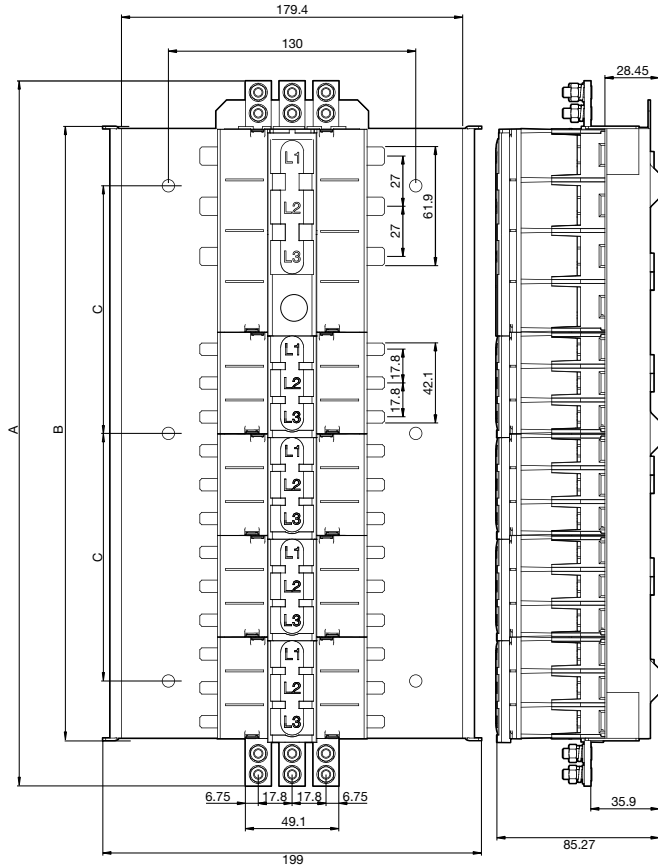
IP rating	IP66	
E&N bars	Std chassis	Hybrid chassis
Earth bars	2 x M8 studs	2 x M10 studs
E bar size	15.9mm x 12mm	19mm x 19mm
Neutral bars	Split	15.9mm x 12mm
N bar size	15.9mm x 12mm	19mm x 19mm
Connection	Double screw tunnel	
Connection size	7mm tunnel (25mm ² cable)	10mm tunnel (35mm ² cable) 7mm tunnel (25mm ² cable)



Standard chassis

Dimensions (mm)	A	B	C
JK4P12C1	370.7	322.8	130.2
JK4P16C1	477.7	429.6	183.6
JK4P20C1	584.7	536.4	237
JK4P24C1	691.7	643.2	290.4
JK4P32C1	798.7	856.8	397.2

Chassis Type	Standard Chassis
Compatible product series	NTxxx, MDNxxx and MSNxxx MCBs, AxA1 and Ax1 RCBOs, Add-on Block
Rated current (InA)	325A (36 pole), 375A (48, 60, 72, 96 pole)
Rated voltage (Un)	250V
Rated operational Voltage (Ue)	415V, 50Hz
Rated Insulation Voltage (Ui)	690V
Rated Impulse voltage (Uimp)	4kV
Rated short circuit capability	20kA, 0.2sec 40kA, peak
Tee-Off Direction	Left / Right
Split Chassis	No
Tee-Off Isolator	Yes
Capped Tee-Offs	50 %
Split-In Field	No
Number of Poles, 18mm Pitch	From 36 to 96, 18mm Pitch
Output Phases	3P
IP rating	IP2x



Hybrid chassis		A	B	C
Dimensions (mm)	JK4P204C1	263.7	216	153.6
	JK4P208C1	370.7	322.8	130.2
	JK4P212C1	477.7	429.6	183.6
	JK4P416C1	584.7	536.4	237
Chassis Type	Hybrid Chassis			
Compatible product series	1.5mod chassis	HMFxxxT 10kA, 80-125A, Type C		
	1 mod chassis	NTxxx, MDNxxx and MSNxxx MCBs, AxA1 and Ax1 RCBOs, Add-on Block		
Rated current (InA)	320A (6+12), 400A (6+24, 6+36, 12+48)			
Rated voltage (Un)	250V			
Rated operational Voltage (Ue)	415V, 50Hz			
Rated Insulation Voltage (Ui)	690V			
Rated Impulse voltage (Uimp)	4kV			
Rated short circuit capability	20kA, 0.2sec			
	40kA, peak			
Tee-Off Direction	Left / Right			
Split Chassis	Yes			
Tee-Off Isolator	Yes			
Capped Tee-Offs	50 %			
Split-In Field	No			
Number of Poles,	From 6 to 12, 27mm pitch			
	From 18 to 60, 18mm pitch			
Output Phases	3P			
IP rating	IP2x			

Main characteristics according to IEC 60947-3

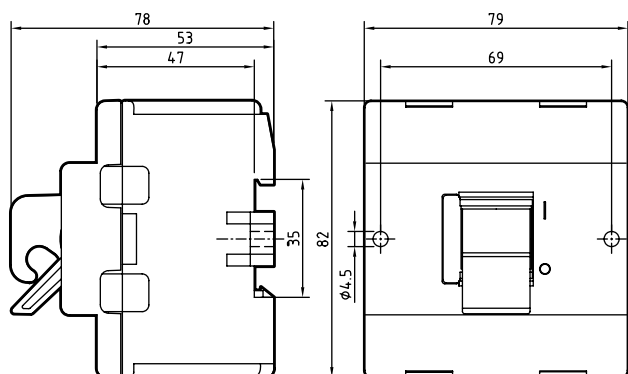
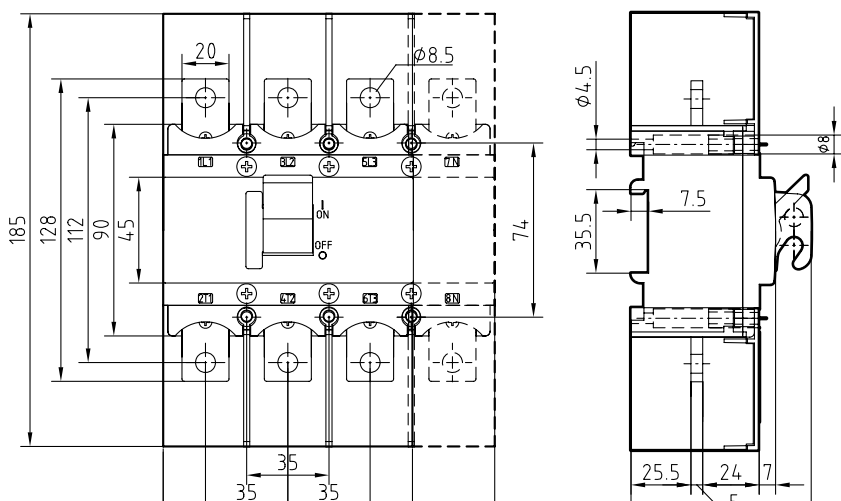
	160A	250A
Rated operating voltage U_e (Vac)	415	415
Rated thermal current, I_{th} (A)	160	250
Rated frequency (Hz)	50/60	50/60
Rated insulation voltage, U_i (V)	690	690
Impulse withstand voltage, U_{imp} (kV)	6	6
Rated operational current, I_e at 415 Vac (A)	AC-21 AC-22 AC-23	250 250 200
Rated short circuit making capacity, I_{cm} at 415 Vac (kA)	6	7
Rated short time withstand current (1 s), I_{cw} at 416 Vac (kA)	4	6
Rated conditional short circuit current	Back-up fuse (A) R.M.S. Value, I_k (kA) Peak value (kA)	250 50 25
Rated operational power for 3-phase motors (kW)	AC-23	90

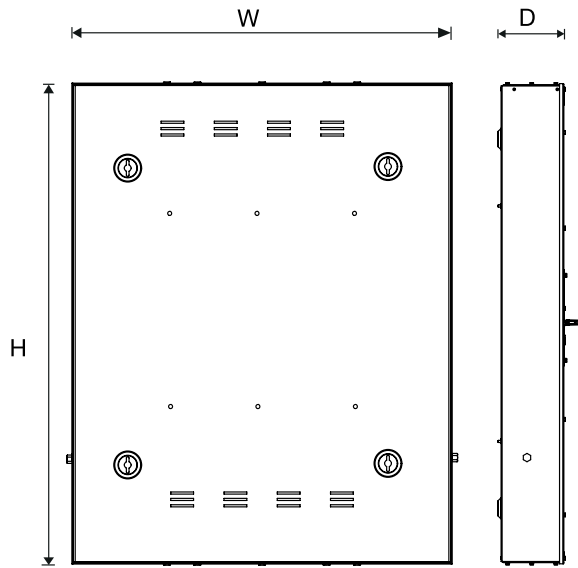
Connection capacity

	160A	250A
Terminal bolt size	M8 (20mm)	M8 (20mm)
Nominal cable size (mm ²)	95	120
Tightening torque (Nm)	15-22	15-22

Other characteristics

	160A	250A
Mechanical endurance (operations)	16000	16000
Electrical endurance (operations)	2000	2000
Operating temperature (°C)	-20 to 50	-20 to 50
Storage temperature (°C)	-40 to 80	-40 to 80
Toggle colour	Gray	Gray
Padlock (mm)	6	6
Mounting	DIN rail / plate	DIN rail / plate

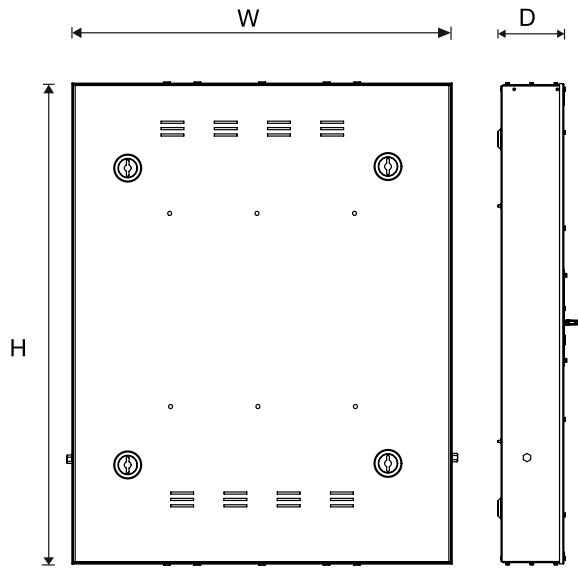




Enclosure dimensions (mm)		H	W	D
63A	FL063ATSA	650	500	200
100A	FL100ATSA	650	500	200
160A	FL160ATSA	650	500	200
250A	FL250ATSA	800	600	400
400A	FL400ATSA	800	600	400

Interface Characteristics

Rated & operational voltage (Un/Ue)	415V a.c. 50Hz
Rated insulation voltage (Ui)	800V a.c. 50Hz
Rated impulse withstand voltage (Uimp)	8kV
Rated conditional short-circuit current of the assembly	25kA
Rated peak withstand current (Ipk)	40kA
Rated diversity factor (RDF) / values of assumed loading	RDF = 1
Rated frequency (fn)	50Hz
Enclosed Assembly	AS/NZS 61439.2
MCCB only	IEC 60947.2
Degree of protection	IP65
Intended location	Indoor use only
Mechanical impact protection	IK10
Type of construction	Fixed parts
Intended use	Skilled persons only
Electromagnetic compatibility	Environment B
Stationary assembly external design	Wall mounted
Pollution degree	3
Form of separation	Form 1
Connections of functional unit:- Incoming/Outgoing circuit connection	F (Fixed)
Suitable earthing system (When installed in an electrical system conforming to BS7671)	TNC-S, TN-S & TT

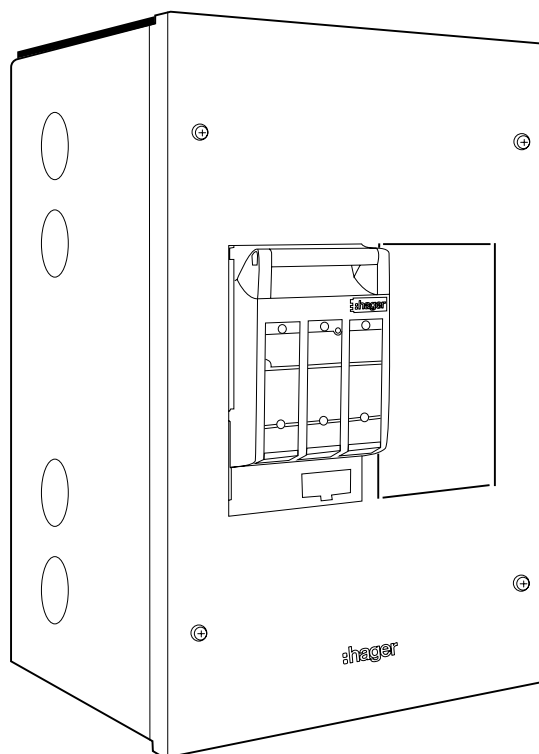


Enclosure dimensions (mm)

		H	W	D
125A	FL125CBA	650	400	250
250A	FL250CBA	650	400	250
400A	FL400CBA	800	600	300
630A	FL630CBA	800	600	300

Interface Characteristics

Rated & operational voltage (Un/Ue)	415V a.c. 50Hz
Rated insulation voltage (Ui)	800V a.c. 50Hz
Rated impulse withstand voltage (Uimp)	8kV
Rated conditional short-circuit current of the assembly	25kA
Rated peak withstand current (Ipk)	40kA
Rated diversity factor (RDF) / values of assumed loading	RDF = 1
Rated frequency (fn)	50Hz
Enclosed Assembly	AS/NZS 61439.2
MCCB only	IEC 60947.2
Degree of protection	IP65
Intended location	Indoor use only
Mechanical impact protection	IK10
Type of construction	Fixed parts
Intended use	Skilled persons only
Electromagnetic compatibility	Environment B
Stationary assembly external design	Wall mounted
Pollution degree	3
Form of separation	Form 1
Connections of functional unit:- Incoming/Outgoing circuit connection	F (Fixed)
Suitable earthing system (When installed in an electrical system conforming to BS7671)	TNC-S, TN-S & TT



Enclosure dimensions (mm)	W	H	D
TFS16023P	325	650	250
TFS25013P	325	650	250
TFS25023P	570	650	250
TFS40013P	570	650	250
TFS40023P	570	650	250
TFMX16013P	325	650	250
TFMX16023P	325	650	250
TFMX16043P	570	650	250
TFMX25013P	570	650	250
TFMX25033P	570	650	250
TFMX25023P	570	650	250
TFMX40023P	570	650	250

Regulatory

Standards compliance	AS/NZS 4139-1 and AS/NZS 61438.2
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Enclosure

Material	1.5mm zincanneal body 1.2mm zincanneal escutcheon 1.5mm galvanised steel chassis
Powdercoat	RAL9002

Electrical

TFSxxxxP fuse switch box	DIN fuse sizes	Amps	Fuse switch
	00 & 000	100/160A	LT052
	1	250A	LT150
	2	400A	LT250
TFMxxxxP MCCB box		250A HNC250H or 400A HND400H	

Residential Enclosures and Load Centres

Our Residential Enclosures and Load Centres have been developed with a strong aesthetic integrating unique features as a result of feedback from homeowners, electrical contractors and house builders. There is sure to be a Hager Enclosure to suit your specific application.



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Residential Enclosures and Load Centres



VD IP30 Range
Page 84



GD IP30/IP40 Range
Page 85



VT Range
Page 86



VE IP65 Range
Page 87

No. of Modules	1 - 10	2 - 6	9 - 48	3 - 48
Mounting	Surface	Surface	Surface or Flush	Surface
Material	Plastic	Plastic	1.2mm galvanised steel	UV stabilised plastic
Colour	RAL 9010 (pure white)	RAL 9010 (pure white)	RAL 9002 (grey white)	RAL 7035 (light grey)
IP	IP30	IP30, IP40 with door	IP30w	IP65
Links	Brass links in 8 mod only	Not supplied with enclosure	Brass links	Brass links
Doors	Supplied with enclosure 6 - 8 mod only Opaque or transparent	Not supplied with enclosure	Not supplied with enclosure	Supplied with enclosure Transparent
Spare doors	Not available	Opaque - GP1xxP Transparent - GP1xxT	Opaque only - VT04x VT92263 - VT03x	Transparent
Optional key lock part	VZ313	VZ313	JK1XKLS	VZ311
Additional pole fillers	JP011 - White	JP011 - White	JP010 - Grey	JP010 - Grey

DIN rail enclosures

golf Enclosure Accessories

Pg 90, 91, 93



Earthed metal back plates



Accessories



Enclosure Sliders

References	VFxxBP	Key lock - VZ794N Cable guides - VZ699N Labelling stickers - VZ788N	VZ849N VZ850N VZ852N
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vega D Enclosure Accessories

Pg 95



Key Locks



Schedule Holder



Universal Hybrid Link Terminal Mounting Support

References	FD00S0 FD00S1	FZ794	KN00A
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Gear Tray Module

FD02C2



Cable Management

UZ25V1
UZ25V2
UZ01V1



DIN Rail

UZ02B9



RAL 9010 pole fillers

JP002



golf Range
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4 - 72

Surface or Flush

Plastic

RAL 9010 (pure white)

IP40

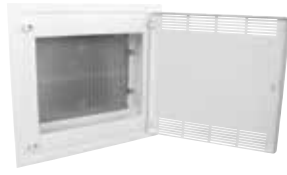
Brass links
Q-Links

Supplied with enclosure
Opaque or transparent

Opaque - VZ60/1xN
Transparent - VZ62/3xN

VZ794N

JP011 - White



golf Home Networking Range
Page 91

12

Surface or Flush

Plastic

RAL 9010 (pure white)

IP40

Not supplied with enclosure

Supplied with enclosure
Opaque only

Opaque - VZ85xN

VZ794N

Not applicable



TN Network Enclosure
Page 92

18

Surface

Plastic

RAL 9010 (pure white)

IP30

Not supplied with enclosure

Supplied with enclosure
Opaque only

Not available

VZ794N

Not applicable



vega D Range
Page 94

96 - 168

Surface or Flush

Sheet metal and injected plastic
combination

RAL 9010 (pure white)

IP40 with door (flush)
IP41 with door (surface)

Brass links

Not supplied with enclosure

Opaque - FDxxPN
Transparent - FDxxTN

FD00S0

JP002 or JP010



Connectors

TN002S
TN003S
TN010S



Telephone Splitters

TN131
TN111



Patch Cables

TN735B
TN740B



Plates

VZ851N
VZ853N



Enclosure Width Hybrid Q Link Terminal Mounting Support

FD00Q1



Neutral Hybrid Screw & Q Link Terminals

Neutral - KNxxN



Earth Hybrid Screw & Q Link Terminals

Earth - KNxxE



Phase Hybrid Screw & Q Link Terminals

Phase - KNxxP



Passive Vent Kit

FD00P5



Internal Partitions

FD00A3
FD00A4



External Wall Brackets

FD00F2



Mounting Anchors

VZ405N

Description

Our VD series offers 1 row plastic covers for 1 to 18 modules.

They are suitable as pole covers and small load centres for devices up to 70mm installation depth with multiple mounting, cable entry positions and stylish design.

Specifications

- IP30, IK07
- Isolation Class II / Double insulated
- Larger size enclosures equipped with plain or transparent door
- Colour: RAL 9010
- Cover fixed by screws
- Suitable for MPD up to 80A - depending on power dissipation loss

Standards

- Compliant to AS/NZS 5112 and AS/NZS 61439-3

Dimension data: [Page 96](#)

DIN rail enclosures



VD102NT



VD104NT

VD Surface Mounted Pole Cover Enclosures without door

Facility to be tampered sealed with wire.

Description	Number of module(s)	Dimensions (mm)	Cat ref.
1 row	1 mod	27.5w x 163.5h x 71d	VD101NT
- plastic DIN rail	2 mod	45.5w x 163.5h x 71d	VD102NT
	3 mod	63.5w x 163.5h x 71d	VD103NT
	4 mod	81.5w x 163.5h x 71d	VD104NT



VD106TT



VD118TT

VD Surface Mounted Enclosures with opaque or transparent door

Description	Number of Module(s)	80A brass terminal		Dimensions (mm)	Cat ref. Transparent door	Cat ref. Opaque door
		16mm ²	35mm ²			
1 row	6 mod	-	-	134.5 w x 170h x 91d	VD106TT	VD106PT
	8 mod	Neutral	8	170.5w x 170h x 91d	VD108TT	VD108PT
		Earth	6			
	10 mod	Neutral	10	206.5 w x 170h x 91d	VD110TT	VD110PT
		Earth	7			
	12 mod	Neutral	13	292.5w x 200h x 91d	VD112TT	VD112PT
		Earth	7			
	18 mod	Neutral	20	400w x 200h x 91d	VD118TT	VD118PT
		Earth	10			



JP011

VD Enclosure Accessories

Description	Cat ref.
6 mod door	VZ910N1
8 mod door	VZ912N
10 mod door	VZ916N
12 mod door	VZ918N
18 mod door	VZ920N
Door locking kit with 2 keys - 61005	VZ313
Spare key - 61005	VZ312
Pole filler set - White - 5pk 0.5 mod	JP011
2x brass terminals set - 3 x 35mm ² + 7x16mm Brass terminals suitable for VD enclosures with door	2AR904AU

Description

Our GD series offers 1 row insulated enclosures for 2, 4 and 6 modules.

They offer generous wiring space on top, bottom and the sides with an extensive choice of mounting positions. Constructed of durable 100% recyclable and insulated plastic. Available empty or loaded.

Specifications

- Facility for cover to be sealed
- Cover fixed by quarter turn screws
- IP30 without door installation
- IP40 with a door installed
- IK05
- Suitable for MPD up to 63A - depending on power dissipation loss
- Marking strip clips on escutcheon
- Isolation Class II / Double insulated

Options:

- Opaque or transparent doors
- Key lock
- Pole fillers - JP011

Standards

- Compliant to AS/NZS 61439-3

Dimension data: [Page 97](#)

GD Surface Mounted Pole Cover Enclosures without door

Description	Number of module(s)	Dimensions (mm)	Cat ref.
1 row	2 mod	55w x 160h x 94d	GD102T
	4 mod	110w x 180h x 94d	GD104T
	6 mod	148w x 180h x 94d	GD106T



GD104T

Doors for GD Surface Mounted Pole Cover Enclosures

To suit	Cat ref. Transparent door	Cat ref. Opaque door
GD102T	GP102T	GP102P
GD104T	GP104T	GP104P
GD106T	GP106T	GP106P



GP106P

GD Enclosure suitable for Meter Panels

Description	Number of rows and module(s)	Dimensions (mm)	Cat ref.
Plastic sub-board to mount to black meter panel. - DIN rail and no back plate	1 row, 10 mod (Expandable to 12)	250w x 140h x 65d	GD10T



GD10T

Pre-loaded GD Enclosures

Description	Number of rows and module(s)	Characteristics	Cat ref.
Plastic enclosure, GD10T with DIN rail, fire rated back plate, KDN180A busbar and 2AR904AU brass terminal set.	1 row, 10 mod (Expandable to 12)	Supplied with: 1 x ADC910T 2 x ADC916T 1 x ADC920T	GD10VIC1
GD Meter isolators *Refer to Meterboxes Page 26		Supplied with: 1 x GD102T 1 x NDN163	GD163AQ
		1 x GD104T 1 x NDN363	GD363AQ



GD10VIC1

GD Enclosure Accessories

Description	Cat ref.
Locking kit with 2 keys - 61005 - Also suits GD1xxT above	VZ313
Spare key - 61005 - fits VZ313	VZ312
Pole filler set - RAL 9010 - 0.5 module wide	JP011
2x brass terminals set - 3 x 35mm ² + 7x16mm ²	2AR904AU



VZ313



2AR904AU

Description

Our VT series are surface or flush mounted enclosures with 1 to 4 rows, allowing for 9 to 12 modules in total.

They are designed for applications that require a robust construction.

Specification

- 150mm between DIN rails
- 1.2mm tough powdercoated galvanised steel construction
- Powdercoated RAL 9002 (light grey)
- IP30
- Suitable for MPD up to 100A, depending on power dissipation loss

Standards

- Complies with AS/NZS 61439-3, AS/NZS 3012 and AS/NZS 5112

Dimension data: [Page 98](#)

Supplied with

- Neutral and Earth links
- circuit ID labels
- 10 x grey pole fillers



VT12S



VT18S



VT09TP

VT Surface and Flush Mounted Enclosures

Number of rows and module(s)	100A brass terminal	16mm ² 35mm ²		Dimensions (mm)	Cat ref. Surface	Cat ref. Flush
		Neutral	Earth			
1 row, 9 mod	Neutral	9	3	260w x 260h x 70d	VT09S	VT09F
	Earth	5	3	305w x 295h x 10d		
1 row, 12 mod	Neutral	12	3	310w x 260h x 70d	VT12S	VT12F
	Earth	6	3	355w x 305h x 10d		
1 row, 18 mod	Neutral	18	3	417w x 260h x 70d	VT18S	VT18F
	Earth	9	3	462w x 305h x 10d		
2 rows of 12 24 mod total	Neutral	24	3	370w x 420h x 70d	VT24S	VT24F
	Earth	12	3	415w x 460h x 10d		
3 rows of 12 36 mod total	Neutral	36	3	370w x 610h x 70d	VT36S	VT36F
	Earth	18	3	415w x 655h x 10d		
4 rows of 12 48 mod total	Neutral	48	3	465w x 750h x 70d	VT48S	VT48F
	Earth	24	3	510w x 795h x 10d		
1 row of 9 mod with 7.5 mod lock cover	Neutral	9	3	259w x 250h x 71d	VT09TP	
	Earth	5	3			
1 row of 12 mod with 10.5 mod lock cover	Neutral	12	3	309w x 259h x 71d	VT12TP	
	Earth	6	3			

VT Enclosure Accessories



VT041

Description	Characteristics	Cat ref.
Top hinged doors with easy knockout for additional lock	To suit VT09S, VT09F	VT041
	To suit VT12S, VT12F	VT042
	To suit VT18S, VT18F	VT043
Side hinged doors with easy knockout for additional lock	To suit VT24S, VT24F	VT044
	To suit VT36S, VT36F	VT045
	To suit VT48S, VT48F	VT046
Top hinged doors with easy knockout for CL001 lock	To suit VT09S, VT09F	VT031
	To suit VT12S, VT12F	VT032
	To suit VT18S, VT18F	VT033
Side hinged doors with easy knockout for CL001 lock	To suit VT24S, VT24F	VT034
	To suit VT36S, VT36F	VT035
	To suit VT48S, VT48F	VT036
Optional extra - key lock suits all VT series doors - with 2 keys - 2333		JK1XKLS
Pole filler set - Grey - 5pk 5.5 mod		JP010
Pole filler set - White - 5pk 0.5 mod		JP011
92268 lock for VT03x doors		VT92268

Description

Our vector series are IP65 surface mounted enclosures with 1 to 4 rows, allowing for 3 to 48 modules in total.

They come with adjustable DIN rail depth for shoulder measurement 47mm and 63mm. Supplied with a reversible, transparent, hinged door.

Specification

- UV resistant
- RAL 7035 (light grey)
- IP65
- IK07 < 12mod, IK08 ≥ 12 mod
- Isolation class II / Double Insulated
- 125mm between DIN rails in 12mod
- 150mm between DIN rails in 18 mod
- VE103H and VE106H suitable for MPDs up to 63A. Other models suitable for 80A.

Supplied with

- Links, 12 modules (KDN180A) or 18 modules (KDN180G) 80A busbar (except for VE103H) and circuit ID labels
- Premarked knock outs for bushes or cable glands M20, M25, M32, M40 and M50
- Two lateral knockouts for cable entry
- Sealable cover and optional locking facilities

Standards

- Complies with AS/NZS 61439-3
- Neutral and Earth links comply with AS/NZS 5112

Dimension data: [Page 99](#)

vector VE Enclosures with transparent door

Number of rows and module(s)	80A brass terminal	80A brass terminal		Busbar	Dimensions (mm)	Cat ref.
		16mm ²	35mm ²			
1 row, 2 mod + 1 moulded blank		-	-	0	111w x 175h x 93d	VE103H
1 row, 4 mod + 2 moulded blanks	Neutral	6	1	1	165w x 190h x 113d	VE106H
	Earth	4	1			
1 row, 8 mod + 2 moulded blanks	Neutral	11	3	1	237w x 210h x 114d	VE110H
	Earth	7	2			
1 row, 12 mod	Neutral	12	6	1	310w x 302h x 151d	VE112H
	Earth	6	2			
1 row, 18 mod	Neutral	18	6	1	418w x 302h x 151d	VE118H
	Earth	10	2			
2 rows of 12, 24 mod total	Neutral	24	8	2	310w x 427h x 151d	VE212H
	Earth	21	1			
2 rows of 18, 36 mod total	Neutral	36	8	2	418w x 452h x 151d	VE218H
	Earth	30	2			
3 rows of 12, 36 mod total	Neutral	37	7	3	310w x 552h x 151d	VE312H
	Earth	31	1			
3 rows of 18, 54 mod total	Neutral	48	8	3	418w x 602h x 151d	VE318H
	Earth	30	2			
4 rows of 12, 48 mod total	Neutral	42	5	4	310w x 677h x 151d	VE412H
	Earth	30	2			



VE112H



VE212H



VE312H

vector VE Enclosure Accessories

Description	Cat ref.
Stainless steel wall fixing bracket kit - allows for fixing the enclosure without drilling holes through it	VZ011
Key lock - supplied with 2 keys - 61005	VZ311
Pole filler set - Grey - 5pk 5.5 mod	JP010
2x brass terminals set - 7 x 16mm ² + 3 x 35mm ²	2AR904AU
Connector - 35mm ² cable adaptor for main neutral link	KM035



VZ011



VZ311

Description

The golf VS are surface mounted enclosures with 1 to 4 rows, allowing for 4 to 72 modules in total and supplied with an opaque or transparent door.

Suitable for all Hager Modular Circuit Protection and for devices up to 70mm installation depth. Door can be fitted on right or left, optional lock and keys. Door opens up to 180°. 125mm between DIN rails.

Supplied with

- Earth & Neutral terminals
- Pole fillers
- Adhesive Circuit identification labels
- Cable management clips
- Supplied with protection film
- 12 modules (KDN180A) or 18 modules (KDN180G) busbar supplied with most references.

Technical data

- IP30 without door
- IP40 with door
- IK07
- Isolation Class II / Double insulated
- Colour RAL 9010: white
- Brass terminals $I_n \leq 80A$
- Q link terminals $I_n \leq 63A$
- Rated insulation voltage: 400V AC/50Hz

Standards

- All golf products conform to AS/NZS 61439-3.
- N&E brass terminals comply to AS/NZS 5112.

Technical information: [Page 100](#)

DIN rail enclosures



VS118PT



VS218PT



VS318TT

VS Surface Mount golf Enclosure with brass terminals 4 - 72 Modules

Number of rows and module(s)	Single phase busbar supplied:	80A brass terminal			Dimensions (mm)	Cat ref. Opaque Door	Cat ref. Transp. door
			16mm ²	35mm ²			
1 row, 4 mod	None	Neutral	4	1	138w x 184h x 99d	VS104PT	VS104TT
		Earth	3	1			
1 row, 8 mod	None	Neutral	8	1	210w x 184h x 99d	VS108PT	VS108TT
		Earth	4	1			
1 row, 12 mod	1 x 12 pole	Neutral	12	6	282w x 252h x 99d	VS112PT	VS112TT
		Earth	6	2			
1 row, 18 mod	1 x 18 pole	Neutral	18	6	390w x 252h x 99d	VS118PT	VS118TT
		Earth	10	2			
2 rows of 12, 24 mod total	2 x 12 pole	Neutral	24	8	282w x 377h x 99d	VS212PT	VS212TT
		Earth	21	1			
2 rows of 18, 36 mod total	2 x 18 pole	Neutral	35	8	390w x 377h x 99d	VS218PT	VS218TT
		Earth	30	2			
3 rows of 12, 36 mod total	3 x 12 pole	Neutral	37	7	282w x 500h x 99d	VS312PT	VS312TT
		Earth	31	1			
3 rows of 18, 54 mod total	3 x 18 pole	Neutral	56	8	390w x 500h x 99d	VS318PT	VS318TT
		Earth	30	2			
4 rows of 12, 48 mod total	4 x 12 pole	Neutral	42	5	282w x 647h x 99d	VS412PT	VS412TT
		Earth	30	2			
4 rows of 18, 72 mod total	4 x 18 pole	Neutral	65	10	390w x 647h x 99d	VS418PT	VS418TT
		Earth	44	4			

VS Surface Mount golf Enclosure with 63A Q link terminals 12 - 72 Modules

Number of rows and module(s)	Single phase busbar	Q link terminal			Dimensions (mm)	Cat ref. Opaque Door	Cat ref. Transp. door
			25mm ² (screw)	4mm ² (Q Link)			
1 row, 12 mod	1 x 12 pole	Neutral	3	15	282w x 252h x 99d	VS112PTQ	VS112TTQ
		Earth	3	11			
1 row, 18 mod	1 x 18 pole	Neutral	4	20	390w x 252h x 99d	VS118PTQ	VS118TTQ
		Earth	5	17			
2 rows of 12, 24 mod total	2 x 12 pole	Neutral	4	20	282w x 377h x 99d	VS212PTQ	VS212TTQ
		Earth	5	17			
2 rows of 18, 36 mod total	2 x 18 pole	Neutral	7	29	390w x 377h x 99d	VS218PTQ	VS218TTQ
		Earth	9	31			
3 rows of 12, 36 mod total	3 x 12 pole	Neutral	7	29	282w x 500h x 99d	VS312PTQ	VS312TTQ
		Earth	9	31			
3 rows of 18, 54 mod total	3 x 18 pole	Neutral	10	42	390w x 500h x 99d	VS318PTQ	VS318TTQ
		Earth	10	34			
4 rows of 12, 48 mod total	4 x 12 pole	Neutral	11	36	282w x 647h x 99d	VS412PTQ	VS412TTQ
		Earth	11	37			
4 rows of 18, 72 mod total	4 x 18 pole	Neutral	13	47	390w x 647h x 99d	VS418PTQ	VS418TTQ
		Earth	17	57			



VS318TTQ



VS412TTQ

Description

The golf VF are flush mounted enclosures with 1 to 4 rows, allowing for 4 to 72 modules in total and supplied with an opaque or transparent door.

Suitable for all Hager Modular Circuit Protection and for devices up to 70mm installation depth. Door can be fitted on right or left, optional lock and keys. Door opens up to 180°. 125mm between DIN rails.

Supplied with

- Earth & neutral terminals
- Pole fillers
- Patented marking system and cable management clips in enclosures > 36 modules
- Supplied with protection film
- 12 modules (KDN180A) or 18 modules (KDN180G) busbar supplied with most references.

Technical data

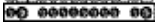
- IP30 without door
- IP40 with door
- IK07
- Isolation Class II / Double insulated
- Colour RAL 9010: white
- Brass terminals $I_n \leq 80A$
- Q link terminals $I_n \leq 63A$
- Rated insulation voltage: 400V AC/50Hz

Standards

- All golf products conform to AS/NZS 61439-3.
- N&E brass terminals comply to AS/NZS 5112.

Technical information: [Page 101](#)

VF Flush Mount golf Enclosure with 80A brass terminals 4 - 72 Modules

Number of rows and module(s)	Single phase busbar supplied:	80A brass terminal 			Dimensions (mm)	Cat ref. Opaque Door	Cat ref. Transp. door
		16mm ²	35mm ²				
1 row, 4 mod	None	Neutral	4	1	204w x 225h x 72d	VF104PT	VF104TT
		Earth	3	1			
1 row, 8 mod	None	Neutral	8	1	275w x 225h x 72d	VF108PT	VF108TT
		Earth	4	1			
1 row, 12 mod	1 x 12 pole	Neutral	12	6	352w x 293h x 72d	VF112PT	VF112TT
		Earth	6	2			
1 row, 18 mod	1 x 18 pole	Neutral	18	6	460w x 293h x 72d	VF118PT	VF118TT
		Earth	10	2			
2 rows of 12, 24 mod total	2 x 12 pole	Neutral	24	8	352w x 418h x 72d	VF212PT	VF212TT
		Earth	21	1			
2 rows of 18, 36 mod total	2 x 18 pole	Neutral	35	8	460w x 418h x 72d	VF218PT	VF218TT
		Earth	30	2			
3 rows of 12, 36 mod total	3 x 12 pole	Neutral	37	7	352w x 543h x 72d	VF312PT	VF312TT
		Earth	31	1			
3 rows of 18, 54 mod total	3 x 18 pole	Neutral	56	8	460w x 543h x 72d	VF318PT	VF318TT
		Earth	30	2			
4 rows of 12, 48 mod total	4 x 12 pole	Neutral	42	5	352w x 688h x 72d	VF412PT	VF412TT
		Earth	30	2			
4 rows of 18, 72 mod total	4 x 18 pole	Neutral	65	10	460w x 688h x 72d	VF418PT	VF418TT
		Earth	44	4			



VF112PT




VF218PT



VF318TT

DIN rail enclosures

VF Flush Mount golf Enclosure with 63A Q link terminals 12 - 72 Modules

Number of rows and module(s)	Single phase busbar	Q link terminal 	25mm ²	4mm ²	Dimensions (mm)	Cat ref. Opaque Door	Cat ref. Transp. door
			(screw)	(Q Link)			
1 row, 12 mod	1 x 12 pole	Neutral	3	15	352w x 293h x 72d	VF112PTQ	VF112TTQ
		Earth	3	11			
1 row, 18 mod	1 x 18 pole	Neutral	4	20	460w x 293h x 72d	VF118PTQ	VF118TTQ
		Earth	5	17			
2 rows of 12, 24 mod total	2 x 12 pole	Neutral	4	20	352w x 418h x 72d	VF212PTQ	VF212TTQ
		Earth	5	17			
2 rows of 18, 36 mod total	2 x 18 pole	Neutral	7	29	460w x 418h x 72d	VF218PTQ	VF218TTQ
		Earth	9	31			
3 rows of 12, 36 mod total	3 x 12 pole	Neutral	7	29	352w x 543h x 72d	VF312PTQ	VF312TTQ
		Earth	9	31			
3 rows of 18, 54 mod total	3 x 18 pole	Neutral	10	42	460w x 543h x 72d	VF318PTQ	VF318TTQ
		Earth	10	34			
4 rows of 12, 48 mod total	4 x 12 pole	Neutral	11	36	352w x 688h x 72d	VF412PTQ	VF412TTQ
		Earth	11	37			
4 rows of 18, 72 mod total	4 x 18 pole	Neutral	13	47	460w x 688h x 72d	VF418PTQ	VF418TTQ
		Earth	17	57			



VF318TTQ



VF412TTQ

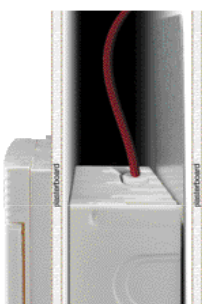
Description

golf Enclosure Accessories includes an extensive range, from cable retainers to hollow wall anchors, keys, locks and doors. Every feature is conceived to save time and simplify installation.

Earthed metal back plate

dimensions: [Page 101](#)

DIN rail enclosures



Earthed Metal Back Plate for golf VF

Provides mechanical protection of cables

To suit	Pack	Cat ref.
VF112	1	VF112BP
VF118	1	VF118BP
VF212	1	VF212BP
VF218	1	VF218BP
VF312	1	VF312BP
VF318	1	VF318BP
VF412	1	VF412BP
VF418	1	VF418BP



VZ794N



VZ699N



2AR904AU

golf VF/VS Accessories

Description	Pack	Cat ref.
Pole filler set - Grey - 5pk 5.5 mod		JP010
Pole filler set - White - 5pk 0.5 mod		JP011
Key lock supplied with 2 keys - 61005	1	VZ794N
Cable guides VF/VS	1	VZ699N
White adhesive labeling strip - 10 pieces 31mm high, 369mm long	1	VZ788N
Hollow wall anchors (prawn clips) - suit VF adhesive enclosures (Set of 4) For plaster walls from 7 to 30mm thickness	1	VZ696N
2x brass terminals set 7 x 16mm ² + 3 x 35mm ²	1	2AR904AU
Kit with 4 plastic screws for golf cover surface mount	1	VZ862N
Kit with 12 metal screws for golf cover flush mount	1	VZ970N
Connector - 35mm ² cable adaptor for main neutral link	1	KM035



VZ620N



VZ630N

Doors

Description	Cat ref.	Cat ref.
	Opaque door	Transp. door
VF/VS104	VZ601N	VZ621N
VF/VS108	VZ602N	VZ622N
VF/VS112	VZ603N	VZ623N
VF/VS212	VZ604N	VZ624N
VF/VS312	VZ605N	VZ625N
VF/VS412	VZ606N	VZ626N
VF/VS118	VZ607N	VZ627N
VF/VS218	VZ608N	VZ628N
VF/VS318	VZ609N	VZ629N
VF/VS418	VZ610N	VZ630N

Description

Our golf Home Networking Enclosures allow you to combine Mains Distribution Boards with home networking or as a stand alone enclosure.

VS Surface and VF Flush mount available.

Features

- 18 pole wide enclosures
- Steel mounting pan
- Vented door
- DIN rail (12 mods wide)
- Reversible door
- Suitable and compliant to NBN requirements for NTD and BBPSU

VF Flush mount only features

- Vertical double outlet
- Slider (incorporates power outlet mounting block)

NOTE: Double sliders for use with 18 module wide VF flush enclosures only.

Technical information:

Surface mount [Page 100](#)
Flush mount [Page 101](#)
NBN mounting [Page 101](#)

VS Surface Mount Enclosures

Description	Number of rows and module(s)	Dimensions (mm)	Cat ref.
Surface enclosure with	1 x row of 12 (optional)	390w x 252h x 99d	VS218PZD
- Vented door		390w x 500h x 99d	VS318PZD
- Mounting pan		390w x 647h x 99d	VS418PZD
- DIN rail (not fitted)			



VS218PZD

VF Flush Mount Enclosures

Description	Number of rows and module(s)	Dimensions (mm)	Cat ref.
Flush enclosure with:	1 x row of 12	460w x 418h x 72d	VF218PZD
- Vented door		460w x 543h x 72d	VF318PZD
- Pre installed vertical twin socket		460w x 688h x 72d	VF418PZD
- Mounting pan			
- DIN rail			
- Single slider			



VF218PZD

VF Flush Mount Extension Box

Description	Number of rows and module(s)	Dimensions (mm)	Cat ref.
Flush enclosure with:	1 x row of 12	460w x 418h x 72d	VF218PZE
- Reversible vented door			
- Mounting pan			
- Pre installed vertical twin socket			
- DIN rail			
- Double slider (VZ850N) for combining and extending any other VFx18 golf enclosure			



VF218PZE

Sliders & Accessories

Hager Sliders are designed to allow installers to modify or join flush mount, 18 module wide, golf enclosures to have a double power outlet.

Description	Suits	Cat ref.
Single slider	VFx18	VZ852N
- Provides mounting point for a double outlet		
- Can be installed top or bottom of enclosure		
Double hybrid slider	VFx18	★ VZ849N
- Used to combine LV and home networking / VDI, double insulated, includes isolation plate		
- Supports 1x double outlet and 1x terminal bar on opposite sides		
Double slider	VFx18	VZ850N
- Used to combine two Home Networking / VDI enclosures		
- Mounting point for 2x double outlet (1x socket outlet in each enclosure)		
Spare isolation plate for double sliders	VZ850N	VZ851N
- between low voltage and extra low voltage		
- between main distribution board and home networking enclosure		
Socket Twin 10A Vertical Shutter	VFx18	WBP2VS-ZD



VZ852N



VZ849N



VZ850N



VZ851N

Description

Our TN media enclosure allows you to integrate multimedia device and network cabling in your projects, allowing segregation and easy access when needed. It also helps decrease visual clutter of data cable and telecommunication equipment.

Features

- 1 DIN rail for 18 modules
- Semi-equipped enclosure
- Modular range, easy to install
- Individual RJ45 Cat 6 patch modules
- Versatile mounting grid for securing equipment
- Easily mountable over existing power outlet in a garage

TN Network Enclosure (pre-equipped)

Description	Number of rows and module(s)	Dimensions (mm)	Cat ref.
Mounting grid Suitable for use as a NBN NTD / NBN connection box	1 row, 18 mod	625h x 355w x 130d	TN470D

Supplied with:

- 8 x RJ45 UTP Cat 6 patch modules (TN003S)
- 4 x RJ45 patch cables (Cat 6 S/FTP 0.3m) (TN733B)
- 1 x 4 output telephone splitter (TN131)
- Vented door (GP418P)
- Mounting pan



TN470D

DIN rail enclosures

Description

The components that come supplied as standard within the Hager TN network enclosures are also available separately.

Patching modules in Cat6 and Cat6 shielded, F-type modules, telephone splitters and other accessories are available.

The TN003S and TN002S Cat6 UTP and STP patch modules provide a toolless wiring system (no punch down required) with positive cable retention ensuring every cable remains in place and stays connected.

The TN111 2 in 8 out telephone splitter can be bridged to give a 1 in 8 out configuration if required.

General accessories

Description	Characteristics	Cat ref.
Connectors	RJ45 Cat 6 shielded patch modules	TN002S
	RJ45 Cat 6 unshielded patch modules	TN003S
	Coax F/F module	TN010S
RJ45 splitter	1 RJ45 input / 4 RJ45 output	TN131
	2 RJ45 input / 8 RJ45 output	TN111
Din rail	Din rail to suit golf 12 pole / module length	VZ854N
Patch cable	RJ45 Cat 6 patch cable 0.5m	TN735B
Segregation Plate	for VZ850N	VZ851N
Replacement doors	for VS/VF218	VZ855N
	for VS/VF318	VZ856N
	for VS/VF418	VZ857N
Key lock supplied with 2 keys	61005 for golf enclosure	VZ794N



TN010S

TN002S

DIN rail enclosures



TN131



TN735B

Description

Our vega D series offers surface or flush mounted enclosures with 4 to 7 rows, allowing for 96 to 168 modules in total.

They combine sheet metal and injected plastic to achieve a light yet strong double insulated enclosure perfect for commercial installations or smart homes.

Features

- 150mm between DIN rails
- IP30 / IK07 without door
- IP40 / IK08 with door - flush
- IP41 / IK08 with door - surface
- Removable chassis with DIN rails for ease of installation.
- Powder coated metal exterior
- Pole fillers
- Cable brackets on each DIN rail
- Marking strips / label holders

Standards

Compliant to AS/NZS 5112 and AS/NZS 61439-3.

Supplied with Hybrid Q-link Earth links only. Additional Neutral or Phase Hybrid Q-links must be ordered separately.

Dimension data: [Page 102](#)

DIN rail enclosures



FD42DN



FD72DN

vega D FD surface and FU flush enclosures without doors

Description	Number of rows and module(s)	Dimensions (mm)	Cat ref. Surface	Cat ref. Flush
Supplied with: 1 x terminal mount (FD00Q1) 1 x Q-link Earth - (KN22E) 1 x Q-link Earth - (KN26E)	4 rows of 24, 96 mod total	750h x 550w x 193d 837h x 550w x 150d	FD42DN	FU42DN
	5 rows of 24, 120 mod total	900h x 550w x 193d 987h x 550w x 150d	FD52DN	FU52DN
Supplied with: 2 x terminal mounts (FD00Q1) 3 x Q-link Earth - (KN26E)	6 rows of 24, 144 mod total	1050h x 550w x 193d 1137h x 550w x 150d	FD62DN	FU62DN
	7 rows of 24, 168 mod total	1200h x 550w x 193d 1287h x 550w x 150d	FD72DN	FU72DN

vega D transparent doors



FD52TN

Description	Characteristics	Cat ref.
Reversible, suitable for FD surface and FU flush enclosures. Sheet metal and powder coated, c/w 3mm hardened glass. Inclusion of door improves isolation class to IP41.	To suit FD42DN or FU42DN	FD42TN
	To suit FD52DN or FU52DN	FD52TN
	To suit FD62DN or FU62DN	FD62TN
	To suit FD72DN or FU72DN	FD72TN

vega D plain doors



FD52PN

Description	Characteristics	Cat ref.
Reversible, suitable for FD surface and FU flush enclosures. Sheet metal and powder coated. Inclusion of door improves isolation class to IP41.	To suit FD42DN or FU42DN	FD42PN
	To suit FD52DN or FU52DN	FD52PN
	To suit FD62DN or FU62DN	FD62PN
	To suit FD72DN or FU72DN	FD72PN

Accessories

Description	Characteristics	Cat ref.
Standard vega D door latch	Standard rotary latch, can be sealed with max Ø1.5mm wire	FD00S0
vega D keyed lock	Used to upgrade the standard latch to lock and key. Key No.1242E	FD00S1
Circuit schedule holder	To suit A4 sized document	FZ794
Black universal support to mount Q-Link terminal blocks	Can mount a combination of up to 6 modules wide Q Link terminals	KN00A
Enclosure width support to mount Hybrid Q-Link terminal blocks	Can mount a combination of up to 24 mod* wide KN Hybrid Q-Link terminals	FD00Q1
Neutral Hybrid Q-Link terminal blocks 63A (Blue)	2 x 25mm ² (screw) + 8 x 4mm ² (Q Link) terminal	2.5 mod* wide KN10N
	3 x 25mm ² (screw) + 11 x 4mm ² (Q Link) terminal	3.5 mod* wide KN14N
	4 x 25mm ² (screw) + 14 x 4mm ² (Q Link) terminal	4 mod* wide KN18N
	5 x 25mm ² (screw) + 17 x 4mm ² (Q Link) terminal	5 mod* wide KN22N
	6 x 25mm ² (screw) + 20 x 4mm ² (Q Link) terminal	6 mod* wide KN26N
	Blue bridging clip x 10	KN99N
Earth Hybrid Q-Link terminal blocks 63A (Green)	2 x 25mm ² (screw) + 8 x 4mm ² (Q Link) terminal	2.5 mod* wide KN10E
	3 x 25mm ² (screw) + 11 x 4mm ² (Q Link) terminal	3.5 mod* wide KN14E
	4 x 25mm ² (screw) + 14 x 4mm ² (Q Link) terminal	4 mod* wide KN18E
	5 x 25mm ² (screw) + 17 x 4mm ² (Q Link) terminal	5 mod* wide KN22E
	6 x 25mm ² (screw) + 20 x 4mm ² (Q Link) terminal	6 mod* wide KN26E
	Green bridging clip x 10	KN99E
Phase Hybrid Q-Link terminal blocks 63A (Red)	2 x 25mm ² (screw) + 8 x 4mm ² (Q Link) terminal	2.5 mod* wide KN10P
	3 x 25mm ² (screw) + 11 x 4mm ² (Q Link) terminal	3.5 mod* wide KN14P
	4 x 25mm ² (screw) + 14 x 4mm ² (Q Link) terminal	4 mod* wide KN18P
	5 x 25mm ² (screw) + 17 x 4mm ² (Q Link) terminal	5 mod* wide KN22P
	6 x 25mm ² (screw) + 20 x 4mm ² (Q Link) terminal	6 mod* wide KN26P
	Red bridging clip x 10	KN99P
Modular Neutral connecting block 125A	To connect the main neutral cable up to 50mm ² when the enclosure is utilised for low voltage installation.	KRN199
Gear tray module with perforated plate 370 x 290mm to fit non modular device	415mm x 235mm (Not suitable for FU flush enclosures)	FD02C2
Cable management retainer to hide cables below DIN rail	(x20) large (Not suitable for FU flush enclosures)	UZ25V1
	(x20) small	UZ25V2
Retainer support / extension arms	(x20)	UZ01V1
DIN rail to suit vega D	(x2)	UZ02B9
24 pole filler / cover strip	1 strip - 24 modules wide Width 430mm, Height 54mm - to suit 46mm slot Colour: RAL 9010	JP002
Passive vent kit (changes IP41 to IP30)	Pair	FD00P5
Internal partition IP2X for physical separation between higher and lower voltage / current	For FD surface enclosure	FD00A3
	For FU flush enclosure	FD00A5
External wall mount brackets	To fix FD surface enclosures	FD00F2
Mounting anchors (x4) to suit FU flush enclosures	For plaster walls from 7 to 30mm thickness	VZ405N
Frame mounting screws - plastic (x4)	For vega D FU flush and FD surface enclosures	ZZ42BS
Slotted panel trunking, grey, 2 metre length to be cut to 438mm length for horizontal mounting	40 x 30mm for vega D surface and flush	BA7A40030
	60 x 30mm for vega D surface and flush	BA7A60030
	80 x 30mm for vega D surface only	BA7A80030
	100 x 30mm for vega D surface only	BA7A100030



FZ794



KN00A



FD00Q1



KN10N, KN10E, KN10P



FD02C2



UZ01V1

UZ25V1

UZ25V2



UZ02B9



JP002



FD00P5



FD00A3

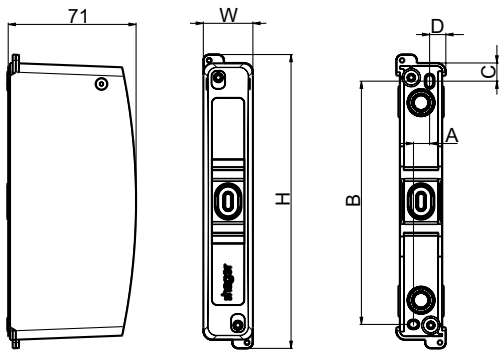


FD00F2



VZ405N

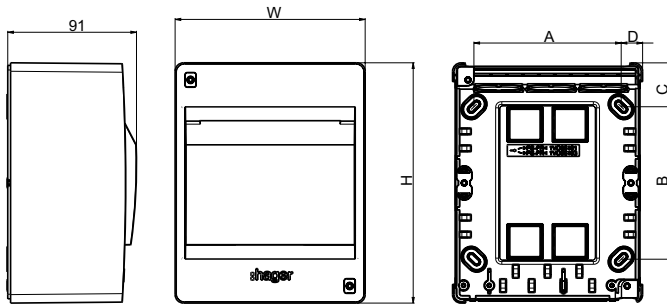
1 to 4 pole VD Enclosures



Refs	Width	Height	A	B	C	D
VD101NT	27.5	163.5	9	135.5	10	9
VD102NT	45.5	163.5	26	135.5	10	9
VD103NT	63.5	163.5	35.5	126	12.5	15
VD104NT	81.5	163.5	52.7	125	13	16

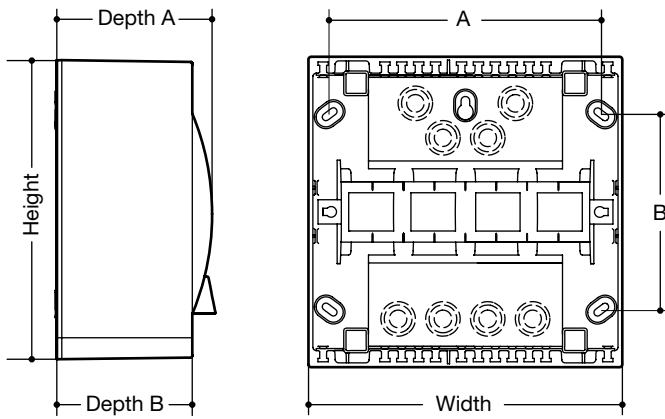
DIN rail enclosures

6 to 10 pole VD Enclosures



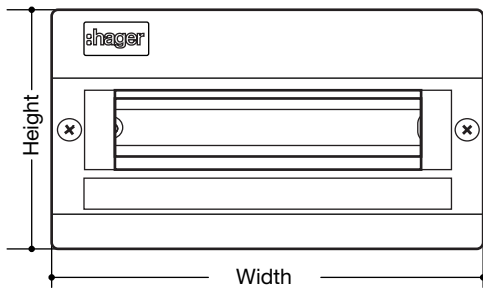
Refs	Width	Height	A	B	C	D
VD106NT	134.5	170	104	108	31	15
VD108NT	170.5	170	139.5	107	31.5	15.5
VD110NT	206.5	170	176	107	32	15
VD112NT	292.5	200	262.5	137	32	15
VD118NT	400	200	371.5	131.5	34	14.5

2 to 6 mod wide GD Enclosures



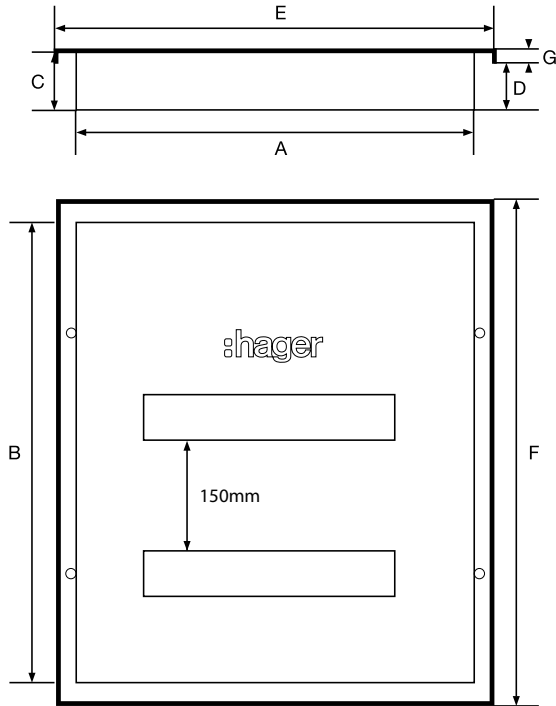
Refs	Dimensions (mm)				Fixing centres	
	Width	Height	Depth A	Depth B	A	B
GD102T	55	160	94	82	N/A	N/A
GD104T	110	180	94	82	86	114
GD106T	148	180	94	82	122	114

GD10T Enclosures



Refs	Dimensions (mm)		
	Width	Height	Depth
GD10T	250	140	65

DIN rail enclosures



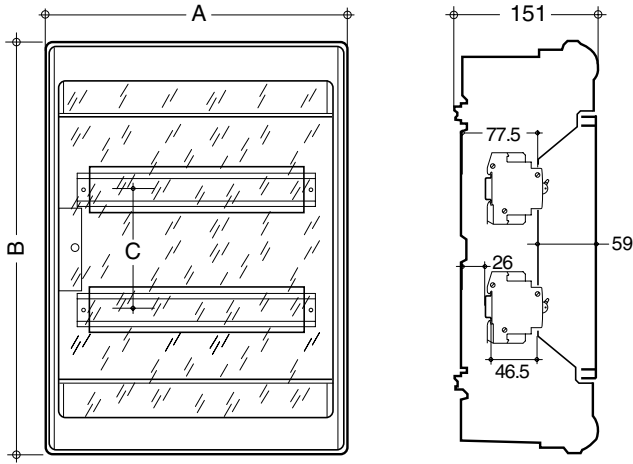
DIN rail enclosures

VT Flush Enclosures

Refs	Row	Enclosure sizes (Cut-out)			Escutcheon		
		Width	Height	Recess	Width	Height	Depth
VT09F	1	255	245	60	305	295	10
VT12F	1	305	255	60	355	305	10
VT18F	1	410	255	60	462	305	10
VT24F	2	360	415	60	415	460	10
VT36F	3	360	605	60	415	655	10
VT48F	4	460	745	60	510	795	10

VT Surface Enclosures

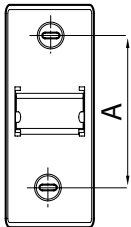
Refs	Row	Enclosure sizes		
		Width	Height	Depth
VT09S	1	A	B	C
VT12S	1	260	260	70
VT18S	1	310	260	70
VT24S	1	417	260	70
VT24S	2	370	420	70
VT36S	3	370	610	70
VT48S	4	465	750	70



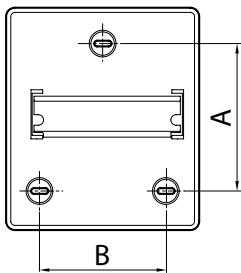
vector Enclosures

References	Width		Height		Between DIN	
	A	B	B	C		
VE103	111		175		N/A	
VE106	165		190		N/A	
VE110	237		210		N/A	
VE112	310		302		N/A	
VE118	418		302		N/A	
VE212	310		427		125	
VE218	418		452		150	
VE312	310		552		125	
VE318	418		602		150	
VE412	310		677		125	

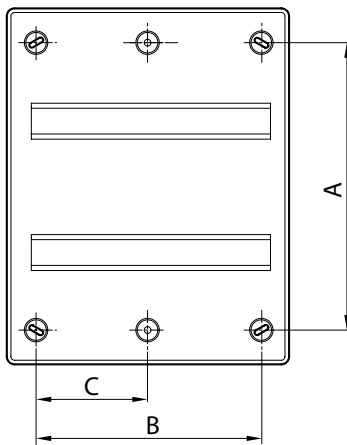
VE103



VE106 - VE110



VE112 - VE318



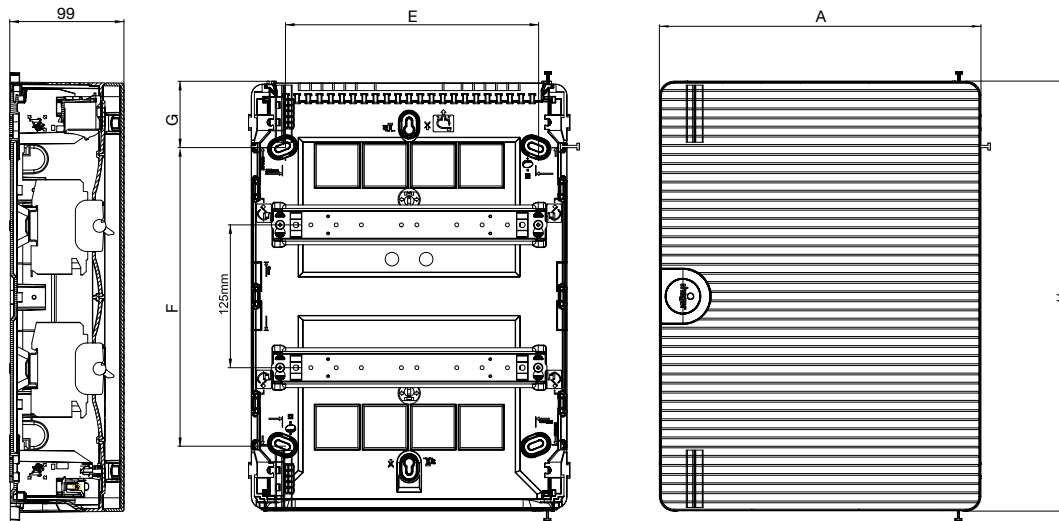
Mounting holes

References	Fixing centres		
	A	B	C
VE103	120	N/A	N/A
VE106	126	108	N/A
VE110	136	180	N/A
VE112	155	230	115
VE212	280	230	115
VE312	405	230	115
VE412	530	230	115
VE118	155	338	169
VE218	305	338	169
VE318	455	338	169

Uniform enclosure dimensions across the golf VS range

The dimensions below are for all golf VS / surface mount enclosures, including the golf home networking VS / surface mount enclosures

DIN rail enclosures



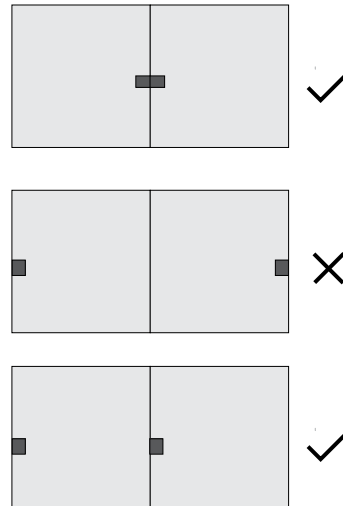
Ref		Dimension		Wall fixation		
		A	H	E	F	G
VS104...	1 row 4I	138	184	101	68	58
VS108...	1 row 8I	210	184	174	68	58
VS112...	1 row 12I	282	252	222	136	58
VS118...	1 row 18I	390	252	330	136	58
VS212...	2 rows of 12I 24I total	282	377	222	261	58
VS218...	2 rows of 18I 36I total	390	377	330	261	58
VS312...	3 rows of 12I 36I total	282	500	222	386	58
VS318...	3 rows of 18I 54I total	390	500	330	386	58
VS412...	4 rows of 12I 48I total	282	647	222	491	78
VS418...	4 rows of 18I 72I total	390	647	330	491	78

Cable entries - top/bottom

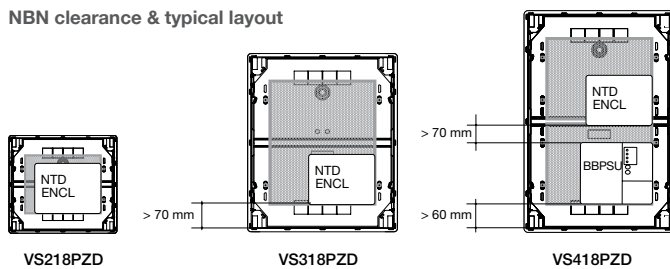
One side of the surface enclosure is designed for the use of trunking and knock outs. The other side of the enclosure has dimples located for the various sizes of conduit entries, 20mm, 25mm, 32mm and 40mm. The enclosure is symmetrical through 180°.

Side by side installation

The design of golf allows for two enclosures to be mounted side by side. However installers should note the door hinges should not both be in the middle.

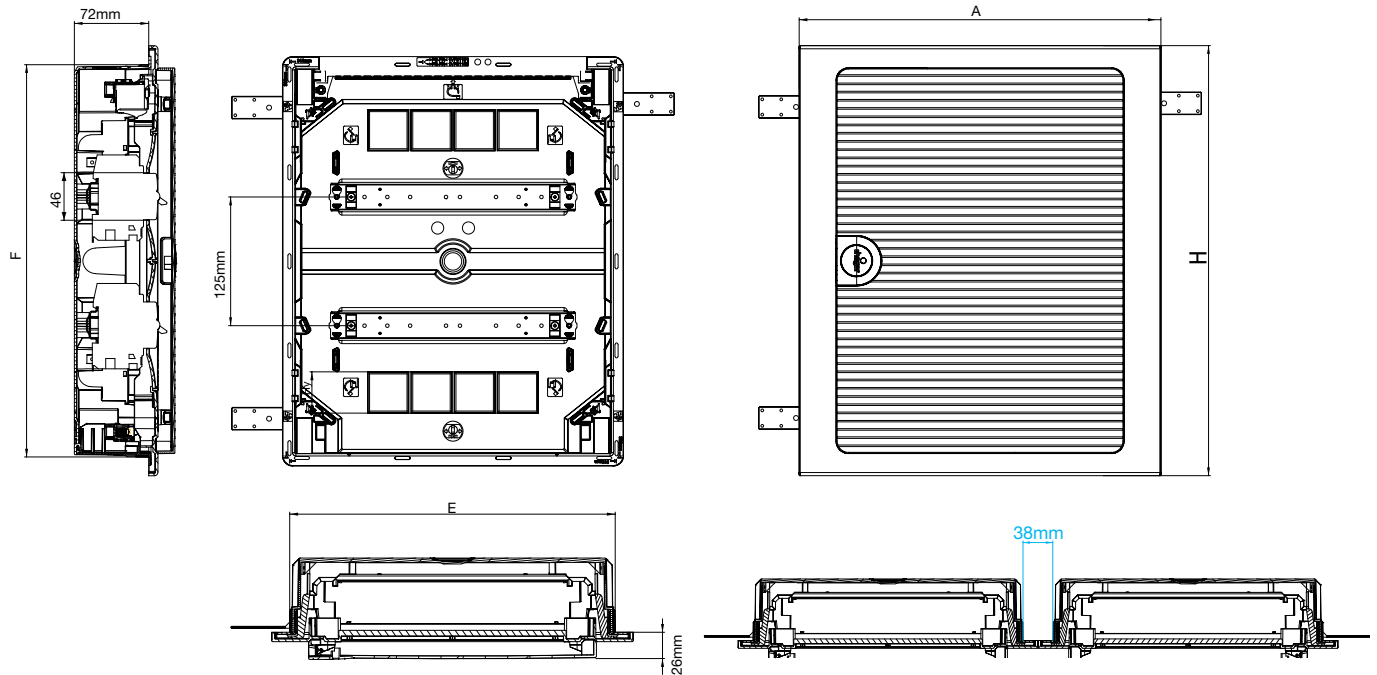


NBN clearance & typical layout



Uniform enclosure dimensions across the golf VF range

The dimensions below are for all golf VF / flush mount enclosures, including the golf home networking VF / flush mount enclosures



Cable entries - top/bottom

The flush enclosures have dimples precut with diameters 20, 25, 32 and 40mm. The wall box is 180° rotatable, to provide slider position on top or bottom.

Cutout for combined boards utilising double slider

When connecting 2 x VFx18 enclosures with a double slider, an additional 38mm must be added to the total cutout height of the boards. e.g. VF118PT joining with a VF218PZD = 257mm + 382mm + 38mm. Total height for the cutout = 677mm. Width remains consistent at 426mm. NOTE: Joining double slider for use with 18 module wide flush enclosures only.

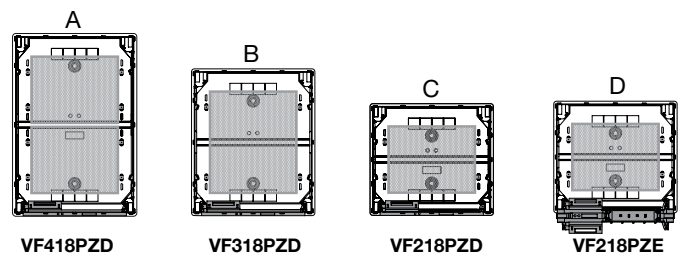
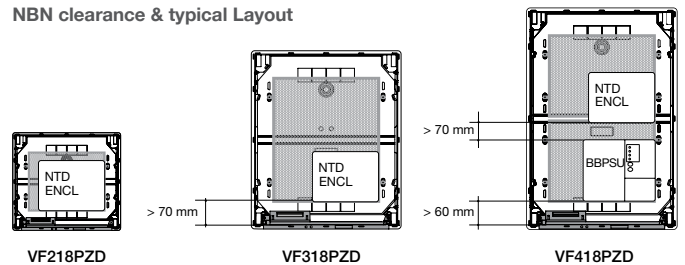
Flush Ref		Dimension		Wall Cut Out	
		A	H	E	F
VF104...	1 row 4I	204	225	170	189
VF108...	1 row 8I	275	225	242	189
VF112...	1 row 12I	352	293	318	257
VF118...	1 row 18I	460	293	426	257
VF212...	2 rows of 12I 24 total	352	418	318	382
VF218...	2 rows of 18I 36I total	460	418	426	382
VF312...	3 rows of 12I 36I total	352	543	318	507
VF318...	3 rows of 18I 54I total	460	543	426	507
VF412...	4 rows of 12I 48I total	352	688	318	652
VF418...	4 rows of 18I 72I total	460	688	426	652

For the wall cut out, these dimensions are minimal. Depth must always be 72mm min.

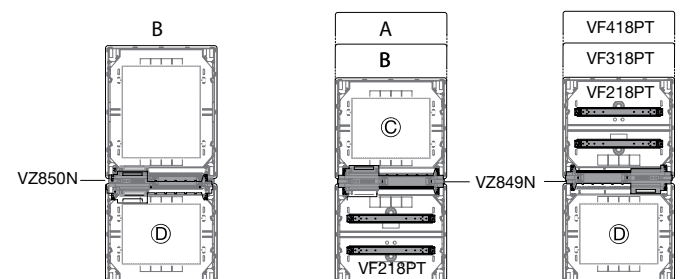
Earthed metal back plate dimensions

Cat Ref.	Height (mm)	Width (mm)	Thickness (mm)	Suits encl.
VF112BP	353	310	1	VF112xT
VF212BP	478	310	1	VF212xT
VF312BP	602	310	1	VF312xT
VF412BP	748	310	1	VF412xT
VF118BP	353	418	1	VF118xT
VF218BP	478	418	1	VF218xT
VF318BP	602	418	1	VF318xT
VF418BP	748	418	1	VF418xT

NBN clearance & typical Layout

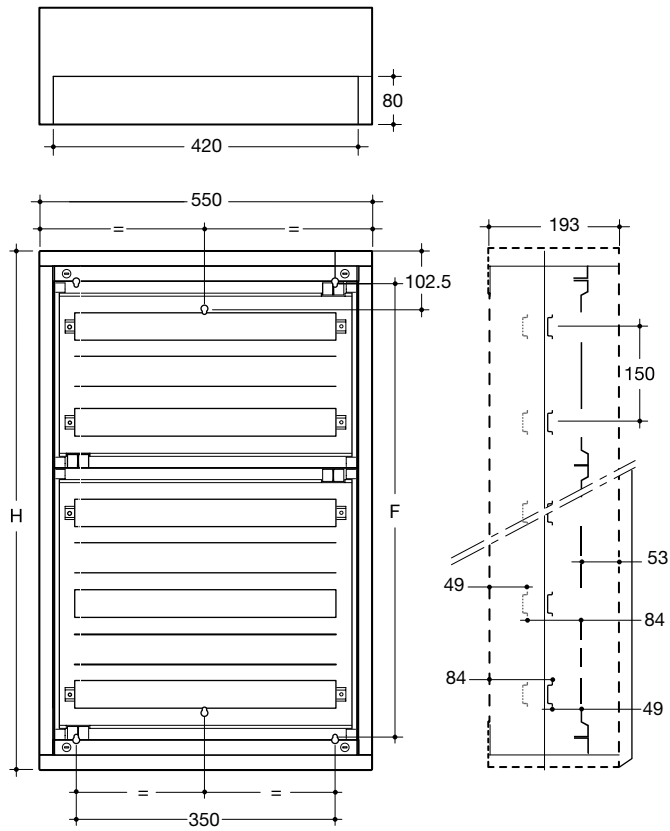


Example combination of mains distribution and networking combined



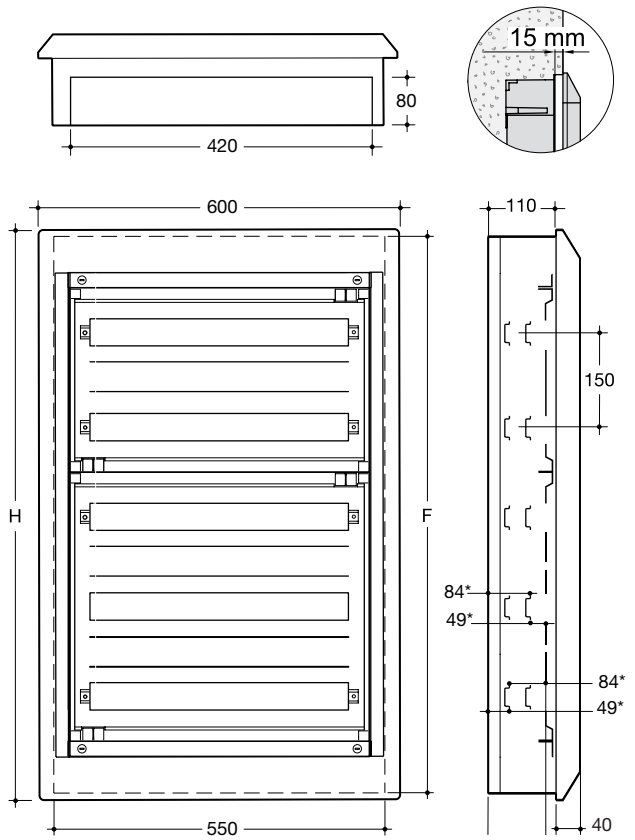
DIN rail enclosures

vega D Surface Mount Enclosures



Dims (mm)	Fixing centres	
	H	F
FD42DN	750	625
FD52DN	900	775
FD62DN	1050	925
FD72DN	1200	1075

vega D Flush Mount Enclosures



Dims (mm)	Hole height	
	H	F
FU42DN	837	806
FU52DN	987	956
FU62DN	1137	1106
FU72DN	1287	1256

DIN rail enclosures

**Residential
distribution solutions**

Beautifully simple

The complete system

From its award winning aesthetics on the outside, to our installer friendly onekonekt protection device range, home networking or a combination of both, the golf distribution system is the most flexible, comprehensive and beautifully simple solution on the market.



Main Switchgear

This section includes Moulded Case Circuit Breakers (MCCBs), Manual and Automatic Transfer Switches and Load Break Switches which are utilised for the switching, protection and distribution of low voltage installations.



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Frame	Trip Unit	Pole	MCCBs				Terminal connectors				
			In (A)	25 kA	40 kA	50 kA	Collar	Straight	Spreader	Rear	
h3 x160	TM	3	25	HHA025U	HNA025U	-	HYA005H	HYA013H	HYA014H	-	
			40	HHA040U	HNA040U	-					
			63	HHA063U	HNA063U	-					
			80	HHA080U	HNA080U	-					
			100	HHA100U	HNA100U	-					
			125	HHA125U	HNA125U	-					
		4	25	HHA026U	HNA026U	-	HYA006H	HYA013H	HYA015H	-	
			40	HHA041U	HNA041U	-					
			63	HHA064U	HNA064U	-					
			80	HHA081U	HNA081U	-					
			100	HHA101U	HNA101U	-					
			125	HHA126U	HNA126U	-					
	3	3	160	-	HNB160U	-	HYB001H	HYB010H	HYB011H	HYB031H	
			200	-	HNB200U	-					
			250	-	HNB250U	-					
		4	160	-	HNB161U	-	HYB002H	HYB010H	HYB012H	HYB032H	
200			-	HNB201U	-						
250			-	HNB251U	-						
h3 x250	3	250	HHJ250DR	HNJ250DR	HMJ250DR	-	HYW010H	HYW013H	HYW011H	HYW014H	-
		320	HHJ320DR	HNJ320DR	HMJ320DR						
		400	HHJ400DR	HNJ400DR	HMJ400DR						
		630	HHJ630DE	HNJ630DE	HMJ630DE						
		630	HHJ630DE	HNJ630DE	HMJ630DE						
h3 x630	3	250	HHJ250DR	HNJ250DR	HMJ250DR	-	HYW010H	HYW013H	HYW011H	HYW014H	-
		320	HHJ320DR	HNJ320DR	HMJ320DR						
		400	HHJ400DR	HNJ400DR	HMJ400DR						
		630	HHJ630DE	HNJ630DE	HMJ630DE						
		630	HHJ630DE	HNJ630DE	HMJ630DE						

Main switchgear



Frame	Operating Voltage	Shunt Trips - SH	Under Voltage - UV	Motor Operator with auto-reset	Motor Operator without auto-rest	Auxilliary Contact (1C/O)	
						AUX, AX (1NO + 1NC)	Alarm, AL (1NO +1NC)
h3 x160	24V DC	HXA001H	HXA011H	-	-	HXA021H	HXA024H
	48V DC	HXA002H	-	-	-		
	100 - 120V AC	HXA003H	HXA013H	-	-		
	200 - 240V AC	HXA004H	HXA014H	-	-		
	380 - 450V AC	HXA005H	HXA015H	-	-		
h3 x250	24V DC	HXA001H	HXA011H	HXB040H	-	HXA021H	HXA024H
	48V DC	HXA002H	-	-	-		
	100 - 120V AC	HXA003H	HXA013H	-	-		
	230 - 240V AC	-	-	HXB042H	-		
	200 - 240V AC	HXA004H	HXA014H	-	-		
380 - 450V AC	HXA005H	HXA015H	-	-			



Terminal covers				Interlock	Phase Barrier	DIN rail adaptor	Rotary Handle		Padlock
Collar	Straight	Spreader	Rear				Direct	Extended	
HYA027H	HYA021H	HYA023H	-	-	HYA019H	HYA033H	HXA030H	HXA031H	HXA039H
HYA028H	HYA022H	HYA024H	-	-	HYA019H	HYA033H	HXA030H	HXA031H	HXA039H
HYB027H	HYB021H	HYB023H	HYB025H	HXB065H	HYB019H	-	HXB030H	HXB031H	HXA039H
HYB028H	HYB022H	HYB024H	HYB026H	HXB065H	HYB019H	-	HXB030H	HXB031H	HXA039H
-	HYW021H	HYW023H	-	-	-	-	HXW030H	HXW031H	HXA039H

Main switchgear



Frame	Operating Voltage	Shunt Trips - SH	Under Voltage - UV	Motor Operator with auto-reset	Motor Operator without auto-reset	Auxilliary Contact (1C/O)	
						AUX, AX (1NO + 1NC)	Alarm, AL (1NO +1NC)
h3 x630	24V DC	HXA001H	HXA011H	HXW040H(K)	HXW043H(K)	-	-
	48V DC	HXA002H	-			-	-
	100 - 110V DC	-	-	HXW041H(K)	HXW046H(K)	-	-
	100 - 120V AC	HXA003H	HXA013H	-	-	-	-
	110 - 240V AC	-	-	HXW042H(K)	HXW044H(K)	-	-
	200 - 240V AC	HXA004H	HXA014H	-	-	-	-
	250V AC	-	-	-	-	HXA021H	HXA024H HXA027H
	380 - 450V AC	HXA005H	HXA015H	-	-	-	-

(K) = With Key

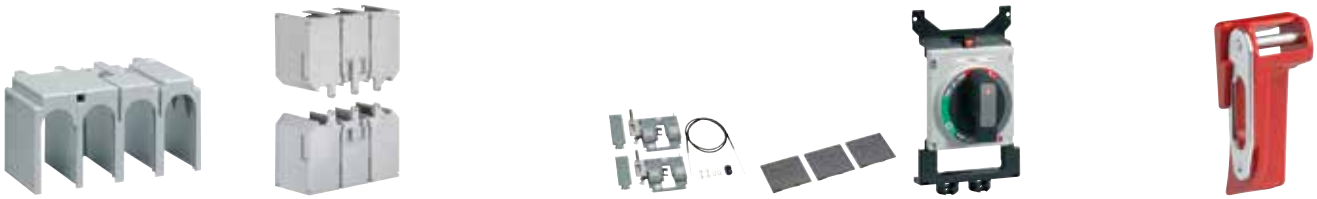


Frame	Trip Unit	Pole	MCCBs			Terminal connectors					
			In (A)	50 kA	70 kA	Collar	Straight	Spreader	Rear		
h3 h250	LSI	3	40	HNC040H	HEC040H	HYC003H	HYC010H	HYC011H	HYC031H		
			125	HNC125H	HEC125H						
			250	HNC250H	HEC250H						
		4	40	HNC041H	HEC041H	HYC004H	HYC010H	HYC012H	HYC032H		
			125	HNC126H	HEC126H						
			250	HNC251H	HEC251H						
h3 h630		LSI	3	400	HND400H	HED400H	HYD003H	HYD010H	HYD011H	HYD031H	
				630	HND630H	HED630H	HYD007H	HYD013H	HYD014H	HYD033H	
				400	HND401H	HED401H	HYD004H	HYD010H	HYD012H	HYD032H	
			4	630	HND631H	HED631H	HYD008H	HYD013H	HYD015H	HYD034H	
				800	HNE800H	HEE800H	-	-	-	HYE031H	
				1000	HNE970H	HEE970H	-	-	-	HYE033H	
h3 h1000	LSI		3	800	HNE801H	HEE801H	-	-	-	HYE032H	
				1000	HNE971H	HEE971H	-	-	-	HYE034H	
				1250	HNF980H	HEF980H	-	-	-	-	
h3 h1600			LSI	4	1600	HNF990H	HEF990H	-	-	-	-
					1250	HNF981H	HEF981H	-	-	-	-
					1600	HNF991H	HEF991H	-	-	-	-

Main switchgear



Frame	Operating Voltage	Shunt Trips - SH	Under Voltage - UV	Motor Operator	Auxiliary Contact (1C/O)	
					AUX, AX (1NO + 1NC)	Alarm, AL (1NO + 1NC)
h3 h250	24V DC	HXC001H	HXC011H	HXC040H	HXC021H	HXC024H
	48V DC	HXC002H	-	-		
	100 - 120V AC	HXC003H	HXC013H	-		
	200 - 240V AC	HXC004H	HXC014H	HXC042H		
	380 - 450V AC	HXC005H	HXC015H	-		
h3 h630	24V DC	HXC001H	HXC011H	HXD040H	HXC021H	HXA024H
	48V DC	HXC002H	-	HXD040H		
	100 - 120V AC	HXC003H	HXC013H	HXD042H		
	200 - 240V AC	HXC004H	HXC014H	HXD042H		
	380 - 450V AC	HXC005H	HXC015H	-		



Terminal covers				Interlock	Interphase Barrier	Rotary handles		Padlock
Collar	Straight	Spreader	Rear			Direct	Extended	
HYC027H	HYC021H	-	HYC025H	HXC065H	HYC019H	HXC030H	HXC031H	HXC039H
HYC028H	HYC022H	-	HYC026H	HXC065H	HYC019H	HXC030H	HXC031H	HXC039H
HYD027H	HYD021H	HYD023H	HYD025H	HXD065H	HYD019H	HXD030H	HXD031H	HXD039H
HYD028H	HYD022H	HYD024H	HYD026H	HXD065H	HYD019H	HXD030H	HXD031H	HXD039H
-	HYE021H	-	HYE025H	HXE065H	-	HXE030H	HXE031H	HXD039H
-	HYE022H	-	HYE026H	HXE065H	-	HXE030H	HXE031H	HXD039H
-	-	-	-	-	-	HXF030H	HXF031H	HXF039H
-	-	-	-	-	-	HXF030H	HXF031H	HXF039H

Main switchgear



Frame	Operating Voltage	Shunt Trips - SH	Under Voltage - UV	Motor Operator	Auxiliary Contact (1C/O)	
					AUX, AX (1NO + 1NC)	Alarm, AL (1NO + 1NC)
h3 h1000	24V DC	HXC001H	HXE011H	HXE040H	HXC021H	HXC024H
	48V DC	HXC002H	-	HXE040H		
	100 - 120V AC	HXC003H	HXE013H	HXE042H		
	200 - 240V AC	HXC004H	HXE014H	HXE042H		
	380 - 450V AC	HXC005H	HXE015H	-		
h3 h1600	24V DC	HXC001H	HXE011H	HXF040H	HXC021H	HXC024H
	48V DC	HXC002H	-	-		
	100 - 120V AC	HXC003H	HXE013H	-		
	200 - 240V AC	HXC004H	HXE014H	HXF042H		
	380 - 450V AC	HXC005H	HXE015H	-		



Frame	Trip Unit	Pole	MCCBs			Terminal connectors									
			In (A)	25 kA	40 kA	50 kA	Collar	Straight	Spreader	Rear					
h3+ P160	TM	3	25	HHS025DR	HNS025DR	HMS025DR	-	HYS010H HYS013H	HYS011H HYS014H	HYS031H (16A - 50A) HYS131H (63A - 160A)					
			40	HHS040DR	HNS040DR	HMS040DR									
			63	HHS063DR	HNS063DR	HMS063DR									
			80	HHS080DR	HNS080DR	HMS080DR									
			100	HHS100DR	HNS100DR	HMS100DR									
			125	HHS125DR	HNS125DR	HMS125DR									
	LSI	3	40	HHS040JR	HNS040JR	HMS040JR									
			100	HHS100JR	HNS100JR	HMS100JR									
			160	HHS160JR	HNS160JR	HMS160JR									
	Energy	3	40	HHS040NR	HNS040NR	HMS040NR									
			100	HHS100NR	HNS100NR	HMS100NR									
			160	HHS160NR	HNS160NR	HMS160NR									
	h3+ P250	TM	3	50	HHT050DR	HNT050DR					HMT050DR	-	HYB010H	HYB011H	HYB031H
				63	HHT063DR	HNT063DR					HMT063DR				
				100	HHT100DR	HNT100DR					HMT100DR				
125				HHT125DR	HNT125DR	HMT125DR									
160				HHT160DR	HNT160DR	HMT160DR									
200				HHT200DR	HNT200DR	HMT200DR									
LSI		3	40	HHT040JR	HNT040JR	HMT040JR									
			100	HHT100JR	HNT100JR	HMT100JR									
			160	HHT160JR	HNT160JR	HMT160JR									
			250	HHT250JR	HNT250JR	HMT250JR									
Energy		3	40	HHT040NR	HNT040NR	HMT040NR									
			100	HHT100NR	HNT100NR	HMT100NR									
			160	HHT160NR	HNT160NR	HMT160NR									
			250	HHT250NR	HNT250NR	HMT250NR									
			250	-	HNW250JR	HMW250JR	-	HYW010H	HYW011H	HYD031H					
LSI	3	400	-	HNW400JR	HMW400JR										
		630	-	HNW630JR	HMW630JR										
		250	-	HNW250NR	HMW250NR										
Energy	3	400	-	HNW400NR	HMW400NR										
		630	-	HNW630NR	HMW630NR										
		630	-	HNW630NR	HMW630NR	HYW013H					HYW014H	HYD033H			

Main switchgear



Frame	Operating Voltage	Shunt Trips - SH	Under Voltage - UV	Motor Operator auto-reset	Motor Operator no auto-rest	Auxiliary Contact (1C/O)	
						AUX, AX (1NO + 1NC)	Alarm, AL (1NO +1NC)
h3+ P160	24V DC	HXA001H	HXA011H	-	-	HXA021H HXA025H (low level)	HXA024H HXA026H (low level) HXA027H HXA028H (low level)
	48V DC	HXA002H	-	-	-		
	100 - 120V AC	HXA003H	HXA013H	-	-		
	200 - 240V AC	HXA004H	HXA014H	-	-		
	380 - 450V AC	HXA005H	HXA015H	-	-		
h3+ P250	24V DC	HXA001H	HXA011H	HXT040H(K)	HXT043H(K)	HXA021H HXA025H (low level)	HXA024H HXA026H (low level) HXA027H HXA028H (low level)
	48V DC	HXA002H	-	HXT048H(K)	HXT049H(K)		
	100 - 110V AC/DC	-	-	HXT041H(K)	HXT046H(K)		
	100 - 120V AC	HXA003H	HXA013H	-	-		
	200 - 220V AC/DC	-	-	HXT045H(K)	HXT047H(K)		
	230 - 240V AC	-	-	HXT042H(K)	HXT044H(K)		
	200 - 240V AC	HXA004H	HXA014H	-	-		
380 - 450V AC	HXA005H	HXA015H	-	-			

(K) = With Key



Terminal covers				Interlock	Phase Barrier	DIN rail adaptor	Rotary Handle		Padlock
Collar	Straight	Spreader	Rear				Direct	Extended	
-	HYS021H	HYS023H	-	HXS165H HXS066H	HYS019H	HYS033H	HXS030H HXS032H (With interlocking)	HXS031H	HXA039H
-	HYT021H	HYT023H	-	HXT165H HXT066H	HYT019H	HYT033H	HXT030H HXT032H (With interlocking)	HXT031H	HXA039H
-	HYW021H	HYW023H	-	HXW165H HXW066H	HYW019H	-	HXW030H HXW032H (With interlocking)	HXW031H	HXA039H

Main switchgear



Frame	Operating Voltage	Shunt Trips - SH	Under Voltage - UV	Motor Operator auto-reset	Motor Operator no auto-rest	Auxiliary Contact (1C/O)	
						AUX, AX (1NO + 1NC)	Alarm, AL (1NO + 1NC)
h3+ P630	24V DC	HXA001H	HXA011H	HXW040H(K)	HXW043H(K)	HXA021H HXA025H (low level)	HXA024H HXA026H (low level) HXA027H HXA028H (low level)
	48V DC	HXA002H	-				
	100 - 110V DC	-	-	HXW041H(K)	HXW046H(K)		
	100 - 120V AC	HXA003H	HXA013H	-	-		
	110 - 240V AC	-	-	HXW042H(K)	HXW044H(K)		
	200 - 240V AC	HXA004H	HXA014H	-	-		
	380 - 450V AC	HXA005H	HXA015H	-	-		

(K) = With Key

Product	x160 TM MCCB		x250 TM MCCB		x630 TM MCCB (h3+ only)		
Reference	HHA	HNA	HNB		HHJ	HNJ	HMJ
Number of poles	[No.]		3-4		3-4		3

Electrical characteristics

Rated current	In	[A]	160		250		630		
Current rated range		[A]	16-160		100-250		250-630		
Rated service voltage, (AC)	Ue	[V]	220-440		220-440		220-415		
Frequency	f	[Hz]	50/60		50/60		50/60		
Rated insulation voltage	Ui	[V]	690		800		800		
Rated impulse withstand voltage	Uimp	[kV]	8		8		8		
Rated ultimate short-circuit breaking capacity, (Icu)									
(AC) 50-60Hz 220/230V	Icu	[kA]	35	85	85	-	-	-	
(AC) 50-60Hz 220/240V	Icu	[kA]				35	70	85	
(AC) 50-60Hz 380/415V	Icu	[kA]	25	40	40	25	40	50	
(AC) 50-60Hz 480/500/525V	Icu	[kA]	-	-	-	-	-	-	
(AC) 50-60Hz 660/690V	Icu	[kA]	-	-	-	-	-	-	
(DC) 250V - 2 poles in series	Icu	[kA]	10	10	9	-	-	-	
Rated service short-circuit breaking capacity, (Ics)									
(AC) 50-60Hz 220/230V	Ics	[kA]	25	40	40				
(AC) 50-60Hz 220/240V	Ics	[kA]	-	-	-	35	70	85	
(AC) 50-60Hz 380/415V	Ics	[kA]	20	20	20	25	40	50	
(AC) 50-60Hz 480/500/525V	Ics	[kA]	-	-	-	-	-	-	
(AC) 50-60Hz 660/690V	Ics	[kA]	-	-	-	-	-	-	
(DC) 250V - 2 poles in series	Ics	[kA]	5	5	5	-	-	-	
Rated short-circuit making capacity	Icm	[kA]	-	-	-	-	-	-	
Rated short-time withstand current for 1s	Icw	[kA]	-	-	-	-	-	-	
Category of use (EN 60947-2)			A		A		A		
Calibration temperature			50°C		50°C		50°C (250A-400A), 30°C (630A)		
Derating 40°C			100%		100%		-		
	30°C		-		-		100% (630A)		
	50°C		100%		100%		100% (250A - 400A), 90% (630A)		
	55°C		95%		94%		97% (250A - 400A), 87% (630A)		
	60°C		93%		91%		94.5% (250A - 400A), 84.5% (630A)		
	65°C		90%		88%		92% (250A - 400A), 81.6% (630A)		
Suitability for isolation			ok		ok		ok		
Electric endurance in number of cycles			10000		10000		6000<=400A 4000 for 630A (Above 400A)		
Mechanical endurance in number of operations			20000		20000		15000		
Operating temperature			-25 to +70°C		-25 to +70°C		-25 to +70 °C		
Storage temperature			-35 to +70°C		-35 to +70°C		-35 to +70°C		
Power loss (at In for 3P)		[W]	39		60		250A - 71.4W 320A - 75W 400A - 116W 630A - 176.3W		
Reference standard			IEC 60947-2		IEC 60947-2		IEC 60947-2		
Releases: switch			-		-		-		
Releases: TM (thermomagnetic)			ok		ok		-		
T fixed, M fixed			ok		ok		-		
T adjustable, M fixed			ok		-		-		
T adjustable, M adjustable			-		ok		ok		
Thermal adjustment value			0.63 to 0.8 to 1 x In		0.63 to 0.8 to 1 x In		0.63 to 0.8 to 1 x In		
Magnetic adjustment value			-		6-8-10-13 x In (200A) 5-7-9-11 In (250A)		5 to 10 x In (Up to 400A) 4 to 8 x In (630A)		
Releases: LSI (electronic)			-		-		-		
Long delay			-		-		-		
Short delay			-		-		-		
Time delay			-		-		-		

Terminations

Standard terminal type		cage	lugs		lugs		
Maximum terminal capacity		95mm ²	185mm ² (cage)		-		
Terminal width	mm	-	25		32		
Terminal shields		ok	ok		ok		
Cage terminal		integrated	ok		-		
Extended connections		ok	ok		ok		
Rear connections		no	ok		-		

Dimensions

Height		mm	130		165		260		
Width	3P	mm	75		105		140		
	4P	mm	100		140		-		
Depth		mm	68		68		150		
Weight	3P	kg	0.715		1.3		5.8		
	4P	kg	0.95		1.6		-		

h250 LSI MCCB		h400 TM MCCB		h630 LSI MCCB		h1000 LSI MCCB		h1600 LSI MCCB	
HNC	HEC	HND	HND	HED	HNE	HEE	HNF	HEF	
3-4		3-4	3-4		3-4		3-4		

250	400	630	1000	1600
40-125-250	250-400	250-630	800-1000	1250-1600
220-690	220-690	220-690	220-690	220-690
50/60	50/60	50/60	50/60	50/60
800	800	800	800	800
8	8	8	8	8

85	100	85	85	100	85 (800A) 75 (1000A)	100	100	100
50	70	50	50	70	50	70	50	70
25	45	30	30	30	30	30	45	65
7,5	20	20	20	20	20	20	25	45
-	-	40	-	-	-	-	-	-

85	100	85	85	85	85 (800A) 75 (1000A)	100 (800A) 75 (1000A)	75	75
25	70	50	50	50	50	50	50	50
10	45	30	30	30	30	30	45	50
7.5	15	15	15	15	20	20	25	34
-	-	40	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
B	A	B (400A) - A (630A)	B (800A) - A (1000A)	B				
40°C	50°C	40°C	40°C	40°C				
100%	100%	100%	100%	100%				
-	-	-	-	-				
95%	100%	100%	100%	100%				
90%	95%	95%	95%	95%				
80%	92%	90%	90%	90%				
80%	89%	80%	80%	80%				
ok	ok	ok	ok	ok				
10000	4500	4500	4500	4500				
30000	15000	15000	15000	15000				
-25 to +70°C	-25 to +70°C	-25 to +70°C	-25 to +70°C	-25 to +70°C				
-35 to +70°C	-35 to +70°C	-35 to +70°C	-35 to +70°C	-35 to +70°C				
75	75	150	150	170				
IEC 60947-2	IEC 60947-2	IEC 60947-2	IEC 60947-2	IEC 60947-2				
-	-	-	-	-				
-	ok	-	-	-				
-	-	-	-	-				
-	-	-	-	-				
-	ok	-	-	-				
-	0.63 to 0.8 to 1 x In	-	-	-				
-	6-8-10-12 x In	-	-	-				
-	-	ok	ok	ok				
0.4 to 1 x lr	-	0.4 to 1 x lr	0.4 to 1 x lr	0.4 to 1 x lr				
2.5 to 10 x lr	-	2.5 to 10 x lr (400A) 2.5 to 8 x lr (630A)	2.5 to 10 x lr (800A) 2.5 to 8 x lr (1000A)	2.5 to 10 x lr				
0.1 - 0.2s	-	0.1 - 0.2s	0.1 - 0.2s	0.1 - 0.2s				

lugs	lugs	lugs	lugs	lugs
120mm ² (cage)	240mm ² (cage)	-	-	-
25	30	30	45	45
ok	ok	ok	ok	ok
ok	ok	-	-	-
ok	ok	integrated	integrated	integrated
ok	ok	ok	ok	ok

165	260	260	273/433	370/570
105	140	140	210	210
140	185	185	280	280
97	97	97	99,5	140
2.5	4.2	4.3	11	27
3.3	5.6	5.7	14.8	31

Product	P160 MCCB		
Reference	HHS	HNS	HMS
Number of poles	[No.]	3	

Electrical characteristics

Rated current	In	[A]	160		
Current rated range		[A]	25 - 160 (Thermal Magnetic), 40 - 160 (Electronic)		
Rated service voltage, (AC)	Ue	[V]	220 to 690		
Frequency	f	[Hz]	50/60		
Rated insulation voltage	Ui	[V]	800		
Rated impulse withstand voltage	Uimp	[kV]	8		
Rated ultimate short-circuit breaking capacity, (Icu)					
(AC) 50-60Hz 220/230V	Icu	[kA]	-	-	-
(AC) 50-60Hz 220/240V	Icu	[kA]	35	50	65
(AC) 50-60Hz 380/415V	Icu	[kA]	25	40	50
(AC) 50-60Hz 480/500/525V	Icu	[kA]	-	-	-
(AC) 50-60Hz 660/690V	Icu	[kA]	6	6	6
(DC) 250V - 2 poles in series	Icu	[kA]	-	-	-
Rated service short-circuit breaking capacity, (Ics)					
(AC) 50-60Hz 220/230V	Ics	[kA]	-	-	-
(AC) 50-60Hz 220/240V	Ics	[kA]	35	50	65
(AC) 50-60Hz 380/415V	Ics	[kA]	25	40	50
(AC) 50-60Hz 480/500/525V	Ics	[kA]	-	-	-
(AC) 50-60Hz 660/690V	Ics	[kA]	6	6	6
(DC) 250V - 2 poles in series	Ics	[kA]	-	-	-
Rated short-circuit making capacity	Icm	[kA]	-	-	-
Rated short-time withstand current for 1s	Icw	[kA]	-	-	-
Category of use (EN 60947-2)			A		
Calibration temperature			50°C		
Derating	40°C		-		
	50°C		100%		
	55°C		97%		
	60°C		94.3%		
	65°C		91%		
	70°C		-		
Suitability for isolation			ok		
Electric endurance in number of cycles			10 000		
Mechanical endurance in number of operations			40 000		
Operating temperature			-25 °C to +70 °C		
Storage temperature			-35 °C to +70 °C		
Power loss (at In for 3P)		[W]	42.3W		
Reference standard			IEC 60947-2		
Releases: switch			-		
Releases: TM (thermomagnetic)			ok		
T fixed, M fixed			-		
T adjustable, M fixed			-		
T adjustable, M adjustable			ok		
Thermal adjustment value			0.63 to 0.8 to 1 x In		
Magnetic adjustment value			6-8-10-12 x In (Up to 125A) 6-7-8-9-10 In (160A)		
Releases: LSI (electronic)			-		
Long delay			-		
Short delay			-		
Time delay			-		
Ir1	40A		16 - 18 - 20 - 22 - 25 - 28 - 32 - 34 - 37 - 40		
	100A		40 - 45 - 50 - 57 - 63 - 72 - 80 - 87 - 93 - 100		
	160A		63 - 70 - 80 - 90 - 100 - 110 - 125 - 135 - 150 - 160		
	250A		-		
	400A		-		
	600A		-		
I _{sd} = OFF ; = I _r x ...			-		
tsd (ms)			-		

Terminations

Standard terminal type			lugs
Maximum terminal capacity			-
Terminal width		mm	21
Terminal shields			ok
Cage terminal			-
Extended connections			ok
Rear connections			-

Dimensions

Height		mm	130
Width	3P	mm	90
Depth		mm	97
Weight	3P	kg	1.1

P250 MCCB			P630 MCCB (Electronic only)	
HHT	HNT	HMT	HNW	HMW
3			3	

250	50 - 250 (Thermal Magnetic), 40 - 250 (Electronic)		630	250-630
	220 to 690			220 to 690
	50/60			50/60
	800			800
	8			8

-	-	-	-	-
35	50	65	70	85
25	40	50	40	50
-	-	-	-	-
6	6	6	7	12
-	-	-	-	-

-	-	-	-	-
35	50	65	70	85
25	40	50	40	50
-	-	-	-	-
6	6	6	7	12
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

A	A (>400A), B (<=400A)			
-	-			
100%	-			
-	100%			
96.5%	-			
93%	100% (250A - 400A), 98% (630A)			
89.3%	100% (250A - 400A), 90% (630A)			
-	100% (250A - 400A), 81% (630A)			
ok	ok			
10 000	6000 ≤ 400A, 4000 > 400A			
40 000	30 000			
-25 °C to +70 °C	-25 °C to +70 °C			
-35 °C to +70 °C	-35 °C to +70 °C			
50.7W	175.8W			
-	-			
-	-			
ok	-			
-	-			
-	-			
ok	-			
0.63 to 0.8 to 1 x In	-			
6-8-10-13 x In (up to 160A)	-			
6-8-10-12 x In (up to 200A)	-			
6-7-8-9-10 x In (250A)	ok			
-	-			
-	-			
-	-			
16 - 18 - 20 - 22 - 25 - 28 - 32 - 34 - 37 - 40	-			
40 - 45 - 50 - 57 - 63 - 72 - 80 - 87 - 93 - 100	-			
63 - 70 - 80 - 90 - 100 - 110 - 125 - 135 - 150 - 160	-			
90 - 100 - 110 - 125 - 140 - 160 - 180 - 200 - 225 - 250	90 - 100 - 110 - 125 - 140 - 160 - 180 - 200 - 225 - 250			
-	160 - 180 - 200 - 225 - 250 - 300 - 350 - 370 - 400			
-	250 - 300 - 350 - 370 - 400 - 500 - 600 - 630			
-	1.5 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 10			
-	50 - 100 - 200 - 300 - 400			

lugs	lugs
-	-
25	32
ok	ok
-	-
ok	ok
-	-

165	260
105	140
97	150
1.5	5.8

Moulded Case

Circuit Breakers x160

- Thermal magnetic trip unit, 2 versions:
- Z version: fixed thermal and fixed magnetic
- U version: adjustable thermal and fixed magnetic
- 1P, 2P, 3P & 4P
- Mechanical test button, sealable settings, integrated padlocking handle Ø4mm.

Connection capacity

- 95mm² rigid cables
- 70mm² flexible cables
- Comply with IEC60947-2.

Technical information: [Page 150](#)

Main switchgear



HHA125U



HHA161U

MCCBs x160 25kA

Description	In	Cat ref.		
		1P	3P	4P
- Breaking capacity Ics: 20kA (400/415V AC) - Fixed thermal 1 x In - Fixed magnetic > 10 x In	16A	HHA014Z	-	-
	20A	HHA018Z	-	-
	25A	HHA023Z	-	-
	32A	HHA030Z	-	-
	40A	HHA038Z	-	-
	50A	HHA048Z	-	-
	63A	HHA061Z	-	-
	80A	HHA078Z	-	-
	100A	HHA098Z	-	-
	125A	HHA123Z	-	-
- Adjustable thermal 0.63 - 0.8 - 1 x In - Fixed magnetic > 10 x In	25A	-	HHA025U	HHA026U
	40A	-	HHA040U	HHA041U
	63A	-	HHA063U	HHA064U
	80A	-	HHA080U	HHA081U
	100A	-	HHA100U	HHA101U
	125A	-	HHA125U	HHA126U
	160A	-	HHA160U	HHA161U

MCCBs x160 40kA



HNA125U

Description	In	Cat ref.	
		3P	4P
- Breaking capacity Ics: 20kA (400/415V AC) - Adjustable thermal 0.63 - 0.8 - 1 x In - Fixed magnetic > 10 x In	25A	HNA025U	HNA026U
	40A	HNA040U	HNA041U
	63A	HNA063U	HNA064U
	80A	HNA080U	HNA081U
	100A	HNA100U	HNA101U
	125A	HNA125U	HNA126U
	160A	HNA160U	HNA161U

Switch Disconnecter



HCA125Z

Description	In	Cat ref.
		3P
- Suitable for AC22A/ AC23A	125A	HCA125Z
- Ue: 415V AC	160A	HCA160Z
- Icw (1s): 2kA		

Indication Contacts

- 1 changeover switch (ON/OFF): indicates the position of the MCCB is "open" or "closed".
- 1 changeover alarm contact: indicates MCCB tripping.

Coil Connection

- Connection capacity: 0.75mm flexible or rigid cables.
- Optional connection cables. The cable capacity of the terminals is 0.5 to 1.25mm².

Shunt Trip

- Remote tripping of MCCBs or trip-free switches.
- Operating voltage: 0.7 to 1.1 x Un

Under Voltage Release

- Allows the tripping of MCCBs when voltage level drops between 35 and 70% of Un.
- Pick up voltage 0.85 x Un

Direct Rotary Handle

- Padlockable
- Equipped with front cover and handle
- Fixing without any additional screw.

Extended Rotary Handle

- IP 55
- Supplied complete with shaft and handle.

Technical information: [Page 151](#)

Accessories

Description	Characteristics	Cat ref.
Auxiliary contacts AX	1 changeover contact (ON/OFF) 250V AC / 3A	HXA021H
AL	125V DC / 0.4A 1NO + 1NC	
	1 changeover alarm contact 250V AC / 3A	HXA024H
	125V DC / 0.4A 1NO + 1NC	
Shunt trips SH	24V DC	HXA001H
	48V DC	HXA002H
	100 - 120V AC	HXA003H
	200 - 240V AC	HXA004H
	380 - 450V AC	HXA005H
Undervoltage releases UV	24V DC	HXA011H
	100 - 120V AC	HXA013H
	200 - 240V AC	HXA014H
	380 - 450V AC	HXA015H



Main switchgear

Accessories

Description	Characteristics	Cat ref.	Cat ref.
		3P	4P
Direct rotary handle Padlockable	Max Ø 6mm	HXA030H	HXA030H
Extended rotary handle Padlockable	Max Ø 8mm 200mm	HXA031H	HXA031H
Padlocking device To mount on MCCB for handle locking 3 padlocks	Max Ø 8mm	HXA039H	HXA039H
Collar terminals Terminals for aluminium conductor	Set of 3 or 4	HYA005H	HYA006H
Extended connections	Straight connections - set of 4	HYA013H	HYA013H
	Spreader connections - set of 3 or 4	HYA014H	HYA015H
Interphase barriers	Set of 2 Height: 50mm	HYA019H	HYA019H
Terminal covers - 2 pcs	For extended straight connections	HYA021H	HYA022H
	For extended spreader connections	HYA023H	HYA024H
	For collar terminal	HYA027H	HYA028H
Din rail adaptor		HYA033H	HYA033H



- Moulded Case
Circuit Breakers x250**
- Adjustable thermal and magnetic trip unit
 - 3P and 4P
 - Mechanical test button
 - Lockable settings
 - Integrated padlocking handle
Ø 4mm
 - Complies with IEC60947-2.

Connection:

- Terminal area width 25mm

Technical information: [Page 155](#)

Connection capacity:

- 185mm² rigid cables
- Collar terminals optional



HNB160U

Main
switchgear

MCCBs x250 40kA

Description	In	Cat ref.	Cat ref.
		3P	4P
Breaking capacity	160A	HNB160U	HNB161U
Icu: 40 kA (400/415V AC)	200A	HNB200U	HNB201U
Ics: 20 kA	250A	HNB250U	HNB251U
Adjustable thermal 0.63 - 0.8 - 1x In			
Adjustable magnetic			
6 - 8 - 10 - 13 x In (160/200A)			
5 - 7 - 9 - 11 x In (250A)			
4P neutral setting: 0 or 100%			

Indication Contacts

- 1 changeover switch (ON/OFF): indicates the position of the MCCB is "open" or "closed".
- 1 changeover alarm contact: indicates MCCB tripping.

Coil Connection

- Connection capacity: 0.75mm² flexible or rigid cables
- Optional connection cables. The cable capacity of the terminals is 0.5 to 1.25mm².

Shunt Trip

- Remote tripping of MCCBs or trip-free switches. Operating voltage: 0.7 to 1.1 x Un.

Under Voltage Release

- Allows the tripping of MCCBs when voltage level drops between 35 and 70% of Un.
- Pick up voltage 0.85 x Un.

Direct Rotary Handle

- Padlockable
- Equipped with front cover and handle
- Fixing without any additional screw.

Extended Rotary Handle

- IP55
- Supplied complete with shaft and handle.

Technical information: [Page 156](#)

Accessories

Description	Characteristics	Cat ref.
Auxiliary contacts AX	1 changeover contact 250V AC / 3A	HXA021H
AL	125V DC / 0.4A 1NO + 1NC	
	1 changeover alarm contact 250V AC / 3A	HXA024H
	125V DC / 0.4A 1NO + 1NC	
Shunt trips SH	24V DC	HXA001H
	48V DC	HXA002H
	100 - 120V AC	HXA003H
	200 - 240V AC	HXA004H
	380 - 450V AC	HXA005H
Undervoltage releases UV	24V DC	HXA011H
	100 - 120V AC	HXA013H
	200 - 240V AC	HXA014H
	380 - 450V AC	HXA015H
Direct rotary handles Padlockable	Max Ø 6mm	HXB030H
Extended rotary handles Padlockable	Max Ø 8mm 200mm	HXB031H
Padlocking device To mount on MCCBs for handle locking 3 padlocks	Max Ø 8mm	HXA039H
Motor operators	24V DC	HXB040H
	230 - 240V AC	HXB042H



HXA021H

HXA024H



HXA004H

HXA014H



HXB040H

Main switchgear

Accessories

Description	Characteristics	Cat ref. 3P	Cat ref. 4P
Interlocking	Wire type	HXB065H	HXB065H
Collar terminals Aluminium / copper conductors 150mm ² rigid cables 185mm ² flexible cables	Set of 4 pieces	HYB001H	HYB002H
Extended connections For straight connections	Set of 4 pieces	HYB010H	HYB010H
For spreader connections	Set of 4 pieces	HYB011H	HYB012H
Rear connections	Set of 3 pieces	HYB031H	HYB032H
Interphase barriers	Set of 3 Height: 97mm	HYB019H	HYB019H
Terminal covers - 2 pcs	For extended straight connections	HYB021H	HYB022H
	For extended spreader connections	HYB023H	HYB024H
	For rear connections	HYB025H	HYB026H
	For collar terminals	HYB027H	HYB028H



HYB022H



HYB024H



HYB031H

- Moulded Case
Circuit Breakers x630**
- Adjustable thermal and magnetic trip unit
 - 3P
 - Mechanical test button
 - Lockable settings
 - Compliant with IEC60947-2.

- Connection:**
- Directly on copper cable terminal with end lug
 - Max. width: 32mm

Technical information: [Page 162](#)



HHJ250DR



HNJ630DE

MCCB x630 - TM Adjustable

Description	Characteristics	Cat ref.
Icu / Ics 400 / 415 V~ 25 kA/ 25 kA 3 Poles	250A	★ HHJ250DR
	320A	★ HHJ320DR
	400A	★ HHJ400DR
	630 A	★ HHJ630DE
Icu / Ics 400 / 415 V~ 40 kA/ 40 kA 3 Poles	250 A	★ HNJ250DR
	320 A	★ HNJ320DR
	400 A	★ HNJ400DR
	630 A	★ HNJ630DE
Icu / Ics 400 / 415 V~ 50 kA/ 50 kA 3 Poles	250 A	★ HMJ250DR
	320 A	★ HMJ320DR
	400 A	★ HMJ400DR
	630 A	★ HMJ630DE



HXA025H



HXA005H



HXA015H



HXA035HH

Accessories - Auxiliaries

Description	Characteristics	Cat ref.
Auxiliary contacts Auxiliary (AX) Alarm (AL)	250V AC - AX	HXA021H
	250V AC - AL left	HXA024H
	125V AC - AX	★ HXA025H
	125V AC - AL left	★ HXA026H
	250V AC - AL Right	★ HXA027H
	125V AC - AL Right	★ HXA028H
	Shunt trips SH	24V DC
48V DC		HXA002H
100 - 120V AC		HXA003H
200 - 240V AC		HXA004H
380 - 450V AC		HXA005H
Undervoltage releases UV	24V DC	HXA011H
	100 - 120V AC	HXA013H
	200 - 240V AC	HXA014H
	380 - 450V AC	HXA015H
Delayed UVR	24 V DC	★ HXA051H
	110 V~ AC	★ HXA053H
	240 V~ AC	★ HXA054H
	440 V~ AC	★ HXA055H
Cable Kit	0.75 mm ² - 6 wires	★ HXA035H

Motor Operator

- Can be used for the remote operation of the breaker

Technical information: [Page 164](#)

Terminal Covers

- Provides IP2X protection

Accessories - Handle-locking and Motor Operators

Description	Characteristics	Cat ref.
Direct rotary handles		★ HXW030H
	With interlocking	★ HXW032H
Key kit for rotary handle		★ HXW888H
	Key lock only	★ HXS999H
On door rotary handle kit with handle and shaft		★ HXW031H
Padlocking kit (3P)		HXA039H
Link interlock kit (3P)		★ HXW165H
Mechanical interlock, 1 front cover (3P)		★ HXW066H
Cable for mechanical interlock	1m length	★ HXB070H
	1.5m length	★ HXB071H
Motor operator with auto-rest	24 - 48 V DC	★ HXW040H
	100 - 110 V DC	★ HXW041H
	100 - 240 V AC	★ HXW042H
Motor operator with auto-rest Key lock	24 - 48 V DC	★ HXW040HK
	100 - 110 V DC	★ HXW041HK
	100 - 240 V AC	★ HXW042HK
Motor operator without auto-rest	24 - 48 V DC	★ HXW043H
	100 - 110 V DC	★ HXW046H
	100 - 240 V AC	★ HXW044H
Motor operator without auto-rest Key lock	24 - 48 V DC	★ HXW043HK
	100 - 110 V DC	★ HXW046HK
	100 - 240 V AC	★ HXW044HK
Electrical interlock for Motor Operator	For 2 x x630 motors	★ HXD068H
	For p250 / x630 motors	★ HXB069H



HXW030H



HXW033H



HXW040HK



HXD068H

Accessories - Connections and Covers

Description	Characteristics	Cat ref.
Terminal covers	For straight terminal extensions (3P)	★ HYW021H
	For spreader terminal extensions (3P)	★ HYW023H
Isolating earth plate	For straight terminal extensions (3P)	★ HYW050H
	For spreader terminal extensions (3P)	★ HYW052H
Integrated / 3 poles	1 wire Cu/Al	★ HYW001H
External / 3 poles	2 wires Cu/Al	★ HYW007H
Interphase barrier / 3 poles	250A	★ HYW019H
Straight terminal extension / 3 Poles	Up to 400A	★ HYW010H
	Up to 630A	★ HYW013H
Spreader terminal extension / 3 Poles	Up to 400A	★ HYW011H
	Up to 630A	★ HYW014H



HYW021H



HYW014H

- Moulded Case
Circuit Breakers h250**
- 3P & 4P
 - Mechanical test button, sealable settings.
 - Comply with IEC 60947-2.

Connection
Terminal area width 25 mm

- Electronic trip unit LSI**
- Long delay (thermal equivalent)
adjustable: $I_r = 0.4$ to $1 \times I_n$
 - Short delay (magnetic equivalent)
adjustable: 2.5 to $10 \times I_r$
 - Time delay: $0.1 - 0.2s$

Technical information: [Page 168](#)

*Please check availability with your local Hager sales office at time of order



HNC250H

MCCBs h250 50kA LSI

Description	Characteristics	Cat ref.	Cat ref.
		3P	4P*
- Breaking capacity Icu: 50 kA (400/415V AC) Ics: 25 kA	40A	HNC040H	HNC041H
	125A	HNC125H	HNC126H
- Adjustable thermal $I_r = 0.4$ to $1 \times I_n$	250A	HNC250H	HNC251H
- Adjustable magnetic 2.5 to $10 \times I_r$			

Main switchgear



HEC250H

MCCBs h250 70kA LSI

Description	Characteristics	Cat ref.	Cat ref.
		3P	4P*
- Breaking capacity Icu: 70 kA (400/415V AC) Ics: 70 kA	40A	HEC040H	HEC041H
	125A	HEC125H	HEC126H
- Adjustable thermal $I_r = 0.4$ to $1 \times I_n$	250A	HEC250H	HEC251H
- Adjustable magnetic 2.5 to $10 \times I_r$			

Indication Contacts

- 1 changeover switch (ON/OFF): indicates the position of the MCCB is "open" or "closed".
- 1 changeover alarm contact: indicates MCCB tripping.

Coil Connection

- Connection capacity: 0.75mm² flexible or rigid cables
- Optional connection cables. The cable capacity of the terminals is 0.5 to 1.25mm².

Shunt Trip

- Remote tripping of MCCBs or trip-free switches. Operating voltage: 0.7 to 1.1 x Un.

Under Voltage Release

- Allows the tripping of MCCBs when voltage level drops between 35 and 70% of Un.
- Pick up voltage 0.85 x Un.

Direct Rotary Handle

- Padlockable
- Equipped with front cover and handle
- Fixing without any additional screw.

Extended Rotary Handle

- IP55
- Supplied complete with shaft and handle.

Technical information: [Page 169](#)

Accessories

Description	Characteristics	Cat ref.
Auxiliary contacts AX AL	1 changeover contact 250V AC / 3A 125V DC / 0,4A 1NO + 1NC	HXC021H
	1 changeover alarm contact 250V AC / 3A 125V DC / 0,4A 1NO + 1NC	HXC024H
Shunt trips SH	24V DC	HXC001H
	48V DC	HXC002H
	100 - 120V AC	HXC003H
	200 - 240V AC	HXC004H
Undervoltage releases UV	380 - 450V AC	HXC005H
	24V DC	HXC011H
	100 - 120V AC	HXC013H
Direct rotary handles Padlockable	200 - 240V AC	HXC014H
	380 - 450V AC	HXC015H
	Ø 5 - 8mm ² max	HXC030H
Extended rotary handles Padlockable	Ø 5 - 8mm ² max 320mm	HXC031H
	Padlocking device To mount on MCCBs for handle locking 3 padlocks	Max Ø 5mm
Motor operators	24V DC	HXC040H
	230-240V AC	HXC042H
Interlocking Wire type		HXC065H



HXC021H



HXC024H



HXC004H



HXC014H



HXC039H

Main switchgear

Accessories

Description	Characteristics	Cat ref.	
		3P	4P
Collar terminals - copper	Set of 3 or 4	HYC003H	HYC004H
Extended connections	Straight connections - set of 4	HYC010H	HYC010H
	Spreader connections - set of 3 or 4	HYC011H	HYC012H
Rear connections	Set of 3 or 4	HYC031H	HYC032H
Interphase barriers	Set of 3 Height: 97mm	HYC019H	HYC019H
Terminal covers - 2 pcs	For extended straight connections	HYC021H	HYC022H
	For rear connections	HYC025H	HYC026H
	For collar terminals	HYC027H	HYC028H



HYC011H



HYC031H

Moulded Case

Circuit Breakers h630

- 3P & 4P
- Adjustable neutral 0 - 50% - 100%
- Mechanical test button, lockable settings
- Comply with IEC 60947-2.

Connection

- Directly on copper cable terminal, with end lug max. width: 30mm

Electronic Trip Unit LSI:

- Long delay (thermal equivalent) adjustable:
I_r = 0.4 to 1 x I_n

- Short delay (magnetic equivalent) adjustable:
2.5 to 10 x I_r (400A)
2.5 to 8 x I_r (630A)
- Time delay: 0.1 - 0.2 s

Technical information: [Page 174](#)

*Please check availability with your local Hager sales office at time of order



HND630H

MCCBs h630 50kA LSI

Description	I _n	Cat ref.	Cat ref.
		3P	4P*
- Breaking capacity	400A	HND400H	HND401H
- Icu: 50 kA (400/415V AC)	630A	HND630H	HND631H
- Ics: 50 kA			
- Adjustable thermal			
- I _r = 0.4 to 1 x I _n			
- Adjustable magnetic			
- 2.5 to 10 x I _r (400A)			
- 2.5 to 8 x I _r (630A)			
- Time delay: 0.1 - 0.2s			

Main switchgear



HED630H

MCCBs h630 70kA LSI

Description	I _n	Cat ref.	Cat ref.
		3P	4P*
- Breaking capacity	400A	HED400H	HED401H
- Icu: 70 kA (400/415V AC)	630A	HED630H	HED631H
- Ics: 50 kA			
- Adjustable thermal			
- I _r = 0.4 to 1 x I _n			
- Adjustable magnetic			
- 2.5 to 10 x I _r (400A)			
- 2.5 to 8 x I _r (630A)			
- Time delay: 0.1 - 0.2s			

Indication Contacts

- 1 changeover switch (ON/OFF): indicates the position of the MCCB is "open" or "closed".
- 1 changeover alarm contact: indicates MCCB tripping.

Coil Connection

- Connection capacity: 0.75mm² flexible or rigid cables
- Optional connection cables. The cable capacity of the terminals is 0.5 to 1.25mm².

Shunt Trip

- Remote tripping of MCCBs. Operating voltage: 0.7 to 1.1 x Un.

Under Voltage Release

- Allows the tripping of MCCBs when voltage level drops between 35 and 70% of Un.
- Pick up voltage 0.85 x Un.

Direct Rotary Handle

- Padlockable
- Equipped with front cover and handle
- Fixing without any additional screw.

Extended Rotary Handle

- IP55
- Supplied complete with shaft and handle.

Technical information: [Page 175](#)

Accessories

Description	Characteristics	Cat ref.
Auxiliary contacts AX AL	1 changeover contact 250V AC / 3A 125V DC / 0,4A 1NO + 1NC	HXC021H
	1 changeover alarm contact 250V AC / 3A 125V DC / 0,4A 1NO + 1NC	HXC024H
Shunt trips SH	24V DC	HXC001H
	48V DC	HXC002H
	100 - 120V AC	HXC003H
	200 - 240V AC	HXC004H
	380 - 450V AC	HXC005H
Undervoltage releases UV	24V DC	HXC011H
	100 - 120V AC	HXC013H
	200 - 240V AC	HXC014H
Direct rotary handles Padlockable	Max Ø 6 mm	HXD030H
	Max Ø 8mm 320mm	HXD031H
Extended rotary handles Padlockable	Max Ø 8mm 320mm	HXD031H
Padlocking device To mount on MCCBs for handle locking 3 padlocks	Max Ø 8mm	HXD039H



HXC021H

HXC024H



HXD030H



HXD039H

Main switchgear

Accessories

Description	Characteristics	In	Cat ref.	Cat ref.
			3P	4P
Motor operators	24-48V DC 100-240V AC		HXD040H	HXD040H
			HXD042H	HXD042H
Interlocking Wire type			HXD065H	HXD065H
Collar terminals Terminals for copper conductors 1 x 35 - 240mm ²	Set of 3 or 4	160 - 400A	HYD003H	HYD004H
Terminals for multiple aluminium/ copper conductors 2 x 35 - 240mm ²	Set of 3 or 4	400 - 630A	HYD007H	HYD008H
Extended connections For straight connections	Set of 4	400A	HYD010H	HYD010H
		630A	HYD013H	HYD013H
For spreader connections	Set of 3 or 4	400A	HYD011H	HYD012H
		630A	HYD014H	HYD015H
Rear connections	Set of 3 or 4	400A	HYD031H	HYD032H
		630A	HYD033H	HYD034H
Interphase barriers	Set of 3 Height: 97mm		HYD019H	HYD019H
Terminal covers - 2 pcs	For extended straight connections For extended spreader connections For rear connections For collar terminals		HYD021H	HYD022H
			HYD023H	HYD024H
			HYD025H	HYD026H
			HYD027H	HYD028H



HXD042H



HYD003H



HYD015H

Moulded Case

Circuit Breakers h1000

- 3P & 4P
- Adjustable neutral 0 - 50% - 100%
- Mechanical test button, lockable settings.

Connection

- Direct on copper terminal, with end lug max. width: 50mm
- Comply with IEC60947-2.

Electronic trip unit LSI

- Long delay (thermal equivalent) adjustable:
I_r = 0,4 to 1 x I_n
- Short delay (magnetic equivalent) adjustable:
2,5 to 10 x I_r (630-800A)
2,5 to 8 x I_r (1000A)
- Time delay: 0.1-0.2s

Technical information: [Page 179](#)

*Please check availability with your local Hager sales office at time of order

Main switchgear



HNE970H

MCCBs h1000 50kA LSI

Description	I _n	Cat ref.	Cat ref.
		3P	4P*
- Breaking capacity I _{cu} : 50 kA (400/415V AC)	800A	HNE800H	HNE801H
I _{cs} : 50 kA	1000A	HNE970H	HNE971H
- Adjustable thermal I _r = 0,4 to 1 x I _n			
- Adjustable magnetic 2,5 to 10 x I _r (800A) 2,5 to 8 x I _r (1000A)			
- Time delay: 0.1-0.2s			
- Neutral setting from 0-50 to 100%			



HEE801H

MCCBs h1000 70kA LSI

Description	I _n	Cat ref.	Cat ref.
		3P	4P*
- Breaking capacity I _{cu} : 70 kA (400/415V AC)	800A	HEE800H	HEE801H
I _{cs} : 50 kA	1000A	HEE970H	HEE971H
- Adjustable thermal I _r = 0,4 to 1 x I _n			
- Adjustable magnetic 2,5 to 10 x I _r (800A) 2,5 to 8 x I _r (1000A)			
- Time delay: 0,1-0,2s			
- Neutral setting from 0-50 to 100%			

Indication Contacts

- 1 changeover switch (ON/OFF): indicates the position of the MCCB is "open" or "closed".
- 1 changeover alarm contact: indicates MCCB tripping.

Coil Connection

- Connection capacity: 0.75mm² flexible or rigid cables
- Optional connection cables. The cable capacity of the terminals is 0.5 to 1.25mm².

Shunt Trip

- Remote tripping of MCCBs. Operating voltage: 0.7 to 1.1 x Un.

Under Voltage Release

- Allows the tripping of MCCBs when voltage level drops between 35 and 70% of Un.
- Pick up voltage 0.85 x Un.

Direct Rotary Handle

- Padlockable
- Equipped with front cover and handle
- Fixing without any additional screw.

Extended Rotary Handle

- IP55
- Supplied complete with shaft and handle.

Technical information: [Page 180](#)

Accessories

Description	Characteristics	Cat ref.
Auxiliary contacts AX AL	1 changeover contact 250V AC / 3A 125V DC / 0,4A 1NO + 1NC	HXC021H
	1 changeover alarm contact 250V AC / 3A 125V DC / 0,4A 1NO + 1NC	HXC024H
Shunt trips SH	24V DC	HXC001H
	48V DC	HXC002H
	100 - 120V AC	HXC003H
	200 - 240V AC	HXC004H
Undervoltage releases UV	380 - 450V AC	HXC005H
	24V DC	HXE011H
	100 - 120V AC	HXE013H
Direct rotary handle Padlockable	200 - 240V AC	HXE014H
	380 - 450V AC	HXE015H
Extended rotary handles Padlockable		HXE030H
	Max Ø 8mm 320mm	HXE031H
Padlocking device To mount on MCCB for handle locking 3 padlocks	Max Ø 8 mm	HXD039H
Motor operators	24 - 48V DC	HXE040H
	100 - 240V AC	HXE042H
Interlocking Wire type		HXE065H



HXC021H

HXC024H



HXC004H

HXE014H



HXD039H

Accessories

Description	In	Cat ref. 3P	Cat ref. 4P*
Terminal covers - 2 pcs	For extended connections	HYE021H	HYE022H
	For rear connections	HYE025H	HYE026H
Rear connections	Set of 3 or 4 800A	HYE031H	HYE032H
	1000A	HYE033H	HYE034H



HYE031H

Moulded Case

Circuit Breakers h1600

- 3 pole - 3 trip units
- 4 pole - 4 trip units
- Adjustable neutral 0 - 50% - 100%
- Mechanical test button, lockable settings.
- Comply with IEC60947-2.

Electronic trip unit LSI

- Long delay (thermal equivalent) adjustable:
 $I_r = 0.4$ to $1 \times I_n$
- Short delay (magnetic equivalent) adjustable:
 2.5 to $10 \times I_r$
- Time delay: 0.1-0.2

Connection

- Directly on copper cable terminal, with end lug max. width: 60mm

Technical information: [Page 185](#)

*Please check availability with your local Hager sales office at time of order

Main switchgear



HNF990H

MCCBs h1600 50kA LSI

Description	In	Cat ref.	Cat ref.
		3P	4P*
- Breaking capacity	1250A	HNF980H	HNF981H
- Icu: 50 kA (400/415V AC)	1600A	HNF990H	HNF991H
- Ics: 50 kA			
- Adjustable thermal			
- $I_r = 0.4$ to $1 \times I_n$			
- Adjustable magnetic			
- 2.5 to $10 \times I_r$			
- Time delay: 0.1-0.2s			
- Neutral setting 0, 50, 100%			



HEF980H

MCCBs h1600 70kA LSI

Description	In	Cat ref.	Cat ref.
		3P	4P*
- Breaking capacity	1250A	HEF980H	HEF981H
- Icu: 70 kA (400/415V AC)	1600A	HEF990H	HEF991H
- Ics: 50 kA			
- Adjustable thermal			
- $I_r = 0.4$ to $1 \times I_n$			
- Adjustable magnetic			
- 2.5 to $10 \times I_r$			
- Time delay: 0.1-0.2s			
- Neutral setting from 0, 50, 100%			

Indication Contacts

- 1 changeover switch (ON/OFF): indicates the position of the MCCB is "open" or "closed".
- 1 changeover alarm contact: indicates MCCB tripping.

Coil Connection

- Connection capacity: 0.75mm² flexible or rigid cables
- Optional connection cables. The cable capacity of the terminals is 0.5 to 1.25mm².

Shunt Trip

- Remote tripping of MCCBs. Operating voltage: 0.7 to 1.1 x Un.

Under Voltage Release

- Allows the tripping of MCCBs when voltage level drops between 35 and 70% of Un.
- Pick up voltage 0.85 x Un.

Direct Rotary Handle

- Padlockable
- Equipped with front cover and handle
- Fixing without any additional screw.

Extended Rotary Handle

- IP55
- Supplied complete with shaft and handle.
- Rear connection included

Technical information: [Page 186](#)

Accessories

Description	Characteristics	Cat ref.
Auxiliary contacts AX AL	1 changeover contact 250V AC / 3A 125V DC / 0,4A 1NO + 1NC	HXC021H
	1 changeover alarm contact 250V AC / 3A 125V DC / 0,4A 1NO + 1NC	HXC024H
Shunt trips SH	24V DC	HXF001H
	48V DC	HXF002H
	100 - 120V AC	HXF003H
	200 - 240V AC	HXF004H
Undervoltage releases UV	380 - 450V AC	HXF005H
	24V DC	HXE011H
	100 - 120V AC	HXE013H
Direct rotary handles Padlockable	200 - 240V AC	HXE014H
	380 - 450V AC	HXE015H
Extended rotary handles Padlockable	Max Ø 8mm	HXF030H
	Max Ø 8mm 320mm	HXF031H
Padlocking device To mount on MCCBs for handle locking 3 padlocks	Max Ø 8mm	HXF039H
Motor operators	24V DC	HXF040H
	200 - 230V AC	HXF042H



HXC021H



HXC024H



HXF004H



HXE014H



HXF040H

Moulded Case Circuit Breakers

P160

Moulded case circuit breakers P160

- Only suitable for quadro evo
- 3P
- Mechanical test button, sealable settings.
- Compliant with IEC 60947-2.

Connection:

Terminal area width 21 mm

Thermal Magnetic Trip Unit

- Adjustable thermal: 0.63, 0.8, 1 x In
- Adjustable magnetic: <math><160 - 6, 8, 10, 12 \times I_n</math>
=160 - 6, 7, 8, 9, 10 x In

Electronic trip unit LSI:

- Long delay (thermal equivalent) adjustable: $I_{r1} = 0.4$ to $1 \times I_n^*$ adjustable: $I_{r2} = 0.91$ to $1 \times I_n^*$
 $I_r = I_{r1} \times I_{r2}$
- Short delay (magnetic equivalent) adjustable: 1.5, 2, 3, 4, 5, 6, 7, 8 & 10 x I_r
- Time delay: I_{2t} on/ off: 0.05s, 0.1s, 0.2s, 0.3s, 0.4s
Non tripping: 0.02s, 0.08s, 0.18s, 0.28s, 0.38s
Maximum breaking time: 0.08s, 0.15s, 0.25s, 0.35s, 0.45s

* For full range, please refer to technical pages.

Technical information: [Page 193](#)
Trip unit information: [Page 189](#)



HNS063DR

P160 - TM adjustable with front connection (3P)

Description	In (A)	Cat ref.
Icu / Ics 400 / 415 V~ 25 kA/ 25 kA 3 Poles	25A	★ HHS025DR
	40A	★ HHS040DR
	63A	★ HHS063DR
	80A	★ HHS080DR
	100A	★ HHS100DR
	125A	★ HHS125DR
Icu / Ics 400 / 415 V~ 40 kA/ 40 kA 3 Poles	160A	★ HHS160DR
	25A	★ HNS025DR
	40A	★ HNS040DR
	63A	★ HNS063DR
	80A	★ HNS080DR
	100A	★ HNS100DR
Icu / Ics 400 / 415 V~ 50 kA/ 50 kA 3 Poles	125A	★ HNS125DR
	160A	★ HNS160DR
	25A	★ HMS025DR
	40A	★ HMS040DR
	63A	★ HMS063DR
	80A	★ HMS080DR
Icu / Ics 400 / 415 V~ 50 kA/ 50 kA 3 Poles	100A	★ HMS100DR
	125A	★ HMS125DR
	160A	★ HMS160DR



HNS100JR

P160 - LSI with front connection (3P)

Description	In (A)	Cat ref.
Icu / Ics 400 / 415 V~ 25 kA/ 25 kA 3 Poles	40A	★ HHS040JR
	100A	★ HHS100JR
	160A	★ HHS160JR
Icu / Ics 400 / 415 V~ 40 kA/ 40 kA 3 Poles	40A	★ HNS040JR
	100A	★ HNS100JR
	160A	★ HNS160JR
Icu / Ics 400 / 415 V~ 50 kA/ 50 kA 3 Poles	40A	★ HMS040JR
	100A	★ HMS100JR
	160A	★ HMS160JR

Moulded Case Circuit Breakers

P160

Moulded case circuit breakers P160

- Only suitable for quadro evo
- 3P
- Mechanical test button, sealable settings.
- Compliant with IEC 60947-2.

Connection:

Terminal area width 21 mm

Energy trip unit:

- Long delay (thermal equivalent) adjustable: $I_r = 0.4$ to $1 \times I_n^*$
- Short delay (magnetic equivalent) adjustable: 1.5 to 10 (steps of 0.5) $\times I_r$
- Time delay:
 - I2t on/ off: 0.05s, 0.1s, 0.2s, 0.3s, 0.4s
 - Non tripping: 0.02s, 0.08s, 0.18s, 0.28s, 0.38s
 - Maximum breaking time: 0.08s, 0.15s, 0.25s, 0.35s, 0.45s

* For full range, please refer to technical pages.

Technical information: [Page 193](#)

Trip unit information: [Page 191](#)

P160 - Energy with front connection (3P)

Description	In (A)	Cat ref.
Icu / Ics 400 / 415 V~ 25 kA/ 25 kA 3 Poles	40A	★ HHS040NR
	100A	★ HHS100NR
	160A	★ HHS160NR
Icu / Ics 400 / 415 V~ 40 kA/ 40 kA 3 Poles	40A	★ HNS040NR
	100A	★ HNS100NR
	160A	★ HNS160NR
Icu / Ics 400 / 415 V~ 50 kA/ 50 kA 3 Poles	40A	★ HMS040NR
	100A	★ HMS100NR
	160A	★ HMS160NR



HMS100NR

Moulded Case Circuit Breakers

P250

- Only suitable for quadro evo
- 3P
- Mechanical test button, sealable settings.
- Comply with IEC 60947-2.

Connection

- Terminal area width 25 mm

Thermal Magnetic Trip Unit

- Adjustable thermal: 0.63, 0.8, 1 x In
- Adjustable magnetic: < 200 - 6, 8, 10, 13 x In
= 200 - 6, 8, 10, 12 x In
= 250A - 6, 7, 8, 9, 10 x In

Electronic trip unit LSI

- Long delay (thermal equivalent) adjustable:
Ir1 = 0.36 to 1 x In*
Ir2 = 0.91 to 1 x In*
Ir = Ir1 x Ir2
- Short delay (magnetic equivalent) adjustable:
1.5, 2, 3, 4, 5, 6, 7, 8 & 10 x Ir
- Time delay:
I2t on/ off: 0.05s, 0.1s, 0.2s, 0.3s, 0.4s
Non tripping: 0.02s, 0.08s, 0.18s, 0.28s, 0.38s
Maximum breaking time: 0.08s, 0.15s, 0.25s, 0.35s, 0.45s

* For full range, please refer to technical pages.

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HMT050DR

P250 - TM adjustable with front connection (3P)

Description	In (A)	Cat ref.
Icu / Ics 400 / 415 V~ 25 kA/ 25 kA 3 Poles	50A	★ HHT050DR
	63A	★ HHT063DR
	100A	★ HHT100DR
	125A	★ HHT125DR
	160A	★ HHT160DR
	200A	★ HHT200DR
Icu / Ics 400 / 415 V~ 40 kA/ 40 kA 3 Poles	250A	★ HHT250DR
	50A	★ HNT050DR
	63A	★ HNT063DR
	100A	★ HNT100DR
	125A	★ HNT125DR
	160A	★ HNT160DR
Icu / Ics 400 / 415 V~ 50 kA/ 50 kA 3 Poles	200A	★ HNT200DR
	250A	★ HNT250DR
	50A	★ HMT050DR
	63A	★ HMT063DR
	100A	★ HMT100DR
	125A	★ HMT125DR
Icu / Ics 400 / 415 V~ 50 kA/ 50 kA 3 Poles	160A	★ HMT160DR
	200A	★ HMT200DR
	250A	★ HMT250DR



HMT100JR

P250 - LSI with front connection (3P)

Description	In (A)	Cat ref.
Icu / Ics 400 / 415 V~ 25 kA/ 25 kA 3 Poles	40A	★ HHT040JR
	100A	★ HHT100JR
	160A	★ HHT160JR
	250A	★ HHT250JR
Icu / Ics 400 / 415 V~ 40 kA/ 40 kA 3 Poles	40A	★ HNT040JR
	100A	★ HNT100JR
	160A	★ HNT160JR
	250A	★ HNT250JR
Icu / Ics 400 / 415 V~ 50 kA/ 50 kA 3 Poles	40A	★ HMT040JR
	100A	★ HMT100JR
	160A	★ HMT160JR
	250A	★ HMT250JR

Moulded Case Circuit Breakers
P250

- Only suitable for quadro evo
- 3P
- Mechanical test button, sealable settings.
- Comply with IEC 60947-2.

Connection

- Terminal area width 25 mm

Energy trip unit

- Long delay (thermal equivalent) adjustable: $I_r = 0.36$ to $1 \times I_n^*$
- Short delay (magnetic equivalent) adjustable: 1.5 to 10 (steps of 0.5) $\times I_r$
- Time delay:
I2t on/ off: 0.05s, 0.1s, 0.2s, 0.3s, 0.4s
Non tripping: 0.02s, 0.08s, 0.18s, 0.28s, 0.38s
Maximum breaking time: 0.08s, 0.15s, 0.25s, 0.35s, 0.45s

* For full range, please refer to technical pages.

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P250 - Energy with front connection (3P)

Description	In (A)	Cat ref.
Icu / Ics 400 / 415 V~ 25 kA/ 25 kA 3 Poles	40A	★ HHT040NR
	100A	★ HHT100NR
	160A	★ HHT160NR
	250A	★ HHT250NR
Icu / Ics 400 / 415 V~ 40 kA/ 40 kA 3 Poles	40A	★ HNT040NR
	100A	★ HNT100NR
	160A	★ HNT160NR
	250A	★ HNT250NR
Icu / Ics 400 / 415 V~ 50 kA/ 50 kA 3 Poles	40A	★ HMT040NR
	100A	★ HMT100NR
	160A	★ HMT160NR
	250A	★ HMT250NR



HMT100NR

Moulded case circuit breakers P630

- Only suitable for quadro evo
- 3P
- Mechanical test button, sealable settings.
- Compliant with IEC 60947-2.

Connection

- Terminal area width 32 mm

Electronic trip unit LSI:

- Long delay (thermal equivalent) adjustable: $I_{r1} = 0.4$ to $1 \times I_n^*$ adjustable: $I_{r2} = 0.91$ to $1 \times I_n^*$ $I_{r=} I_{r1} \times I_{r2}$
- Short delay (magnetic equivalent) adjustable: 1.5, 2, 3, 4, 5, 6, 7, 8 & 10 x I_r
- Time delay: I_{2t} on/ off: 0.05s, 0.1s, 0.2s, 0.3s, 0.4s
Non tripping: 0.02s, 0.08s, 0.18s, 0.28s, 0.38s
Maximum breaking time: 0.08s, 0.15s, 0.25s, 0.35s, 0.45s

Energy trip unit:

- Long delay (thermal equivalent) adjustable: $I_r = 0.4$ to $1 \times I_n^*$
- Short delay (magnetic equivalent) adjustable: 1.5 to 10 (steps of 0.5) x I_r
- Time delay: I_{2t} on/ off: 0.05s, 0.1s, 0.2s, 0.3s, 0.4s
Non tripping: 0.02s, 0.08s, 0.18s, 0.28s, 0.38s
Maximum breaking time: 0.08s, 0.15s, 0.25s, 0.35s, 0.45s

* For full range, please refer to technical pages.

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Trip unit information: [Page 190](#)



HMW250JR

P630 - LSI with front connection (3P)

Description	In (A)	Cat ref.
Icu / Ics 400 / 415 V~ 40 kA/ 40 kA 3 Poles	250A	★ HNW250JR
	400A	★ HNW400JR
	630A	★ HNW630JR
Icu / Ics 400 / 415 V~ 50 kA/ 50 kA 3 Poles	250A	★ HMW250JR
	400A	★ HMW400JR
	630A	★ HMW630JR



HMW250NR

P630 - Energy with front connection (3P)

Description	In (A)	Cat ref.
Icu / Ics 400 / 415 V~ 40 kA/ 40 kA 3 Poles	250A	★ HNW250NR
	400A	★ HNW400NR
	630A	★ HNW630NR
Icu / Ics 400 / 415 V~ 50 kA/ 50 kA 3 Poles	250A	★ HMW250NR
	400A	★ HMW400NR
	630A	★ HMW630NR

P160, P250 and P630 - Connections and covers

Description	Characteristics	Cat ref.
DIN rail adaptor (3P)	P160	★ HYS033H
	P250	★ HYT033H
Straight terminal extension (3P)	P160 Front connection	★ HYS010H
	P160 Cable terminal	★ HYS013H
	P250	★ HYB010H
	P630 (250 - 400A)	★ HYW010H
	P630 (630A)	★ HYW013H
Spreader terminal extension (3P)	P160 Front connection	★ HYS011H
	P160 Cable terminal	★ HYS014H
	P250	★ HYB011H
	P630 (250 - 400A)	★ HYW011H
	P630 (630A)	★ HYW014H
Rear Connection (3P)	P160 Front connection (16A - 50A)	★ HYS031H
	P160 Cable terminal (63A - 160A)	★ HYS131H
	P250	★ HYB031H
	P630 (250-400A)	★ HYD031H
	P630 (630A)	★ HYD033H
Terminal cover for straight extensions	P160	★ HYS021H
	P250	★ HYT021H
	P630	★ HYW021H
Terminal Cover for spread extensions	P160	★ HYS023H
	P250	★ HYT023H
	P630	★ HYW023H
Isolating earth plate for straight terminal cover	P160	★ HYS050H
	P250	★ HYT050H
	P630	★ HYW050H
Isolating earth plate for spread terminal cover	P160	★ HYS052H
	P250	★ HYT052H
	P630	★ HYW052H
Interphase barrier	P160, 50mm	★ HYS019H
	P250,	★ HYT019H
	P630	★ HYW019H



HYT033H



HYB010H



HYW014H



HYT021H



HYT050H



HYT052H



HYT019H

Com Module

- Interface - Mod bus RTU
- Mod bus addresses: adjustable from 1 to 99
- Connection capacity 0.5 to 1.5mm²
- Supply voltage - 24V DC
- Digital output - <=100V DC (typical 24V DC, 48V DC)

AX/AL Energy

- Pre wired contact - 0.34mm²
- Nominal current 250V AC-14 = 3A
250V AC-15 = 1A
125V DC-12 = 0.4A

Panel Display

- IP65
- Rated supply voltage: 24V DC

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AX/AL Energy low level

- 125V AC-14 = 0.1A
- 30V DC-12 = 0.1A



HTC320H



HTD210H



HTP610H



HTG911H



HTG471H



HTG465H



HTG485H

P160, P250 and P630 Electronic Devices and Accessories

Description	Characteristics	Cat ref.	
AX/AL Energy For P160, P250 and P630 Energy	For communication only	★ HXS120H	
	COM + 250V AC contact wires	★ HXS121H	
	COM + 125V AC low level contact wires	★ HXS122H	
COM Module For P160, P250 and P630 Energy	Without I/O	★ HTC310H	
	With I/O	★ HTC320H	
	Side support for wire	★ HTC100H	
Panel display For P160, P250 and P630 Energy		★ HTD210H	
Spare parts	Configuration tool	★ HTP610H	
	h3+ Configurator	★ HTP010H	
	MIP adaptor for h3+	★ HTP020H	
	VGA cable 1m for HTP610H	★ HTP030H	
	Power supply for HTP610H	★ HTP040H	
	Battery for HTP610H	★ HTP050H	
24V DC Power supply For P160, P250 and P630 Energy		★ HTG911H	
CIP - Adaptor For P160, P250 and P630 Energy	0.5m long	★ HTC330H	
	1.5m long	★ HTC340H	
	3m long	★ HTC350H	
	5m long	★ HTC360H	
	10m long	★ HTC370H	
CIP - 24V Adaptor For P160, P250 and P630 Energy	1.2m long	★ HTC140H	
OAC/PTA adaptor	1.2m long	★ HTC130H	
ZSI adaptor For P160, P250 and P630 Energy	1.2m long	★ HTC150H	
NSP cable adaptor For P160, P250 and P630 Energy	1.2m long	★ HTC160H	
	Modbus cables RJ45 - RJ45	0.2m long	★ HTG480H
	For P160, P250 and P630 Energy	1m long	★ HTG481H
		2m long	★ HTG482H
5m long		★ HTG484H	
Modbus cables RJ45 - RJ45 with earth For P160, P250 and P630 Energy	1m long	★ HTG471H	
	2m long	★ HTG472H	
	5m long	★ HTG474H	
	3m long	★ HTG465H	
Modbus cable	25m long	★ HTG485H	

Indication Contacts

- 1 changeover switch (ON/OFF): indicates the position of the MCCB is 'open' or 'closed'.
- 1 changeover alarm contact: indicates MCCB tripping.

Auxiliary Contact - Coil connection

- Connection capacity: 0.75mm² flexible or rigid cables
- Optional connection cables. The cable capacity of the terminals is 0.5 to 1.25mm².

Shunt Trip

- Remote tripping of MCCBs or trip-free switches.
- Operating voltage
 - 24V DC and 48V DC: 75% to 125% x Un.
 - 100-120V, 200-240V and 380-450V: 85% to 110% x Un.

Under Voltage Release

- Allows the tripping of MCCBs when voltage level drops between 35% and 70% of Un.
- Closing voltage >85% x Un.

Direct Rotary Handle

- Padlockable
- Equipped with front cover and handle
- 1/4 turn screws to ease the mounting in front of P160-P250 MCCBs

Extended Rotary Handle

- Supplied complete with shaft and handle.

Technical information:

- [P160 - Page 194](#)
- [P250 - Page 200](#)
- [P630 - Page 208](#)

P160, P250 and P630 - Auxiliaries and Handles

Description	Characteristics	Cat ref.
AX position auxiliary contact For P160, P250 and P630 Energy		HXA021H
	Low level	★ HXA025H
AL tripping auxiliary contact For P160, P250 and P630 Energy	Left side	HXA024H
	Low level left side	★ HXA026H
	Right side	★ HXA027H
	Low level right side	★ HXA028H
Shunt trip release For P160, P250 and P630 Energy	24 V DC	HXA001H
	48 V DC	HXA002H
	100 - 120 V ~	HXA003H
	200 - 240 V ~	HXA004H
	380 - 450 V ~	HXA005H
Undervoltage release For P160, P250 and P630 Energy	24 V DC	HXA011H
	100 - 120 V ~	HXA013H
	200 - 240 V ~	HXA014H
	380 - 450 V ~	HXA015H
Delayed UVR For P160, P250 and P630 Energy	24 V DC	★ HXA051H
	110 V ~	★ HXA053H
	240 V ~	★ HXA054H
	440 V ~	★ HXA055H
Cable Kit For P160, P250 and P630 Energy	0.75 mm ² - 6 wires	★ HYA035H
Direct rotary handle	P160	★ HXS030H
	P250	★ HXT030H
	P630	★ HXW030H
Direct rotary handle with interlocking	P160	★ HXS032H
	P250	★ HXT032H
	P630	★ HXW032H
Key kit for rotary handle	P160 and P250	★ HXS888H
	P630	★ HXW888H
Rotary handle - Key lock only	P160, P250, P630	★ HXS999H
On door extended rotary handle - Kit with black IP55 handle and 200 mm shaft	P160	★ HXS031H
	P250	★ HXT031H
	P630	★ HXW031H
On door rotary handle - Black and gray IP55	P160 and P250	★ HXS901H
	P630	★ HXW901H
Shaft extension 200mm	P160 and P250	★ HXS912H
	P630	★ HXW912H
Shaft extension 320mm	P160 and P250	★ HXS913H
	P630	★ HXW913H
Shaft extension 500mm	P160 and P250	★ HXS915H
	P630	★ HXW915H
Shaft guide for door rotary handle	P160 and P250	★ HXS920H



HXA024H



HXA015H



HXA051H



HXT031H



HXS920H



HXW033H

Description

- Suitable to operate P250 & P630 MCCBs remotely
- Fast Operation
- Automatic reset option available
- Power supply: > 300VA

Motor Operator for P250

- Operating Voltage: 230V-240V AC (for other voltages please refer to MCCB manual)
- Starting current: 6A
- Operating current: 3.4A

Motor Operator for P630

- Operating Voltage: 100V-240V AC (for other voltages please refer to MCCB manual)
- Starting current: 1A

P250 and P630 - Motor Operators



HXT040H



HXT040HK



HXT043H



HXT043HK



HXB068H

Description	Characteristics	Cat ref.
Motor operator with auto-reset	P250, 24 V DC	★ HXT040H
	P630, 24 - 48 V DC	★ HXW040H
	P250, 48 V DC	★ HXT048H
	P250, 100 - 110 V AC/DC	★ HXT041H
	P630, 100 - 110 V DC	★ HXW041H
	P630, 110 - 240 V AC	★ HXW042H
Motor operator with auto-reset and Ronis key lock	P250, 24 V DC	★ HXT040HK
	P630, 24 - 48 V DC	★ HXW040HK
	P250, 48 V DC	★ HXT048HK
	P250, 100 - 110 V AC/DC	★ HXT041HK
	P630, 100 - 110 V DC	★ HXW041HK
	P630, 110 - 240 V AC	★ HXW042HK
Motor operator without auto-reset	P250, 24 V DC	★ HXT043H
	P630, 24 - 48 V DC	★ HXW043H
	P250, 48 V DC	★ HXT049H
	P250, 100 - 110 V AC/DC	★ HXT046H
	P630, 100 - 110 V DC	★ HXW046H
	P630, 110 - 240 V AC	★ HXW044H
Motor operator without auto-reset and Ronis key lock	P250, 24 V DC	★ HXT043HK
	P630, 24 - 48 V DC	★ HXW043HK
	P250, 48 V DC	★ HXT049HK
	P250, 100 - 110 V AC/DC	★ HXT046HK
	P630, 100 - 110 V DC	★ HXW046HK
	P630, 110 - 240 V AC	★ HXW044HK
Electrical interlock for Motor operator Type A	P250	★ HXB068H
	P630	★ HXD068H
	For P250 to P630 motors	★ HXB069H
Electrical interlock for Motor operator Type B		

Link Interlock Kit

- For the use of interlocking between same frame sized MCCBs, mounted side by side.

Cable Interlock

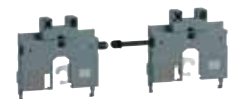
- For the use of interlocking between same or different frame sized MCCBs.
- Does not need to be mounted side by side. (2x front covers + cable for interlock)

P160, P250 and P630 - Locking Kits and Mechanical Interlocking (3P)

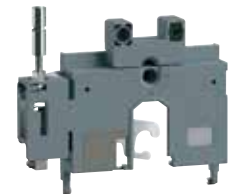
Description	Characteristics	Cat ref.
Padlocking kit		HXA039H
Locking kit for on door rotary handle		★ HZC019
Link interlock kit (3P)	P160	★ HXS165H
	P250	★ HXT165H
	P630	★ HXW165H
Mechanical interlock (1 front cover)	P160	★ HXS066H
	P250	★ HXT066H
	P630	★ HXW066H
Cable for mechanical interlock	1 m long	★ HXB070H
	1.5 m long	★ HXB071H



HXA039H



HXT166H



HXT066H



HXB070H

Fuse carriers description

Size according to DIN from 000 to 2 to suit fuses according to AS/NZS60269

Connection capacity

- 70 - 240mm

Fuse description

DIN fuses with a breaking capacity up to 120kA at 500V

- Class gG
- IEC 60269
- sizes from 000 to 2

Technical information: [Page 213](#)



LNH0080M



LNH2160M

NH Fuses

Description	Current rating (A)	Cat ref.
Size 000	50A	LNH0050M
	63A	LNH0063M
	80A	LNH0080M
	100A	LNH0100M
Size 00	125A	LNH0125M
	160A	LNH0160M
Size 1	100A	LNH1100M
	125A	LNH1125M
	160A	LNH1160M
	200A	LNH1200M
	250A	LNH1250M
Size 2	160A	LNH2160M
	200A	LNH2200M
	250A	LNH2250M
	315A	LNH2315M
	400A	LNH2400M

Fuse Switch Disconnectors



LT150

Description	Cat ref.
Suits 3 x size 00 160A DIN blade fuses	LT052
Suits 3 x size 1 250A DIN blade fuses	LT150
Suits 3 x size 2 400A DIN blade fuses	LT250

Description

The HA series is a range of multi-pole load disconnecter switches with manual operation. They enable making and breaking on load and safety isolation of any low voltage installation.

Technical data

- Visualised breaking
- Double breaking per phase
- 3 or 4 pole
- Padlockable handle
- Auxiliary contacts
- Rotary handles
- Extension shafts
- Complying with IEC60947-3

For replacement parts,
please contact customer service
on 1300 850 253

Technical information: [Page 214](#)

*Please check availability with your local Hager sales office at time of order

Load Break Switches - DIN or Screw Mount

Description	Width	Characteristics	Module mm	Cat ref.
3 pole 400V~	6 mod	In 80A	108	HA304
	6 mod	In 100A	108	HA305
	6 mod	In 125A	108	HA306
	8.5 mod	In 160A	142	HA307
	8.5 mod	In 200A	142	HA308
	8.5 mod	In 250A	142	HA309M
4 pole 400V~	6 mod	In 125A	108	HA406
	8.5 mod	In 200A	142	HA408



HA305

Accessories

Description	Characteristics	Module mm	Cat ref.
Auxiliary contacts	1NC + 1NO		HZ022
Terminal shrouds	To suit HA307/HA308/HA408 Switch line or load side (Cable lug connection)	1 mod	HZ062
	To suit HA307/HA308 Switch line or load side c/- cable clamp	1 mod	HZ072
Interlocked handle - Black IP55 for use with extension shaft only NOTE: does not replace rotary handle	80 to 200A (Not suited for HA309M)		HZC001
Extension shaft - 200mm	80 to 200A (Not suited for HA309M)		HZC103



HZC001



HZC103



HZ022



HZC062



HZC072

Description

The HA Series is a range of multi-pole load disconnecter switches with manual operation. They enable making and breaking on load and safety isolation of any low voltage installation. Fibreglass reinforced polyester case, self extinguishable, resists creepage distance and arc, tropicalised.

Technical data

- lth (40°): 250 to 1600A
- Un 400 / 690V AC
- Visualised breaking
- Double breaking per phase
- 3 or 4 pole
- Padlockable handle
- Auxiliary contacts

NOTE: Handles and shaft must be ordered separately.

For replacement parts, please contact customer service on 1300 850 253

Technical information: [Page 214](#)

Standards

- Compliant with IEC60947-3

*Please check availability with your local Hager sales office at time of order



HA354

Load Break Switches - Screw Mount Only

Description	Characteristics	Cat ref.
3 pole 400V~	In 250A	HA354
	In 400A	HA356
	In 630A	HA358
	In 800A	HA360
	In 1250A	HA362
	In 1600A	HA364
4 pole 400V~	In 400A - AC23	HA457
	In 630A - AC23	HA458

Main switchgear



HZC003

Accessories

Description	Characteristics	Modules	Cat ref.
Auxiliary contacts	125 to 1600A 1NO + 1NC AC1, 5A, 250V		HZ023
Terminal shrouds - 3 pcs	To suit HA354 Switch line or load side	1 mod	HZC203
	To suit HA356/HA358/ Switch line or load side	1 mod	HZC205
Interlocked handle - Black IP55 for use with extension shaft NOTE: does not replace rotary handle	100 to 630A		HZC002
	800 to 1600A		HZC003
Extension Shaft - 320mm	100 to 630A		HZC102
	800 to 1600A		HZC106



HZC106



HZ023



HZC203

Automatic transfer switches
63A to 1600A
Selection guide



Type of transfer	HIC4xxA	HIB4xxM	HIC4xxG	HIC4xxE
Emergency manual transfer via handle	•	•	•	•
Remote controlled transfer using dry contact piloting (RTSE)		•		
Automatic transfer (ATSE)	•		•	•
Number of poles				
4P	•	•	•	•
Supply type				
230 VAC single power supply		•		
230 VAC dual power supply	•		•	•
Connection of remote control interface				
Remote display D10			•	
Remote control interface D20				•
Automatic controller configuration				
Configuration by potentiometers and dip switches	•		•	
Configuration by screen and keyboard				•
Auto-configuration of the voltage and frequency			•	•
Application				
Generator - Generator applications		• (1)		
Network - Generator application	•	• (1)	•	•
Network - Network application	•	• (1)	•	•
Specific functions for gensets				
On load test	•		•	•
Off load test			•	•
Inputs / outputs				
Fixed inputs / outputs	•	•	•	
Configurable inputs / outputs (e.g. watchdog, load shedding)				•
Automatic controller functionalities				
Contact for availability status	•	•	•	•
Control of voltages and frequency	•		•	•
Control of phase rotation			•	•
Phase unbalance control				•
LED display of source availability	•		•	•
LED display of positions			•	•
Display of meters & voltage/frequency measurements				•
Load shedding				•
Display & measure power & energy (with CT option)				•
Supervision (with optional module)				
Scheduling of generator start-up				•
RS485 communication				•
Ethernet communication (optional)				•
Webserver via Ethernet module (optional)				•
Data log				•

(1) using an external controller.

Automatic Transfer Switches

Automatic transfer switches allow automatic switching, changeover switching or ON load power circuit permutation.

For safety breaking. Can be mounted on perforated plates or DIN rail.

Terminal Shrouds

IP2X protection against direct contact with terminals or connecting parts. Perforations allow remote thermographic inspection without removing the shrouds. (1) For complete shrouding at front, rear top and bottom, order qty x 4; if equipped with bridging bars order Qty x 3. (2) For top and bottom shrouding for the front only, order Qty x 2.

Terminal Screens

Upstream and downstream protection against direct contact with terminals or connection parts. For upstream and downstream protection order Qty x 1.

Bridging Bars

For bridging power terminals on the upstream or downstream side of the switch. One reference required per ATS.

Voltage Tapping and Power Supply Kit

For power supply and voltage measurement. Routing of the conductors is controlled, which means that no specific protective device is necessary for the connections. The kit can be fitted on the top or bottom of the switch.

For replacement parts, please contact customer service on 1300 850 253

Technical information: [Page 215](#)



HIC416A

Modular Automatic Transfer Switches (63A - 160A)

Description	In/A	Cat. ref. with energy mngmt.
4 pole	63	HIC406A*
- 3 positions: 0-I-II	80	HIC408A*
- Lockable in position: 0	100	HIC410A*
- Complies with EN 60947-3	125	HIC412A*
- Connection on copper conductors with collar terminals	160	HIC416A*



HZC218

Accessories

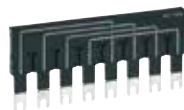
Description	Characteristics	Cat ref.
Terminal shrouds top and bottom - 2 pieces per pack	for HIC4xxA switches	HZC218*
Auxiliary contacts 1NO + 1NC	for switches 125 to 200 A	HZI300*
Single phase voltage sensing taps - For switch control circuit supply	2 conductors per pole	HZI230*
Bridging bars 2 x 4P	for HIC4xxA 63A to 125A	HZI400*
	for HIC416A	HZI401*
Sealable cover	for HIC4xxA switches	HZI210*



HZI300



HZI230



HZI400



HZI210

Description

Automatic transfer switches allow automatic switching, changeover switching or ON load power circuit permutation. For safety breaking.

**For replacement parts,
please contact customer service
on 1300 850 253**

Technical information: [Page 216](#)

Features

- 4 pole
- Mounting on plain or perforated plates.
- Lockable in position: O

Standards

- Compliant with EN 60947-3

*Please check availability with your local Hager sales office at time of order

Automatic Transfer Switches

Description	In/A	Cat ref. w/o autom. transf. relay	Cat ref. with autom. transf. relay	Cat ref. with energy mngmt.
4 pole - 3 positions: 0-I-II	125	HIB412M*	HIC412G*	HIC412E*
	160	HIB416M*	HIC416G*	HIC416E*
	200	HIB420M*	HIC420G*	HIC420E*
	250	HIB425M*	HIC425G*	HIC425E*
	400	HIB440M*	HIC440G*	HIC440E*
	630	HIB463M*	HIC463G*	HIC463E*
	800	HIB480M*	HIC480G*	HIC480E*
	1000	HIB490M*	HIC490G*	HIC490E*
	1250	HIB491M*	HIC491G*	HIC491E*
1600	HIB492M*	HIC492G*	HIC492E*	



HIC425G

Main
switchgear

Automatic Transfer Switch Accessories

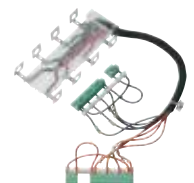
Description	Characteristics	Cat ref.
Terminal shrouds	4P In/A: 125 to 200A	HZC202*
	4P In/A: 200 to 400A	HZC204*
	4P In/A: 400 to 630A	HZC206*
Terminal covers	for switches 125 to 200A	HZI201*
	for switches 250 to 400A	HZI202*
	for switches 630A	HZI203*
	for switches 800 to 1250A	HZI204*
	for switches 1600A	HZI205*
Busbars	for switches 125 to 200A	HZ156*
	for switches 250A	HZ157*
	for switches 400A	HZ158*
	for switches 630A	HZ159*
	for switches 800 to 1000A	HZ162*
	for switches 1250A	HZ163*
	for switches 1600A	HZ164*
Voltage tapping and power supply kits	for switches 125 to 200A	HZI410*
	for switches 250A	HZI411*
	for switches 400A	HZI412*
	for switches 630A	HZI413*
	for switches 800/1000A	HZI414*
	for switches 1250A	HZI415*
	for switches 1600A	HZI416*
Selection Auto/Manual key	for switches 125 to 200A	HZI010*



HZC002



HZI205



HZI411

Auxiliary contacts

Pre-break and signalling of positions I and II: each reference provides 1 NO/ NC auxiliary contact for positions I and II. possibility to install up to 2 auxiliary contacts for each position.

Remote interfaces

To remotely display source availability and position indication typically used on the front of a panel when the product is enclosed. Interfaces are powered from the ATS transfer switch via the RJ45 connection cable. Max. cable length = 3m

Sealable cover

Prevents access to the configuration of HIB4xxM and HIC4xxG devices (seals supplied).

Control relays

Ensure the automatic control of remotely controlled transfer switches. Characteristics

- Inputs for auxiliary contact position information.
- 3U measurement on network 1 and 1U on network 2.
- 2 programmable inputs for the following functions: test on/off load, manual retransfer, start/stop transfer cycle.

- Up to 2 programmable outputs for the following functions: source availability information and circuit breaker control.
 - 1 relay output for genset control.
 - HZI910 or HZI911 remote interfaces are available for transferring data or control to the front panel (only HZI811 version).
- Advantages
- Modular products (6 modules, 105mm wide) which can be DIN-rail mounted.
 - The products are used with Hager transfer switches, or those using identical technology.

- Compatible with contactor and circuit breaker technologies.

For replacement parts, please contact customer service on 1300 850 253

Auxiliary Contacts

Description		Cat ref.
Auxiliary contacts	for switches 125 to 630A	HZI160*



HZI911

Remote Interfaces

Description	Characteristics	Cat ref.
Displays source availability and position indication on the front panel of an enclosure. IP21	For HIB4xxM and HIC4xxG Changeover status display	HZI910*
In addition to the functions of the HZI910, displays measurements and enables control and configuration from the front of a panel. IP21	For HIC4xxE Changeover status and control display	HZI911*



HZI210

Sealable Cover

Description	Characteristics	Cat ref.
Sealable cover	For HIB4xxM and HIC4xxG	HZI210*



HZI810

Control Relays

Description	Characteristics	Cat ref.
Supplied from measurement circuit		HZI810*
	can be used with HZI910 or HZI911	HZI811*



HZI811

Description

Manual transfer switches allow manual switching, changeover switching or ON load power circuit permutation. For safety breaking.

Technical data

- 4 pole
- Mounting on perforated plates or crossbars.
- Lockable in position: I, O or II

HI452, HI454 and HI456 can be mounted in quadro M distribution boards.

Standards

- Compliant with EN 60947-3

For replacement parts,
please contact customer service
on 1300 850 253

Technical information: [Page 218](#)

*Please check availability with your local Hager sales office at time of order

Manual Transfer Switches

Description	In/A	Cat ref.
4 pole	160	HI452*
Non-modular design	250	HI454*
	400	HI456*
	630	HI458*
	800	HI460*
	1250	HI462*
	1600	HI464*



HI452

Main switchgear

Manual Transfer Switch Accessories

Description	Characteristics	Cat ref.
Interlocked handle for use with extension shaft - 3 positions: 0-I-II - Locked with 3 padlocks NOTE: does not replace rotary handle	160 to 630A	HZI002*
	800 to 1600A	HZI003*
Extension Shaft - 320mm	160 to 630A	HZC102
	800 to 1600A	HZC106
Auxiliary contacts	125 to 1600A, 1 NO + 1 NC	HZ160*
Terminal shrouds	4P In/A: 125 to 200A	HZC202*
	4P In/A: 200 to 400A	HZC204*
	4P In/A: 400 to 630A	HZC206*
Terminal covers	for switches 125A/160A 4P	HZI201*
	for switches 250 to 400A	HZI202*
	for switches 630A	HZI203*
	for switches 800 to 1250A	HZI204*
	for switches 1600A	HZI205*
Busbars	for switches 160A	HZ156*
	for switches 250A	HZ157*
	for switches 400A	HZ158*
	for switches 630A	HZ159*
	for switches 800 to 1000A	HZ162*
	for switches 1250A	HZ163*
	for switches 1600A	HZ164*



HZI002



HZC102



HZ160



HZC202

Description

Hager's HFD Series (Isolators) are manually operated multipolar fuse combination switches. They break or switch OFF/ON load and provide safety isolation with protection against over current for any low voltage electrical circuit.

Features

- Double break by phase (top and bottom of fuse)
- Protection against overcurrent by fuse circuit-breakers with high breaking capacity (100kA eff.)
- IP2 protection with terminal shrouds
- Compact
- TEST position for testing control circuits without power using U type auxiliary contacts.

Standards

- Compliant to:
- IEC 6094-3
 - IEC 60269-1
 - IEC 60269-2
 - EN 60947-3
 - DIN 43620
 - VDE 0636-10
 - VDE 0660 Part 107

Note: Interlocked handle and shaft must be ordered separately.

For replacement parts, please contact customer service on 1300 850 253

*Please check availability with your local Hager sales office at time of order



HFD312

Fuse Combination Switches with handle

Description	In/A	Fuse sizes	Length (mm)	Modules (17.5mm)	Cat ref.
3 pole 400V~	125	00	120	min. 24	HFD312*
	160	000	120	min. 24	HFD316*
	250	1	120	min. 72	HFD325*
	400	2	120	min. 72	HFD340*

Main switchgear



HZC002

Fuse Combination Switch Accessories

Description	Characteristics	Cat ref.
Interlocked handle - Black IP55 for use with extension shaft NOTE: does not replace rotary handle	125 to 400A	HZC002*
Extension Shaft - 320mm	125 to 400A	HZC102*
Auxiliary contacts - suitable for switches 125 to 400A	1 NO	HZF301*
	1 NC	HZF302*
Terminal shrouds	3P In/A: 100 to 160A	HZF202*
	3P In/A: 250 to 400A	HZF204*



HZC102



HZF301





HZF204

Description

This range of earth leakage relays were designed on an electronic basis, which ensure the monitoring of earth fault currents. When the fault current rises above the selected level, the outputs of the relay operate & depending on the relay selected, it can have both adjustable sensitivity and time delay that can provide selectivity/discrimination. The relays are linked with detection toroids.

Common features

- Fixed & adjustable devices
- Positive safety: the relay trips in the event of a break in the connection between relay & toroid.
- Positive / local reset required after a fault is detected.
- Protected against nuisance tripping 
- Class A 
- Visual display of fault
- Output: 1c/o contact 250V~ 6A AC1
- Supply voltage 230V +/- 20% 50/60Hz

Connection capacity

- Flexible - 1 to 2.5mm
- Stranded/rigid - 1.5 to 4mm

Standards

- Standard DIN EN60947-2, IEC60755, IEC61008-8

Premium features

- Adjustable sensitivity & time delay (sealable)
- Display of fault current prior to triggering relay (5%-75%)
- Extra output contact (250V-AC1/6A) to enable remote indication of fault currents above 50% of I_{rn}
- Remote test and reset by three wire link

Technical information: [Page 220](#)

Earth Leakage Relays

Description	Width	Cat ref.
Without delay c/o contact 250V 6A ~ AC1 Fixed sensitivity = 300mA Trips immediately	1 mod	HR502
Standard c/o contact 250V 6A ~ AC1 Adjustable sensitivity I _{rn} = 0.03/0.1/0.3/0.5/1/3/10A Adjustable time delay rt= 0/0.1/0.3/0.4/0.5/1/3sec	3 mod	HR510
Premium c/o contact 250V 6A ~ AC1 Fail safe contact 250V 6A ~ AC1 Pre-alarm contact 250V 6A ~ AC1 Adjustable sensitivity I _{rn} = 0.03/0.1/0.3/0.5/1/3/10A Adjustable time delay rt= 0/0.1/0.3/0.4/0.5/1/3sec Bargraph = 5% - 75% I _{rn}	3 mod	HR520
Integral toroid c/o contact 250V 6A ~ AC1 Adjustable sensitivity I _{rn} = 0.03/0.1/0.3/0.5/1/3A Adjustable time delay rt= 0/0.1/0.3/0.5/0.75/1sec Ø of toroid: 35mm	6 mod	HR441



HR510



HR520

Main switchgear

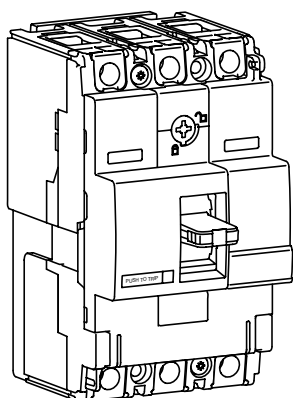
Circular Section Toroids

Characteristics	Cat ref.
Inside Ø of toroid: 30mm	HR700
Inside Ø of toroid: 35mm	HR701
Inside Ø of toroid: 70mm	HR702
Inside Ø of toroid: 105mm	HR703
Inside Ø of toroid: 140mm	HR704



HR700

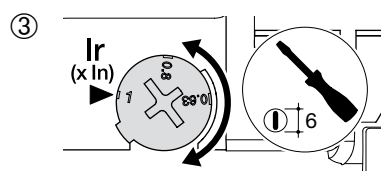
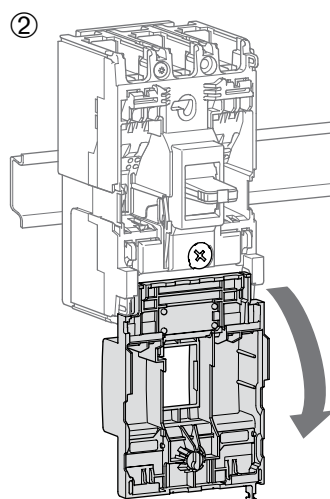
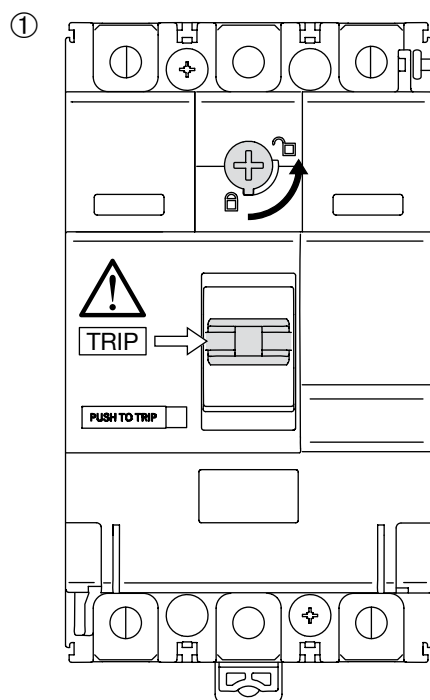
MCCBs



x160 TM		220/240V AC IEC 60 947-2	380/415V AC IEC 60 947-2
HHA	Icu	35 kA	25 kA
	Ics	25 kA	20 kA
HNA	Icu	85 kA	40 kA
	Ics	40 kA	20 kA

Magnetic and thermal settings

Main switchgear



Thermal adjustment from 0.63 to 1 x I_n

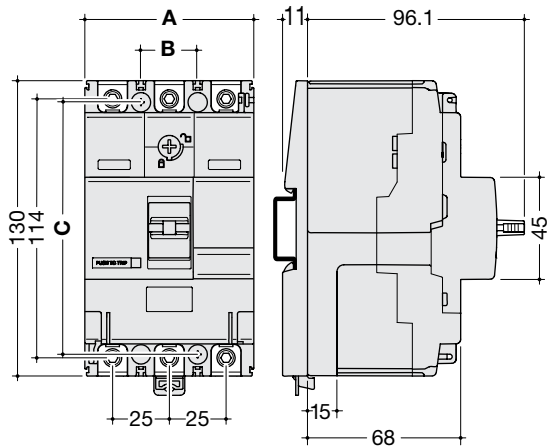
TM - Thermal magnetic setting

I _n	16 - 50 A	63 - 80 A	100 - 125 A	160 A
I _{mag}	600 A	1000 A	1500 A	1600 A

Magnetic adjustment fixed > 10 x I_n

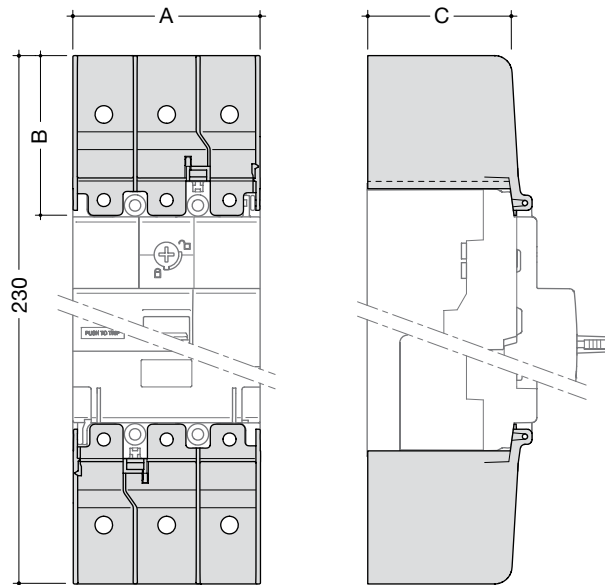
Dimensions

MCCB x160



	A (mm)	B (mm)	C (mm)
1P	24.8	25	111
2P	49.5	25	111
3P	74.5	25	111
4P	99.5	25	111

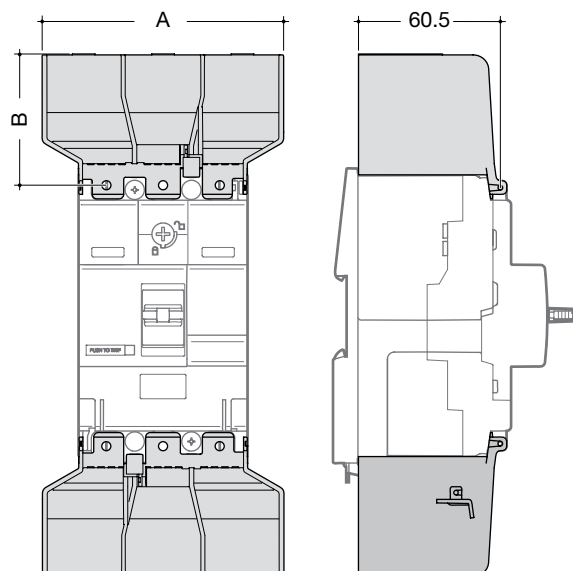
Terminal covers for extended straight connections



	A (mm)	B (mm)	C (mm)
1P	24.4	50	60.5
2P	49.5	50	60.5
3P	74.5	50	60.5
4P	99.5	50	60.5

Main switchgear

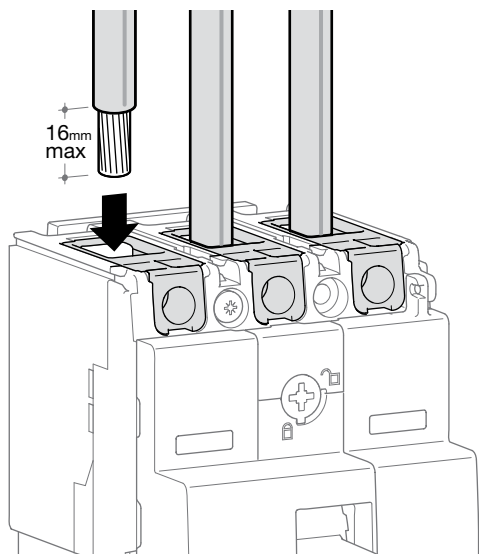
Terminal cover for extended spreader connections



	A (mm)	B (mm)	C (mm)
3P	106.5	50	60.5
4P	141.5	50	60.5

Connection

Connection with end lugs

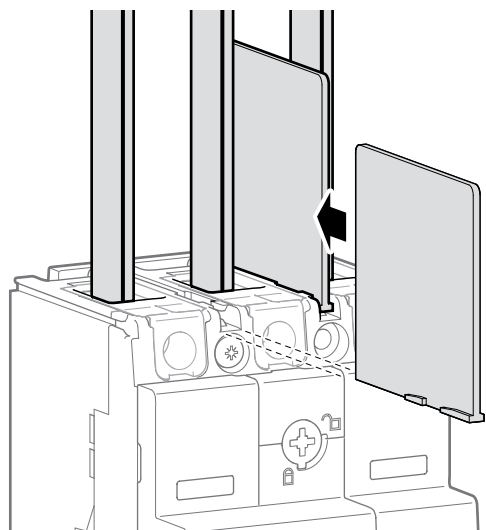


	min. 6°	max. 70°
	min. 6°	max. 95°
4	6Nm	

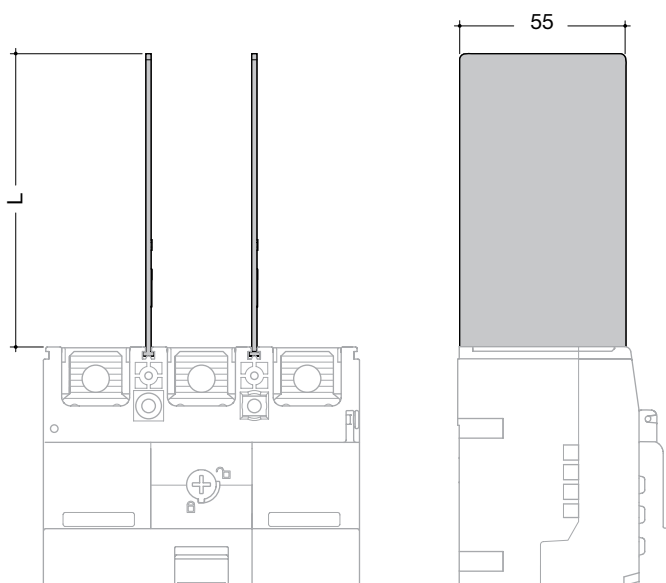
	min. 6°	max. 150°
	min. 35°	max. 185°
8	35° to 50° = 25Nm 60° to 185° = 25Nm	

Main switchgear

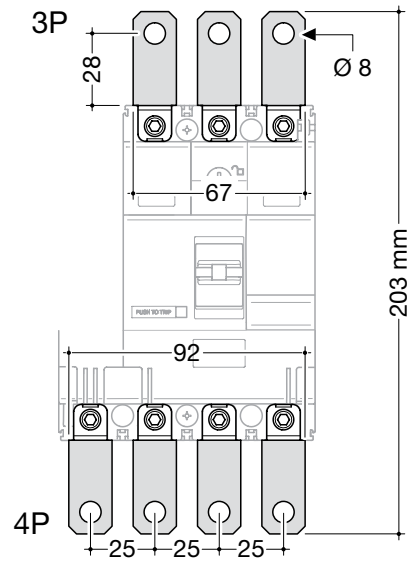
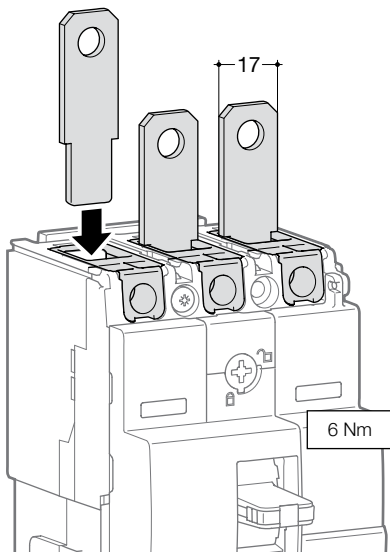
Interphase barriers



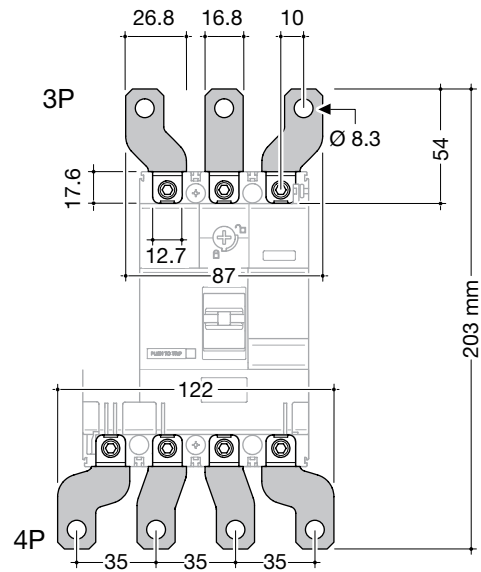
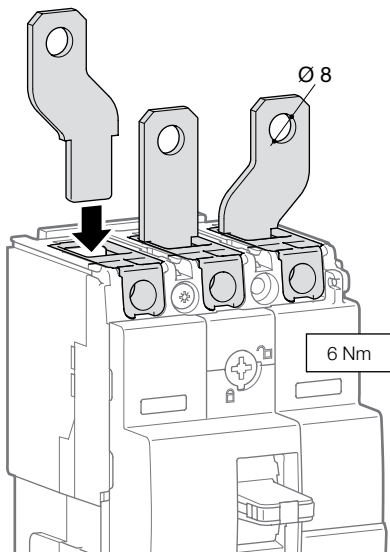
	L (mm)
HYA019H	50



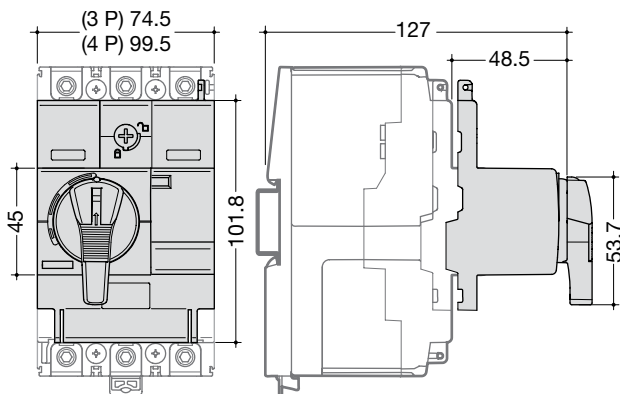
Extended straight connections



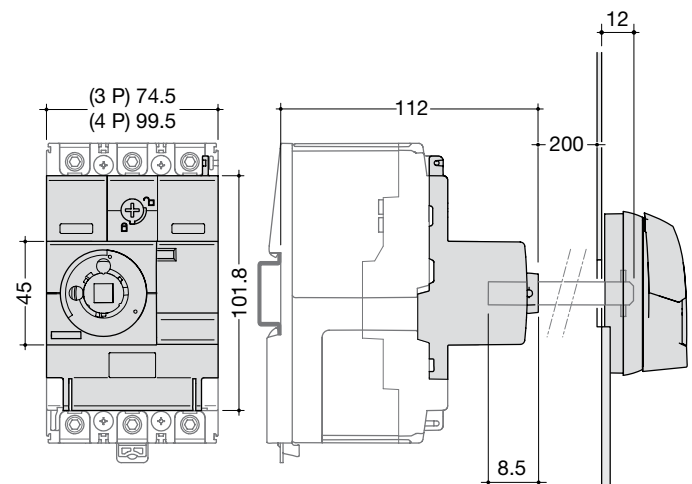
Extended spreader connections



Direct rotary handle

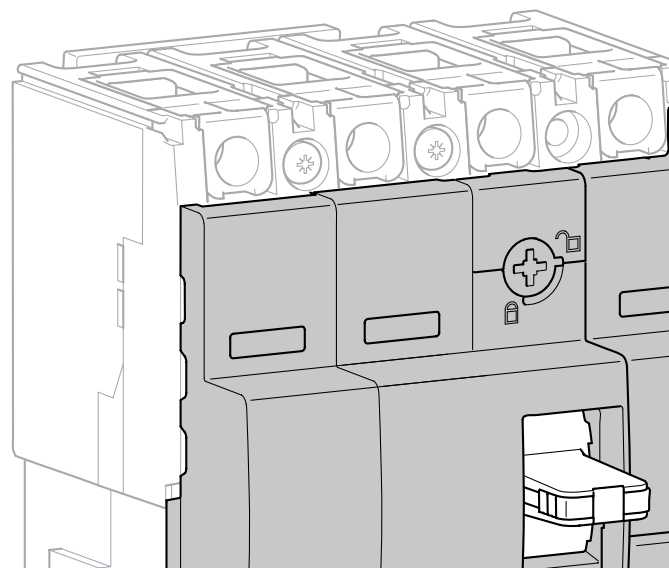
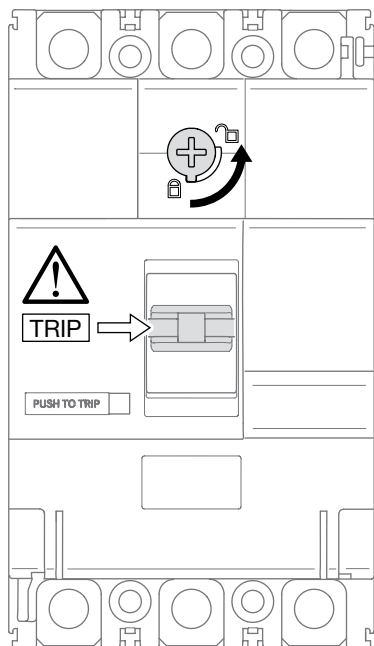


Extended rotary handle



Auxiliaries

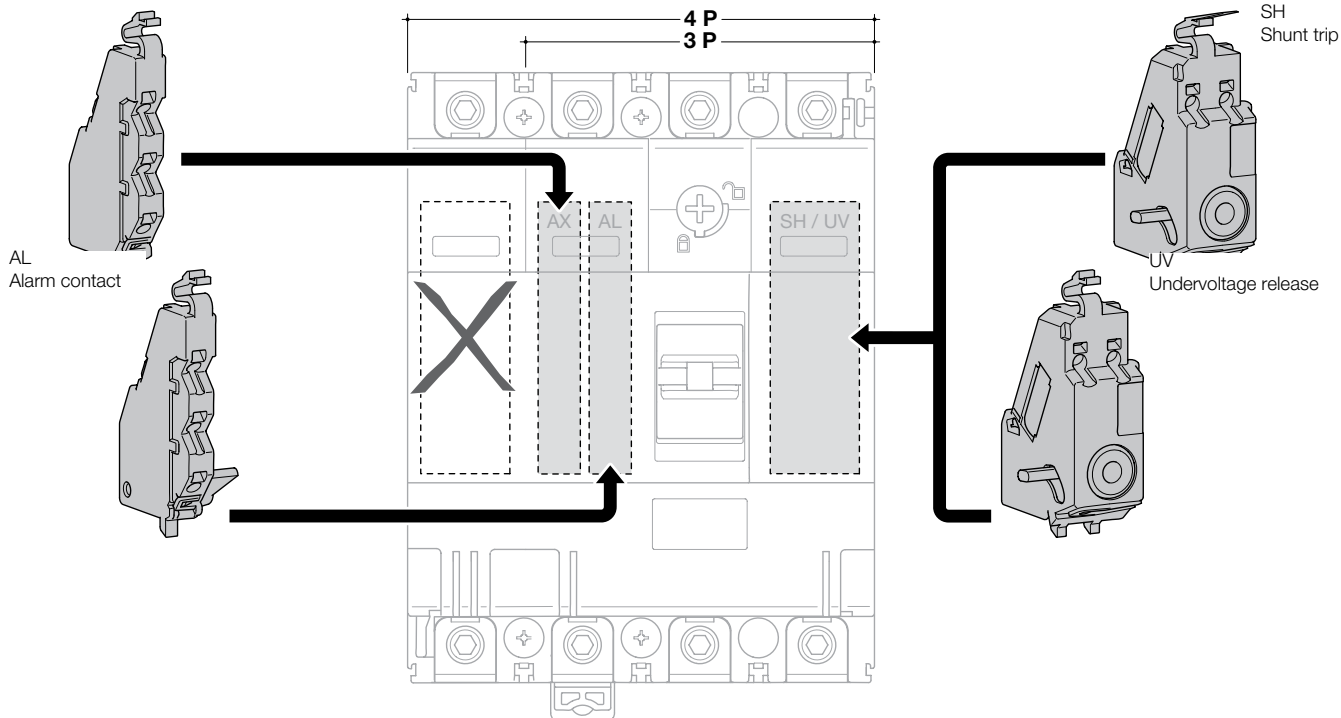
Auxiliaries for MCCBs



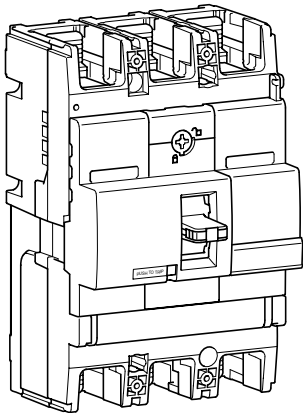
Main switchgear

Mounting combination for auxiliaries and releases

AX
Auxiliary contact

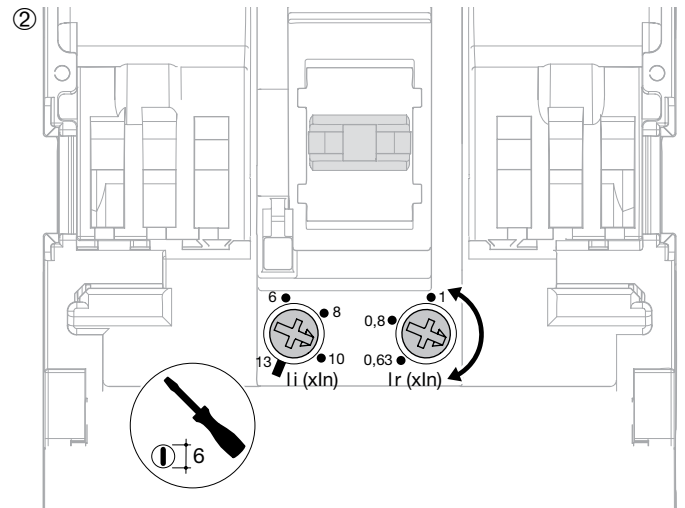
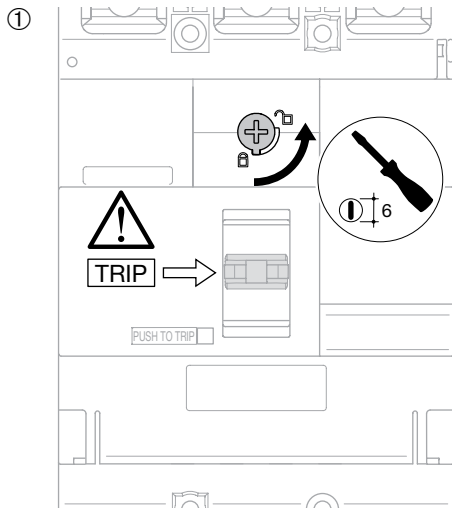


MCCBs



x250 TM		220/240V AC IEC 60 947-2	380/415V AC IEC 60 947-2
HNB	Icu	85 kA	40 kA
	Ics	40 kA	20 kA

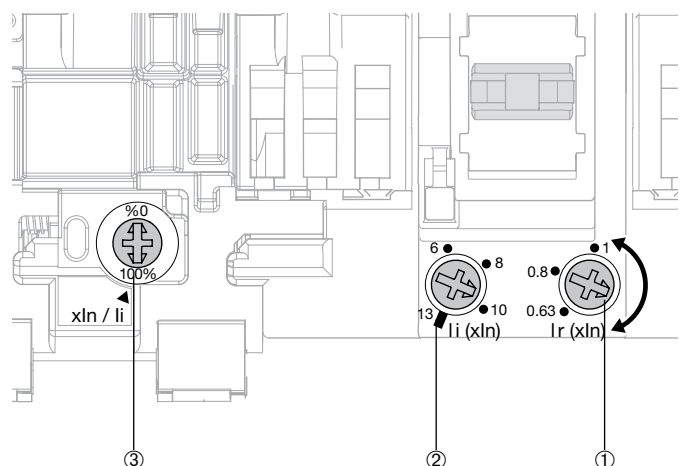
Magnetic and thermal settings



Thermal adjustment from 0.63 to 1 x I_n
 Magnetic adjustment from 6 to 13 x I_n (100 - 200A)
 from 5 to 11 x I_n (250A)

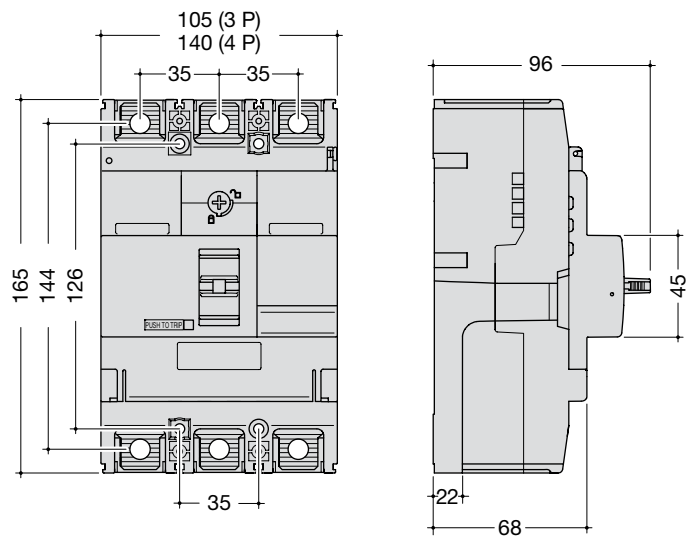
TM - Thermal magnetic setting

	100 - 200A	250A
I _r (x I _n) â	0.63 - 0.8 - 1 x I _n	
I _i (x I _n) ê	6 - 8 - 10 - 13 x I _n	5 - 7 - 9 - 11 x I _n
x I _n /I _i ô	0 - 100%	



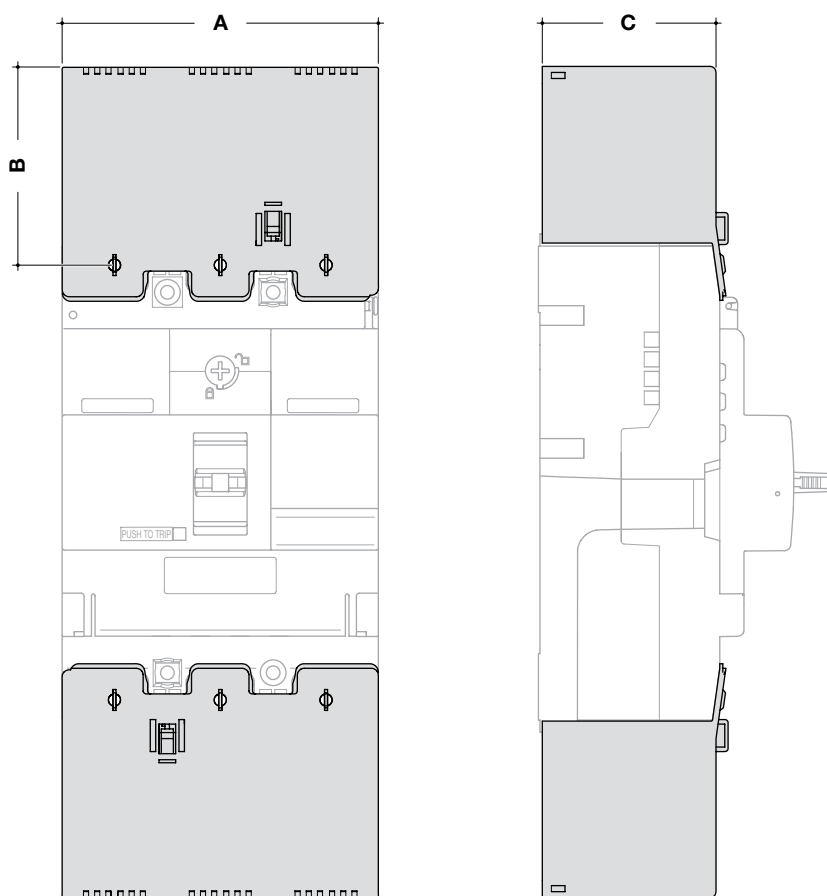
Dimensions

MCCB x250



Main switchgear

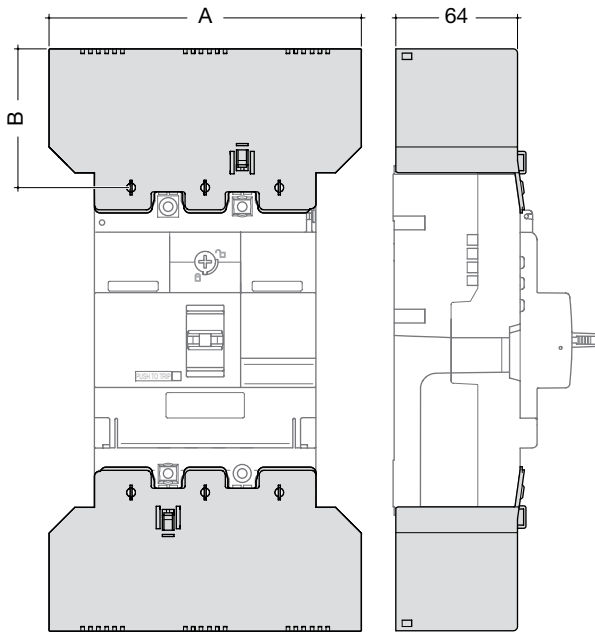
Terminal covers for extended straight connections



	A (mm)	B (mm)	C (mm)
3P	105	54.5	64
4P	140	54.5	64

Accessories

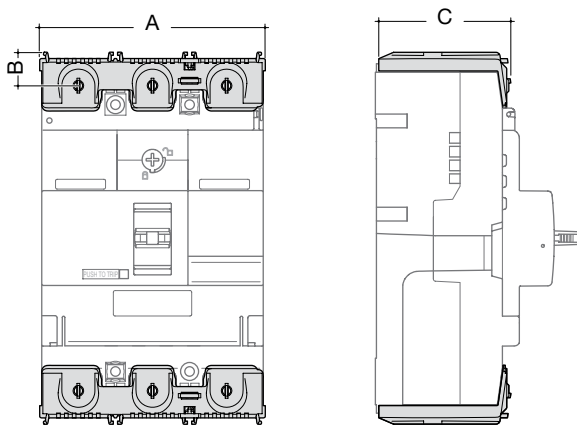
Terminal cover for extended spreader connections



	A (mm)	B (mm)	C (mm)
3P	147.5	54.5	64
4P	196	54.5	64

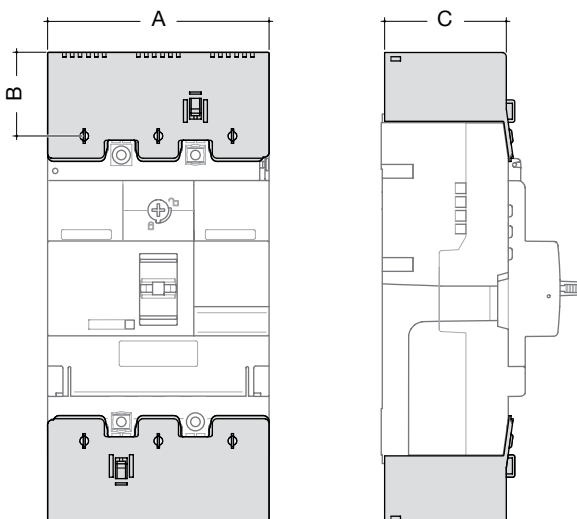
Main switchgear

Terminal cover for rear connections



	A (mm)	B (mm)	C (mm)
3P	105	5	64
4P	140	5	64

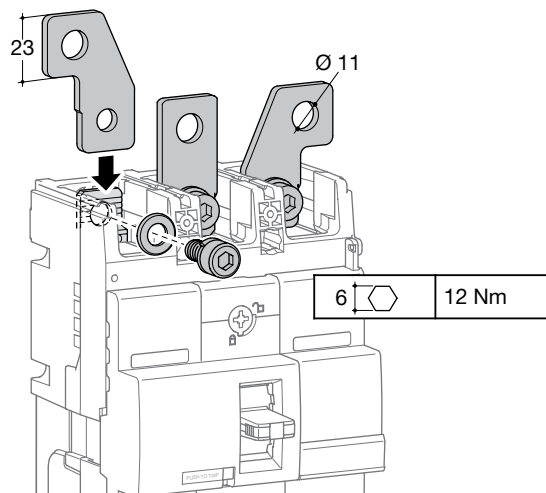
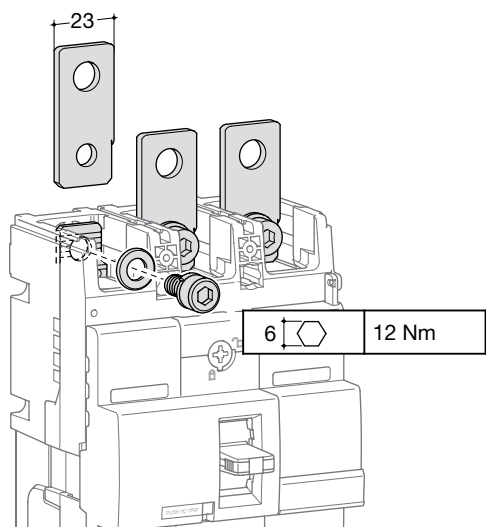
Terminal covers for collar terminals



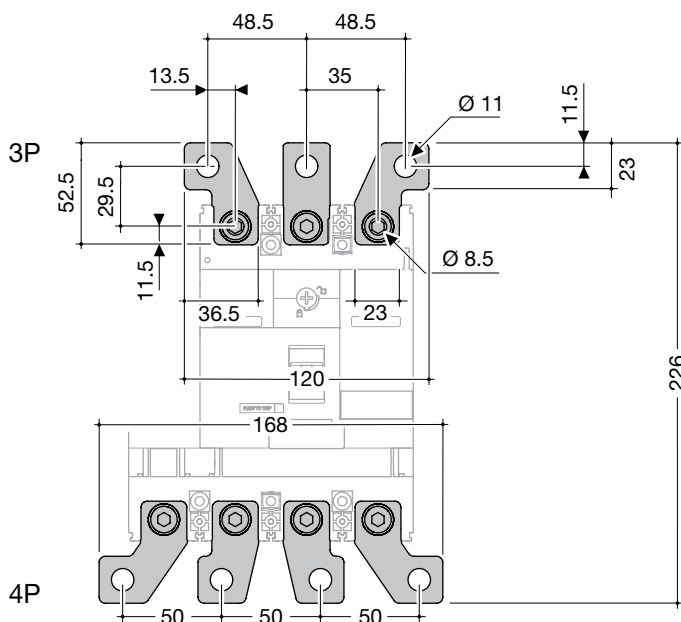
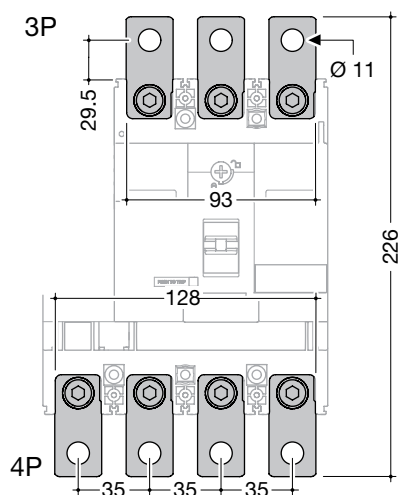
	A (mm)	B (mm)	C (mm)
3P	105	28.5	64
4P	140	28.5	64

Connection

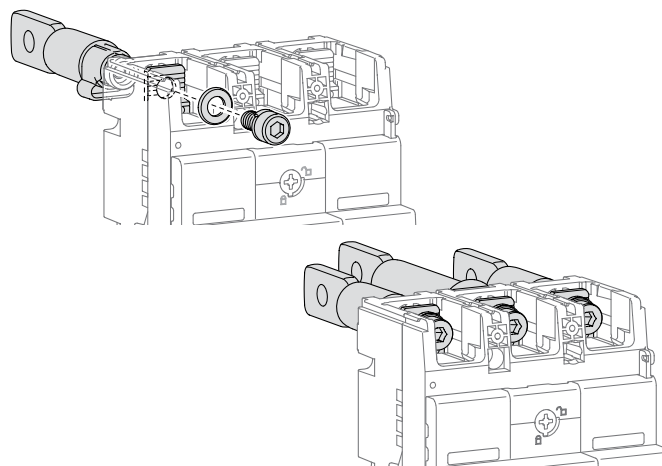
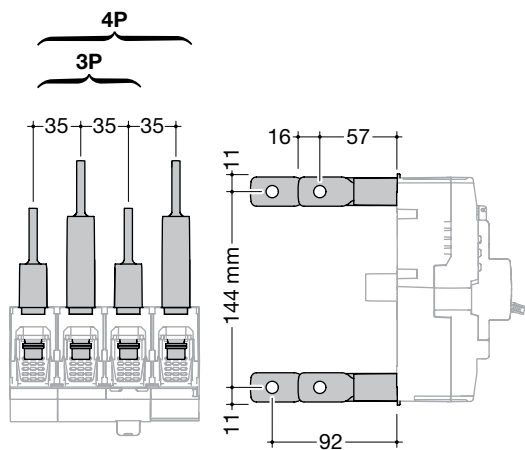
Extended straight and spreader connections



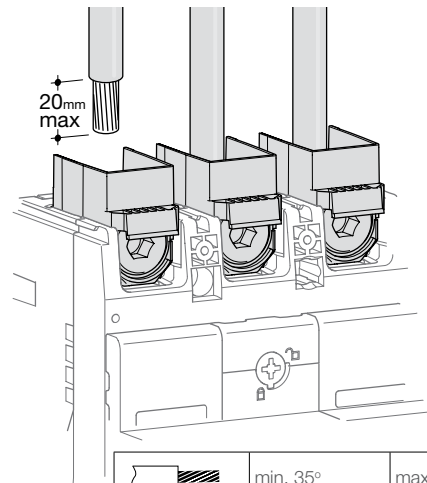
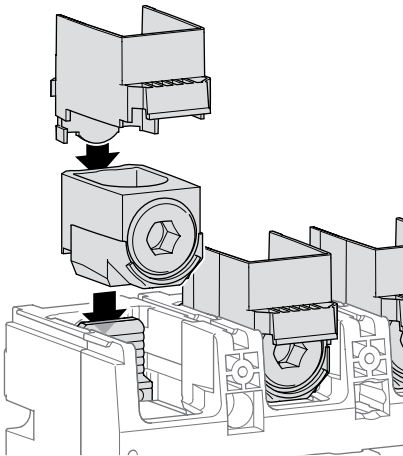
Main switchgear



Rear connections

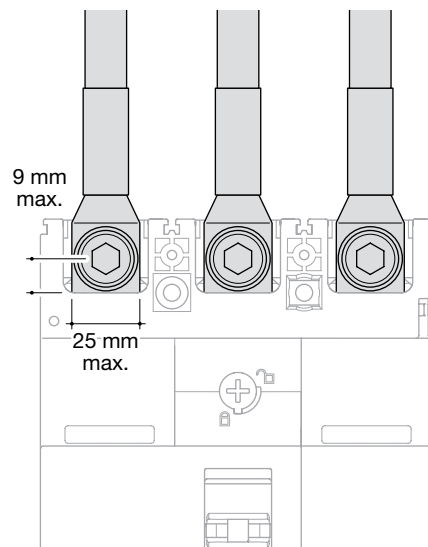
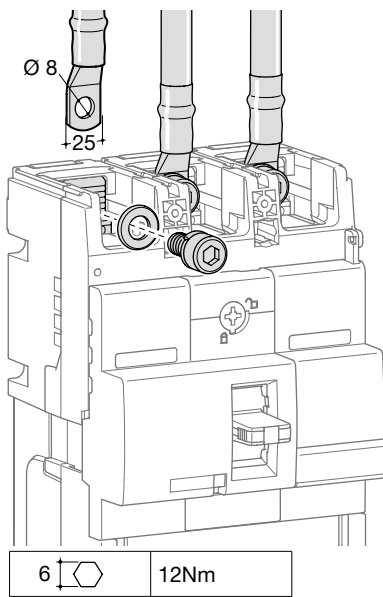


Connection by collar



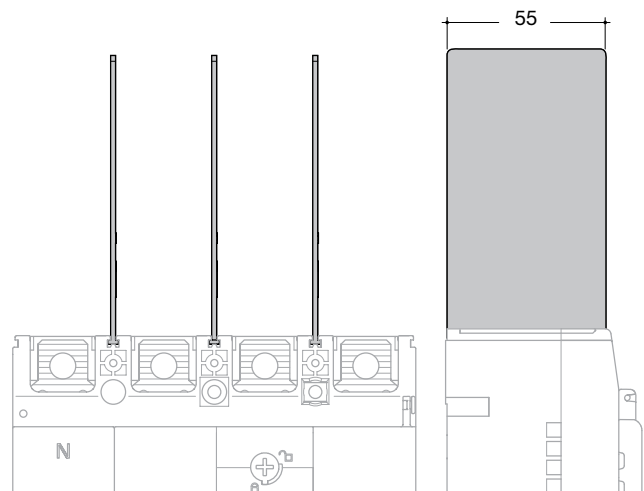
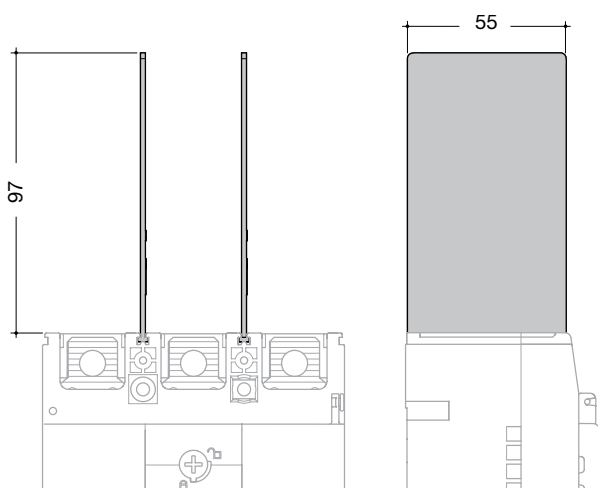
	min. 35°	max. 150°
	min. 35°	max. 185°
	35° to 50° = 25Nm 60° to 185° = 25Nm	

Connection with end lugs



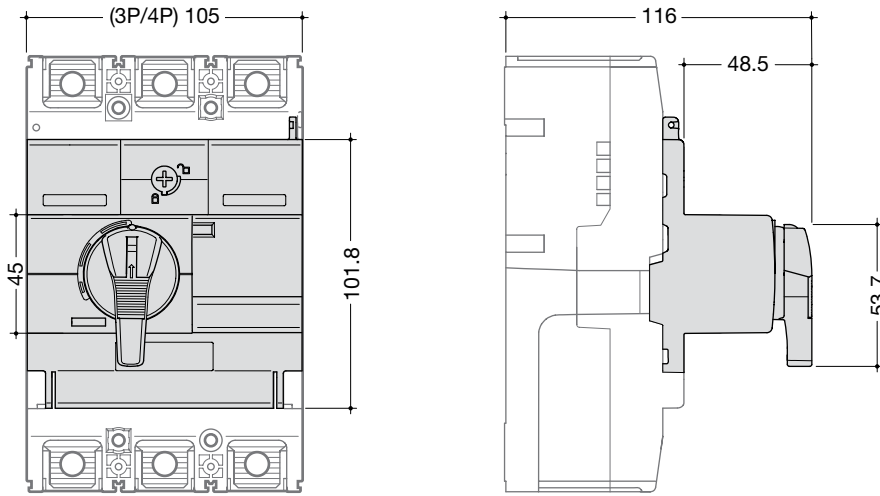
	12Nm
--	------

Interphase barriers

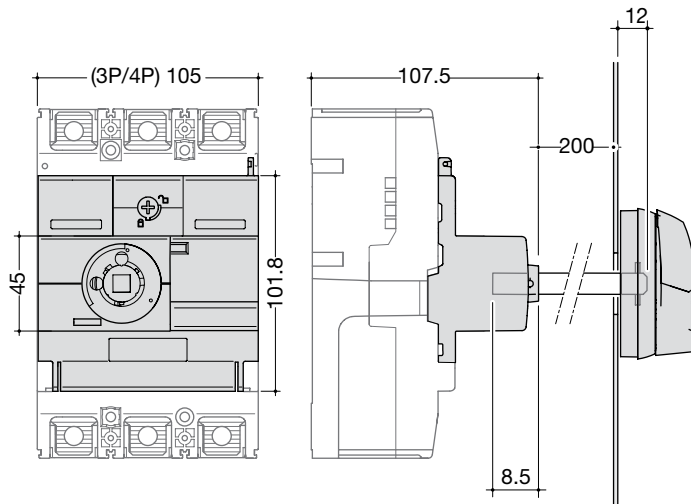


Accessories

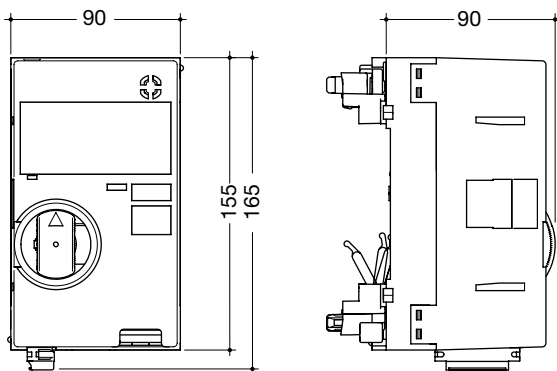
Rotary handle



Extended rotary handle



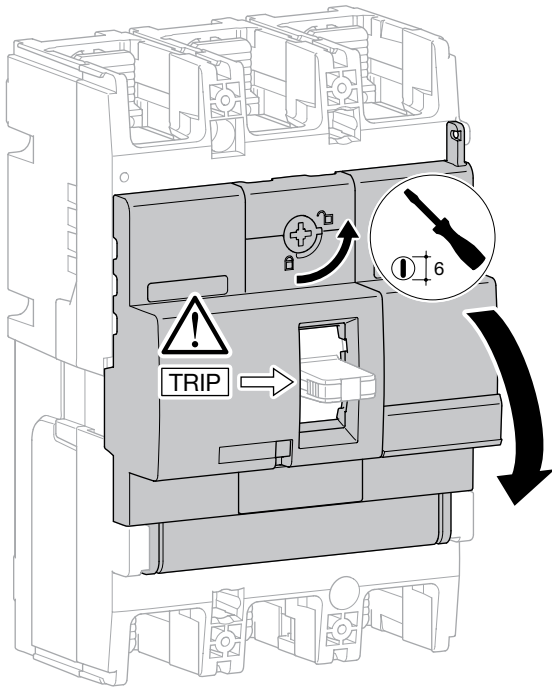
Motor operator



Rated operating voltage	24V DC	HXB040H
	230-240V AC	HXB042H
Operating current (A)	24V DC	18
	230-240V AC	4
Starting current (A)	24V DC	26
	230-240V AC	8
Operating method		direct drive
Operating time (s)	ON	0.1
	OFF	0.1
	RESET	0.1
Operating switch rating	100V, 0.1A, opening voltage 44V, current 4mA	
Power supply required	300 VA minimum	
Dielectric properties (1min)	24V DC	1000 V AC
	230-240V AC	1500 V AC

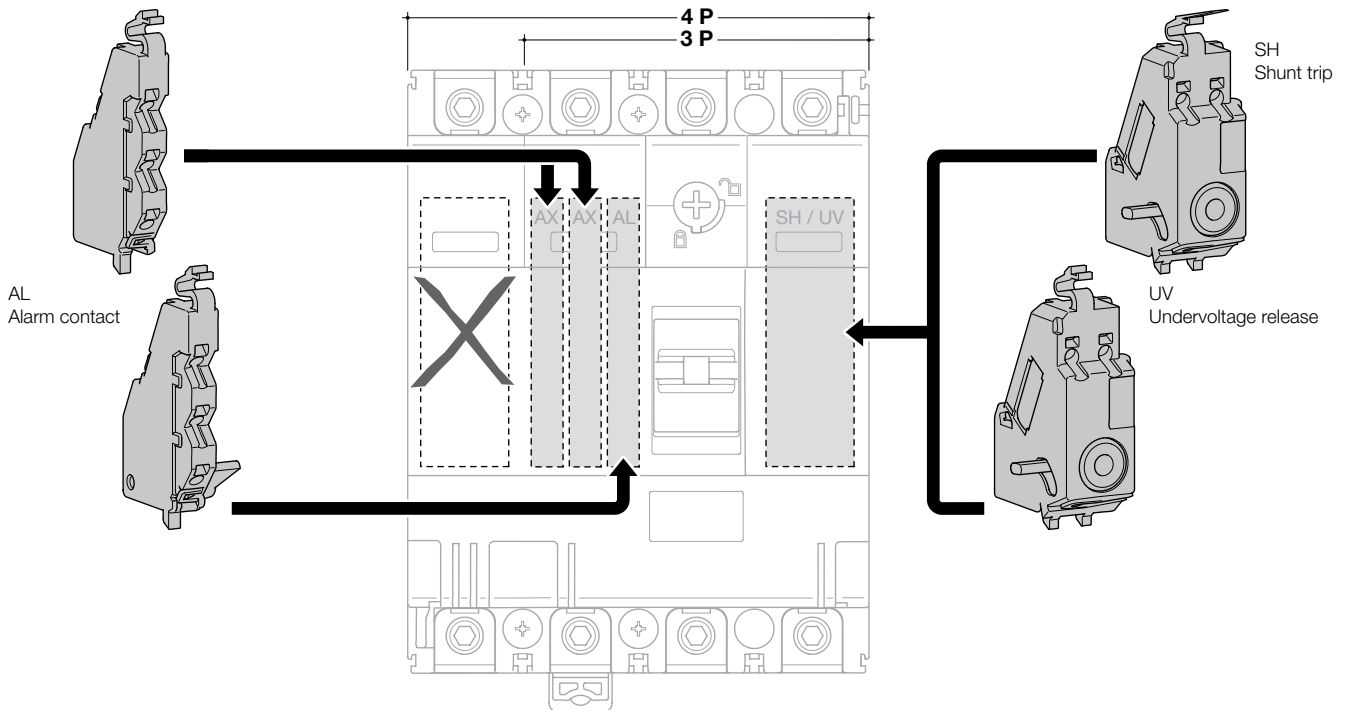
Auxiliaries

Auxiliaries for MCCBs



Mounting combination for auxiliaries and releases

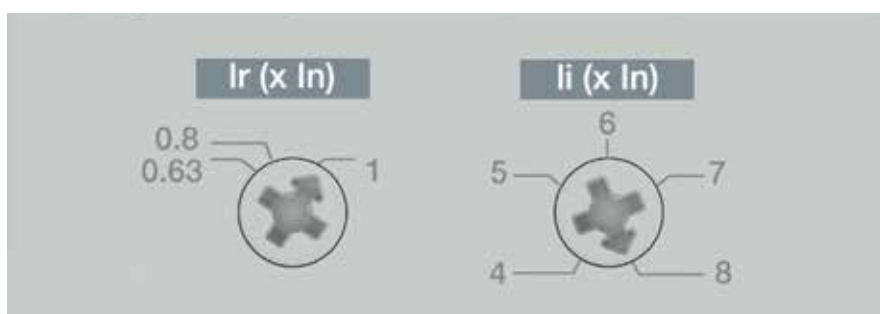
AX
Auxiliary contact



TM adjustable pick-up trip units

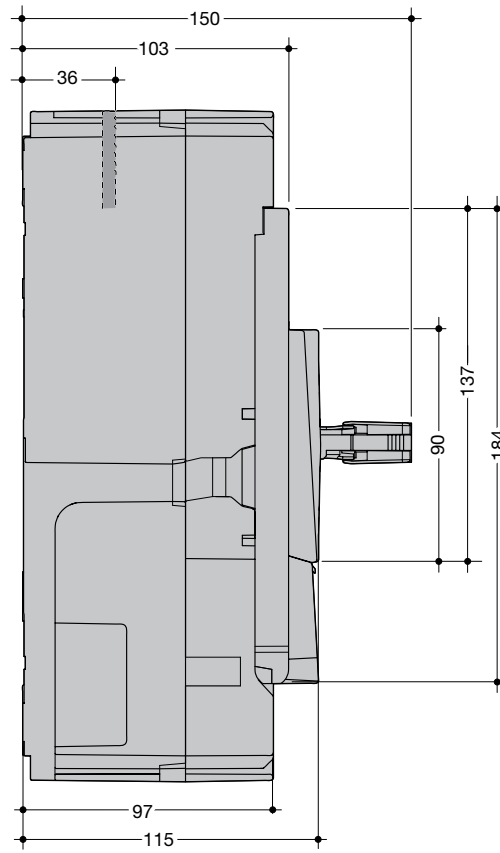
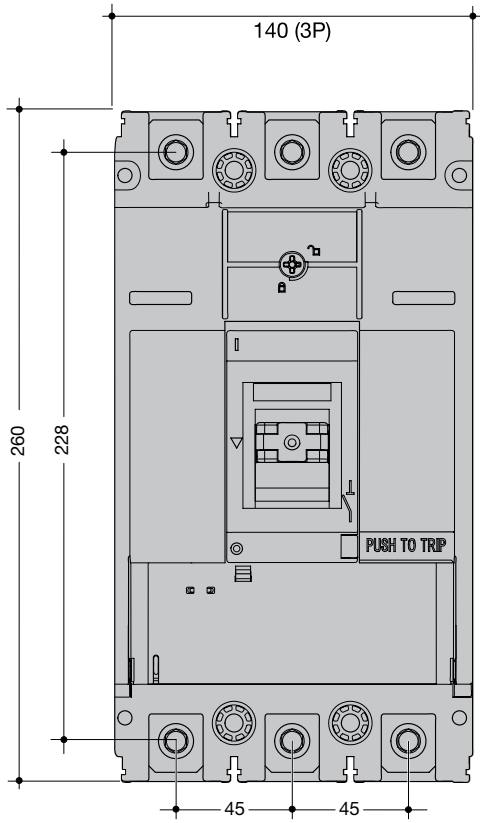
In at 50 °C	250A	320A	400A	630A*
Thermal protection				
$I_r \dots \times I_n$ (tripping current between 1.05 and 1.30 x I_r)	adjustable 0.63 - 0.8 - 1			
Time delay t_r	non-adjustable			
Magnetic protection				
I_i (+/- 20 %)	adjustable 5 - 6 - 7 - 8 - 9 - 10			adjustable 4 - 5 - 6 - 7 - 8
Time delay	none			

* Thermo-magnetic MCCBs with $I_n = 630A$ are calibrated at 30°C.



Trip unit TM adjustable

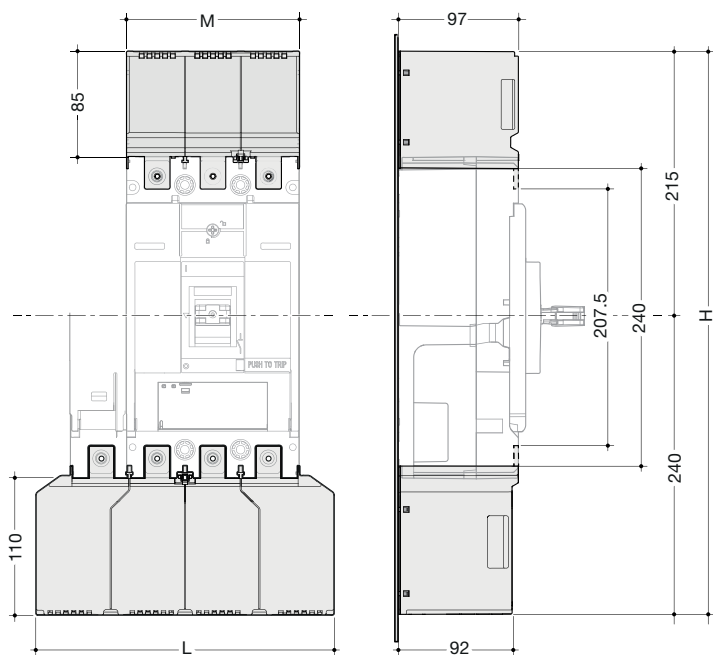
MCCBs



Main switchgear

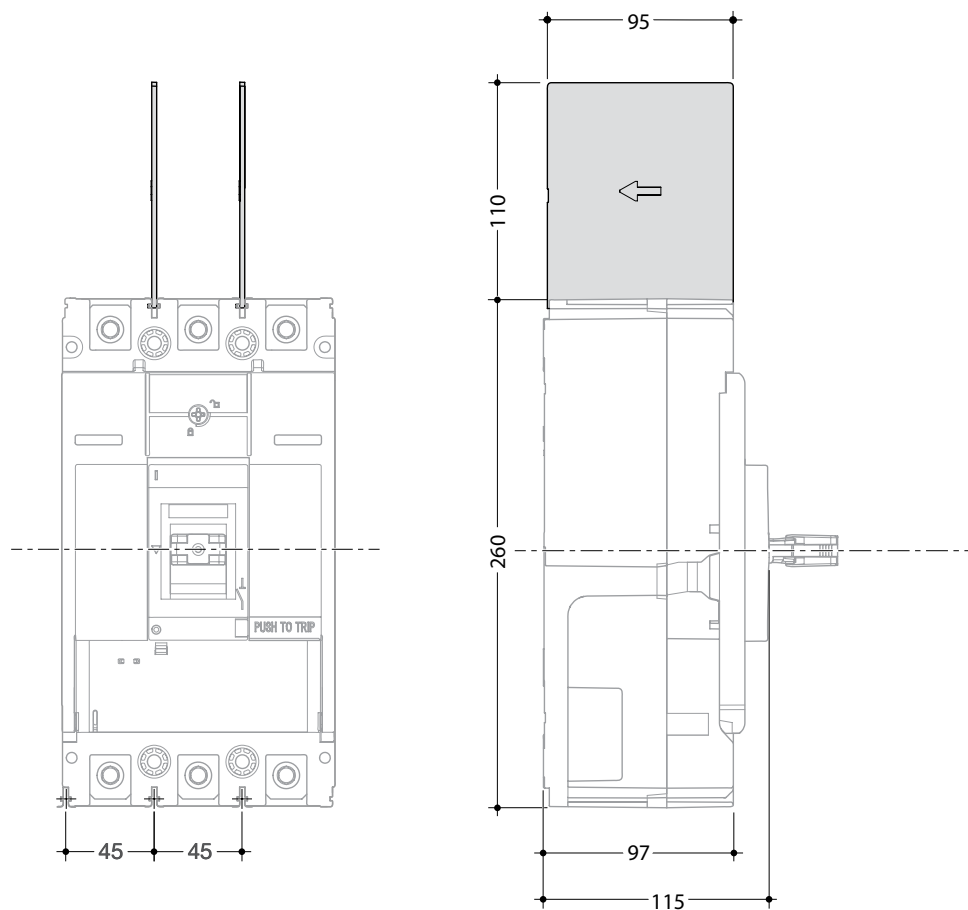
Terminal covers for extended straight connections

Main switchgear

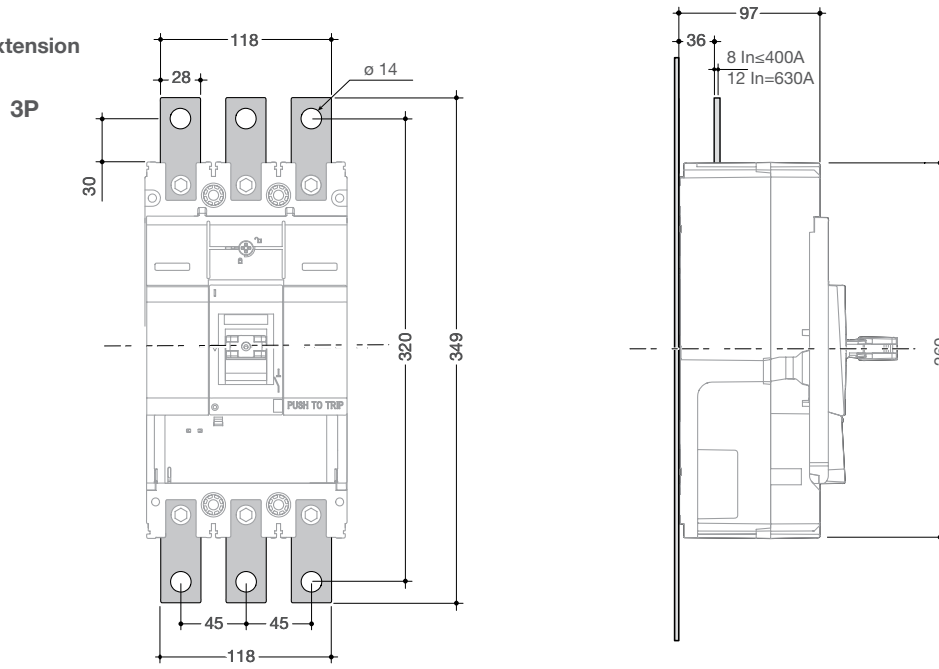


	Spreader L (mm)	Straight M (mm)
3P	180	140
H	480	430

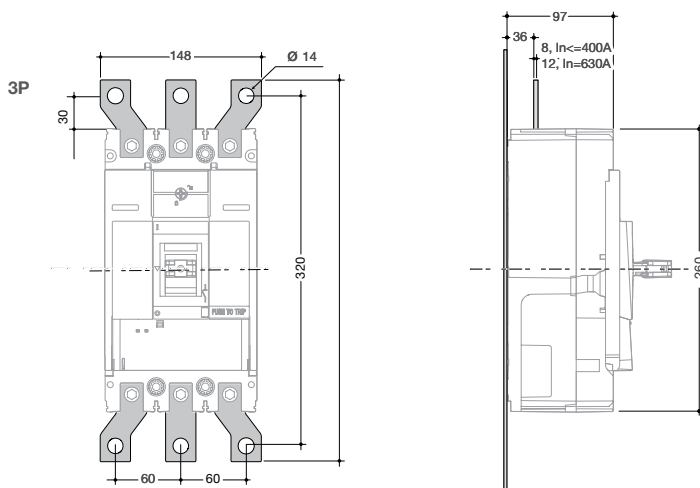
Interphase barriers



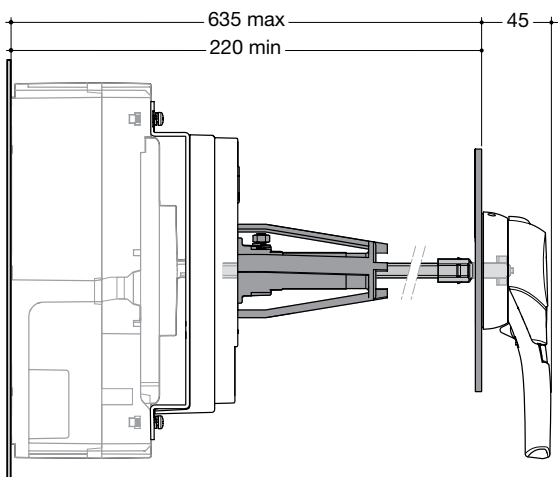
Straight terminal extension



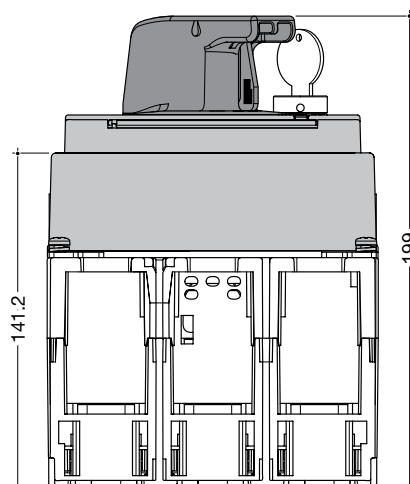
Spreader terminal extension



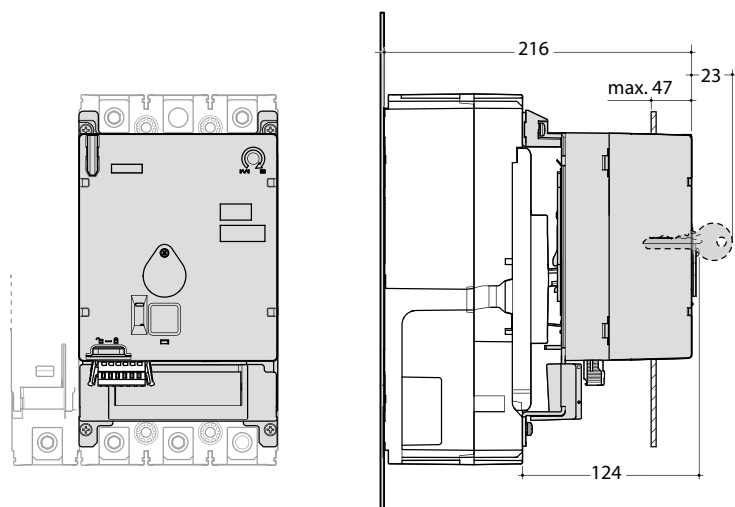
Extended rotary handle



Rotary handle

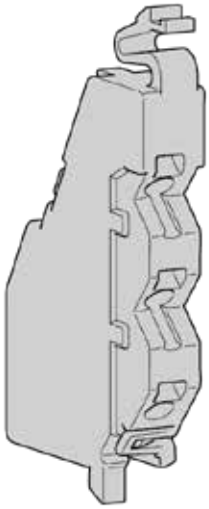


Motor operator with fixed circuit breaker

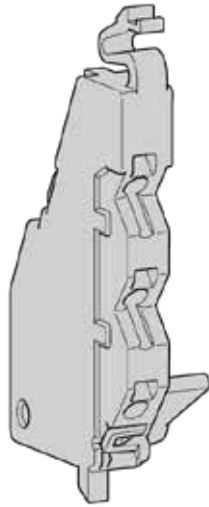


Rated operating voltage	24-48V DC	
	100-110V DC	
	110-240V AC	
Frequency (Hz)	24-48V DC	-
	100-110V DC	-
	110-240V AC	50 / 60
Operating and Starting current (A) ON	24-48V DC	-
	100-110V DC	-
	110-240V AC	-
Operating and Starting current (A) OFF, RESET	24-48V DC	6.7
	100-110V DC	1.2
	110-240V AC	1.0
Operating method	direct drive	
Operating time (s)	ON	0.1
	OFF	1.4
	RESET	1.5
Operating frequency	Cycle / min = 4	
Power supply required	300 VA minimum	

Auxiliaries

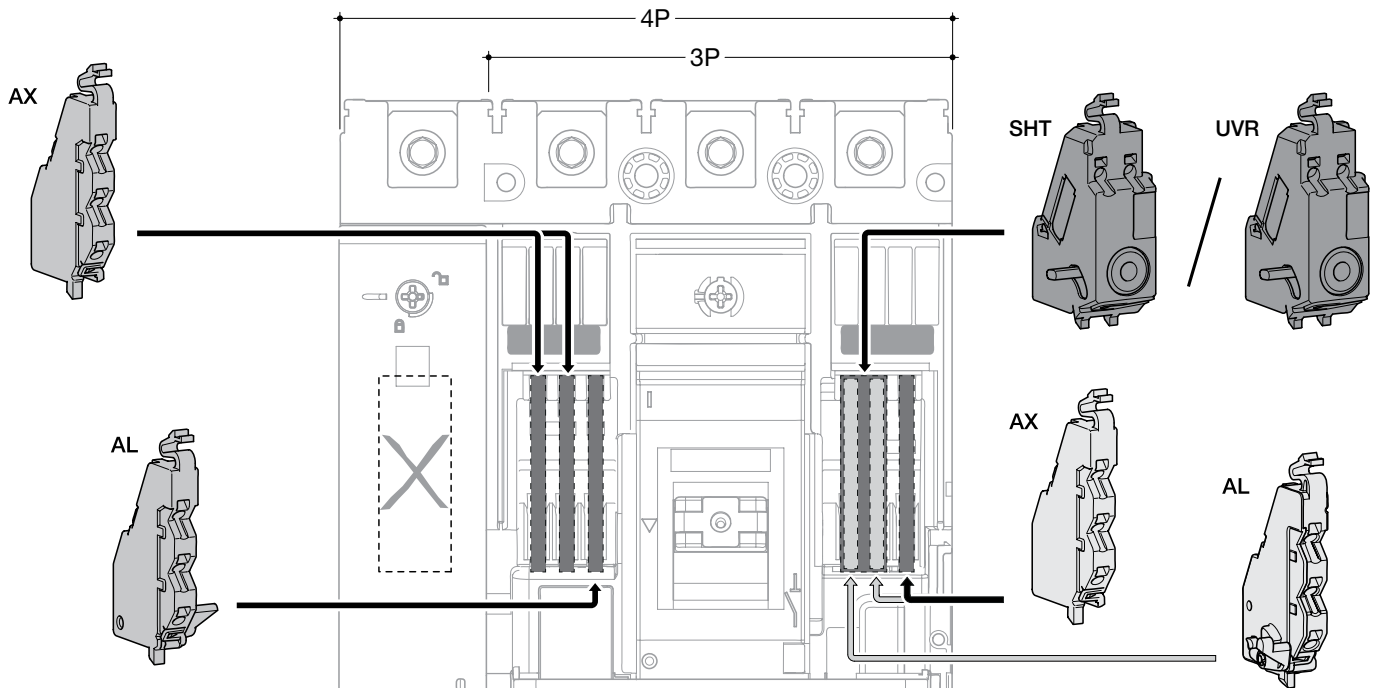


AX auxiliary

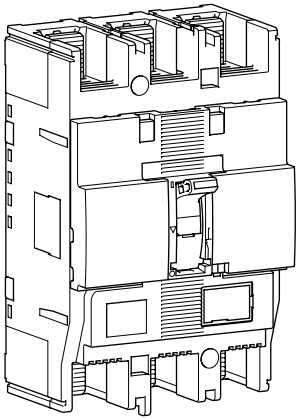


AL auxiliary

Mounting combination for auxiliaries and releases



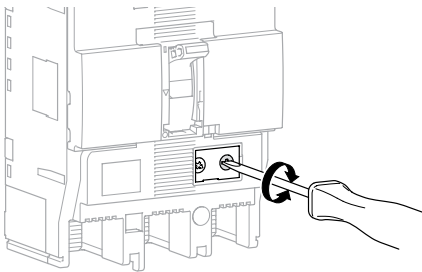
MCCBs



h250 LSI		220/240 V AC (kA)	380/415 V AC (kA)	660/690 V AC (kA)
HNC	Icu	85	50	7.5
	Ics	85	25	7.5
HEC	Icu	100	70	20
	Ics	100	70	15

Electronic trip unit setting (LSI)

Main switchgear

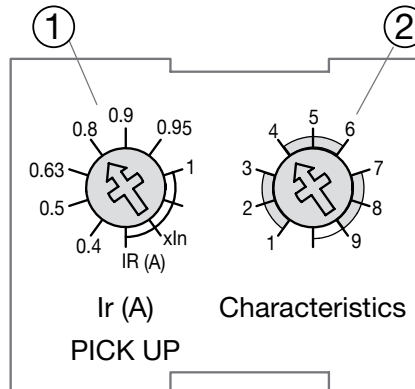
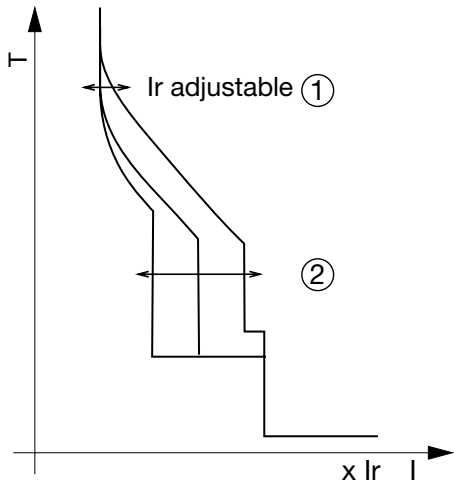


Use	Characteristics (*)	
	3P	4P
Generator protection	pos. 1	pos. 1, 4 and 7
Standard protection	pos. 2 and 3	pos. 2, 5 and 8
Motor protection	pos. 4 and 5	pos. 3, 6 and 9

L - Long delay - protection against overloads: Ir and tr settings

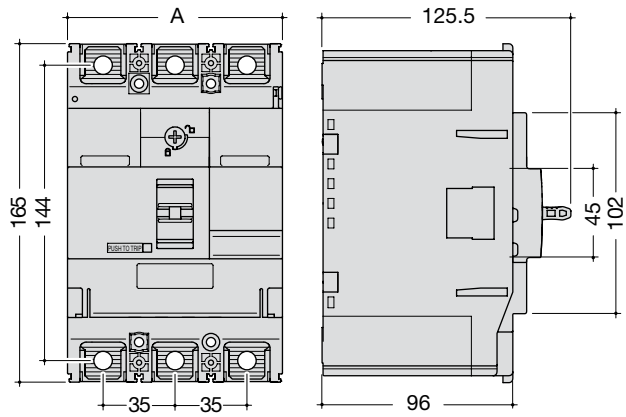
S - Short delay - protection against short circuits: I_{sd} and t_{sd} settings

I - Instantaneous - max. instantaneous threshold (< 10 ms) in case of short circuit: 2.5 to 10 x I_r.



Dimensions

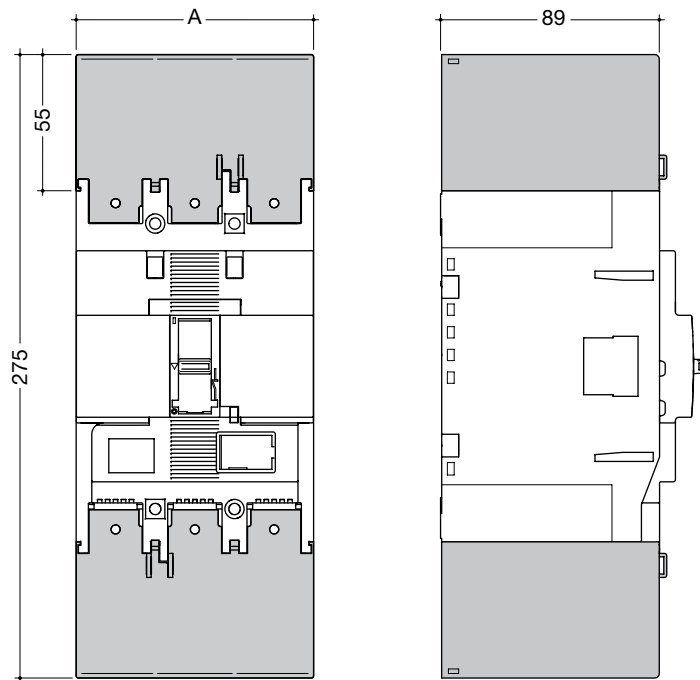
MCCBs



	A (mm)
3P	105
4P	140

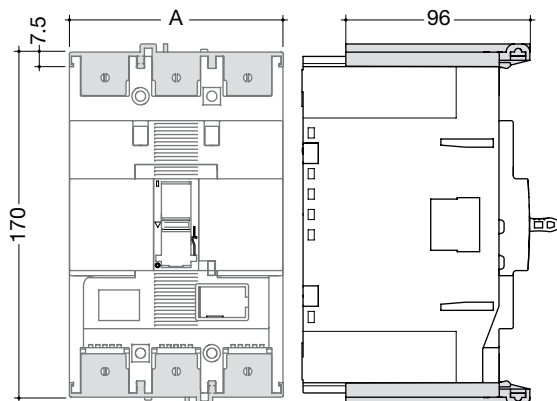
Accessories

Terminal covers for extended straight connections



	A (mm)
3P	105
4P	140

Terminal cover for rear connections

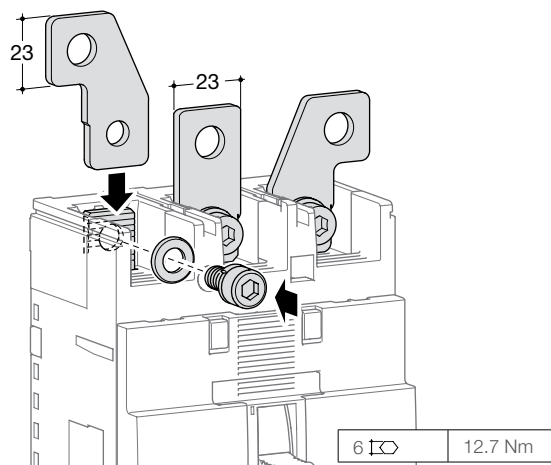
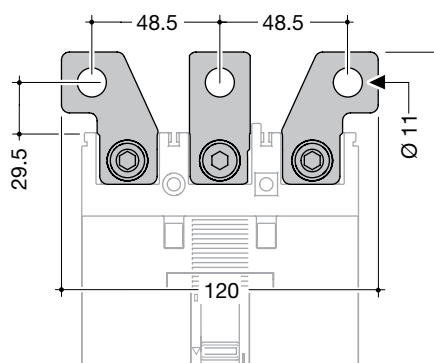


	A (mm)
3P	105
4P	140

Main switchgear

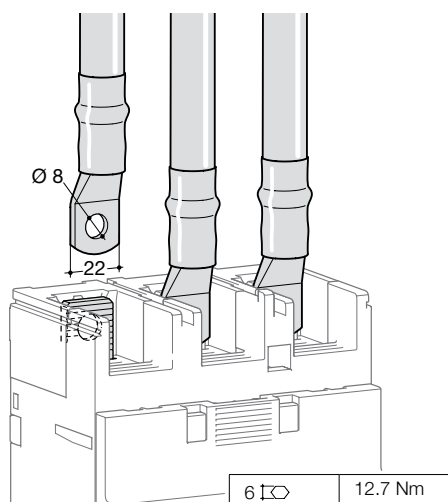
Connection

Extended straight and spreader connections

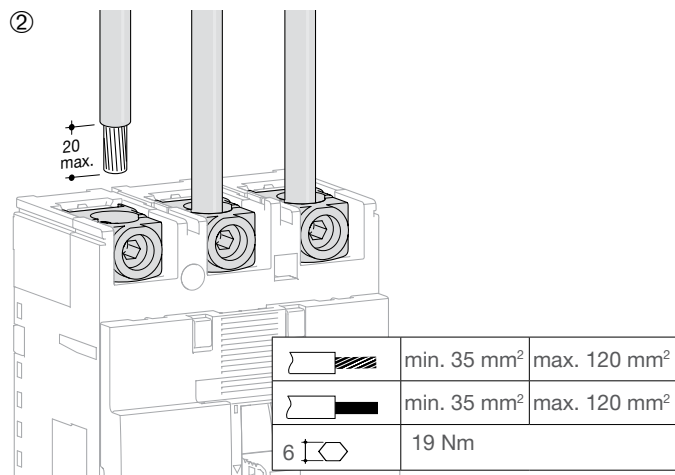
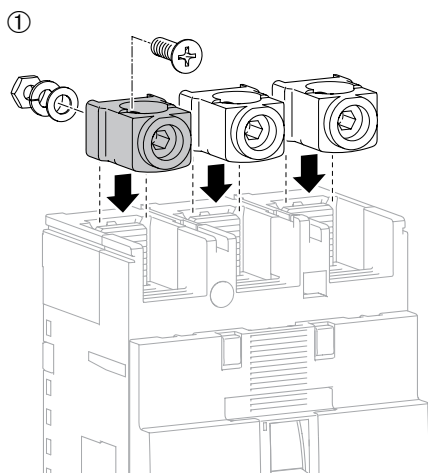


Main switchgear

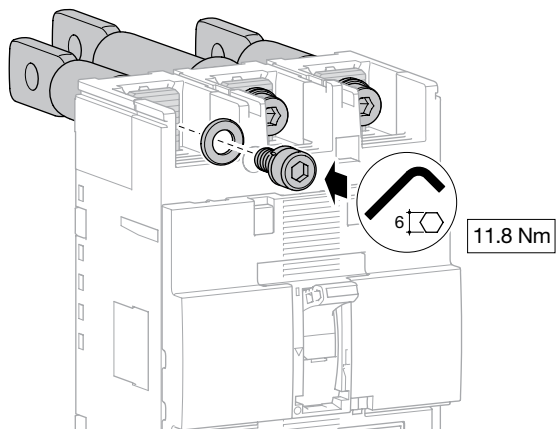
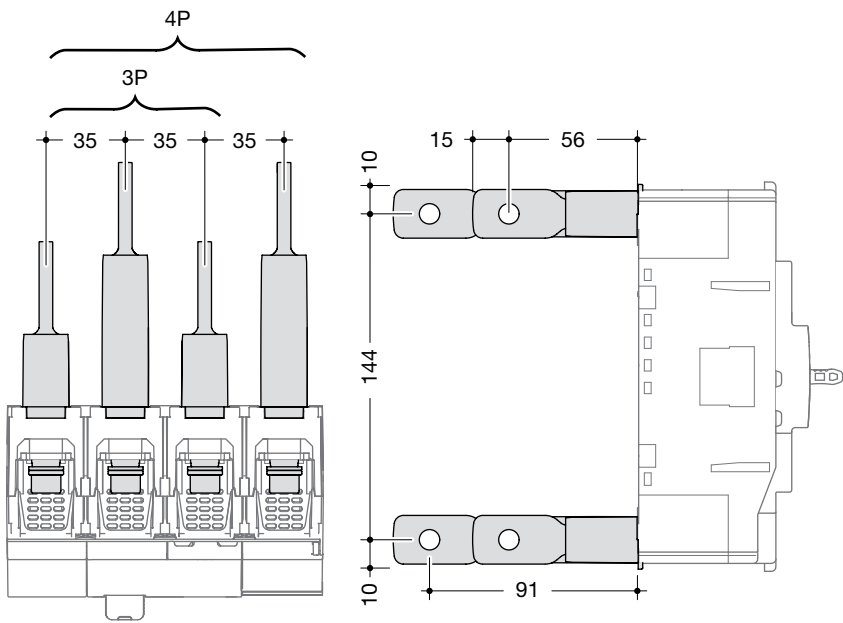
Connection with end lugs



Connection by collar

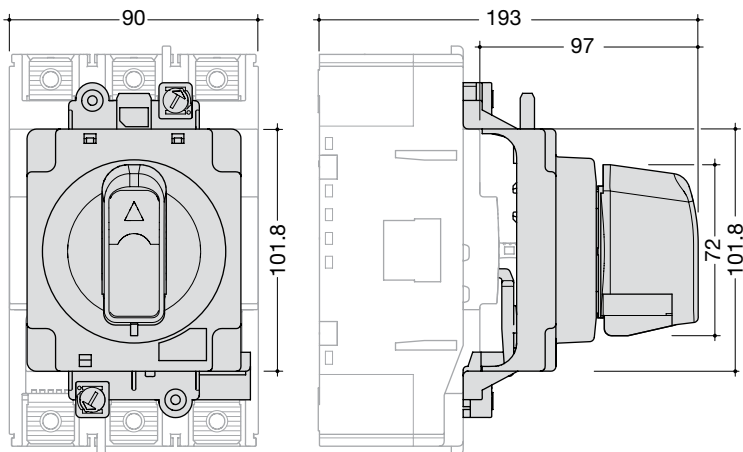


Rear connections

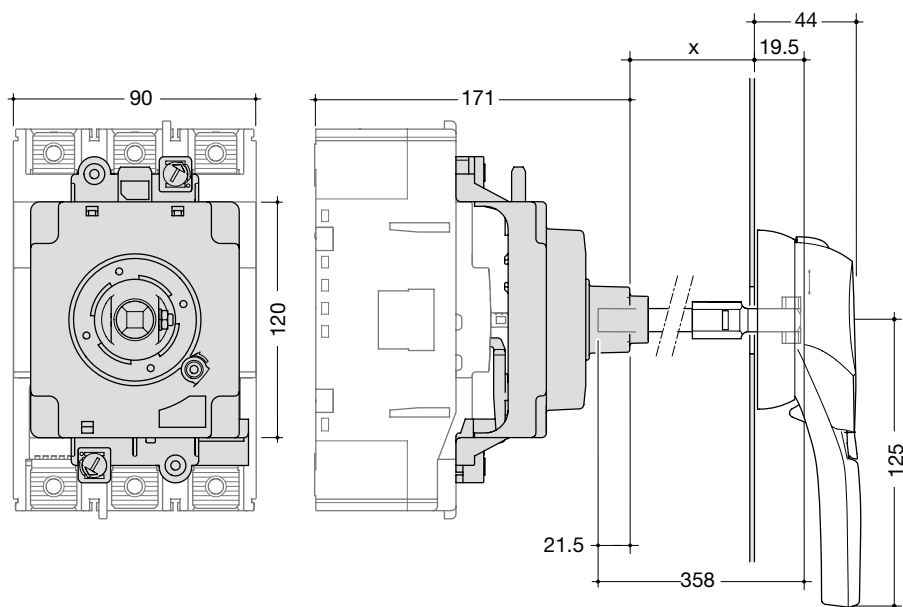


Accessories

Direct rotary handle

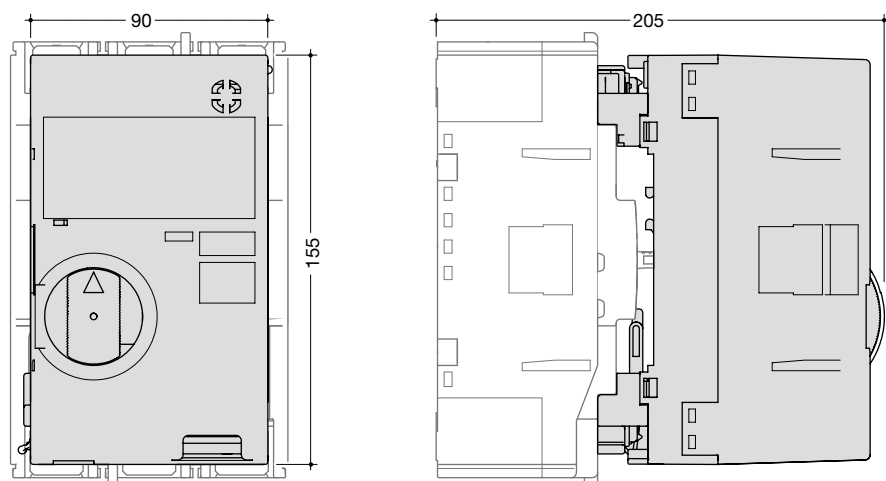


Extended rotary handle



Main switchgear

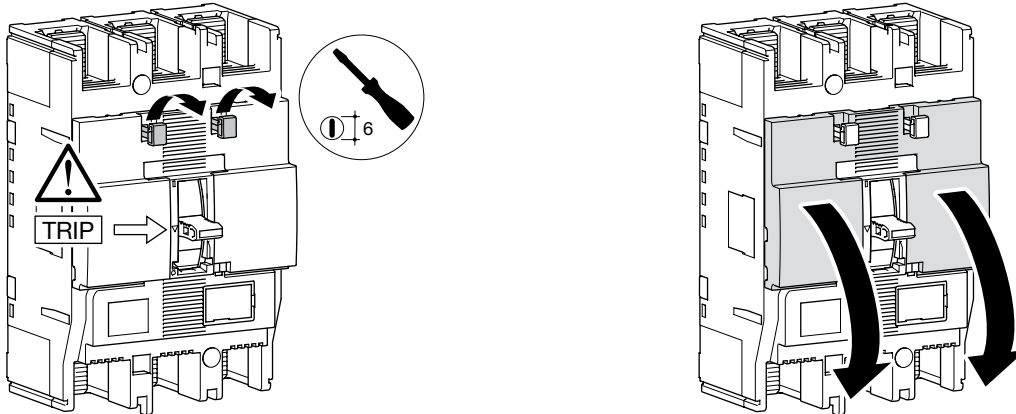
Motor operator



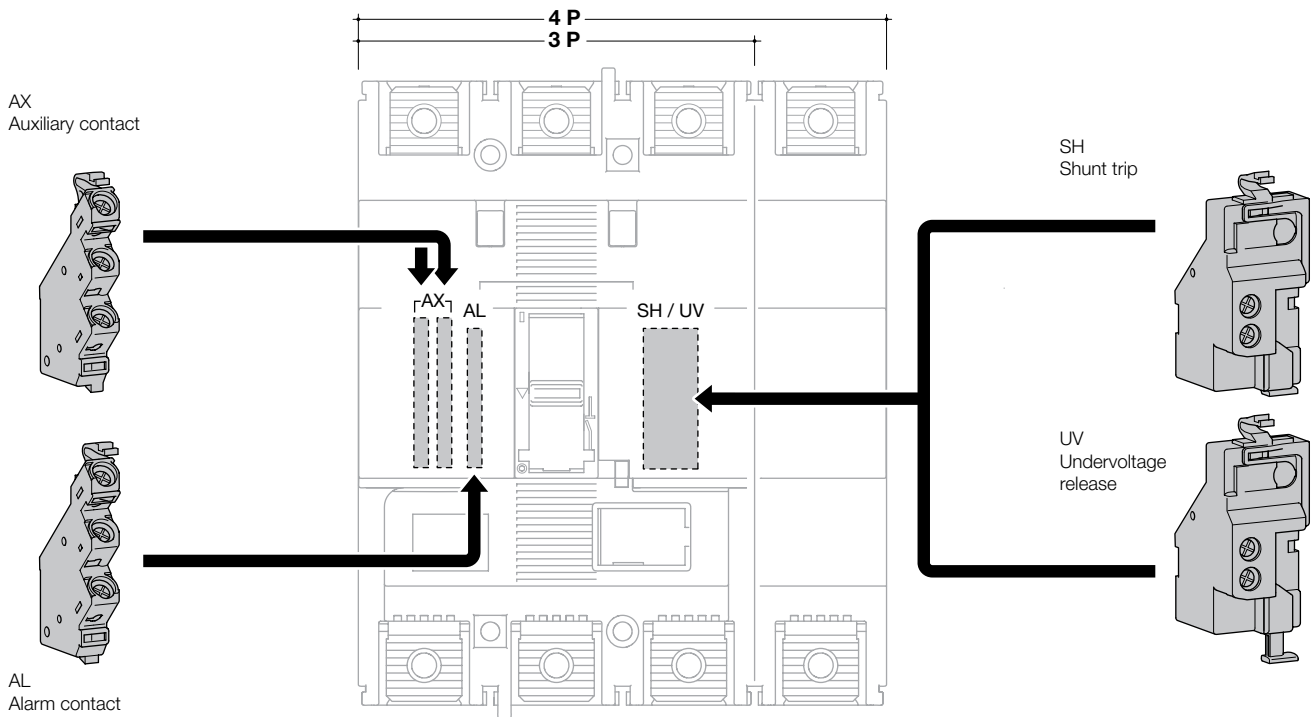
Rated operating voltage	24V DC	HXC040H
	230-240V AC	HXC042H
Operating current (A)	24V DC	18
	230-240V AC	4
Starting current (A)	24V DC	26
	230-240V AC	8
Operating method		direct drive
Operating time (s)	ON	0.1
	OFF	0.1
	RESET	0.1
Operating switch rating		100V, 0.1A, opening voltage 44V, current 4mA
Power supply required		300 VA minimum
Dielectric properties	24V DC	1000 V AC
	230-240V AC	1500 V AC

Auxiliaries

Auxiliaries for MCCBs

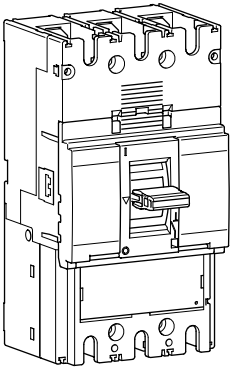


Mounting combination for auxiliaries and releases



Main switchgear

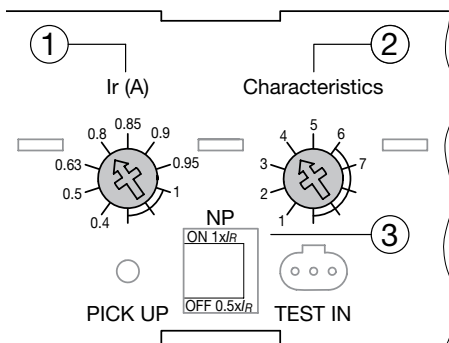
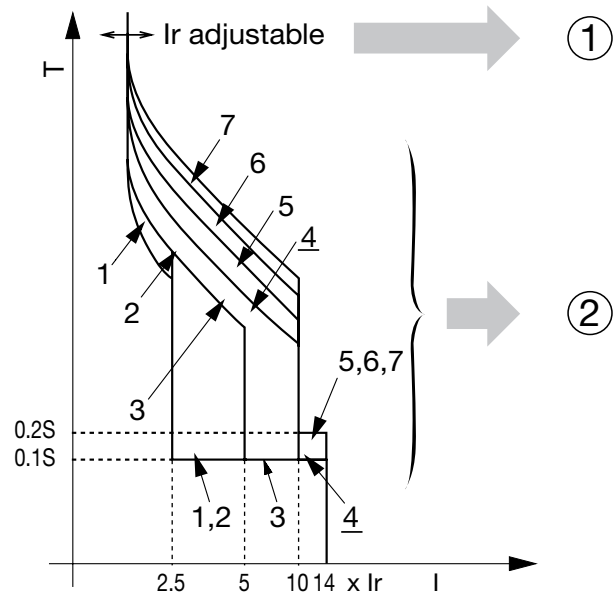
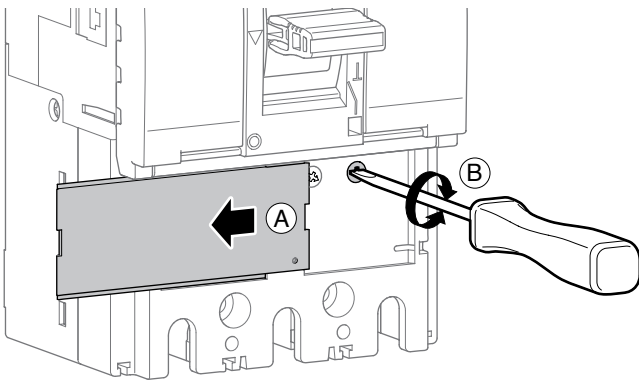
MCCBs



h630 LSI		220/240 V AC (kA)	380/415 V AC (kA)	660/690 V AC (kA)
HND	Icu	85	50	20
	Ics	85	50	15
HED	Icu	100	70	20
	Ics	85	50	15

Electronic trip unit setting (LSI)

Main switchgear



- ① Long delay current I_r setting
- ② Other curve characteristics setting (t_r , I_{sd} , t_{sd})
- ③ Neutral protection against overloads setting

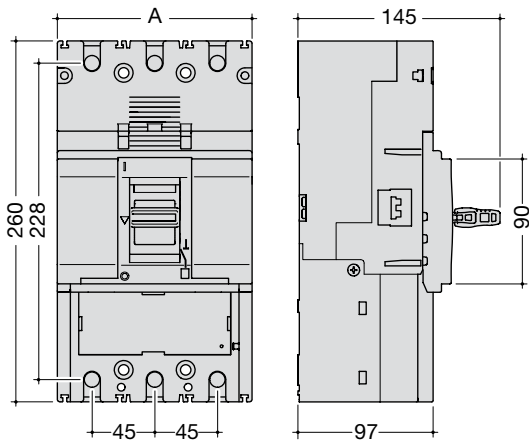
(*) Characteristic 1: use for generators protection.
 Characteristic 2 to 4 - standard protection: options allow coordination optimisation with other products.
 Characteristic 5 to 7 - motor protection: use positions according to motor starting characteristics.

L - Long delay - protection against overloads: I_r and t_r settings

S - Short delay - protection against short circuits: I_{sd} and t_{sd} settings

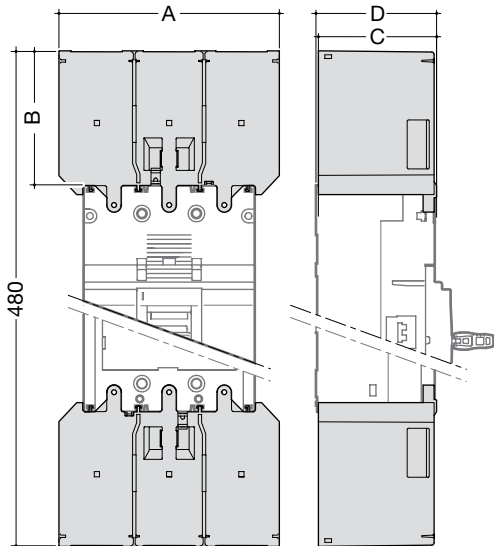
I - Instantaneous - max. instantaneous threshold (< 10 ms) in case of short circuit: $2,5$ to $10 \times I_r$ (400A) and $2,5$ to $8 \times I_r$ (630A).

Dimensions



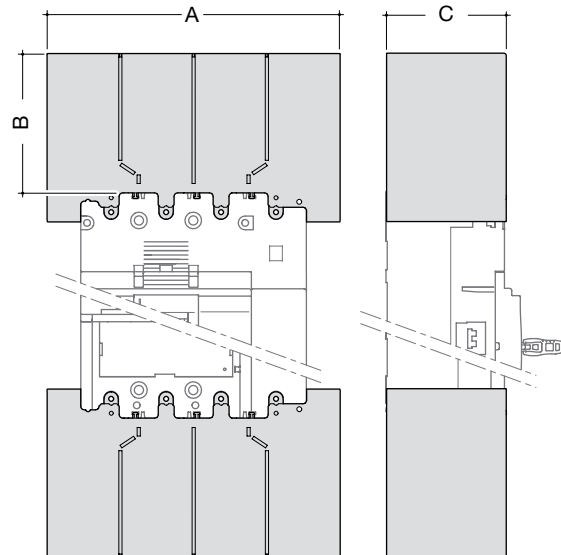
	A (mm)	B (mm)	C (mm)
3P	140	45	214
4P	185	45	214

Terminal covers for extended straight connections



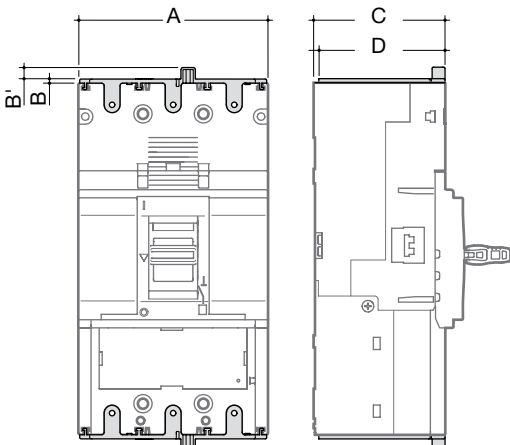
	A (mm)	B (mm)	C (mm)	D (mm)
3P	140	85	97	94,5
4P	185	85	97	94,5

Terminal covers for extended spreader connections



	A (mm)	B (mm)	C (mm)
3P	180	110	97
4P	240	114	98

Terminal covers for rear connections and collar terminal



	A (mm)	B (mm)	B' (mm)	C (mm)	D (mm)
3P	140	3	4,5	97	93
4P	185	3	4,5	97	93

Connection

Cable connection (h400 TM 400A, h630 LSI 400A)

①

② HYD005H (3P) - HYD006H (4P)

HYD007H (3P) - HYD008H (4P)

③

	HYD005H (3P) HYD006H (4P)	HYD007H (3P) HYD008H (4P)
	max. 1x240mm ²	max. 2x240mm ²
10	25 Nm	25 Nm

Extended straight and spreader connections

3P

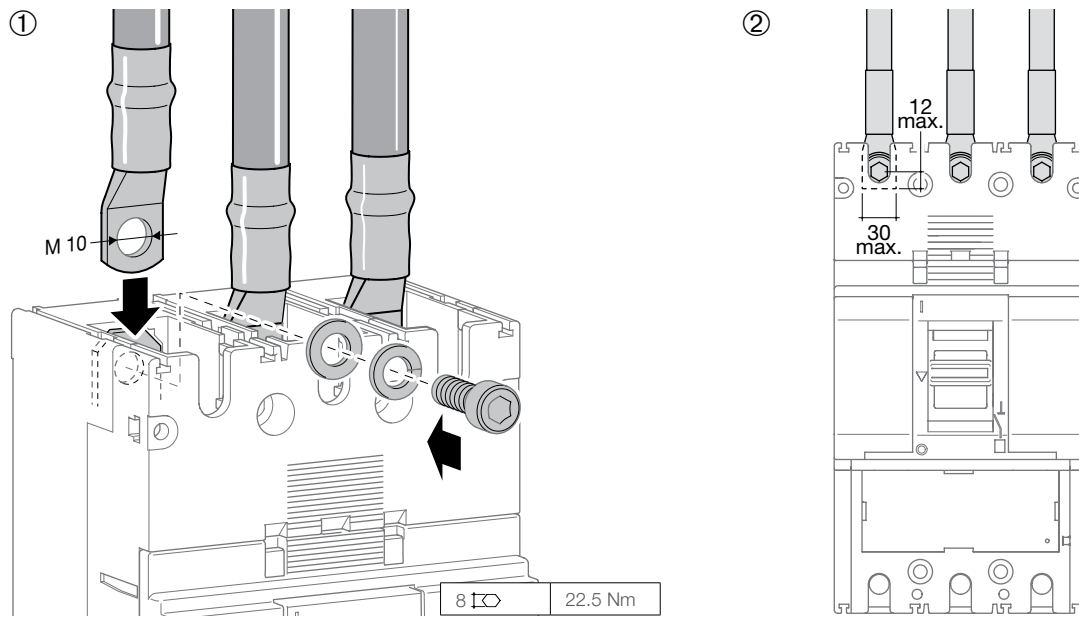
4P

Rear connections

4P

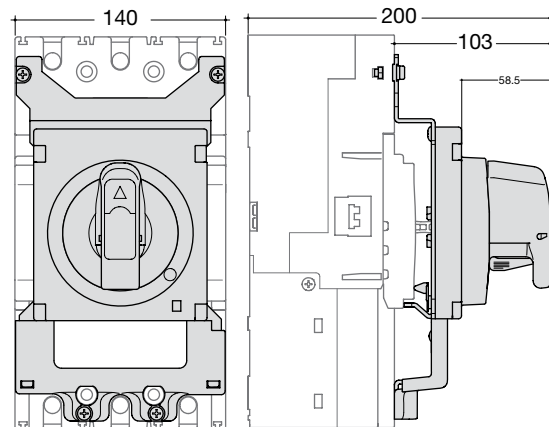
3P

Connection with end lugs

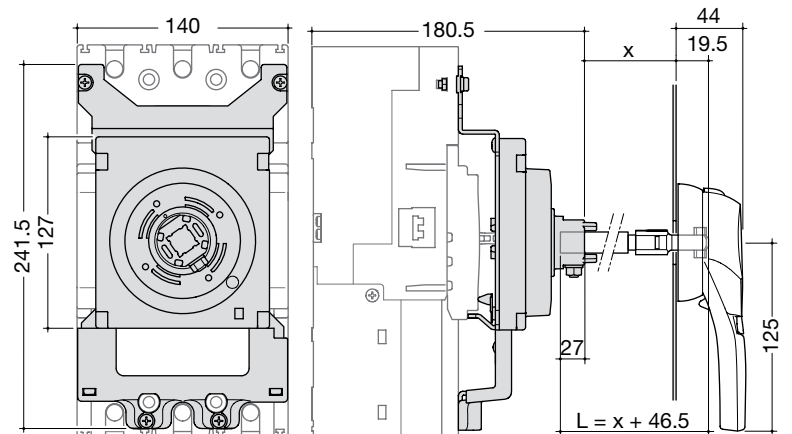


Accessories

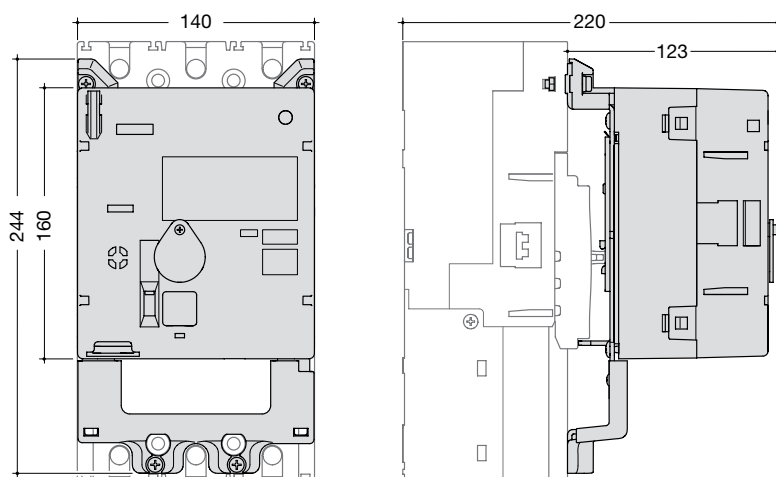
Direct rotary handle



Extended rotary handle



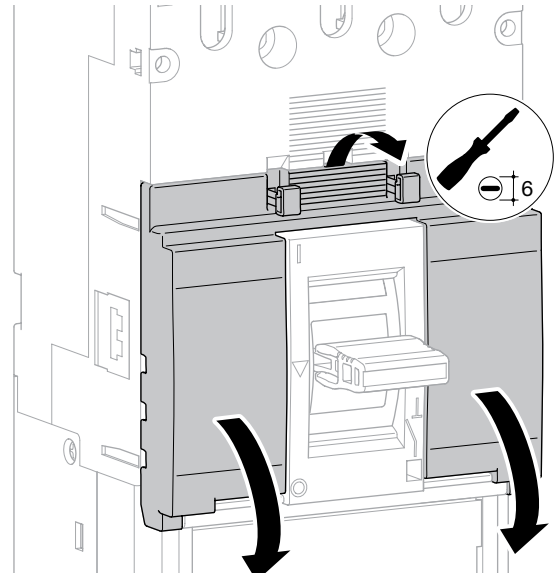
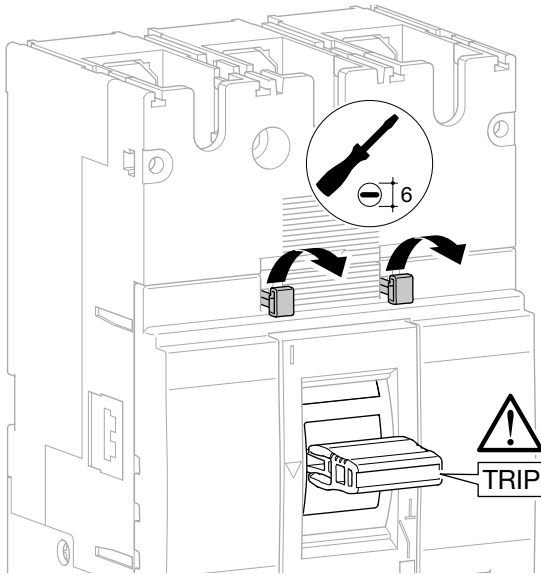
Motor operator



Rated operating voltage	24-48V DC	HXD040H
	100-240V AC	HXD042H
Operating current (A)	24-48V DC	4.3
	100-240V AC	0.9
Starting current (A)	24-48V DC	9.8
	100-240V AC	3.8
Operating method	spring charging	
Operating time (s)	ON	0.1
	OFF	1.5
	RESET	1.5
Power supply required	300 VA minimum	
Dielectric properties	24-48V DC	1000 V AC
	100-240V AC	1500 V AC

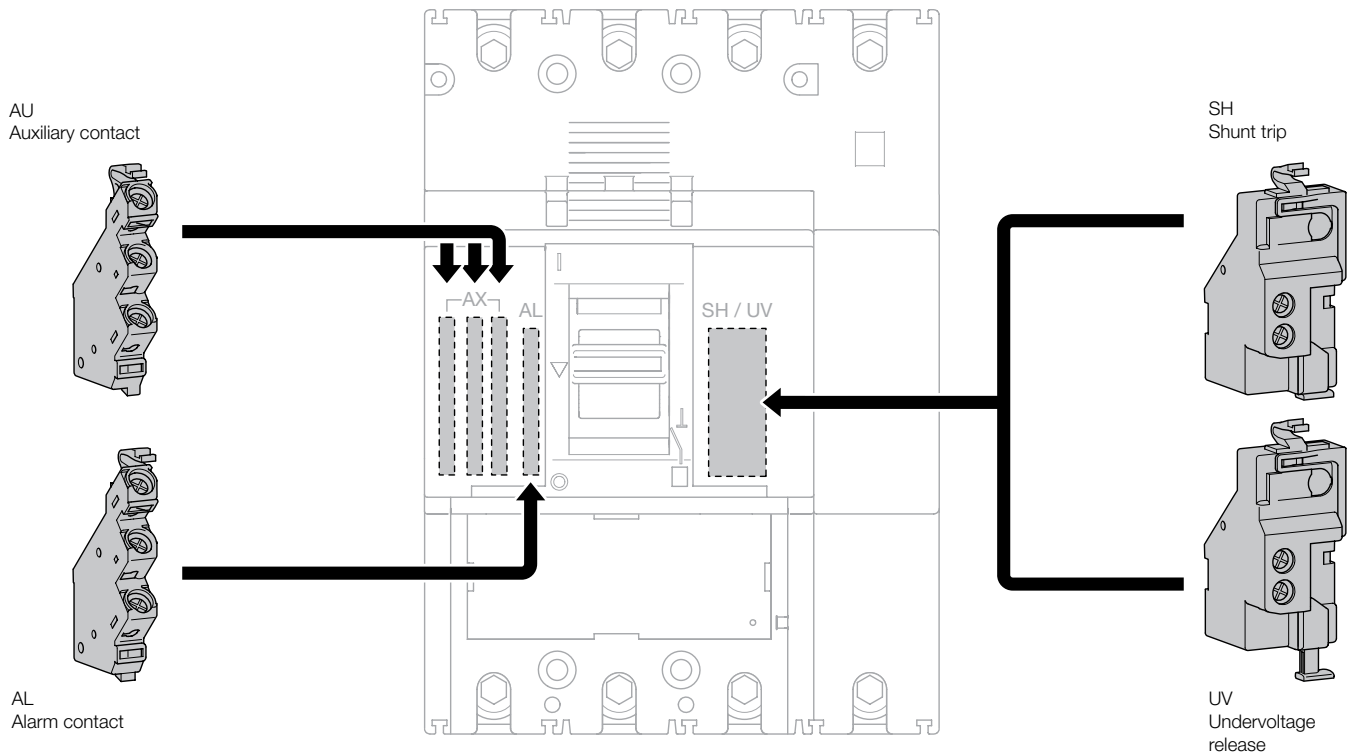
Auxiliaries

Auxiliaries for MCCBs

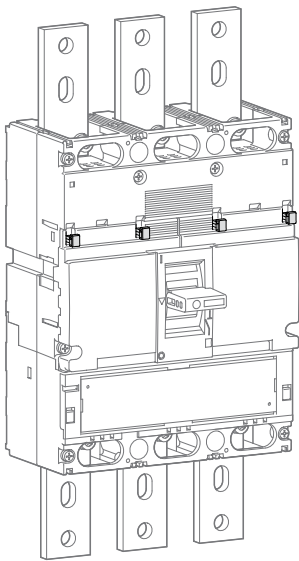


Main switchgear

Mounting combination for auxiliaries and releases

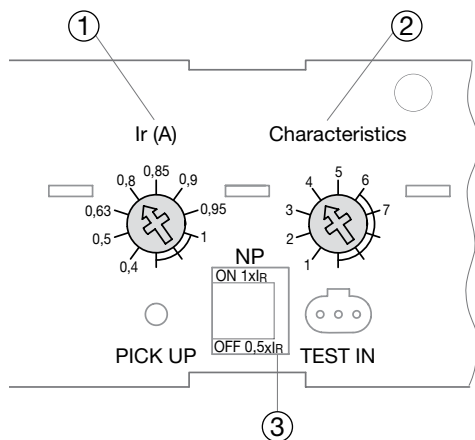
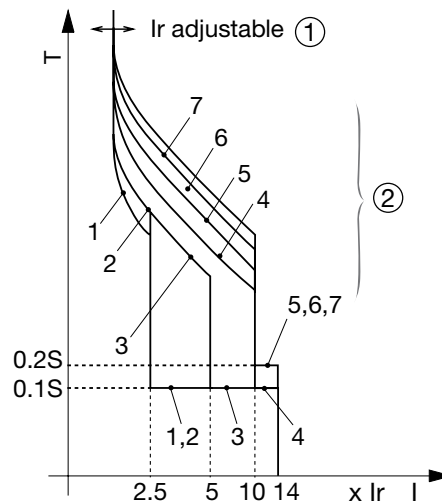
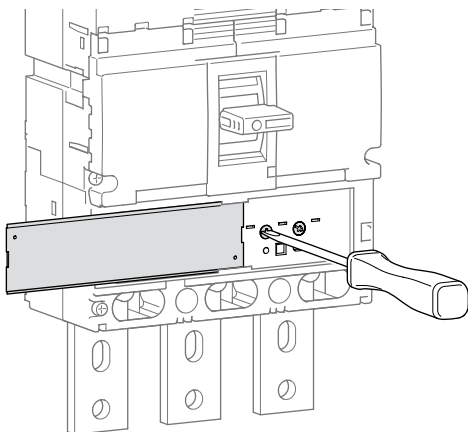


MCCBs



h1000 LSI		220/240 V AC (kA)	380/415 V AC (kA)	660/690 V AC (kA)
HNE	I _{cu}	85 (800A), 75 (1000A)	50	20
	I _{cs}	85 (800A), 75 (1000A)	50	20
HEE	I _{cu}	100	70	20
	I _{cs}	100 (800A), 75 (1000A)	50	20

Electronic trip unit settings (LSI)



L - Long delay - protection against overloads: I_r and t_r settings

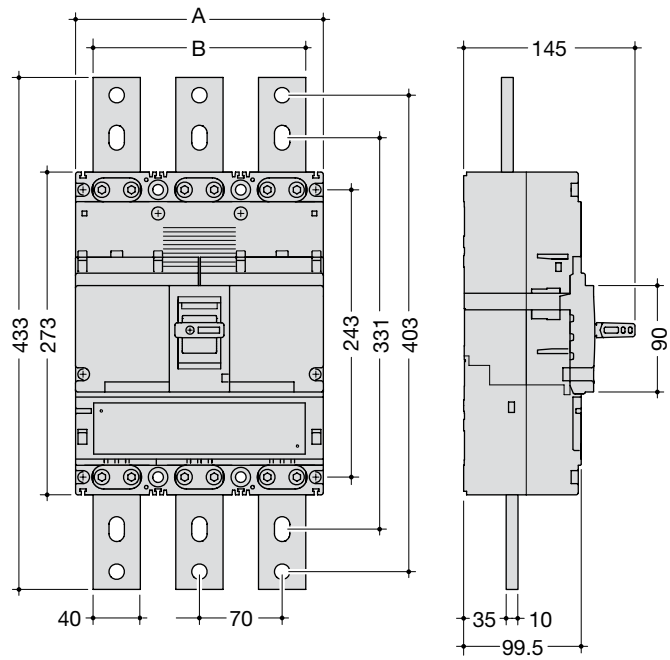
S - Short delay - protection against short circuits: I_{sd} and t_{sd} settings

I - Instantaneous - max. instantaneous threshold (< 10 ms) in case of short circuit: 2,5 to 10 x I_r (630 - 800A) and 2,5 to 8 x I_r (1000A).

(*) Characteristic 1: use for generators protection.
Characteristic 2 to 4 - standard protection: options allow coordination optimisation with other products.
Characteristic 5 to 7 - motor protection: use positions according to motor starting characteristics.

Dimensions

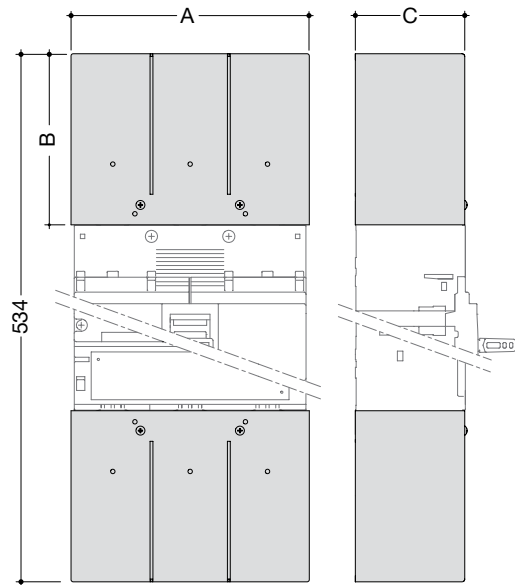
MCCBs



	A (mm)	B (mm)
3P	210	180
4P	280	250

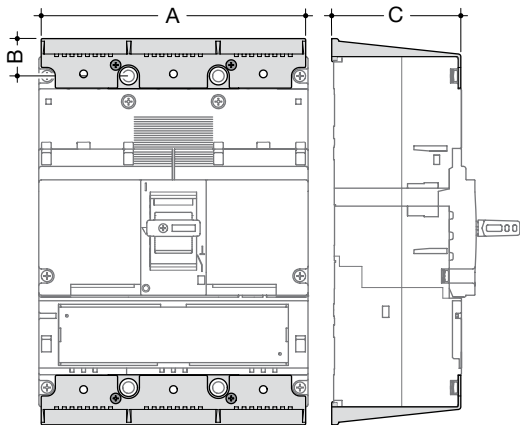
Main switchgear

Terminal covers for extended straight connections



	A (mm)	B (mm)	C (mm)
3P	215	130	99.5
4P	285	130	99.5

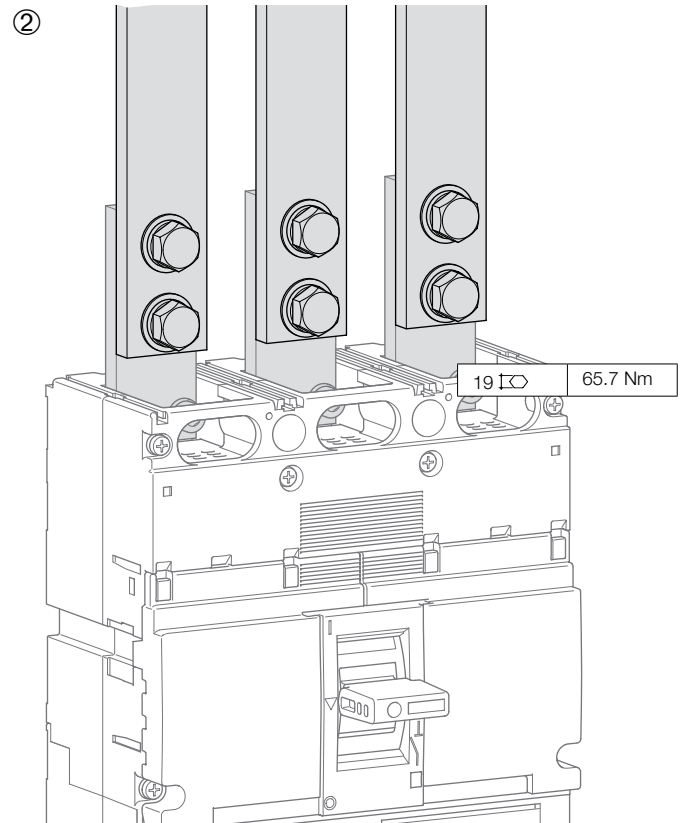
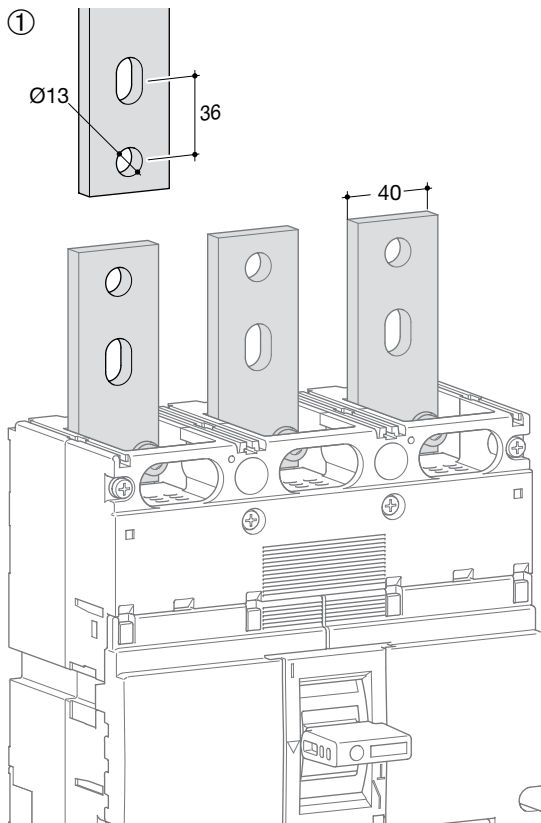
Terminal covers for rear connections



	A (mm)	B (mm)	C (mm)
3P	210	14	101
4P	280	18	99

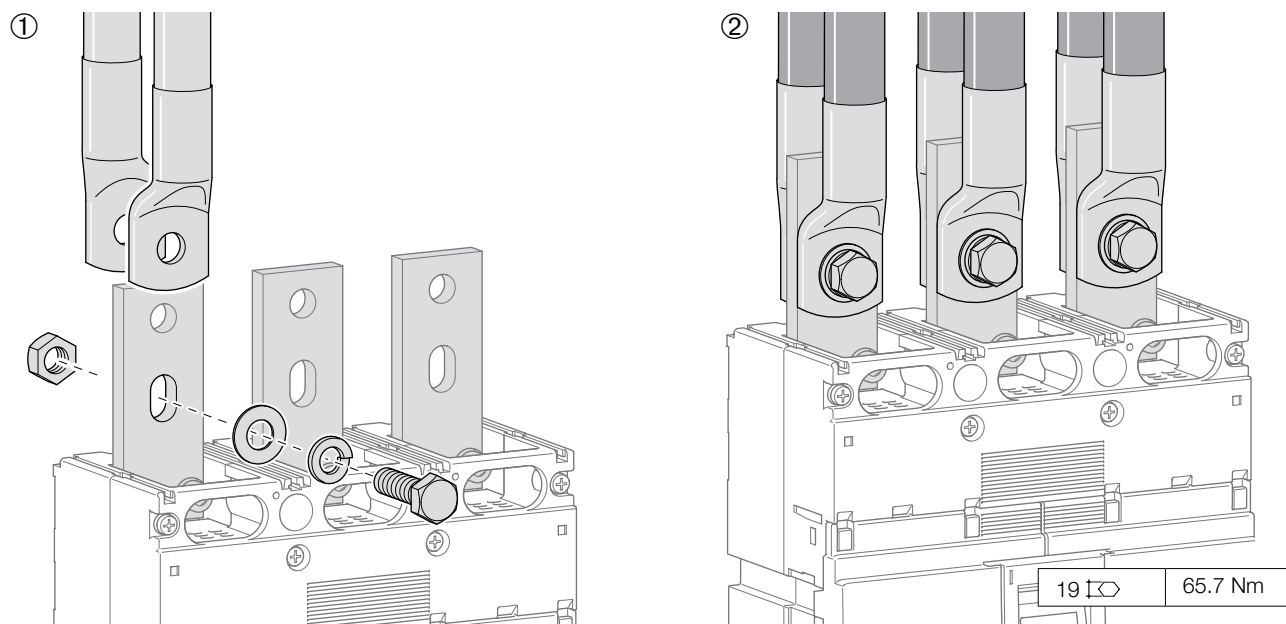
Connection

Extended straight connections



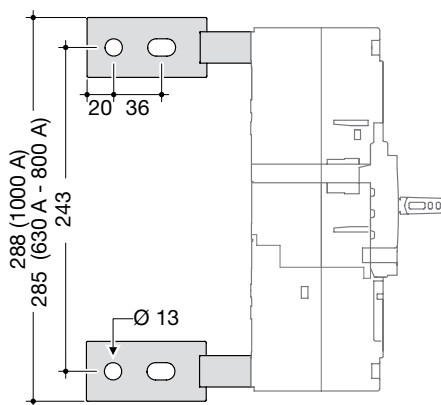
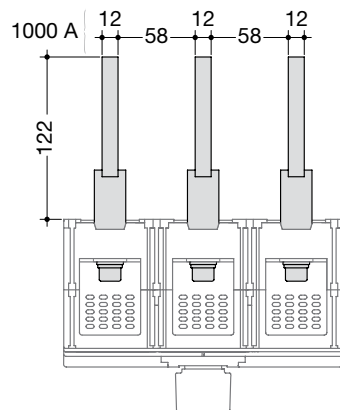
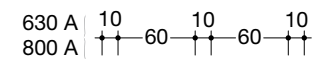
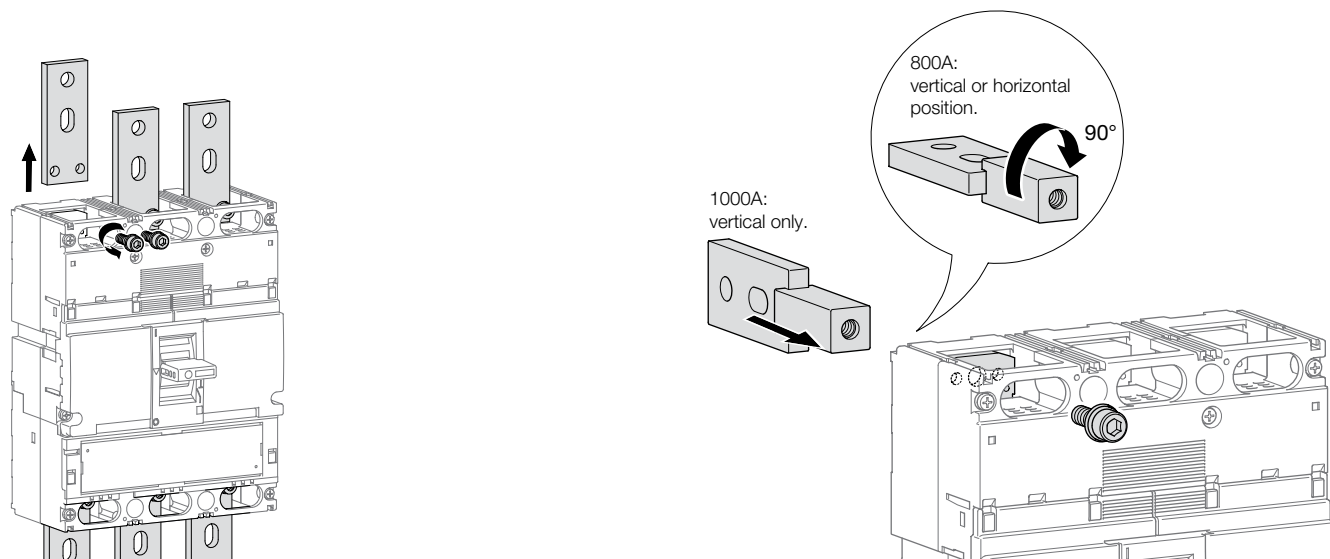
Direct cable connection on terminal
Copper with conductor max. width: 50 mm

Connection with end lugs

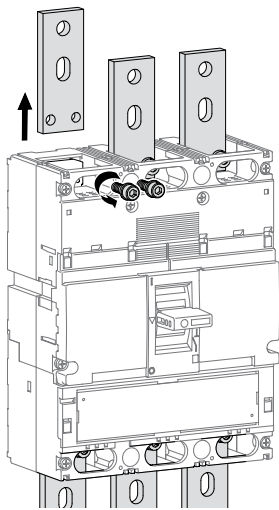


Main switchgear

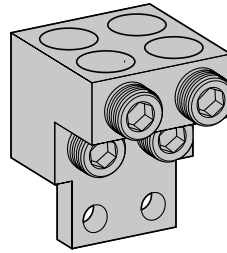
Rear connections



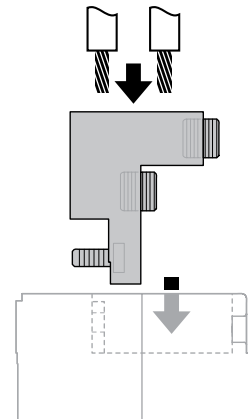
Cable connection (h1000)



HYE007H (3P) - HYE008H (4P)

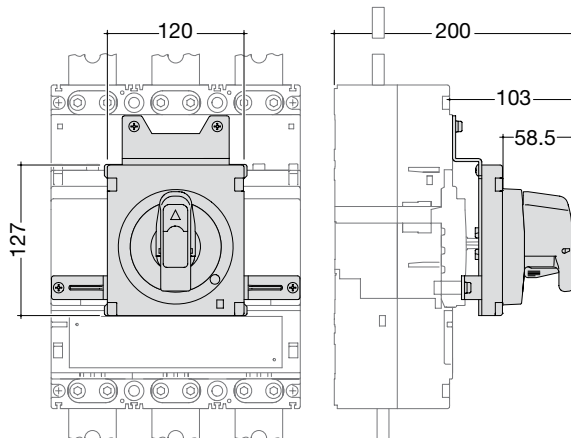


	HYE007H (3P) HYE008H (4P)
	max. 4x240mm ²
10	25 Nm

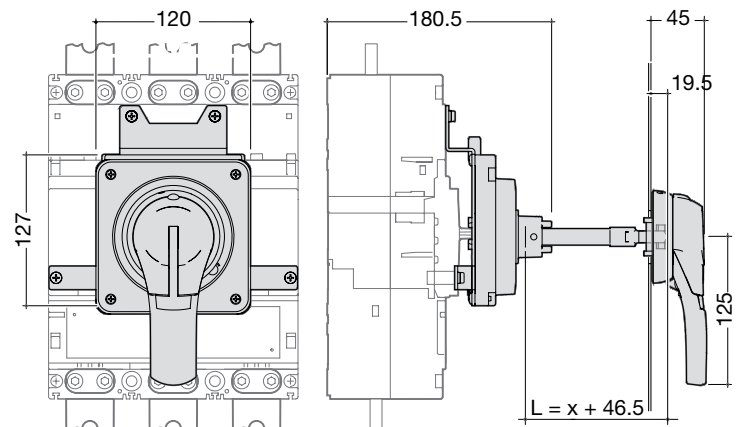


Accessories

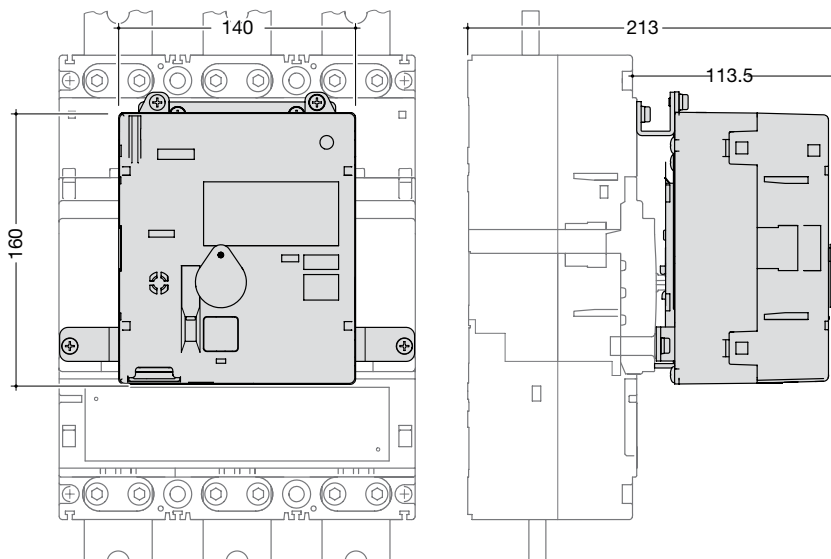
Direct rotary handle



Extended rotary handle



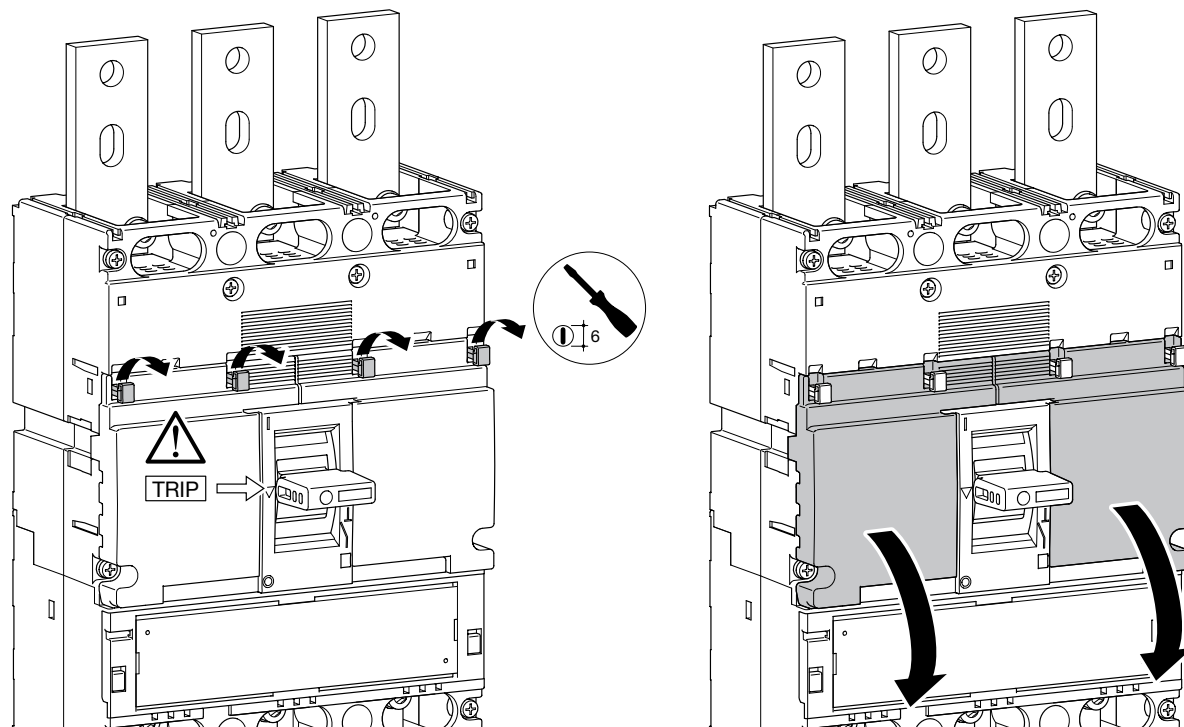
Motor operator



Rated operating voltage	24-48V DC	HXE040H
	100-240V AC	HXE042H
Operating method	spring charging	
Power supply required	300 VA minimum	
Dielectric properties (1min)	24-48V DC	1000 V AC
	100-240V AC	1500 V AC
Operating time (s)	(ON)	0.1
	(OFF)	1.5
	(RESET)	1.5

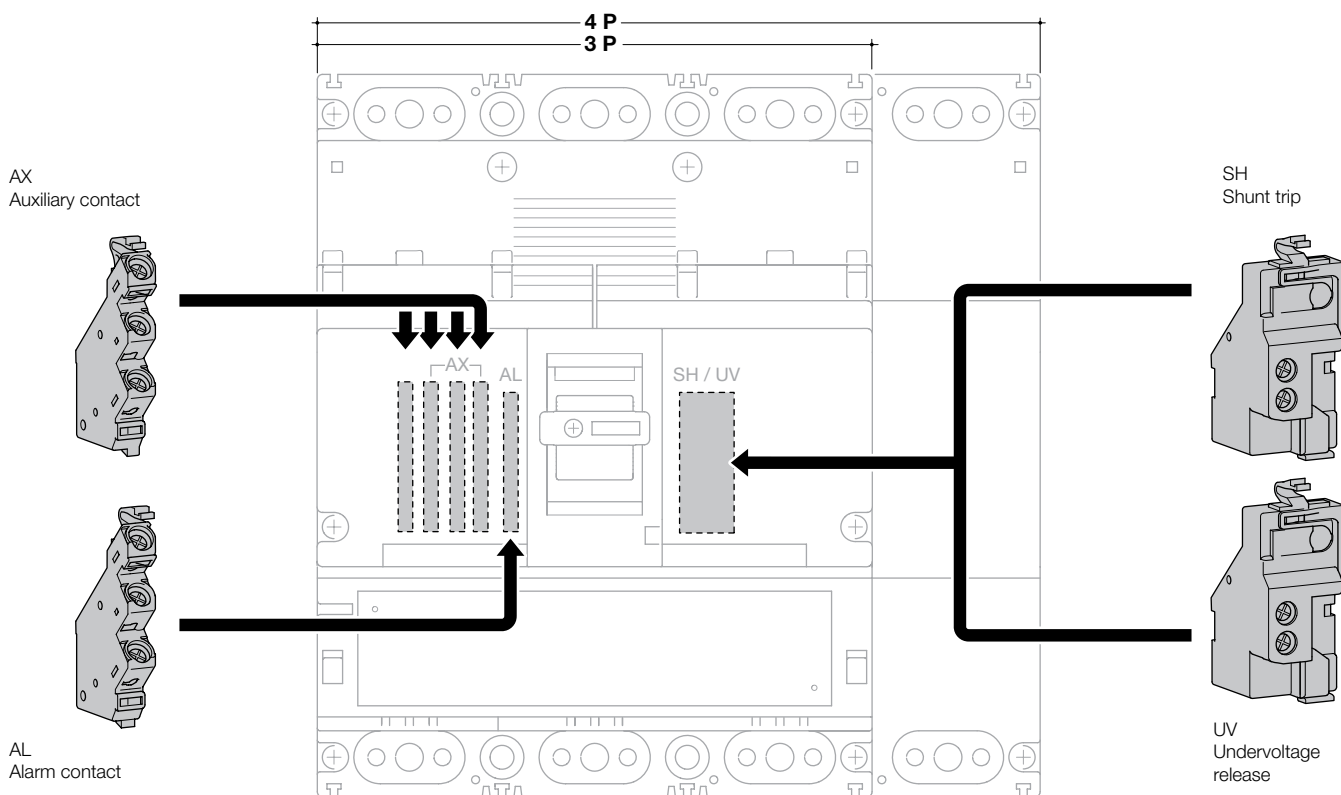
Auxiliaries

Auxiliaries for MCCBs

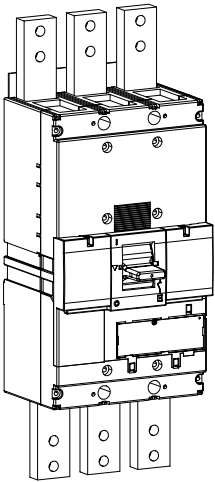


Main switchgear

Mounting combination for auxiliaries and releases

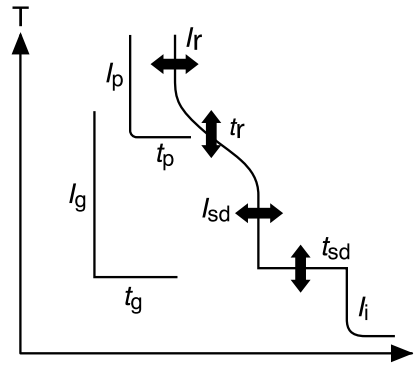
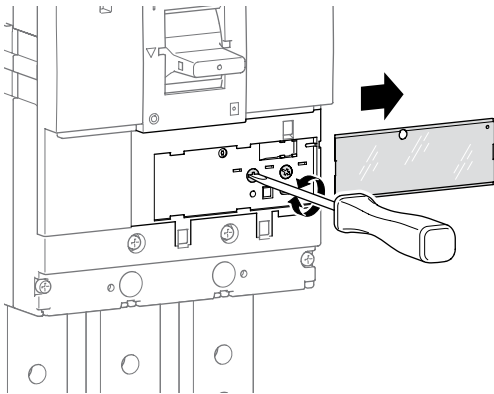


MCCBs



h1600 LSI		220/240 V AC (kA)	380/415 V AC (kA)	660/690 V AC (kA)
HNF	I _{cu}	100	50	25
	I _{cs}	75	50	25
HEF	I _{cu}	100	70	45
	I _{cs}	75	50	34

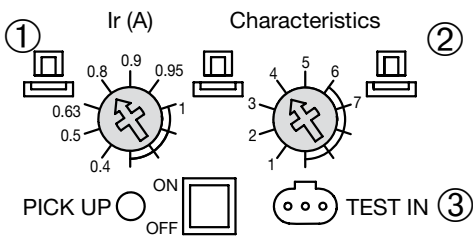
Electronic trip unit settings (LSI)



L - Long delay - protection against overloads: I_r and t_r settings
 S - Short delay - protection against short circuits: I_{sd} and t_{sd} settings
 I - Instantaneous - max. instantaneous threshold (<10ms) in case of short circuit: 2.5 to 10 x I_r.

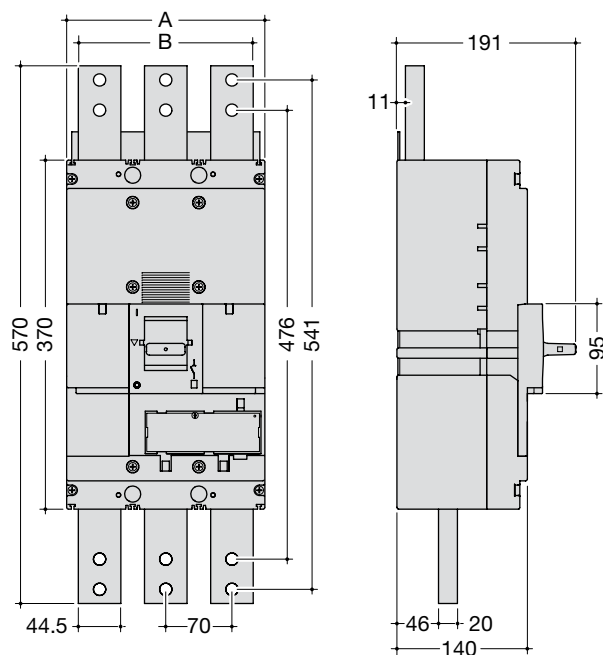
	① I _r (A)	② I _m	③ N
LSI	0.4 - 1 I _n	2.5 - 10 I _r	0% 50% 100 %

(*) Characteristic 1: use for generators protection.
 Characteristic 2 to 4 - standard protection: options allow coordination optimisation with other products.
 Characteristic 5 to 7 - motor protection: use positions according to motor starting characteristics.



Dimensions

MCCBs

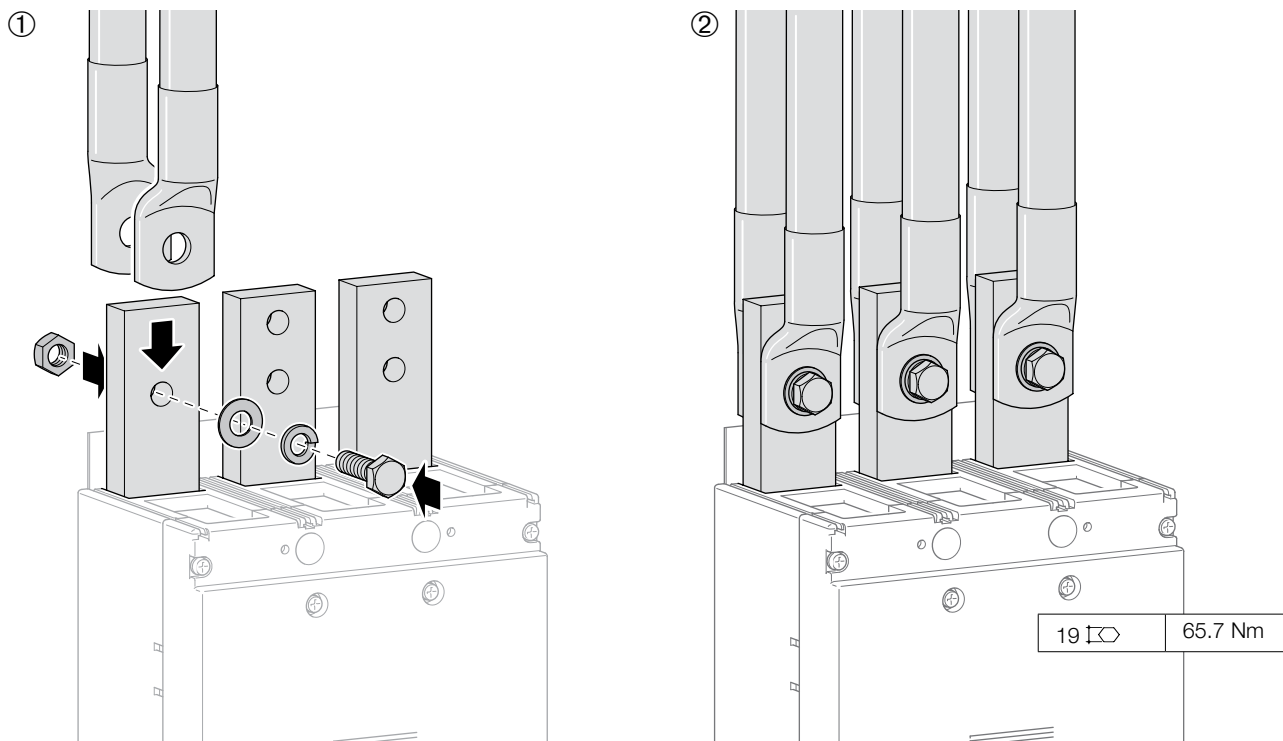


	A (mm)	B (mm)
3P	210	185
4P	280	255

Main switchgear

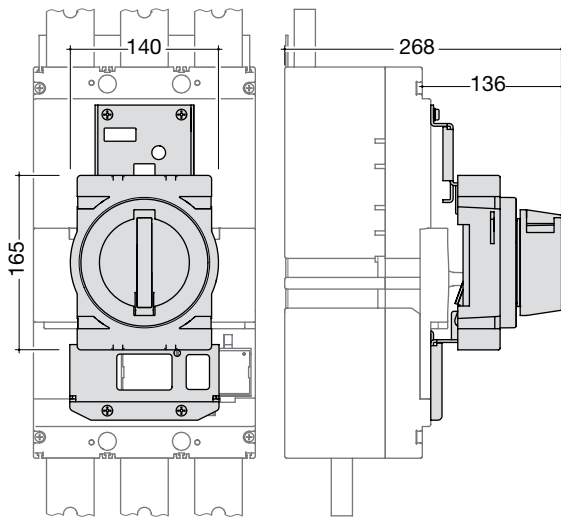
Connection

Connection with end lugs

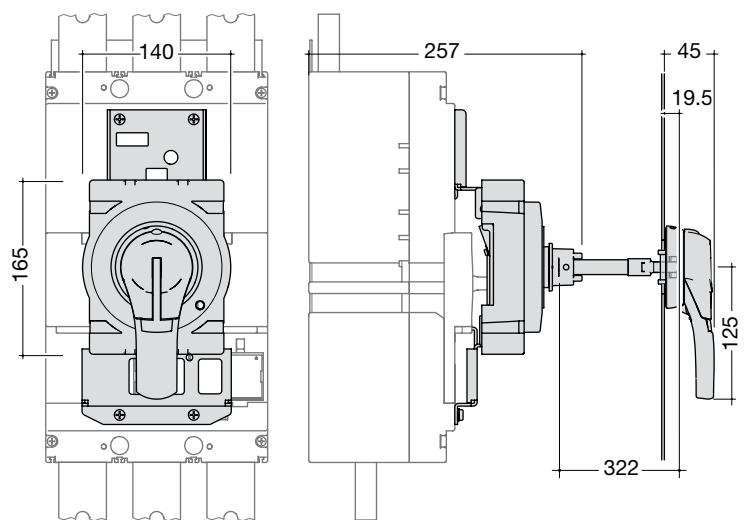


Accessories

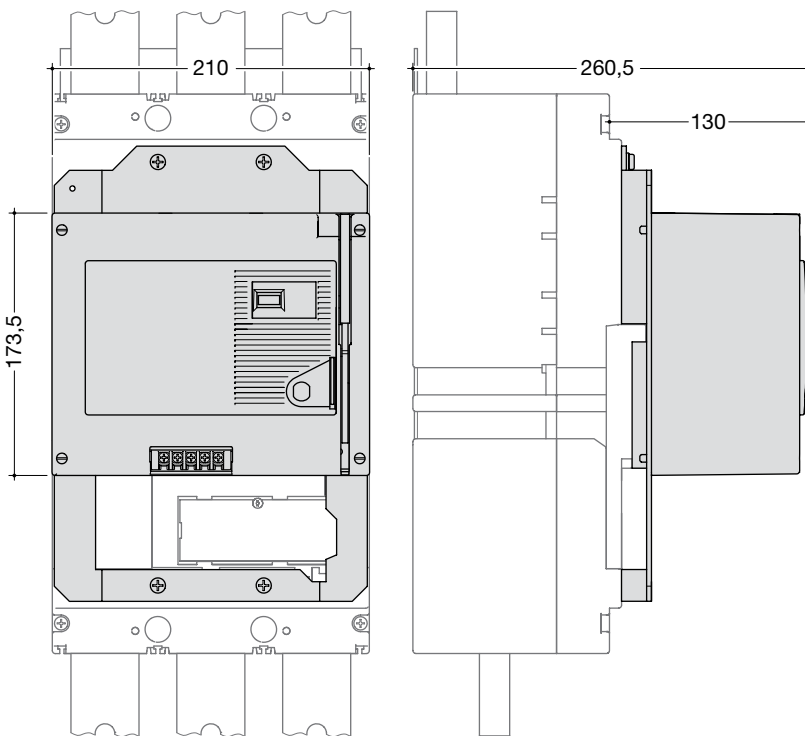
Direct rotary handle



Extended rotary handle



Motor operator

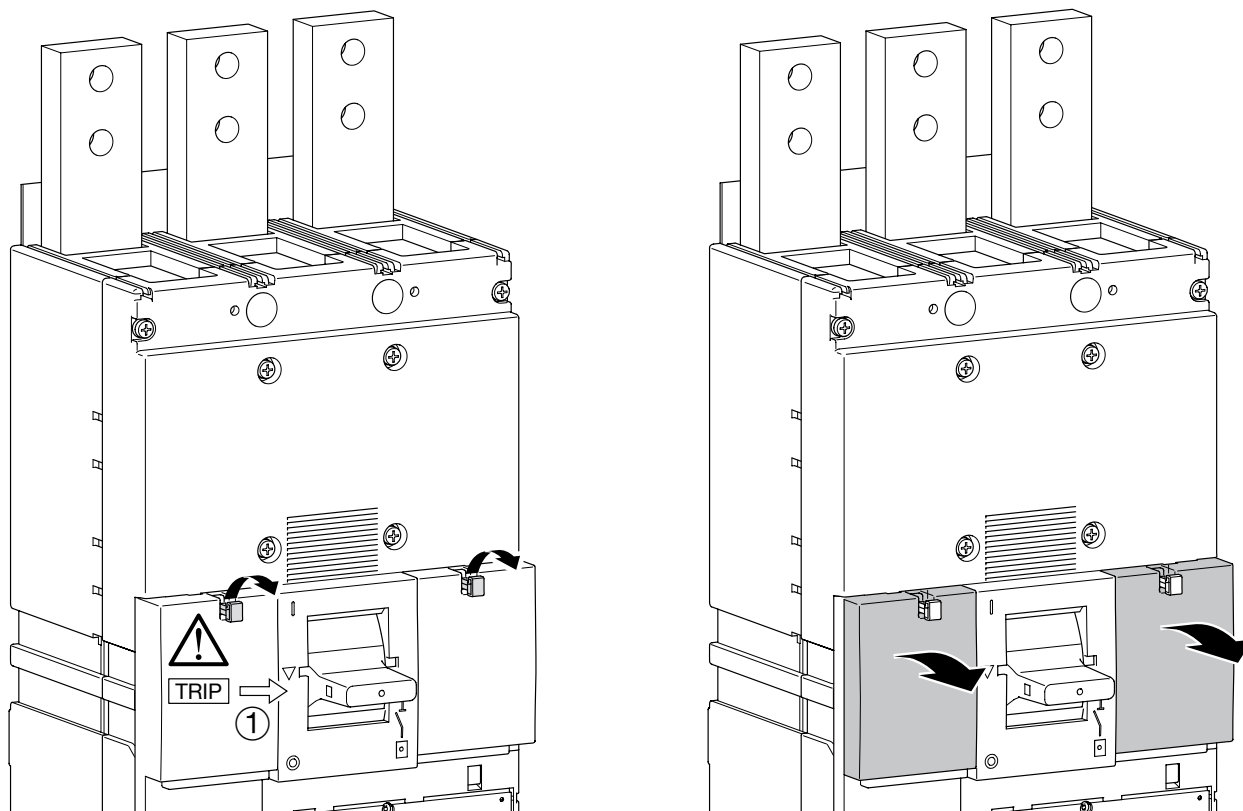


Rated operating voltage	24V DC	HXF040H
	200-230V AC	HXF042H
Operating current (A)	200-230V AC	1
Starting current (A)	200-230V AC	3.2
Operating method		spring charging
Operating time (s)	ON	0.06
	OFF	3
	RESET	3
Power supply required		300 VA minimum
Dielectric properties (1min)	24V DC	500 V AC
	200-230V AC	1500 V AC

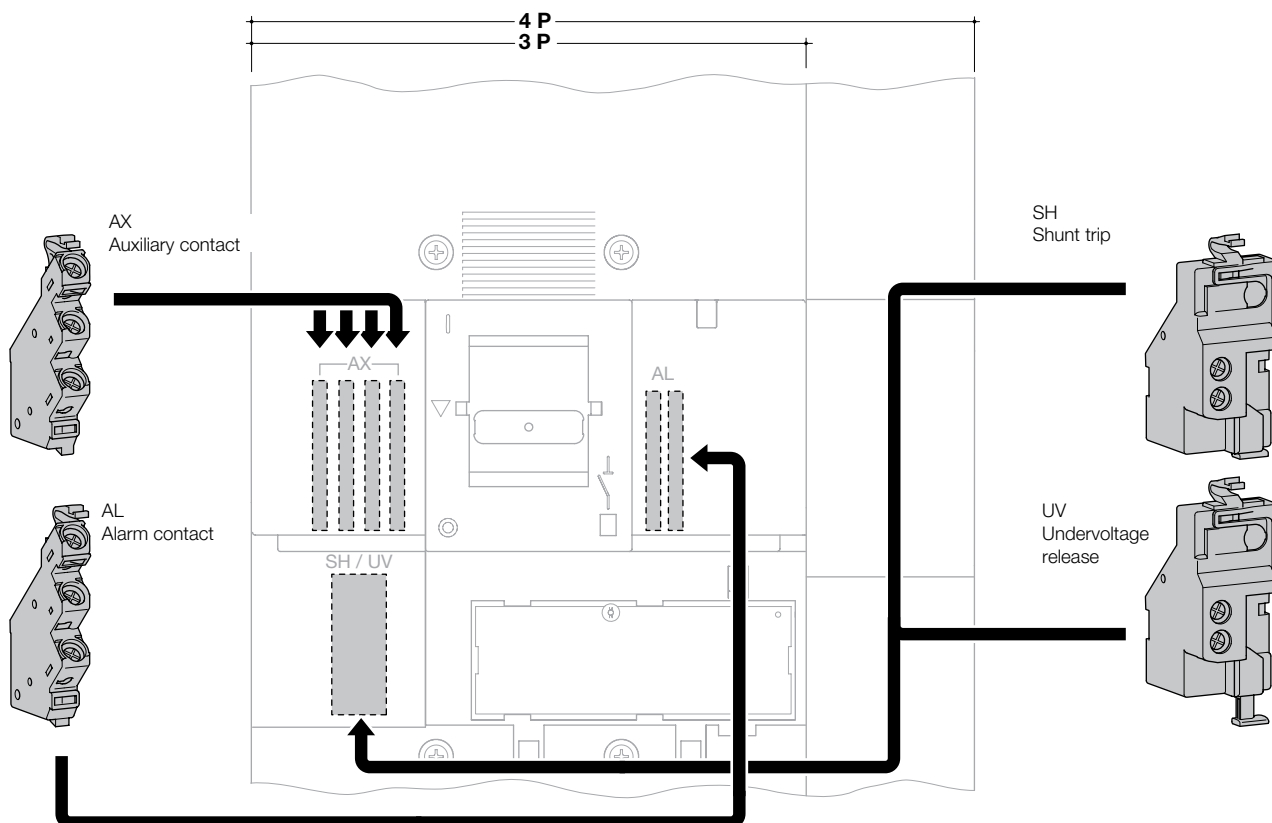
Auxiliaries

Auxiliaries for MCCBs

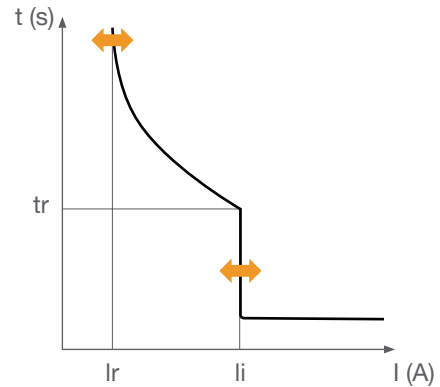
Main switchgear



Mounting combination for auxiliaries and releases



TM trip units



In at 50 °C	25 A	40 A	50 A	63 A	80 A	100 A	125 A	160 A	200 A	250 A
P160	x	x	x	x	x	x	x			
P250			x	x	x	x	x	x	x	x

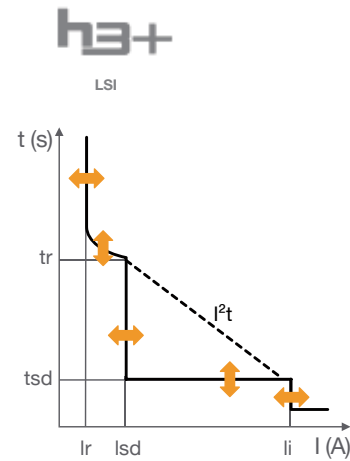
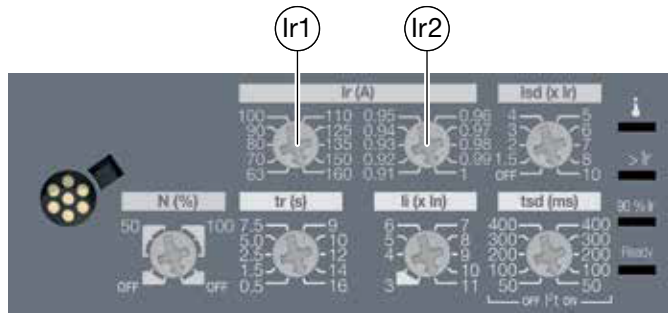
Thermal protection

Ir ... x In (tripping current between 1.05 and 1.30 x Ir)	adjustable 0.63 - 0.8 - 1
Time delay tr	fixed

Magnetic protection

Ii (+/- 20 %) x In	adjustable
P160	6 - 8 - 10 - 12 6 - 7 - 8 - 9 - 10
P250	6 - 8 - 10 - 13 6 - 8 - 10 - 12 6 - 7 - 8 - 9 - 10
Time delay	fixed

LSI trip units



In	40 A	100 A	160 A	250 A	400 A	630 A
P160	X	X	X			
P250	X	X	X	X		
P630				X	X	X

Long time protection

Ir (pick-up tripping between 1.05 and 1.20 x Ir)

Ir1 (A)	In = 40 A	16 - 18 - 20 - 22 - 25 - 28 - 32 - 34 - 37 - 40
	In = 100 A	40 - 45 - 50 - 57 - 63 - 72 - 80 - 87 - 93 - 100
	In = 160 A	63 - 70 - 80 - 90 - 100 - 110 - 125 - 135 - 150 - 160
	In = 250 A	90 - 100 - 110 - 125 - 140 - 160 - 180 - 200 - 225 - 250
	In = 400 A	160 - 180 - 200 - 225 - 250 - 300 - 350 - 370 - 400
	In = 630 A	250 - 300 - 350 - 370 - 400 - 500 - 600 - 630
Ir (A) = Ir1 x Ir2	Fine tuning Ir2	0.91 - 0.92 - 0.93 - 0.94 - 0.95 - 0.96 - 0.97 - 0.98 - 0.99 - 1
Time delay (s) accuracy -21% / +1%	tr at 6 x Ir	0.5 - 1.5 - 2.5 - 5 - 7.5 - 9 - 10 - 12 - 14 - 16

S Short time protection

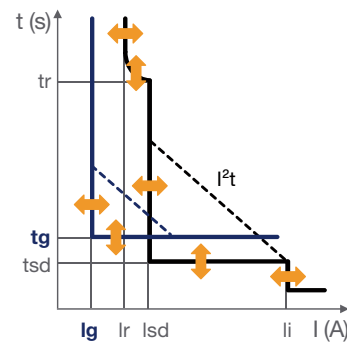
Isd = OFF ; = Ir x ...	Accuracy +/- 10 %	1.5 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 10				
Time delay (ms)	tsd I ² t OFF	50	100	200	300	400
	tsd I ² t ON	50	100	200	300	400
	Non-tripping time	20	80	180	280	380
	Maximum breaking time	80	150	250	350	450

I Instantaneous protection

Instantaneous pickup li = In x ... accuracy +/- 15 %	P160 - P250	In = 40 A ; 100 A	3 - 4 - 5 - 6 - 7 - 8 - 10 - 12 - 15
		In = 160 A ; 250 A	3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 - 11
	P630	In = 250 A ; 400 A	3 - 4 - 5 - 6 - 7 - 8 - 10 - 11 - 12
		In = 630 A	3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 - 11
Time delay (ms)	Non-tripping time	10	
	Maximum breaking time	50	

Main switchgear

Energy trip units



In		40 A	100 A	160 A	250 A	400 A	630 A
	P160	X	X	X			
	P250	X	X	X	X		
	P630				X	X	X

Long time protection

Ir (pick-up tripping between 1.05 and 1.20 x Ir)

Ir (A) ; Ir max (A)	In = 40 A	16 - 25 - 32 - 40
	In = 100 A	40 - 63 - 80 - 100
	In = 160 A	63 - 100 - 125 - 160
	In = 250 A	90 - 100 - 125 - 160 - 200 - 250
	In = 400 A	160 - 200 - 250 - 300 - 350 - 400
	In = 630 A	250 - 300 - 350 - 400 - 500 - 630

Fine tuning of 1A steps below Ir max is available using the dial on the front of the tripping unit until reaching the minimal value.

Time delay (s) accuracy -21% / +1%	tr (s) at 6 x Ir	0.5 - 1.5 - 2.5 - 5 - 7.5 - 9 - 10 - 12 - 14 - 16
------------------------------------	------------------	---

S Short time protection

Isd = OFF ; = Ir x ...	Accuracy +/- 10 %	1.5 to 10 with steps of 0.5				
Time delay (ms)	tsd I²t OFF	50	100	200	300	400
	tsd I²t ON	50	100	200	300	400
	Non-tripping time	20	80	180	280	380
	Maximum breaking time	80	150	250	350	450

I Instantaneous protection

Instantaneous pickup li = In x ... accuracy +/- 15 %	P160 - P250	In = 40 A ; 100 A	3 to 15 with steps of 0.5				
			In = 160 A ; 250 A	3 to 11 with steps of 0.5			
	P630	In = 250 A ; 400 A	3 to 12 with steps of 0.5				
		In = 630 A	3 to 11 with steps of 0.5				
Time delay (ms)		Non-tripping time	10				
		Maximum breaking time	50				

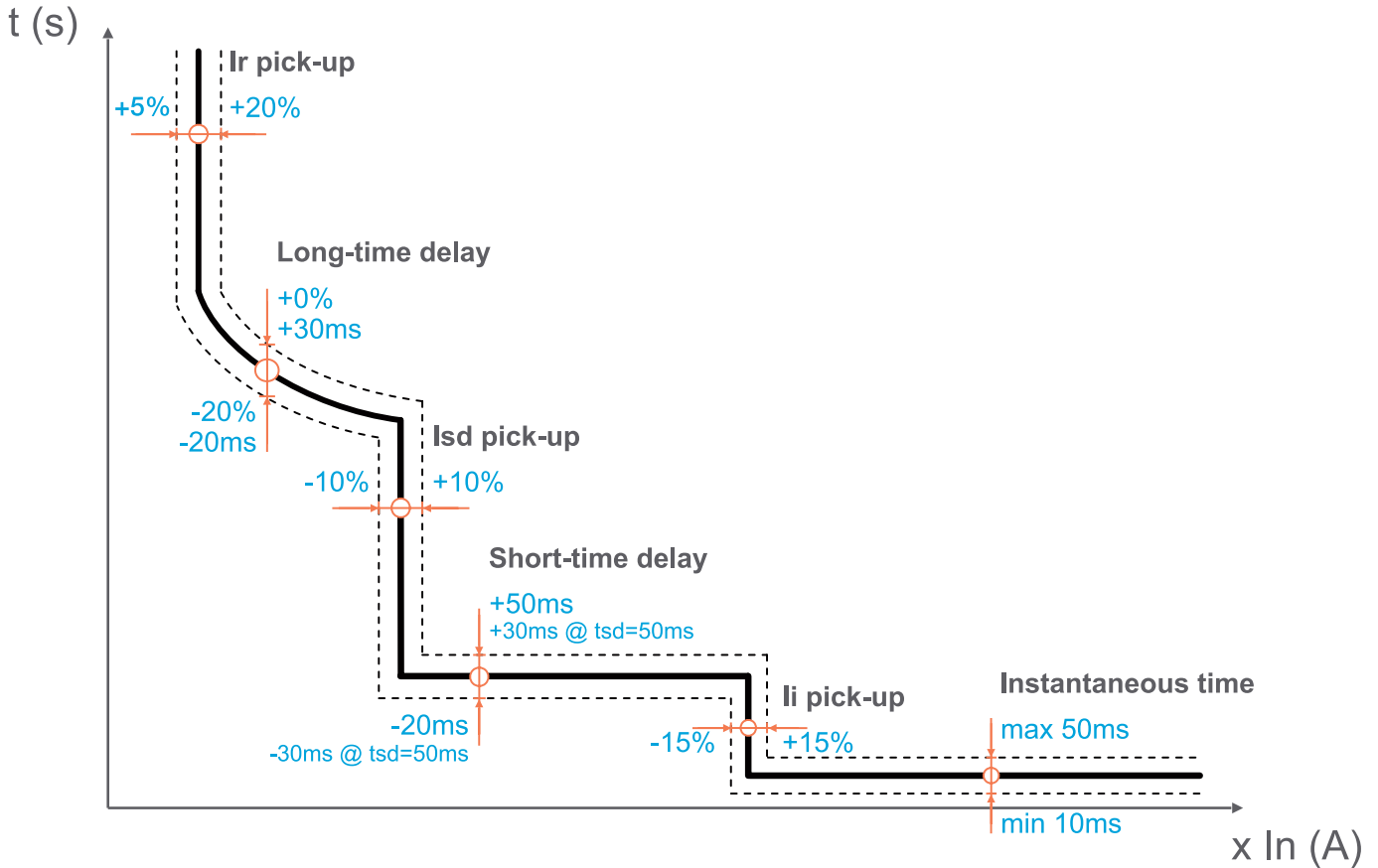
G Ground fault protection

Ground fault pickup Ig lg = OFF; = % In	In = 40 A	40 to 100 with steps of 5					
		In > 40 A	20 to 100 with steps of 5				
Time Delay (ms)	tsd I²t OFF	50	100	200	300	400	500
	tsd I²t ON	50	100	200	300	400	500
	Non-tripping time	20	80	180	280	380	480
	Maximum breaking time	80	150	250	350	450	550

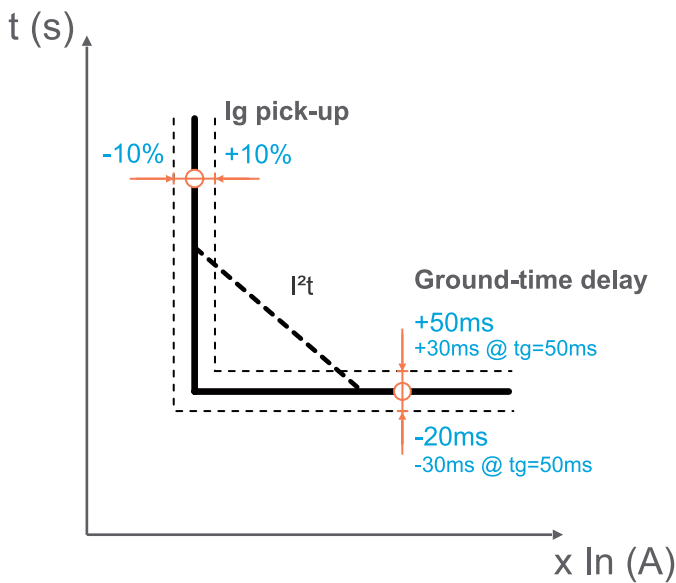
Tripping tolerance of electronic trip units

Tolerances limits for tripping curves of electronic trip units are not described on tripping curves drawing. Both following diagrams give the tolerance to take in account on further LSnl, LSI, LSiG, Energy and G tripping curves drawings

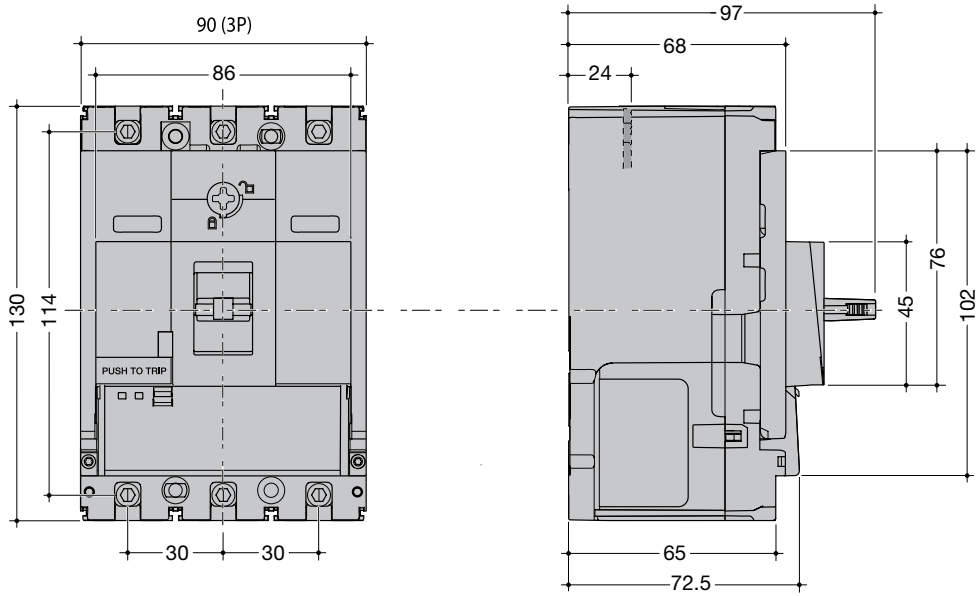
Tolerance limits of LSnl, LSI, LSiG and Energy tripping curves



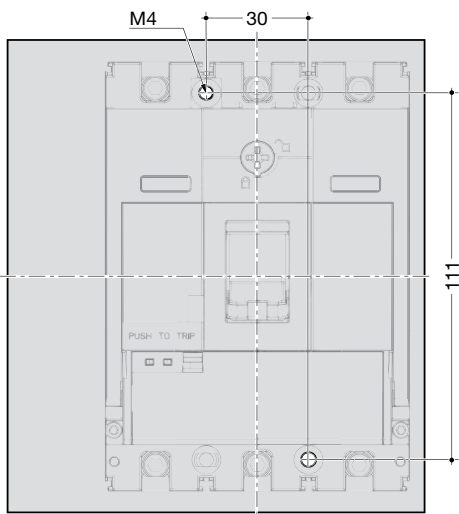
Tolerance limits of G characteristic of Energy trip unit



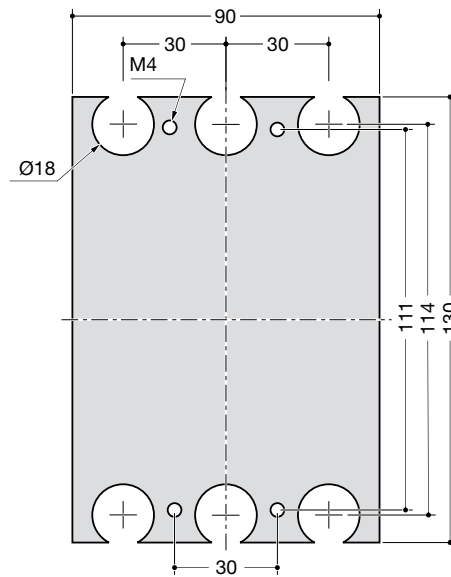
Circuit Breakers



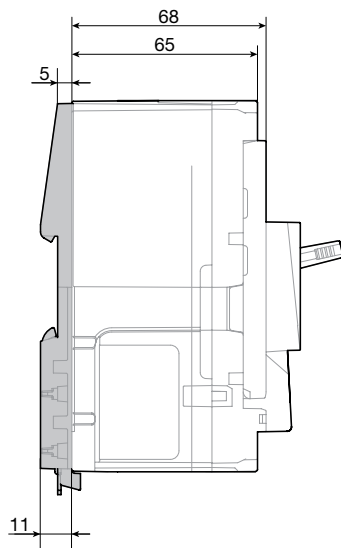
Back plate drilling pattern (3P)



Rear connection back plate drilling pattern (3P)

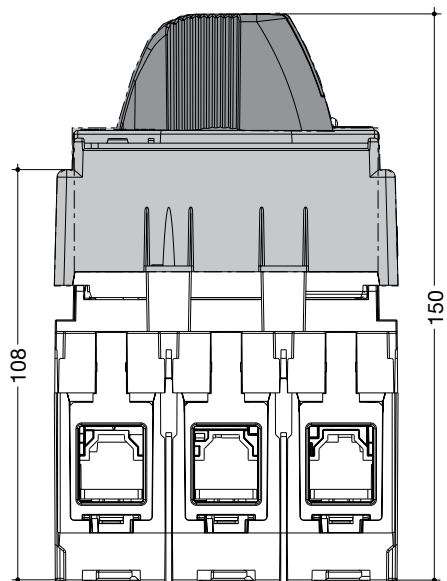


DIN rail adaptor



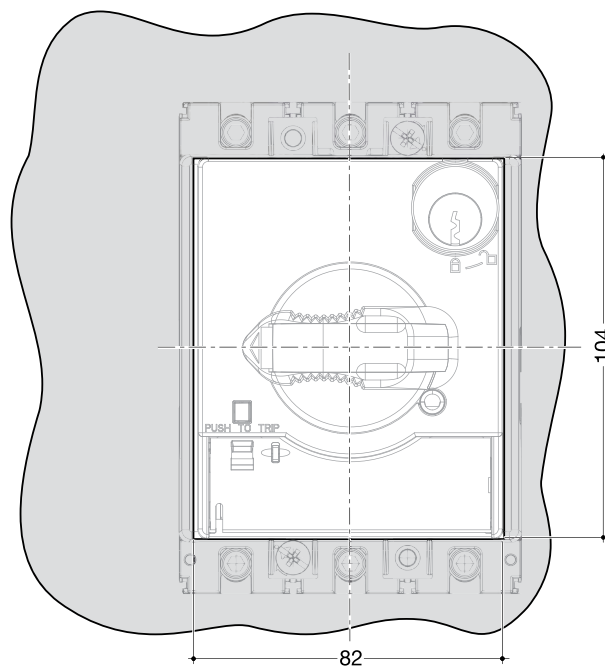
Rotary handle P160

3P



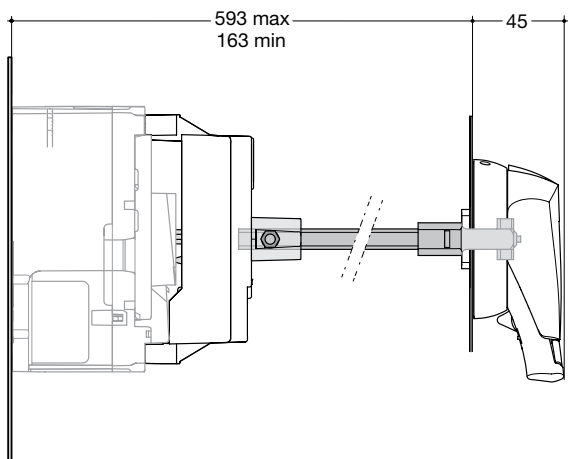
Panel cut-out rotary handle P160

3P



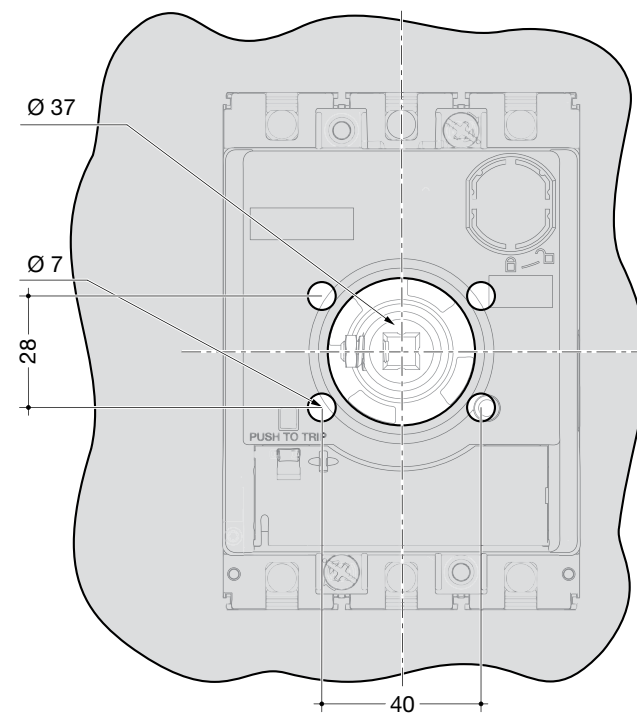
Main
switchgear

Extended rotary handle P160



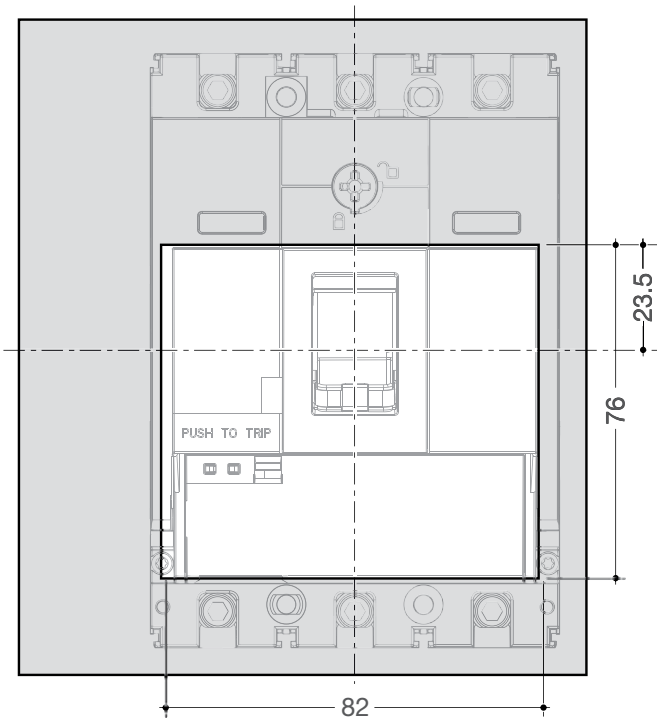
Panel cut-out extended rotary handle P160

3P

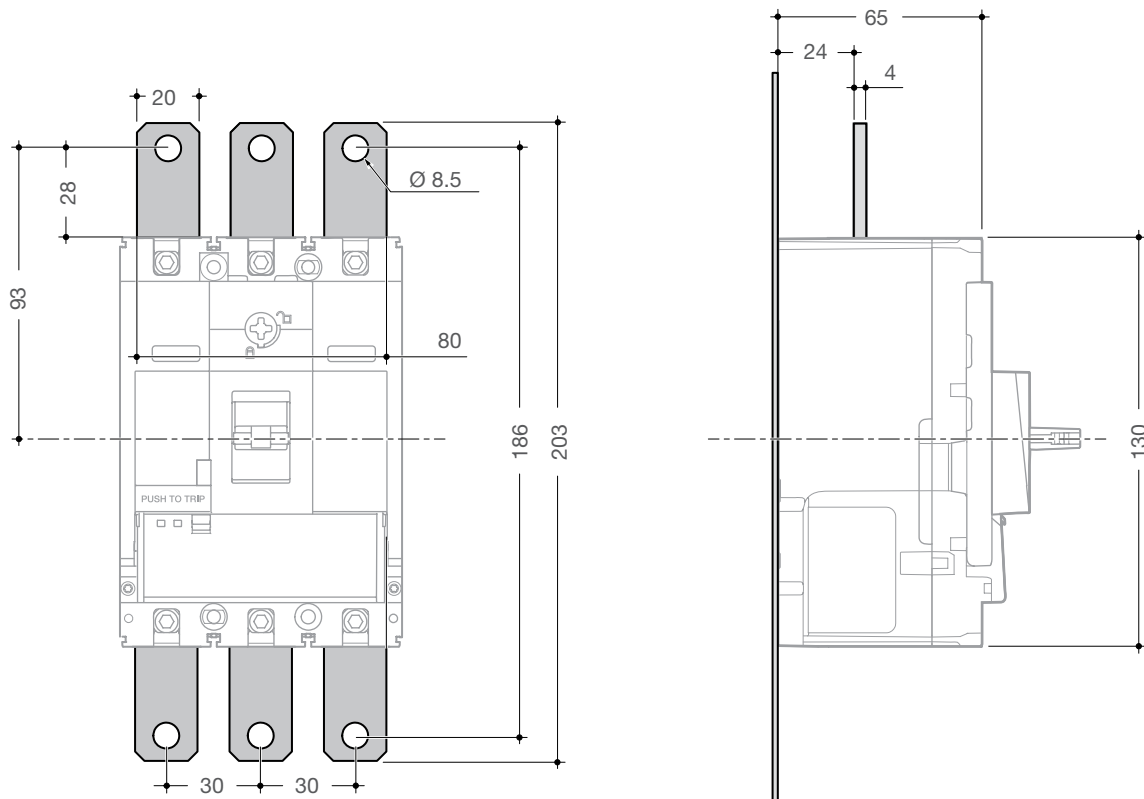


Dimensions in mm

Panel cut-out circuit breaker P160
3P



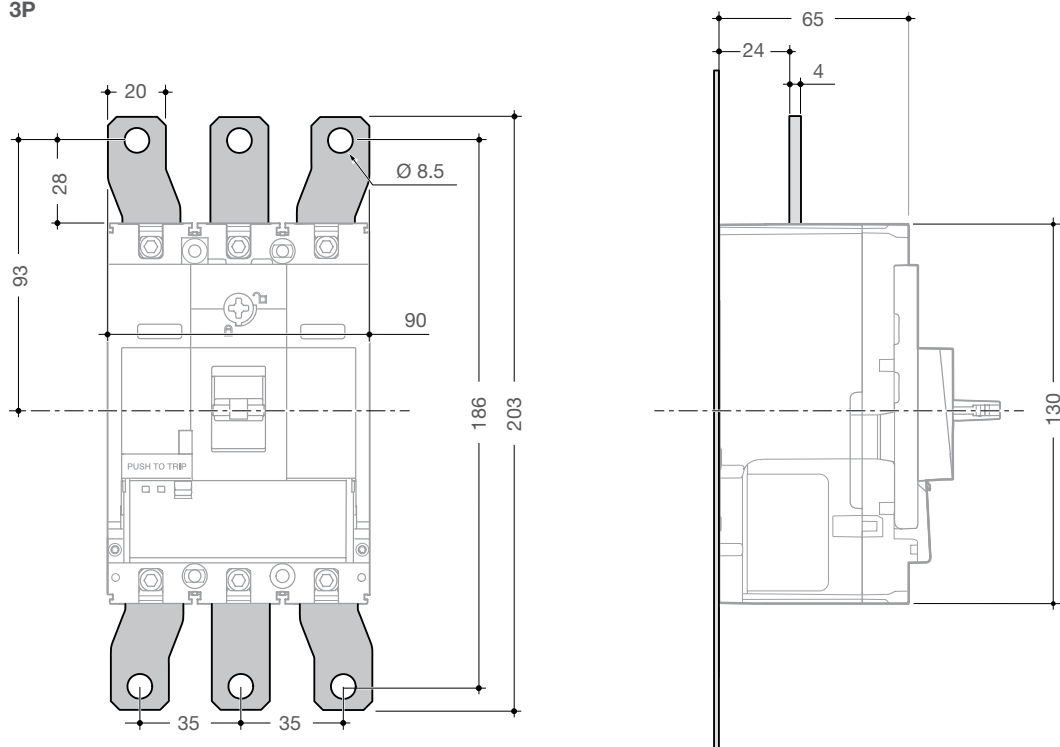
Straight terminal extensions P160
3P



Dimensions in mm

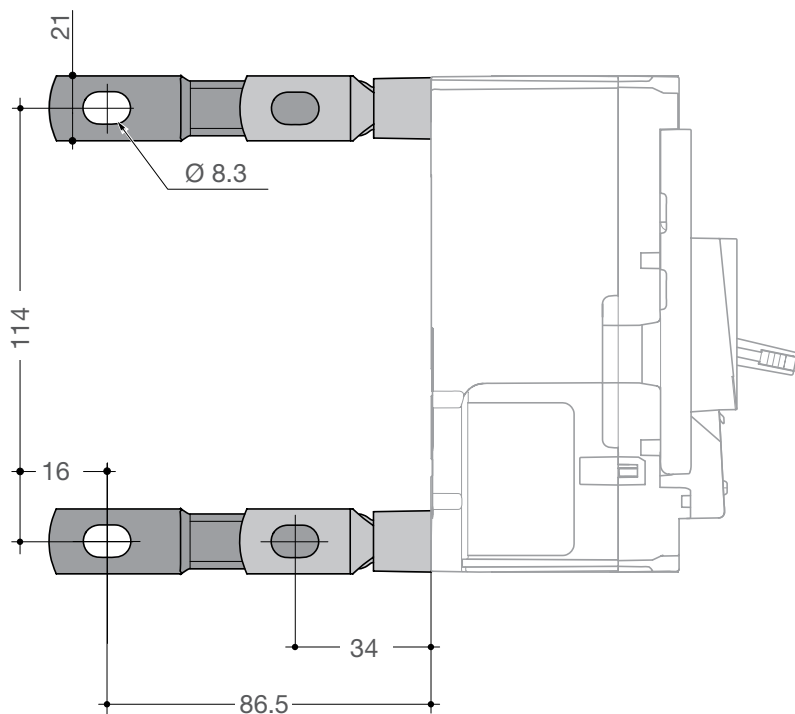
Subject to technical modification

Spreaders P160 3P



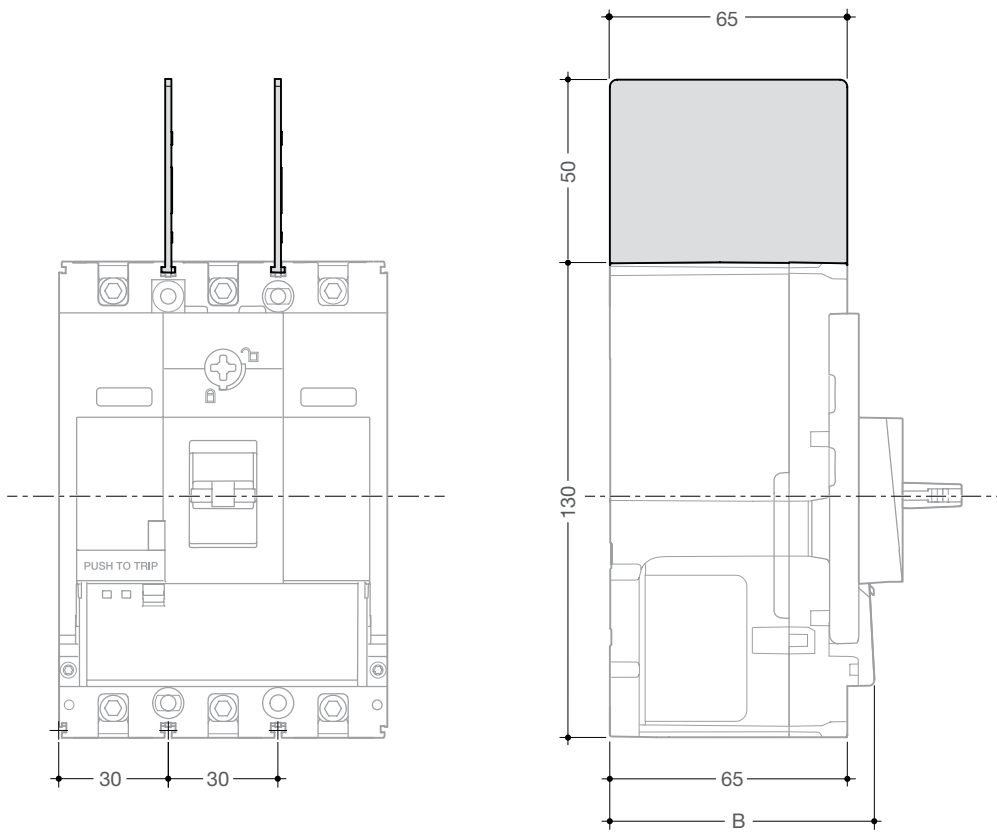
Main switchgear

Rear connections P160 3P



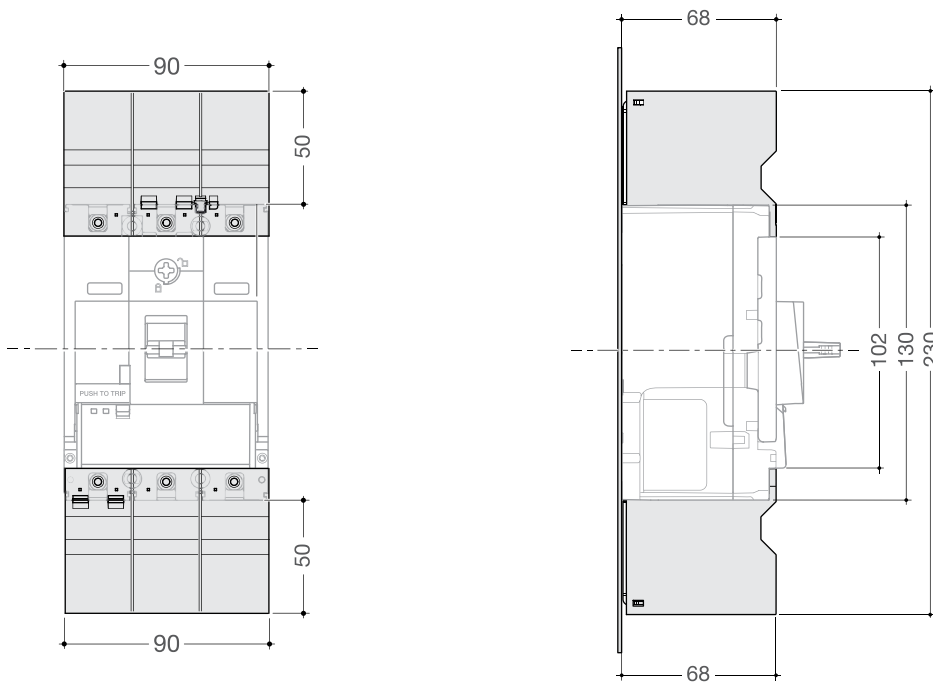
Dimensions in mm

Interphase barriers P160
3P



Main switchgear

Terminal cover P160
3P



Dimensions in mm

Subject to technical modification

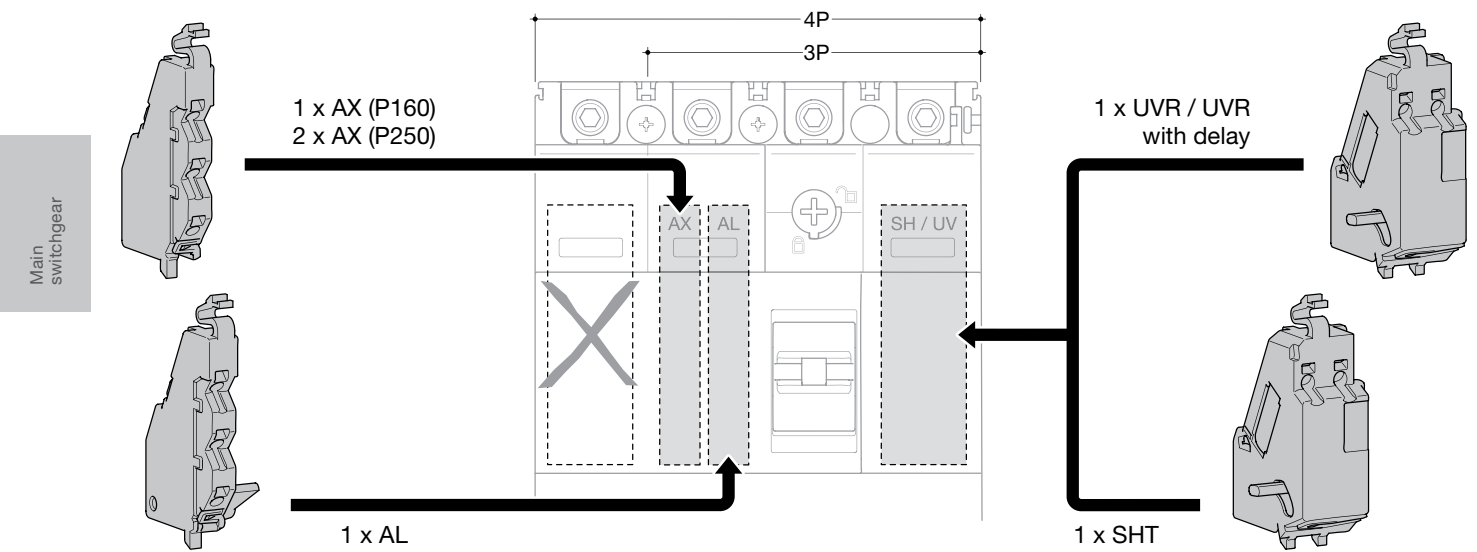
Selection of auxiliaries

All MCCBs share the same internal auxiliaries. The installation of the auxiliaries is simple and does not require any specific tool.

P160 MCCBs have internal locations dedicated to the mounting of the following electrical auxiliaries.

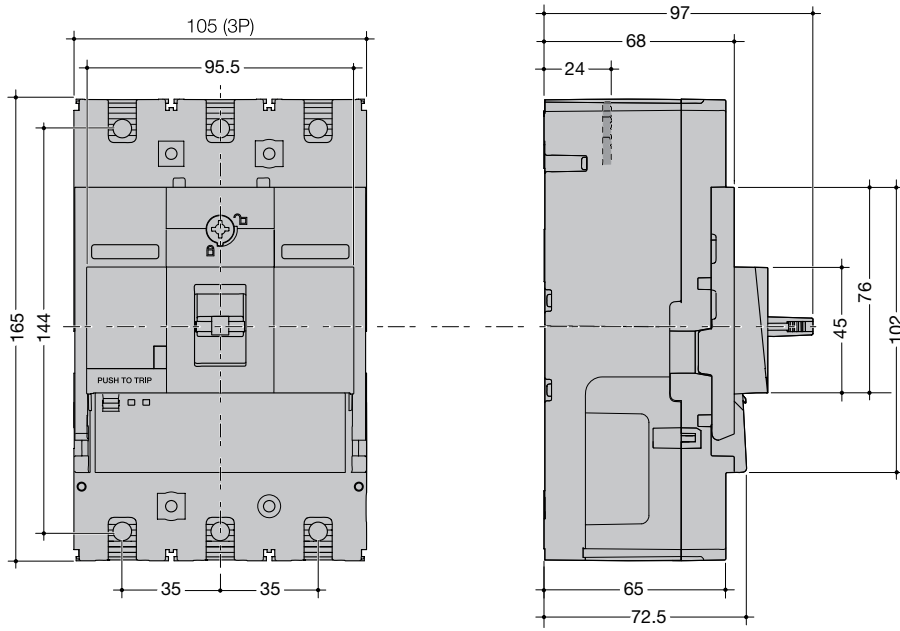
- 1 AX ON/OFF
- 1 AL trip indication
- 1 UVR / UVR with delay or 1 SHT

Location of auxiliaries P160

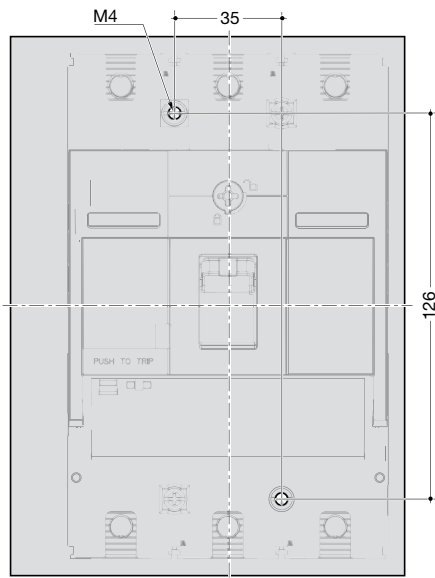


Dimensions in mm

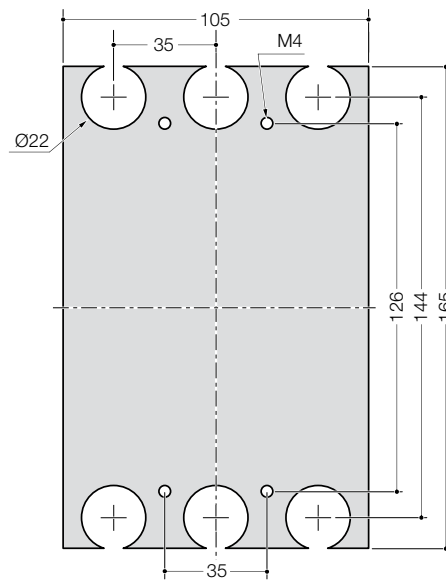
Circuit Breakers



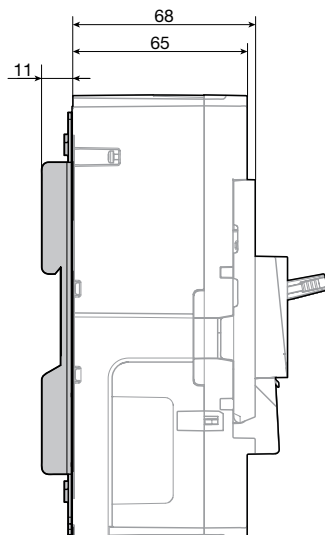
Back plate drilling pattern (3P)



Rear connection back plate drilling pattern (3P)

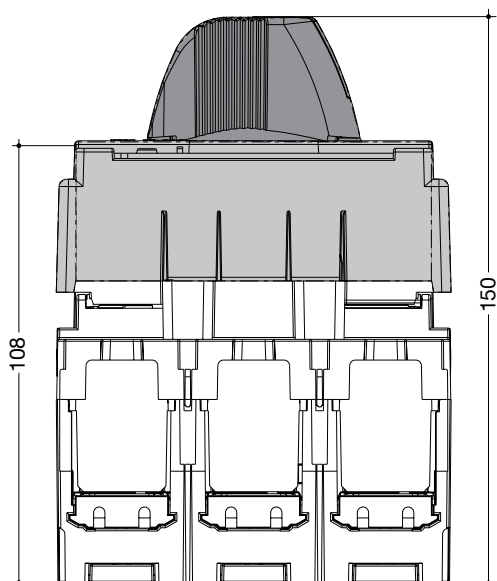


DIN rail adaptor

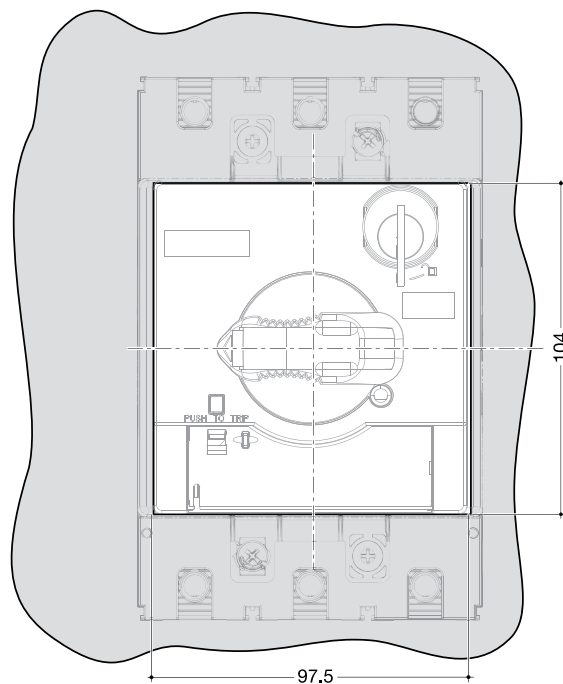


Dimensions in mm

Rotary handle P250
3P

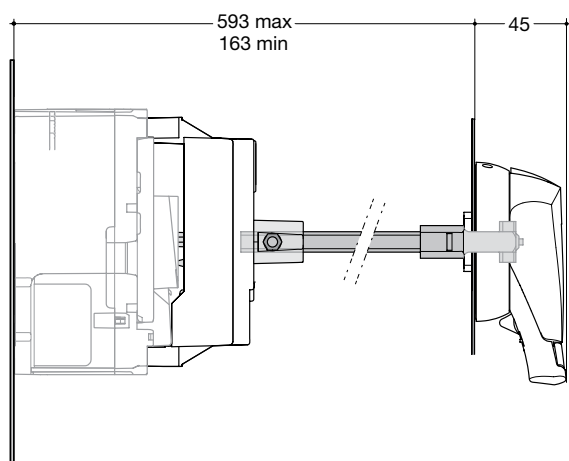


Panel cut-out rotary handle P250
3P

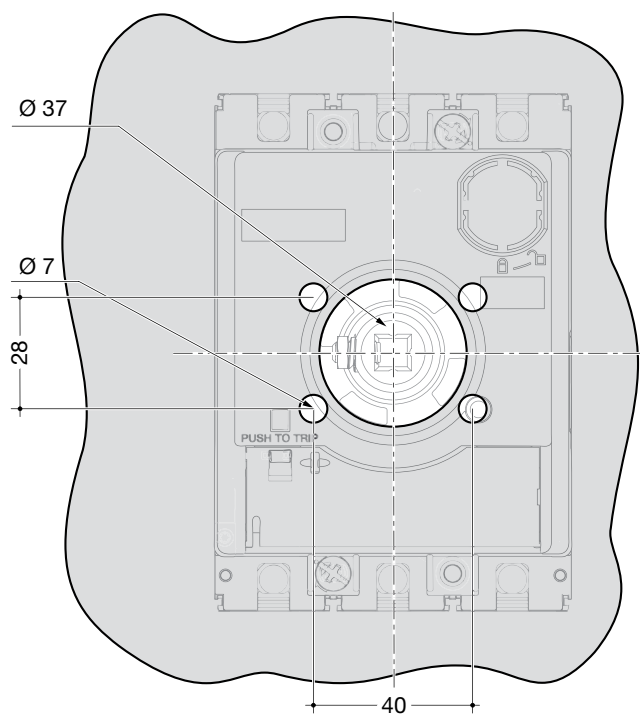


Main switchgear

Extended rotary handle P250
3P

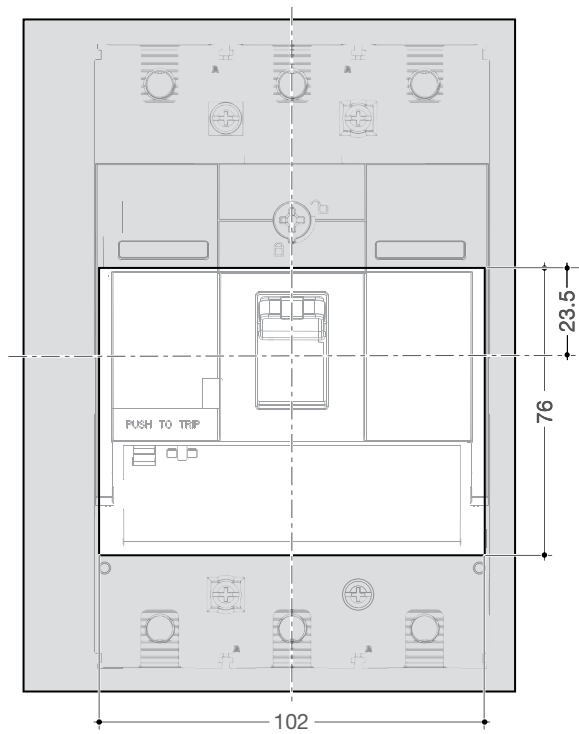


Panel cut-out extended rotary handle P250
3P



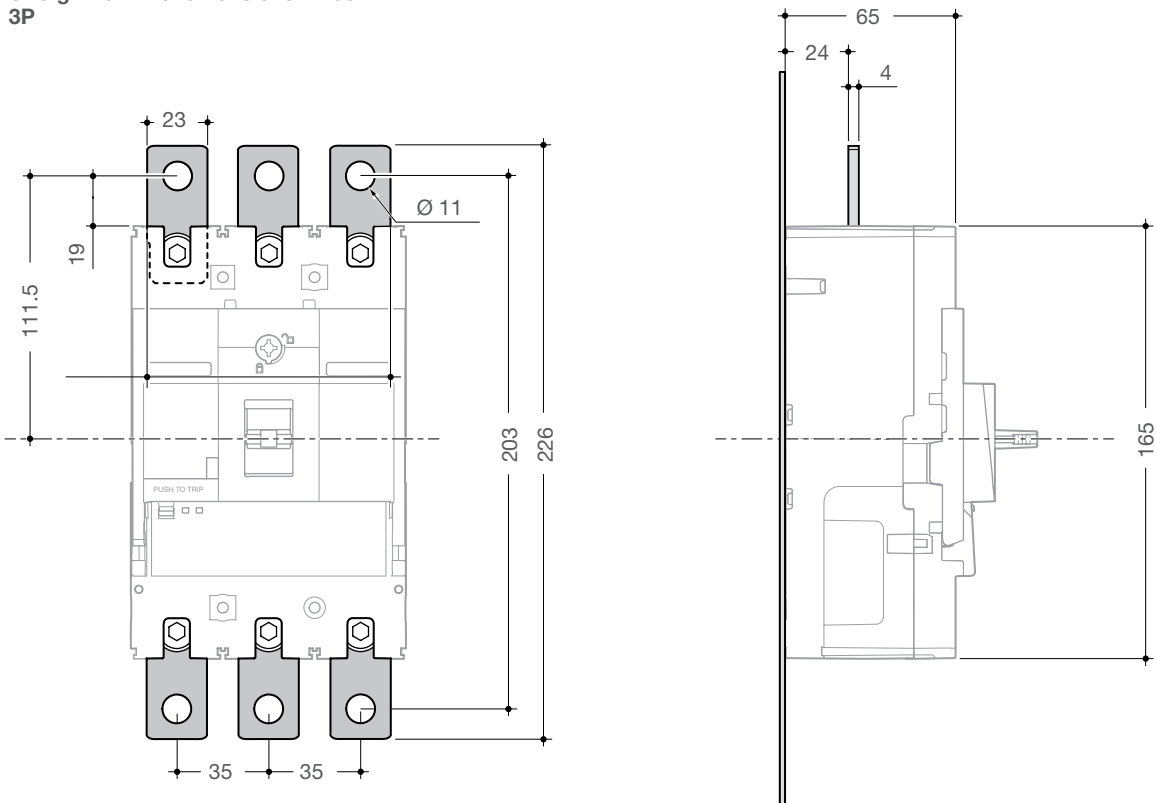
Dimensions in mm

Panel cut-out circuit breaker P250
3P



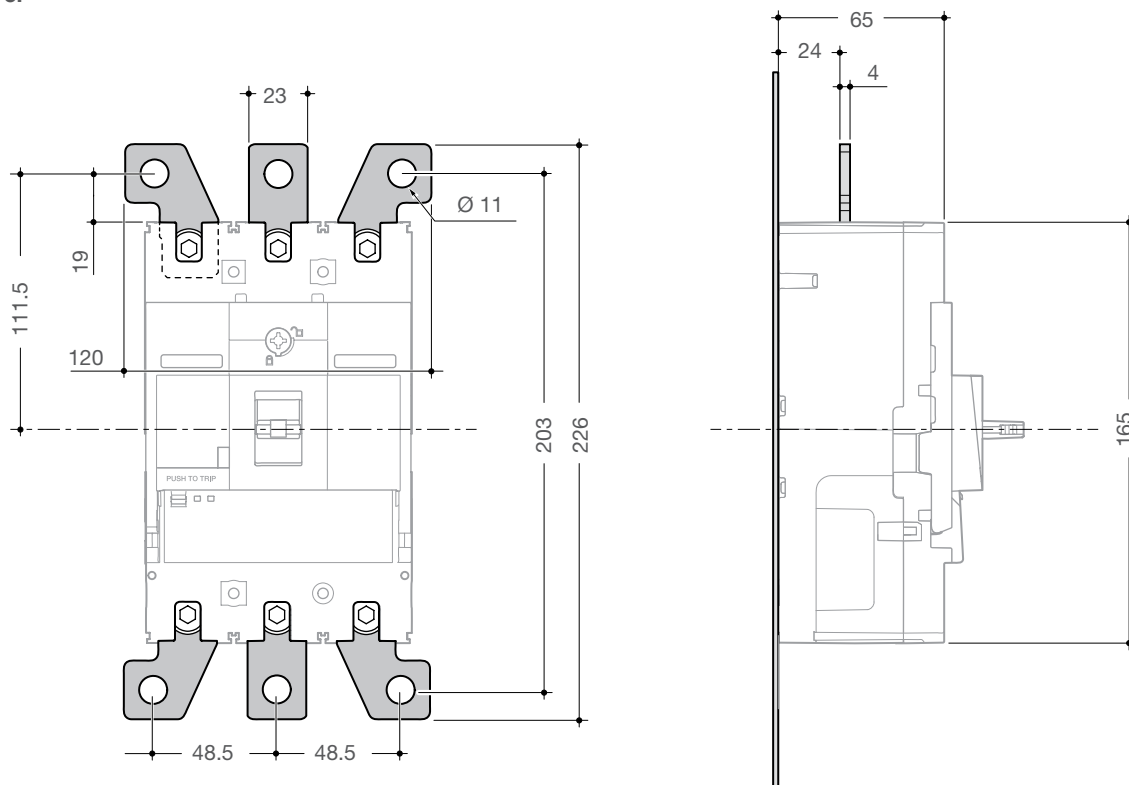
Main switchgear

Straight terminal extensions P250
3P



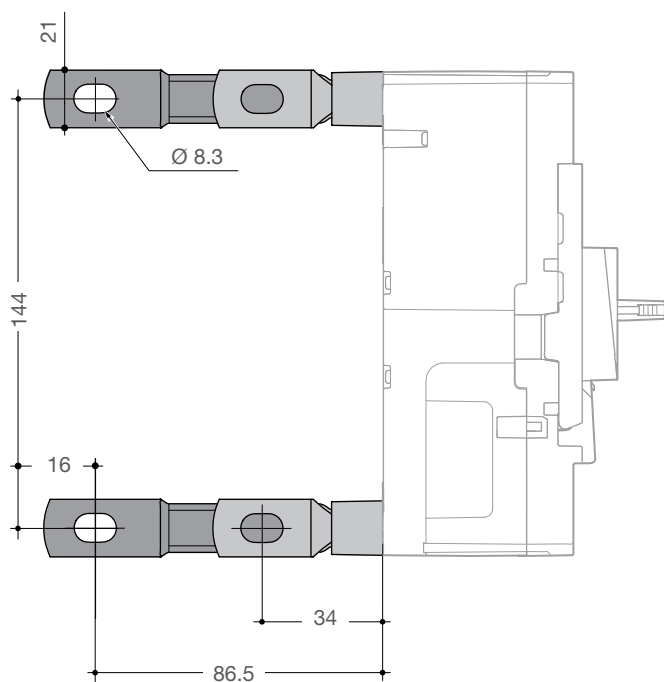
Dimensions in mm

Spreaders P250
3P



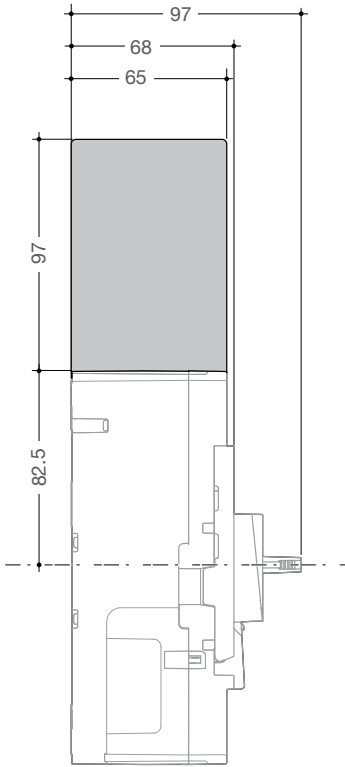
Main switchgear

Rear connections P250
3P



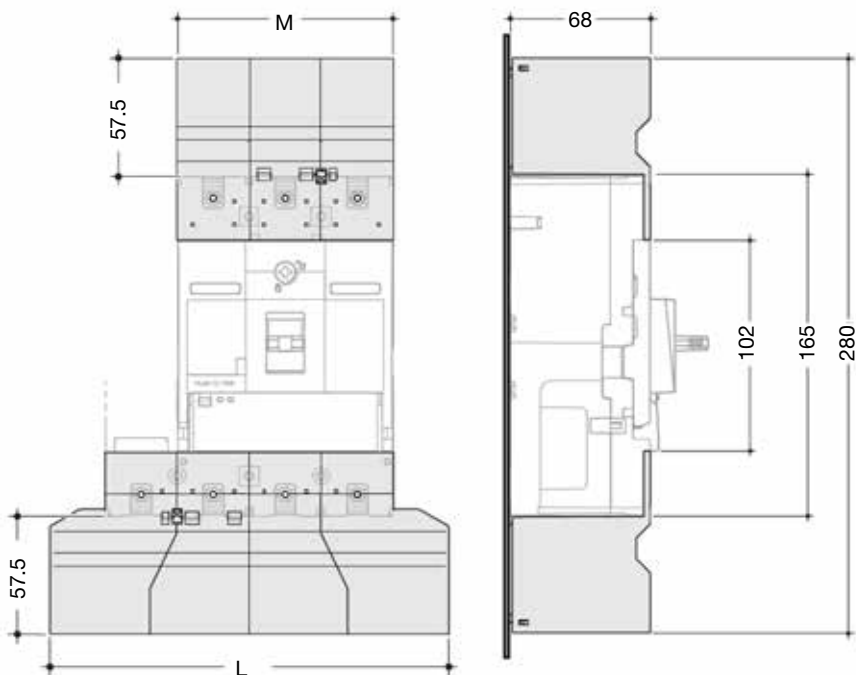
Dimensions in mm

Interphase barriers P250
3P



Main switchgear

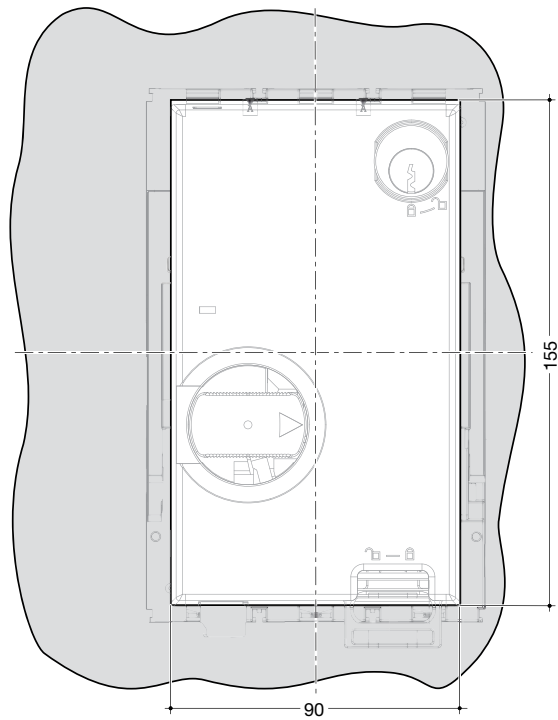
Terminal Cover P250
3P



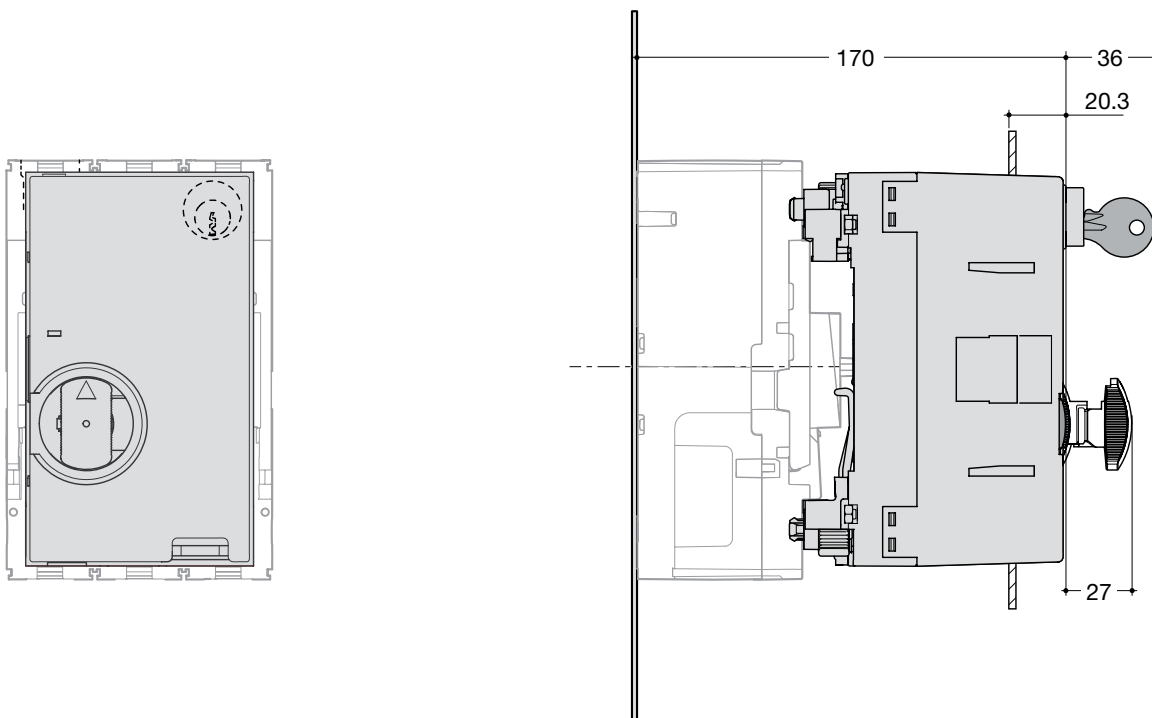
	L (mm)	M (mm)
3P	145.5	105

Dimensions in mm

Panel cut-out motor operator P250
3P



Motor operator with fixed circuit breaker P250
3P



Dimensions in mm

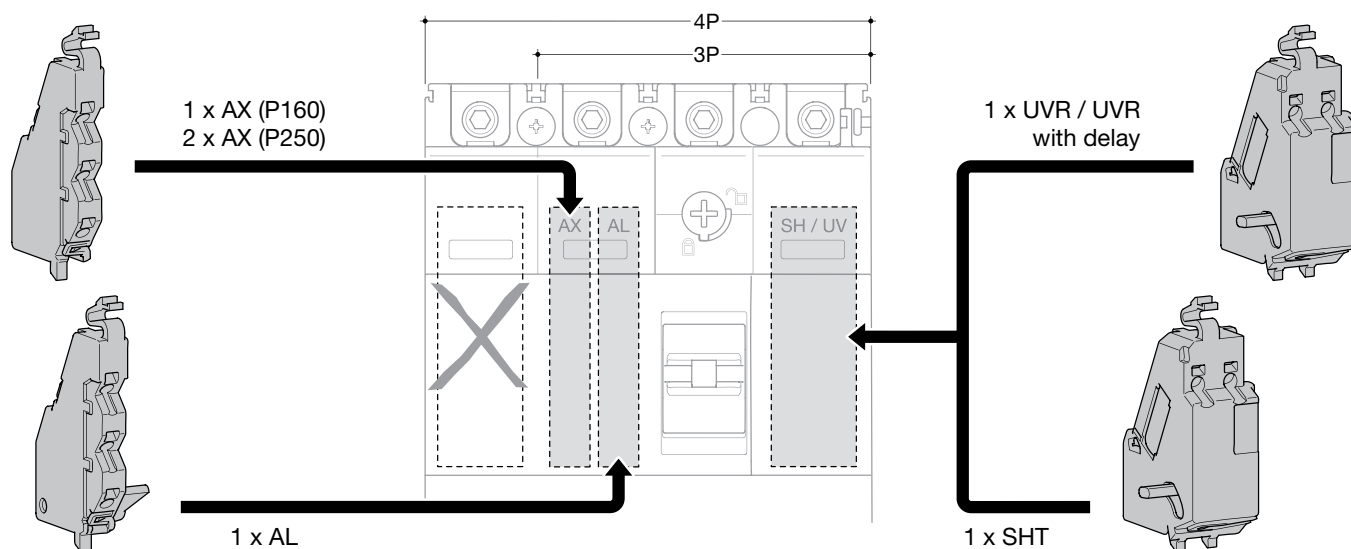
Selection of auxiliaries

All MCCBs share the same internal auxiliaries. The installation of the auxiliaries is simple and does not require any specific tool.

P250 MCCBs have internal locations dedicated to the mounting of the following electrical auxiliaries.

- 1 AX ON/OFF
- 1 AL trip indication
- 1 UVR / UVR with delay or 1 SHT

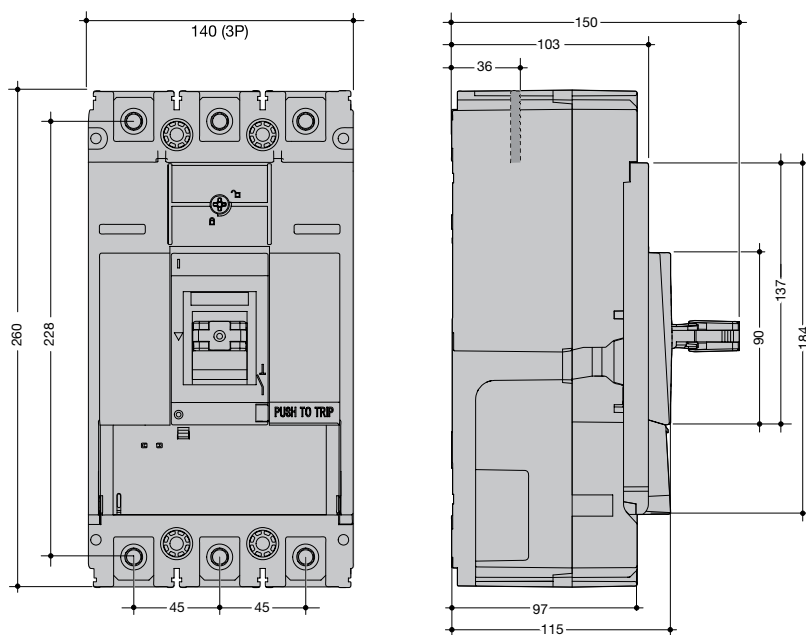
Location of auxiliaries P250



Rated operating voltage	Un	24 V DC	48 V DC	100-110 V DC	200-220 V DC	100-110 V AC	200-220 V AC	230-240 V AC
Frequency	Hz	-	-	-	-	50/60	50/60	50/60
Operating current / Starting current Peak value	A	14.1/26.5	11.4/17.1	3.4/7.6	4.2/5.9	3.6/8.7	3.6/6.6	3.4/6
Operating method		Direct drive						
Operating time	ON	ms	<100					
	OFF	ms	<100					
	RESET	ms	<100					
Operating frequency	Cycle / min.	4						
Power supply required	VA	>300						

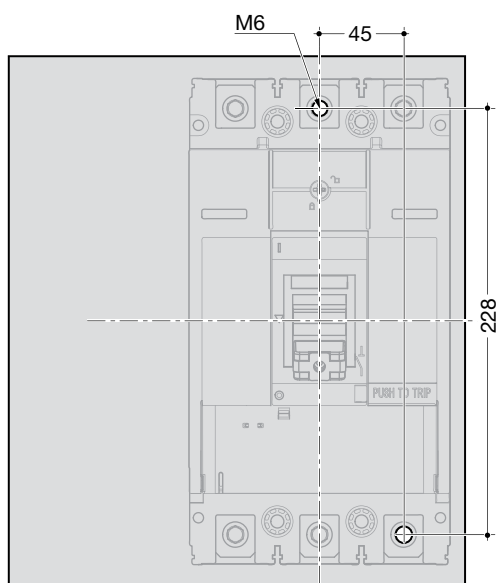
Dimensions in mm

Circuit Breakers

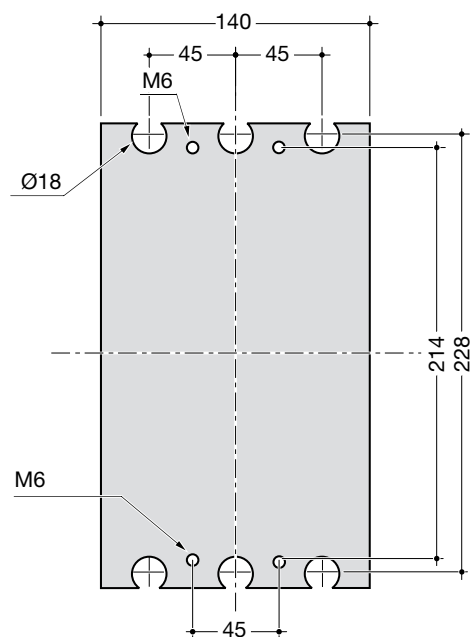


Main switchgear

Back plate drilling pattern (3P)

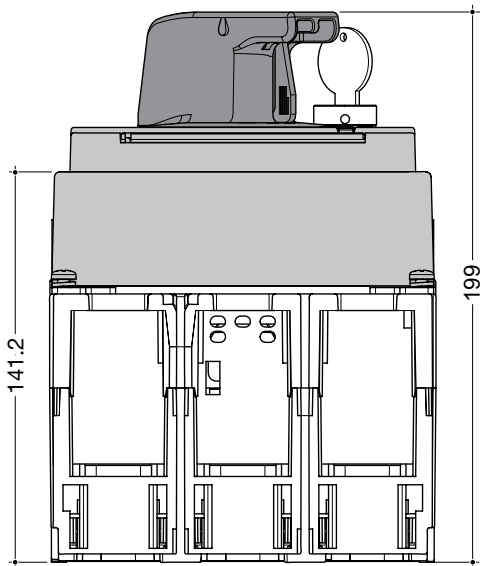


Rear connection back plate drilling pattern (3P)

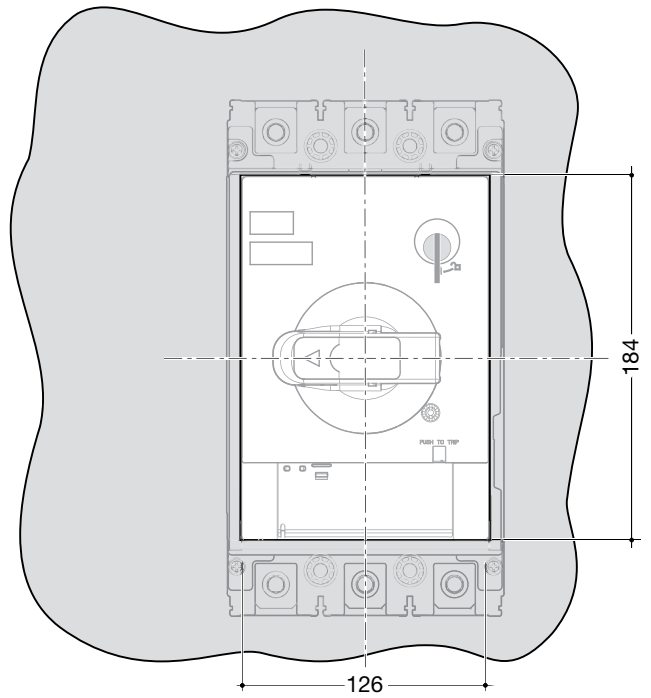


Dimensions in mm

Rotary handle P630
3P

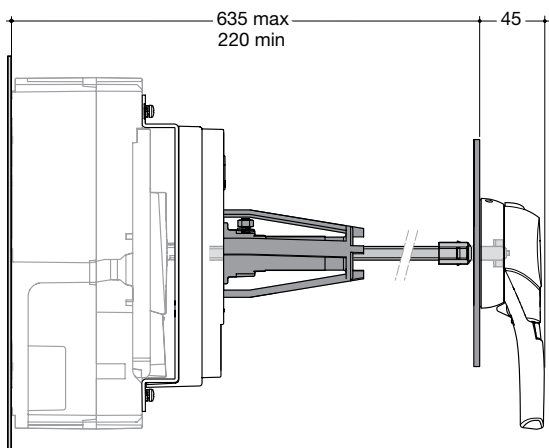


Panel cut-out rotary handle P630
3P

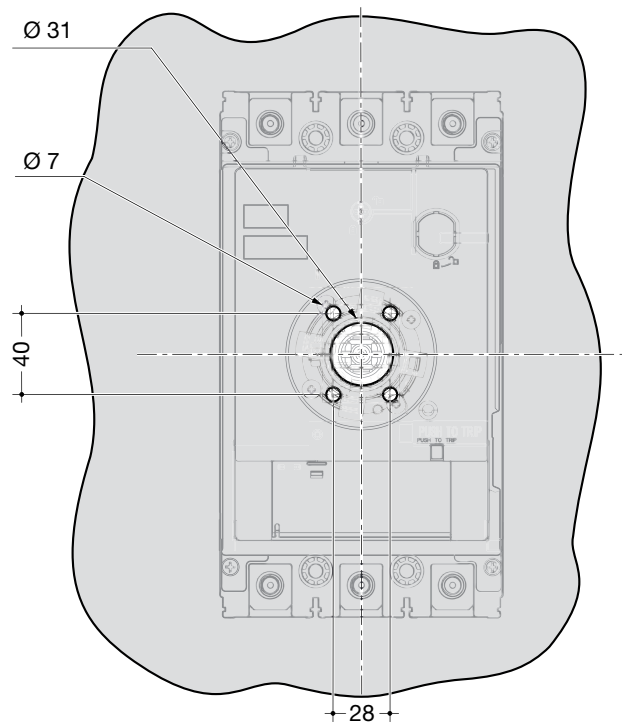


Main switchgear

Extended rotary handle P630
3P



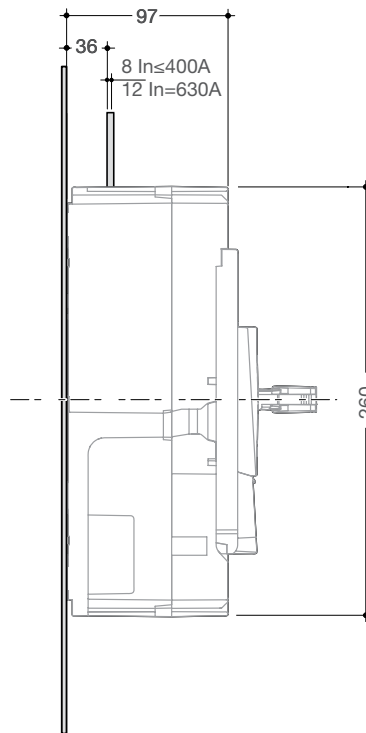
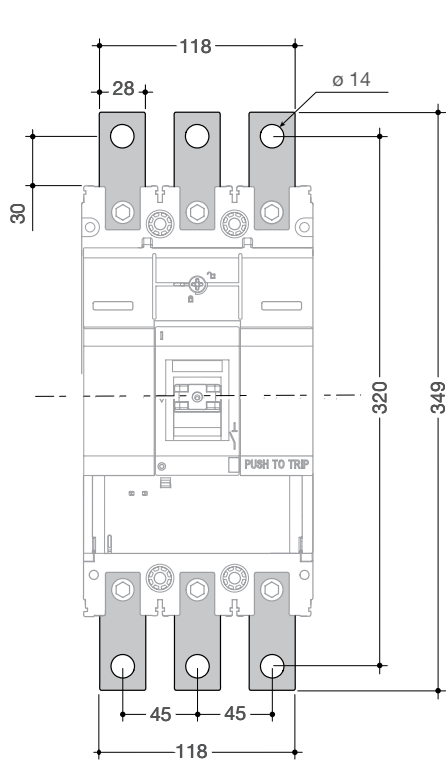
Panel cut-out extended rotary handle P630
3P



Dimensions in mm

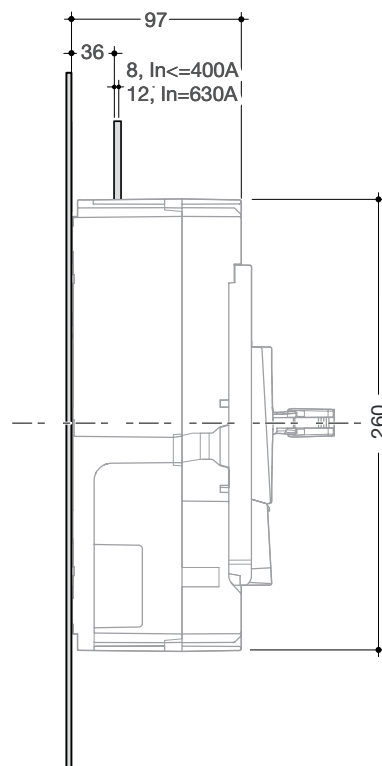
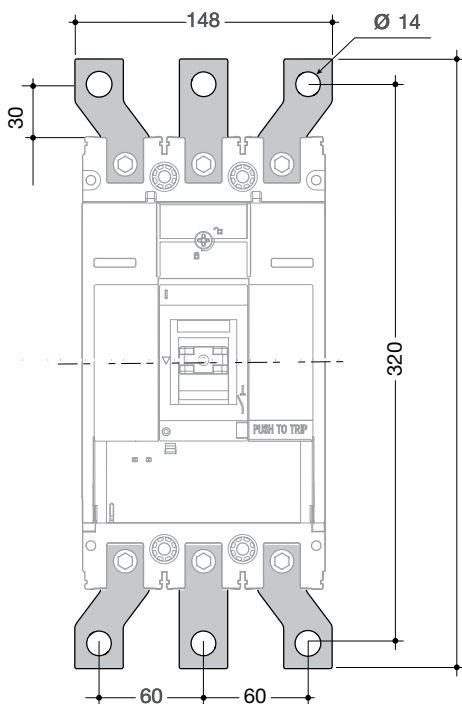
Subject to technical modification

Straight terminal extensions P630 3P



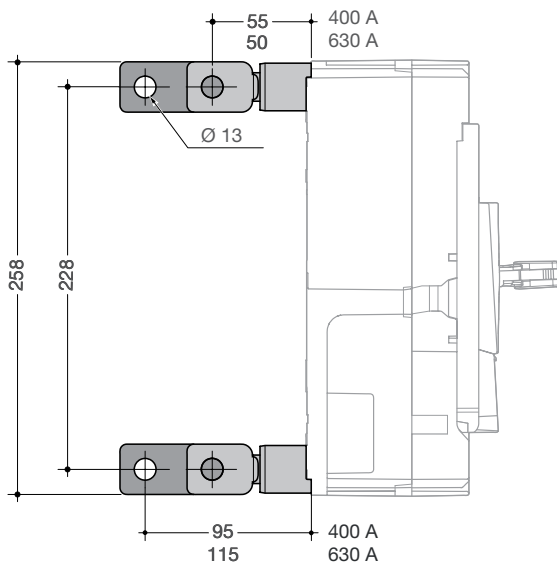
Main switchgear

Spreaders P630 3P

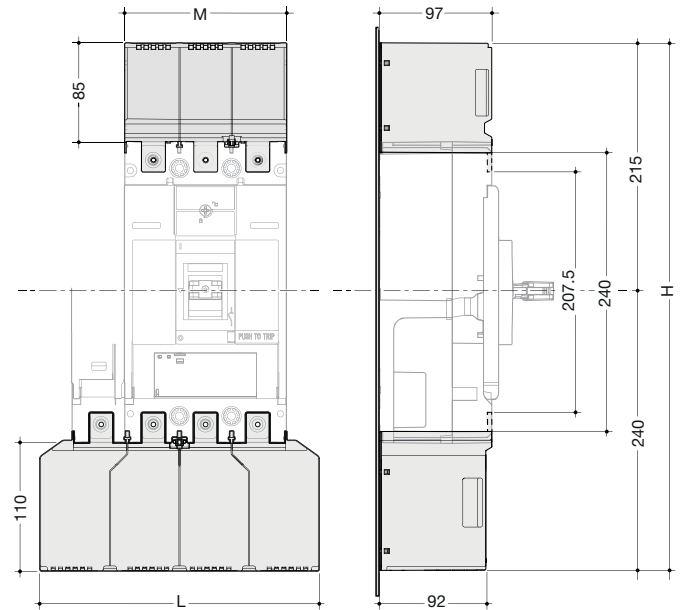


Dimensions in mm

Rear connections P630
3P



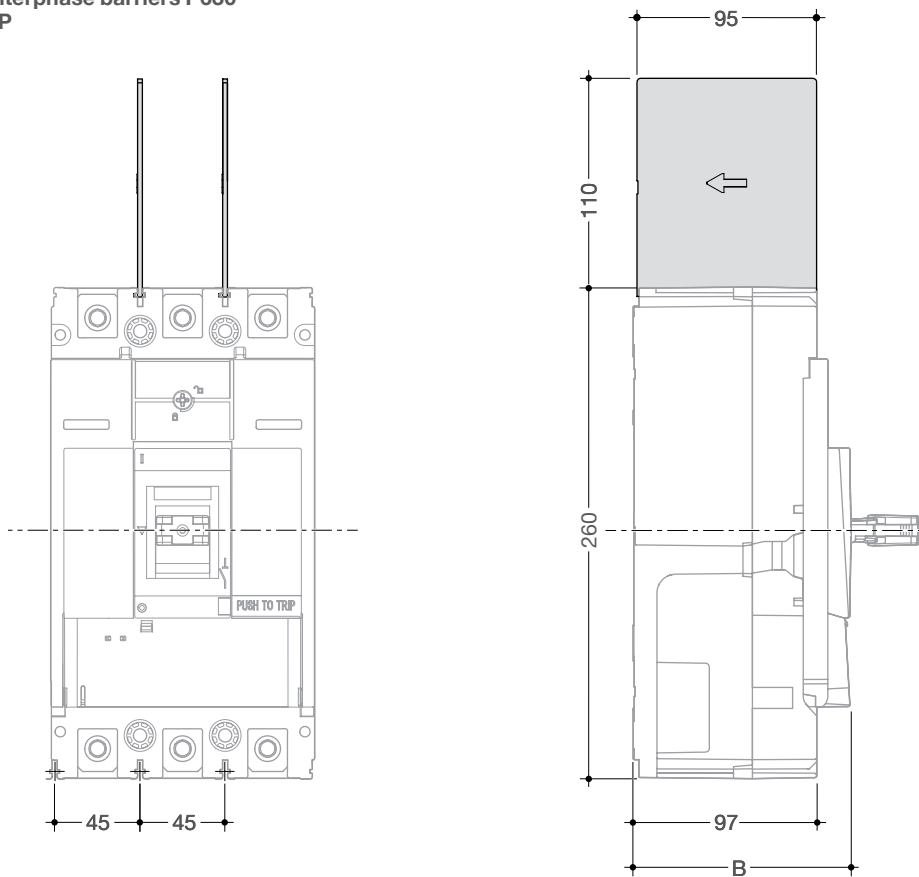
Terminal cover P630
3P



	Spreader	Straight
	L (mm)	M (mm)
3P	180	140
H	480	430

Main switchgear

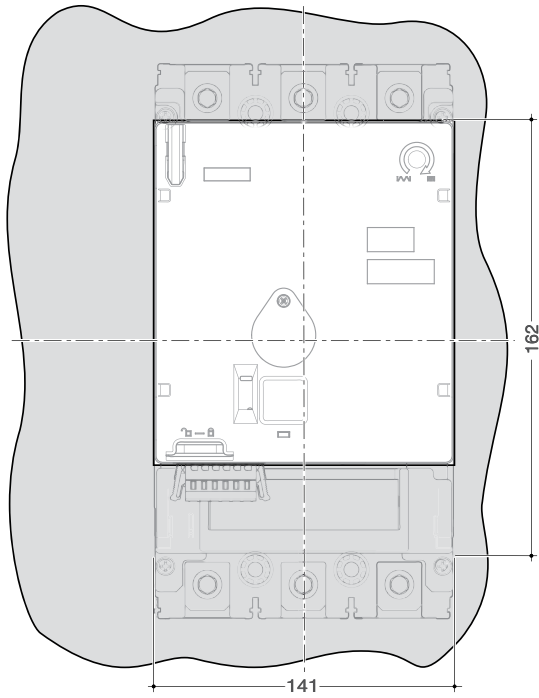
Interphase barriers P630
3P



	B (mm)
TM LSI	72.5
Energy	74.5

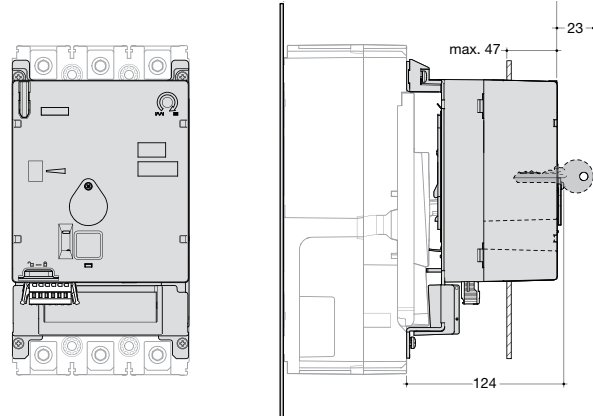
Dimensions in mm

Panel cut-out motor operator P630
3P



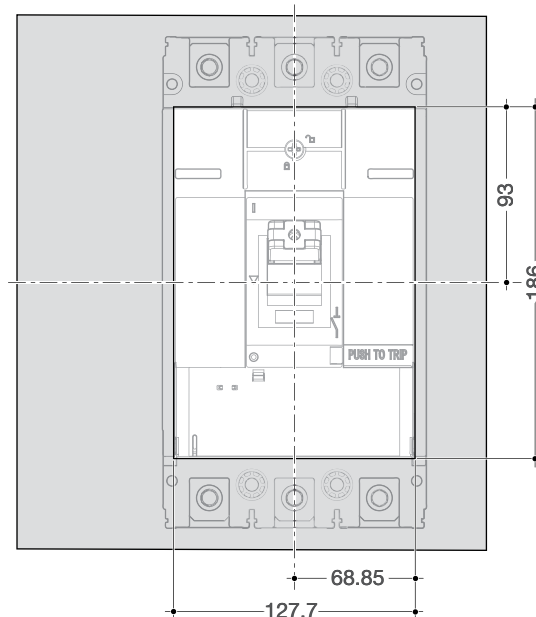
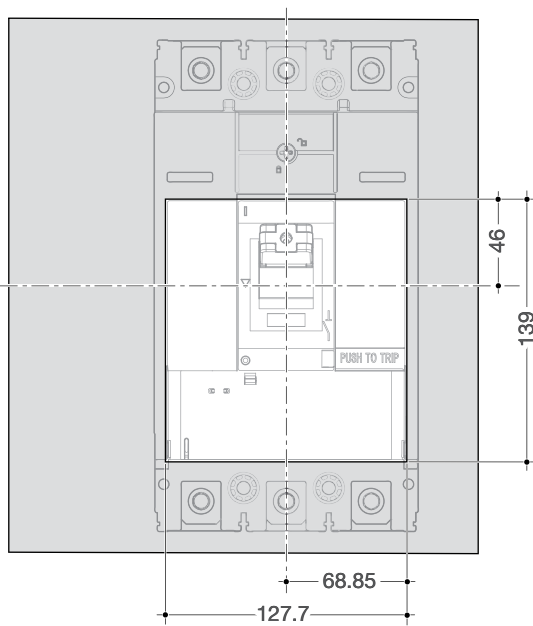
Main switchgear

Motor operator with fixed circuit breaker P630



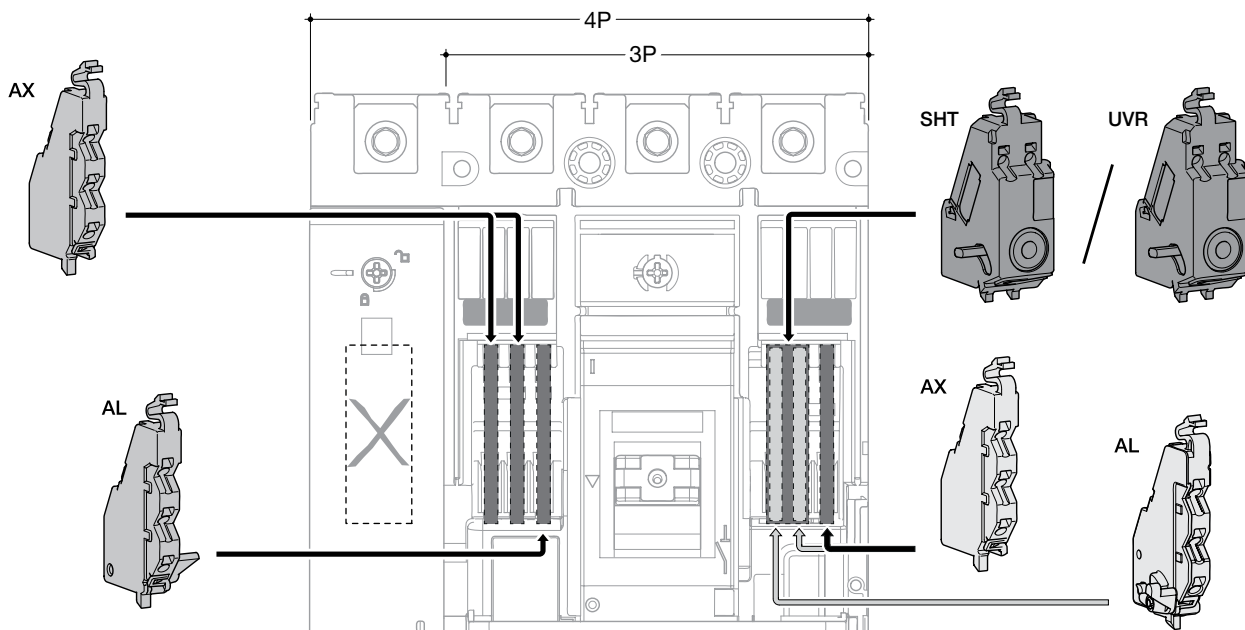
Rated operating voltage	24-48V DC	
	100-110V DC	
	110-240V AC	
Frequency (Hz)	24-48V DC	-
	100-110V DC	-
	110-240V AC	50 / 60
Operating and Starting current (A) ON	24-48V DC	-
	100-110V DC	-
	110-240V AC	-
Operating and Starting current (A) OFF, RESET	24-48V DC	6.7
	100-110V DC	1.2
	110-240V AC	1.0
Operating method	direct drive	
Operating time (s)	ON	0.1
	OFF	1.4
	RESET	1.5
Operating frequency	Cycle / min = 4	
Power supply required	300 VA minimum	

Panel cut-out circuit breaker P630
3P



Dimensions in mm

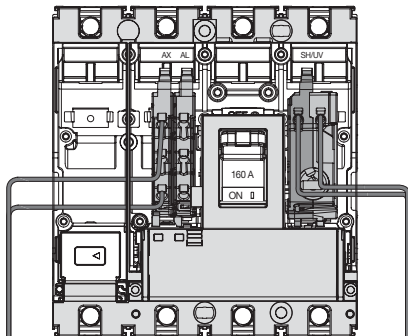
Location of auxiliaries P630



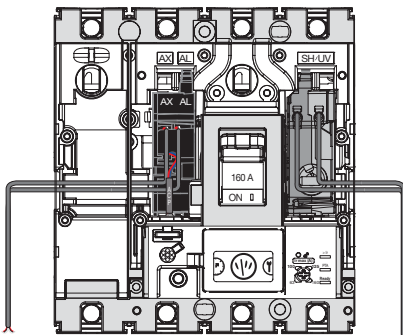
Connection of auxiliaries

The maximum wire cross section is 1.25 mm² for auxiliary contacts (AX or AL), shunt trip releases SHT or undervoltage releases UVR. These auxiliaries are fitted with spring terminals. It is recommended to route the wires from the inside to the outside of the circuit breaker, under the front auxiliary cover, in the following way.

The AX/AL - Energy dedicated to the Energy MCCB is fitted with prewired contacts.



Auxiliary cabling on TM MCCB



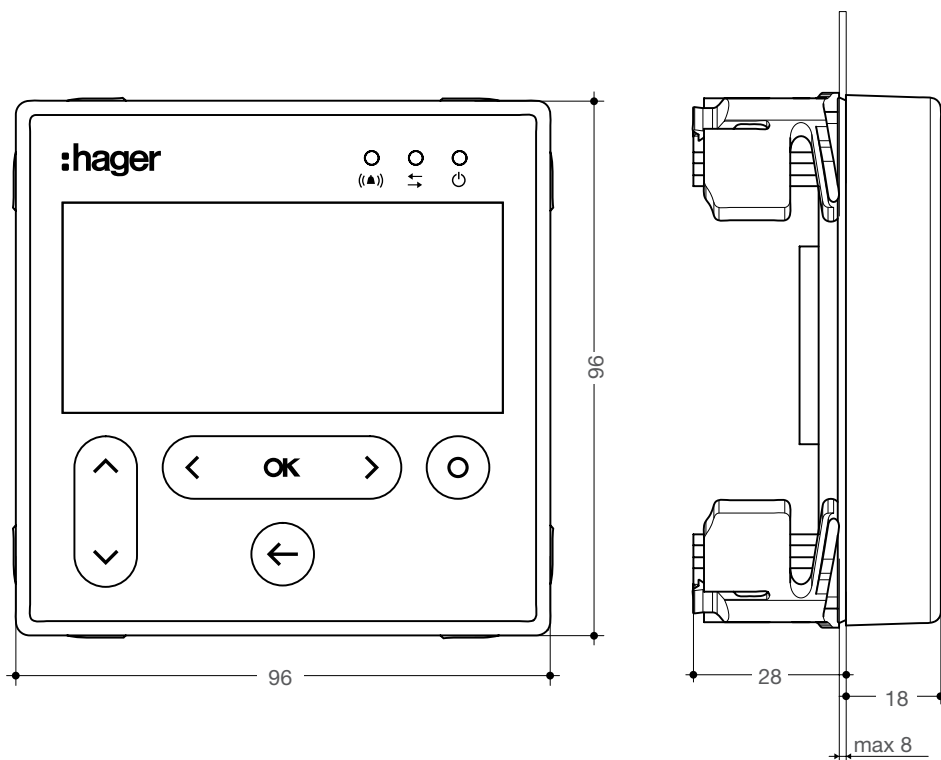
Auxiliary cabling on Energy MCCB

Dimensions in mm

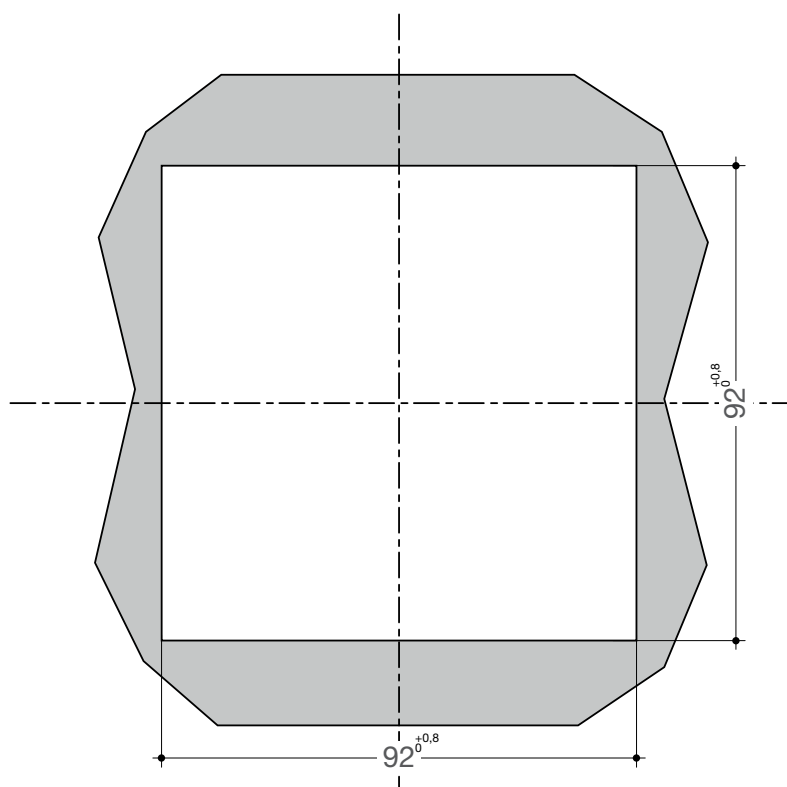
Subject to technical modification

Panel display (To be used with Energy trip units)

Main switchgear



Cut-out



Dimensions in mm

Pre-Arcing / Total I2T

Hager LNHTM (size 000 - 3)
DIN NH, gG, 500 VAC
IEC/EN 60269-2

In (A)	Fuse size							
	000		00		1		2	
	Pre-Arcing	Total I2T	Pre-Arcing	Total I2T	Pre-Arcing	Total I2T	Pre-Arcing	Total I2T
50	6330	16150	6330	16150	6330	16150	6330	16150
63	7430	20800	7430	20800	7430	20800	7430	20800
80	14250	39900	14250	39900	14250	39900	14250	39900
100	25340	70900	25340	70900	25340	71000	25340	71000
125			39600	110800	39600	111000	39600	111000
160			70400	197100	70400	197100	70400	197100
200					114400	320000	114400	320000
224					158400	444000	158400	444000
250					228000	639000	228000	639000
315							275900	773000
355							356400	998000
400							431200	1207000

Nominal Power Dissipation (W)

In (A)	Fuse size			
	000	00	1	2
50	4.1	4.1	4.1	4.1
63	5.4	5.6	6.6	6.8
80	6.5	6.8	8.0	8.3
100	7.5	7.5	9.4	10.7
125		10.0	11.8	12.2
160		12.0	14.6	15.0
200			18.0	18.5
224			19.0	19.2
250			20.0	20.6
315				25.0
355				31.5
400				28.5

Cat ref.	HA304	HA305	HA306/406	HA307	HA308/408	HA309M
thermal current I_{th}	80	100	125	160	200	250
insulation voltage U_i (V)	800	800	800	800	800	800
impulse withstand voltage U_{imp} (kV)	8	8	8	8	8	8
rated operation current (A)	A/B	A/B	A/B	A/B	A/B	A/B
400V AC ⁽¹⁾ AC-21A / AC-21B	80/80	100/100	125/125	160/160	200/200	200/250
AC-22A / AC-22B	80/80	100/100	125/125	160/160	200/200	200/200
AC-23A / AC-23B	80/80	100/100	125/125	160/160	200/200	200/200
690V AC ⁽²⁾ AC-20A / AC-20B	80/80	100/100	125/125	160/160	200/200	200/250
AC-22A / AC-22B	40/40	40/40	40/40	160/160	160/160	160/160
AC-23A / AC-23B	25/25	25/25	25/25	63/80	63/80	63/80
220V DC DC-20A / DC-20B	80/80	100/100	125/125	160/160	200/200	200/250
operational power (kW)						
400V AC	40	51	63	80	100	100
690V AC	33	33	33	150	150	150
short time withstand current 1 sec (kA rms)	2.5	2.5	2.5	4	4	4
short circuit making capacity (kA peak)	12	12	12	16	16	16
connection						
max. cable section (mm)	50	50	50	95	95	95
max. busbar width (mm)	-	-	-	20	20	20

- (1) A/B = category with index - A = frequent operation / B = infrequent operation
 (2) with terminal shrouds or phase barriers

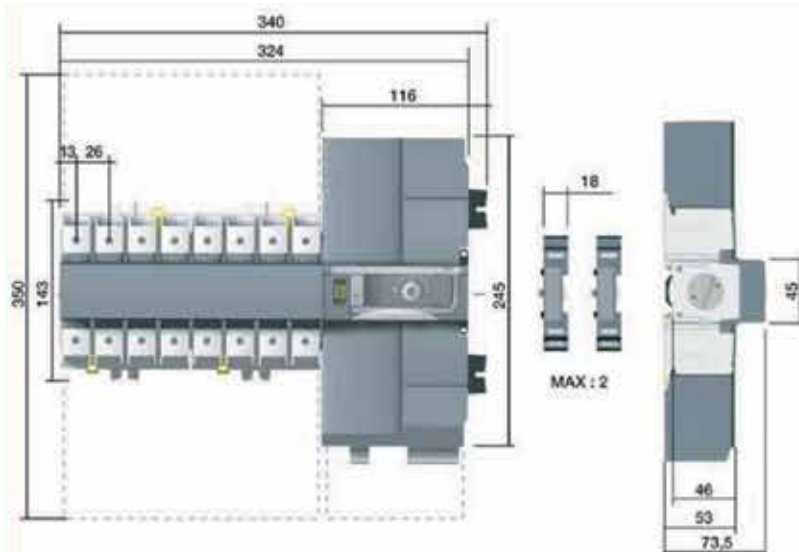
Cat ref.	HA354	HA356	HA457	HA358/458	HA360	HA362	HA364
thermal current I_{th}	250	400	400	630	800	1250	1600
insulation voltage U_i (V)	800	1000	1000	1000	1000	1000	1000
impulse withstand voltage U_{imp} (kV)	8	8	8	12	12	12	12
rated operation current (A)	A/B	A/B	A/B	A/B	A/B	A/B	A/B
400V AC ⁽¹⁾ AC-21A / AC-21B	250/250	400/400	400/400	630/630	800/800	1250/1250	1600/1600
AC-22A / AC-22B	250/250	400/400	400/400	630/630	800/800	1250/1250	1600/1600
AC-23A / AC-23B	250/250	400/400	400/400	500/630	800/800	1250/1250	1250/1250
690V AC ⁽²⁾ AC-20A / AC-20B	250/250	400/400	400/400	630/630	800/800	1250/1250	1600/1600
AC-22A / AC-22B	200/250	400/400	400/400	500/500	800/800	1000/1000	1000/1000
AC-23A / AC-23B	125/160	250/315	250/315	315/315	800/800	1000/1000	1000/1000
220V DC DC-20A / DC-20B	250/250	400/400	400/400	630/630	800/800	1250/1250	1600/1600
operational power (kW)							
400V AC	132/132	220/220	220/220	280/280	450/450	710/710	710/710
690V AC	90/110	150/185	150/185	150/185	185/220	475/475	475/475
short time withstand current 1 sec (kA rms)	9	13	9	13	26	50	50
short circuit making capacity (kA peak)	30	45	45	45	55	110	110
connection							
max. cable section (mm)	150	240	240	2 x 300	2 x 300	4 x 185	6X185
max. busbar width (mm)	32	40	50	50	63	100	100

- (1) A/B = category with index - A = frequent operation / B = infrequent operation
 (2) with terminal shrouds or phase barriers

Application condition & utilisation category, according to IEC 60947-3

Utilisation category		Use	Application
AC	DC		
AC20	DC20	Off-load making & breaking	Disconnectors
AC21	DC21	Resistive loads including moderate overloads	Switches at installation head or for resistive circuits (lighting)
AC22	DC22	Inductive & resistive mixed loads including moderate overloads	Switches in secondary circuits or reactive circuits (capacitor banks)
AC23	DC23	Loads made of motors or other highly inductive loads	Switches feeding one or several motor or inductive circuits (series motors, magnetic brakes)

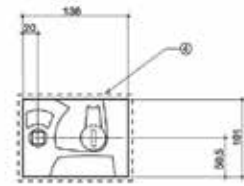
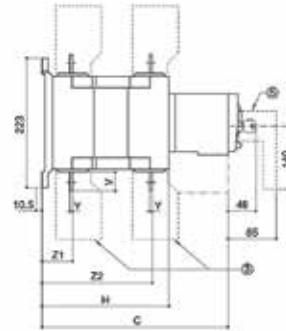
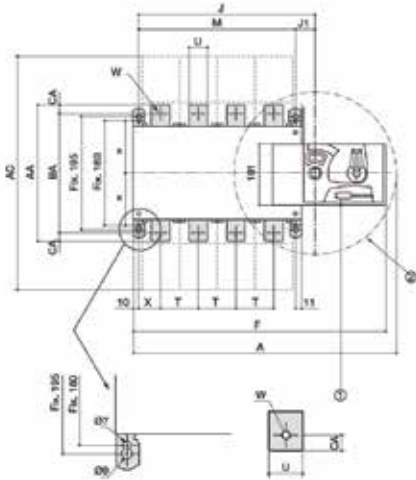
Modular automatic transfer switches



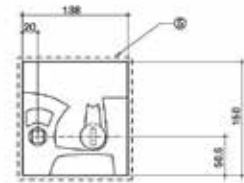
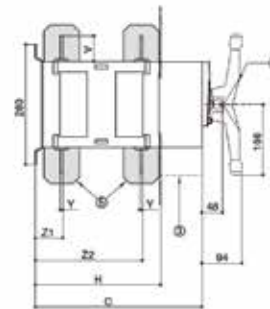
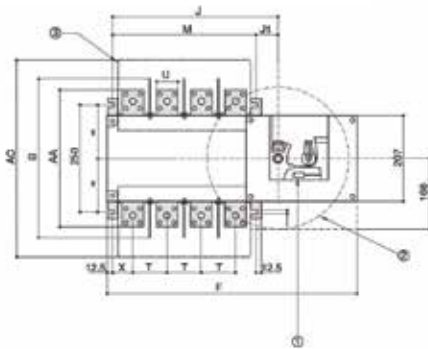
Technical characteristics		HIC406A	HIC408A	HIC410A	HIC412A	HIC416A
Thermal current I _{th} at 40°C		63 A	80 A	100 A	125 A	160 A
Frequencies		50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Thermal current I _{th} at 50°C		63	80	100	110*	125
Thermal current I _{th} at 60°C		50	63	80	100*	125
Thermal current I _{th} at 70°C		40	50	63	80	100
Insulation voltage U _i (V) (power circuit)		800	800	800	800	800
Impulse withstand voltage U _{imp} (kV) (power circuit)		6	6	6	6	6
Insulation voltage U _i (V) (control circuit)		300	300	300	300	300
Impulse withstand voltage U _{imp} (kV) (control circuit)		2.5	2.5	2.5	2.5	2.5
Rated operational currents I_e (A) according to IEC 60947-3						
Rated voltage	Utilisation category	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾
415 VAC	AC-21 A / AC-21 B	63/63	80/80	100/100	125/125	160/160
415 VAC	AC-22 A / AC-22 B	63/63	80/80	100/100	125/125	160/160
415 VAC	AC-23 A / AC-23 B	63/63	80/80	100/100	125/125	125/160
690 VAC	AC-21 A / AC-21 B	63/63	80/80	100/100	125/125	160/160
690 VAC	AC-22 A / AC-22 B	63/63	80/80	80/80	100/125	100/125
690 VAC	AC-23 A / AC-23 B	63/63	63/63	80/80	80/80	80/80
Rated operational currents I_e (A) according to IEC 60947-6-1						
415 VAC	AC-31 B	63/63	80/80	100/100	100/125	100/160
415 VAC	AC-32 B	63/63	80/80	100/100	100/125	100/160
415 VAC	AC-33 B	-/63	-/80	-/100	-/125	-/125
Fuse protected short-circuit withstand as per IEC 60947-3						
Prospective short-circuit current (kA rms)		50	50	50	50	40
Associated fuse rating (A)		63	80	100	125	160
Circuit breaker protected short-circuit withstand with any circuit breaker that ensures tripping in less than 0.3s						
Rated short-time withstand current 0.3s I _{cw} (kA rms)		7	7	7	7	7
Rated short-circuit withstand without protection						
Rated short-time withstand current 60ms I _{cw} (kA rms) as per IEC 60947-6-1 at 415 VAC		4	4	4	4	4
Rated peak withstand current (kA peak) as per IEC 60947-3 at 690 VAC		17	17	17	17	17
Connection						
Maximum Cu cable cross-section (mm ²)		10	10	10	10	10
Maximum Cu cable cross-section (mm ²)		70	70	70	70	70
Tightening torque mini / maxi (Nm)		5	5	5	5	5
Switching time (Standard setting)						
I-0 or 0-II (s)		1.2	1.2	1.2	1.2	1.2
Operating Transfer time I - II or II - I (ms)		1.4	1.4	1.4	1.4	1.4
Duration of "electrical blackout" I - II (ms)		150	150	150	150	150
Power supply						
min / max (VAC)		176/288	176/288	176/288	176/288	176/288
Control supply power demand						
Nominal power (VA)		6	6	6	6	6
Max current under 230VAC (A)		30	30	30	30	30
Mechanical characteristics						
Durability (number of operating cycles)		10,000	10,000	10,000	10,000	10,000
Weight - without packaging (kg)		3.5	3.5	3.5	3.5	3.5
Weight - with packaging (kg)		4.2	4.2	4.2	4.2	4.2

Automatic transfer switches

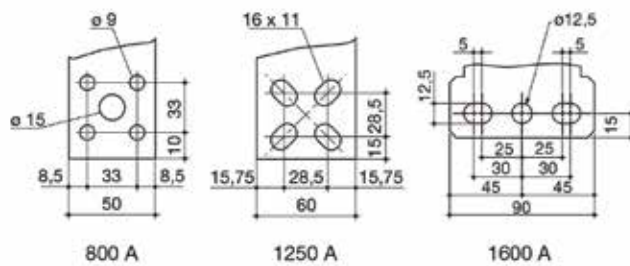
125 to 630A



800 to 1600A



Dimensions of connecting lugs



Dimensions (in mm)

Ref.	In (A)	A	B	C	AC	F	H	J	J1	M	T	U	V	W	X	Y	Z1	Z2	AA	BA	CA
Hlx412	125	322.5	-	244	235	322.5	151	184	34	150	36	20	25	9	22	3.5	38	134	135	115	10
Hlx416	160	322.5	-	244	235	322.5	151	184	34	150	36	20	25	9	22	3.5	38	134	135	115	10
Hlx425	250	378	-	244.5	280	378	153	245	35	210	50	25	30	11	33	3.5	39.5	134.5	160	130	15
Hlx440	400	378	-	244.5	280	378	153	245	35	210	50	25	35	11	33	3.5	39.5	134.5	170	140	15
Hlx463	630	437	-	320.5	400	437	221	304	34	270	65	45	50	13	37.5	5	53	190	260	220	20
Hlx480	800	584	370	391.5	461	584	293	386.5	51.5	335	80	50	60.5	-	60	7	66.5	253.5	321	-	-
Hlx490	1000	584	370	391.5	461	584	293	386.5	51.5	335	80	60	65	-	60	7	66.5	253.5	330	-	-
Hlx491	1250	584	370	391.5	461	584	293	386.5	51.5	335	80	60	65	-	60	7	66.5	253.5	330	-	-
Hlx492	1600	716	380	391.5	481	716	293	518.5	51.5	467	120	90	144	-	66	8	67.5	253.5	288	-	-

	HIB412M HIC412G HIC412E	HIB416M HIC416G HIC416E	HIB420M HIC420G HIC420E	HIB425M HIC425G HIC425E	HIB440M HIC440G HIC440E	HIB463M HIC463G HIC463E	HIB480M HIC480G HIC480E	HIB490M HIC490G HIC490E	HIB491M HIC491G HIC491E	HIB492M HIC492G HIC492E
Technical characteristics										
Thermal current I _{th} at 40°C	125A	160A	200A	250A	400A	630A	800A	1000A	1250A	1600A
Insulation voltage U _i (V)	800	800	800	1000	1000	1000	1000	1000	1000	1000
Impulse withstand voltage U _{imp} (kV)	8	8	8	12	12	12	12	12	12	12

Rated operational currents I_e (A) according to IEC 60947-3

Rated voltage	Utilisation category	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾	A/B ⁽¹⁾
415 VAC	AC-20 A / AC-20 B	125/125	160/160	200/200	250/250	400/400	630/630	800/800	1000/1000	1250/1250	1600/1600
415 VAC	AC-21 A / AC-21 B	125/125	160/160	200/200	250/250	400/400	630/630	800/800	1000/1000	1250/1250	1600/1600
415 VAC	AC-22 A / AC-22 B	125/125	160/160	200/200	250/250	400/400	630/630	800/800	1000/1000	1250/1250	1600/1600
415 VAC	AC-23 A / AC-23 B	125/125	160/160	200/200	200/200	400/400	630/630	800/800	1000/1000	1250/1250	1250/1250
500 VAC	AC-20 A / AC-20 B	125/125	160/160	200/200	250/250	400/400	630/630	800/800	1000/1000	1250/1250	1600/1600
500 VAC	AC-21 A / AC-21 B	125/125	160/160	200/200	250/250	400/400	630/630	800/800	1000/1000	1250/1250	1600/1600
500 VAC	AC-22 A / AC-22 B	125/125	160/160	200/200	200/200	400/400	630/630	800/800	1000/1000	1250/1250	1600/1600
500 VAC	AC-23 A / AC-23 B	80/80	80/80	80/80	200/200	200/200	400/400	400/400	630/630	800/800	1000/1000
690 VAC	AC-20 A / AC-20 B	125/125	160/160	200/200	250/250	400/400	630/630	800/800	1000/1000	1250/1250	1600/1600
690 VAC	AC-21 A / AC-21 B	125/125	160/160	200/200	200/200	200/200	500/500	800/800	1000/1000	1250/1250	1600/1600
690 VAC	AC-22 A / AC-22 B	125/125	125/125	125/125	160/160	160/160	400/400	630/630	800/800	1000/1000	1000/1000
690 VAC	AC-23 A / AC-23 B	63/80	63/80	63/80	125/125	125/125	400/400	400/400	630/630	800/800	800/800
220 VDC ⁽²⁾	DC-20 A / DC-20 B	125/125	160/160	200/200	250/250	400/400	630/630	800/800	1000/1000	1250/1250	1600/1600
220 VDC ⁽²⁾	DC-21 A / DC-21 B	125/125	160/160	200/200	250/250	250/250	630/630	800/800	1000/1000	1250/1250	1250/1250
220 VDC ⁽²⁾	DC-22 A / DC-22 B	125/125	160/160	200/200	250/250	250/250	630/630	800/800	1000/1000	1250/1250	1250/1250
220 VDC ⁽²⁾	DC-23 A / DC-23 B	125/125	125/125	125/125	200/200	200/200	630/630	800/800	1000/1000	1250/1250	1250/1250
440 VDC ⁽²⁾	DC-20 A / DC-20 B	125/125	160/160	200/200	250/250	400/400	630/630	800/800	1000/1000	1250/1250	1600/1600
440 VDC ⁽²⁾	DC-21 A / DC-21 B	125/125	125/125	125/125	200/200	200/200	630/630	800/800	1000/1000	1250/1250	1250/1250
440 VDC ⁽²⁾	DC-22 A / DC-22 B	125/125	125/125	125/125	200/200	200/200	630/630	800/800	1000/1000	1250/1250	1250/1250
440 VDC ⁽²⁾	DC-23 A / DC-23 B	125/125	125/125	125/125	200/200	200/200	630/630	800/800	1000/1000	1250/1250	1250/1250

Rated operational currents I_e (A) according to IEC 60947-6-1

415 VAC	AC-31 B	125	160	200	250	400	630	800	1000	1250	1600
415 VAC	AC-32 B				200	400	500	800	1000	1250	1600
415 VAC	AC-33 B				200	200	400	800	800	800	1000

Fuse protected short-circuit withstand as per IEC 60947-3

Prospective short-circuit current (kA rms)	100	100	50	50	50	50	50	100	100	100
Associated fuse rating (A)	125	160	200	250	400	630	800	1000	1250	2x800

Circuit breaker protected short-circuit withstand with any circuit breaker that ensures tripping in less than 0.3s

Rated short-time withstand current 0.3s I _{cw} (kA rms)	12	12	12	15	15	17	47	64	64	78
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Rated short-circuit withstand without protection

Rated short-time withstand current 60ms I _{cw} (kA rms) as per IEC 60947-6-1 at 415 VAC				10 ⁽³⁾	10 ⁽³⁾	12.6	16	20	25	32
Rated short-time withstand current 1ms I _{cw} (kA rms) as per IEC 60947-3 at 415 VAC	7	7	7							
Rated short-time withstand current 1ms I _{cw} (kA rms) as per IEC 60947-3 at 690 VAC				8	8	10	26	35	35	50
Rated peak withstand current (kA peak) as per IEC 60947-3 at 690 VAC	20	20	20	30	30	45	55	55	80	110

Connection

Maximum Cu cable cross-section (mm ²)	35	50	70	95	185	2 x 150	2 x 185	2 x 240		
Minimum Cu busbar cross-section (mm ²)						2 x 30 x 5	2 x 50 x 5	2 x 50 x 5	2 x 60 x 5	2 x 80 x 5
Maximum Cu cable cross-section (mm ²)	50	95	120	150	240	2 x 300	2 x 300	4 x 185	4 x 185	6 x 185
Maximum Cu busbar width (mm)	25	25	25	32	32	50	63	63	63	100
Tightening torque mini / maxi (Nm)	9/13	9/13	9/13	20/26	20/26	20/26	20/26	20/26	20/26	40/45

Switching time (Standard setting)

I - II or II - I (s)	0.75	0.75	0.75	1.3	1.3	1.3	2.6	2.6	2.6	2.6
I-0 or 0-II (s)	0.45	0.45	0.45	0.85	0.85	0.85	1.6	1.6	1.6	1.6
Duration of "electrical blackout" I - II (s)	0.3	0.3	0.3	0.6	0.6	0.6	1.5	1.5	1.5	1.6

Power supply

min / max (VAC)	166/332	166/332	166/332	166/332	166/332	166/332	166/332	166/332	166/332	166/332
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Control supply power demand

Power supply 230 VAC inrush / nominal (VA) - ATyS	184/92	184/92	184/92	275/115	275/115	276/150	460/184	460/184	460/184	460/230
Power supply 230 VAC inrush / nominal (VA) - ATyS d, t, g, p	206/114	206/114	206/114	298/137	298/137	298/172	482/206	482/206	482/206	482/252

Mechanical characteristics

Durability (no. of operating cycles)	10,000	10,000	10,000	8,000	8,000	5,000	4,000	4,000	4,000	3,000
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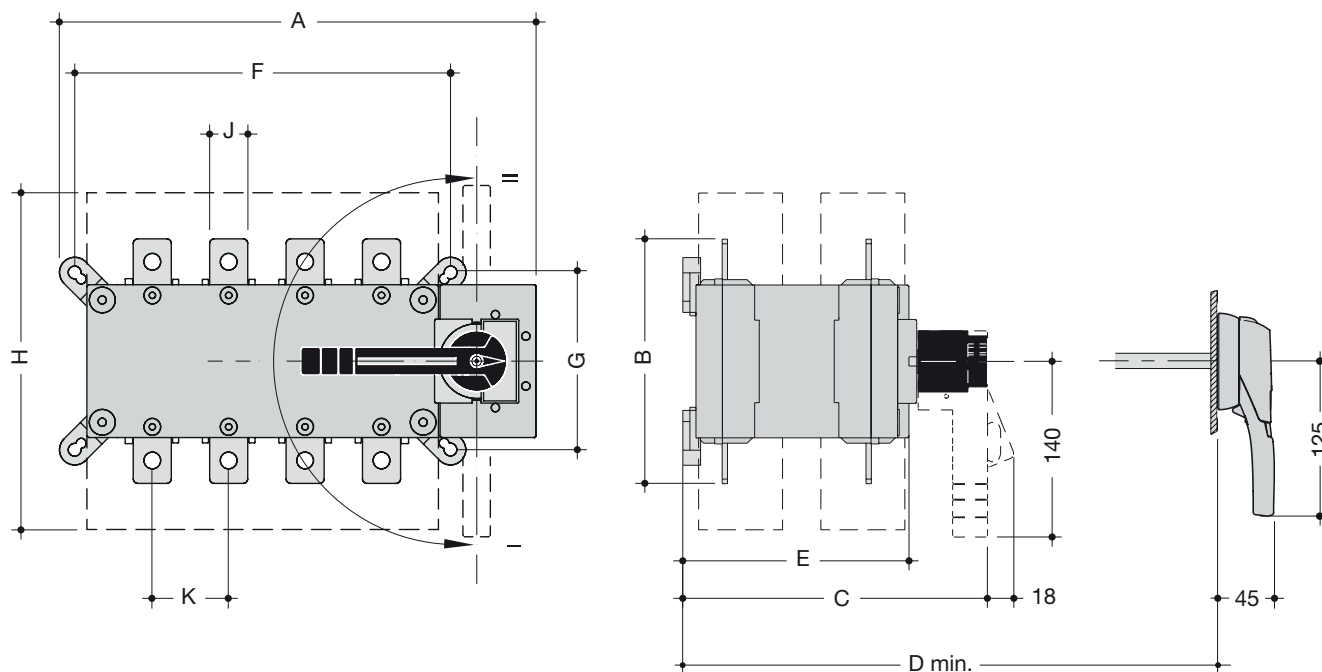
(1) Category with index A = frequent operation - Category with index B = infrequent operation.

(2) 3-pole device with 2 pole in series for the "+" and 1 pole for the "-", 4-pole device with 2 poles in series by polarity.

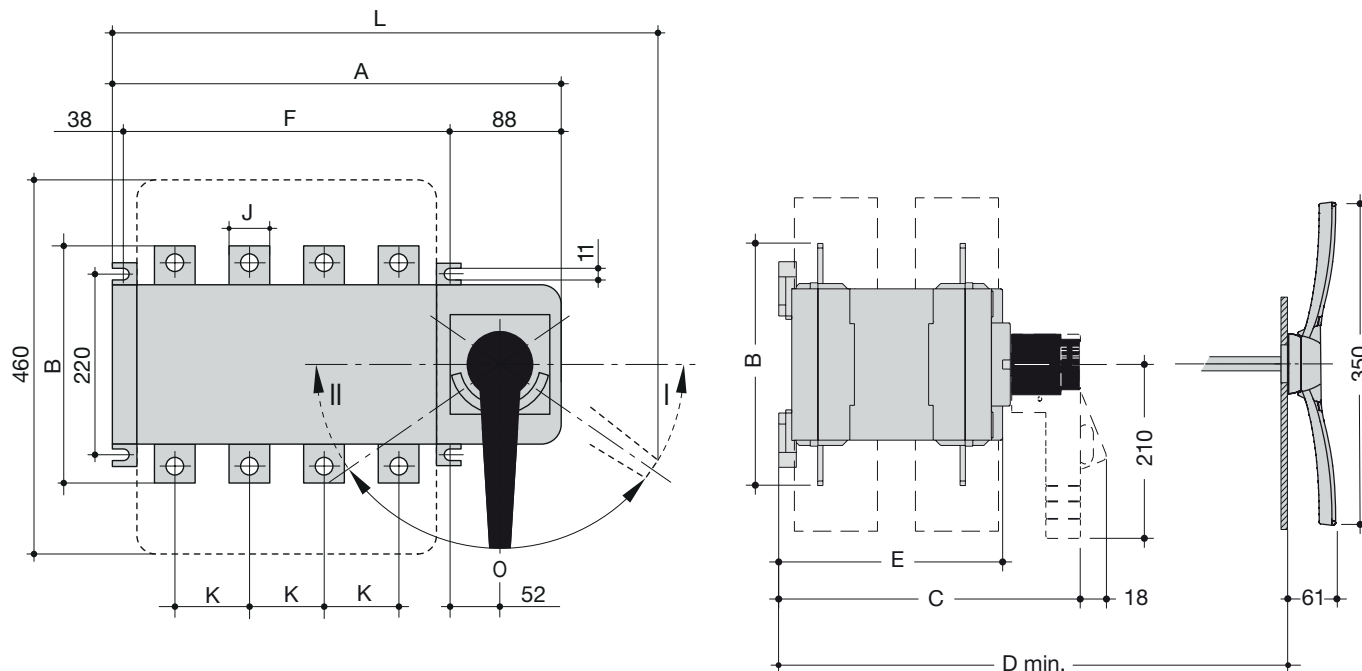
(3) At 30ms.

Manual transfer switches

HI452, HI454, HI456, HI458



HI460, HI462, HI464



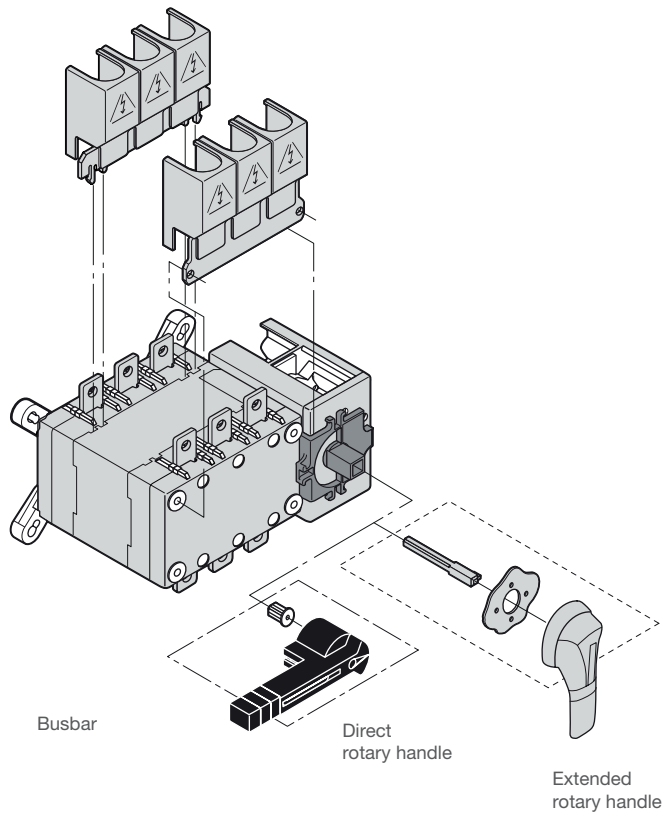
Dimensions (in mm)

	A	B	C	D min.	E	F	G	H	J	K	L
HI452	251	135	218	208	148	186	101	235	20	36	-
HI454	312	160	218	208	148	246	116	280	25	50	-
HI456	312	170	218	208	148	246	116	280	35	50	-
HI458	379	260	295	285	225	306	176	400	45	65	-
HI460	460	320	374	390	302	335	220	460	50	80	609
HI462	592	330	374	390	302	467	220	460	60	120	741
HI464	592	360	374	390	302	467	220	460	90	120	741

Technical characteristics

		HI452	HI454	HI456	HI458	HI460	HI462	HI464
In		160A	250A	400A	630A	800A	1250A	1600A
Insulation voltage Ui	(V)	800	800	800	1000	1000	1000	1000
Impulse withstand voltage Uimp	(kV)	8	12	8	12	12	12	12
Ie AC22, 400V	(A)	160	250	400	630	800	1250	1600
Ie AC23, 400V	(A)	160	250	400	630	800	1250	1600
Operational power AC23A @ 400VM	(kW)	80	132	220	280	450	710	710
Short circuit current with gG DIN fuses	(kA)	100	50	18	70	50	100	100
Associated fuse rated	(A)	160	250	400	630	800	1250	2 x 800
Rated short circuit making capacity Icm	(A peak)	12	17	15.3	30	48	75	86
Rated short circuit withstand current Icw	(kA/1s)	7	9	9	13	26	50	50
Mechanical endurance	(cycles)	10,000	10,000	10,000	5,000	3,000	4,000	4,000
Connection for lugs	(mm²)	95	150	240	2 x 300	2 x 300	4 x 185	6 x 185

Mounting

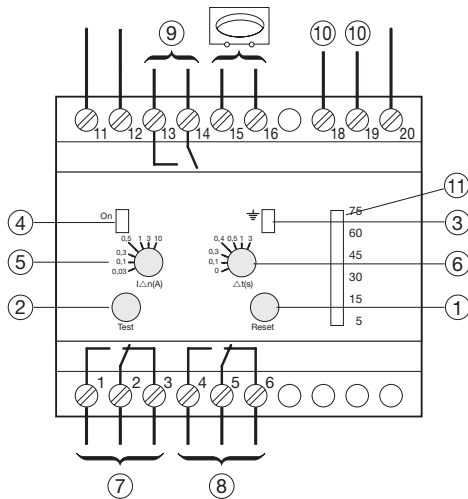


Main switchgear

Earth leakage relays

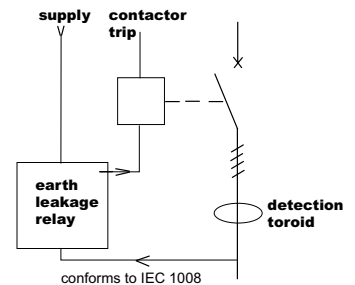
		W/o adjustment	Adjustable		With integrated toroid
		HR502	HR510	HR520	HR441
Number of modules		1	3	3	6
Supply voltage	~50/60Hz	230V +/- 20%			
Network voltage	~50/60Hz	50 à 700V			
Power consumption		3 VA	5 VA		6 VA
Output command		Potential free changeover contacts			
Contact rating (standard output, fail safe, 50% pre-alarm)		5A / 250V AC1	6A / 250V AC1		
Residual current settings I _m		0.3A	0.03 / 0.1/0.3 / 0.5/ 1/ 3/10		0.03 / 0.1/0.3 / 0.5/ 1/ 3
Delay on opening (+/- 20%)		Instant	0/0,1s/0,3s/0,4s /0,5s/1s/3s	0/0,1s/0,3s/0,4s /0,5s/1s/3s/5S	0s /0,1s /0,3s /0,5s/0,75s/1s
Permissible overload of the toroid		30 kA / 100 ms			
Test & reset push button voltage		100 - 250V			
Type A		yes			
Increased immunity (HI)		yes			
Voltage & fault indication		yes			
Signalling current default		yes			
Bar graph indication		-		yes	-
Standard output (1OF)		yes			
Fail safe output (1OF)		no	yes		no
50% I _m output		-		yes	-
Analog output		-			
Maximum cable length to test & reset		200m			
Maximum cable length between toroid & relay		50m maximum width 1,5mm ² twisted pair cable - 25m for non twisted cable			
Connection. Relay: cage terminals		rigid/stranded	1,5 to 4 mm ²		1,5 to 4 mm ²
		flexible	1 to 2,5 mm ²		1 to 2,5 mm ²
Connection. Toroid:		rigid/stranded	1,5 to 4 mm ²		1,5 to 4 mm ²
		flexible	1 to 6 mm ²		1 to 6 mm ²
Operating temperature		-10 to +55°C			
Storage temperature		-25 to +70°C			
Standard compliance		IEC 60947-2 annexe B, IEC 61543, IEC 61008-1, IEC 60755			

Main switchgear



Product presentation:

- ① reset push button
- ② test push button
- ③ fault indicator
- ④ supply indicator
- ⑤ IΔn ratings (A)
- ⑥ temporisation Δt (s)
- ⑦ standard output 1 OF
- ⑧ positive safety output
- ⑨ pre-alarm output
- ⑩ barregraph: indicates continuously the value of the leakage current, 5 to 15 %, 15 to 30 %, 30 to 45 %, 45 to 60 % and 60 to 75 % of IΔn.
- ⑪ LCD display



Application notes

Discrimination between Residual Current Devices

Hager residual current relays (HR210, HR212) have adjustable time delay and residual current settings. They can be used as an upstream device to achieve residual current protection of the entire installation. It is advisable to set the residual current relay at a residual higher tripping current than a downstream devices (> 30mA) since the upstream device will see the accumulation of leakage currents from the entire installation. The residual current setting will depend on the quantity and type of equipment connected to the installation (Immersion water heaters, switch mode power supplies are particularly prone to leakage currents to earth). The time delay should be set above zero to 300ms.

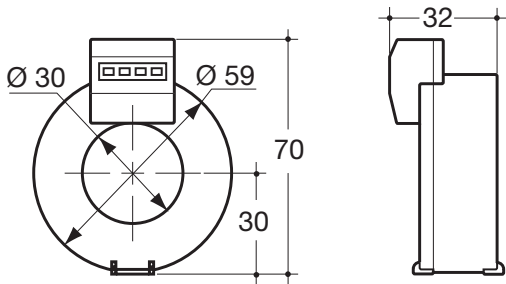
In theory it is possible to achieve current discrimination between residual current devices, but the limit of discrimination is far too low for practical purposes. Time delay is the only reliable & by far the best method used to obtain discrimination. It can be achieved by delaying the tripping of the upstream residual current devices. The downstream device would typically be a 30mA or occasionally a 10mA residual current device. Typically they will operate within 40ms and occasionally much faster.

If further levels of protection are required upstream from the Hager residual current relay, then another residual current relay can be installed upstream and the settings of the device (time and residual current) adjusted higher again.

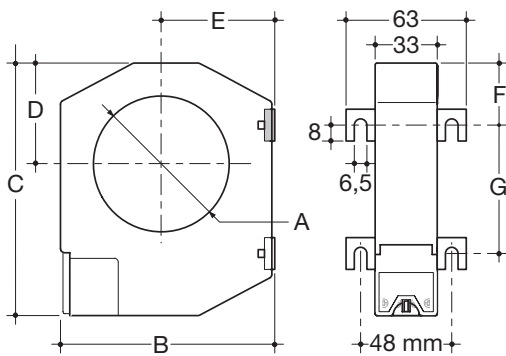
Toroids

	HR700	HR701	HR702	HR703	HR704
Internal diameter of toroid	30mm	35mm	70mm	105mm	140mm
Maximum screw torque	1Nm				
Maximum connection distance between toroid & ELR	50m max with twisted pair cable				
Rated frequency	50-60 Hz				
Connection: rigid/stranded cable	1 to 1.5 mm ²	1,5 à 4 mm ²			
Connection section in flexible cable for the measurement	1 to 1,5mm ²	1,5 à 2,5mm ²			
Operating temperature	-10 to +55°C				
Storage temperature	-25 to +70°C				
Rated voltage for alternating use	50 to 700V				
Rated insulation voltage	250V				
Rated impulse withstand voltage	4kV				
IP for toroids	IP41				

Circular toroids:
HR700



Circular toroids:
HR701 to HR705



Dimensions for circular toroids (in mm)

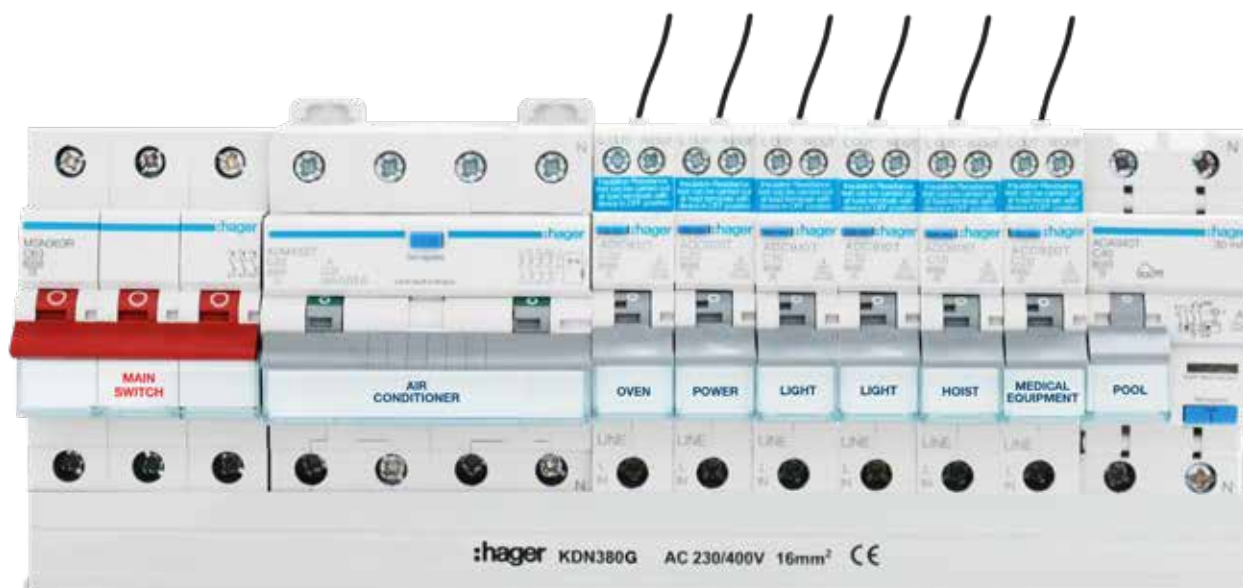
ref.	A	B	C	D	E	F	G
HR701	Ø 35	79	100	35	43	26	48.5
HR702	Ø 70	110	130	52	57	32	66
HR703	Ø 105	146	170	72	73	38	94
HR704	Ø 140	196	220	97	98	48.5	123
HR705	Ø 210	284	299	-	-	69	161

Modular Circuit Protection

Our range of Modular Circuit Protection offers high quality and practical solutions and options for protecting electrical circuits, people, equipment, and property.

We offer a wide range of circuit protection such as Miniature Circuit Breakers (MCB), Residual Current Breaker with Overcurrent Protection (RCBO), Residual Current Circuit Breaker (RCCB) and Surge Protection Devices (SPD).

A range of accessories are also available including Busbars, Auxiliary Contacts and Relays. three phase RCD Add-On Block (AOB) for MCB, Fuse Carriers and DIN HRC Fuse Carriers.

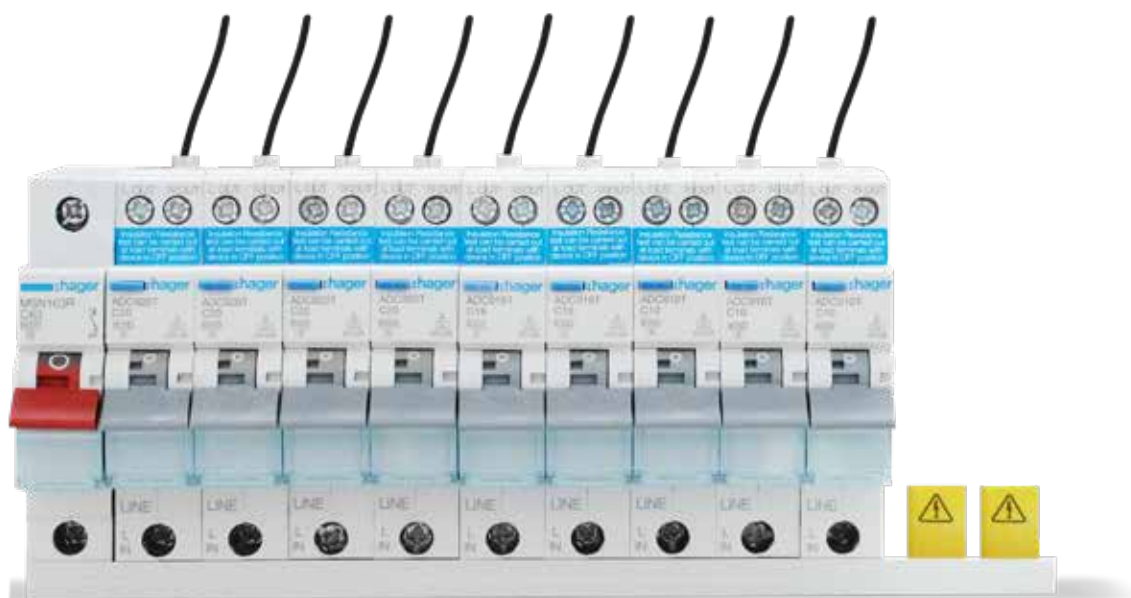


MCBs - 6-63A 6kA 'C' curve	228
MCBs - 6-63A 6kA 'D' curve	229
MCBs - 6-63A 10kA 'C' curve	230
MCBs - 6-63A 10kA 'D' curve	231
MCBs - 80-125A 10kA 'C' curve	232
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MCB Accessories	234
RCBOs - Residential	238
RCBOs - Commercial	241
RCCBs - Safety Switches	244
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One Module Add-On Blocks (AOB)	248
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Surge Protection Devices (SPD)	252
Fuses & Carriers	257
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onekonekt Residential installation system

Our onekonekt system offers one of the most versatile and flexible solutions on the market today. The use of busbar is not a new concept - however providing a full range of residential circuit protection, for both single phase and three

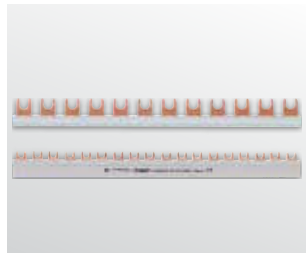
phase installations, that can all connect to the same busbar, increasing safety, reducing installation time, improving technical characteristics and aesthetics within one system, definitely is.





01

Protect your loads with a compact RCBO protection device. Can be used in both 6kA and 10kA applications.



02

The onekonekt system is based on a single phase or three phase forked busbar.



03

Multi-position extended length DIN clip feature, makes removing a product off the DIN rail quick and simple.



04

Provision of two terminals on all devices enable supply from either cables in the cage terminal or busbars in the slot terminal.



05

The neutral busbar slot on two and four module wide RCD and RCBO devices is insulated, allowing one or three phase live busbar to pass through.



06

Busbar is held in position prior to tightening screw terminals with our unique clip system.



07

Protective windows allow for circuit identification to remain in place, including the Hager Semiolog labelling tool.



08

Unused busbar forks or length can remain in-situ for future use. For safety, compliance and rapid future expansion or modification.

Save space in commercial panelboards

Our single module wide RCD Add-On Block (AOB) is designed to convert any Hager three module MCB up to 63A into a four module wide RCBO. This can save up to 40% of space in the commercial and light industrial applications.

For single phase circuits, Hager one module wide 6kA and 10kA commercial RCBOs offer a reliable space saving solution within your panelboards.



Add-On Block characteristics:

- Rated current (I _n):	- fits to any Hager 3 module MCB up to 63A
- Rated voltage (U _n):	- 240V~
- Rated residual operating current (I _{Δn}):	- 30mA, 100mA, 300mA
- Operating characteristic:	- Type A
- Rated frequency:	- 50Hz
- Rated short-circuit capacity (I _{cn}):	- 6kA, 10kA
- Standards compliance:	- AS/NZS 61009.1 - AS/NZS 3000:2018

1 module RCBO characteristics:

- Rated current (I _n):	- 6A to 45A
- Rated voltage (U _n):	- 240V~
- Rated residual operating current (I _{Δn}):	- 10mA, 30mA
- Curve type:	- C
- Operating characteristic:	- Type A
- Rated frequency:	- 50Hz
- Rated short-circuit capacity (I _{cn}):	- 6kA, 10kA
- Standards compliance:	- AS/NZS 61009.1 - IEC 61009.1



01

The Bx163T AOB + three module wide MCB only requires four spare poles. Many other devices can demand up to seven spare poles.



02

All of our three module wide MCBs have a detachable cover built into the casing to accommodate accessories.



03

The Bx163T AOB operates between active and neutral OR between actives to protect unbalanced or balanced loads.



04

The commercial single module wide RCBO has an earth lead to ensure earth leakage detection, in case of accidental loss of neutral in the installation.



05

The commercial MCBs and RCBOs come in either 6kA or 10kA breaking capacity to ensure adequate discrimination.



06

Available in Type A 10mA and 30mA for a range of protection scenarios.

Modular Circuit Protection

MCBs 6-63A 6kA 'C' curve

Description

For general distribution loads, our MSNxxx Miniature Circuit Breaker (MCB) range provides short circuit and overcurrent protection of installations by isolating the circuit.

The red toggle on the MSNx63R gives a visual differentiation when used as a main switch device.

Technical data

- Tripping curve - 'C' magnetic setting between 5 and 10 I_n
- Breaking capacity: 6,000A
- Voltage rating: 230V /400V (Not for use on DC)
- Current rating: 6 to 63A
- Bi-connect terminals enable supply from either cables in the cage or busbars in the slot.

Connection capacity

- 25mm² rigid
- 16mm² flexible

Standards

- AS/NZS 60898-1
- AS/NZS 3000

Technical information [Page 260](#)

Accessories for MSNxxx

- LZ060, MZN175, MZ201, MZ202, MZ203, MZ204, MZ206, MZN120, MZN121, Bx163T



MSN163 MSN163R

Single pole



Current Rating (A)	Module(s)	Width (mm)	Box Qty	Cat ref.
6	1 mod	17.5	12	MSN106
10	1 mod	17.5	12	MSN110
13	1 mod	17.5	12	MSN113
16	1 mod	17.5	12	MSN116
20	1 mod	17.5	12	MSN120
25	1 mod	17.5	12	MSN125
32	1 mod	17.5	12	MSN132
40	1 mod	17.5	12	MSN140
50	1 mod	17.5	12	MSN150
63	1 mod	17.5	12	MSN163
63	1 mod	17.5	12	MSN163R

Modular Protection devices



MSN220 MSN263R

Double pole

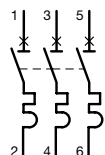


Current Rating (A)	Module(s)	Width (mm)	Box Qty	Cat ref.
6	2 mod	35	6	MSN206
10	2 mod	35	6	MSN210
16	2 mod	35	6	MSN216
20	2 mod	35	6	MSN220
25	2 mod	35	6	MSN225
32	2 mod	35	6	MSN232
40	2 mod	35	6	MSN240
50	2 mod	35	6	MSN250
63	2 mod	35	6	MSN263
63	2 mod	35	6	MSN263R



MSN320

Triple pole



Current Rating (A)	Module(s)	Width (mm)	Box Qty	Cat ref.
6	3 mod	52.5	4	MSN306
10	3 mod	52.5	4	MSN310
16	3 mod	52.5	4	MSN316
20	3 mod	52.5	4	MSN320
25	3 mod	52.5	4	MSN325
32	3 mod	52.5	4	MSN332
40	3 mod	52.5	4	MSN340
50	3 mod	52.5	4	MSN350
63	3 mod	52.5	4	MSN363
63	3 mod	52.5	4	MSN363R



MSN363R

Description

Our range of MDNxxx MCBs provides short circuit and overcurrent protection of installations by isolating the circuit.

The red toggle on the MDNx63R gives a differentiation when used as a service protection device.

Technical data

- Tripping curve - 'D' magnetic setting between 10 and 20In
- Breaking capacity: 6,000A
- Voltage rating: 230V /400V (Not for use on DC)
- Current rating: 6 to 63A
- Bi-connect terminals enable supply from either cables in the cage or busbars in the slot.

Connection capacity

- 25mm² rigid
- 16mm² flexible

Accessories for MDNxxx

- LZ060, MZN175, MZ201, MZ202, MZ203, MZ204, MZ206, MZN120, MZN121, Bx163T

Standards

- AS/NZS 60898-1
- AS/NZS 3000

Technical information [Page 262](#)



Single pole



Current Rating (A)	Module(s)	Width (mm)	Box Qty	Cat ref.
6	1 mod	17.5	12	★ MDN106P
10	1 mod	17.5	12	★ MDN110P
16	1 mod	17.5	12	★ MDN116P
20	1 mod	17.5	12	★ MDN120P
25	1 mod	17.5	12	★ MDN125P
32	1 mod	17.5	12	★ MDN132P
40	1 mod	17.5	12	★ MDN140P
50	1 mod	17.5	12	★ MDN150P
63	1 mod	17.5	12	★ MDN163P
63	1 mod	17.5	12	★ MDN163R



MDN116P

MDN163R

Double pole



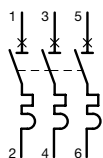
Current Rating (A)	Module(s)	Width (mm)	Box Qty	Cat ref.
6	2 mod	35	6	★ MDN206P
10	2 mod	35	6	★ MDN210P
16	2 mod	35	6	★ MDN216P
20	2 mod	35	6	★ MDN220P
25	2 mod	35	6	★ MDN225P
32	2 mod	35	6	★ MDN232P
40	2 mod	35	6	★ MDN240P
50	2 mod	35	6	★ MDN250P
63	2 mod	35	6	★ MDN263P
63	2 mod	35	6	★ MDN263R



MDN232P

MDN263R

Triple pole



Current Rating (A)	Module(s)	Width (mm)	Box Qty	Cat ref.
6	3 mod	52.5	4	★ MDN306P
10	3 mod	52.5	4	★ MDN310P
16	3 mod	52.5	4	★ MDN316P
20	3 mod	52.5	4	★ MDN320P
25	3 mod	52.5	4	★ MDN325P
32	3 mod	52.5	4	★ MDN332P
40	3 mod	52.5	4	★ MDN340P
50	3 mod	52.5	4	★ MDN350P
63	3 mod	52.5	4	★ MDN363P
63	3 mod	52.5	4	★ MDN363R



MDN316P



MDN363R

Description

For general distribution loads, our NTxxxx Miniature Circuit Breaker (MCB) range provides short circuit and overcurrent protection of installations by isolating the circuit.

Technical data

- Tripping curve - 'C' magnetic setting between 5 and 10I_n
- Breaking capacity: 10kA
- Voltage rating: 230V /400V (Not for use on DC)
- Current rating: 2 to 63A
- Load and line circuits may be connected top or bottom.

Connection capacity

- 35mm² rigid
- 26mm² flexible

Standards

- AS/NZS 60898-1
- AS/NZS 3000

Technical information [Page 264](#)

Accessories

- LZ060, MZN175, MZ201, MZ202, MZ203, MZ204, MZ206, MZN120, MZN121, Bx163T



NT110C

Single pole



Current Rating (A)	Module(s)	Width (mm)	Pack Qty	Cat ref.
2	1 mod	17.5	12	NT102C
4	1 mod	17.5	12	NT104C
6	1 mod	17.5	12	NT106C
10	1 mod	17.5	12	NT110C
16	1 mod	17.5	12	NT116C
20	1 mod	17.5	12	NT120C
25	1 mod	17.5	12	NT125C
32	1 mod	17.5	12	NT132C
40	1 mod	17.5	12	NT140C
50	1 mod	17.5	12	NT150C
63	1 mod	17.5	12	NT163C



NT216C

Double pole

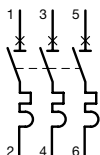


Current Rating (A)	Module(s)	Width (mm)	Pack Qty	Cat ref.
2	2 mod	35	6	NT202C
4	2 mod	35	6	NT204C
6	2 mod	35	6	NT206C
10	2 mod	35	6	NT210C
16	2 mod	35	6	NT216C
20	2 mod	35	6	NT220C
25	2 mod	35	6	NT225C
32	2 mod	35	6	NT232C
40	2 mod	35	6	NT240C
50	2 mod	35	6	NT250C
63	2 mod	35	6	NT263C



NT304C

Triple pole



Current Rating (A)	Module(s)	Width (mm)	Pack Qty	Cat ref.
2	3 mod	52.5	6	NT302C
4	3 mod	52.5	6	NT304C
6	3 mod	52.5	6	NT306C
10	3 mod	52.5	6	NT310C
16	3 mod	52.5	6	NT316C
20	3 mod	52.5	6	NT320C
25	3 mod	52.5	6	NT325C
32	3 mod	52.5	6	NT332C
40	3 mod	52.5	6	NT340C
50	3 mod	52.5	6	NT350C
63	3 mod	52.5	6	NT363C

Description

For general distribution loads, our NDNxxxx Miniature Circuit Breaker (MCB) range provides short circuit and overcurrent protection of installations by isolating the circuit.

Technical data

- Tripping curve - 'D' magnetic setting between 10 and 20In
- Breaking capacity: 10kA (AS/NZS 60898-1) 15kA (IEC 60947-2)
- Voltage rating: 230V /400V (Not for use on DC)
- Current rating: 6 to 63A

Connection capacity

- 35mm² rigid
- 26mm² flexible

Accessories

- LZ060, MZN175, MZ201, MZ202, MZ203, MZ204, MZ206, MZN120, MZN121, Bx163T

Standards

- AS/NZS IEC 60947-2 compliant

Technical information [Page 267](#)



Single pole



Current Rating (A)	Module(s)	Width (mm)	Pack Qty	Cat ref.
6	1 mod	17.5	12	NDN106A
10	1 mod	17.5	12	NDN110A
16	1 mod	17.5	12	NDN116A
20	1 mod	17.5	12	NDN120A
25	1 mod	17.5	12	NDN125A
32	1 mod	17.5	12	NDN132A
40	1 mod	17.5	12	NDN140A
50	1 mod	17.5	12	NDN150A
63	1 mod	17.5	12	NDN163A



NDN116A

Double pole



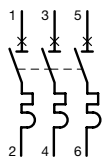
Current Rating (A)	Module(s)	Width (mm)	Pack Qty	Cat ref.
6	2 mod	35	6	NDN206A
10	2 mod	35	6	NDN210A
16	2 mod	35	6	NDN216A
20	2 mod	35	6	NDN220A
25	2 mod	35	6	NDN225A
32	2 mod	35	6	NDN232A
40	2 mod	35	6	NDN240A
50	2 mod	35	6	NDN250A
63	2 mod	35	6	NDN263A



NDN232A

Modular Protection devices

Triple pole

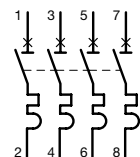


Current Rating (A)	Module(s)	Width (mm)	Pack Qty	Cat ref.
6	3 mod	52.5	4	NDN306A
10	3 mod	52.5	4	NDN310A
16	3 mod	52.5	4	NDN316A
20	3 mod	52.5	4	NDN320A
25	3 mod	52.5	4	NDN325A
32	3 mod	52.5	4	NDN332A
40	3 mod	52.5	4	NDN340A
50	3 mod	52.5	4	NDN350A
63	3 mod	52.5	4	NDN363A



NDN316A

Four pole



Current Rating (A)	Module(s)	Width (mm)	Pack Qty	Cat ref.
6	4 mod	70	3	NDN406A
10	4 mod	70	3	NDN410A
16	4 mod	70	3	NDN416A
20	4 mod	70	3	NDN420A
25	4 mod	70	3	NDN425A
32	4 mod	70	3	NDN432A
40	4 mod	70	3	NDN440A
50	4 mod	70	3	NDN450A
63	4 mod	70	3	NDN463A



NDN432A

Modular Circuit Protection

MCBs 80-125A 10kA 'C' curve

Description

For general distribution loads, our HMFxxx Miniature Circuit Breaker (MCB) range provides short circuit and overcurrent protection of installations by isolating the circuit.

Technical data

- Tripping curve - 'C' magnetic setting between 5 and 10In
- Breaking capacity: 10kA
- Voltage rating: 230V /400V (Not for use on DC)
- Current rating: 80 to 125A

Connection capacity

- 70mm² rigid
- 35mm² flexible

Standards

- Compliant to AS/NZS 60898-1 and AS/NZS IEC 60947-2

Technical information [Page 268](#)

Accessories

- LZ060, MZN175, MZ201, MZ202, MZ203, MZ204, MZ206, CZ001



HMF199T

Single pole



In / A	Module(s)	Width (mm)	Cat ref.
80	1.5 mod	26.25	HMF180T
100	1.5 mod	26.25	HMF190T
125	1.5 mod	26.25	HMF199T



HMF299T

Double pole

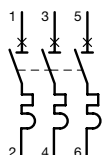


In / A	Module(s)	Width (mm)	Cat ref.
80	3 mod	52.5	HMF280T
100	3 mod	52.5	HMF290T
125	3 mod	52.5	HMF299T



HMF399T

Triple pole



In / A	Module(s)	Width (mm)	Cat ref.
80	4.5 mod	78.75	HMF380T
100	4.5 mod	78.75	HMF390T
125	4.5 mod	78.75	HMF399T

Description

For general distribution loads, our HMCxxxx and HMDxxxx Miniature Circuit Breaker (MCB) range provides short circuit and overcurrent protection of installations by isolating the circuit.

Technical data

- Tripping curve - 'C' magnetic setting between 5 and 10In
- Tripping curve - 'D' magnetic setting between 10 and 20In
- Breaking capacity: 15kA
- Voltage rating: 230V /400V (Not for use on DC)
- Current rating: 80 to 125A

Connection capacity

- 70mm² rigid
- 35mm² flexible

Accessories

- LZ060, MZN175, MZ201, MZ202, MZ203, MZ204, MZ206,

Standards

- Compliant to AS/NZS 60898-1 and AS/NZS IEC 60947-2

Technical information [Page 268](#)



Single pole



In / A	Module(s)	Width (mm)	Cat ref. 'C' curve	Cat ref. 'D' curve
80	1.5 mod	26.25	HMC180T	HMD180T
100	1.5 mod	26.25	HMC190T	HMD190T
125	1.5 mod	26.25	HMC199T	HMD199T



HMC199T

Double pole

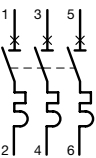


In / A	Module(s)	Width (mm)	Cat ref. 'C' curve	Cat ref. 'D' curve
80	3 mod	52.5	HMC280T	HMD280T
100	3 mod	52.5	HMC290T	HMD290T
125	3 mod	52.5	HMC299T	HMD299T



HMD299T

Triple pole

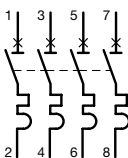


In / A	Module(s)	Width (mm)	Cat ref. 'C' curve	Cat ref. 'D' curve
80	4.5 mod	78.75	HMC380T	HMD380T
100	4.5 mod	78.75	HMC390T	HMD390T
125	4.5 mod	78.75	HMC399T	HMD399T



HMC399T

Four pole



In / A	Module(s)	Width (mm)	Cat ref. 'C' curve	Cat ref. 'D' curve
80	4.5 mod	78.75	HMC480T	HMD480T
100	4.5 mod	78.75	HMC490T	HMD490T
125	4.5 mod	78.75	HMC499T	HMD499T



HMD499T

Accessories to suit HMF, HMC and HMD

Description	Characteristics	Cat ref.
Terminal covers	Sealable	MZN130
Phase barrier	1 set of 3 phase barriers	MZN131



MZN130

MZN131

Description

Auxiliaries are common to all MCBs. These auxiliaries are fitted to the left hand side of the devices.




Compatibility chart and

Technical information [Page 278](#)

Connection

- 10mm² rigid
- 6mm² flexible

Accessories

Description	Characteristics	Module(s)	Width (mm)	Cat ref.
Combination auxiliary & alarm contacts 6A-240V~	2 x 1NO + 1NC Allows remote indication of main contact status and indicates a fault condition.	1	17.5	CZ001
Auxiliary contacts 6A - 230V~ 	1NO + 1NC allows remote indication of main contact status	0.5	8.75	MZ201
Alarm contacts 6A - 230V~. 	1NO + 1NC indicates a fault over current on overload or short circuit (e.g. MCB tripped)	0.5	8.75	MZ202
Shunt trip relay Allows remote tripping of (combined) RCD when a voltage is applied. 	230V - 415V AC	1	17.5	MZ203
	110V to 130V DC 24V - 48V AC 12V - 48V DC	1	17.5	MZ204
Undervoltage release 230V AC	If supply falls to 35 to 70% of nominal voltage the MCB will trip Coil consumption: 3.5 VA	1	17.5	MZ206
Locking device	To lock the MCB handle in on/off position	1	17.5	MZN175
Heat dissipation inserts	Avoids overheating for DIN rail modules when several devices mounted side by side are carrying high continuous loads	0.5	8.75	LZ060
Terminal cover & screw shield for MCBs				MZN120
Phase barriers for MDNxxx + NDNxxx MCBs	1 set of 3			MZN121



MZ202



MZ203



MZN175



LZ060



MZN120



MZN121

Modular Protection devices

Space saving 4P RCBO



From complex to

Compact

At only four modules wide and compatible with Hager onekonekt busbar and Modular Circuit Protection, three phase RCBO protection has never been so space friendly. With the choice of either 6kA or 10kA, from 6A to 40A and in either 30mA or 100mA, our new four pole RCBO provides combined RCD and MCB protection in a single robust DIN rail mounted design.

A compact solution for DIN rail enclosures

Our residential range of single module and four module Residual Current Circuit Breakers with Overcurrent Protection (RCBO) can be integrated with other Hager Modular Circuit Protection Devices.

Our ADC9xxT RCBO or 'onekombo' is only one module wide, making it ideal for retrofit installations where space can be limited. onekombo RCBO devices can be used in DIN rail enclosures and invicta panelboards.



One module RCBO onekombo characteristics:

- Rated current (I _n):	- 6A to 32A
- Rated voltage (U _n):	- 230V~
- Rated residual operating current (I _{Δn}):	- 30mA
- Curve type:	- C
- Operating characteristic:	- Type A
- Rated frequency:	- 50Hz
- Rated short-circuit capacity (I _{cn}):	- 6kA
- Standards compliance:	- AS/NZS 61009

Four module RCBO characteristics:

- Rated current (I _n):	- 6A to 40A
- Rated voltage (U _n):	- 400V~
- Rated residual operating current (I _{Δn}):	- 30mA, 100mA
- Curve type:	- C
- Operating characteristic:	- Type A
- Rated frequency:	- 50Hz
- Rated short-circuit capacity (I _{cn}):	- 6kA, 10kA
- Standards compliance:	- AS/NZS 61009



01

Type A RCBOs increase the accuracy in identifying DC faults in electrical devices.



02

Devices are compatible with the one-konekt busbar system.



03

Long multi position DIN clips allow for easy removal of a single product on the DIN rail busbar without disconnecting other devices or wiring.



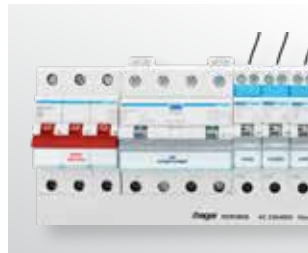
04

Four module RCBOs have the earth fault trip indication displayed in a separate window to assist in fault finding.



05

A space saving solution to protect 4 pole loads with a four module wide RCBO device.



06

The neutral in the four module RCBOs can be wired to the neutral link or connected through our KB181x busbar to comply with AS/NZS 3000.



07

Mounted to the left of the four module RCBO, auxiliaries remotely indicate the position or trip condition of the device.



08

The four module RCBO is suitable for balanced or unbalanced loads across phases when 400V AC is between phases.

Description

Our Axx9xxT RCBO or 'onekombo' are only one module wide, making them ideal for retrofit in installations where space is limited.

Available as 'C' or 'D' curve in various current ratings from 6A - 40A. Supplied with a 1 metre long neutral-in fly lead. Available in 10 and 30mA.

Onekombo RCBO devices can be used in DIN rail enclosures and the invicta panelboard range.

Features

- Type A devices
- Switched neutral
- Fault indication window
- Bi-connect terminals enable supply from either cables in the cage or busbars in the slot.
- Bi-directional
- Facility insulation resistance test

1 mod connection capacity

- 10mm² flexible
- 16mm² rigid

Standards

- Compliant to IEC 61009.1 and AS/NZS 61009.1
- ACC9xxT is Type I to comply with AS/NZS 3190 requirements, suitable for patient areas.

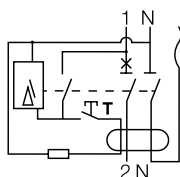
Technical information:

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ADC920T

RCBO 1P+N 6kA C curve



Current rating (A)	Residual current I _{dn}	Module(s)	Width (mm)		Cat ref.
6A	30mA	1 mod	17.5	✗ ADC306T	→ ★ ADC906T
10A	30mA	1 mod	17.5	✗ ADC310T	→ ★ ADC910T
13A	30mA	1 mod	17.5	✗ ADC313T	→ ★ ADC913T
16A	30mA	1 mod	17.5	✗ ADC316T	→ ★ ADC916T
20A	30mA	1 mod	17.5	✗ ADC320T	→ ★ ADC920T
25A	30mA	1 mod	17.5	✗ ADC325T	→ ★ ADC925T
32A	30mA	1 mod	17.5	✗ ADC332T	→ ★ ADC932T
6A	10mA	1 mod	17.5		★ ACC906T
10A	10mA	1 mod	17.5		★ ACC910T
13A	10mA	1 mod	17.5		★ ACC913T
16A	10mA	1 mod	17.5		★ ACC916T
20A	10mA	1 mod	17.5		★ ACC920T
25A	10mA	1 mod	17.5		★ ACC925T
32A	10mA	1 mod	17.5		★ ACC932T



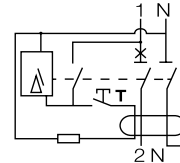
ACC925T

Modular Protection devices



ADD920T

RCBO 1P+N 6kA D curve



Current rating (A)	Residual current I _{dn}	Module(s)	Width (mm)		Cat ref.
6A	30mA	1 mod	17.5		★ ADD906T
10A	30mA	1 mod	17.5		★ ADD910T
13A	30mA	1 mod	17.5		★ ADD913T
16A	30mA	1 mod	17.5		★ ADD916T
20A	30mA	1 mod	17.5		★ ADD920T
25A	30mA	1 mod	17.5		★ ADD925T

Description

Our AxA9xxT RCBO are two module wide, making them ideal for retrofit in installations where space is limited.

Available as 'C' curve in various current ratings from 6A - 40A. Available in 30 and 100mA.

Can be used in DIN rail enclosures and the invicta panelboard range.

Features

- Type A devices
- Switched neutral
- Fault indication window
- Bi-connect terminals enable supply from either cables in the cage or busbars in the slot.
- Load and line circuits may be connected top or bottom.
- Facility insulation resistance test

2 mod connection capacity

- 16mm² flexible
- 25mm² rigid

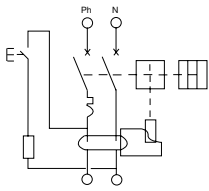
Standards

- Compliant to IEC 61009.1 and AS/NZS 61009.1

Technical information:
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RCBO 1P+N 6kA
C curve



Current rating (A)	Residual current Idn	Module(s)	Width (mm)	Cat ref.
6A	30mA	2 mod	35	ADA906T
10A	30mA	2 mod	35	ADA910T
13A	30mA	2 mod	35	ADA913T
16A	30mA	2 mod	35	ADA916T
20A	30mA	2 mod	35	ADA920T
25A	30mA	2 mod	35	ADA925T
32A	30mA	2 mod	35	ADA932T
40A	30mA	2 mod	35	ADA940T
6A	100mA	2 mod	35	AEA906T
10A	100mA	2 mod	35	AEA910T
13A	100mA	2 mod	35	AEA913T
16A	100mA	2 mod	35	AEA916T
20A	100mA	2 mod	35	AEA920T
25A	100mA	2 mod	35	AEA925T
32A	100mA	2 mod	35	AEA932T
40A	100mA	2 mod	35	AEA940T



ADA910T



AEA910T

Modular Protection devices

Description

Our AxM4xxT are 4 pole RCBO devices which provide a combination of overcurrent and earth leakage protection.

Available as 'C' curve in various current ratings from 6A to 40A. Available in 30mA and 100mA.

4P RCBO devices can only be used for DIN rail enclosures. Suitable for balanced and unbalanced loads.

Features

- Type A devices
- Earth fault indication window
- Trip free mechanisms
- Load and line circuits may be connected top or bottom.
- Bi-connect terminals enable supply from either cables in the cage or busbars in the slot.
- Switched neutral

Accessories

- MZ201, MZ202, MZ203, MZ204, MZ206

Standards

- Compliant to IEC 61009.1 and AS/NZS 61009.1

Technical information:

[Page 272](#)

4 mod connection capacity

- 16mm² flexible
- 25mm² rigid

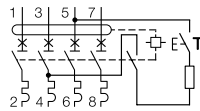


ADM413T



AEM420T

RCBO 4P 6kA C curve



Current rating (A)	Residual current I _{dn}	Module(s)	Width (mm)	Cat ref.
6A	30mA	4 mod	70	ADM406T
10A	30mA	4 mod	70	ADM410T
13A	30mA	4 mod	70	ADM413T
16A	30mA	4 mod	70	ADM416T
20A	30mA	4 mod	70	ADM420T
25A	30mA	4 mod	70	ADM425T
32A	30mA	4 mod	70	ADM432T
40A	30mA	4 mod	70	ADM440T
6A	100mA	4 mod	70	AEM406T
10A	100mA	4 mod	70	AEM410T
13A	100mA	4 mod	70	AEM413T
16A	100mA	4 mod	70	AEM416T
20A	100mA	4 mod	70	AEM420T
25A	100mA	4 mod	70	AEM425T
32A	100mA	4 mod	70	AEM432T
40A	100mA	4 mod	70	AEM440T

Description

Our AxA1xxT and Ax1xxB are 1 pole RCBO devices which provide a combination of overcurrent and earth leakage protection.

Available as 'C' curve in various current ratings from 6A to 45A. Available in 10mA and 30mA.

The single pole RCBO devices can be used in DIN rail enclosures and the perform panelboard range.

Features

- Type A devices

Connection capacity

- 16mm² flexible
- 25mm² rigid

Accessories

- Toggle locking device - MZN175

Accessories -

- MZ201, MZ202, MZ203, MZ204, MZ206

Standards

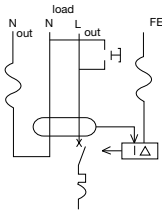
- Compliant to IEC 61009.1 and AS/NZS 61009.1
- ACA5xxT is Type 1 according to AS/NZS 3190
- ACA1xxT and AC1xxB are general type, not for patient areas according to AS/NZS 3190

Technical information:

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RCBO 1P 6kA Type A C curve



Current rating (A)	Residual current I _{dn}	Module(s)	Width (mm)	Cat. ref.
6A	10mA	1 mod	17.5	ACA106T
10A	10mA	1 mod	17.5	ACA110T
16A	10mA	1 mod	17.5	ACA116T
20A	10mA	1 mod	17.5	ACA120T
25A	10mA	1 mod	17.5	ACA125T
32A	10mA	1 mod	17.5	ACA132T
6A	30mA	1 mod	17.5	ADA106T
10A	30mA	1 mod	17.5	ADA110T
16A	30mA	1 mod	17.5	ADA116T
20A	30mA	1 mod	17.5	ADA120T
25A	30mA	1 mod	17.5	ADA125T
32A	30mA	1 mod	17.5	ADA132T
40A	30mA	1 mod	17.5	ADA140T
45A	30mA	1 mod	17.5	ADA145T



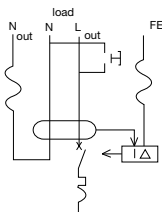
ACA110T



ADA140T

Modular Protection devices

RCBO 1P 10kA Type A C curve



Current rating (A)	Residual current I _{dn}	Module(s)	Width (mm)	Cat. ref.
6A	10mA	1 mod	17.5	AC106B
10A	10mA	1 mod	17.5	AC110B
16A	10mA	1 mod	17.5	AC116B
20A	10mA	1 mod	17.5	AC120B
25A	10mA	1 mod	17.5	AC125B
32A	10mA	1 mod	17.5	AC132B
6A	30mA	1 mod	17.5	AD106B
10A	30mA	1 mod	17.5	AD110B
16A	30mA	1 mod	17.5	AD116B
20A	30mA	1 mod	17.5	AD120B
25A	30mA	1 mod	17.5	AD125B
32A	30mA	1 mod	17.5	AD132B



AC106B



AD120B

Description

Our AxA5xxT are 2 pole RCBO devices which provide a combination of overcurrent and earth leakage protection.

Available as 'C' curve in various current ratings from 6A to 45A. Available in 10mA and 30mA.

Features

- Type A devices
- Switched Neutral
- Fault indication window
- Bi-connect terminals enable supply from either cables in the cage or busbars in the slot.
- Load and line circuits may be connected top or bottom.

Connection capacity

- 16mm² flexible
- 25mm² rigid

Accessories

- Toggle locking device - MZN175

Accessories -

- MZ201, MZ202, MZ203, MZ204, MZ206

Standards

- Compliant to IEC 61009.1 and AS/NZS 61009.1
- Earth fault indication window (except for 1mod RCBOs)
- ACA5xxT is Type 1 according to AS/NZS 3190

Technical information:

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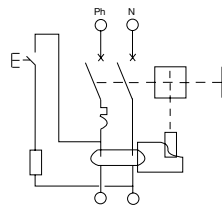


ACA566T



ADA566T

RCBO 1P+N 10kA Type A C curve



Current rating (A)	Residual current I _{dn}	Module(s)	Width (mm)	Cat ref.
10A	10mA	2 mod	35	ACA560T
13A	10mA	2 mod	35	ACA563T
16A	10mA	2 mod	35	ACA566T
6A	30mA	2 mod	35	ADA556T
10A	30mA	2 mod	35	ADA560T
13A	30mA	2 mod	35	ADA563T
16A	30mA	2 mod	35	ADA566T
20A	30mA	2 mod	35	ADA570T
25A	30mA	2 mod	35	ADA575T
32A	30mA	2 mod	35	ADA582T

Description

Our AxX4xT are 4 pole RCBO devices which provide a combination of overcurrent and earth leakage protection.

Available as 'C' curve in various current ratings from 6A to 40A. Available in 30mA and 100mA and rated at 10kA

The four pole RCBO devices can only be used in DIN rail enclosures. Suitable for balanced and unbalanced loads.

Features

- Type A devices
- Switched neutral
- Fault indication window
- Bi-connect terminals enable supply from either cables in the cage or busbars in the slot.
- Load and line circuits may be connected top or bottom.
- Trip free mechanisms

Connection capacity

- 16mm² flexible
- 25mm² rigid

Accessories 4 mod devices only

- MZ201, MZ202, MZ203, MZ204, MZ206, MZN175

Standards

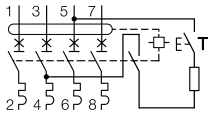
- Compliant to IEC 61009.1 and AS/NZS 61009.1

Technical information:

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RCBO 4P 10kA Type A C curve



Current rating (A)	Residual current I _{dn}	Module(s)	Width (mm)	Cat. ref.
6A	30mA	4 mod	70	ADX406T
10A	30mA	4 mod	70	ADX410T
13A	30mA	4 mod	70	ADX413T
16A	30mA	4 mod	70	ADX416T
20A	30mA	4 mod	70	ADX420T
25A	30mA	4 mod	70	ADX425T
32A	30mA	4 mod	70	ADX432T
40A	30mA	4 mod	70	ADX440T
6A	100mA	4 mod	70	AEX406T
10A	100mA	4 mod	70	AEX410T
13A	100mA	4 mod	70	AEX413T
16A	100mA	4 mod	70	AEX416T
20A	100mA	4 mod	70	AEX420T
25A	100mA	4 mod	70	AEX425T
32A	100mA	4 mod	70	AEX432T
40A	100mA	4 mod	70	AEX440T



ADX413T



AEX406T

Modular Protection devices

Description

Residual Current Circuit Breaker (RCCB) or 'Safety Switches' are designed to open a protected circuit automatically when the circuit leaks current to earth, greater or equal to the devices rated tripping current.

For use in residential, commercial or industrial installations.

Type A

Type A RCCB is used where the earth fault waveform is sinusoidal AC and/or pulsating DC up to 6mA (computer loads, etc).

Features

- Positive contact indication windows
- Earth fault indication window
- Load and line circuits may be connected top or bottom
- Bi-connect terminals enable supply from either cables in the cage or busbars in the slot.

Connection capacity

- 25mm² - Rigid (50mm² for 80A,100A)
- 16mm² - Flexible (35mm² for 80A, 100A)

Accessories

- MZ201, MZ202, MZ203, MZ204, MZ206, MZN175, LZ060
- CZ001 for CDA2xxT and CDA4xxT
- MZN121 for others

Standards

- All types conform with AS/NZS 61008.1
- Type F compliant to IEC62493

Technical information: [Page 276](#)

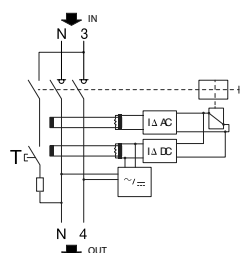


CDA240T



CEA563T

RCCB 1P+N Type A



Current rating (A)	Residual current I _{dn}	Module(s)	Width (mm)	Cat ref.
25A	30mA	2 mod	35	CDA225T
40A	30mA	2 mod	35	CDA240T
63A	30mA	2 mod	35	CDA263T
80A	30mA	2 mod	35	CDA580T
100A	30mA	2 mod	35	CDA584T
25A	100mA	2 mod	35	CEA525T
40A	100mA	2 mod	35	CEA540T
63A	100mA	2 mod	35	CEA563T
80A	100mA	2 mod	35	CEA580T
100A	100mA	2 mod	35	CEA584T

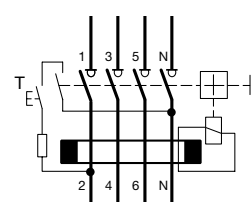


CDA440T



CEA663T

RCCB 3P+N Type A



Current rating (A)	Residual current I _{dn}	Module(s)	Width (mm)	Cat ref.
25A	30mA	4 mod	70	CDA425T
40A	30mA	4 mod	70	CDA440T
63A	30mA	4 mod	70	CDA463T
80A	30mA	4 mod	70	CDA680T
100A	30mA	4 mod	70	CDA684T
25A	100mA	4 mod	70	CEA625T
40A	100mA	4 mod	70	CEA640T
63A	100mA	4 mod	70	CEA663T
80A	100mA	4 mod	70	CEA680T
100A	100mA	4 mod	70	CEA684T

Description

Residual Current Circuit Breaker (RCCB) or 'Safety Switches' are designed to open a protected circuit automatically when the circuit leaks current to earth, greater or equal to the devices rated tripping current.

For use in residential, commercial or industrial installations.

Type F

Type F RCCB can detect and respond similarly as Type A and considers a maximum fault current of 30mA. It also detects mixed frequency residual currents (such as some air conditioning controllers using variable frequency from 10Hz to 1000Hz speed drives, some Class I power tools, etc).

Features

- Positive contact indication windows
- Earth fault indication window
- Load and line circuits may be connected top or bottom
- Bi-connect terminals enable supply from either cables in the cage or busbars in the slot.

Connection capacity

- 25mm² - Rigid (50mm² for 80A,100A)
- 16mm² - Flexible (35mm² for 80A, 100A)

Accessories

- MZ201, MZ202, MZ203, MZ204, MZ206, MZN175, LZ060
- CZ001 for CDA2xxT and CDA4xxT
- MZN121 for others

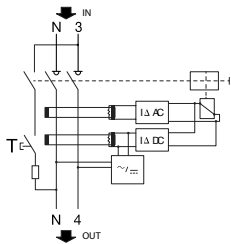
Standards

- All types conform with AS/NZS 61008.1
- Type F compliant to IEC62493

Technical information: [Page 276](#)



RCCB 1P+N Type F

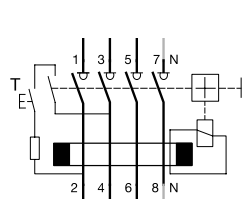


Current rating (A)	Residual current I _{dn}	Module(s)	Width (mm)	Cat ref.
40A	30mA	2 mod	35	CDF540T
63A	30mA	2 mod	35	CDF563T



CDF540T

RCCB 3P+N Type F



Current rating (A)	Residual current I _{dn}	Modules	Width (mm)	Cat ref.
40A	30mA	4 mod	70	CDF640T
63A	30mA	4 mod	70	CDF663T



CDF640T

Modular Protection devices

Description

Residual Current Circuit Breaker (RCCB) or 'Safety Switches' are designed to open a protected circuit automatically when the circuit leaks current to earth, greater or equal to the devices rated tripping current.

For use in residential, commercial or industrial installations.

Type B

Type B RCCB or 'Safety Switch' is used where earth fault waveform is sinusoidal AC, pulsating DC or smooth DC (VSD applications, lifts, medical equipments, etc).

- Can handle mixed frequency AC currents up to 1000Hz
- AC and/or pulsating currents with DC components
- Direct earth fault currents up to 10mA
- Earth fault current generated by a rectifier.

Features

- Earth fault indication window
- Line circuit is connected on top and load on bottomT
- Polarity sensitive

Connection capacity

- 25mm² - Rigid
- 16mm² - Flexible
- CDBxxx incompatible with KDNxxx busbar

Accessories

- MZ201, MZ202, MZ203, MZ204, MZ206, MZN175, MZN121

Standards

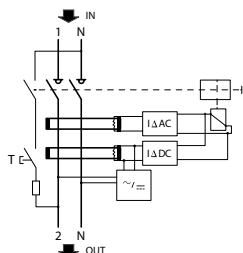
- Compliant to IEC61008.1, AS/ZS61008.1 and IEC62423

Technical information: [Page 277](#)



CDB540T

RCCB 1P+N Type B

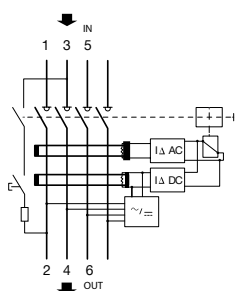


Current rating (A)	Residual current I _{dn}	Module(s)	Width (mm)	Cat ref.
25A	30mA	4 mod	70	CDB525T
40A	30mA	4 mod	70	CDB540T
63A	30mA	4 mod	70	CDB563T



CDB640T

RCCB 3P+N Type B



Current rating (A)	Residual current I _{dn}	Module(s)	Width (mm)	Cat ref.
25A	30mA	4 mod	70	CDB625T
40A	30mA	4 mod	70	CDB640T
63A	30mA	4 mod	70	CDB663T

Accessories compatible for all RCBOs

- MZN175

Accessories compatible for AxM4xxT, AxA5xxT and AxX4xxT RCBOs only

- MZ201, MZ202, MZ203, MZ204, MZ206

Accessories compatible for all RCCBs

- CZ001, MZ201, MZ202, MZ203, MZ204, MZ206, MZN175

Combination Auxiliary & Alarm Switch

If shunt trip or undervoltage release is required, the CZ001 must be used as a coupler for RCCBs (CDA2xxT and CDA4xxT)

Connection

- 10mm² rigid
- 6mm² flexible

Compatibility chart and technical information: [Page 278](#)

Accessories

Description	Characteristics	Module(s)	Width (mm)	Cat. ref.
Combination auxiliary & alarm contacts Allows remote indication of main contact status and indicates a fault condition (eg Safety Switch tripped) for RCCBs (CDA2xxT & CDA4xxT).	2 x (1NO + 1NC) 6A-240V~	1	17.5	CZ001
Auxiliary contacts Allows remote indication of main contact status for RCBOs and RCCBs (CxA5xxT & CxA6xxT).	6A - 240V~ 1NO + 1NC	0.5	8.75	MZ201
Alarm contacts indicates a fault over current on overload or short circuit (e.g. RCBO tripped). For RCBOs and RCCBs (CxA5xxT & CxA6xxT).	6A - 240V~ 1NO + 1NC	0.5	8.75	MZ202
Shunt trip relay Allows remote tripping of (combined) RCD when a voltage is applied.	230V - 415V AC 110V to 130V DC	1	17.5	MZ203
	24V - 48V AC 12V - 48V DC	1	17.5	MZ204
Undervoltage release Trips the (combined) RCD when the voltage falls between 35% and 70% of nominal voltage.	230V AC Coil consumption: 3.5 VA	1	17.5	MZ206
Locking device Allows locking of the device; toggle in the lock on/off position; will accept two padlocks with hasps of 4.75mm diameter maximum.	Supplied without padlock	1	17.5	MZN175
Heat dissipation inserts	Avoids overheating for DIN rail modules when several devices mounted side by side are carrying high continuous loads	0.5	8.75	LZ060
Phase barriers for RCCBs (Inc 10kA)	1 set of 3			MZN121



CZ001



MZ202



MZ203



MZN175

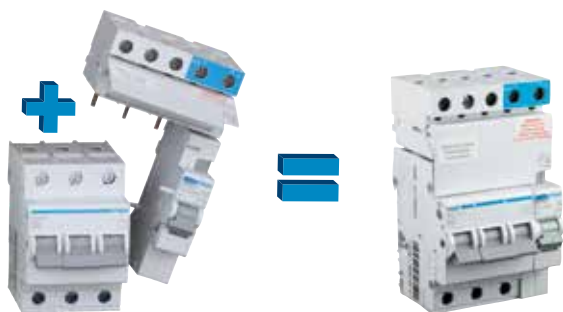


LZ060

Modular Protection devices

Modular Circuit Protection

One Module Add-On Block (AOB)



3P MCB + RCD ADD-ON BLOCK

3P+N RCBO

Description

The compact one module wide Add-On Block (AOB) can be used in combination with any Hager 3P MCB up to 63A. The one module RCD Add-On Block + MCB combinations suit all Hager chassis boards including the performa series and invicta panelboards. It is the most compact '3P+N RCBO' for chassis boards.

The RCD Add-On Block + MCB provides protective characteristics of both devices which protects the entire circuit of a panelboard and removes the need to wire between DIN mounted RCD & MCB. This results in reduced time, labour and the size & cost of integrated RCD socket outlets.

The 'Type A' Add-On Block gives the added protection against any 'pulsating DC component' generating from such loads as; power tools, motor speed controllers etc.

The AOB + MCB is suitable for balanced and unbalanced loads. Connection of neutral is required for unbalanced load.

Standards

- Conforms with IEC 61008-1 and AS/NZS 61008.1 when used with a Hager MCB.

Technical information: [Page 279](#)



BD163T

One Module Add-On Block

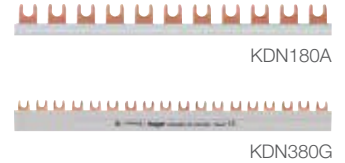
Description	Residual current I _{dn}	Cat ref.
3 phase earth leakage protection Up to 63A Type A	30mA	BD163T
	100mA	BE163T
	300mA	BF163T

Description

A range of connection devices to simplify installation of modular devices such as MCBs, RCDs etc...

Insulated busbars - Fork type

Description	Module(s)	Width (mm)	Cat ref.
1 phase 80A	12 mod	210	KDN180A
1 phase 80A	18 mod	315	KDN180G
1 phase 100A - bulk	57 mod	1000	KD190B
2 phase 80A	12 mod	210	KDN280A
3 phase 80A	12 mod	210	KDN380A
3 phase 80A	18 mod	315	KDN380G



Insulated busbars - Tongue Type

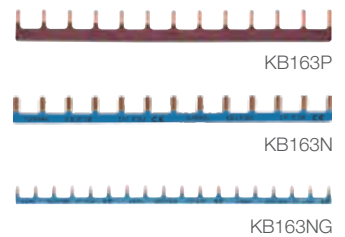
Description	Characteristics	Module(s)	Width (mm)	Cat ref.
1 neutral 80A. Suits neutral supply in onekonekt range of RCBOs	6 tongues over 12 poles	12 mod	210	KB181A1
1 neutral 80A. Suits neutral supply in onekonekt range of RCBOs	9 tongues over 18 poles	18 mod	315	KB181G1



Insulated busbars - Tongue type

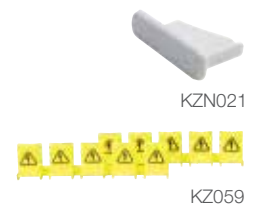
Supplied with 10 tongue pole covers

Description	Characteristics	Module(s)	Width (mm)	Cat ref.
1 phase 63A	13 tongues over 13 pole	13 mod	227.5	KB163P
1 neutral 63A	13 tongues over 13 poles	13 mod	227.5	KB163N
1 phase 63A	18 tongues over 18 poles	18 mod	315	KB163PG
1 neutral 63A	18 tongues over 18 poles	18 mod	315	KB163NG



Insulated caps

Description	Characteristics	Quantity	Cat ref.
Busbar end caps	Suits KDN1xx & KB181xx	50	KZN021
Busbar end caps	Suits KDN2xx/KDN3xx	10	KZN023
Busbar fork protective cover	5 pole covers x10		KZ059



Cable Connectors

Description	Cat ref.
Tongue type connection from top for cables: 25mm ²	KF81A
Tongue type connection from top for cables: 2 x 16mm ²	KF82A
Tongue type connection from side for cables: 35mm ²	KF83A
Tongue type connection from side of cables: 35mm ² with longer tongue	KF83D
Chassis mounted 63A to supply power to the DIN Rail for cables: 25mm ²	KRN163
Chassis or DIN Rail mounted 125A to connect main neutral cable: 50mm ²	KRN199



Other accessories

Description	Characteristics	Cat ref.
RCD neutral links	Brass link for neutral fitting to RCD's: 3 x 10mm ²	KM03A
Cable adaptor - one hole	35mm ² to suit golf enclosure	KM035



Surge Protection for your entire home

Replacing valuable equipment and appliances is costly, so prevention is better than a cure. A typical home contains items such as a TV, home theatre, hi-fi system, computers, gaming consoles, dishwasher, washing machine and a microwave - all of which are susceptible to electrical spikes and surges. Surge protection devices installed in your switchboard protects your valuable equipment at the source.



Surge Protection Devices (SPD) are designed to reduce the risk to electrical installations and connected devices from damage caused by surges, transients from lightning, faults and switching sources.

The risk to a specific installation is determined from a composite of factors such as weather, location, geography and surrounding infrastructure. For definitive requirements for installation of Surge Protection Devices in Australia - please refer to the latest version of AS:1768 and AS:3000.

Cascading

Cascading is the term used to describe the method of combining several levels or types of SPDs into one installation, to create a robust surge protection system. Similar systems and the logic behind them are common to other electrical protection devices. Hager recommends a cascading surge protection system for enhanced voltage regulation, current diverting capacity and reliability.

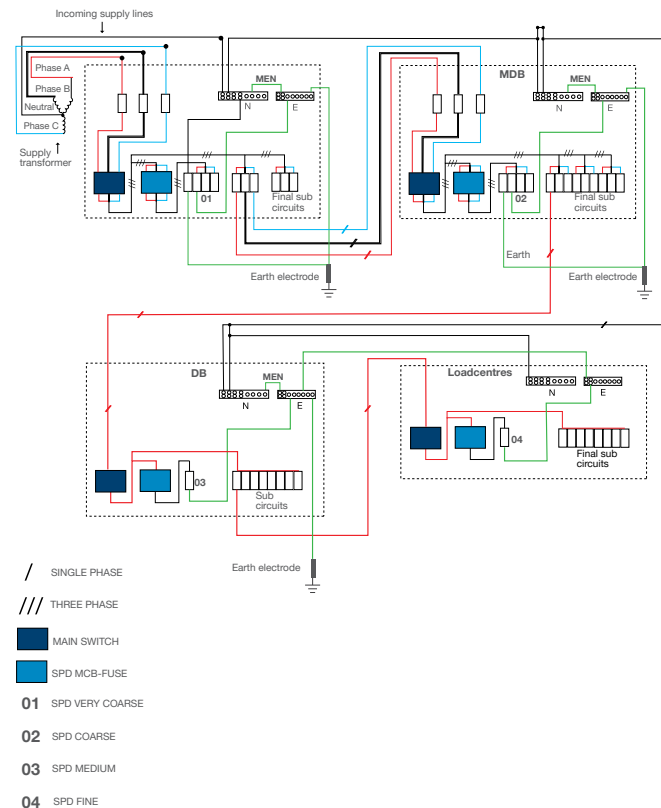
To simplify selection, Hager uses the terminology: Very Coarse, Coarse, Medium and Fine Surge Protection Devices.

Wiring

SPDs should first be installed at the point of electrical supply (service entrance, incoming mains or sub-mains) on a switchboard, directly after the main switch or isolator, but before other circuit protective devices (especially any RCD or RCBO). Hager SPDs are available to suit installations wired in three phase or single phase.

To gain maximum protection from the SPD, resistance needs to be minimised, conductors used to connect SPD should be kept as short as possible, and the conductor diameter sized appropriately for the application. SPD conductors are oversized to ensure a safe lower resistance path during operation.

Protection against SPD short circuits needs to be provided by an over-current protective device such as a fuse or circuit breaker. This overcurrent device must be suitably rated to discriminate with the SPD - it must permit the flow of surge current without operating. Hager SPD products contain wiring and installation instructions on your choice of fuse or circuit breaker – these are also available at page 283-284.



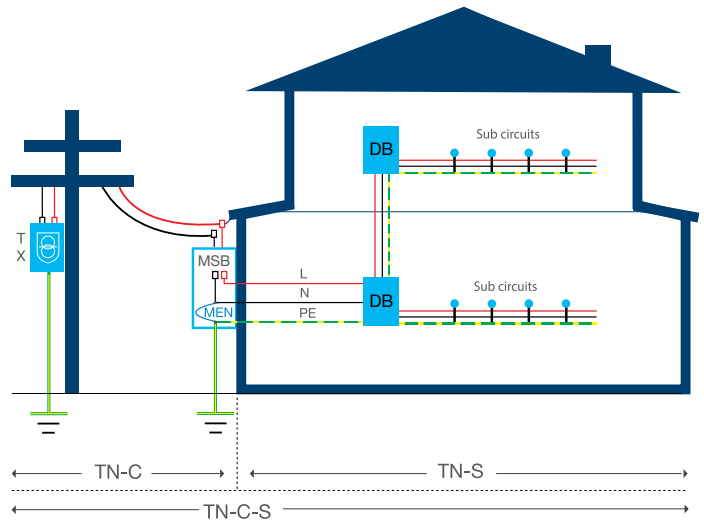
Earthing

The correct selection of the appropriate SPD is based on the location and style of earthing present in the installation, and location of the SPD in the installation.

Hager SPDs are available in two earthing configurations:

1. TNC
2. TNS / TT

The type of earthing most commonly used in low voltage electrical distribution systems in both Australia and New Zealand is referred to as Multiple Earth-Neutral (MEN). When considering a MEN earthing system as a whole, it is treated as a hybrid TN-C-S. (See example diagram below)



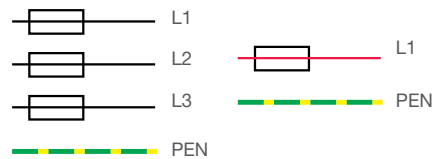
A TN-C earthing system is present between the transformer that supplies the site and the installation MSB, and is used in MEN Switchboard Solutions.

In Australia, a TN-S earthing system is commonly used inside the domestic installations (from the Main Switchboard MEN downstream) and for Separate Neutral-Earth Switchboard Solutions

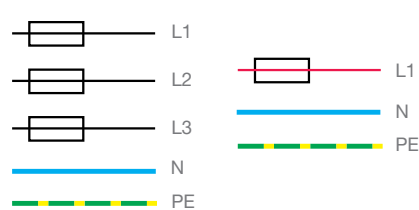
TN-C-S is comprised of both: The supply side of the system uses a combined Protective Earth Neutral (PEN) conductor for earthing, and the load side (downstream of the MSB) of the system uses a separate conductor for Protective Earth (PE) and Neutral (N).

If the SPD can be located within two meters of the MEN point, select a TN-C type SPD.

Example of TN-C wiring layout:



Example of TN-S wiring layout:



Hager SPD are suitable for 240V SWER, but not suitable for 480V SWER. Select SPD as per the standard TN-C-S system.

Hager provides a simplified four part guide to select appropriate SPDs:

Part 1 - Direct or frequent lightning protection

Lightning has the highest potential for surge damage. The criteria for installing a dedicated lightning protective product is through the following questions:

- Is the installation in a lightning prone area?
- Is the installation adjacent to tall structures, tall trees or near a hill top?
- Does the installation contain a lightning rod?

If the answer is YES to any of the above, Hager recommends installation of a 'Spark Gap' device as the initial component of the SPD system.

Hager offers the SPA range of Spark Gap devices:

- For three phase, the SPA412A
- For single phase, the SPA212A

Part 2 - Indirect Lightning and Transient Protection

To ensure protection of an installation, it is vital to have adequate protection from the harmful effect of indirect or nearby lightning transients. These transients are commonly introduced into an installation from nearby lightning strikes usually from thunder storms.



Thunder Day Map

This map illustrates the lightning activity across Australia and is based upon the 'Thunder Day Map' that appears in AS/NZS 1768. This map is based on Bureau of Meteorology data.

As indicated, Australia is split into three zones of activity.

To choose the appropriate indirect lightning protection, it is important to determine what region the installation is located in:

- 1** Zone 1 - Install **'Coarse'** surge protection and cascading **'Medium'** and **'Fine'** surge protection.
- 2** Zone 2 - Install **'Medium'** surge protection and additional cascaded Fine protection for critical sub circuits
- 3** Zone 3 - Install **'Medium'** surge protection and consider **'Fine'** surge protection for protecting final circuits.

Part 3 - Surrounding infrastructure

Aside from geographic location, the type of installation and the impact of surrounding infrastructure should be considered. An installation in any of the lightning zones shown may require additional or upgraded protection from non-lightning sources of surge.

- Is the installation supplied by exposed or long power lines or sub-mains? i.e. rural or large commercial estate
- Is the installation near a source of man-made switching transients; power plants or substations, or part of a large industrial or commercial zone with large motors?
- Is the electricity supply unreliable? - are there frequent blackouts or brownouts?

If the answer is YES to any of the above, the SPD system selected in Part 2 should be upgraded to a higher rating.

Part 4 - Fine Protection

By installing supplementary cascaded 'Fine' surge protection, the protection of connected devices and appliances can be ensured. Hager 'Fine' SPDs should only be installed to provide supplementary protection - a higher rated SPD must be installed upstream of 'Fine' protection.

- Is the circuit longer than 10 metres, or does it leave the building? e.g. External signage, garden or pool sheds, pumps, illumination and security systems.
- Does a sub-board or sub-circuit contain expensive or critical electronic devices? e.g. OLED and LED TV's, PCs, NAS, security cameras and alarms, home theatre or high end audio equipment, electronic appliances with variable drives or inverter technology, mobility or medical equipment, battery or EV chargers.

If the answer is YES to any of the above, Hager recommends installing supplementary 'Fine' protection.

- Install a SPB208D for single phase final circuits.
- Install a SPB408D for three phase final circuits.

Example SPD wiring diagrams can be found on page 283.

For definitive requirements for installation of Surge Protection Devices, please refer to the latest version of AS:1768 and AS:3000.

Installation examples:

- **For rural, exposed or dispersed multi-building properties**
A cascading surge protection system should be installed, starting with 'Very Coarse' and a 'Spark Gap' at the Point of Supply / Main Switch Board (MSB), then 'Coarse' for Major Sub-mains and detached buildings, followed by 'Medium' at Distribution Boards or Loadcentres and supplementary 'Fine' for any long sub-circuits that have expensive or critical electronic equipment.
- **For commercial buildings and apartments**
Properties should have cascading surge protection installed, with 'Very Coarse' or 'Coarse' at the MSB, 'Medium' for any Sub-mains or Distribution Boards and ideally supplementary 'Fine' protection in Loadcentres. If SPD installation at the MSB is not possible, a higher rated SPD should be considered for the tenancy point of supply.
- **For urban residential and light commercial premises**
For urban and suburban houses or small retail premises. Hager recommends 'Medium' protection at the MSB – however in zones with increased lightning exposure or proximity to industrial and commercial sites, upgrading to 'Coarse' protection with cascading is recommended.



Type of Installation	Very Coarse		Coarse		Medium			Fine		
	<ul style="list-style-type: none"> - Highly exposed to lightning - Point of supply entry for highly exposed, lightning prone sites including on hills and ridges, by tall trees or structures or connected by long overhead service power lines - Any installation with a Lightning Rod, LPS or Spark Gap Device - Proximity to very large motors or transformers; usually industrial sites, power plants or substations 		<ul style="list-style-type: none"> - Somewhat exposed to lightning - Proximity to industrial or large commercial sites that have or induce transients from large transformers or motors. - Or supplied by long service supply cables including private power poles - Rural, Commercial or Large Institutional - Power lines: metering box, point of connection, private power pole 		<ul style="list-style-type: none"> - Rarely exposed to lightning with underground service entrance, and short distance to neighbours - Suitable for most subtropical urban and suburban homes and domestic applications - Suitable for cascaded use, downstream of higher rated SPDs such as in: Major Sub-mains, Distribution Boxes or Load Centres. - Available with (R) or without (D) contact for condition monitoring 			<ul style="list-style-type: none"> - Supplementary protection for final circuits with expensive, critical or important equipment - Load centres and equipment on long circuits or remote from other SPDs - Residential apartments or flats with computer, audio visual, measurement, security, laboratory and scientific equipment 		
Type of Surge Protection	Type 1 Spark Gap Type 2 100kA		Type 2 65kA		Type 2 40kA			Type 2 8kA		
	Three phase	Single phase	Three phase	Single phase	Three phase	Single phase	Three phase	Single phase	Three phase	Single phase
Spark Gap Direct or frequent lightning protection	SPA412A	SPA212A	-	-	-	-	-	-	-	-
TN-C Used at or near the service supply point and MSB. If the SPD can be located within two meters of the MEN point, select a TN-C type surge protection device.	SPB300R	SPB100R	SPB365R	SPB165R	SPB340D	SPB340R	SPB140D	SPB140R	-	-
TN-S / TT Used after or downstream from the MSB or Switchboard MEN and in separate Neutral-Earth switchboard solutions.	SPB400R	SPB200R	SPB465R	SPB265R	SPB440D	SPB440R	SPB240D	SPB240R	SPB408D	SPB208D

Description

Our SPBxxx devices protect electrical and electronic equipment against transients originating from lightning and switching sources. These transients can cause premature aging of equipment, logic failures and down time, to the complete destruction of electrical components.

Installation and connection

- Very Coarse, Coarse, Medium and Fine
- Spark Gap and MOV technology
- Single phase or Three phase
- TN-C or TN-S / TT
- Part numbers ending in 'R' have a contact to allow for wiring in alarm to indicate cartridge replacement.
- Part numbers ending in 'D' have no contact.
- Replacement NE & L-PE cartridges available

Note

- SPBxxx cartridges are not compatible with legacy SPNxxx products
- **Contact wiring is different from SPNxxxR models to new SPBxxxR models**

Technical information:
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SPA212A



SPA412A

Spark Gap

Category C3 (Type 1)

Description	limp kA	Up kV	Uc V	Width	Cat ref.
For areas where lightning is frequent.	12.5	≤2.5	255	4 mod	SPA212A
Test wave 10/350µs	12.5	≤2.5	255	8 mod	SPA412A

Both the SPA212A & SPA412A have dual earth and phase / neutral terminals.

Devices are connected in both common and differential modes (L-E/NE/L-N) together with inbuilt auto protection up to 12.5kA.



SPB100R



SPB400R

Very Coarse

Category C2 (Type 2) - Supplied with remote contact

Description	iMax kA	In kA	Up kV	Uc V	Width	Cat ref.
Single phase						
SPD 1P T2 TNC 100kA Remote contact	100	40	2	320	1 mod	★ SPB100R
SPD 2P T2 TNS/TT 100kA Remote contact	100	40	2	320	2 mod	★ SPB200R
Three phase						
SPD 3P T2 TNC 100kA Remote contact	100	40	2	320	3 mod	★ SPB300R
SPD 4P T2 TNS/TT 100kA Remote contact	100	40	2	320	4 mod	★ SPB400R



SPB165R



SPB465R

Coarse

Category C2 (Type 2) - Supplied with remote contact

Description	limp kA	iMax kA	In kA	Up kV	Uc V	Width	Cat ref.
Single phase							
SPD 1P T2 TNC 65kA Remote contact	12.5	65	20	1.45	320	1 mod	✗ SPN165R → ★ SPB165R
SPD 2P T2 TNS/TT 65kA Remote contact	12.5	65	20	1.45	320	2 mod	★ SPB265R
Three phase							
SPD 3P T2 TNC 65kA Remote contact	12.5	65	20	1.45	320	3 mod	★ SPB365R
SPD 4P T2 TNS/TT 65kA Remote contact	12.5	65	20	1.45	320	4 mod	★ SPB465R

Description

Our SPBxxx devices protect electrical and electronic equipment against transients originating from lightning and switching sources. These transients can cause premature aging of equipment, logic failures and down time, to the complete destruction of electrical components.

Installation and connection

- Very Coarse, Coarse, Medium and Fine
- Spark Gap and MOV technology
- Single phase or Three phase
- TN-C or TN-S / TT
- Part numbers ending in 'R' have a contact to allow for wiring in alarm to indicate cartridge replacement.
- Part numbers ending in 'D' have no contact.
- Replacement L-N cartridges available

Note

- SPBxxxx cartridges are not compatible with legacy SPNxxxx products
- **Contact wiring is different from SPNxxxR models to new SPBxxxR models**

Technical information:
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Medium

Category B and C1 (Type 2)

Description	iMax kA	In kA	Up kV	Uc V	Width	Cat ref.
Single phase						
SPD 1P T2 TNC 40kA	40	20	1.35	275	1 mod	X SPN140D → ★ SPB140D X SPN115D
SPD 1P T2 TNC 40kA Remote contact	40	20	1.35	275	1 mod	X SPN140R → ★ SPB140R X SPN115R
SPD 2P T2 TNS/TT 40kA	40	20	1.35	275	2 mod	★ SPB240D
SPD 2P T2 TNS/TT 40kA Remote contact	40	20	1.35	275	2 mod	★ SPB240R
Three phase						
SPD 3P T2 TNC 40kA	40	20	1.35	275	3 mod	★ SPB340D
SPD 3P T2 TNC 40kA Remote contact	40	20	1.35	275	3 mod	★ SPB340R
SPD 4P T2 TNS/TT 40kA	40	20	1.35	275	4 mod	★ SPB440D
SPD 4P T2 TNS/TT 40kA Remote contact	40	20	1.35	275	4 mod	★ SPB440R



SPB140D



SPB440R

Fine

Category A (Type 2) - Supplied without remote contact

Description	iMax kA	In kA	Up kV	Uc V	Width	Cat ref.
Single phase						
SPD 2P TNS/TT 8 kA	8	2	0.9	275	2 mod	X SPN208D → ★ SPB208D
Three phase						
SPD 4P TNS/TT 8 kA	8	2	0.9	275	4 mod	X SPN408D → ★ SPB408D



SPB208D



SPB408D

Description

Our SPBxxxx replacement cartridges and bases are IP2X. This allows for simple 'hot swap' remove and replacement of expended cartridges.

- SPD cartridges should be replaced when the visual indicator changes to a distinct 'Red'.
- Replacement cartridges are available for all different ratings and types
- A keying system exists to prevent a line (L-N) cartridge being interchanged by mistake with a neutral one (N-PE) and vice versa.

- Three phase SPD requires 3x L-N
- SPBxxxx cartridges are not compatible with legacy SPNxxxx products
- **SPD 'R' model contactor wiring layout has changed for all new SPBxxxR SPDs**

Technical information:
[Page 282](#)



SPB065R

SPB Replacement Active Cartridges - L-N

For TN-S and TN-C SPD

Description	Type	iMax kA	Cat ref.
Cartridge L-N; In 40kA, I _{max} 100kA	Very Coarse	100	★ SPB010R
Cartridge L-N; In 20kA, I _{max} 65kA	Coarse	65	★ SPB065R
Cartridge L-N; In 20kA, I _{max} 40kA	Medium	40	★ SPB040R
Cartridge L-N; In 2kA, I _{max} 8kA	Fine	8	★ SPB008R



SPB008D

Modular Protection devices



SPB010N

SPB Replacement Neutral Cartridges - N-PE

For TN-S SPD

Description	Type	iMax kA	Cat ref.
Cartridge N-PE; In 20kA, I _{max} 100kA	Very Coarse	100	★ SPB010N
Cartridge N-PE; In 20kA, I _{max} 65kA	Coarse	65	★ SPB065N
Cartridge N-PE; In 20kA, I _{max} 40kA	Medium	40	★ SPB040N



SPB040N

Description

Protection and control of circuits against overloads and short circuits suitable for Fuses which comply with BS88: Part I:1998

Technical data

- Rated voltage:
415V AC
250V DC
- Fusing factor: class Q1
- Rated breaking capacity:
80kA at 415V AC
40kA at 250V DC
- Fuse cartridge not supplied

Connection capacity

- 16mm² rigid cable
- 16mm² flexible + busbar

Technical information:

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Fuses & Fuse Carriers

Description	Current rating (A)	Width	Cat ref.
Fuse carriers for BS88 fuses (supplied without fuse cartridge)	32A max	1 mod	LS201
BS88 cartridge fuses 29 x 12.7mm	6A		L17300
	8A		L17400
	10A		L17500
	16A		L17600
	20A		L17700
	25A		L17800
	32A		L17900



LS201

Accessories

Description	Width	Cat ref.
Handle link pin	3 mod	L023
Spare fuse holder (DIN mounted)	1 mod	L14700
Locking kit		MZ178



L14700

Fault loop impedance

With the introduction of AS/NZS 3000:2018 there are new wiring rules for electrical contractors and electrical consultants to consider when designing an electrical installation.

This guide is only concerned with one new area, fault loop impedance, and it's affect on the choice of conductor and circuit breaker for a given circuit. Voltage drop and overcurrent requirements should also be given consideration.

An earth fault situation is caused when an active conductor comes into contact with an earthed conductor - fault current then flows. Contractors and consultants must make sure that the conductors in a circuit will allow sufficient energy to flow to cause the circuit breaker to trip in the required time (disconnection time for 230V supply is 0.4s for socket-outlets up to 63A, or handheld Class 1 equipment intended for manual movement during use. 5 seconds for other circuits including submains and final sub circuits supplying fixed or stationary equipment (clause 1.5.5.3)

To make sure that this fault current is large enough to trip a circuit breaker in the required time the fault loop impedance (Zs) must be below a certain value. If Zs is too large then the circuit breaker may take too long to trip (> 0.4s) or may not trip at all.

The tables below are a guide to the maximum circuit length for a given Hager circuit breaker. Using these tables will help ensure that the disconnection time for a 230V a.c. supply is met according to AS/NZS 3000:2018.

Conductor size		Protective device rating	Hager circuit breaker (AS/NZS60898)	
Active	Earth		Type C	Type D
mm2	mm2	A	MCL (max circuit length in meters)	
1	1	6	91	55
1	1	10	55	33
1.5	1.5	10	82	49
1.5	1.5	16	51	31
2.5	2.5	16	85	51
2.5	2.5	20	68	41
4	2.5	25	67	40
4	2.5	32	52	31
6	2.5	40	48	29
10	4	50	62	37
16	6	63	76	45
16	6	80	59	36
25	6	80	66	40
25	6	100	53	32
35	10	100	85	51
35	10	125	68	41
50	16	125	106	63
50	16	160	83	50
70	25	160	126	75
70	25	200	100	60

Maximum circuit length (MCL) and maximum circuit impedance (Zs) for Hager MCBs (MSNxxx, NTxxxC & NDNxxxA ranges).

Where: MCL = Maximum circuit length

Above table based on supply of voltage of 230V / 400V (AS/NZS 3000:2018)

- Circuit length: Circuit impedance increases with the length of a circuit.
- Cross-sectional area of cable: The smaller the cross-sectional area of a cable, the higher it's impedance per meter will be.
- Thermal and magnetic settings of a circuit breaker: Hager circuit breakers have both rated current and magnetic characteristics.

The higher the rated current and magnetic settings, the more energy is required to trip the circuit breaker in the required time (< 0.4 s). So a circuit breaker with a magnetic setting of 14 x In will require more energy to trip it (in the required time) than a circuit breaker with a magnetic setting of 7.5 x In.

If more energy is required to flow, then a larger cross-sectional area cable may be needed. If this is not possible then installing a Hager RCD will provide a simple and economical solution.

So circuit length, cross sectional area of the cable and circuit breaker settings all need to be taken into account to ensure correct function of a circuit.

Modular Protection devices

Calculation of Prospective Short Circuit Current

Several excellent proprietary computer programs are now available for calculating the prospective fault level at any point in the installation. They are also able to select the correct size and type of cable and match this with the correct circuit protective device.

Estimation of Prospective Fault Current

Actually calculating prospective short-circuit current is not in itself difficult but it does require basic data which is not always available to the electrical installation designer.

It is therefore usual to use a simple chart as shown in FIGURE 1 to estimate the prospective short circuit current. This type of chart always gives a prospective fault level greater than that which would have been arrived at by calculation using accurate basic data. Therefore it is safe to use but sometimes may result in an over engineered system.

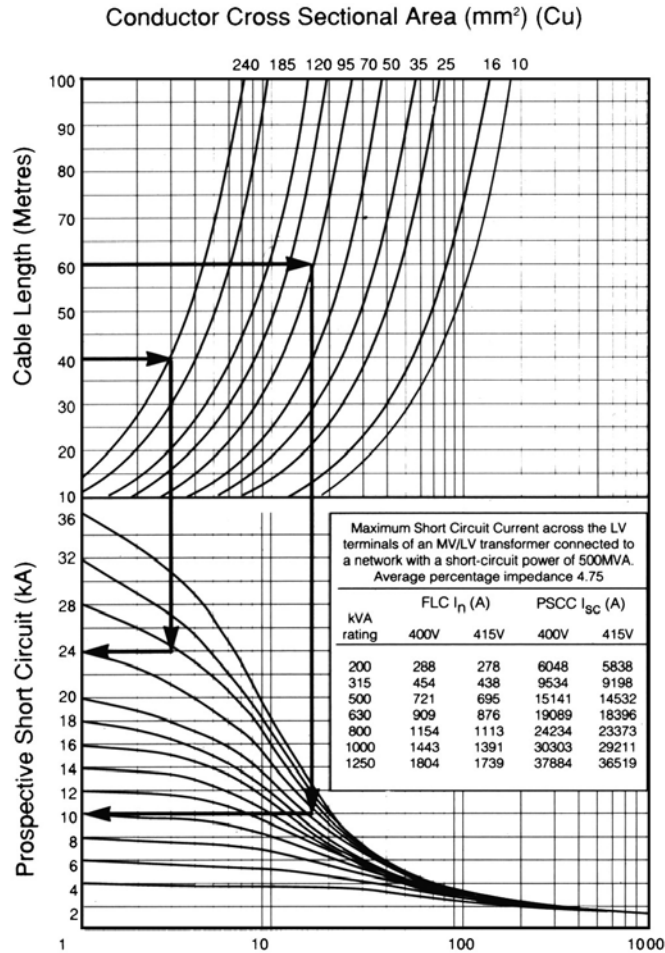


Figure 1

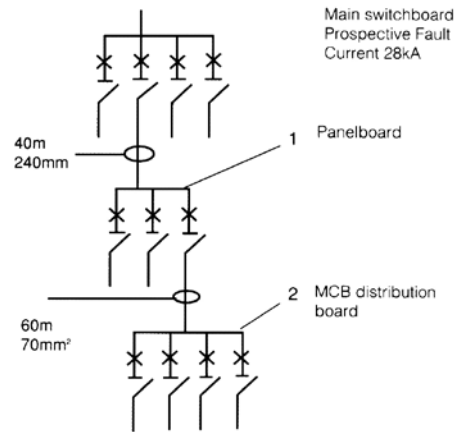


Figure 2

Example in figure 2

- 1 Project 40m of cable length across on to the 240mm² cable curve. From this point project down onto the 28kA curve. From this point projecting across we note that the prospective fault level at the panelboard is 24kA.
- 2 Project 60m of cable length across onto the 70mm² cable curve. From this point project down on to the 24kA curve. From this point projecting across we see that the prospective fault level at the MCB distribution board is 10kA.

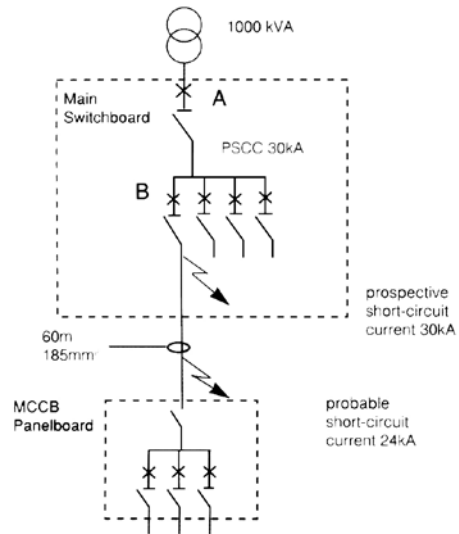
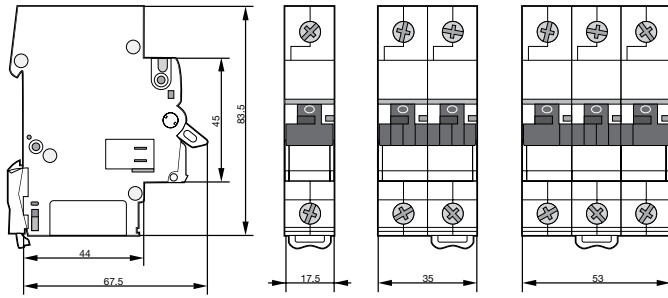


Figure 3

The relationship between probable short-circuit current and service short-circuit breaking capacity is explained. The probable short circuit is the type of short circuit which is most likely to occur; this is nearly always at the extremity of the protected cable and more often than not a single phase or earth fault. Figure 3 shows a typical 3 phase 4 wire 400V system fed by a 1000 kVA transformer. The transformer is adjacent to the main switchboard so the prospective short-circuit current (PSCC*) on the main switchboard busbars is estimated as 30kA. The probable short-circuit current on the panelboard feeder circuit is estimated as 24kA, if it were a 3 phase symmetrical fault, or 12kA for a phase to neutral fault, which in fact would be the most likely type of fault. (Note: when estimating a phase to neutral prospective short-circuit current, the length of conductor is doubled.) Therefore for this application the main switchboard incoming circuit breaker (A) should have an I_{cs} 30kA and an I_{cu} 30kA. The panelboard feeder circuit breaker (B) should have an I_{cu} 30kA and an I_{cs} 24kA.

Modular Protection devices

Dimensions

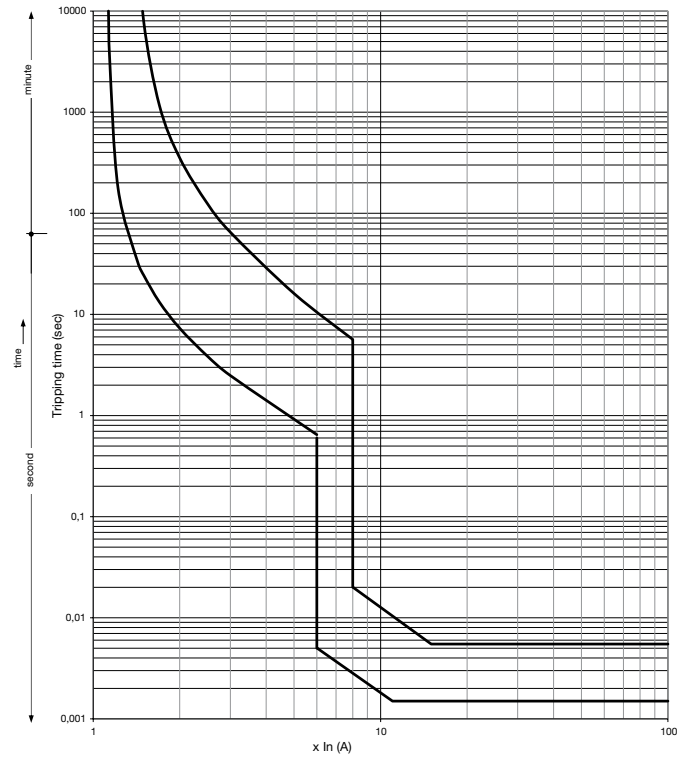


Specifications

Standards	AS/NZS 60898
Thermal trip characteristic	C curve (5-10 x I _n)
Breaking capacity I_{cn}	6000A
Voltage rating	240/415V AC
Frequency	50-60Hz
Current rating	6A - 63A
No. of operations	20,000
Connection capacity	Rigid 25mm ² max. Flexible 16mm ² max.
Tightening torque	2.8Nm
Toggle	Sealable in Off position
Operating temperature	-25°C to 60°C

Grouping factor	Assumed load factor	
Number of outgoing circuits	2 & 3	0.8
	4 & 5	0.7
	6 to 9	0.6
	10 +	0.5

Tripping curve - All In Tcal= 30°C C curve



Temperature derating table 1P/2P (calibration temperature 30°C)

Ambient temp (°C)	Rated current (A)										
	6	8	10	13	16	20	25	32	40	50	63
-25	7.82	9.22	11.14	17.07	21.82	27.36	33.35	41.83	51.36	67.46	83.89
-20	7.67	9.12	10.98	16.72	21.31	26.70	32.58	41.01	50.43	66.02	82.07
-15	7.52	9.01	10.83	16.37	20.81	26.03	31.81	40.18	49.49	64.58	80.24
-10	7.37	8.91	10.50	16.10	20.41	25.40	31.01	39.62	48.53	63.69	78.67
-5	7.21	8.80	10.53	15.67	19.81	24.71	30.27	38.54	47.54	61.71	76.58
0	7.05	8.69	10.38	15.33	19.31	24.05	29.51	37.71	46.54	60.27	74.75
5	6.89	8.58	10.22	14.98	18.81	23.39	28.74	36.89	45.52	58.83	72.93
10	6.72	8.46	10.07	14.63	18.31	22.73	27.97	36.07	44.47	57.40	71.10
15	6.55	8.35	9.92	14.28	17.81	22.07	27.20	35.24	43.39	55.96	69.27
20	6.37	8.24	9.77	13.93	17.31	21.41	26.43	34.42	42.29	54.52	67.44
25	6.19	8.12	9.62	13.59	16.81	20.75	25.66	33.60	41.16	53.09	65.61
30	6	8	10	13	16.00	20	25	32	40	50	63
35	5.81	7.88	9.31	12.89	15.80	19.42	24.13	31.95	38.80	50.21	61.96
40	5.61	7.76	9.16	12.54	15.30	18.76	23.36	31.13	37.57	48.78	60.13
45	5.40	7.63	9.01	12.19	14.80	18.10	22.59	30.31	36.29	47.34	58.30
50	5.18	7.51	8.50	12.00	14.50	17.50	21.75	30.00	34.97	47.00	57.00
55	4.96	7.38	8.70	11.50	13.80	16.78	21.05	28.66	33.59	44.46	54.65
60	4.72	7.25	8.55	11.15	13.30	16.12	20.28	27.84	32.15	43.03	52.82
65	4.47	7.11	8.40	10.80	12.80	15.46	19.51	27.01	30.65	41.59	50.99
70	4.21	6.98	8.25	10.45	12.30	14.80	18.75	26.19	29.07	40.15	49.16

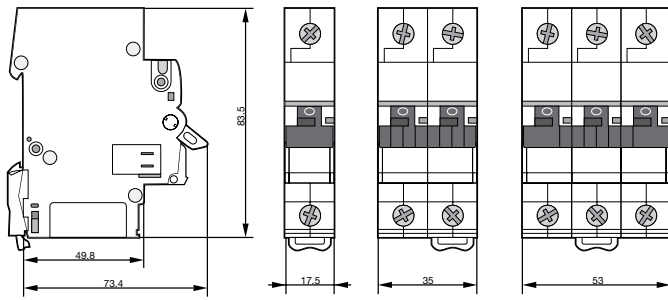
Calibration temperature for MSN140 and MSN163 is 40°C. Please refer to the product data sheet for the temperature derating table.

Modular Protection devices

Temperature derating table 3P (calibration temperature 30°C)

Ambiant temp (°C)	Rated current (A)										
	6	8	10	13	16	20	25	32	40	50	63
-25	6.85	9.18	13.33	16.03	20.42	25.32	31.54	39.93	50.03	63.65	78.38
-20	6.75	9.08	13.06	15.78	20.06	24.89	31.00	39.28	49.20	62.53	76.96
-15	6.66	8.97	12.79	15.52	19.69	24.44	30.46	38.61	48.36	61.40	75.55
-10	6.50	8.87	12.51	15.26	19.32	23.99	29.90	37.93	47.51	60.24	74.06
-5	6.47	8.77	12.22	15.00	18.93	23.53	29.33	37.24	46.63	59.05	72.71
0	6.38	8.66	11.93	14.73	18.54	23.06	28.75	36.54	45.75	57.85	71.30
5	6.28	8.55	11.63	14.46	18.14	22.58	28.16	35.82	44.84	56.62	69.88
10	6.19	8.45	11.32	14.18	17.74	22.09	27.56	35.09	43.91	55.36	68.46
15	6.09	8.34	11.01	13.89	17.32	21.58	26.94	34.35	42.97	54.07	67.05
20	6.00	8.23	10.68	13.60	16.89	21.07	26.31	33.58	42.00	52.75	65.63
25	5.90	8.11	10.35	13.30	16.45	20.54	25.66	32.80	41.01	51.39	64.21
30	6	8	10.00	13.00	16.00	20.00	25	32	40.00	50.00	63.00
35	5.71	7.87	9.63	12.69	15.49	19.36	24.27	31.14	38.76	48.50	61.38
40	5.62	7.74	9.25	12.36	14.97	18.71	23.51	30.25	37.49	46.96	59.97
45	5.52	7.60	8.85	12.03	14.43	18.02	22.73	29.33	36.16	45.36	58.55
50	5.30	7.47	8.44	11.69	13.87	17.31	21.92	28.39	34.79	43.71	57.00
55	5.34	7.33	8.00	11.34	13.28	16.57	21.08	27.41	33.36	41.99	55.72
60	5.24	7.18	7.53	10.98	12.66	15.80	20.21	26.39	31.87	40.19	54.30
65	5.15	7.04	7.04	10.60	12.02	14.99	19.30	25.34	30.30	38.31	52.88
70	5.05	6.89	6.50	10.22	11.34	14.12	18.34	24.24	28.64	36.34	51.47

Dimensions

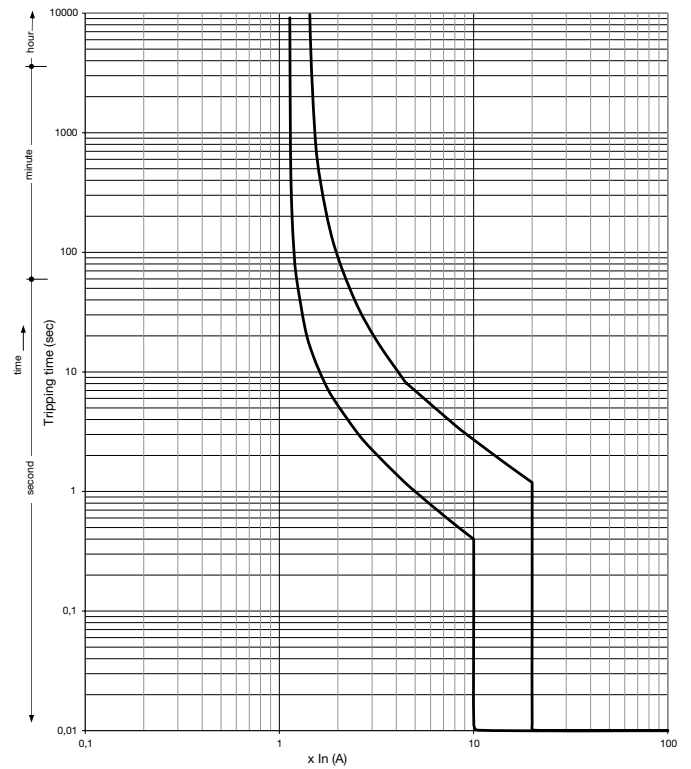


Specifications

Standards	AS/NZS 60898
Thermal trip characteristic	D curve (10-20 x In)
Breaking capacity Icn	6000A
Voltage rating	240/415V AC
Frequency rating	50-60Hz
Current rating	6A - 63A
No. of operations	20,000
Connection capacity	Rigid 35mm ² max. Flexible 25mm ² max.
Tightening torque	2.8Nm
Toggle	Sealable in Off position
Operating temperature	-25°C to 70°C

Grouping factor	Assumed load factor	
Number of outgoing circuits	2	1
	3	0.7
	4 & 5	0.6
	6	0.5

Tripping curve - All In Tcal= 30°C D curve



Temperature derating table 1P/2P (calibration temperature 30°C)

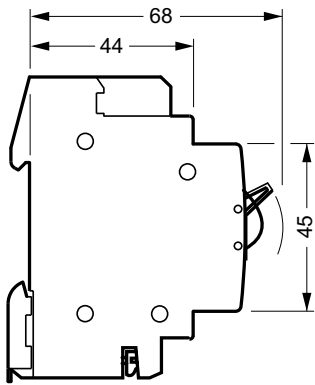
Ambiant temp (°C)	Rated current (A)								
	6	10	16	20	25	32	40	50	63
-25	7.82	11.14	21.82	27.36	33.35	41.83	51.36	67.46	83.89
-20	7.67	10.98	21.31	26.70	32.58	41.01	50.43	66.02	82.07
-15	7.52	10.83	20.81	26.03	31.81	40.18	49.49	64.58	80.24
-10	7.37	10.50	20.41	25.40	31.01	39.62	48.53	63.69	78.67
-5	7.21	10.53	19.81	24.71	30.27	38.54	47.54	61.71	76.58
0	7.05	10.38	19.31	24.05	29.51	37.71	46.54	60.27	74.75
5	6.89	10.22	18.81	23.39	28.74	36.89	45.52	58.83	72.93
10	6.72	10.07	18.31	22.73	27.97	36.07	44.47	57.40	71.10
15	6.55	9.92	17.81	22.07	27.20	35.24	43.39	55.96	69.27
20	6.37	9.77	17.31	21.41	26.43	34.42	42.29	54.52	67.44
25	6.19	9.62	16.81	20.75	25.66	33.60	41.16	53.09	65.61
30	6	10	16	20	25	32	40	50	63
35	5.81	9.31	15.80	19.42	24.13	31.95	38.80	50.21	61.96
40	5.61	9.16	15.30	18.76	23.36	31.13	37.57	48.78	60.13
45	5.40	9.01	14.80	18.10	22.59	30.31	36.29	47.34	58.30
50	5.18	8.50	14.50	17.50	21.75	30.00	34.97	47.00	57.00
55	4.96	8.70	13.80	16.78	21.05	28.66	33.59	44.46	54.65
60	4.72	8.55	13.30	16.12	20.28	27.84	32.15	43.03	52.82
65	4.47	8.40	12.80	15.46	19.51	27.01	30.65	41.59	50.99
70	4.21	8.25	12.30	14.80	18.75	26.19	29.07	40.15	49.16

Modular Protection devices

Temperature derating table 3P (calibration temperature 30°C)

Ambiant temp (°C)	Rated current (A)								
	6	10	16	20	25	32	40	50	63
-25	6.85	13.33	20.42	25.32	31.54	39.93	50.03	63.65	78.38
-20	6.75	13.06	20.06	24.89	31.00	39.28	49.20	62.53	76.96
-15	6.66	12.79	19.69	24.44	30.46	38.61	48.36	61.40	75.55
-10	6.50	12.51	19.32	23.99	29.90	37.93	47.51	60.24	74.06
-5	6.47	12.22	18.93	23.53	29.33	37.24	46.63	59.05	72.71
0	6.38	11.93	18.54	23.06	28.75	36.54	45.75	57.85	71.30
5	6.28	11.63	18.14	22.58	28.16	35.82	44.84	56.62	69.88
10	6.19	11.32	17.74	22.09	27.56	35.09	43.91	55.36	68.46
15	6.09	11.01	17.32	21.58	26.94	34.35	42.97	54.07	67.05
20	6.00	10.68	16.89	21.07	26.31	33.58	42.00	52.75	65.63
25	5.90	10.35	16.45	20.54	25.66	32.80	41.01	51.39	64.21
30	6	10	16	20	25	32	40	50	63
35	5.71	9.63	15.49	19.36	24.27	31.14	38.76	48.50	61.38
40	5.62	9.25	14.97	18.71	23.51	30.25	37.49	46.96	59.97
45	5.52	8.85	14.43	18.02	22.73	29.33	36.16	45.36	58.55
50	5.30	8.44	13.87	17.31	21.92	28.39	34.79	43.71	57.00
55	5.34	8.00	13.28	16.57	21.08	27.41	33.36	41.99	55.72
60	5.24	7.53	12.66	15.80	20.21	26.39	31.87	40.19	54.30
65	5.15	7.04	12.02	14.99	19.30	25.34	30.30	38.31	52.88
70	5.05	6.50	11.34	14.12	18.34	24.24	28.64	36.34	51.47

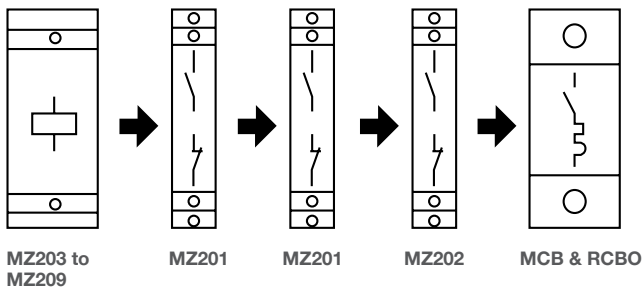
Dimensions



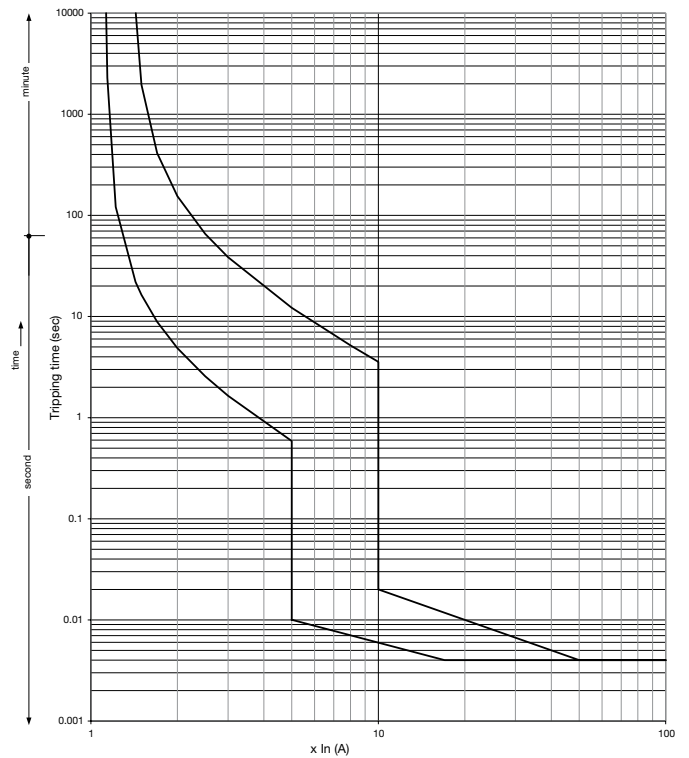
Specifications

Standards	AS/NZS 60898
Thermal trip characteristic	C curve (5-10 x I _n)
Breaking capacity	10,000A
Voltage rating	230/400V AC
Current rating	2A - 63A
No. of operations	20,000
Connection Rigid capacity	35mm ² max.
Flexible capacity	25mm ² max.
Tightening torque	2.8Nm

Auxiliary possibilities



Tripping curve - Tcal= 30°C C curve



Temperature derating table 1P/2P (calibration temperature 30°C)

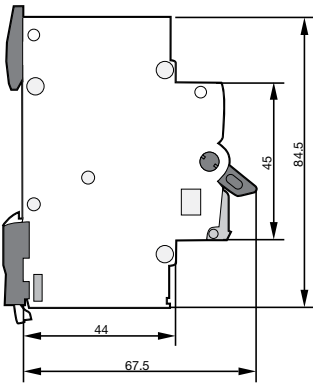
Ambiant temp (°C)	Rated current (A)										
	2	4	6	10	16	20	25	32	40	50	63
-25	2.27	4.41	7.17	12.4	20.0	23.8	32.2	38.7	46.8	64.7	81.1
-20	2.25	4.37	7.08	12.2	19.7	23.5	31.6	38.1	46.2	63.5	79.6
-15	2.23	4.34	6.98	12.0	19.3	23.2	31.0	37.5	45.6	62.3	78.1
-10	2.20	4.30	6.87	11.8	19.0	22.8	30.4	37.0	45.0	61.1	76.6
-5	2.18	4.26	6.77	11.6	18.6	22.5	29.8	36.4	44.4	59.9	75.0
0	2.15	4.23	6.67	11.4	18.3	22.2	29.1	35.8	43.8	58.7	73.4
5	2.13	4.19	6.56	11.2	17.9	21.8	28.5	35.2	43.2	57.4	71.8
10	2.10	4.15	6.45	10.9	17.6	21.5	27.8	34.6	42.6	56.1	70.1
15	2.08	4.12	6.34	10.7	17.2	21.1	27.1	33.9	42.0	54.7	68.4
20	2.05	4.08	6.23	10.5	16.8	20.7	26.4	33.3	41.3	53.4	66.7
25	2.03	4.04	6.12	10.2	16.4	20.4	25.7	32.7	40.7	52.0	64.9
30	2	4	6	10	16	20	25	32	40	50	63
35	1.97	3.96	5.88	9.8	15.6	19.6	24.2	31.3	39.3	48.8	62.8
40	1.95	3.92	5.76	9.5	15.2	19.2	23.5	30.6	38.6	47.7	62.6
45	1.92	3.88	5.64	9.2	14.7	18.8	22.7	29.9	37.9	46.5	62.3
50	1.89	3.84	5.51	9.0	14.3	18.4	21.8	29.2	37.2	45.3	62.1
55	1.86	3.80	5.38	8.7	13.8	18.0	21.0	28.5	36.5	44.1	61.9
60	1.83	3.76	5.25	8.4	13.3	17.6	20.0	27.7	35.7	43.0	61.7
65	1.81	3.72	5.13	8.2	12.9	17.2	19.3	27.0	35.1	41.8	61.4
70	1.78	3.68	5.00	7.9	12.4	16.8	18.4	26.3	34.3	40.6	61.2

Modular Protection devices

Temperature derating table 3P (calibration temperature 30°C)

Ambiant temp (°C)	Rated current (A)										
	2	4	6	10	16	20	25	32	40	50	63
-25	2.54	4.64	7.77	12.7	20.5	24.6	31.44	40.79	50.4	64.0	78.9
-20	2.49	4.59	7.62	12.5	20.1	24.3	30.91	40.07	49.6	62.8	77.6
-15	2.45	4.53	7.48	12.3	19.8	23.9	30.37	39.34	48.7	61.7	76.2
-10	2.40	4.48	7.33	12.1	19.4	23.5	29.82	38.59	47.8	60.5	74.9
-5	2.36	4.42	7.18	11.8	19.0	23.1	29.26	37.83	46.9	59.3	73.5
0	2.31	4.36	7.02	11.6	18.6	22.7	28.69	37.06	46.0	58.0	72.1
5	2.26	4.30	6.86	11.3	18.2	22.2	28.11	36.26	45.0	56.8	70.7
10	2.21	4.25	6.70	11.1	17.8	21.8	27.52	35.45	44.1	55.5	69.2
15	2.16	4.19	6.53	10.8	17.3	21.4	26.91	34.62	43.1	54.2	67.7
20	2.11	4.12	6.36	10.6	16.9	20.9	26.29	33.77	42.1	52.8	66.2
25	2.05	4.06	6.18	10.3	16.5	20.5	25.65	32.90	41.1	51.4	64.6
30	2	4	6	10	16	20	25	32	40	50	63
35	1.94	3.94	5.81	9.7	15.5	19.5	24.33	31.08	38.9	48.5	61.4
40	1.89	3.87	5.62	9.4	15.0	19.0	23.64	30.13	37.8	47.0	59.7
45	1.83	3.81	5.42	9.1	14.5	18.5	22.93	29.15	36.6	45.5	57.9
50	1.76	3.74	5.21	8.8	14.0	18.0	22.20	28.13	35.4	43.8	56.1
55	1.70	3.67	4.99	8.5	13.5	17.5	21.44	27.08	34.2	42.1	54.3
60	1.63	3.60	4.77	8.1	12.9	16.9	20.66	25.98	32.9	40.4	52.4
65	1.58	3.54	4.57	7.8	12.4	16.4	19.96	25.02	31.8	38.9	50.7
70	1.51	3.47	4.36	7.5	11.9	15.9	19.23	24.00	30.6	37.2	48.9

NDNxxxA dimensions

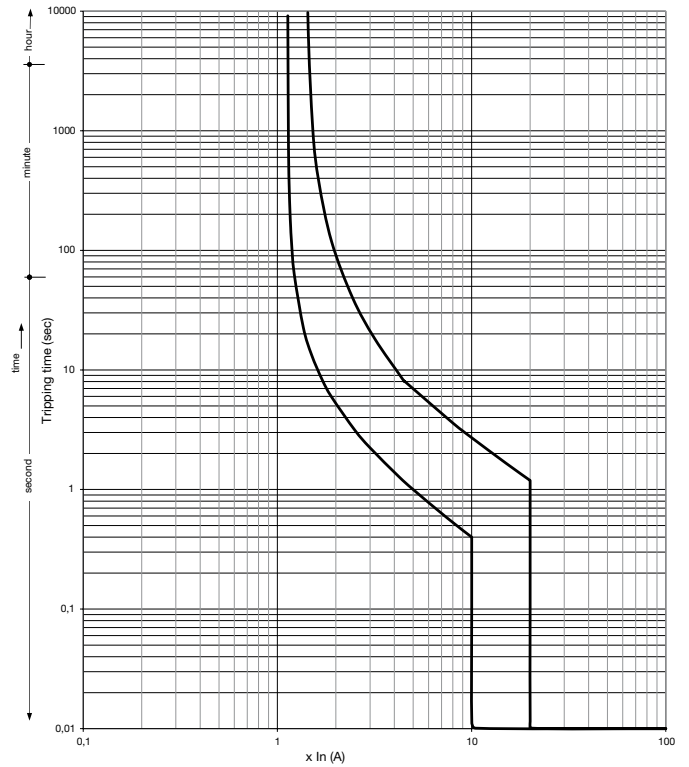


Specifications

Standards	AS/NZS 60898
Thermal trip characteristic	D curve (10-20 x In)
Breaking capacity	10,000A
Voltage rating	240/415V AC
Current rating	6A - 63A
No. of operations	20,000
Connection capacity	Rigid 35mm ² max. Flexible 25mm ² max.
Tightening torque	2.8Nm

Grouping factor	Assumed load factor	
Number of outgoing circuits	2 & 3	0.8
	4 & 5	0.7
	6 to 9	0.6
	10 +	0.5

Tripping curve - All In Tcal= 30°C D curve



Temperature derating table 1P/2P (calibration temperature 30°C)

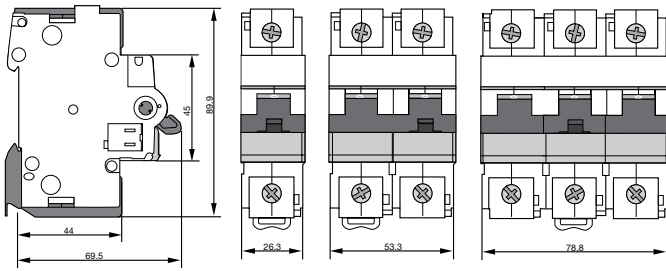
Ambient temp (°C)	Rated current (A)										
	2	4	6	10	16	20	25	32	40	50	63
-25	2.67	5.18	7.51	12.9	20.5	25.08	31.41	39.5	51.3	65.1	81.0
-20	2.62	5.09	7.39	12.6	20.1	24.66	30.89	38.9	50.4	63.9	79.6
-15	2.56	4.99	7.26	12.4	19.7	24.24	30.35	38.2	49.5	62.6	78.1
-10	2.51	4.89	7.13	12.1	19.4	23.80	29.80	37.6	48.5	61.4	76.5
-5	2.45	4.79	7.00	11.9	19.0	23.36	29.24	37.0	47.5	60.1	75.1
0	2.39	4.68	6.87	11.6	18.6	22.91	28.68	36.3	46.5	58.9	73.5
5	2.33	4.58	6.73	11.4	18.2	22.45	28.10	35.6	45.5	57.7	72.0
10	2.27	4.47	6.59	11.1	17.8	21.98	27.51	34.9	44.5	56.5	70.5
15	2.20	4.35	6.45	10.9	17.3	21.51	26.90	34.2	43.5	55.3	69.0
20	2.14	4.24	6.30	10.6	16.9	21.02	26.28	33.5	42.4	54.0	67.5
25	2.07	4.12	6.15	10.3	16.5	20.51	25.65	32.8	41.4	52.8	65.9
30	2	4	6	10	16	20	25	32	40	50	63
35	1.93	3.87	5.84	9.7	15.5	19.47	24.33	31.2	39.0	49.4	62.0
40	1.85	3.74	5.68	9.4	15.0	18.93	23.65	30.4	37.9	48.2	60.5
45	1.77	3.61	5.52	9.1	14.5	18.37	22.94	29.6	36.7	46.7	58.7
50	1.69	3.47	5.35	8.7	14.0	17.80	22.21	28.8	35.8	47.0	58.3
55	1.60	3.33	5.17	8.4	13.5	17.20	21.46	27.9	33.6	42.8	52.8
60	1.51	3.17	4.99	8.0	12.9	16.58	20.68	27.0	32.2	40.3	50.5
65	1.41	3.01	4.80	7.6	12.3	15.94	19.87	26.1	30.7	37.6	48.1
70	1.31	2.85	4.60	7.2	11.7	15.28	19.02	25.2	29.1	34.5	45.6

Modular Protection devices

Temperature derating table 3P (calibration temperature 30°C)

Ambiant temp (°C)	Rated current (A)										
	2	4	6	10	16	20	25	32	40	50	63
-25	2.59	4.88	7.61	12.7	20.3	24.8	31.04	39.04	55.3	63.0	78.7
-20	2.54	4.80	7.48	12.5	19.9	24.4	30.54	38.45	54.1	61.9	77.4
-15	2.50	4.73	7.35	12.3	19.6	24.0	30.03	37.86	52.8	60.9	76.1
-10	2.45	4.65	7.21	12.0	19.2	23.6	29.51	37.25	51.6	59.7	74.7
-5	2.39	4.58	7.07	11.8	18.8	23.2	28.99	36.64	50.3	58.6	73.4
0	2.34	4.50	6.93	11.6	18.5	22.7	28.45	36.01	48.9	57.5	72.0
5	2.29	4.42	6.78	11.3	18.1	22.3	27.91	35.37	47.5	56.3	70.6
10	2.23	4.34	6.63	11.1	17.7	21.9	27.35	34.73	46.1	55.1	69.1
15	2.18	4.26	6.48	10.8	17.3	21.4	26.78	34.06	44.7	53.9	67.6
20	2.12	4.17	6.32	10.5	16.9	21.0	26.20	33.39	43.2	52.6	66.1
25	2.06	4.09	6.16	10.3	16.4	20.5	25.61	32.70	41.6	51.3	64.6
30	2	4	6	10	16	20	25	32	40	50	63
35	1.93	3.90	5.81	9.6	15.5	19.5	24.23	31.26	38.0	48.5	61.0
40	1.85	3.79	5.61	9.2	14.9	18.9	23.44	30.50	35.8	46.9	58.9
45	1.77	3.69	5.41	8.8	14.4	18.4	22.61	29.72	33.5	45.3	56.7
50	1.69	3.58	5.19	8.3	13.8	17.8	21.76	28.92	31.0	43.6	54.4
55	1.61	3.46	4.97	7.9	13.2	17.2	20.87	28.10	28.3	41.9	52.0
60	1.51	3.34	4.74	7.4	12.6	16.6	19.94	27.26	25.4	40.0	49.6
65	1.42	3.22	4.50	6.8	11.9	16.0	18.97	26.38	22.0	38.1	46.9
70	1.31	3.10	4.24	6.2	11.2	15.3	17.94	25.48	18.0	36.1	44.2

HMF / HMC / HMD dimensions



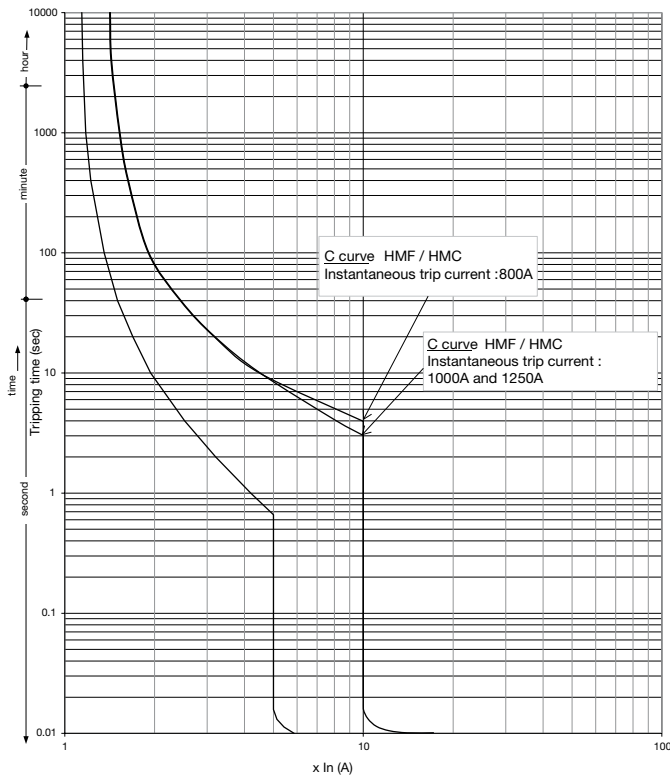
Specifications	HMFxxT	HMCxxT	HMDxxT
Standards	AS/NZS 60898	AS/NZS 60898	AS/NZS 60898
Thermal trip characteristic	C curve (5-10 x I _n)	C curve (5-10 x I _n)	D curve (10-20 x I _n)
Breaking capacity	10,000A	15,000A	15,000A
Voltage rating	240/415V AC	240/415V AC	240/415V AC
Current rating	80A - 125A	80A - 125A	80A - 125A
No. of operations	20,000	20,000	20,000
Rigid connection	70mm ² max.	70mm ² max.	70mm ² max.
Flexible connection	35mm ² max.	35mm ² max.	35mm ² max.
Tightening torque	3.5 to 5Nm	3.5 to 5Nm	3.5 to 5Nm

Derating table

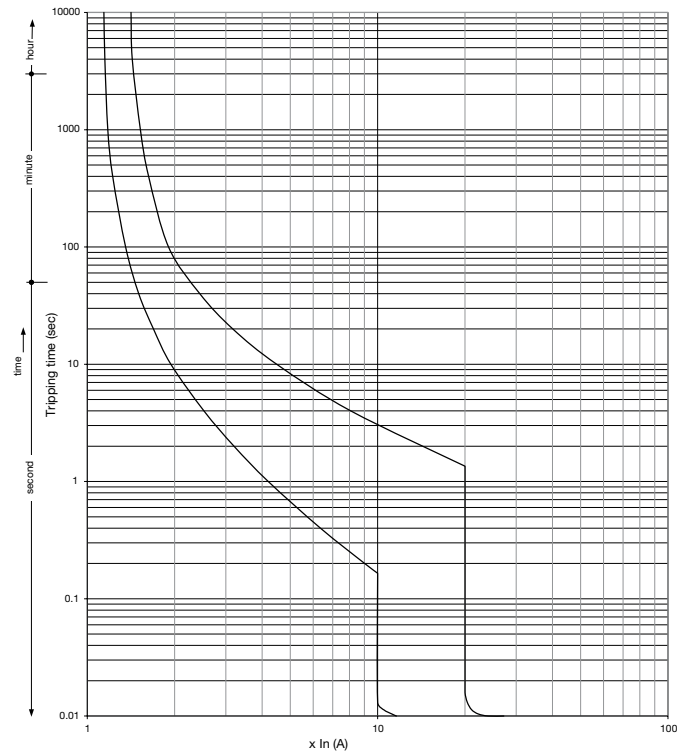
Ambiant temp (°C)	T° cal = 30°C: Rated current (A)		
	80	100	125
-25	115.0	-	-
-20	112.0	-	-
-15	109.0	-	-
-10	106.0	-	-
-5	102.0	-	-
0	99.2	124.0	-
5	96.0	120.0	-
10	92.8	116.0	-
15	89.6	112.0	-
20	86.4	108.0	-
25	83.2	104.0	-
30	80	100	125
35	77.6	96.6	122.0
40	75.1	93.1	119.0
45	72.6	89.4	115.7
50	70.0	85.6	112.0
55	67.2	81.6	109.1
60	64.3	77.5	105.6
65	-	-	-
70	-	-	-

Modular Protection devices

Tripping curve - HMF / HMC - C curve 80A - Tcal= 30°C



Tripping curve - HMD - D curve 80A - Tcal= 30°C



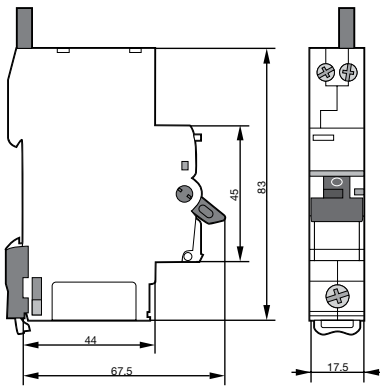
ADC9 RCBO



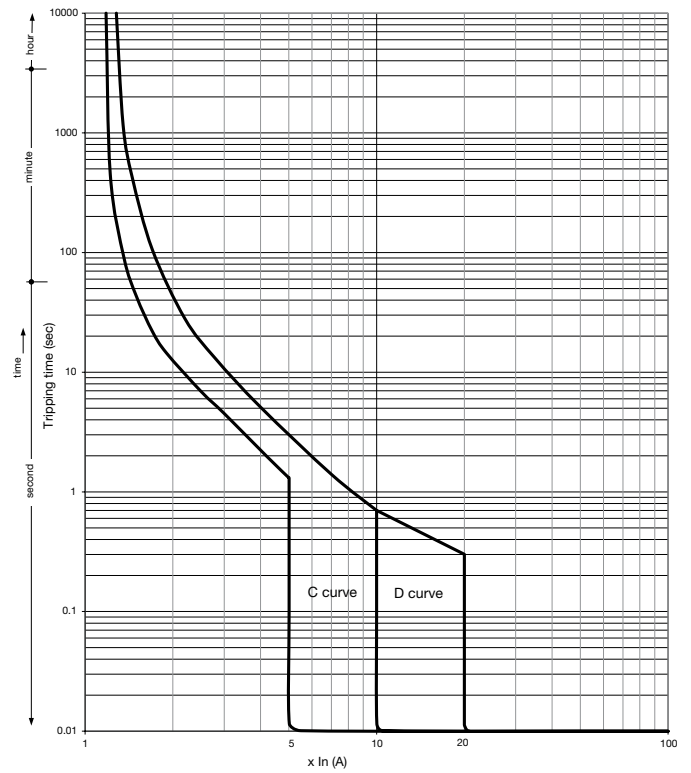
A compact solution for every situation

Our ADC9xxT RCBO or 'onekombo' is only one module wide, making it ideal for retrofit installations where space can be limited. onekombo RCBO devices can be used in DIN rail enclosures and invicta panelboards.

Dimensions



Tripping curve - All In Tcal= 30°C C curve and D curve



Specifications

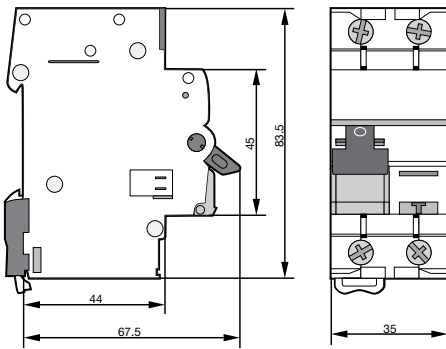
Standards	AS/NZS 61009.1
Wave form of earth fault detected	Type A
Residual current tripping technology	Voltage dependent, bi-directional and facility insulation resistance test
Thermal trip characteristic	C curve (5-10 x In) for ADC9xxT and ACC9xxT D curve (10-20 x In) for ADD9xxT
Breaking capacity Icn	6000A
Frequency	50Hz
Voltage rating	230 - 240V AC
Current rating In	6A - 32A for ADC9xxT and ACC9xxT 6A - 25A for ADD9xxT
Residual operating current	30mA for ADC9xxT and ADD9xxT 10mA for ACC9xxT
No. of operations	30,000
Connection capacity	Rigid 16mm ² max. Flexible 10mm ² max.
Tightening torque	2.1Nm bottom and 1.9Nm top
Neutral-IN connectivity	Stranded cable 1m long
Toggle	Sealable Off position
Operating temperature	-25°C to 70°C

Temperature derating table (calibration temperature 30°C)

Ambient temp (°C)	Rated current (A)						
	6	10	13	16	20	25	32
-25	7.4	12.3	15.9	20.5	25.5	32.4	38.6
-20	7.3	12.1	15.6	20.1	25	31.7	38
-15	7.1	11.9	15.3	19.7	24.5	31.1	37.4
-10	7	11.7	15.1	19.3	24	30.4	36.8
-5	6.9	11.5	14.8	18.9	23.5	29.7	36.2
0	6.8	11.3	14.6	18.5	23	29	35.6
5	6.6	11.1	14.3	18.1	22	28.4	35
10	6.5	10.8	14.1	17.6	23.2	27.7	34.4
15	6.4	10.6	13.8	17.2	21.5	27	33.8
20	6.3	10.4	13.5	16.8	21	26.3	33.2
25	6.1	10.2	13.3	16.4	20.5	25.7	32.6
30	6	10	13	16	20	25	32
35	5.9	9.8	12.8	15.7	19.6	24.3	31.3
40	5.7	9.6	12.5	15.5	19.2	23.7	30.7
45	5.6	9.4	12.2	15.2	18.8	23	30
50	5.5	9.2	12	15	18.4	22.3	29.3
55	5.4	9	11.7	14.7	18	21.6	28.6
60	5.2	8.7	11.5	14.5	17.6	21	28
65	5.1	8.5	11.2	14.2	17.2	20.3	27.3
70	5	8.3	11	14	16.8	19.6	26.6

Modular Protection devices

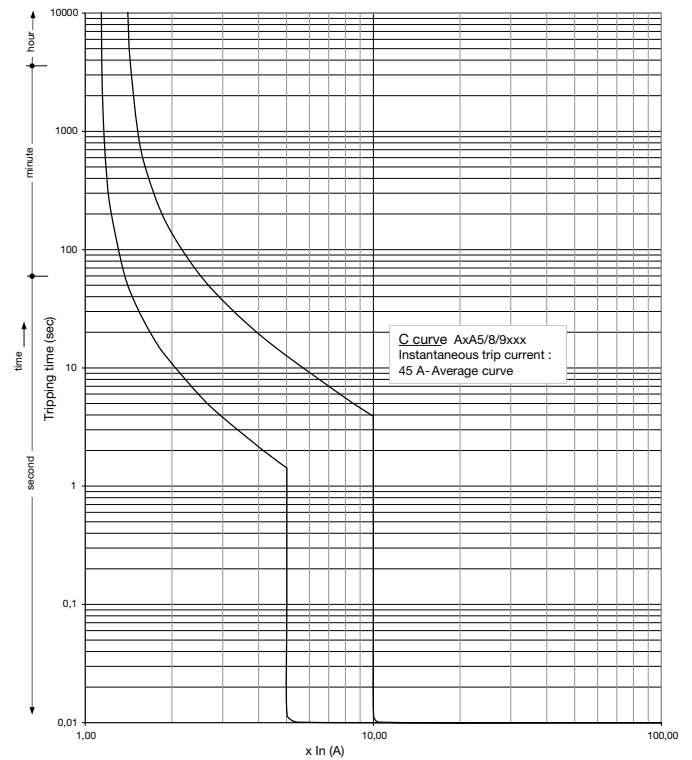
Dimensions



Specifications

Standards	AS/NZS 61009.1
Wave form of earth fault detected	Type A
Residual current tripping technology	Voltage independent, bi-directional and facility insulation resistance test
Thermal trip characteristic	C curve (5-10 x In)
Breaking capacity I_{cn}	6000A
Voltage rating	240V AC
Frequency	50Hz
Current rating	6A - 40A
Residual operating current	30mA for ADA9xxT 100mA for AEA9xxT
Test button operational voltage	Network voltage
No. of operations	4000 for AEA9xxT 2000 for ADA9xxT
Connection capacity	Rigid 25mm ² max. Flexible 16mm ² max.
Tightening torque	2.1 Nm
Neutral-IN connectivity	Neutral in the cage - insulated busbar slot
Toggle	Sealable Off position
Operating temperature	-25°C to 40°C

Tripping curve - All In Tcal= 30°C C curve

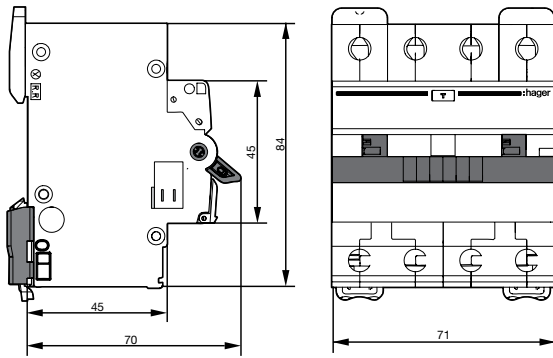


Temperature derating table (calibration temperature 30°C)

Ambiant temp (°C)	Rated current (A)							
	6	10	13	16	20	25	32	40
-25	7.2	12	15.3	18.5	22.7	28.2	38.3	46.9
-20	7.1	11.9	15.1	18.3	22.5	27.9	37.8	46.3
-15	7	11.7	14.9	18.1	22.2	27.6	37.2	45.6
-10	6.9	11.5	14.7	17.9	22	27.4	36.7	45
-5	6.8	11.3	14.5	17.7	21.8	27.1	36.1	44.4
0	6.7	11.1	14.3	17.4	21.5	26.8	35.6	43.8
5	6.6	11	14.1	17.2	21.3	26.5	35	43.1
10	6.5	10.8	13.9	17	21	26.2	34.4	42.5
15	6.4	10.6	13.7	16.7	20.8	25.9	33.8	41.9
20	6.2	10.4	13.5	16.5	20.5	25.6	33.2	41.3
25	6.1	10.2	13.2	16.2	20.3	25.3	32.6	40.6
30	6	10	13	16	20	25	32	40
35	5.9	9.9	12.8	15.8	19.8	24.8	31.5	39.4
40	5.8	9.7	12.6	15.6	19.6	24.5	31	38.8
45	5.7	9.6	12.4	15.4	19.4	24.3	30.5	38.2
50	5.6	9.4	12.2	15.2	19.2	24	30	37.5
55	5.5	9.3	12	15	19	23.8	29.5	36.9
60	5.4	9.1	11.8	14.8	18.8	23.5	29	36.2

These RCBOs may be fed in any position: load and line circuits may be connected top or bottom.

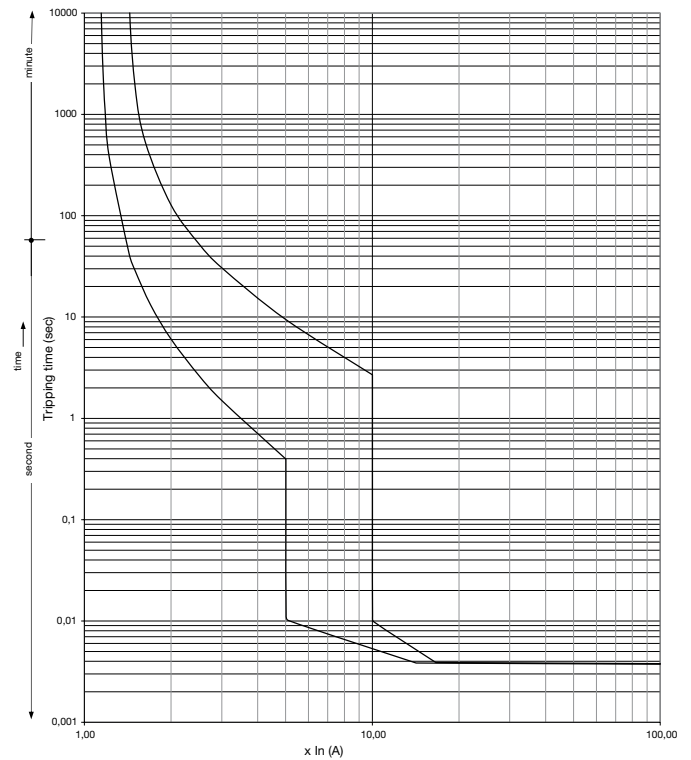
Dimensions



Specifications

Standards	AS/NZS 61009.1
Wave form of earth fault detected	Type A
Residual current tripping technology	Voltage independent, bi-directional and facility insulation resistance test
Thermal trip characteristic	C curve (5-10 x I _n)
Breaking capacity I_{cn}	6000A
Frequency	50Hz
Voltage rating	240 - 415V AC
Current rating	6A - 40A
Residual operating current	30mA for ADM4xxT 100mA for AEM4xxT
Test button operational voltage	375V to 440V
No. of operations	4000
Connection capacity	Rigid 25mm ² max. Flexible 16mm ² max.
Tightening torque	2Nm
Neutral-IN connectivity	Neutral in the cage - insulated neutral busbar slot
Toggle	Sealable On/Off position
Operating temperature	-25°C to 40°C

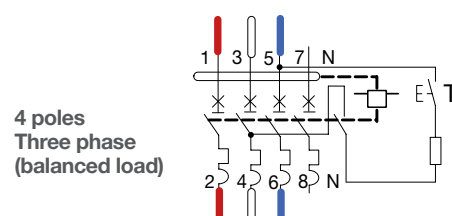
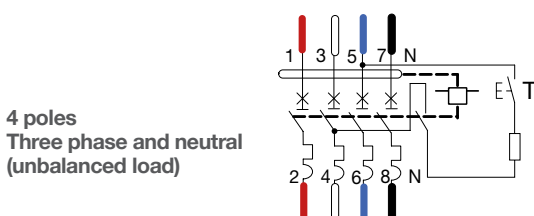
Tripping curve - Tcal= 30°C C curve



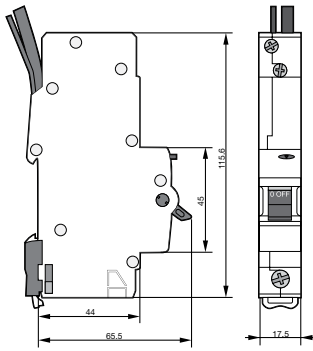
Temperature derating table (calibration temperature 30°C)

Ambiant temp (°C)	Rated current (A)							
	6	10	13	16	20	25	32	40
-25	7.32	12.30	15.51	19.43	23.8	31.7	39.9	49.8
-20	7.21	12.11	15.30	19.14	23.5	31.2	39.3	49
-15	7.10	11.92	15.09	18.85	23.2	30.6	38.6	48.2
-10	6.98	11.72	14.87	18.56	22.9	30	37.9	47.3
-5	6.87	11.52	14.65	18.26	22.5	29.4	37.2	46.5
0	6.75	11.31	14.42	17.95	22.2	28.9	36.5	45.6
5	6.63	11.11	14.20	17.64	21.8	28.3	35.8	44.7
10	6.51	10.89	13.97	17.33	21.5	27.6	35.1	43.8
15	6.39	10.68	13.73	17.00	21.1	27	34.3	42.9
20	6.26	10.46	13.49	16.68	20.8	26.4	33.6	42
25	6.13	10.23	13.25	16.34	20.4	25.7	32.8	41
30	6	10	13	16	20	25	32	40
35	5.86	9.75	12.73	15.62	19.6	24.3	31.2	38.9
40	5.72	9.50	12.45	15.24	19.1	23.6	30.3	37.7
45	5.58	9.24	12.16	14.85	18.6	22.8	29.4	36.5
50	5.43	8.97	11.87	14.44	18.2	22	28.5	35.2
55	5.28	8.69	11.57	14.02	17.7	21.2	27.5	33.9
60	5.12	8.41	11.26	13.59	17.2	20.4	26.5	32.6

Electrical connection - not suitable for single phase circuits



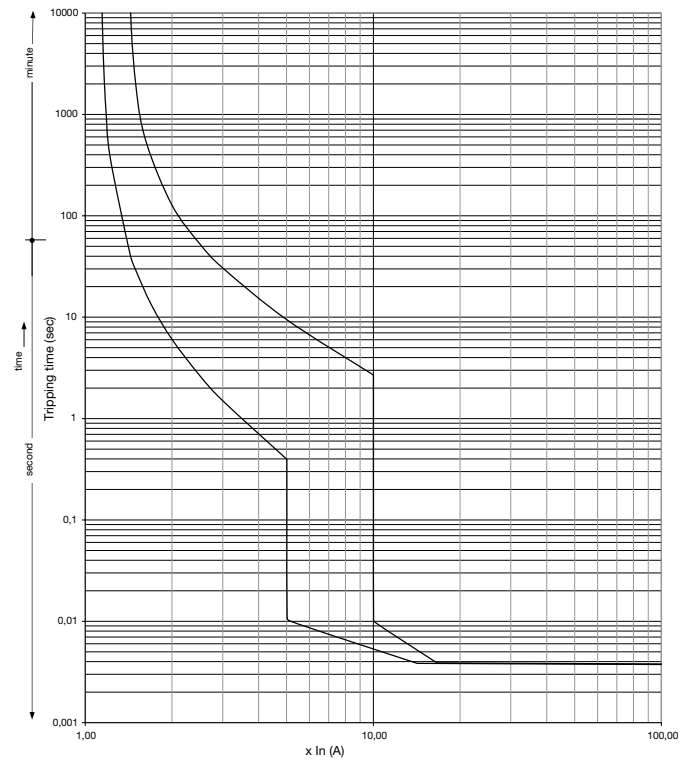
Dimensions



Specifications

Standards	AS/NZS 61009.1
Wave form of earth fault detected	Type A
Residual current tripping technology	Voltage dependent
Thermal trip characteristic	C curve (5-10 x In)
Breaking capacity Icn	6000A and 10,000A
Frequency	50Hz
Voltage rating	240V AC
Current rating	6A - 45A
No. of operations	2000
Connection capacity	Rigid 25mm ² max.
	Flexible 16mm ² max.
Tightening torque	2.1 Nm
Residual operating current	30mA for ADA1xxT and AD1xxB
	10mA for ACA1xxT and AC1xxB
Neutral-IN connectivity	Stranded cable 79cm long
Toggle	Sealable On/Off position
Operating temperature	-5°C to 60°C
Functional Earth	Stranded cable 77cm long

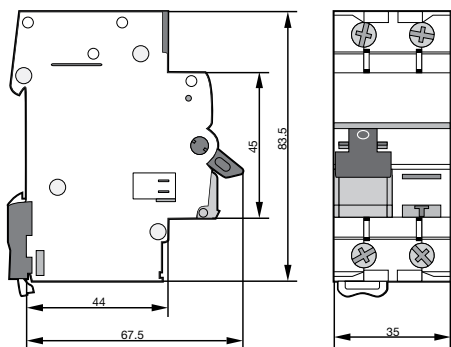
Tripping curve - All In Tcal= 30°C C curve



Temperature derating table (calibration temperature 30°C)

Ambiant temp (°C)	Rated current (A)							
	6	10	16	20	25	32	40	45
-25	7.7	13.4	22.2	25.8	31.4	40.1	51.3	53.1
-20	7.6	13.1	21.7	25.3	30.8	39.4	50.3	52.4
-15	7.4	12.8	21.2	24.7	30.3	38.7	49.2	51.8
-10	7.3	12.6	20.7	24.2	29.8	38.0	48.2	51.0
-5	7.1	12.3	20.2	23.7	29.2	37.3	47.2	50.3
0	7.0	12.0	19.6	23.2	28.6	36.6	46.2	49.6
5	6.8	11.7	19.1	22.6	28.1	35.9	45.1	48.9
10	6.7	11.4	18.5	22.1	27.5	35.1	44.1	48.1
15	6.5	11.0	17.9	21.6	26.9	34.4	43.1	47.4
20	6.4	10.7	17.3	21.1	26.3	33.6	42.1	46.6
25	6.2	10.4	16.7	20.5	25.6	32.8	41.0	45.8
30	6	10	16	20	25	32	40	45
35	5.8	9.6	15.4	19.6	24.3	31.2	39.1	44.2
40	5.6	9.3	14.8	19.2	23.7	30.3	38.2	43.4
45	5.4	8.9	14.1	18.8	23.0	29.4	37.3	42.5
50	5.2	8.4	13.5	18.4	22.2	28.5	36.4	41.6
55	5.0	8.0	12.9	18.0	21.5	27.6	35.5	40.8
60	4.8	7.5	12.3	17.6	20.7	26.6	34.6	39.9

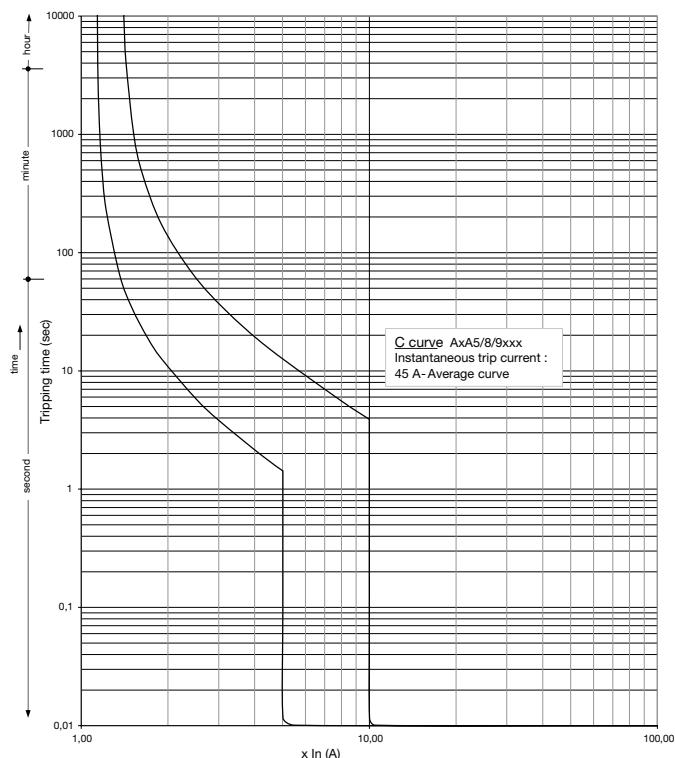
Dimensions



Specifications

Standards	AS/NZS 61009.1
Wave form of earth fault detected	Type A
Residual current tripping technology	Voltage independent, bi-directional and facility insulation resistance test
Thermal trip characteristic	C curve (5-10 x I _n)
Breaking capacity I_{cn}	10,000A
Voltage rating	240V AC
Frequency rating	50Hz
Current rating	6A - 32A
Residual operating current	10mA for ACA5xxT 30mA for ADA5xxT
Test button operational voltage	375V to 440V
No. of operations	2000
Connection capacity	Rigid 25mm ² max. Flexible 16mm ² max.
Tightening torque	2.1 Nm
Toggle	Sealable Off position
Operating temperature	-25°C to 40°C

Tripping curve - All In Tcal= 30°C C curve

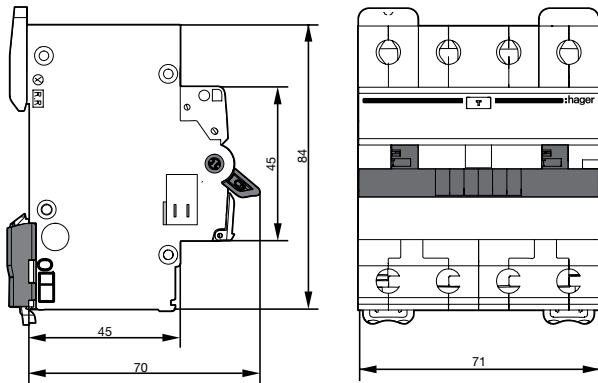


Temperature derating table (calibration temperature 30°C)

Ambiant temp (°C)	Rated current (A)						
	6	10	13	16	20	25	32
-25	7.23	12.02	15.33	18.53	22.69	28.19	38.30
-20	7.13	11.85	15.13	18.31	22.46	27.91	37.77
-15	7.03	11.68	14.93	18.10	22.23	27.64	37.24
-10	6.92	11.50	14.73	17.88	21.99	27.36	36.69
-5	6.81	11.33	14.53	17.65	21.75	27.07	36.14
0	6.70	11.15	14.32	17.43	21.51	26.79	35.58
5	6.59	10.97	14.11	17.20	21.27	26.50	35.01
10	6.48	10.78	13.89	16.97	21.02	26.21	34.43
15	6.36	10.59	13.68	16.73	20.77	25.91	33.84
20	6.24	10.40	13.45	16.49	20.52	25.61	33.24
25	6.12	10.20	13.23	16.25	20.26	25.31	32.63
30	6	10	13	16	20	25	32
35	5.90	9.86	12.81	15.80	19.80	24.76	31.52
40	5.80	9.71	12.62	15.61	19.60	24.52	31.03
45	5.70	9.56	12.42	15.41	19.39	24.27	30.54
50	5.60	9.41	12.23	15.20	19.18	24.02	30.03
55	5.49	9.26	12.03	15.00	18.98	23.77	29.52
60	5.38	9.10	11.82	14.79	18.76	23.52	29.00

These RCBOs may be fed in any position: load and line circuits may be connected top or bottom.

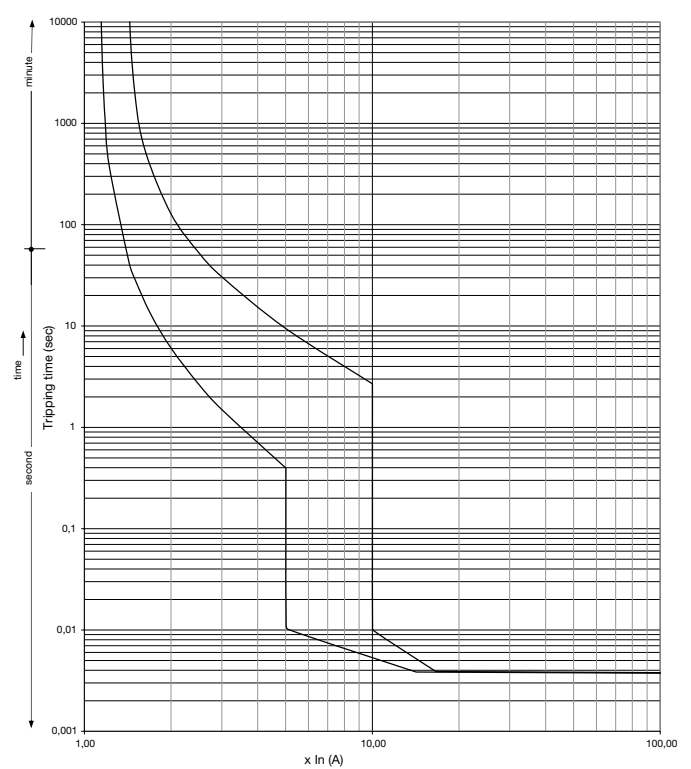
Dimensions



Specifications

Standards	AS/NZS 61009.1
Wave form of earth fault detected	Type A
Residual current tripping technology	Voltage independent, bi-directional and facility insulation resistance test
Thermal trip characteristic	C curve (5-10 x In)
Breaking capacity Icn	10,000A
Voltage rating	240 - 415V AC
Frequency	50Hz
Current rating	6A - 40A
Residual operating current	30mA for ADX4xxT 100mA for AEX4xxT
Test button operational voltage	375V to 440V
No. of operations	4000
Connection capacity	Rigid 25mm ² max. Flexible 16mm ² max.
Tightening torque	2Nm
Neutral-IN connectivity	Neutral in the cage - insulated neutral busbar slot
Toggle	Sealable On/Off position
Operating temperature	-25°C to 40°C

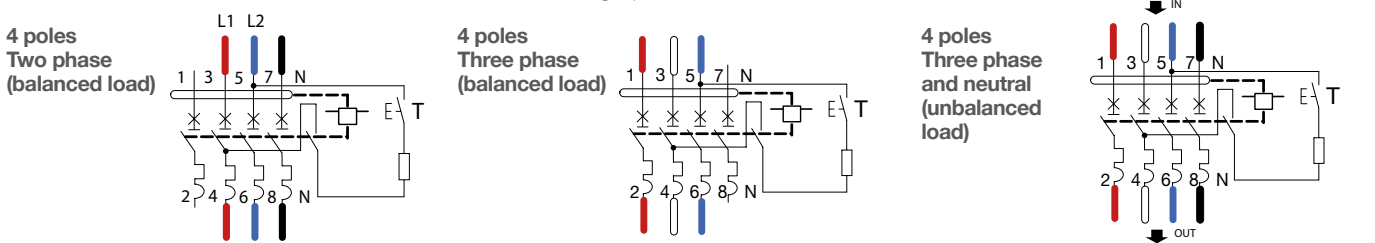
Tripping curve - Tcal= 30°C C curve



Temperature derating table (calibration temperature 30°C)

Ambiant temp (°C)	Rated current (A)							
	6A	10A	13A	16A	20A	25A	32A	40A
-25	7.32	12.30	15.51	19.43	23.83	31.71	39.90	49.79
-20	7.21	12.11	15.30	19.14	23.51	31.16	39.25	48.98
-15	7.10	11.92	15.09	18.85	23.18	30.60	38.59	48.16
-10	6.98	11.72	14.87	18.56	22.85	30.03	37.91	47.32
-5	6.87	11.52	14.65	18.26	22.52	29.44	37.23	46.47
0	6.75	11.31	14.42	17.95	22.17	28.85	36.52	45.60
5	6.63	11.11	14.20	17.64	21.83	28.25	35.81	44.72
10	6.51	10.89	13.97	17.33	21.47	27.63	35.08	43.81
15	6.39	10.68	13.73	17.00	21.11	26.99	34.34	42.89
20	6.26	10.46	13.49	16.68	20.75	26.35	33.58	41.95
25	6.13	10.23	13.25	16.34	20.38	25.68	32.80	40.99
30	6	10	13	16	20	25	32	40
35	5.86	9.75	12.73	15.62	19.56	24.29	31.15	38.86
40	5.72	9.50	12.45	15.24	19.10	23.56	30.28	37.69
45	5.58	9.24	12.16	14.85	18.63	22.81	29.39	36.48
50	5.43	8.97	11.87	14.44	18.16	22.04	28.46	35.23
55	5.28	8.69	11.57	14.02	17.66	21.23	27.51	33.93
60	5.12	8.41	11.26	13.59	17.16	20.39	26.52	32.58

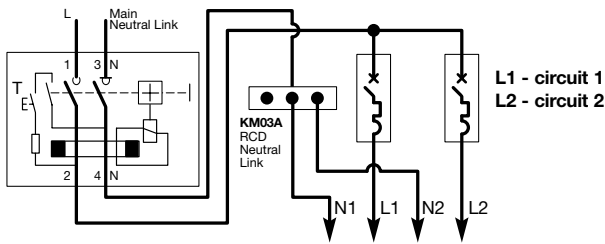
ADX4xxT / AEX4xxT electrical connection - not suitable for single phase circuits



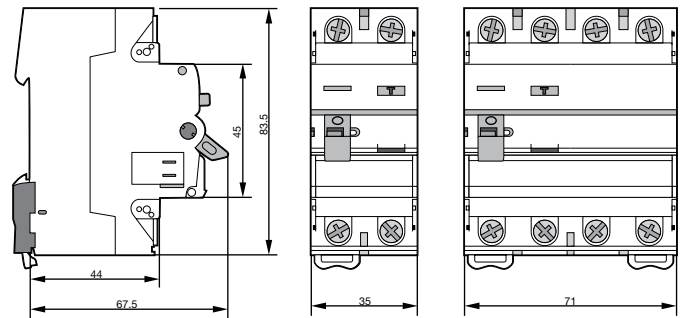
Electrical Connection

RCCB load and line circuits may be connected top or bottom.

2 poles



Dimensions



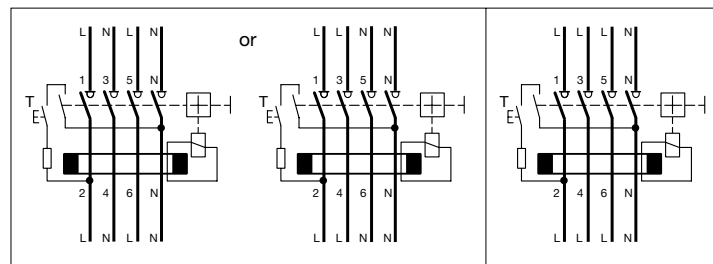
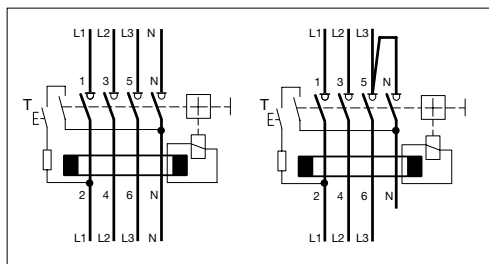
4 poles (CDA4xxT)

Three phase & neutral
(unbalanced load)

Three phase
(balanced load)

Single phase
Two circuits

Single phase
Three circuits
common neutral



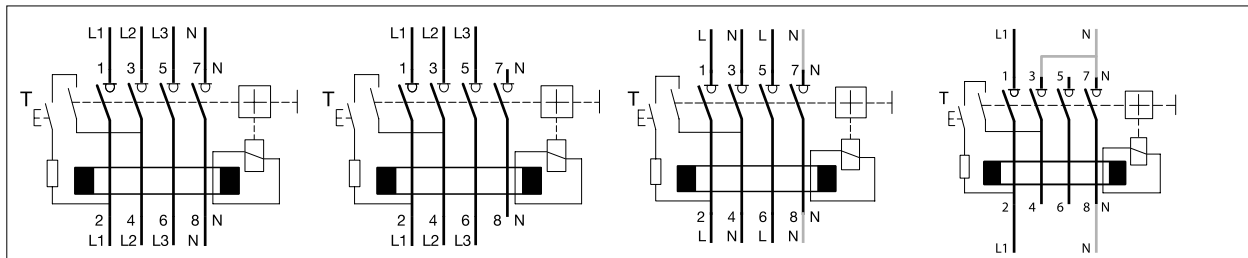
4 poles (CxA5xxT, CxA6xxT & CDFxxxT)

Three phase & neutral use

Three phase use, no neutral

Single phase use
Two circuits

One circuit



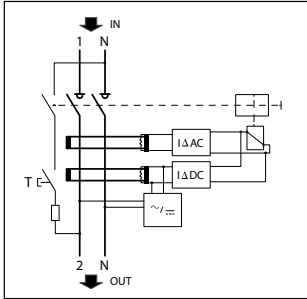
Specifications

	CDA2xxT	CDA4xxT	CxA5xxT	CxA6xxT	CDF5xxT/CDF6xxT
Standards	AS/NZS 61008.1	AS/NZS 61008.1	AS/NZS 61008.1	AS/NZS 61008.1	AS/NZS 61008.1 and IEC62423
Wave form of earth fault current detected	Type A	Type A	Type A	Type A	Type F
Residual current tripping technology	Voltage independent, bi-directional, facility insulation resistance test	Voltage independent, bi-directional, facility insulation resistance test	Voltage independent, bi-directional, facility insulation resistance test	Voltage independent, bi-directional, facility insulation resistance test	Voltage independent, bi-directional, facility insulation resistance test
Voltage rating	2 mod 230V AC		240 AC		230-240V AC
	4 mod	230/400V AC		240/415V AC	230-240/400-415V AC
Frequency	50Hz	50Hz	50Hz	50Hz	50Hz
Current rating	2 mod 25A to 63A - 30mA		80A to 100A - 30mA		40A to 63A - 30mA
	4 mod	25A to 63A - 30mA	25A to 100A - 100mA	80A to 100A - 30mA	40A to 63A 30mA
				25A to 100A - 100mA	
Rated conditional short circuit Inc	6kA	6kA	10kA	10kA	10kA
Test button operational voltage	2 mod 195V to 265V		19w5V to 264V		195V to 264V
	4 mod	195V to 456V		195V to 456V	195V to 456V
Connection capacity	≤ 63A 25mm ² rigid max 16mm ² flexible max	25mm ² rigid max 16mm ² flexible max	25mm ² rigid max 16mm ² flexible max	25mm ² rigid max 16mm ² flexible max	25mm ² rigid max 16mm ² flexible max
	≥ 80A		50mm ² rigid max 35mm ² flexible max	50mm ² flexible max 35mm ² flexible max	
Tightening torque	2.8Nm	2.8Nm	3.6Nm	3.6Nm	3.6Nm
Operating temperature	-25°C to 40°C	-25°C to 40°C	-25°C to 50°C	-25°C to 50°C	-25°C to 70°C
Toggle	Sealable Off position	Sealable Off position	Sealable On/Off position	Sealable On/Off position	Sealable On/Off position

Electrical Connection

Ensure the correct direction of the electrical current.
Supply terminals on top and load terminals on the bottom.

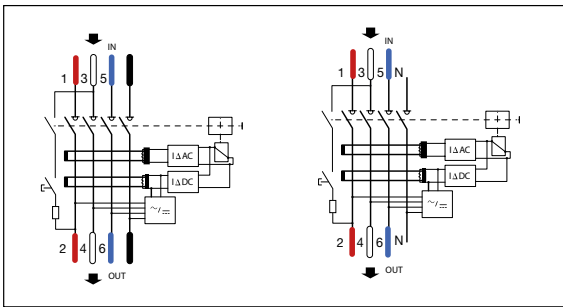
1P+N



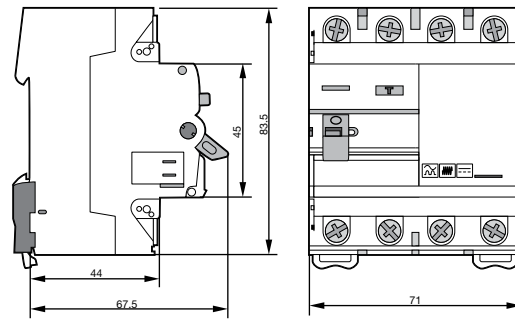
3P+N

Three phase & neutral
(unbalanced load)

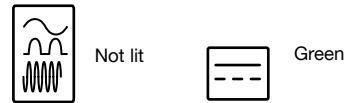
Three phase
(balanced load)



Dimensions



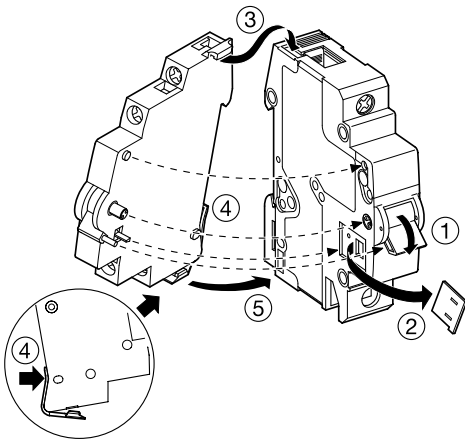
LED indicator
Waveform of leakage current detected:



Specifications

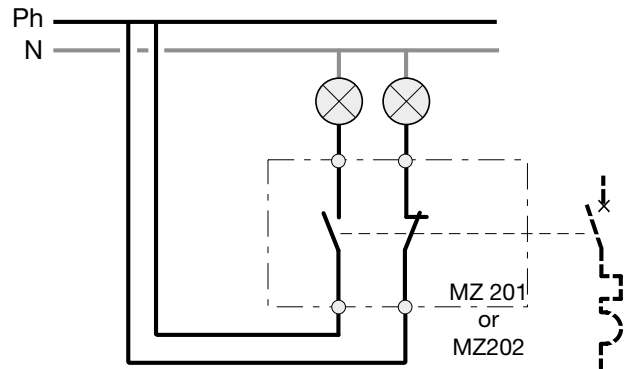
	CDBxxxT	
Standards	AS/NZS 61008.1 and IEC62423	
Wave form of earth fault current detected	Type B	
Residual current tripping technology	Voltage independent - disconnect outgoing cables before circuit insulation resistance test.	
Voltage rating	1P+N	230-240V AC
	3P+N	230-240/400-415V AC
Frequency	50Hz	
Current rating	25A to 63A - 30mA	
Rated conditional short circuit <i>I_{nc}</i>	10kA	
Test button operational voltage	195V to 456V	
Connection capacity ≤ 63A	25mm ² rigid max 16mm ² flexible max	
Tightening torque	3.6Nm	
Connectivity	Not suitable for 1P/3P fork busbar	
Operating temperature	-25°C to 70°C	
Toggle	Sealable On-Off position	

	Cat ref.	MSNxxx	NTxxxC	NDNxxxA	HMFxxxT HMCxxxT HMDxxxT	Axx3xxT Ax1xxT Ax1xxB	ADA9xxT	AxA5xxT	AxM4xxT AxX4xxT	CDA2xxT CDA4xxT	Cxx5xxT Cxx6xxT
Switch type		MCB	MCB	MCB	MCB	RCBO	RCBO	RCBO	RCBO	RCCB	RCCB
kA rating		6kA	10kA	10kA	10kA	4.5 & 6kA	6kA	10kA	6 & 10kA	-	-
No. of modules		1/2/3	1/2/3	1/2/3	1.5/3.5/4.5	1	2	2	4	2/4	2/4
Combination auxiliary and alarm contacts	CZ001	-	-	-	-	-	-	-	-	•	-
Heat dissipation inserts	LZ060	•	•	•	•	•	•	•	•	•	•
Auxiliary contacts	MZ201	-	•	•	•	-	-	•	•	With CZ001	•
Alarm contacts	MZ202	-	•	•	•	-	-	•	•	With CZ001	•
Shunt trip relays	MZ203	-	•	•	•	-	-	•	•	•	•
	MZ204	-	•	•	•	-	-	•	•	•	•
Undervoltage releases	MZ206	-	•	•	•	-	-	•	•	•	•
Terminal covers	MZN120	-	-	•	-	-	-	-	-	-	-
	MZN130	-	-	-	•	-	-	-	-	-	-
Phase barriers	MZN121	-	-	•	-	-	-	-	-	-	•
	MZN131	-	-	-	•	-	-	-	-	-	-
Toggle locking device	MZN175	•	•	•	•	•	•	•	•	•	•



Wiring diagram - MZ201 or MZ202 contact

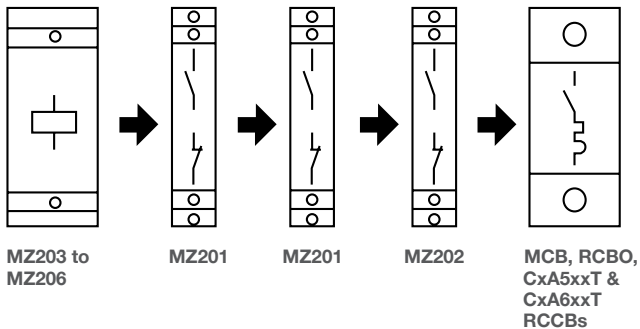
MZ201 auxiliary contact or MZ 202 Alarm contact



Grouping / combination of several auxiliaries

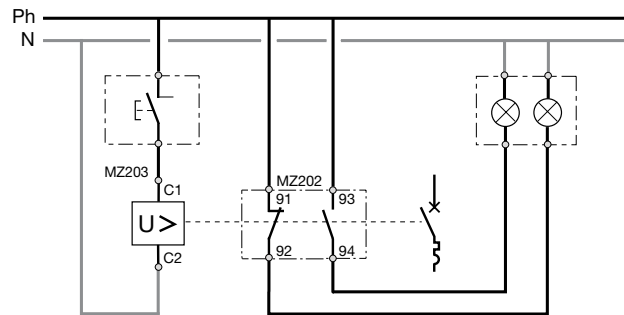
On compatible 1, 2 and 3 pole MCBs, RCBOs and RCCBs (CxA5xxT and CxA6xxT) it is possible to associate 3 auxiliaries - 2 indication auxiliaries and 1 release auxiliary. In this case, it is important to first fix the indication auxiliary (MZ201 and MZ202) and then the release auxiliary (MZ203, MZ204 and MZ206).

Auxiliary possibilities



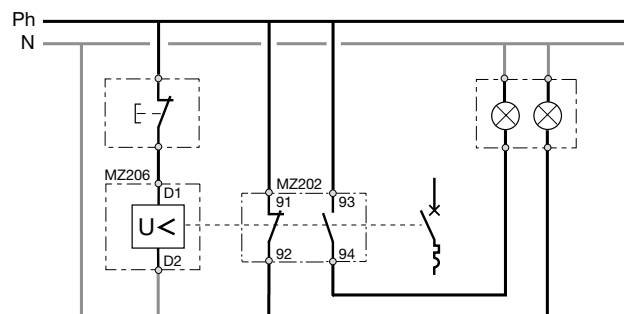
Wiring diagram - MZ203 shunt trip + MZ202 Alarm Contact

An emergency stop button (NO) and a shunt trip - commonly used in automation.



Wiring diagram - MZ206 Undervoltage release + MZ202 Alarm Contact

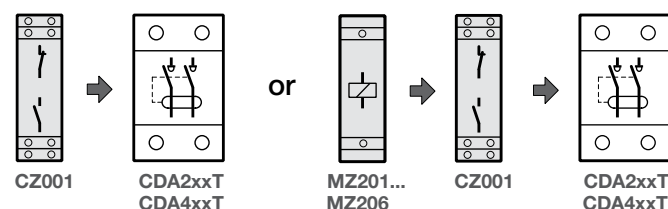
An emergency stop button (NC) and an undervoltage release. For when positive safety is required. e.g. emergency button.



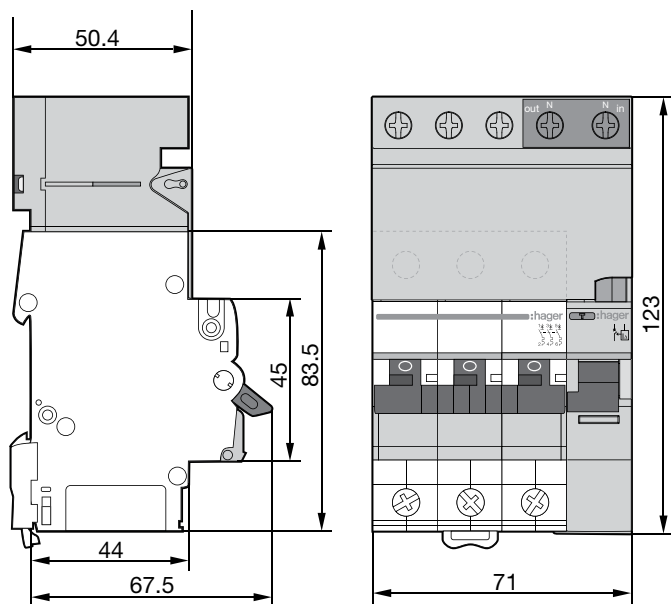
Combination auxiliary and alarm contact

If shunt trip or undervoltage release is required, the CZ001 must be used as a coupler for RCCBs (CDA2xxT and CDA4xxT).

RCCB Auxiliary possibilities

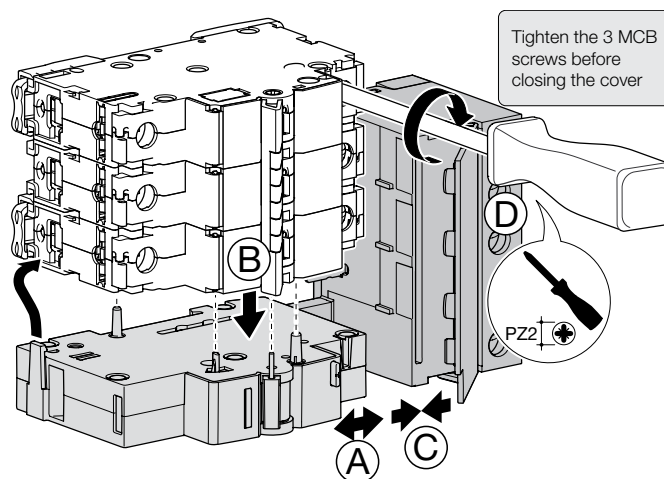


Dimensions

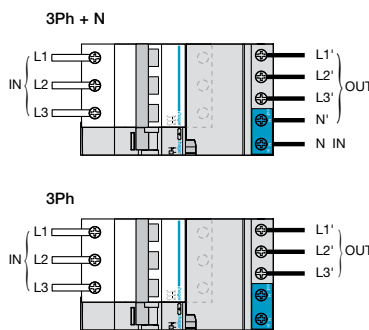
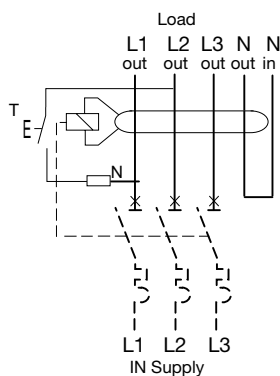


Specifications

Standards	AS/NZS 61008.1
Voltage rating	240/415V AC
Frequency	50Hz
Thermal trip characteristic	C curve (5-10 x I _n) D curve (10-14.4 x I _n)
Current rating	Suitable Add-On for commercial 3 pole MCB's up to 63A (NT, NDN, MSN series).
Test button operational voltage	338V to 457V
No. of operations	1000
Connection capacity	Rigid 25mm ² max. Flexible 16mm ² max.
Tightening torque	3.5Nm
Waveform of earth fault detected	Type A
Residual current technology	Voltage dependent
Residual current	30mA for BD163T 100mA for BE163T 300mA for BF163T
Operating temperature	-5°C to 40°C
Toggle	Sealable OFF position
Breaking capacity I_{cn}	6000A for MSN and MDN range 10,000A for NT and NDN range 15,000A for NDN range



Electrical connection



14 mm max.
6 - 40 A : 10 mm²
40 - 63 A : 16 mm²

6 - 40 A : 16 mm²
40 - 63 A : 25 mm²

Electrical characteristics

Ref	SPA212A	SPA412A	SPB100R	SPB200R	SPB300R	SPB400R	SPB165R	SPB265R	SPB365R	SPB465R
AS/NZ1768 Location Category	Cat C3	Cat C3	Cat C2	Cat C2	Cat C2	Cat C2	Cat C2	Cat C2	Cat C2	Cat C2
AS/NZ1768: Zone Boundary	LPZ 0A - LPZ 1	LPZ 0A - LPZ 1	LPZ 0A - LPZ 1	LPZ 0A - LPZ 1	LPZ 0A - LPZ 1	LPZ 0A - LPZ 1	LPZ 0A - LPZ 1	LPZ 0A - LPZ 1	LPZ 0A - LPZ 1	LPZ 0A - LPZ 1
EN 61643 SPD Type	T1	T1	T2	T2	T2	T2	T2	T2	T2	T2
IEC 61643-1 SPD Class	I	I	II	II	II	II	II	II	II	II
Single Max impulse (8/20 µs)	I_{max}		100kA	100kA	100kA	100kA	65kA	65kA	65kA	65kA
Nominal discharge current (8/20µs)	I_n		40kA	40kA	40kA	40kA	20kA	20kA	20kA	20kA
Pulse discharge current (10/350µs)	I_{imp}	12.5kA	12.5kA	2.5kA	2.5kA	2.5kA	2.5kA	12.5kA	12.5kA	12.5kA
Max. continuous operating voltage	U_c	255 V AC	255 V AC	320 V AC	320 V AC	320 V AC	320 V AC	320 V AC	320 V AC	320 V AC
Voltage protection (common)	U_p	2.5kV	2.5kV	2kV	2kV	2kV	2kV	1.45kV	1.45kV	1.45kV
Residual current	I_{FE}	<100mA	<100mA	<0.45 mA	<5 µA	<0.45 mA	<5 µA	<0.45 mA	<5 µA	<0.45 mA
Iscrr		-	-	25kA	25kA	25kA	25kA	25kA	25kA	25kA
Maximum rating MCB for overcurrent protection	125A series / 315A parallel	125A series / 315A parallel	63A "C"	63A "C"	63A "C"	63A "C"	63A "C"	63A "C"	63A "C"	63A "C"
Recommended MCB rating	63A "C"	63A "C"	63A "C"	63A "C"	63A "C"	63A "C"	40A "C"	40A "C"	40A "C"	40A "C"
Max Back-up Fuse	-	-	250A	250A	250A	250A	160A	160A	160A	160A
Recommended Back-up Fuse	-	-	63A to 125A	63A to 125A	63A to 125A	63A to 125A	63A to 125A	63A to 125A	63A to 125A	63A to 125A
Conductor Connection Capacity	Min 1.5mm ² Max 35 mm ²	Min 1.5mm ² Max 35 mm ²	Min 1.5mm ² Max 35 mm ²	Min 1.5mm ² Max 35 mm ²	Min 1.5mm ² Max 35 mm ²	Min 1.5mm ² Max 35 mm ²	Min 1.5mm ² Max 35 mm ²	Min 1.5mm ² Max 35 mm ²	Min 1.5mm ² Max 35 mm ²	Min 1.5mm ² Max 35 mm ²
Operating Temperature	-40...60 °C	-40...60 °C	-40...80 °C	-40...80 °C	-40...80 °C	-40...80 °C	-40...80 °C	-40...80 °C	-40...80 °C	-40...80 °C
Contact for Remote Monitoring	N	N	Y	Y	Y	Y	Y	Y	Y	Y
Number of modules total	4	8	1	2	3	4	1	2	3	4
Single phase	Y	-	Y	Y	-	Y	Y	-	-	Y
Three Phase	-	Y	-	-	Y	-	-	Y	Y	-
TNC	-	-	TNC	-	TNC	-	TNC	-	TNC	-
TNS/TT	-	-	-	TNS/TT	-	TNS/TT	-	TNS/TT	-	TNS/TT
Indication of SPD disconnecter	Green LED on L1, L2, L3	Green LED on L1, L2, L4	Green = Good Red = Bad	Green = Good Red = Bad	Green = Good Red = Bad	Green = Good Red = Bad	Green = Good Red = Bad	Green = Good Red = Bad	Green = Good Red = Bad	Green = Good Red = Bad
L-N Replacement cartridge	-	-	SPB010R	SPB010R	SPB010R	SPB010R	SPB065R	SPB065R	SPB065R	SPB065R
N-PE Replacement cartridge	-	-	-	SPB010N	-	SPB010N	-	SPB065N	-	SPB065N
L-N	-	-	1	1	3	1	1	3	3	1
N-PE	-	-	0	1	0	1	0	1	0	1
Response time	t_A	≤100ns	≤100ns	-	-	-	-	-	-	-
Dimensions: Length, Width, Height	-	-	77.5 x 17.5 x 98.7	77.5 x 35 x 98.7	77.5 x 52.5 x 98.7	77.5 x 70 x 98.7	77.5 x 17.5 x 98.7	77.5 x 35 x 98.7	77.5 x 52.5 x 98.7	77.5 x 70 x 98.7

SPD 'R' model contactor wiring layout has changed for all new SPBxxxR SPDs.

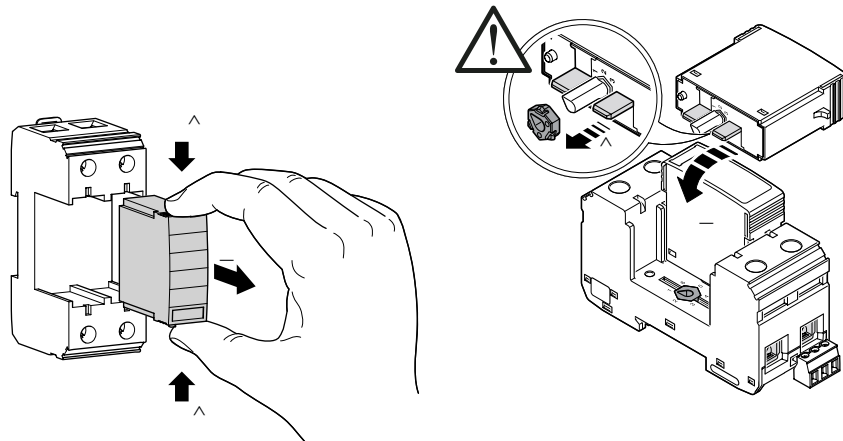
U max. / I max. AC: 250 V / 1.5 A

U max. / I max. DC: 30 V / 1 A

0.14 - 1.5mm²
AWG 28 - 16

7 mm

7 mm



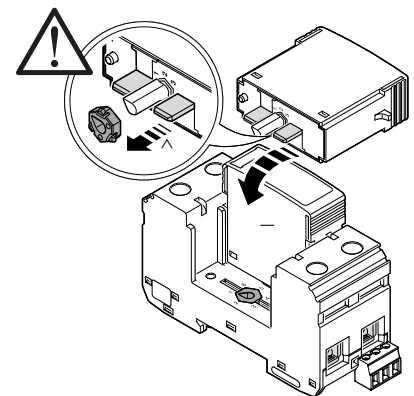
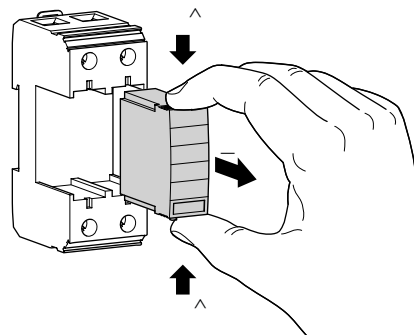
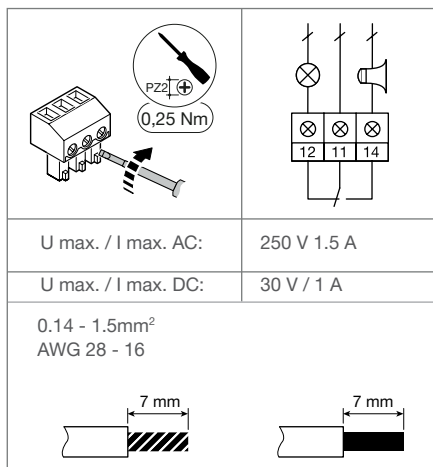
How do I know if I need to replace a SPD cartridge?

- For Very Coarse (100kA) and Coarse (65kA) SPDs - a small oval indicator will change colours from Green (Ok) to Red (Faulty).
- For Medium (40kA) and Fine (8kA) SPDs - a rectangular window is present, when this window is bright red, there is a fault.
- Please note the rectangular style fault indicators may look somewhat red, or red tinged when new.
- If the red 'pin' at the rear of the cartridge is retracted, replace the cartridge. If proud (as pictured to the left), then it is good.

Electrical characteristics

Ref	Medium SPB140D	Medium SPB140R	Medium SPB240D	Medium SPB240R	Medium SPB340D	Medium SPB340R	Medium SPB440D	Medium SPB440R	Fine SPB208D	Fine SPB408D
AS/NZ1768 Location Category	Cat C1 /B	Cat C1 /B	Cat C1 /B	Cat C1 /B	Cat C1 /B	Cat C1 /B	Cat C1 /B	Cat C1 /B	Cat A	Cat A
AS/NZ1768: Zone Boundary	LPZ 1 - LPZ OB	LPZ 1 - LPZ OB	LPZ 1 - LPZ OB	LPZ 1 - LPZ OB	LPZ 1 - LPZ OB	LPZ 1 - LPZ OB	LPZ 1 - LPZ OB	LPZ 1 - LPZ OB	LPZ 2 - LPZ 3	LPZ 2 - LPZ 3
EN 61643 SPD Type	T2	T2	T2	T2	T2	T2	T2	T2	T2	T2
IEC 61643-1 SPD Class	II	II	II	II	II	II	II	II	II	II
Single Max impulse (8/20 μs)	I_{max} 40kA	40kA	40kA	40kA	40kA	40kA	40kA	40kA	8kA	8kA
Nominal discharge current (8/20 μs)	I_n 20kA	20kA	20kA	20kA	20kA	20kA	20kA	20kA	2kA	2kA
Pulse discharge current (10/350 μs)	I_{imp} -	-	-	-	-	-	-	-	-	-
Max. continuous operating voltage	U_c 275 V AC	275 V AC	275 V AC	275 V AC	275 V AC	275 V AC	275 V AC	275 V AC	275 V AC	275 V AC
Voltage protection (common)	U_p 1.35kV	1.35kV	1.35kV	1.35kV	1.35kV	1.35kV	1.35kV	1.35kV	0.9kV	0.9kV
Residual current	I_{RE} <0.45 mA	<0.45 mA	<5 μA	<5 μA	<0.45 mA	<0.45 mA	<5 μA	<5 μA	<5 μA	<5 μA
Iscrr	25kA	25kA	25kA	25kA	25kA	25kA	25kA	25kA	10kA	10kA
Maximum rating MCB for overcurrent protection	32A "C"	32A "C"	32A "C"	32A "C"	32A "C"	32A "C"	32A "C"	32A "C"	32A "C"	32A "C"
Recommended MCB rating	32A "C"	32A "C"	32A "C"	32A "C"	32A "C"	32A "C"	32A "C"	32A "C"	32A "C"	32A "C"
Max Back-up Fuse	125A	125A	125A	125A	125A	125A	125A	125A	125A	125A
Recommended Back-up Fuse	32A to 100A	32A to 100A	32A to 100A	32A to 100A	32A to 100A	32A to 100A	32A to 100A	32A to 100A	20A to 32A	20A to 32A
Connection Capacity	Min 1.5mm ² Max 35 mm ²	Min 1.5mm ² Max 35 mm ²	Min 1.5mm ² Max 35 mm ²	Min 1.5mm ² Max 35 mm ²	Min 1.5mm ² Max 35 mm ²	Min 1.5mm ² Max 35 mm ²	Min 1.5mm ² Max 35 mm ²	Min 1.5mm ² Max 35 mm ²	Min 1.5mm ² Max 35 mm ²	Min 1.5mm ² Max 35 mm ²
Operating Temperature	-40...80 °C	-40...80 °C	-40...80 °C	-40...80 °C	-40...80 °C	-40...80 °C	-40...80 °C	-40...80 °C	-40...80 °C	-40...80 °C
Contact for Remote Monitoring	N	Y	N	Y	N	Y	N	Y	N	N
Number of modules total	1	1	2	2	3	3	4	4	2	4
Single phase	Y	Y	Y	Y	-	-	-	-	Y	-
Three Phase	-	-	-	-	Y	Y	Y	Y	-	Y
TNC	TNC	TNC	-	-	TNC	TNC	-	-	-	-
TNS/TT	-	-	TNS/TT	TNS/TT	-	-	TNS/TT	TNS/TT	TNS/TT	TNS/TT
Indication of SPD disconnecter	Bright Red = Replace	Bright Red = Replace	Bright Red = Replace	Bright Red = Replace	Bright Red = Replace	Bright Red = Replace	Bright Red = Replace	Bright Red = Replace	Bright Red = Replace	Bright Red = Replace
L-N Replacement cartridge	SPB040D	SPB040D	SPB040D	SPB040D	SPB040D	SPB040D	SPB040D	SPB040D	SPB008D	SPB008D
N-PE Replacement cartridge	-	-	SPB040N	SPB040N	-	-	SPB040N	SPB040N	SPB040N	SPB040N
L-N	1	1	1	1	3	3	3	3	1	3
N-PE	0	0	1	1	0	0	1	1	1	1
Dimensions: Length, Width, Height	65.7 x 17.5 x 98.7	65.7 x 17.5 x 98.7	65.7 x 35 x 98.7	65.7 x 35 x 98.7	65.7 x 52.5 x 98.7	65.7 x 52.5 x 98.7	65.7 x 70 x 98.7	65.7 x 70 x 98.7	58 x 35 x 90	65.7 x 70 x 90

SPD 'R' model contactor wiring layout has changed for all new SPBxxxR SPDs.



How do I know if I need to replace a SPD cartridge?

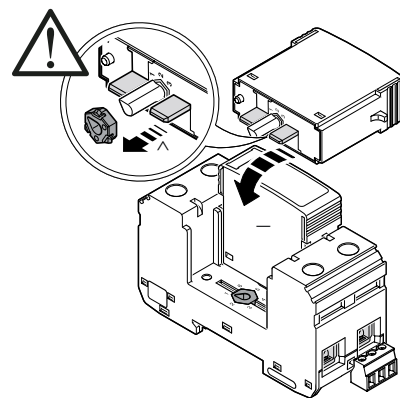
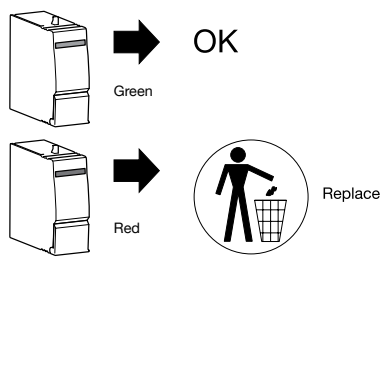
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Electrical characteristics

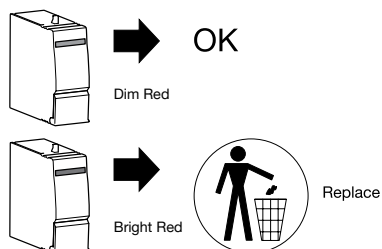
Ref		Very Coarse	Very Coarse	Coarse	Coarse	Medium	Medium	Fine
		SPB010R	SPB010N	SPB065R	SPB065N	SPB040D	SPB040N	SPB008D
AS/NZ1768 Location Category		Cat C3	Cat C3	Cat C2	Cat C2	Cat C1/B	Cat C1/B	Cat CA
AS/NZ1768: Zone Boundary		LPZ 0A - LPZ 1	LPZ 0A - LPZ 1	LPZ 0A - LPZ 1	LPZ 0A - LPZ 1	LPZ 1 - LPZ OB	LPZ 1 - LPZ OB	LPZ 2 - LPZ 3
EN 61643 SPD Type		T1	T1	T2	T2	T2	T2	T2
IEC 61643-1 SPD Class		I	I	II	II	II	II	II
Single Max impulse (8/20 μs)	I_{max}	100kA	100kA	65kA	65kA	40kA	40kA	8kA
Nominal discharge current (8/20 μs)	I_n	40kA	40kA	20kA	20kA	20kA	20kA	2kA
Pulse discharge current (10/350 μs)	I_{imp}	2.5kA	2.5kA	-	-	-	-	-
Max. continuous operating voltage	U_c	320 V AC	260 V AC	275 V AC	260 V AC	275 V AC	260 V AC	275 V AC
Voltage protection (common)	U_p	2kV	1.5kV	1.35kV	1.5kV	1.35kV	1.5kV	0.9kV
Residual current	I_{FE}	-	-	-	-	-	-	-
Isccr		-	-	-	-	-	-	-
Maximum rating MCB for overcurrent protection		-	-	-	-	-	-	-
Recommended MCB rating		-	-	-	-	-	-	-
Max Back-up Fuse		-	-	-	-	-	-	-
Recommended Back-up Fuse		-	-	-	-	-	-	-
Connection Capacity		-	-	-	-	-	-	-
Operating Temperature		-40...80 °C	-40...80 °C	-40...80 °C	-40...80 °C	-40...80 °C	-40...80 °C	-40...80 °C
Remote Contact		-	-	-	-	-	-	-
Number of modules total		1	1	1	1	1	1	1
Single phase		-	-	-	-	-	-	-
Three Phase		-	-	-	-	-	-	-
TNC		-	-	-	-	-	-	-
TNS/TT		-	-	-	-	-	-	-
Indication of SPD disconnect		Green = good Red = replace	Green = good Red = replace	Green = good Red = replace	Green = good Red = replace	Bright Red = Replace	Bright Red = Replace	Bright Red = Replace
L-N Replacement cartridge		-	-	-	-	-	-	-
N-PE Replacement cartridge		-	-	-	-	-	-	-
L-N		1 x L-N	-	1 x L-N	-	1 x L-N	-	1 x L-N
N-PE		-	1 x N-PE	-	1 x N-PE	-	1 x N-PE	-

Modular Protection devices

Very Coarse and Coarse SPDs

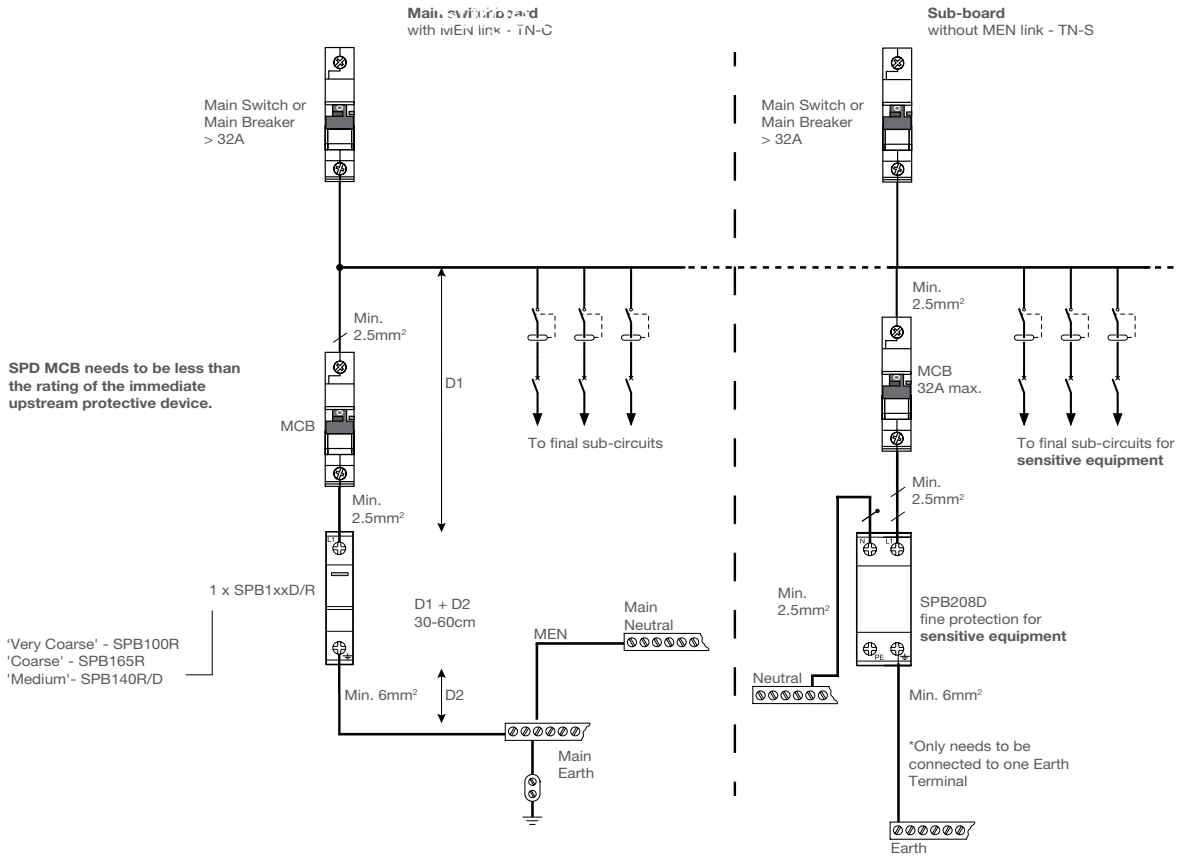


Medium and Fine SPDs

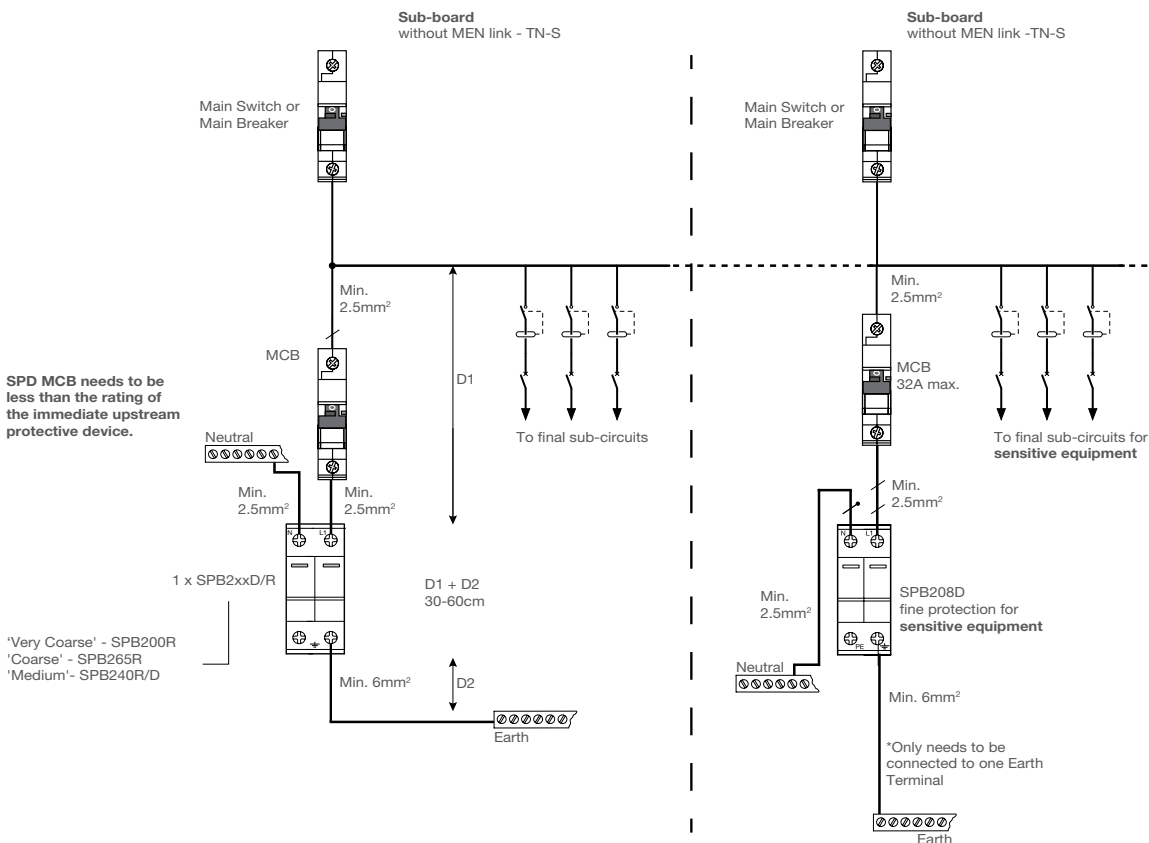


The indicator circled on the left shows this cartridge needs to be replaced, the cartridge not circled to the right of it is ok.

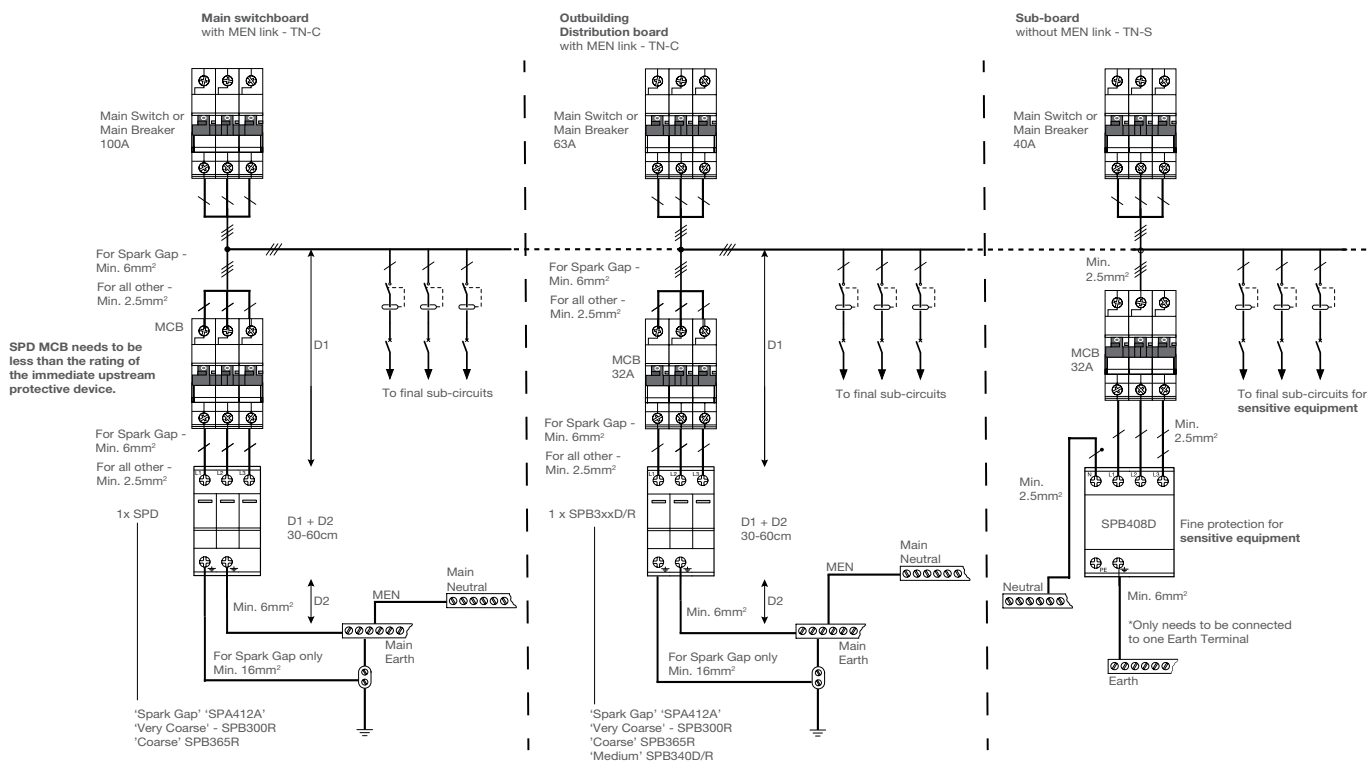
Surge protection single phase layout example in Main switchboard with MEN link



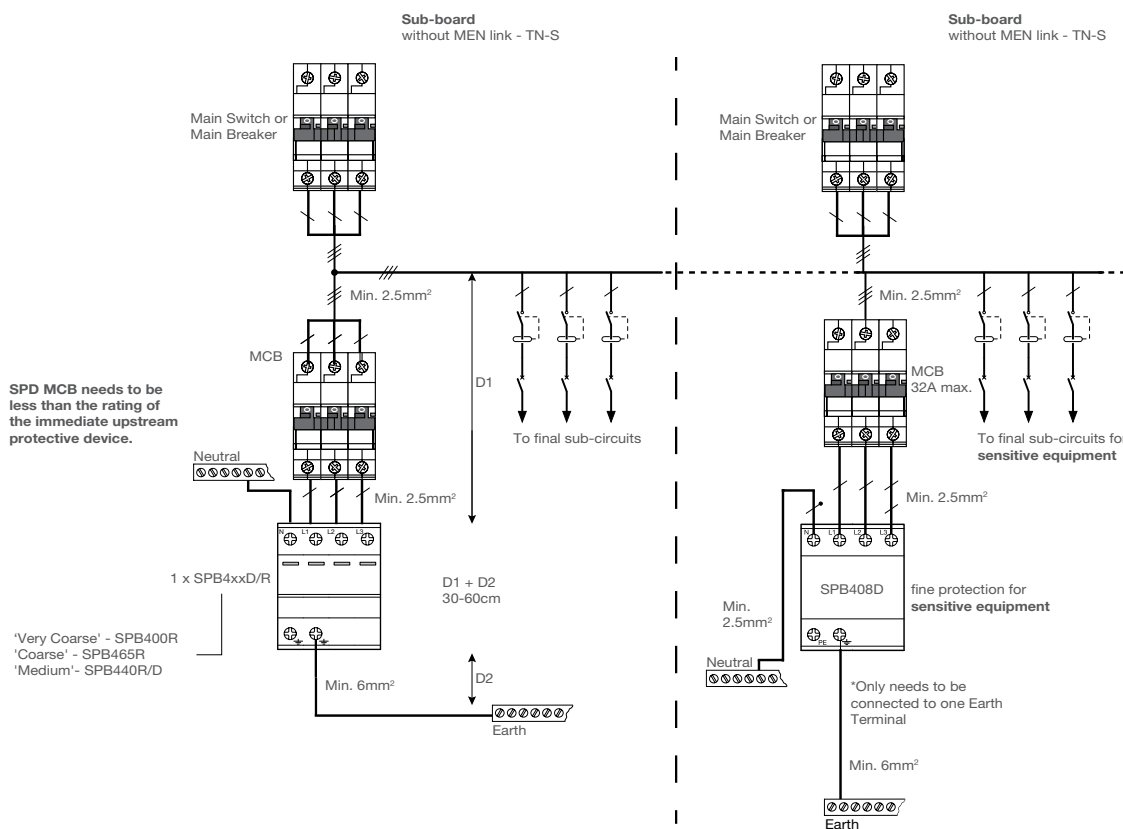
Surge protection single phase layout example in sub-board without MEN link



Surge protection three phase layout example in Main switchboard with MEN link



Surge protection three phase layout example in sub-board without MEN link



		Upstream					
		Lawson ME & MF BS88 part 3 (BS 1361) IEC/EN 60269-2 80kA, 415 VAC (House Service)					
Downstream	Device	Curve	In (A)	50	63	80	100
		AxA9 6kA IEC 61009	C	10	80	80	6
13				80	80	6	6
16				80	80	6	6
20				80	80	6	6
25				80	80	40	6
32				80	80	40	6
AxA5 10kA IEC 61009		C	10	80	80	10	10
			13	80	80	10	10
			16	80	80	80	10
			20	80	80	80	10
			25	80	80	80	80
			32	80	80	80	80
ADC9 6kA IEC 61009		C	10	80	80	6	6
			13	80	80	6	6
			16	80	80	6	6
			20	80	80	80	6
			25	80	80	80	6
			32				
ADC3 6kA IEC 61009		C	25	80	80	80	6
			32				
AD1 & ADA1 10kA IEC 61009		C	Up to 32A	80	80	80	80
NT 10kA IEC 60898		C	Up to 63A	80	80	80	80
MSN 6kA IEC 60898		C	Up to 63A	80	80	35	20
NDN 10kA IEC 60898		D	6	80	80	80	10
			10	80	80	80	10
			16	80	80	80	10
			20	80	80	80	80
			25	80	80	80	80
			32	80	80	80	80
			40	80	80	80	80
			50	80	80	80	80
HMF 10kA IEC 60898		C	80	-	-	80	80
			100	-	-	-	80
			125	-	-	-	-
HMC 15kA IEC 60898		C	80	-	-	80	80
			100	-	-	-	80
			125	-	-	-	-
HMD 15kA IEC 60898		D	80	-	-	80	80
			100	-	-	-	80
			125	-	-	-	-

Modular Protection devices

Breaking capacity according to IEC 60947-2

Network: 230/240 - 400/415 VAC

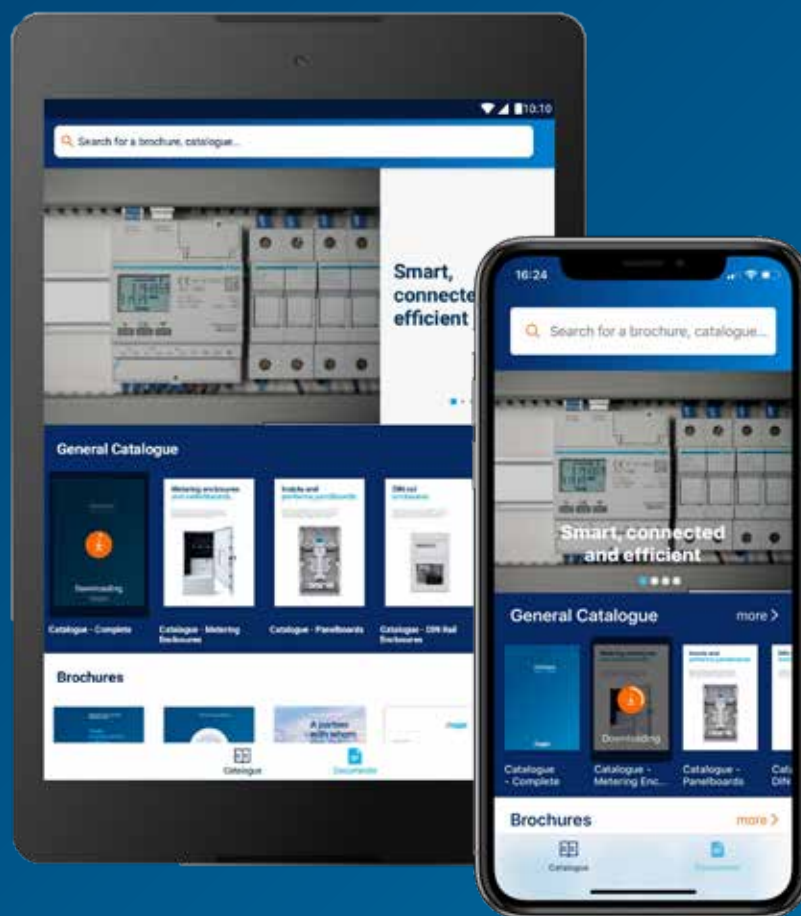
Notes: « T » = total selectivity (up to the breaking capacity of the downstream device)

« - » = no selectivity

		Upstream					
		Lawson ME & MF BS88 part 3 (BS 1361) IEC 60269 80kA, 415 VAC (House Service)					
Device	Curve	In (A)	50	63	80	100	
AxA9 6kA IEC 61009	C	10	1.83	4.32	T	T	
		13	1.78	4.18	T	T	
		16	1.7	3.66	T	T	
		20	1.35	2.69	T	T	
		25	-	2.75	5.85	T	
		32	-	-	4.93	T	
		40	-	-	-	T	
AxA5 10kA IEC 61009	C	6	3.2	8.78	T	T	
		10	1.83	4.32	T	T	
		13	1.78	4.18	T	T	
		16	1.7	3.66	9.08	T	
		20	1.35	2.69	6.23	T	
		25	-	2.75	5.85	T	
		32	-	-	4.93	7.33	
ADC9 6kA IEC 61009	C	10	1.45	3.5	T	T	
		13	1.3	3	T	T	
		16	1.2	2.65	T	T	
		20	1.1	2.4	5.4	T	
		25	1	1.9	3.8	T	
ADC3 6kA IEC 61009	C	25	1	1.9	3.8	T	
		32					
AD1 and ADA1 10kA IEC 61009	C	10	1.3	2.5	5.43	T	
		16	1.11	2.08	4.31	8.45	
		20	0.92	1.71	3.31	6.07	
		25	0.92	1.71	3.31	6.07	
32	0.79	1.44	2.75	4.82			

		Upstream					
		Lawson ME & MF BS88 part 3 (BS 1361) IEC 60269 80kA, 415 VAC (House Service)					
Device	Curve	In (A)	50	63	80	100	
NT 10kA IEC 60898	C	2	3.04	8.27	T	T	
		4	2.1	5.22	T	T	
		6	1.7	3.48	7.63	T	
		10	1.54	3.04	6.48	T	
		13	1.28	2.58	5.42	T	
		16	1.26	2.56	5.42	T	
		20	1.08	2.16	4.27	8.5	
		25	1.08	2.16	4.27	8.5	
		32	0.94	1.81	3.38	6.62	
		40	-	1.81	3.38	6.62	
		50	-	-	3.04	5.36	
		63	-	-	-	5.36	
		MSN 6kA IEC 60898	C	6	1.37	2.7	5.59
10	1.17			2.22	4.34	T	
13	0.98			1.86	3.62	T	
16	0.98			1.86	3.62	T	
20	0.82			1.57	3.05	5.95	
25	0.82			1.57	3.05	5.95	
32	0.71			1.45	2.82	5.39	
40	-			1.45	2.82	5.39	
50	-			-	2.58	4.86	
63	-			-	-	4.86	
NDN 10kA IEC 60898	D	6	1.45	3.58	9.5	T	
		10	1.36	2.9	6.5	T	
		16	-	2.31	4.83	T	
		20	-	-	4.2	7.5	
		25	-	-	-	6.5	
		32	-	-	-	5.29	
		40	-	-	-	-	
		63	-	-	-	-	
HMF 10kA IEC 60898	C	80	-	-	-	2.3	
		100	-	-	-	0.7	
		125	-	-	-	-	
HMC 15kA IEC 60898	C	80	-	-	-	2.3	
		100	-	-	-	0.7	
		125	-	-	-	-	
HMD 15kA IEC 60898	D	80	-	-	-	0.75	
		100	-	-	-	-	
		125	-	-	-	-	

Hager e-cat app



Information on the go

Access all product information on Hager products: product catalogue, technical data and specifications, brochures and more... at your fingertips.



DIN Control and Indication

This section provides a selection of Isolating, Changeover and Selector Switches, Push Buttons, Indicator Lights, Delay Timers, Emergency Lighting Test Packages, DIN Socket Outlets and Contactors that are used for isolation, installation monitoring and circuit control.



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Description

For use as a switch isolator in all types of circuits. As defined in AS/NZS3000-2018, clause 2.3.3.2: "The supply to every installation shall be controlled by a main switch or switches that control the whole installation". Positive contact indication, with ON position 'I' in red and OFF position 'O' in green.

Technical data

- AC 22B duty specification (mixed resistive and inductive loads. Not motors)
- PZ2 terminal screw for all ratings
- Bi-connect terminals

Connection capacity

- In: 40A
- 25mm² rigid cables
- 16mm² flexible cables
- In: 63A and higher
- 50mm² rigid cables
- 35mm² flexible cables

Standards

- Compliant with AS/NZS IEC 60947-3 and IEC60669-2-4 for ratings up to 63A

Technical information: [Page 300](#)



SBR164

Single pole



Characteristics	Width	Cat ref.
1 x 40A 230V~	1 mod	SBR140
1 x 63A 230V~	1 mod	SBR164
1 x 80A 230V~	1 mod	SBR180
1 x 100A 230V~	1 mod	SBR190



SBR264

Double pole

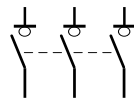


Characteristics	Width	Cat ref.
2 x 40A 230 to 400V~	2 mod	SBR240
2 x 63A 230 to 400V~	2 mod	SBR264
2 x 80A 230 to 400V~	2 mod	SBR280
2 x 100A 230 to 400V~	2 mod	SBR290



SBR399

Triple pole

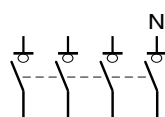


Characteristics	Width	Cat ref.
3 x 40A 400V~	3 mod	SBR340
3 x 63A 400V~	3 mod	SBR364
3 x 80A 400V~	3 mod	SBR380
3 x 100A 400V~	3 mod	SBR390
3 x 125A 400V~	3 mod	SBR399



SBR490

Four pole

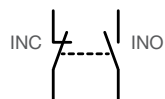


Characteristics	Width	Cat ref.
4 x 63A 400V~ neutral right	4 mod	SBR464
4 x 100A 400V~ neutral right	4 mod	SBR490



ESC080

Auxiliary contacts



Characteristics	Width	Cat ref.
1NO + 1NC 6A AC1 For remote indication, mechanical indicator to show the position of the contact. Maximum one auxiliary module per isolator device (left fitting)	0.5 mod	ESC080

Description

Manual Changeover Switches or DIN Rail Mounted Manual Transfer Switches (MTS) are for the manual switching between two or more electrical circuits.

Technical data

Utilization category: AC22B (mixed resistive and inductive)

Connection capacity

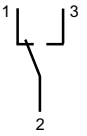
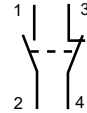
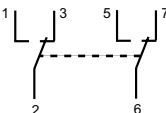
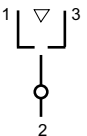
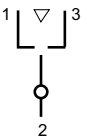
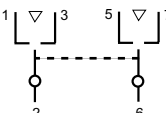
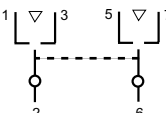
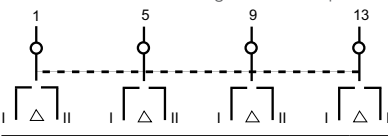
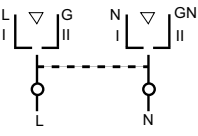
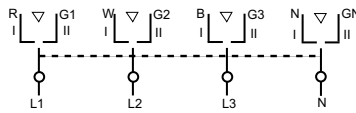
- 16mm² rigid
- 10mm² flexible

Standards

Compliant to IEC 60947-3. SFx63 comply to IEC 60669-2-4.

Technical information: [Page 301](#)

Manual Changeover Switches

Description	Characteristics	Width	Cat ref.
I-II Single pole, 2 ways with bottom common point 	1 x 25A 230V~	1 mod	SFL125
I-II Single pole, 2 ways, 1NO/1NC w/out common point 	2 x 25A 230V~	1 mod	SFM125
I-II Double pole with bottom common point 	2 x 25A 230V~	2 mod	SFL225
I-O-II Single pole Switches centre - off changeover with top common point 	1 x 25A 230V~	1 mod	SFT125
I-O-II Single pole Switches centre - off changeover with top common point 	1 x 40A 230V~	1 mod	SFT140
I-O-II Double pole Switches centre - off changeover with top common point 	2 x 25A 230V~	2 mod	SFT225
I-O-II Double pole Switches centre - off changeover with top common point 	2 x 40A 230V~	2 mod	SFT240
I-O-II Four pole Switches centre - off changeover with top common point 	4 x 40A 230V~	4 mod	SFT440
I-O-II Double pole Switches centre - off changeover with bottom common point 	2 x 63A 230V~	4 mod	SF263
I-O-II Four pole Switches centre - off changeover with bottom common point 	4 x 63A 400V~	8 mod	SF463



SFL125



SFM125



SFT125



SFT140



SFT225



SFT240



SF263



SF463

Control & indication

Description

Provides command signals or program selection in electrical control schemes.

Connection capacity

- Rigid conductor: 1.5 to 10mm²
- Flexible conductor: 1 to 6mm²

Standards

Conform to IEC947-3
BS EN 60947-3

Isolating voltage: 500V~
Nominal current: 10-20A



SK602



SK603



SK606

Selector Switches

Description	Characteristics	Width	Cat ref.
1 pole selector switch 	20A 400V~ Non spring return	3 mod	SK600
2 pole selector switch 	20A 400V~ Spring return	3 mod	SK601
Voltmeter selector 3Ph&N - 3 readings between phases - 3 readings between phase & neutral - Null position (no reading) 	20A 400V~	3 mod	SK602
Ammeter selector - 4 positions - Use in 3Ph&N - Reading by phase - 0 position (no reading) - Should be used with current transformer (CT) 	20A 400V~	3 mod	SK603
Step selector switch 	20A 400V~	3 mod	SK604
Key selector switch 	10A 400V~	3 mod	SK606
Spare key For SK606			SK001

Description

For remote switching and control of power circuits. Suitable for lighting, heating, ventilation, pumps and home automation.

Manual override

To set output contacts permanently On or Off – Great for fault finding.

Night & Day override

Allows the End User to set output contact permanently Off or temporarily On until next switching cycle.

Specifications:

Coil Voltage:
230V AC (50Hz)
24V AC (50Hz)

Output contacts

1NO, 1NO+1NC, 2NO, 2NC, 2NO+2NC, 3NO, 4NO, 4NC

Output (Heating) AC1/AC7a (50Hz)

25A, 40A, 63A
at 230V AC
4.6kW, 7.3kW, 11.6kW
at 400V AC
13.8kW, 22kW, 35kW

Output (Motor) AC3/AC7b (50Hz)

8.5A, 25A, 32A
at 230V AC
880W, 2.6kW, 3.3kW
at 400V AC
2.6kW, 7.8kW, 10kW

Technical information: [Page 303](#)

Contactors

Type	Diagram	Coil AC (50Hz)		Rated output current			Cat ref.
		Override	AC1/AC7a	AC3/AC7b	Width		
1NO		Manual	25A	8.5A	1 mod	ERC125	
		No	25A	8.5A	1 mod	ESC125	
1NO+1NC		No	25A	8.5A	1 mod	ESC227	
		No	25A	8.5A	1 mod	ESD227	
2NC		No	25A	8.5A	1 mod	ESC226	
2NO		Manual	25A	8.5A	1 mod	ERC225	
		Manual	25A	8.5A	1 mod	ERD225	
		Night & Day	25A	8.5A	1 mod	ETC225	
		No	25A	8.5A	1 mod	ESC225	
		No	25A	8.5A	1 mod	ESD225	
		No	40A	25A	3 mod	ESC240	
3NO		No	25A	8.5A	2 mod	ESC325	
		No	40A	25A	3 mod	ESC340	
		Night & Day	40A	25A	3 mod	ETC340	
2NO+2NC		No	25A	8.5A	2 mod	ESC427	
		No	63A	32A	3 mod	ESC465	
4NC		No	40A	25A	3 mod	ESC441	
		No	63A	32A	3 mod	ESC464	
4NO		Manual	25A	8.5A	2 mod	ERC425	
		No	25A	8.5A	2 mod	ESC425	
		No	40A	25A	3 mod	ESC440	
		No	63A	32A	3 mod	ESC463	



ERC225



ESC425



ESC463

Control & indication

Accessories

Description	Characteristics	Cat ref.
Auxiliary contact (1NO+1NC) 	(Leftside fitting - maximum one AUX per contactor device)	ESC080
Heat dissipation insert		LZ060



LZ060

Description

Designed to provide customers with a good nights sleep. Remote switching and control of power circuits that are suitable for lighting, heating, ventilation, pumps and home automation

Manual override

To set output to contacts permanently On or Off – Great for fault finding.

Night & Day override

Allows the End User to set output contact permanently Off or temporarily On until next switching cycle

Specifications:

Coil Voltage:
230V AC (50Hz)

Output contacts

1NO+1NC, 2NO, 2NC, 2NO+2NC,
3NO, 3NO+1NC, 4NO, 4NC

Output AC1/AC7a (50Hz)

25A, 40A, 63A
at 230V AC
4.6kW, 7.3kW, 11.6kW
at 400V AC
13.8kW, 22kW, 35kW

Output AC3/AC7b (50Hz)

8.5A, 25A, 32A
at 230V AC
880W, 2.6kW, 3.3kW
at 400V AC
2.6kW, 7.8kW, 10kW

Technical information: [Page 303](#)



ESC425S



ESC463S

Hum-free Contactors

Type	Diagram	Coil AC (50Hz) or DC	Override	Rated output current			Cat ref.
				AC1/AC7a	AC3/AC7b	Width	
2NO	<pre> A1 1 3 A2 2 4 </pre>	230V AC	No	25A	8.5A	1 mod	ESC225S
		230V AC	No	40A	25A	3 mod	ESC240S
		230V AC	No	63A	32A	3 mod	ESC263S
3NO	<pre> A1 1 3 5 A2 2 4 6 </pre>	230V AC	Manual	25A	8.5A	2 mod	ESC325S
		230V AC	No	40A	25A	3 mod	ESC340S
3NO+1NC	<pre> A1 1 3 5 7 A2 2 4 6 8 </pre>	230V AC	No	25A	8.5A	2 mod	ESC428S
4NC	<pre> A1 1 3 5 7 A2 2 4 6 8 </pre>	230V AC	No	25A	8.5A	2 mod	ESC426S
4NO	<pre> A1 1 3 5 7 A2 2 4 6 8 </pre>	230V AC	No	25A	8.5A	2 mod	ESC425S
		230V AC	No	40A	25A	3 mod	ESC440S
		230V AC	No	63A	32A	3 mod	ESC463S

Accessories

Description	Diagram	Characteristics	Cat ref.
Auxiliary contact (1NO+1NC)	<pre> 11 13 12 14 </pre>	(Leftside fitting - maximum one AUX per contactor device)	ESC080
Heat dissipation insert			LZ060



LZ060

Latching Relays Description

For the control of lighting circuits in private buildings, small industrial buildings and administration buildings. Latching Relays operate when pulsed by a signal voltage. The pulse can be provided via a push button or switch. The first impulse sets the relay into its set (opposite) state, the next impulse returns it to its reset (original) state.

Connection capacity:

- Rigid capacity: 1.5 to 10mm²
- Flexible capacity: 1 to 6mm²

Interface Relay description

To interface between low voltage and extra low voltage circuits to ensure galvanic insulation between LV and ELV to 4kV.

Ideal as an Interface between fire alarm, burglar alarm and other ELV systems and main distribution circuits.

Connection capacity

- 6mm² rigid cables
- 4mm² flexible cables

Technical information: [Page 307](#)

Latching Relays

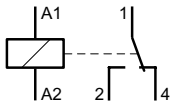
Description	Coil 50/60Hz V ac	Coil V dc	Power circuit AC1	Width	Cat ref.
1NO	230V ac	110V dc	16A-250V	1 mod	EPE510
1NO + 1NC	230V ac	110V dc	16A-250V	1 mod	EPE515
2NO	230V ac	110V dc	16A-250V	1 mod	EPE520
2NO	24V ac	12V dc	16A-250V	1 mod	EPE524



EPE510

Interface Relay ELV/LV 1 way

Description	Characteristics	Width	Cat ref.
Output: 1 changeover	Coil voltage: 10 to 26V AC/DC Contact max. 5A 230V~ - min. 10mA - 12V DC	1 mod	EN145



EN145

Description

2 versions:
 - Impulse push buttons
 - Latching push buttons
 The versions with indicator lights are equipped with green or red diffuser (LED technology).

Connection capacity

- 10mm² rigid cables
- 6mm² flexible cables

Standards

- IEC60947-5-1 for push buttons
- IEC62094-1 for indicator lights



SVN391M

Push Buttons impulse without indicator light 16A - 250V~

Description	Characteristics	Width	Cat ref.
	Contacts: 1NO	1 mod	SVN311M
	Contacts: 1NC	1 mod	SVN321M
	Contacts: 1NO+1NC (stop/start)	1 mod	SVN391M



SVN422M

Push Buttons impulse with indicator light

Description	Characteristics	Width	Cat ref.
	Contacts: 1NO green	1 mod	SVN411M
	Contacts: 1NC red	1 mod	SVN422M



SVN311M

Push Buttons latching without indicator light 16A - 250V~

Description	Characteristics	Width	Cat ref.
	Contacts: 1NO	1 mod	SVN312M
	Contacts: 1NO+1NC	1 mod	SVN352M



SVN413M

Push Buttons latching with indicator light

Description	Characteristics	Width	Cat ref.
	Contacts: 1NO green	1 mod	SVN413M

Description

Used for remote controlling signalisation of any event in any electric installation (residential, tertiary & industrial).

Features

- LED technology providing longer life
- new design and integrated label holder.


Connection capacity

- 10mm² rigid cable
- 6mm² flexible cable

Standards

- IEC62094-1 for indicator lights

Indicator Lights

Description	Characteristics	Width	Cat ref.
With light 230V~ 	1 x green	1 mod	SVN121M
	1 x red	1 mod	SVN122M
	1 x blue	1 mod	SVN124M
	1 x clear	1 mod	SVN125M
	3 x red	1 mod	SVN127M



SVN122M, SVN125M, SVN124M



SVN121M, SVN122M, SVN127M

DIN Socket Outlets

Description	Characteristics	Width	Cat ref.
DIN mounted, double pole, auto switched complete with safety shutters and 'ON' indicator	10A	2.5 mod	SNO10DA
	15A	2.5 mod	SNO15DA



SNO15DA

Control & indication

Description

Provides safety for extra low voltage 8, 12, 24V~.

Technical data

- Secondary voltage: 8V, 12V, 24V
- Bell transformers are short circuit protected
- Bells/buzzers: Maximum continuous duty ≤ 30 min

Connection capacity

- Cable clamp type

Output

- Bells: 85dBA
- Buzzers: 78dBA

When a bell transformer is installed in an enclosure with mains voltage equipment, 230V cable should be used on the secondary side of the transformer or extra low voltage cable should be sheathed within the enclosure.

Note

The transformers have a higher no load voltage. The stated voltages correspond to the voltages at nominal load

Technical information: [Page 308](#)



ST312

Safety Transformers

Description	Characteristics	Width	Cat. ref.
Frequency: 50/60Hz Primary voltage: 230V Secondary voltage: 12 / 24V~	25VA	4 mod	ST312



63VA	6 mod	ST315
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ST303

Bell Transformers

Description	Characteristics	Width	Cat. ref.
	Frequency: 50/60Hz Primary voltage 230V~ 8VA Secondary voltage: 8V~ 1A 12V~ 0.67A	2 mod	ST303

Frequency: 50/60Hz Primary voltage 230V~ 16VA Secondary voltage: 8V~ 2A 12V~ 1.33A	3 mod	ST305
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SU212

Bells

Description	Characteristics	Width	Cat. ref.
	8/12V~ 4VA - 0.35A	1 mod	SU212
	230V~ 6.5VA - 0.03A	1 mod	SU213



SU214

Buzzers

Description	Characteristics	Width	Cat. ref.
	8/12V~ 4VA - 0.35A	1 mod	SU214
	230V~ 6.5VA - 0.03A	1 mod	SU215

Description

Our Emergency Lighting Discharge Test Package has been developed to meet the needs of the electrical industry. In accordance with AS2293.1, 'Emergency Evacuation Lighting for Buildings', a discharge test circuit MUST be installed in both existing and new installations for the purpose of testing the charge. The test facility must also be able to be reset manually.

Application

The wired 'off-the-shelf' package may be mounted using the supplied enclosure where space in the switchboard is limited. It can also be installed in the Hager range of performa Panelboards by taking advantage of the DIN rail area at the top of the switchboard.

Use and implementation

Upon engaging the Green push button for 1 second, the timer starts it's operation and energises the contactor coil. The four normally closed contacts open, initiating operation of the emergency lights. The timer, to be set at 2hrs (for initial commissioning, 90mins thereafter), completes its operation, de-energising the contactor coil returning the contacts to the normally closed position. If the red push button is pressed the timer resets and is ready for the green push button to start the timing cycle again.

Technical information: [Page 308](#)

Emergency Lighting Discharge Test Packages - Wired

Description	Characteristics	Cat ref.
Emergency test package 1 - Wired in enclosure - For use as standalone - 4 circuits	Includes: - 6 pole surface mount IP40 enclosure with a lockable door - 4 Pole 40A N/C Contactor - Push button 1N/O (green) + 1N/C (red) - Delay timer 0.1sec to 10hrs	EMERG1W
Emergency test package 2 - Wired in enclosure - For use as standalone - 2 circuits	Includes: - 4 pole surface mount IP40 enclosure with a lockable door - 2 Pole 25A N/C Contactor - Push button 1N/O (green) + 1N/C (red) - Delay timer 0.1sec to 10hrs	EMERG2W
Emergency test package 3 - Wired without enclosure - For use in panelboards and/or other enclosures - 4 circuits	Includes: - 4 Pole 40A N/C Contactor - Push button 1N/O (green) + 1N/C (red) - Delay timer 0.1sec to 10hrs	EMERG3W
Emergency test package 4 - Wired without enclosure - For use in panelboards and/or other enclosures - 2 circuits	Includes: - 2 Pole 25A N/C Contactor - Push button 1N/O (green) + 1N/C (red) - Delay timer 0.1sec to 10hrs	EMERG4W



EMERG2W and EMERG1W



EMERG3W

Electrical characteristics

Family	SBRx40	SBRx64	SBRx80	SBRx90	SBR399	ESC080
Thermal current I _{th} (40°C)	40A	63A	80A	100A	125A	-
Operational frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50Hz
Rated insulation voltage (U _i)	440V	440V	440V	440V	440V	240V
Rated impulse withstand voltage (U _{imp})	6kV	6kV	6kV	6kV	6kV	4kV
Protection degree	3	3	3	3	3	2
Working temperature	-20 to 50°C	-20 to 50°C	-20 to 50°C	-20 to 50°C	-20 to 50°C	-10 to 50°C
Storage temperature	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C

Operational currents I_e (AS/NZS IEC 60947-3)

Utilisation category	Rated voltage	SBRx40	SBRx64	SBRx80	SBRx90	SBR399	ESC080
AC 21A/B	230-400V AC	40A	63A	80A	100A	125A	-
AC 22A/B	230-400V AC	40A	63A	80A	100A	125A	-

A category = Frequent operation

B category = Infrequent operation

Short circuit characteristics

Rated short time withstand current 1s (I _{cw}) (rms)	IEC 60947-3	SBRx40	SBRx64	SBRx80	SBRx90	SBR399	ESC080
Rated short circuit making capacity (I _{cm})	IEC 60669	6kA with 40A MCB C curve	-	-	-	-	-

Mechanical characteristics

Rigid cable section	25mm ²	50mm ²	50mm ²	50mm ²	50mm ²	50mm ²	10mm ²
Flexible cable section	16mm ²	35mm ²	35mm ²	35mm ²	35mm ²	35mm ²	6mm ²
Tightening torque	2.8Nm	3.6Nm	3.6Nm	3.6Nm	3.6Nm	3.6Nm	3.6Nm
IP protection degree	20	20	20	20	20	20	20
Mechanical endurance (number of cycles)	60,000	40,000	40,000	40,000	40,000	40,000	1,000,000
Electrical endurance @ AC22 (number of cycles)	5,000	2,500	2,500	2,500	2,500	2,500	60,000

Overall dimensions

Overall dimensions	No. of poles						
	1P	2P	3P	4P	5P	6P	7P
Width (mm)	17.5	36	53	72	72	72	1/2P 8.75
Height (mm)	83	83	83	83	83	83	83
Depth (mm)	72	72	72	72	72	72	60

Electrical characteristics

Family	SF									
Reference	SFL125	SFM125	SFL225	SFT125	SFT140	SFT225	SFT240	SFT440	SF263	SF463
Type	I-II	I-II	I-II	I-O-II	I-O-II	I-O-II	I-O-II	I-O-II	I-O-II	I-O-II
Modular size	1 module	1 module	2 module	1 module	1 module	2 module	2 module	4 module	4 module	8 module
Number of Poles	1P	1P	2P	1P	1P	2P	2P	4P	2P	4P
Thermal current I _{th} (40°C)	25A	25A	25A	25A	40A	25A	40A	40A	63A	63A
Operational frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Rated operation voltage in AC	230V	230V	230V	230V	230V	230V	230V	400V	230V	400V
Rated insulation voltage (U _i)	440V	440V	440V	440V	440V	440V	440V	440V	500V	500V
Rated impulse withstand voltage U _{imp}	4kV	4kV	4kV	4kV	4kV	4kV	4kV	4kV	4kV	4kV
Protection degree	2	2	2	2	2	2	2	2	2	2
Working temperature	-20 to 50°C	-20 to 50°C	-20 to 50°C	-20 to 50°C	-20 to 50°C	-20 to 50°C	-20 to 50°C	-20 to 50°C	-20 to 50°C	-20 to 50°C
Storage temperature	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C

Operational currents I_e (IEC 60947-3)

Load duty category	Rated voltage										
AC 21A	230-400V AC	25A	25A	25A	25A	40A	25A	40A	40A	63A	63A
AC 22A	230-400V AC	25A	25A	25A	25A	40A	25A	40A	40A	40A	
AC 22B	230-400V AC	25A	25A	25A	25A	40A	25A	40A	40A	40A	

A category = Frequent operation

B category = Infrequent operation

Short circuit characteristics

Rated short time withstand current 1s I _{cs} (rms)	IEC 60947-3	375A	375A	375A	375A	600A	375A	600A	600A	N/A	N/A
Rate conditional short circuit current (rms)	IEC 60947-3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.5kA with 63A MCB C curve	4.5kA with 63A MCB C curve

Mechanical characteristics

Rigid cable section (max.)	16mm ²	16mm ²	16mm ²	16mm ²	16mm ²	16mm ²	16mm ²	16mm ²	16mm ²	25mm ²	25mm ²
Flexible cable section (max.)	10mm ²	10mm ²	10mm ²	10mm ²	10mm ²	10mm ²	10mm ²	10mm ²	10mm ²	16mm ²	16mm ²
Tightening torque	1.8Nm	1.8Nm	1.8Nm	1.8Nm	1.8Nm	1.8Nm	1.8Nm	1.8Nm	1.8Nm	2.9Nm	2.9Nm
IP protection degree	20	20	20	20	20	20	20	20	20	20	20
Mechanical endurance (number of cycles)	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	100,000	100,000
Electrical endurance @ AC22 (number of cycles)	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	5,000	5,000

Overall dimensions

Width (mm)	17.5	17.5	35	17.5	17.5	35	35	70	71.5	143
Height (mm)	83	83	83	83	83	83	83	83	90	90
Depth (mm)	68	68	68	68	68	70	70	70	72	72

Wiring Diagrams for the use of changeover switches (I-0-II) with stand-by generators

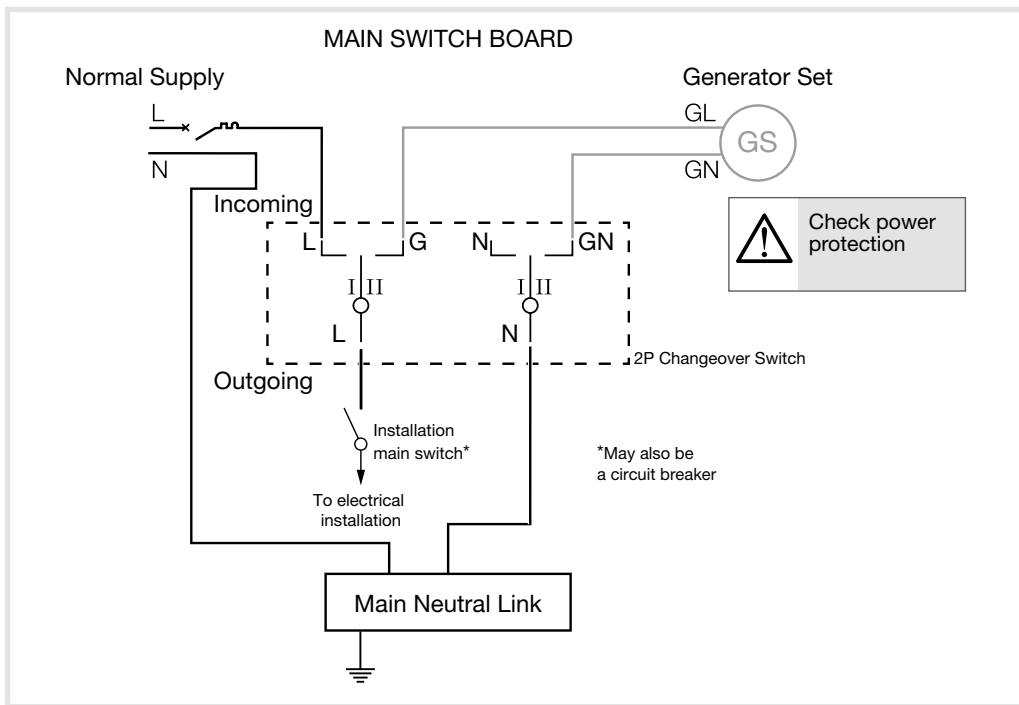
Stand-by generator or Alternative supply generator: typical location of manual changeover device with centre "off" position in the main switch board.

The incoming changeover must be protected with an appropriate MCB 63A - 6kA - C curve to protect against short circuit and disconnection.

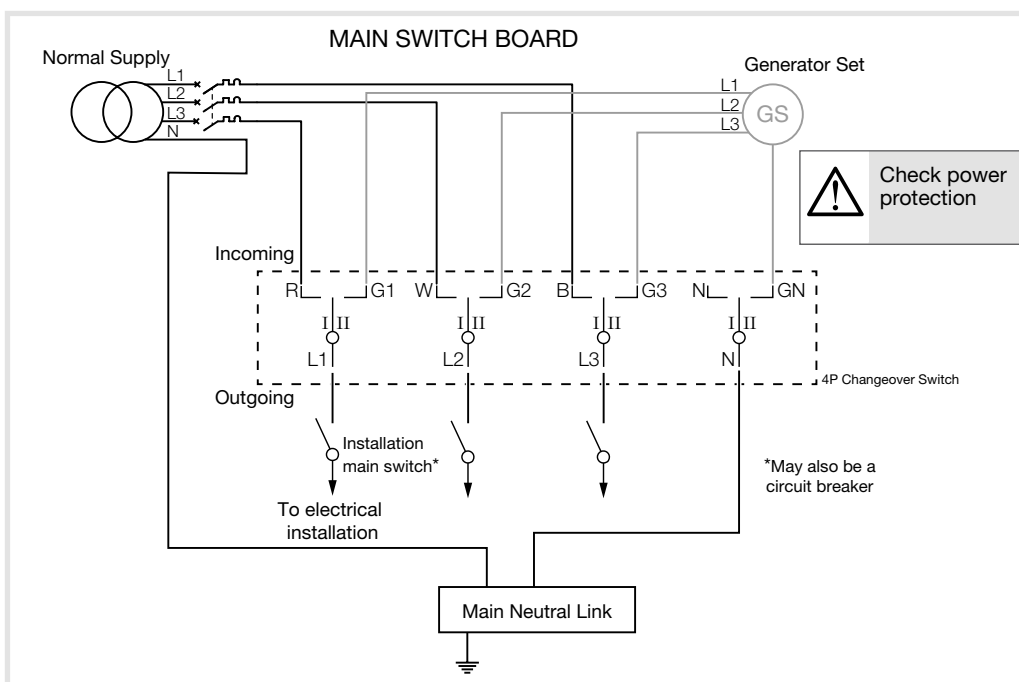
NOTE 1: In Australia and NZ, the Main Supply Neutral upstream of the MEN connection is NOT allowed to be switched. (AS/NZS 3010: Electrical installations - Generating sets).

NOTE 2: Refer to AS/NZS 3000, 3010 and local Service and Installation Rules for specific requirements.

Single phase SFT2xx, SF263



Three phase SFT4xx, SF463



Electrical Characteristic

Type	ERxxxx, ESxxxx, ETCxxx				ESC080
Description	Modular contactor				Aux. contact
Standard conformity	IEC/EN 61095				
Number of module	1	2	3	3	½
Thermal current I _{th} (40°C)	25A	25A	40A	63A	-
Rated frequency	50Hz	50Hz	50Hz	50Hz	50Hz
Rated insulation voltage (Ui)	250V	440V	440V	440V	240V
Rated impulse withstand voltage (U _{imp})	4kV	4kV	4kV	4kV	4kV
Protection degree (IP rating)	2	2	2	2	2

Rated operating currents & power ratings in AC

AC1/AC7a	Rated operating currents I _e	25A	25A	40A	63A	-
	Rated operating power	230V 4.6kW	-	4.6kW	7.3kW	11.6kW
AC3/AC7b	Rated operating currents I _e	8.5A	8.5A	25A	32A	-
	Rated operating power	230V 880W	400V -	880W	2.6kW	3.3kW
				7.8kW	10kW	-

Mechanical & electrical endurance

Mechanical endurance	no. of operations	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Electrical endurance @ I _e AC7a (AC12 for aux)	no. of operations	60,000	60,000	60,000	60,000	60,000

MCB protected short-circuit withstand

Associated protection	MCB 25A-6kA	MCB 25A-6kA	MCB 40A-10kA	MCB 63A-10kA	MCB 6A - 6kA
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Power dissipation

Power dissipation per current path	1.5W	1.5W	3.2W	5W	0.4W
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Magnetic system for standard contactor

Pick-up	7.4VA	9.2VA	60VA	60VA	-
Coil consumption	1.8VA	1.85VA	7VA	7VA	-
Closing delay	20ms	20ms	20ms	20ms	-
Opening delay	15ms	15ms	20ms	20ms	-

Magnetic system for Hum free contactor

Pick-up	2.2W	2.8W	5W	5W	-
Coil consumption	2.2W	2.8W	5W	5W	-
Closing delay	25ms	25ms	25ms	25ms	-
Opening delay	15ms	15ms	20ms	20ms	-

Magnetic system for Lighting contactors (control)

Std and eco	Pick-up	9.5VA	16.3VA	16.3VA	16.3VA	-
	Coil Consumption	2.5VA	3.1VA	3.1VA	3.1VA	-
Hum-free	Pick-up	2.5VA	3.2VA	3.2VA	3.2VA	-
	Coil Consumption	2.5VA	3.2VA	3.2VA	3.2VA	-

Connection

Main contact cable section	rigid	1 to 10mm ²	1 to 10mm ²	4 to 25mm ²	4 to 25mm ²	10mm ²
	flexible	1 to 6mm ²	1 to 6mm ²	4 to 16mm ²	4 to 16mm ²	6mm ²
Main contact connection screw	Type	M3.4	M3.4	M5	M5	M3.4
	Posidrive	PZ2	PZ2	PZ2	PZ2	PZ2
	Max. tight. torque	1.2Nm	1.2Nm	3.5Nm	3.5Nm	1.2Nm
Coil connection cable section	rigid	1 to 10mm ²	1 to 10mm ²	1 to 10mm ²	1 to 10mm ²	6mm ²
	flexible	1 to 6mm ²	1 to 6mm ²	1 to 6mm ²	1 to 6mm ²	6mm ²
Coil connection screw	Type	M3.5	M3.5	M4	M4	-
	Posidrive	PZ2	PZ2	PZ2	PZ2	-
	Max. tight. torque	1.2Nm	1.2Nm	2.5Nm	2.5Nm	-

Working temperature	-10°C to +50°C	-10°C to +50°C	-10°C to +50°C	-10°C to +50°C	-10°C to +50°C
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Storage temperature	-40°C to +80°C	-40°C to +80°C	-40°C to +80°C	-40°C to +80°C	-40°C to +80°C
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Choice of Contactors

Knowing the type of application will assist in the selection of suitable contactors. Typical application parameters include ambient operating temperature, the number of operations and the electrical load type (Heating / Motors / Lighting). Taking all into consideration will ensure continuous service and unnecessary call backs.

- **Heating applications:** Suitable for slightly inductive loads such as heating elements or convectors.
- **Motor applications:** Suitable for motor loads such as fans and pool pumps.
- **Lighting loads:** Incandescent, fluorescent and discharge lamps are classified as 'high inrush' due to the higher current draw when first switched on compared to the operating / running current.

The contactors are AC7-a (resistive load) and AC7-b (inductive load) approved.

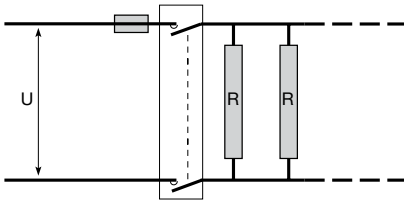
Adjacent fitting

LZ060 inserts are to be fitted between all contactors and adjacent devices to ensure optimum operation and heat dissipation.

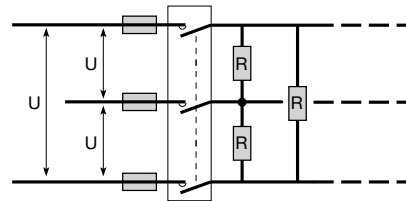
Heating applications

The choice of the contactor is based on the electrical heating load, and the targeted life time.

Single phase



Three phase supply



Rated output voltage	Rated output current	AC1/AC7A (maximum load in kilowatts)					Operating temps	Derating factor
		1	1.35	3	4	4.6		
230V AC	25A	1	1.35	3	4	4.6	Up to 40°C	1
	40A	1.6	2.2	4.7	6.3	7.3		
	63A	2.5	3.5	7.5	10	11.6	40o - 50°C	0.9
400V AC	25A	3	4.3	8.6	12	13.8		
	40A	5	6.3	14.385	18 500	22		
	63A	7.6	10.2	22.6	30	35		
No. of operations (# see note)		600 000	300 000	150 000	100 000	60 000		

#NOTE: 1 opening +1 closing contact = 2 operations. *On three phase configuration the maximum load per phase corresponds to the values stated divided by 3.

Example application: 4kW (230V AC) heating element ie. AC1/AC7a load

Determine suitability of ESC225 (2 pole, 25A) using load calculation with temperature derating. According to data sheet for AC1/AC7a load on ESC225 – (1 module 25A) the rated operational current (Ie) = 25A, maximum load = 4.6kW (230 VAC)

Assume operating temperature = 48°C

The maximum load switching capacity at 48°C is calculated as follows: Maximum Load x Derating factor = 4.6kW x 0.9 = 4.14kW

Thus, ESC225 is suitable for a 4kW heating element operating at 48°C maximum.

Duty cycle or durability

The number of reliable operations of ESC225 (2 pole, 25A) contactor depends on the connected load.

- Connected to 1kW (230V AC) load = 600,000 operations
- Connected to 3kW (230V AC) load = 150,000 operations
- Connected to 4kW (230V AC) load = 100,000 operations

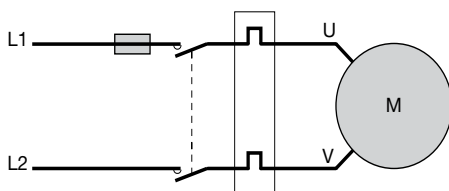
How long will ESC225 (25A) connected to 4kW load last ?

- At 100 operations per day it will last a minimum of 1000 days (ie 100,000 ÷ 100 = 1000 days).
- At 500 operations per day it will last a minimum of 200 days (ie 100,000 ÷ 500 = 200 days).

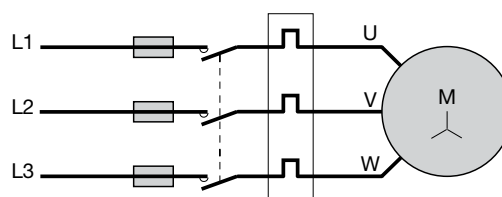
If higher durability is required, the contactor can be up-sized to a higher current rating.

Motor applications (AC7-b equivalent to AC3)

Single phase 230V




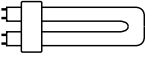

Three phase 400V



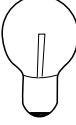
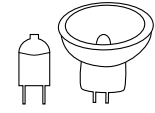
	Control diagram	
	2P 230V single phase	3P 400V three phase
Maximum power for the motor	0.57 kW	1.7 kW
16A	0.88 kW	2.65 kW
25A	2.6 kW	7.8 kW
40A	3.3 kW	10 kW
63A		

Modern lighting systems generate high inrush currents. Therefore we recommend to use the table below to calculate the maximum number of lamps (or dual fittings) which can be connected to each pole of a Hager contactor on 230V 50Hz circuits.

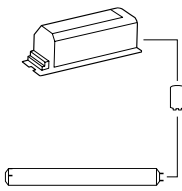
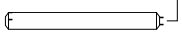
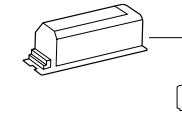
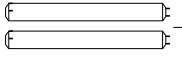
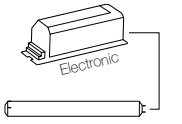
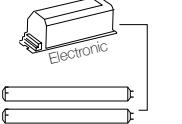
- From June 2014, Hager has improved the performance of 1 and 2 module contactors. The products identified on the front face with the pictogram  can accept a higher number of lamps.

		Lamp wattage (W)	Rated output (per pole)		
			25A '+'	40A	63A
	CFL with external electronic ballast	5 - 7	27	49	76
		9 - 11	26	40	63
		15 - 26	22	36	57
	CFL with integrated electronic ballast	5 - 15	54	86	135
		18 - 26	40	63	100

Incandescent lamps

	Tungsten Halogen Lamps 230V	40	57	76	120
		60	45	67	105
		75	38	63	100
		100	28	41	65
		150	18	29	45
		200	14	22	35
		300	10	15	23
		500	6	9	14
	Halogen ELV (12 or 24V) with electronic transformer	1000	2	4	7
		20	40	139	218
		35	26	82	129
		50	18	60	94
		75	12	52	82
		100	6	35	55
		150	4	20	31

Fluorescent tubes (T5)

	Single - with starter (Low power factor <0.9)	15 - 20	30	70	100		
		36	28	60	90		
		40	26	60	90		
		42	24	55	83		
		58-65	17	35	56		
		80	15	30	48		
		115	10	20	32		
		140	10	16	26		
			Single - with starter (High power factor >0.9)	15 - 20	20	36	57
				36	20	34	53
40 - 42	20			29	45		
58 - 80	15			27	42		
115	15			25	39		
2 x 18	40			50	78		
2 x 20	38			50	78		
2 x 36	30			44	69		
	Double - with starter (Low power factor <0.9)	2 x 40	26	40	63		
		2 x 42	24	40	63		
		2 x 58	18	27	42		
		2 x 65	16	27	42		
		2 x 80	14	22	35		
		2 x 115	10	16	25		
		2 x 18	22	34	53		
		2 x 20	22	29	45		
			Double - with starter (High power factor >0.9)	2 x 36 - 42	20	27	42
				2 x 58	20	25	39
2 x 65	14			23	36		
2 x 80	14			20	31		
2 x 115	10			17	25		
15 - 20	22			36	57		
36	22			34	53		
	Single with electronic ballast	40 - 42	22	29	45		
		58 - 80	20	27	42		
		115	20	25	39		
		2 x 18	22	34	53		
	Double with electronic ballast	2 x 20	22	29	45		
		2 x 36 - 42	20	27	42		
		2 x 58	20	25	39		
		2 x 65	14	23	36		
		2 x 80	14	20	31		
		2 x 115	10	17	25		

The information given below should be considered as indicative and is provided on an "as is" basis. Considerable variations may occur depending on the electrical installation and equipment used. Only experienced professionals with the expertise to determine the characteristics of the electrical installation (value and duration of inrush currents, general characteristics of the installation, types of loads, etc.) may approve and implement a configuration, in accordance with the currently applicable installation standards. Hager accepts no liability for the use made of this information.

Discharge lamps		Lamp wattage (W)	Rated output (per pole)		
			25A '+'	40A	63A
	High pressure mercury vapour lamps (Low power factor <0.9)	50	28	32	50
		80	18	24	37
		125	10	18	28
		250	6	10	15
		400	2	6	9
		700	0	4	5
		50	22	26	40
		80	16	22	34
		125	10	15	23
		250	6	9	14
	High pressure mercury vapour lamps (High power factor >0.9)	400	2	5	8
		700	0	3	5
		1000	0	2	3
		18	20	18	21
		35 - 55	9	14	20
		90	6	9	14
		135 - 180	4	6	8
		18	8	12	24
		35	7	10	23
		55	5	10	19
	Low pressure sodium vapour lamps (High power factor >0.9)	90	4	8	16
		135	2	5	7
		180	2	5	6
		35	24	30	50
		50	15	22	34
		70	12	18	28
		110	10	14	22
		150	8	10	16
		250	5	6	10
		400	2	4	6
	High Pressure sodium lamps (Low power factor <0.9)	1000	1	2	3
		35	18	31	50
		50	18	22	35
		70	12	16	25
		110	8	13	21
		150	6	8	13
		250	4	7	11
		400	2	5	8
		1000	1	2	3
			High Pressure sodium lamps (High power factor >0.9)	35	30
70	17			26	36
150	12			14	20
250	8			9	14
400	4			6	9
1000	0			3	5
35	18			22	39
70	13			22	39
150	8			12	22
250	7			9	16
	Metal - Halide Lamp (High power factor >0.9)	400	2	5	7
		1000	1	2	3
		35	30	42	55
		70	17	26	36
		150	12	14	20
		250	8	9	14
		400	4	6	9
		1000	0	3	5
		35	18	22	39
		70	13	22	39
150	8	12	22		
250	7	9	16		
400	2	5	7		
1000	1	2	3		
LED's					
	LED 230V integrated Driver, Non dimmable, E27 / GU10	4 - 12	54	86	135
		17 - 22	40	63	101
		30 - 40	28	44	70
		50	22	35	55
		4 - 12	120	159	250
	LED 230V integrated driver Dimmable, GU10	17 - 22	88	118	185
		30 - 40	62	82	130
		50	48	65	102
		100	5	6	9
		150	3	4	6
	LED high bay lighting 230V integrated driver	200	2	4	6
		1 - 5	120	180	220
		7 - 10	120	160	200
		15	88	160	200
		15	88	160	200

Electrical characteristics

Family	EPE			
Reference	EPE510	EPE515	EPE520	EPE524
Modular size	1 module	1 module	1 module	1 module
Number of contacts	1	2	2	2
Type of contacts	1NO	1NC + 1NO	2NO	2NO
Contact rating AC1	16A	16A	16A	16A
Rated operation voltage in AC	230V	230V	230V	24V
Rated operation voltage in DC	110V	110V	110V	12V
Operational frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Rated insulation voltage (Ui)	250V	250V	250V	250V
Power consumption	25 VA	25 VA	25 VA	25 VA
Power dissipation per contact	1.2W	1.2W	1.2W	1.2W
Min duration of command impulse	50ms	50ms	50ms	50ms
Max duration of command impulse	60s	60s	60s	60s
Current at rest	6mA	6mA	6mA	6mA
Working temperature	-5°C to 40°C	-5°C to 40°C	-5°C to 40°C	-5°C to 40°C
Storage temperature	-40°C to 80°C	-40°C to 80°C	-40°C to 80°C	-40°C to 80°C

Mechanical characteristics

Rigid cable section	1.5 to 10mm ²	1.5 to 10mm ²	1.5 to 10mm ²	1.5 to 10mm ²
Flexible cable section	1 to 6mm ²	1 to 6mm ²	1 to 6mm ²	1 to 6mm ²
Tightening torque	1.6Nm	1.6Nm	1.6Nm	1.6Nm
IP protection degree	20	20	20	20
Mechanical endurance (number of cycles)	500,000	500,000	500,000	500,000
Electrical endurance @ AC22 (number of cycles)	150,000	150,000	150,000	150,000

Overall dimensions

Width (mm)	17.5	17.5	17.5	17.5
Height (mm)	83	83	83	83
Depth (mm)	63	63	63	63

Utilisation Advice

The following tables show the number of lamps that can be connected per phase at 230V 50Hz

Incandescent lamps

Tungsten filament and 230V halogen	Power	40W	60W	75W	100W	150W	200W	300W	500W	1000W
	Max. No.	45	30	24	18	12	9	5	3	2
ELV halogen (12 or 24V) with electronic transformer	Power	20W	50W	75W	100W	150W	300W			
	Max. No.	70	28	19	14	9	3			

Fluorescent tubes

Non compensated - single (no capacitor)	Power	15W	18W	30W	36W	58W				
	Max. No.	29	25	25	24	14				
Parallel compensated - single (capacitor added)	Power	15W	18W	30W	36W	58W				
	Max. No.	27	27	25	25	16				
	C total max ^(a)	121µF	121µF	112µF	112µF	72µF				
Series compensated - double (capacitor added)	Power	2x18W	2x20W	2x36W	2x40W	2x58W	2x65W			
	Max. No.	40	40	22	22	12	12			
	C total max ^(a)	2.7µF	2.7µF	3.4µF	3.4µF	5.3µF	5.3µF			
Electronic ballast - single	Power	18W	36W	58W						
	Max. No.	30	26	15						
Electronic ballast - double	Power	2x18W	2x36W	2x58W						
	Max. No.	15	13	8						
Compact fluorescent w/ electromagnetic ballast no compensation	Power	7W	10W	18W	26W					
	Max. No.	50	45	40	25					
Compact fluorescent w/ electromagnetic ballast	Power	11W	15W	20W	23W					
	Max. No.	80	60	50	40					

Discharge lamps

High pressure mercury - no compensation	Power	50W	80W	125W	250W	400W				
	Max. No.	11	9	7	3	2				
High pressure mercury - parallel compensation	Power	50W	80W	125W	250W	400W				
	Max. No.	9	8	6	3	2				
	C total max ^(a)	63µF	56µF	60µF	54µF	50µF				
High pressure sodium - no compensation	Power	70W	150W	250W	400W					
	Max. No.	9	5	3	2					
High pressure sodium - compensated	Power	70W	150W	250W	400W					
	Max. No.	5	3	2	1					
	C total max ^(a)	60µF	54µF	64µF	50µF					

(a): Maximum capacity

Safety transformers

These transformers are designed to ensure personal safety, their primary winding are electrically separated from their secondary windings and they are intended to feed safety extra low voltage (SELV) circuits $\leq 50V$. A thermal overload, in the primary windings, ensures that if a short circuit or an overload occurs in the output it will not damage the device.

Bell transformers

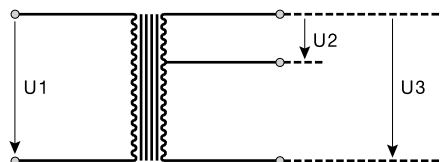
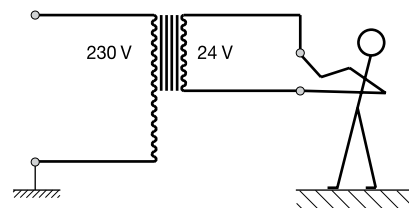
Bell transformers are similar to safety transformers but the secondary voltages do not exceed 24 volts, they are also similarly protected against short circuits and overloads, by thermal protection in the primary winding.

Compliance with the standards

The bell and safety transformers conform with EN 61558 (BS 3535). Where transformers are to be used in a common enclosure with other devices, heat dissipation inserts should be used.

Recommendation of Use

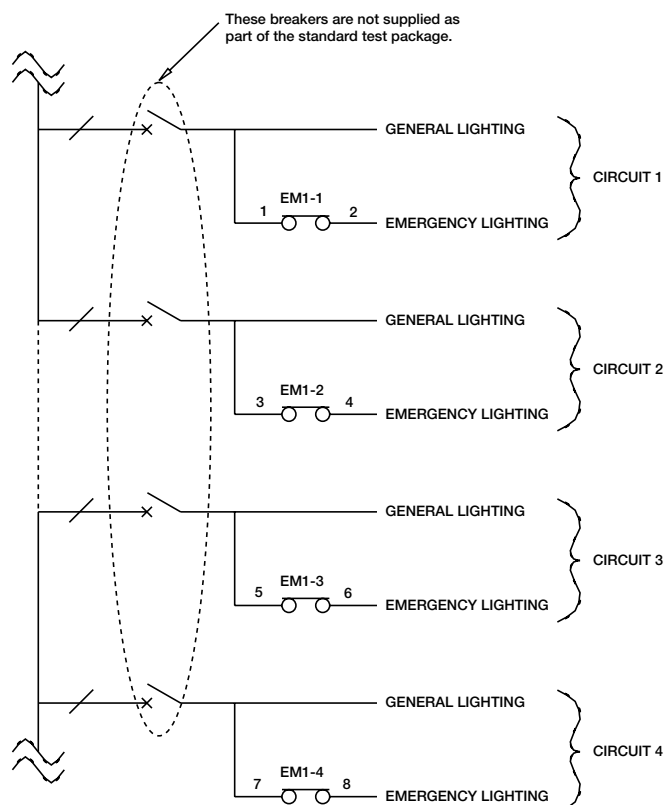
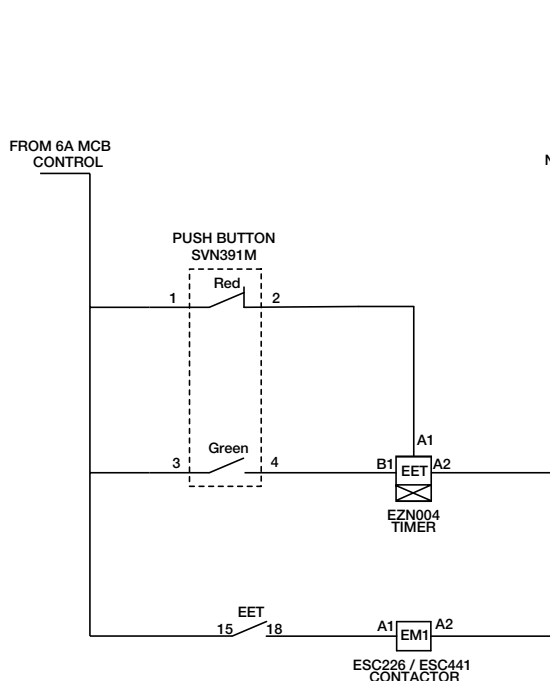
- To link only a secondary (never link both simultaneously)
- Do not connect (in series or in parallel) secondaries of different transformers.



Technical specification

Reference		ST303	ST305	ST312	ST315
Nominal power		8VA	16VA	25VA	63VA
Designation		Bell	Bell	Safety	Safety
Primary voltage	U_1	230 volts	230 volts	230 volts	230 volts
Secondary voltage	U_2	8 volts	8 volts	12 volts	12 volts
	U_3	12 volts	12 volts	24 volts	24 volts
		$I_n = 1A$	$I_n = 2A$	$I_n = 2.08A$	$I_n = 5.25A$
No load secondary	U_2	15 volts	12 volts	14 volts	14 volts
Voltage	U_3	22 volts	13 volts	29 volts	27 volts
Galvanic insulation		4kV	4kV	4kV	4kV
Max functional temperature		35°C	35°C	35°C	35°C
Insulation class		H	B	B	H
Overload and S/C protection		Thermal cut out in the primary winding			

Emergency lighting discharge test packages





Changeover switches



Our modular manual changeover switches are a unique solution which have a three stable position switch (I-O-II) to allow you to control two power supply sources. They are available in both 2 and 4 pole versions, for single (25A, 40A or 63A) and three phase (40A or 63A) applications including the switching of generators, luminaires, machines etc.

Light and Energy Management

Smart design when managing energy and resources in residential and commercial buildings must encompass flexibility in order to realise genuine efficiencies over the true lifetime of a building. Our light and energy solutions offer you long-term cost saving benefits and helps meet your energy efficiency target.



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Analogue time switches



EH010	EH011	EH110	EH111	EH710	EH711	EH171	EH771
Without reserve	Reserve 200 h	Without reserve	Reserve 200 h	Without reserve	Reserve 200 h	Reserve 200 h	Reserve 200 h
230 V	230 V	230 V	230 V	230 V	230 V	230 V	230 V
1 channel	1 channel	1 channel	1 channel	1 channel	1 channel	1 channel	1 channel
daily	daily	daily	daily	daily	daily	weekly	weekly
1 module	1 module	3 modules	3 modules	72x72	72x72	3 modules	72x72
Min. switching 15min	Min. switching 15min	Min. switching 15min	Min. switching 15min	Min. switching 2hrs	Min. switching 20min	Min. switching 20min	Min. switching 2hrs
Manual override auto/on	Manual override auto/on	Manual override auto/on/off	Manual override auto/on/off	Manual override auto/on/off	Manual override on/off	Manual override on/off	Manual override on/off

Recommendation

Hager strongly recommend the installation of modular contactors with all time switches

Description

Electromechanical 1 channel time switches, with daily or weekly programming. For control of lighting, heating, household appliances, shop windows etc, to improve comfort and save energy.

Applications

- Domestic and commercial premises.

Connection capacity:

- 1 to 4mm²

Modular technical data

- Complies with EN60730
- Programming by captive segments.
- Manual override
 - On 1 module devices: Auto, Perm ON
 - On 3 module devices: Auto, Perm ON, Perm OFF

Minimum switching time:

- 15min for daily versions
- 2hrs for weekly versions
- 15min and 2hrs on the daily and weekly version

72 x 72 technical data

- Suitable for surface, flush or DIN rail mounting
- Programming by captive segments
- Manual override with automatic return to programmed
- Operating reserve: 200hrs after connection for 120hrs
- Output: voltage free changeover contact 16A/250V

Hager strongly recommend the installation of modular contactors with all time switches.

Technical information: [Page 333](#)

Analogue Time Switches - DIN Mount

Description	Characteristic	Width	Cat ref.
Compact versions	24hr	1 mod	EH010
- Supply: 230V 50Hz	Without battery reserve		
- 1NO changeover	24hr	1 mod	EH011
- 16A AC1 contact rating	With battery reserve		
Standard versions	24hr	3 mod	EH110
- Supply: 230V 50Hz	Without battery reserve		
- 1NO changeover	24hr	3 mod	EH111
- 16A AC1 contact rating	With battery reserve		
	7 day	3 mod	EH171
	With battery reserve		



EH010

Analogue Time Switches - Panel Mount

Description	Characteristic	Cat ref.
Daily cycle versions	24hr	EH710
- Supply: 230V 50Hz	Manual override	
- 16A AC1 contact rating	Without battery reserve	
- Programming in steps of 10mins	24hr	EH711
- Minimum time between 2 switching intervals: 20min	Manual override	
	With battery reserve	
Weekly cycle version	7 day	EH771
- Supply: 230V 50Hz	Manual override	
- 16A AC1 contact rating	With battery reserve	
- Programming in steps of 1hr		
- Minimum time between 2 switching intervals: 2hrs		
- Switching accuracy: 10min		



EH711



EH771

Digital time switches

EG010 (1)	EG071 (1)	EG103E	EG203E	EG293B (2)	EG403E	EG493E	EGN100AU	EGN103 (3)	EGN200AU	EGN400AU
230 V	230 V	230 V	230 V	230 V	230 V	230 V	230 V	230 V	230 V	230 V
1 channel	1 channel	1 channel	2 channels	2 channels	4 channels	4 channels	1 channel	1 channel	2 channels	4 channels
Daily	Weekly	Weekly	Weekly	Yearly	Weekly	Yearly	Daily/ Weekly/ Annual	Daily/ Weekly	Daily/ Weekly/ Annual	Daily/ Weekly/ Annual
1 mod	1 mod	2 mod	2 mod	4 mod	4 mod	4 mod	1 mod	2 mod	2 mod	4 mod
5 prog.	Free prog.	Enhanced	Enhanced	Standard	Enhanced	Enhanced	Enhanced	Standard	Enhanced	Enhanced

Functions

Program steps	6	20	56	56	300	300	300	100	56	200	400
LED Display	•	•	•	•	•	•	•		•	•	•
Program key			•	•		•	•		•		
Pulse			•	•	•	•	•	•		•	•
Cycle					•	•	•	•	•	•	•
Day-light saving			•	•	•	•	•		•		
Astro Mode								•		•	•
External input					•	•	•	•		•	•
Overrides	•	•	•	•	•	•	•	•		•	•
Keyboard locking			•	•	•	•	•	•	•	•	•
Holiday			•	•	•	•	•	•		•	•
Bluetooth								•	•	•	•

Accessories

Programming key EG005	Programming key EG005	Programming key EG007	Programming key EG007	Programming key EG005
Locking key EG004	Range module EG006	Interface and software with USB EG003	Locking key EG004	
			Bluetooth key EGN003	

- (1) No key
- (2) Key optional
- (3) Optional bluetooth key

Recommendation

Hager strongly recommend the installation of modular contactors with all time switches

Description

For the control of lighting, school bells, pumps, etc. in domestic and commercial premises, schools, irrigation.

1 module time switch

- 1 channel cycle
- Manual override
- Operating reserve 3 years
- 5 pre-recorded (adjustable) programs (EG010)
- 20 program steps (EG071)

2 module time switch

- Ability to download program to multiple time switches via EG003U
- Keypad locking key EG004
- Permanent and temporary override and pulse
- Operating reserve 5 years
- 56 Program steps
- Software programming option
- Bar graph for quick program overview
- Programmable holiday mode
- Programmable summer/winter mode

4 module time switch

- Ability to download program onto multiple time switches via EG003U
- Impulse control
- Manual override and pulse
- Programmable without mains supply
- Operating reserve 10 years
- 300 program steps
- Programmable summer/winter adjustment
- 240V input for remote operation

Hager strongly recommend the installation of modular contactors with all time switches.

Technical information: [Page 334](#)

24 Hour Time Switch

Description	Characteristics	Width	Cat ref.
1 channel - 5 adjustable pre-recorded programs: 6 commutations max per day (3 ON and 3 OFF)	24hr Voltage rating: 230V AC 50Hz	1 mod	EG010



EG010

7 Day Time Switches

Description	Characteristics	Width	Cat ref.
1 channel - Capacity: 20 program steps	7 day Voltage rating: 230V AC 50Hz	1 mod	EG071
1 channel - Capacity: 56 program steps - Delivered with key EG005	7 day Voltage rating: 230V AC 50Hz	2 mod	EG103E
2 channel - Capacity: 56 program steps - Delivered with key EG005	7 day Voltage rating: 230V AC 50Hz	2 mod	EG203E
4 channel - Delivered with key EG007	7day Voltage rating: 230V AC 50Hz Output: 3 changeover contacts	4 mod	EG403E



EG203E

Yearly Time Switches

Description	Characteristics	Width	Cat ref.
2 channel - Programming key facility	365 day Voltage rating: 230V AC 50Hz Output: 2 changeover contacts	4 mod	EG293B
4 channel - Delivered with key EG007	365 day Voltage rating: 230V AC 50Hz Output: 3 changeover contacts	4 mod	EG493E



EG493E

Accessories

Description	Characteristics	Cat ref.
Programming key	For EG403E, EG493E, EG293B For EG103E, EG203E	EG007 EG005
Keypad locking key	For EG103E, EG203E	EG004
USB interface Software available to download from www.hagerelectro.com.au	Minimum PC configuration: Windows XP, vista, 7, 8, 8.1	EG003G



EG003G

Description

Digital Time Switches that are easily programmed from a mobile device via Bluetooth technology.

Digital weekly switch, 1 channel

- programmable with Bluetooth key EGN003. Key not supplied.
- potential-free switching contact
- button lock using lock key EG004
- programming without voltage supply possible
- compatible with programming key EG005

- automatic summer/winter time change (Daylight savings)
- program cycles: 1 x 7 days
- with screw terminals
- for mounting on DIN top-hat rail
- 5 years power reserve

Digital multifunctional time switch, 1 channel

- integrated Bluetooth connection
- program cycles: daily, weekly, yearly
- with pulse function
- wired input
- button lock
- automatic summer/winter time change (astro mode)

- screw terminals
- for mounting on DIN top-hat rail
- 10 years power reserve

Digital multifunctional time switch, 2 & 4 channels

- integrated Bluetooth connection
- program cycles: daily, weekly, yearly
- with pulse function
- programming without voltage supply possible
- button lock
- LC display with lighting
- automatic summer/winter time change (astro mode)
- screw terminals

- for mounting on DIN top-hat rail
- 10 years power reserve

Hager strongly recommend the installation of modular contactors with all time switches.

Technical information: Page 341



EGN103

Digital Weekly Time Switch

Description	Characteristics	Width	Cat ref.
1 channel - Bluetooth via Key (EGN003), not supplied - Capacity: 56 program steps	Daily, weekly Voltage rating: 230V AC 50/60Hz Output: 1 changeover and 1 NO contact No pulse function	2 mod	★ EGN103
1 channel - Bluetooth via Key (EGN003), supplied in kit - Capacity: 56 program steps	Daily, weekly Voltage rating: 230V AC 50/60Hz Output: 1 changeover and 1 NO contact	2 mod	★ EGK103



EGN100AU

Digital Multifunctional Time Switch

Description	Characteristics	Width	Cat ref.
1 channel - Integrated bluetooth - Capacity: 100 program steps	Daily, weekly, annual Voltage rating: 230V AC 50/60Hz Output: 1 changeover and 1 NO contact	1 mod	★ EGN100AU
2 channels - Integrated bluetooth - Capacity: 200 program steps	Daily, weekly, annual Voltage rating: 230V AC 50/60Hz Output: 2 changeover and 2 NO contacts	2 mod	★ EGN200AU
4 channels - Integrated bluetooth - Capacity: 400 program steps	Daily, weekly, annual Voltage rating: 230V AC 50/60Hz Output: 4 changeover and 4 NO contacts	4 mod	★ EGN400AU



EGN200AU



EGN400AU

Light & energy management

Accessories

Description	Characteristics	Cat ref.
Twilight switches	Flush-mounted sensor with connection cable	EEN002
	Separate wall-mounted sensor	EEN003
Locking key	For EGN103	EG004
Programming key	For EGN103	EG005
Bluetooth key	For EGN103	★ EGN003



EEN002

Description

To provide all types of automatic control i.e. lighting, ventilation, watering, machine preheating, automatic door and visual audible indication, cycle control etc. For timing and automation in residential and commercial premises. The input signal can be via various switching devices (push button, latching switch, time clock etc.) and the timed output used to control the application.

Connection capacity

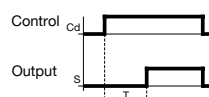
- Rigid capacity: 1.5 to 10mm²
- Flexible capacity: 1 to 6mm²

Technical information: [Page 345](#)

Technical data

- Voltage range: 12 & 24 to 48V DC
12 & 24 to 230V AC
- Adjustable time delay from 0.1s to 10 hours.
- LED indicator complies with EN60669-2-1

Delay ON

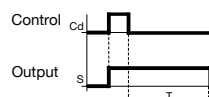


Characteristics	Width	Cat ref.
1 c/o contact 8A AC1 contact rating Time delay T: 0.1s to 10hr	1 mod	EZN001



EZN001

1 Delay OFF

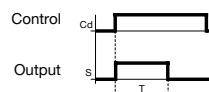


Characteristics	Width	Cat ref.
1 c/o contact 8A AC1 contact rating Time delay T: 0.1s to 10hr	1 mod	EZN002



EZN002

Adjustable time ON

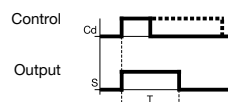


Characteristics	Width	Cat ref.
1 c/o contact 8A AC1 contact rating Time delay T: 0.1s to 10hr	1 mod	EZN003



EZN003

Timer

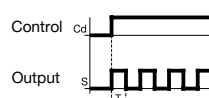


Characteristics	Width	Cat ref.
1 c/o contact 8A AC1 contact rating Time delay T: 0.1s to 10hr	1 mod	EZN004



EZN004

Symmetrical flasher



Characteristics	Width	Cat ref.
1 c/o contact 8A AC1 contact rating Time delay T: 0.1s to 10hr	1 mod	EZN005



EZN005

Multifunction

Description	Characteristics	Width	Cat ref.
6 individual functions including: D - delay on C - delay off E - adjustable time ON B - adjustable time OFF A - timer F - symmetrical flasher - ON - OFF	1 c/o contact 8A AC1 contact rating Time delay T: 0.1s to 10hr	1 mod	EZN006



EZN006

Time Lag Switch

Provides control of lighting circuits with automatic switch-off after a preset time. (e.g. for staircase, corridors lighting). Compact design with a two position switch permanent/timed lighting implementation facility.

Technical information: [Page 346](#)

Universal Dimmer

- Soft start (progressive start) to increase the working life of lamps
- Last dimming level memorised
- Protection against overheating
- Control possible by illuminated push button up to 5mA.

Dimmer 1000W features

- Universal products with automatic recognition of the load type (inductive/capacitive)
- Electronic protection against overheating and overload.

Technical information: [Page 347](#)



EMN001

Standard Staircase Time Lag Switch

Description	Characteristics	Width	Cat ref.
- Adjustable time delay setting: 30s until 10min - Retrigger	- Supply voltage: 230V 50/60Hz - 16A - 250V AC1 - 2300W incandescent halogen and fluorescent	1 mod	EMN001



EVN002

Universal Dimmer 500W

Description	Characteristics	Width	Cat ref.
Functional mode selection: - Control via push button (local) or control via push buttons connected to the product	230V AC / 50Hz Load type: - Incandescent - 230V halogen lamps - ELV halogen lamps with ferromagnetic transformer (inductive) - ELV halogen lamps with electronic transformer (capacitive)	2 mod	EVN002



EV100

Universal Dimmer 1000W

Description	Characteristics	Width	Cat ref.
Functional mode selection: - Control via push button (local) - Remote control via 1/10V (slave) Min/Max setting via potentiometer LED indication: - 230V power supply/load error - Overload / overheating	230V AC / 50Hz 20 - 1000W 1/10V input Load type: - Incandescent - 230V halogen lamps - ELV halogen lamps with ferromagnetic transformer (inductive) - ELV halogen lamps with electronic transformer (capacitive)	5 mod	EV100



LZ060

Heat dissipation insert

Description	Width	Cat ref.
To help minimise heat transfer between devices	0.5 mod	LZ060

Light Sensitive Switches

Using light sensitive switches can prevent the unnecessary use of lighting circuits where sufficient daylight exists.

A photo electric cell measures the light level and in conjunction with the relay, provides ON/OFF control of a circuit.

Applications

Street lighting, display lighting, illuminated signs etc....

Features

- Front cover sealability
- Protective cable clamps
- LED shows status of changeover contact.
- 4 position override switch:
Auto: normal operating mode
On: permanently on
Off: permanently off
Test: mode for easy adjustment

Technical data

- Output: 1 changeover AC1
- Contact:
16A AC1 230V (EE702)
- Rigid capacity: 1.5 to 10mm²
- Flexible capacity: 1 to 6mm²
- Maximum distance between photocell and controller: 50m

Should be used in conjunction with a suitably rated contactor.

Technical information: [Page 348](#)

Light Sensitive Switch

Description	Characteristics	Width	Cat ref.
Delivered with a separate surface photo electric cell EEN003	- Voltage rating: 230V AC +10-15% 50Hz - Output: 1 changeover 16A AC1 contact rating - Sensitivity: 2 ranges - 5 to 100 lux - 50 to 2000 lux	3 mod	EEN100



EEN100

Compact Light Sensitive Switch

Description	Characteristics	Width	Cat ref.
IP55 / integrated cell	- Normally open contact 16A AC1 contact rating - 2300W incandescent switching - Delay either fixed or adjustable (1s - 120s)	-	EE702



EE702

Photo Electric Cell for Light Switch

Description	Cat ref.
Surface cell IP54 for EEN100	EEN003



EEN003

Light & energy management

Motion Detectors				Motion and Presence Detectors		Presence Detectors		Light with PIR	
Wall mounted	Wall mounted	Wall mounted	Wall mounted	Ceiling	Ceiling	Ceiling	Ceiling	Ceiling	Wall mounted with LED
Outdoor IP55 Standard 140°	Outdoor IP55 Standard 360°	Outdoor IP55 Enhanced 220°	Outdoor IP55 Enhanced 220/360°	Flush 360°	Surface 360°	Surface 360°	Flush 360°	Half flush 360°	Flood light 60W 220/360°
EE820 white	EE840 white	EE860 white	EE870 white	EE805A* white	EE804A* white	EE883 white IP54	EE816 DALI/DSI	EE810 1 channel	EE600 white
				EE871 charcoal				EE811 2 channels	
							EE812 1/10 V		

Accessories

Ceiling mount EE827 white	Remote control EE806 installer and user	Remote control EE806 installer and user	Remote control EE807 installer	Remote control EE806 installer and user
Corner mounting EE825 white	Corner mounting EE855 white	Corner mounting EE855 white	Corner mounting EE855 white	Remote control E808 user
Corner mounting EE856 charcoal	Corner mounting EE856 charcoal	Corner mounting EE856 charcoal		

*Recommended for commercial applications

Motion Detectors

Our motion detectors are made for automatic control of lighting in both the residential and private/public industry sectors.

- Large range from 140° basic to 220/360°
- IP55 reinforced waterproofing
- Detection head with overmoulded fresnel lenses and pyro detectors

Features

- 140/220/360° frontal detection zone
- Twin 220°/360° to detect in a frontal and downwards zone.
- Time, lux and sensitivity are achieved locally, via potentiometers.
- The enhanced range and LED lights can be set with an IR remote control which provides speed and convenience when setting final adjustments.
- Detectors can be mounted in corners or to ceilings utilising the relevant mounting accessory.

Power supply

- Basic detector
- 230V AC + 10% / -15% (50/60Hz)
 - Output: 10A AC1 relay and cut phase
- Enhanced detector
- 230V AC + 10% / -15%
 - Output: 16A AC1 relay potential free

LED lights description

LED lights with an infrared sensor to easily replace any existing lighting

fixture, to ensure automatic operation of lighting from the approach of a person. Integrated detector sensitive to infrared radiation for operation during the day and night or only at night.

Features

- Architectural design
- LED energy saving technology
- 140° or 220/360° detection up to 12m
- IP55
- Settings can be adjusted with the EE806 IR remote control

Technical information:

[Motion detectors Page 351](#)
[Motion detectors w. LED Page 356](#)

Basic Range

Description	Cat ref.
Detector 140° White	EE820
Detector 360° White	EE840



EE820

Enhanced Range

Description	Cat ref.
Detector 220° White	EE860
Detector Twin 220/360° White	EE870
Detector Twin 220/360° Charcoal Grey	EE871



EE860

Accessories

Description	Characteristics	Cat ref.
IR remote control compatible with EE86x / EE87x / EE6xx	Sets time, sensitivity, lux, detection angle used (for Twin model), lock/unlock, test and override ON/OFF	EE806
Ceiling mount accessory	Suits 140° White	EE827
Corner mount accessory	Suits 140° White	EE825
	Suits 220°/360°/Twin White	EE855
	Suits 220°/360°/Twin Charcoal Grey	EE856



EE806

Motion Detectors with LED lights

Description	Characteristics	Cat ref.
Floodlight with Twin 220°/360° detector	60W (eq. to 300W halogen)	EE600



EE600

Light & energy management



Hyper Frequency Detector

Our hyper frequency EE883 motion detector is applicable for wall and ceiling installations because of its practical two-screw mounting system and it allows for a detection coverage of 360° without any dead angles. The detection range diameter is adjustable within 1 to 8 metres. The hyper frequency (HF) detection is independent of the temperature detection, which can detect light through partitions (drywall, wood, glass).

Features

- 230V AC
- IP54
- Detection zone of 8m
- Detection area 360°

Corridor Detector

Our corridor detectors don't miss a thing. Thanks to their 360° all-round vision, these detectors are perfect for covering large areas of up to 4m wide x 20m long. The high quality Fresnel precision lenses react sensitively to infrared light, e.g. to the body heat of people veering into the detection area. Their motion is detected quickly and reliably via a heat sensor underneath the lens. They automatically switch on lighting when movement is detected and light is needed. They turn off the light after a preset duration.

Features

- 230V AC
- IP54
- Detection zone of 4mW x 20mL
- Detection area 360°

Technical information:

[Hyper frequency Page 358](#)
[Corridor Page 358](#)



EE883

Hyper Frequency Detector

Description	Characteristics	Cat ref.
Hyper frequency detector	Surface mount	EE883



EE880

Corridor Detector

Description	Characteristics	Cat ref.
Corridor motion detector	Surface mount	EE880



High Performance Detectors

Used in premises or in passage areas, where they increase comfort and reduce the energy costs drastically.

EE810

- 1 channel detector Direct control of a light load or used as a slave for detection area enlargement.
- Lux level and ON delay setting via potentiometers.
- Test mode in order to set lux level and the detection pattern.

EE811

- 2 channels detector
- Light relay output for direct control of a light load.
- Presence output potential free relay.
- Lux level, ON delay setting for light channel and presence channel via potentiometers.
- Input for slave (EE810) and/or remote push button.

EE812

- Light regulator 1/10V Light regulator with 1/10V output in order to control electronic ballasts and/or Hager dimmers EV100/EV102. Detector especially dedicated for energy saving and comfort purposes.
- Input for slave (EE810) and/or dimming push button in order to modify the setpoints.
- Lux level, ON delay for light channel and min. level via potentiometers.
- 3 functional modes: no regulation, regulation with local setpoint, regulation with remote setpoint.

EE813

- surface mounting accessory

Technical information: [Page 359](#)

High Performance Detector - Semi Recess Mount

Description	Characteristics	Cat ref.
1 channel Relay output light channel - Lux level and ON delay (duration or pulse) defined via potentiometers Slave output for association with EE811/EE812 Lux OFF	Power supply: 230V AC 50Hz Relay output: 16A AC1 contact rating Master/slave output 0.8A (triac)	EE810
2 channels Relay output light channel - Lux level and ON delay defined via potentiometers - Input slave - 230V input used with push button to toggle the light channel state or with slave to enlarge the detection area Relay output presence channel - ON delay presence defined via potentiometer	Power supply: 230V AC 50Hz Light relay output: 16A AC1 contact rating Presence relay output: 2A AC1 contact rating Slave input: 230V input 50Hz	EE811
1/10V Relay output ON/OFF - used to switch electronic ballast 1/10V output used to dim an electronic ballast or Hager dimmers EV100/EV102 230V input used with push button to toggle the channel or change the dimmed level or with slave to enlarge the detection area.	Power supply: 230V AC 50Hz Relay output: 10A AC1 contact rating 1/10V 50mA Slave input: 230V input 50Hz	EE812



EE810



EE812

Installation boxes

Description	Cat ref.
Surface mount housing for the installation of presence detector EE810/EE811/EE812. For use in applications requiring mounting to the underside of concrete slabs or steel beams e.g. carparks and utility rooms.	EE813
Flush mount housing for the installation of presence detector EE810/EE811/EE812. For use in plasterboard or timber ceiling.	EEBOX



EE813



EEBOX



High Performance Detector

Our high performance flush mounted presence detector is suitable for use in residential and commercial premises where energy control and/or reduction is required.

EE816

- detector for light regulation
- 3 functional modes.
- Lux level and ON delay setting via potentiometers or EE807 remote control.
- DALI/DSI bus output accommodates up to 24 ballasts.

EE807

- IR remote control
- Installer remote control to commission settings.

EE808

- IR remote control
- Customer remote control for override operation.

Technical information:
[Page 361, 363, 364](#)



EE816

High Performance Detector - Flush Mount

Description	Characteristics	Cat ref.
DALI/DSI 360° - For light regulation (switching and dimming) - 3 functional Lux modes available - Lux level and ON delay defined via potentiometers or with EE807 IR remote control - Accommodates a maximum of 24 DALI/DSI ballasts	Power supply: 230V AC 50Hz DALI/DSI bus: up to 24 ballasts	EE816



EE807

Remote Controls

Description	Cat ref.
Infrared commissioning remote control - For EE816 presence detectors - For commissioning	EE807
Infrared user remote control - For EE816 presence detectors - For local lighting control through the detector	EE808



EE808

Motion and Presence Detectors

Our motion and presence detectors are made for the automatic control of lighting in indoor circulating zones throughout the residential and private/public commercial sectors. They automatically switch on lighting when movement is detected and light is needed. They turn off the light after a preset duration.

Features:

- Discrete design aesthetics
- 'Zero crossing' technology can limit LED inrush current to a minimum.
- Surface mounted (EE804A) or flush fitting (EE805A).
- Mounting of EE805A connection system conform to false ceiling installation standards (cable clamp, fixing spring and protection cover).

Setting:

The timer and the lux level are defined via potentiometers
 Output: Potential free relay contact 10A AC1, 1000W



Technical information:
[Indoor motion & presence detectors Page 357](#)

Motion & Presence Detectors - 360°

Description	Characteristics	Cat ref.
White surface mount	10A AC1 contact rating	★ EE804A
White flush mount	10A AC1 contact rating	★ EE805A



EE804A



EE805A

Analogue ammeters

- For domestic and commercial installations - AC only
- Single phase: direct connection
 - Three phase: use of a voltmeter selector switch SK602
 - Frequency 50/60Hz
 - Direct reading up to 30A

- Indirect reading via current transformers: 50, 100, 150, 250, 400, 600A

Connection capacity

- 10mm² rigid
- 6mm² flexible

Digital voltmeter

- SM501
- For domestic and commercial installations - AC only
- Three phase: use of a voltmeter selector switch SK602

Digital ammeters

- From SM020 to SM601
- SM020: direct reading
 - SM151 to SM601: reading via a current transformer (see below)

Technical information: [Page 365](#)

*Please check availability with the Hager sales office at time of order



SM500

Analogue Voltmeter

Description	Width	Cat ref.
Accuracy: 2% Consumption: 2.5VA, 0 - 500V	4 mod	SM500



SM030

Analogue Ammeters

Description	Characteristics	Width	Cat ref.
Direct	0 - 5A	4 mod	SM005*
	0 - 15A	4 mod	SM015
	0 - 30A	4 mod	SM030
Current transformer operated	Accuracy: 1.5% (full scale)		
- Reading via CT SRA00505	Scale: 0 - 50A	4 mod	SM050*
- Reading via CT SRA01005	Scale: 0 - 100A	4 mod	SM100*
- Reading via CT SRA01505	Scale: 0 - 150A	4 mod	SM150
- Reading via CT SRA02505	Scale: 0 - 250A	4 mod	SM250
- Reading via CT SRA04005	Scale: 0 - 400A	4 mod	SM400
- Reading via CT SRA06005	Scale: 0 - 600A	4 mod	SM600



SM501

Digital Voltmeter

Description	Width	Cat ref.
Voltage: 220/230V, 50/60Hz Accuracy: ±1% Consumption: 4VA Scale: 0-500V	4 mod	SM501



SM020

Digital Ammeters

Description	Width	Cat ref.
Voltage: 220/230V, 50/60Hz Accuracy: ±1% Consumption: 4VA		
- Direct	Scale: 0-20A	4 mod
- Reading via CT SRA01505	Scale: 0-150A	4 mod
- Reading via CT SRA04005	Scale: 0-400A	4 mod
- Reading via CT SRA06005	Scale: 0-600A	4 mod
		SM020*
		SM151*
		SM401
		SM601

Description

Energy meters measure the active energy used in an electric installation. They can monitor the detailed consumption within an installation to provide the consumption data between different appliances and circuits. Not suitable for billing. Not approved with NMI.

Technical data

- Fully compliant with EN50470-3
- Class B
- Accuracy 1%
- Energy readout: 7 digits
- Backlit display
- Indication of instantaneous power consumption
- Total/partial counter
- Measures Active/Reactive/ Apparent power, voltage, current and power factor
- Unlimited saving of measurements
- LED flashing according to consumption
- Display indication in case of incorrect wiring
- Will not reset if power is turned off. The device will hold its memory.
- Pulse and Modbus communication



Technical information: [Page 367](#)

*Please check availability with the Hager sales office at time of order

Single Phase

Description	Characteristics	Width	Cat ref.
- Direct reading 40A	Voltage: 230V AC 45/65Hz Starting current: 20mA Base current: 5A Maximum current: 40A	1 mod	★ ECN140D
- Direct reading 40A - Pulsed output	Voltage: 230V AC 45/65Hz Starting current: 20mA Base current: 5A Maximum current: 40A	1 mod	★ ECP140D
- Direct reading 80A - Pulsed output	Voltage: 230V AC 92/276Hz Starting current: 15mA Base current: 5A Maximum current: 80A	2 mod	★ ECP180D
- Direct reading 80A (x3 measurement points) - Pulsed output	Voltage: 230V AC 184/276Hz Starting current: 15mA Base current: 5A Maximum current: 80A	4 mod	★ ECP180T
- Direct reading 40A - Modbus output	Voltage: 230V AC 45/65Hz Starting current: 20mA Base current: 5A Maximum current: 40A	1 mod	★ ECR140D
- Direct reading 80A - Modbus output	Voltage: 230V AC 92/276Hz Starting current: 15mA Base current: 5A Maximum current: 80A	2 mod	★ ECR180D
- Direct reading 80A (x3 measurement points) - Modbus output	Voltage: 230V AC 184/276Hz Starting current: 15mA Base current: 5A Maximum current: 80A	4 mod	★ ECR180T



ECN140D



ECR180T

Accessories

Description		Cat ref.
End resistor	120 Ohm end resistor for MODBUS RTU *Not required for ECR3xxD or ECR180T	★ SMC120R



SMC120R

KNX Meter Interface

Description		Cat ref.
KNX interface for energy meter - Compatible with the energy meters above (excluding ECR140D)		★ TXF121



TXF121



Description

Energy meters measure the active energy used in an electric installation. They can monitor the detailed consumption within an installation to provide the consumption data between different appliances and circuits. Not suitable for billing. Not approved with NMI.

Technical data

- Fully compliant with EN50470-3
- Class B
- Accuracy 1%
- Energy readout: 7 digits
- Backlit display
- Indication of instantaneous power consumption
- Total/partial counter
- Measures Active/Reactive/ Apparent power, voltage, current and power factor
- Unlimited saving of measurements
- LED flashing according to consumption
- Display indication in case of incorrect wiring
- Will not reset if power is turned off. The device will hold its memory.
- Pulse and Modbus communication

Technical information: [Page 367](#)



ECP310D

Three Phase

Description	Characteristics	Width	Cat ref.
- Indirect reading 1/5 A - Pulsed output	Voltage: 400V AC 45/65Hz Starting current: 1mA Base current: 1(6) A Maximum current: 6A	4 mod	★ ECP300C
- Direct reading 125A - Pulsed output	Voltage: 400V AC 45/65Hz Starting current: 20mA Base current: 5A Maximum current: 125A	6 mod	★ ECP310D
- Direct reading 80A - Pulsed output	Voltage: 400V AC 45/65Hz Starting current: 15mA Base current: 5A Maximum current: 80A	4 mod	★ ECP380D
- Indirect reading 1/5A - Modbus output	Voltage: 400V AC 45/65Hz Starting current: 1mA Base current: 1(6) A Maximum current: 6A	4 mod	★ ECR300C
- Direct reading 125A - Modbus output	Voltage: 400V AC 45/65Hz Starting current: 20mA Base current: 5A Maximum current: 125A	6 mod	★ ECR310D
- Direct reading 80A - Modbus output	Voltage: 400V AC 45/65Hz Starting current: 15mA Base current: 5A Maximum current: 80A	4 mod	★ ECR380D



EC700



Pulse Concentrator

Description	Width	Cat ref.
- Up to 7 separate pulse inputs - Total/partial energy (daily, weekly, monthly, yearly) - Direct reading on display - RS485 Jbus/modbus communication	4 mod	★ EC700



TXF121

KNX Meter Interface

Description	Cat ref.
KNX interface for energy meter - Compatible with the energy meters above	★ TXF121

SM101C Multimeter

For monitoring the electrical network: single, two or three phases (with or without neutral). Current transformers are not provided and are sold separately. This DIN mount device enables the display of electrical values as instantaneous, average or maximum (voltage and intensity per phase in RMS value). When monitoring of a power generator, it measures the frequency and working time. The SM101C digital multimeter displays the following instantaneous and max. values: I, U, V, F, P, PF, H, THD, E. It has a pulsed output and an RS485 Jbus/Modbus communications capability.

SM10xE Multimeters

SM102E & SM103E are panel mount digital multifunction energy meters suitable for electrical measurement in low voltage networks.

SM102E

- Provides instantaneous true RMS measurement
- Current (Instantaneous & maximum) via CT
 - Power EP, EQ, ES and per phase
 - Frequency
 - Harmonics (THD up to 31)
- Add on module
- RS485 Jbus/modbus RTU

SM103E

- Provides instantaneous true RMS measurement
- Current (Instantaneous & maximum) via CT
 - Power EP, EQ, ES and per phase
 - Frequency
 - Harmonics (THD up to 51)
 - Embedded webserver on TCP/IP add on module

Add on module

- RS485 Jbus/modbus RTU
- Memory card
- Ethernet

Technical information: [Page 368](#)



SM101C Multimeter

Description	Width	Cat ref.
Voltage supply: 230/400V 50/60hz	4 mod	SM101C
Display voltage: 35-480V		
Accuracy ± 0.5%		
Consumption: <0.5VA		
Display current: Via CT		
Primary 5-8000A		
Secondary 0.1-6A		
Accuracy: ± 0.5%		
Consumption: <0.5VA		
Display frequency		
Range 40-80hz		
Accuracy: ± 2hz		
Display hour counter:		
7 digits 999999.9		



SM101C

SM102E Multimeter and Add On Module

Description	Characteristics	Cat ref.
Multifunction meter	Panel mount	SM102E
Add on modules	RS485 JBus/Modbus	SM210



SM102E

SM103E Multimeter and Add On Modules

Description	Characteristics	Cat ref.
Multifunction meter	Panel mount	SM103E
Add on modules	Memory module	SM204
	RS485 JBus/Modbus	SM211
	Ethernet	SM213
	Ethernet + RS485 Jbus/Modbus	SM214



SM103E + SM211

Description

Current transformers are used to feed analogue and digital ammeters, as well as kWh meters. Their current on secondary circuit (0-5A) is proportional to the current on primary circuit class: 1

Specifications

- Can be mounted on copper busbar or on cable
- Can be mounted on DIN rail with adaptors
- Frequency: 50/60Hz

Technical information: [Page 370](#)



SRA00505



SRI03005



SRC06005

Current Transformers (CT)

Ratio	Cat ref.
50/5	SRA00505
100/5	SRA01005
150/5	SRA01505
200/5	SRA02005
250/5	SRA02505
300/5	SRI03005
400/5	SRC04005
600/5	SRC06005
800/5	SRD08005
1000/5	SRD10005
1250/5	SRE12505
1600/5	SRE16005

DIN Rail Meters

- 4 Module DIN rail mounting
- Single phase or 3 phase (4 wire) network balanced or unbalanced load
- Built-in energy pulse output and RS485 MODBUS communication
- High quality backlit LCD display
- 330mV current transformer input
- Active energy class 1 (EN62053-21)
- Reactive energy class 2 (EN62053-23)
- THD up to 31st harmonic for voltage and current
- 3-phase: 140...460Vac measured voltage
- Single phase: 80...265Vac measured voltage
- Self supplied auxiliary
- Programmable CT ratio 5...10,000A
- Programmable VT ratio
- Frequency 45/65Hz
- Selectable CT phase correction allows reversal of L1 and L3

Plug-In CTs

The CT uses plug-in technology allowing much faster installation saving you time and money. Additionally, all our three phase current transformers have been designed with hole centres and apertures to fit most standard industrial circuit breakers.

- Accuracy Class 1
- Housing Material Self extinguishing Nylon IEC185 classification VO according to UL-94
- Compliant to EN60044-8

Technical information: [Page 371](#)

DIN Rail Meters

Description	Cat ref.
Multi-Function Meter Pulsed/Modbus Single Input	★ JKM01
Multi-Function Meter Pulsed/Modbus Dual Input For supply cable, see JF130VMF Note: No cables are supplied with these meters	★ JKM02



JKM01

Plug-in CTs

No leads supplied with these CTs (RJ45 connection cable)

Description	Cat ref.
125A Frame Size 60A 3 Phase CT	★ EC1260CT
125A Frame Size 100A 3 Phase CT	★ EC12100CT
125A Frame Size 125A 3 Phase CT	★ EC12125CT
125A Frame Size 160A 3 Phase CT	★ EC12160CT
250A Frame Size 60A 3 Phase CT	★ EC2560CT
250A Frame Size 100A 3 Phase CT	★ EC25100CT
250A Frame Size 125A 3 Phase CT	★ EC25125CT
250A Frame Size 160A 3 Phase CT	★ EC25160CT
250A Frame Size 200A 3 Phase CT	★ EC25200CT
250A Frame Size 250A 3 Phase CT	★ EC25250CT
400A Frame Size 250A 3 Phase CT	★ EC40250CT
400A Frame Size 400A 3 Phase CT	★ EC40400CT
400A Frame Size 630A 3 Phase CT	★ EC40630CT
800A Frame Size 800A 3 Phase CT	★ EC80800CT



EC25250CT

Meter Voltage Supply Cable

Our high quality Meter Voltage Supply Cables are fitted with a connector at one end and insulated bootlace ferrules at the other and provide power to the plug-in meter from your mains supply.

Meter to Meter Supply Cable

Our high quality Meter to Meter Voltage Supply Cables are fitted with a male connector at one end and female connector at the other. This allows multiple plug-in meters to be energised from a common supply. Up to 32 meters can be powered in a 'daisy chain' arrangement using this method. Two type of cable material are available:- LSZH (Low Smoke Zero Halogen).

RJ45 Connection Cable

The high quality low loss Category 5e RJ45 Connection Cable provides secondary connection between the plug-in current transformer and meter.



PGMF500

Meter Voltage Supply Cable - PVC - 1mm

Description	Cat ref.
0.30m - Hi Flex Voltage Supply Cable	PGMF300
0.50m - HHi Flex Voltage Supply Cable	PGMF500
1.00m - Hi Flex Voltage Supply Cable	PGMF1000
1.30m - Hi Flex Voltage Supply Cable	PGMF1300
2.00m - Hi Flex Voltage Supply Cable	PGMF2000



PGMFT500

Meter to Meter Supply Cable - PVC - 1mm

Description	Cat ref.
0.30m - Hi Flex Meter to Meter Supply Cable	PGMFT300
0.50m - Hi Flex Meter to Meter Supply Cable	PGMFT500
1.00m - Hi Flex Meter to Meter Supply Cable	PGMFT1000
1.30m - Hi Flex Meter to Meter Supply Cable	PGMFT1300
2.00m - Hi Flex Meter to Meter Supply Cable	PGMFT2000



PGRJ1000

RJ45 Connection Cable

Description	Cat ref.
0.30m - RJ45 Connector Cable 67 7003	PGRJ300
0.50m - RJ45 Connector Cable 67 L7005 LSZH	PGRJ500
1.00m - RJ45 Connector Cable 67 L7005 LSZH	PGRJ1000
1.50m - RJ45 Connector Cable 67 L7005 LSZH	PGRJ1500
2.00m - RJ45 Connector Cable 67 L7005 LSZH	PGRJ2000



PG9522FEMALE

Supply Voltage Connector Plugs

For those who want to make up their own power cable looms

Description	Cat ref.
Voltage IN (Male) Connector	PG9523MALE
Voltage OUT (Female) Connector	PG9522FEMALE

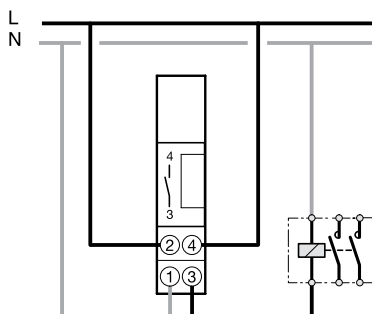


PG9523MALE

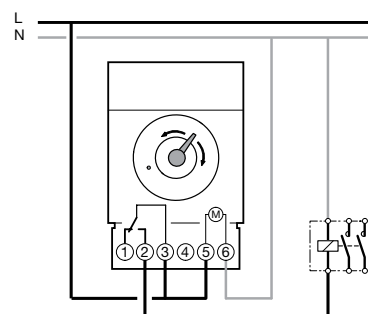
Technical specifications	EH010	EH011	EH110	EH111	EH171	EH710	EH711	EH771
Version	Daily	Daily	Daily	Daily	Weekly	Daily	Daily	Weekly
Voltage supply	230V 50Hz	230V 50Hz	230V 50Hz	230V 50Hz	230V 50Hz	230V 50Hz	230V 50Hz	230V 50Hz
Consumption	0.5VA	0.5VA	0.5VA	0.5VA	0.5VA	0.5VA	0.5VA	0.5VA
Output	1 NO Contact Volt Free	1 NO Contact Volt Free	1 C/O Contact Volt Free	1 C/O Contact Volt Free	1 C/O Contact Volt Free	1 C/O Contact Volt Free	1 C/O Contact Volt Free	1 C/O Contact Volt Free
Switching capacity								
AC 1	16A / 250V	16A / 250V	16A / 250V	16A / 250V	16A / 250V	16A / 250V	16A / 250V	16A / 250V
Incandescent lamp	900W	900W	900W	900W	900W	1000W	1000W	1000W
Compact fluorescent tube	100W	100W	200W	200W	200W	-	-	-
Characteristics								
Technology	Quartz	Quartz	Quartz	Quartz	Quartz	Quartz	Quartz	Quartz
Dial	24hrs	24hrs	24hrs	24hrs	7 days	24hrs	24hrs	7 days
Minimum switching	15min	15min	15min	5min	2hrs	10min	10min	60min
Programming capacity	96 steps	96 steps	96 steps	96 steps	84 steps	72 steps	72 steps	84 steps
Working accuracy	1sec per day	1sec per day	1sec per day	1sec per day	1sec per day	1sec per day	1sec per day	1sec per day
Supply failure reserve	No	200hrs	No	200hrs	200hrs	No	200hrs	200hrs
Reached in	120h	120h	120h	120h	120h	-	-	-
Manual switch type	Auto On	Auto On	Auto On Off	Auto On Off	Auto On Off	On Off	On Off	On Off
Protection degree	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20
Environment								
Working temp	-10°C to +55°C	-10°C to +55°C	-10°C to +55°C	-10°C to +55°C	-10°C to +55°C	-10°C to +50°C	-10°C to +50°C	-10°C to +50°C
Storage temp	-20°C to +70°C	-20°C to +70°C	-20°C to +70°C	-20°C to +70°C	-20°C to +70°C	-10°C to +60°C	-10°C to +60°C	-10°C to +60°C
Connection								
Flexible	1 to 4mm ²	1 to 4mm ²	1 to 4mm ²	1 to 4mm ²	1 to 4mm ²	1 to 6mm ²	1 to 6mm ²	1 to 6mm ²
Rigid	1 to 4mm ²	1 to 4mm ²	1 to 4mm ²	1 to 4mm ²	1 to 4mm ²	1 to 6mm ²	1 to 6mm ²	1 to 6mm ²
Dimensions								
Height	80mm	80mm	90mm	90mm	90mm	72mm	72mm	72mm
Width	18mm	18mm	54mm	54mm	54mm	72mm	72mm	72mm
Depth	60mm	60mm	60mm	60mm	60mm	48.5mm	48.5mm	48.5mm

Wiring diagrams

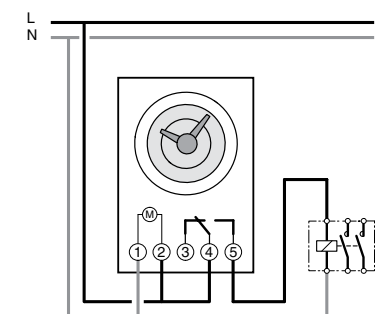
EH010 / EH011
230 V~ ± 10% 50/60Hz



EH110 / EH111 / EH171
230 V~ ± 10% 50/60Hz



EH710 / EH711 / EH771
230 V~ ± 10% 50/60Hz



Technical specifications	EG010	EG071	EG103E	EG203E	EG403E	EG293B	EG493E	EGN100AU	EGN103	EGN200AU	EGN400AU
Version	Daily	Weekly	Weekly	Weekly	Weekly	Annual	Annual	Daily/ Weekly/ Annual	Daily/ Weekly	Daily/ Weekly/ Annual	Daily/ Weekly/ Annual
Modules	1mod	1mod	2mod	2mod	4mod	4mod	4mod	1mod	2mod	2mod	4mod
Channels	1ch	1ch	1ch	2ch	4ch	2ch	4ch	1ch	1ch	2ch	4ch
Voltage Supply	230V 50Hz	230V 50Hz	230V 50Hz	230V 50Hz	230V 50/60Hz	230V 50/60Hz	230V 50Hz	230V 50/60Hz	230V 50/60Hz	230V 50/60Hz	230V 50/60Hz
Consumption	1VA	1VA	6VA	6VA	2VA	2VA	2VA	0.28VA	0.39VA	0.6VA	0.71VA
Output	1 volt free changeover contact	1 volt free changeover contact	1 volt free changeover contact	2 volt free changeover contacts	2 volt free changeover and 2 NO contacts	2 volt free changeover and 2 NO contacts	2 volt free changeover and 2 NO contacts	1 changeover and 1 NO contact	1 changeover and 1 NO contact	2 changeover and 2 NO contacts	4 changeover and 4 NO contacts
Bluetooth								Bluetooth	Bluetooth	Bluetooth	Bluetooth
Switching Capacity											
AC 1	16A / 250V	16A / 250V	16A / 250V	16A / 250V	10A / 250V	10A / 250V	10A / 250V	10A / 250V	16A / 250V	16A / 250V	16A / 250V
Incandescent lamp	1000W	1000W	2300W	2300W	1500W	1500W	1500W	2300W	2300W	2300W	2300W
LED lamp								20x20W LED	20x20W LED	20x20W LED	20x20W LED
Characteristics											
Technology	Digital	Digital	Digital	Digital	Digital	Digital	Digital	Digital	Digital	Digital	Digital
Minimum switching	1min	1min	1min	1min	1min	1min	1min	1min	1min	1min	1min
Programming capacity	6 steps	20 steps	56 steps	56 steps	300 steps	300 steps	300 steps	100 steps	56 steps	200 steps	400 steps
Working accuracy	±1sec / 24h*	±1sec / 24h*	±1.5sec / 24h*	±1.5sec / 24h*	±0.2sec / 24h*	±0.2sec / 24h*	±0.2sec / 24h*	±0.25sec / 24h	±1.5sec / 24h	±0.25sec / 24h	±0.25sec / 24h
Supply failure reserve	3 years	3 years	5 years lithium battery	5 years lithium battery	5 years lithium battery	5 years lithium battery	5 years lithium battery	10 years lithium battery	5 years lithium battery	10 years lithium battery	10 years lithium battery
Protection degree	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20
Environment											
Working temp	-10°C to +50°C	-10°C to +50°C	-5°C to +45°C	-5°C to +45°C	-10°C to +50°C	-10°C to +50°C	-10°C to +45°C	-5°C to +45°C	-5°C to +45°C	-5°C to +45°C	-5°C to +45°C
Storage temp	-10°C to +60°C	-10°C to +60°C	-20°C to +70°C	-20°C to +70°C	-20°C to +70°C	-20°C to +70°C	-20°C to +70°C	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C
Connection											
Flexible	1 to 4mm ²	1 to 4mm ²	1.5 to 10mm ²	1.5 to 10mm ²	0.75 to 2.5mm ²	0.75 to 2.5mm ²	0.75 to 2.5mm ²	0.2 to 2.5mm ²	1 to 6mm ²	0.2 to 2.5mm ²	0.2 to 2.5mm ²
Rigid	1 to 4mm ²	1 to 4mm ²	1 to 6mm ²	1 to 6mm ²	0.75 to 2.5mm ²	0.75 to 2.5mm ²	0.75 to 2.5mm ²	0.2 to 4mm ²	1.5 to 10mm ²	0.2 to 4mm ²	0.2 to 4mm ²
Dimensions											
Height	92mm	92mm	85mm	85mm	90mm	90mm	90mm	90mm	90mm	90mm	90mm
Width	18mm	18mm	35mm	35mm	71mm	70mm	70mm	18mm	36mm	36mm	36mm
Depth	64mm	64mm	64mm	64mm	69mm	69mm	65mm	63mm	62mm	62mm	62mm

EG010

Electrical characteristics

Supply voltage	230V ±10% 50/60Hz
Consumption	1VA
Output	1 changeover contact 16A - 250V AC 1 3A - 250V cosw = 0.6 1000W incandescent lighting

Functional characteristics

Number of programs	5 adjustable pre-recorded programs
Accuracy	±6min per year
Supply failure reserve	Total of 3 years

Environment

Working temperature	-10°C to +50°C
Storage temperature	-10°C to +60°C
Cable capacity	1 to 4mm ²

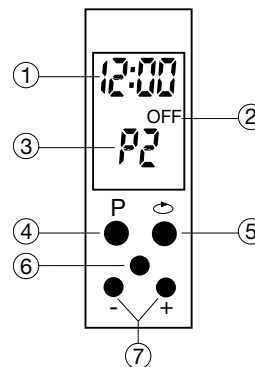
Main characteristics

Easy to program: 5 programs are pre-recorded. The user just has to select the program which corresponds to its use and modify time switches if necessary.

The 5 pre-recorded programs are as follows:

P	Prog
P0	OFF
P1	ON
P2	6.00 — 23.00
P3	6.00 — 8.00 17.00 — 23.00
P4	6.00 — 8.00 11.00 — 13.00 17.00 — 23.00

Product presentation



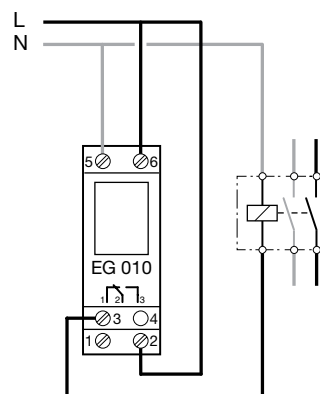
Display

1. Time
2. Circuit status
3. Program selection

Buttons

4. P to select the program to apply
5. Reset
6. ⤴ to scroll the programming steps
7. + and - to input the time

Wiring diagram



EG071

Electrical characteristics

Supply voltage	230V ±10% 50/60Hz
Consumption	1VA
Output	1 changeover contact 16A - 250V AC 1 3A - 250V cosw = 0.6 1000W incandescent lighting

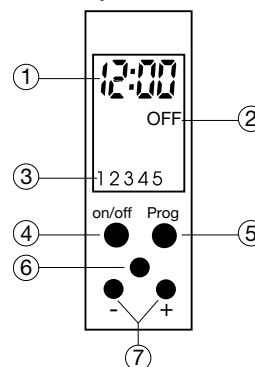
Functional characteristics

Number of programs	20 program steps (each program step can be applied to one of several days)
Accuracy	±6min per year
Supply failure reserve	Total of 3 years

Environment

Working temperature	-10°C to +50°C
Storage temperature	-10°C to +60°C
Cable capacity	1 to 4mm ²

Product presentation



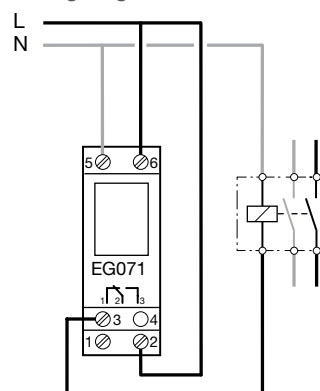
Display

1. Time
2. Circuit status
3. Program selection

Buttons

4. ON/OFF: to select the circuit status
5. Reset
6. Prog: to program the device and scroll the program steps
7. + and - to input the time and day

Wiring diagram



Electrical characteristics

Supply voltage	230V ±15% 50/60Hz
Consumption	6VA
Output	1 changeover contact 16A - 250V AC 1 10A - 250V cosφ = 0.6

Lighting

Incandescent lighting	2300W
Halogen lighting 230V	2300W
Compensated fluoro tubes	400W
Non-compensated fluoro tubes in series	1000W
Compact fluoro lamps	500W

Minimum current	100mA 250V~
Galvanic insulation between power supply and output	= 4kV
Rated impulse voltage	4kV

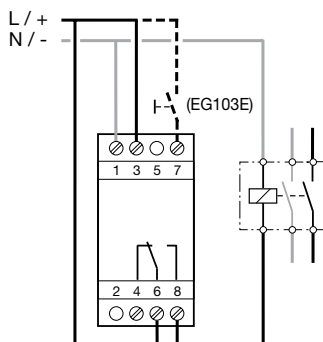
Functional characteristics

Number of programs	56 program steps
Minimum time between 2 steps	1min
Accuracy	±1.5sec per day
Supply failure reserve	Total of 5 years - lithium battery
Protection degree	IP20

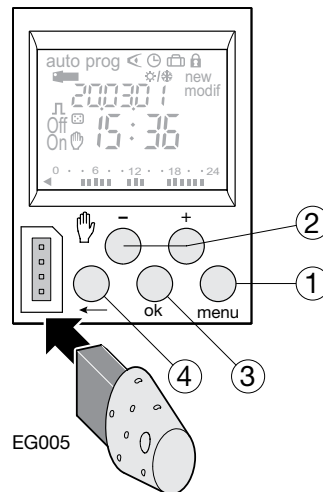
Environment

Working temperature	-5°C to +45°C
Storage temperature	-20°C to +70°C
Cable capacity	Flexible 1 to 6mm ² Rigid 1.5 to 10mm ²

Wiring diagram



Product presentation



Keys

- | | |
|------------|---|
| 1. menu | Selection of operating mode |
| Auto | Mode of running according to the program selected |
| Prog new | - for new program |
| Prog modif | - to modify an existing program |
| ← | Check the program |
| ⌚ | Modification of time, date and selection of the winter/ summer time change mode |
| 🏠 | Holiday mode |
| 2. +/- | Navigation or setting values |
| 👉 | In auto mode, selection of overrides or random operation |
| 3. OK | To validate flashing information on display |
| 4. ← | To return to the previous step |

You may return to auto mode at any moment by pushing the menu button. If no action is taken for 1 min, the switch returns to auto mode.

Major characteristics

- Product delivered with current time and date set
- Automatic change of winter / summer time 🌞/🌙
- Programming key 🗑️
 - For permanent waivers
 - For program copy or save
- Programming for day or group of days
- 56 program steps On, Off
- Impulses ⏳ (1 sec to 30 min)
- Permanent overrides On or Off (👉 permanent light on)
- Temporary overrides On or Off (👉 flashing)
- Holiday mode 🏠: overrides On or Off between two dates
- Simulation of presence 📺
- Display bar graph of daily profile
- Keyboard locking possible 🔒
- Programmable with power off
- Back lit display

Electrical characteristics

Supply voltage	230V~ +10%/-15% 50/60Hz
Consumption	6VA
Output	2 changeover volt free contacts 16A - 230V AC 1 10A - 230V cosφ = 0.6

Lighting

Incandescent lighting	2300W
Halogen lighting 230V	2300W
Compensated fluoro tubes	400W
Non-compensated fluoro tubes in series	1000W
Compact fluoro lamps	500W

Minimum current	100mA 230V~
Galvanic insulation between power supply and output	< 4kV
Rated impulse voltage	4kV

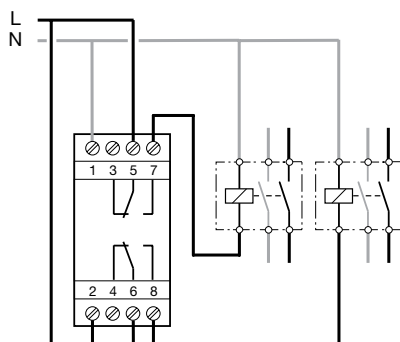
Functional characteristics

Number of programs	56 program steps
Minimu time between 2 steps	1min
Accuracy	±1.5sec per day
Supply failure reserve	Total of 5 years - lithium battery
Protection degree	IP20

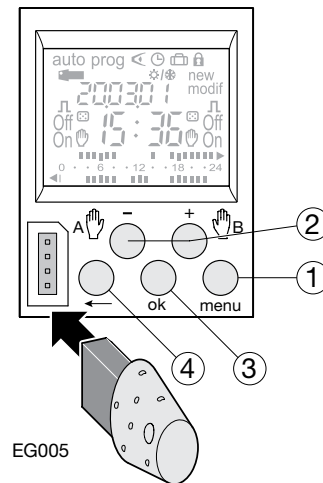
Environment

Working temperature	-5°C to +45°C
Storage temperature	-20°C to +70°C
Cable capacity	Flexible 1 to 6mm ² Rigid 1.5 to 10mm ²

Wiring diagram



Product presentation



Keys

1. menu Selection of operating mode
- Auto Mode of running according to the program selected
- Prog new - for new program
- Prog modif - to modify an existing program
- ⏪ Check the program
- ⌚ Modification of time, date and selection of the winter/ summer time change mode
- 🏠 Holiday mode
2. +/- Navigation or setting values
- A/B In auto mode, selection of overrides, waivers or random operation
3. OK To validate flashing information on display
4. ⏪ To return to the previous step

You may return to auto mode at any moment by pushing the menu button. If no action is taken for 1 min, the switch returns to auto mode.

Major characteristics

- Product delivered with current time and date set
- Automatic change of winter / summer time ⌚/⌚
- Programming key 🗑️
 - For permanent waivers
 - For program copy or save
- Programming for day or group of days
- 56 program steps On, Off
- Impulses ⏪ (1 sec to 30 min)
- Permanent overrides On or Off (🏠 permanent light on)
- Temporary overrides On or Off (🗑️ flashing)
- Holiday mode 🏠: overrides On or Off between two dates
- Simulation of presence 🏠
- Display bar graph of daily profile
- Keyboard locking possible 🔒
- Programmable with power off
- Back lit display

Electrical characteristics

Supply voltage	230V~ +10%/-15% 50/60Hz
Consumption	< 2VA
Output	2 changeover + 2 NO contacts 10A - 250V AC 1 8A - 250V cos = 0.6

Lighting

Incandescent lighting	1500W
Halogen lighting 230V	1500W
Compensated fluoro tubes	400W
Non-compensated fluoro tubes in series	1000W
Compact fluoro lamps	400W

Minimum current	100mA 250V~
Galvanic insulation between power supply and output	< 4kV

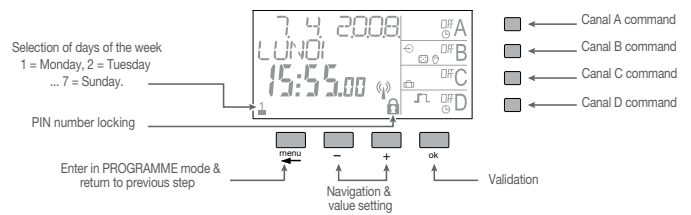
Functional characteristics

Number of programs	300 program steps
Minimu time between 2 steps	1min
Accuracy	±0.2sec per day
Supply failure reserve	Total of 10 years - lithium battery
Protection degree	IP20 / IK04

Environment

Working temperature	-10°C to +50°C
Storage temperature	-20°C to +70°C
Cable capacity	0.75 to 2.5mm ²

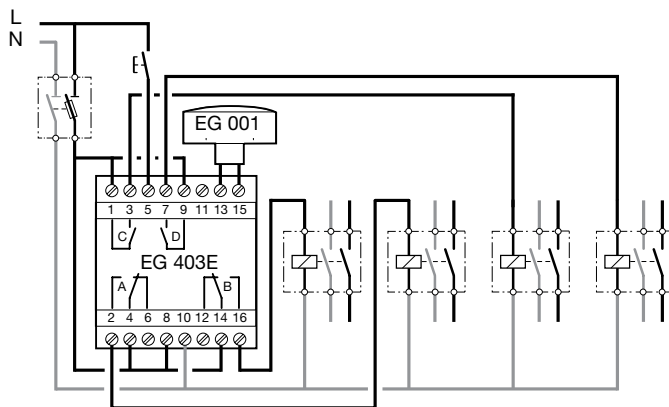
Product presentation



Major characteristics

- Product delivered with current time and date set
- Automatic change of winter / summer time
- Programming key
 - For permanent overrides
 - For program copy or save
- Programming for day or group of days
- 300 program steps; On, Off, pulses \square or $\square\square$
- Permanent overrides On or Off (permanent light on)
- Temporary overrides On or Off (flashing)
- Overrides (temporary, permanent or time delayed) remote activation possible
- Holiday mode (overrides On or Off between two dates)
- Simulation of presence (flashing)
- Keyboard locking possible (lock icon)
- Counter of operating time on every output
- Programmable with power off
- Back lit display

Wiring diagram



Electrical characteristics

Supply voltage	230V~ +10%/-15% 50/60Hz
Consumption	< 2VA
Output	2 changeover contacts 10A - 250V AC 1

Lighting

Incandescent lighting	1500W
Halogen lighting 230V	1500W
Compensated fluoro tubes	400W
Non-compensated fluoro tubes in series	1000W
Compact fluoro lamps	400W

Minimum current	100mA 250V~
Galvanic insulation between power supply and output	< 4kV

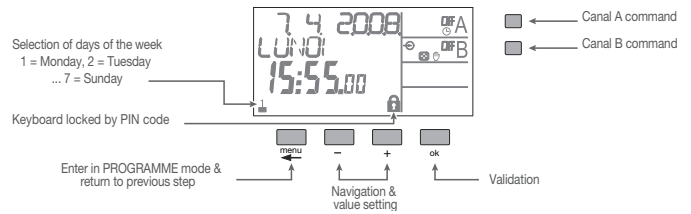
Functional characteristics

Number of programs	300 program steps
Minimum time between 2 steps	1min
Accuracy	±0.2sec per day
Supply failure reserve	Total of 5 years - lithium battery
Protection degree	IP20 / IK04

Environment

Working temperature	-10°C to +50°C
Storage temperature	-20°C to +70°C
Cable capacity	0.75 to 2.5mm ²

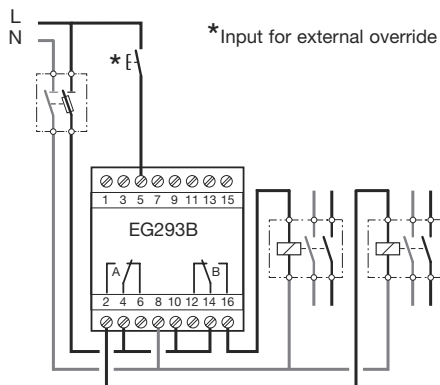
Product presentation



Major characteristics

- Product delivered with current time and date set
- Automatic change of winter / summer time
- Programming key
 - For permanent overrides
 - For program copy or save
- Programming for day or group of days
- 300 program steps; On, Off, pulses \square or $\square\square$
- Permanent overrides On or Off (\square permanent light on)
- Temporary overrides On or Off (\square flashing)
- Overrides (temporary, permanent or time delayed) remote activation possible
- Simulation of presence \square
- Keyboard locking possible \square
- Counter of operating time on every output
- Programmable with power off
- Back lit display

Wiring diagram



Electrical characteristics

Supply voltage	230V~ +10%/-15% 50/60Hz
Consumption	< 2VA
Output	2 changeover + 2 NO contacts 10A - 250V AC 1

Lighting

Incandescent lighting	1500W
Halogen lighting 230V	1500W
Compensated fluoro tubes	400W
Non-compensated fluoro tubes in series	1000W
Compact fluoro lamps	400W

Minimum current	100mA 250V~
Galvanic insulation between power supply and output	< 4kV

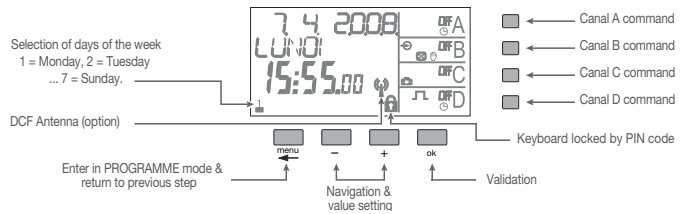
Functional characteristics

Number of programs	300 program steps
Minimum time between 2 steps	1min
Accuracy	±0.2sec per day
Supply failure reserve	Total of 5 years - lithium battery
Protection degree	IP20 / IK04

Environment

Working temperature	-10°C to +50°C
Storage temperature	-20°C to +70°C
Cable capacity	0.75 to 2.5mm ²

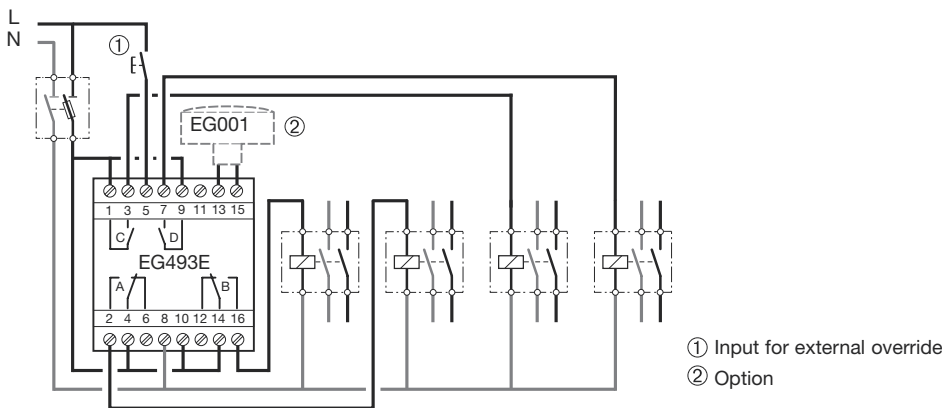
Product presentation



Major characteristics

- Product delivered with current time and date set
- Automatic change of winter / summer time
- Programming key
 - For permanent overrides
 - For program copy or save
- 300 program steps; On, Off, pulses \square or $\square\square$
- Permanent overrides On or Off (\square permanent light on)
- Temporary overrides On or Off (\square flashing)
- Overrides (temporary, permanent or time delayed) remote activation possible
- Simulation of presence \square
- Keyboard locking possible \square
- Counter of operating time on every output
- Programmable with power off
- Back lit display

Wiring diagram

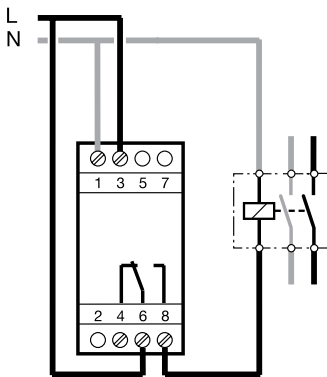


- ① Input for external override
- ② Option

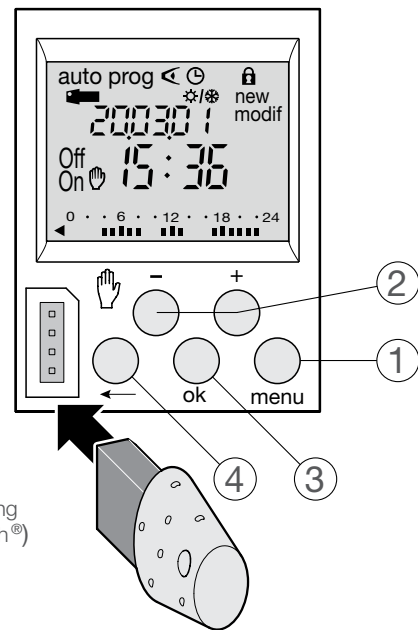
Electrical characteristics

Operating voltage	230V (+10% / -15%)
Frequency	50/60 Hz
Contact rating	AC1 μ 16A 230 V~
Power input	0.25VA
Switching current at $\cos \phi = 0.6$	
Power loss at full load	
230 V incandescent and halogen lamps	max. 2300 W
LED lamps	400 W
Fluorescent tubes, compensated // (max. 45 μ F)	400 W
Fluorescent tubes, uncompensated, series compensated	1000 W
Compact fluorescent lamps	400 W
Number of function channels	1
Number of contacts per channel	2
Shortest switching time	1 min
Number of switching times for On/Off	56
Power reserve (years)	\approx 5 a
Accuracy rate	\pm 1.5 s/day
Operating temperature	- 5 ... 45 °C
Conductor cross-section (flexible)	1 ... 6 mm ²
Conductor cross-section (rigid)	1.5 ... 10 mm ²
Rail-mounted device (RMD) width	2 units

Wiring diagram



Product presentation



EGN003
(programming
via Bluetooth®)
or
EG004
(locking)
or
EG005
(programming)

Keys

- | | |
|--------------|--|
| 1. menu | Selection of operating mode |
| new prog. | For programming |
| change prog. | To change an existing program |
| ◀ | Program verification |
| ⌚ | Change of time, date and mode choice switch to or from daylight savings time |
| 2. +/- | Navigation or setting values |
| 👉 | In auto mode, selection of overrides or exceptions |
| 3. OK | To validate flashing information on display |
| 4. ← | To return to the previous step |

You can return to auto mode at any time with the menu.

If no action is taken for 1 minute, the switch returns to auto mode.

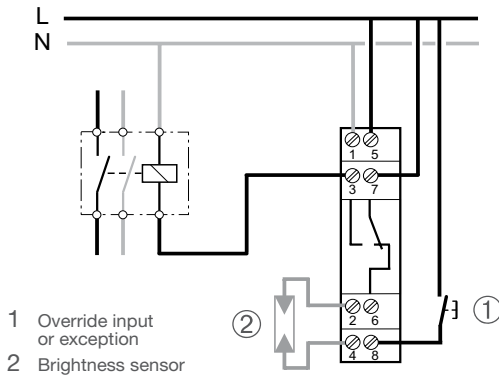
Major characteristics

- programmable with Bluetooth (with EGN003)
- changeover
- with potential-free switching contact
- button lock using lock key
- programming without voltage supply possible
- with programming key
- with automatic summer/winter time change
- program cycles: 1 x 7 days
- with screw terminals
- for mounting on DIN top-hat rail
- 5 years power reserve

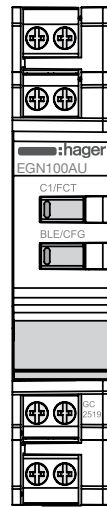
Electrical characteristics

Operating voltage	230V (+10% / -15%)
Frequency	50/60 Hz
Contact rating	AC1 μ 10A 230 V~
Power input	0.17VA
Switching current at $\cos \phi = 0.6$	
Power loss at full load	
230 V incandescent and halogen lamps	max. 2300 W
LED lamps	400 W
Fluorescent tubes, compensated // (max. 45 μ F)	400 W
Fluorescent tubes, uncompensated, series compensated	1000 W
Compact fluorescent lamps	400 W
Number of function channels	1
Number of contacts per channel	2
Shortest switching time	1 min
Number of switching times for On/Off	100
Power reserve (years)	\approx 10 a
Accuracy rate	\pm 90 s/year
Operating temperature	- 5 ... 45 °C
Conductor cross-section (flexible)	0.2 ... 2.5 mm ²
Conductor cross-section (rigid)	0.2 ... 4 mm ²
Rail-mounted device (RMD) width	1 unit

Wiring diagram



Product presentation



C1/FCT (key and LED) used for:

- output control;
- Bluetooth® reset.

BLE/CFG (key and LED) used for:

- Bluetooth® activation and deactivation (BLE),
- Resetting parameters.

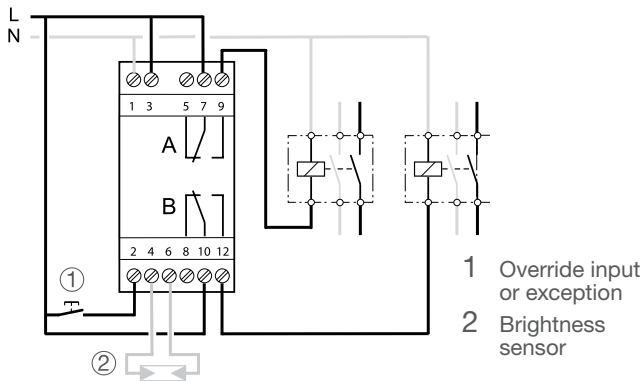
Major characteristics

- integrated Bluetooth connection
- program cycles: daily, weekly, yearly
- 1 changeover output
- with pulse function
- wired input
- with radio input connection: Quicklink configuration
- button lock
- with automatic summer/winter time change
- with screw terminals
- for mounting on DIN top-hat rail
- 10 years power reserve

Electrical characteristics

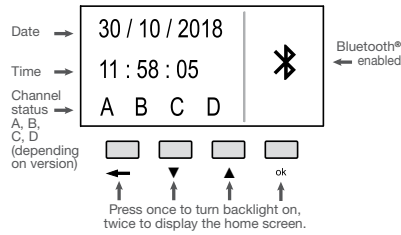
Operating voltage	230V (+10% / -15%)
Frequency	50/60 Hz
Contact rating	AC1 μ 16A 230 V~
Power input	0.3VA
Switching current at $\cos \phi = 0.6$	
Power loss at full load	
230 V incandescent and halogen lamps	max. 2300 W
LED lamps	400 W
Fluorescent tubes, compensated // (max. 45 μ F)	400 W
Fluorescent tubes, uncompensated, series compensated	1000 W
Compact fluorescent lamps	400 W
Number of function channels	2
Number of contacts per channel	2
Shortest switching time	1 min
Number of switching times for On/Off	200
Power reserve [years]	\approx 10 a
Accuracy rate	\pm 90 s/year
Operating temperature	- 5 ... 45 °C
Conductor cross-section (flexible)	0.2 ... 2.5 mm ²
Conductor cross-section (rigid)	0.2 ... 4 mm ²
Rail-mounted device (RMD) width	2 units

Wiring diagram

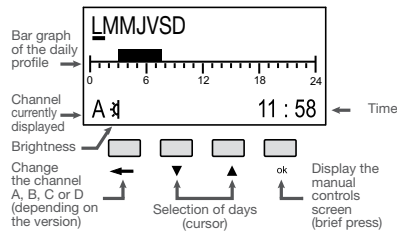


Product presentation

Screensaver



Home screen



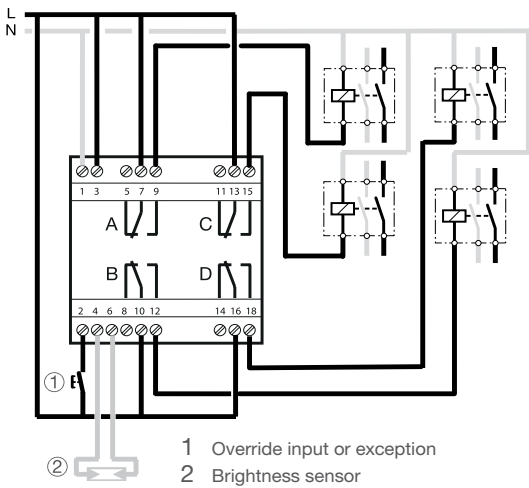
Major characteristics

- integrated Bluetooth connection
- program cycles: daily, weekly, yearly
- 2 changeovers output
- with pulse function
- with radio input connection: Quicklink configuration
- programming without voltage supply possible
- button lock
- LC display with lighting
- with automatic summer/winter time change
- with screw terminals
- for mounting on DIN top-hat rail
- 10 years power reserve

Electrical characteristics

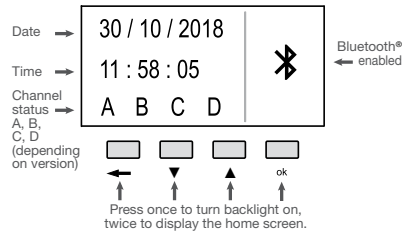
Operating voltage	230V (+10% / -15%)
Frequency	50/60 Hz
Contact rating	AC1 μ 16A 230 V~
Power input	0.45VA
Switching current at $\cos \phi = 0.6$	
Power loss at full load	
230 V incandescent and halogen lamps	max. 2300 W
LED lamps	400 W
Fluorescent tubes, compensated // (max. 45 μ F)	400 W
Fluorescent tubes, uncompensated, series compensated	1000 W
Compact fluorescent lamps	400 W
Number of function channels	4
Number of contacts per channel	2
Shortest switching time	1 min
Number of switching times for On/Off	400
Power reserve (years)	\approx 10 a
Accuracy rate	\pm 90 s/year
Operating temperature	- 5 ... 45 °C
Conductor cross-section (flexible)	0.2 ... 2.5 mm ²
Conductor cross-section (rigid)	0.2 ... 4 mm ²
Rail-mounted device (RMD) width	4 units

Wiring diagram

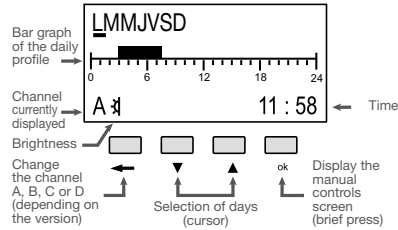


Product presentation

Screensaver



Home screen



Major characteristics

- integrated Bluetooth connection
- program cycles: daily, weekly, yearly
- 2 changeovers output
- with pulse function
- with radio input connection: Quicklink configuration
- programming without voltage supply possible
- button lock
- LC display with lighting
- with automatic summer/winter time change
- with screw terminals
- for mounting on DIN top-hat rail
- 10 years power reserve

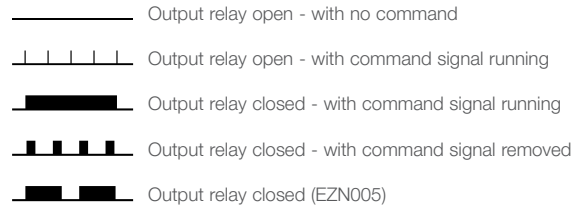
Delay timers

Delay timer devices are used to control a variety of processes where the requirement is for switching circuits on, off or delaying the on or off switching for a pre-set period of time. Typical device types are:

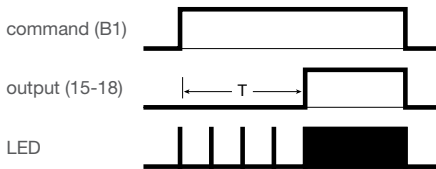
- Delay ON: Intended to delay the starting or switching of a circuit for a set period of time following the command signal e.g. to delay the starting of motor loads where a large number of motors are to be started by the same switch to reduce the effects of the starting currents.
- Delay OFF: Intended to delay the stopping or switching off of a circuit for a set period of time following the removal of the command signal e.g. to overrun an extractor following the switching off of a process that creates fumes.
- Adjustable time ON: Intended to switch on for a set period, the command must remain on throughout the set period e.g. to switch on two sets of heaters with one set (the boost) switching off after the set period.
- Impulse timer: Intended to switch on for a set period, the command signal length is not important e.g. to boost a time clock controlled circuit such as water storage heater.
- Symmetrical timer: Intended to toggle a circuit on and off in regular time patterns e.g. to run an extractor intermittently.

Multifunction timer - 8 individual functions

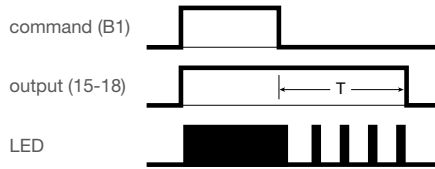
- A = timer.
 - B = delay off (output relay opens either at end of command or after set time period - whichever is shorter).
 - C = delay off.
 - D = delay on.
 - E = delay on (output relay closes either at end of command or after set time period - whichever is shorter).
 - F = symmetrical timer.
- On selection - contact permanently closed.
Off selection - contact permanently open.



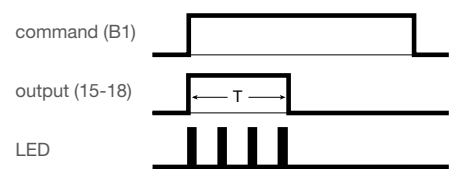
Delay On EZN001 & EZN006 Function D



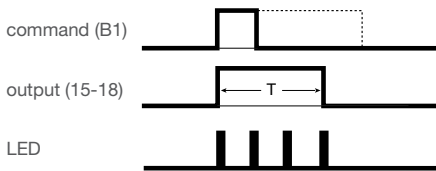
Delay Off EZN002 & EZN006 Function C



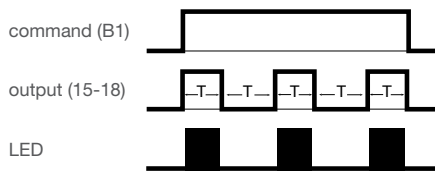
Adjustable Time On EZN003 & EZN006 Function E



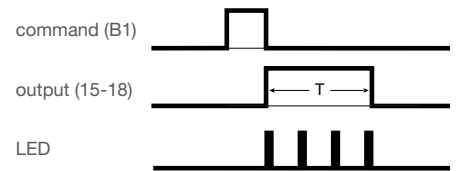
Impulse Timer EZN004 & EZN006 Function A



Symmetrical Timer EZN005 & EZN006 Function F



Multifunction Timer EZN006 Function B



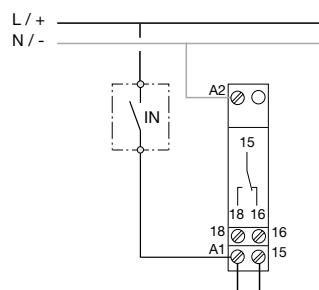
EZN001 - EZN002 - EZN003 - EZN004 - EZN005 - EZN006

Electrical characteristics

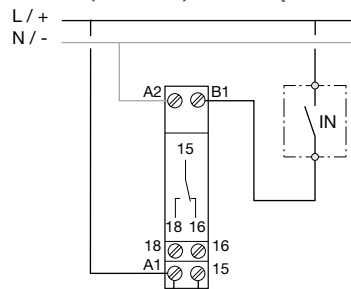
Supply voltage AC	12 - 230 V AC (±10%), 50/60Hz
Supply voltage DC	12 - 48 V DC (±10%)
Output	1 volt free C/O contact
Max load AC1	8A / 230V~ 50,000 cycles
Incandescent	450W~ 50,000 cycles
Fluorescent non comp.	600W~ 50,000 cycles
Inductive load 0.6pf	5A~ 100,000 cycles
Min power AC	100mA at 230 V
Min power DC	100mA at 12 V
Galvanic isolation	2kV
Standard / norm	EN60669-2-1
Timer range	0.1 seconds to 10 hours
Min. command period AC	50ms
Min. command period DC	30ms
Working temperature	-10°C to +50°C
Storage temperature	-40°C to +50°C
Connection capacity - flexible	1 - 6mm ²
Connection capacity - rigid	1.5 - 100mm ²

Wiring diagrams

EZN001, EZN003, EZN005, EZN006 (functions D,E,F)



EZN002, EZN004, EZN006 (functions A,B,C)



Time lag switches

A common area where time delay devices are used is stairways and corridors in multi occupancy buildings where they provide a level of energy efficiency. The EMN001 device provides basic time lag control.

Electrical characteristics

Supply voltage	230V~ +10%/-15% 50/60Hz
Consumption	1VA
Size	1 module
Output	16A - 230V AC1
Lighting	
Incandescent lighting	2300W
Halogen lighting 230V	2300W
Ferro-magnetic transformer	1600W
Parallel compensated	Capacitor 112F
Fluoro lamps	1000W
Series compensated	3600W
Electronic transformer	2300W
Compact fluoro lamps with electronic ballast	60 x 7W or 40 x 11w or 32 x 15W or 20 x 23W
with conventional ballast	2300W

Functional characteristics

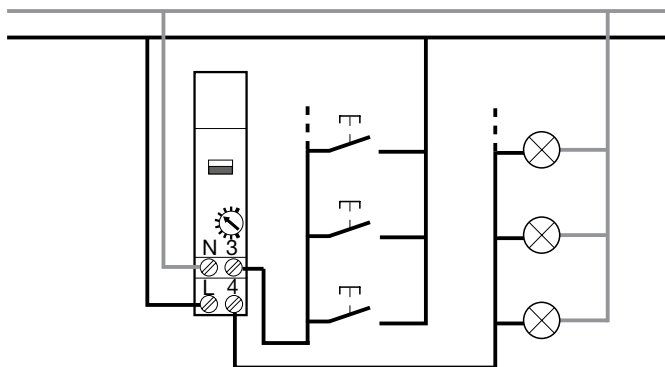
Time delay	30s to 10min
Retrigger	Yes
Maximum current in rest position	100mA
Automatic 3/4 recognition	Yes
Local command	Automatic / override On

Environment

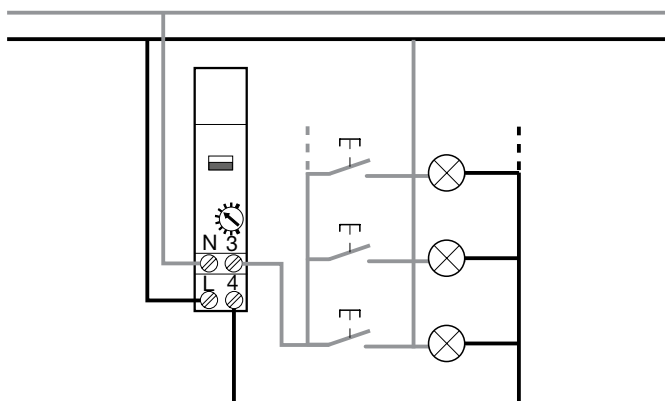
Working temperature	-10°C to +55°C
Storage temperature	-20°C to +60°C
Cable capacity	
Flexible	1 to 6mm ²
Rigid	1.5 to 10mm ²

Wiring diagrams

4 wire

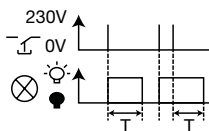


3 wire



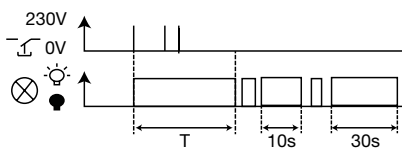
A: Basic mode

Press push button to switch ON the light. After a set time (Adjustable "T", the light will switch OFF automatically.



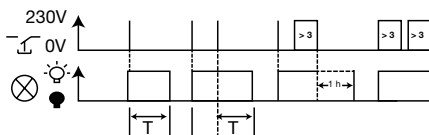
B: Prewarning mode

A signal (blink) will appear before the end of the lighting period.



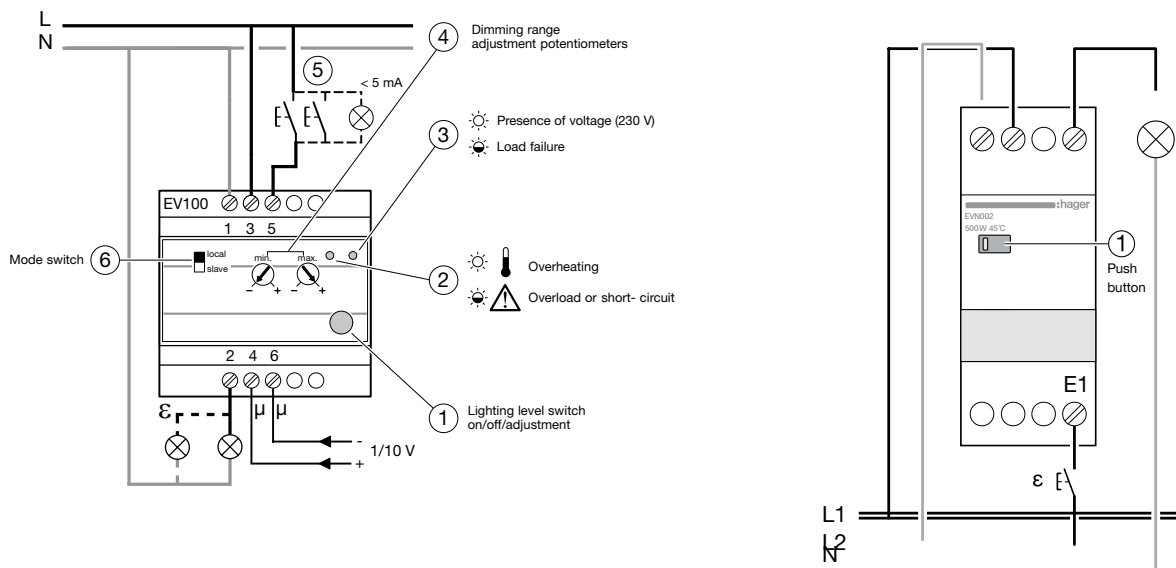
C: Double delay mode

Press push button to switch light ON. After a set time (Adjustable "T", the light will switch OFF automatically. If you press the button for more than 3 seconds, a time lag of one hour begins.



Electrical characteristics	EV100	EVN002
Supply voltage	230V AC 50Hz	230V AC 50Hz
Consumption	3W	0.2W
Dissipation	15W	4.5W
Lighting		
Incandescent lighting	1000W	500W
Halogen lighting 230V	1000W	500W
Lamps with ELV Halogen via ferro-magnetic transformer	1000VA	500VA
The transformer must not be used below 75% of its nominal load		
Lamps with ELV halogen via electronic transformer	1000VA	500VA
The maximum number of lamps permitted shall be calculated according to the efficiency of transformers.		
Functional characteristics		
Input 1/10V	1.5mA	-
1/10V control	1 input	-
1/10V control status	slave	-
Max. PB - dimmers distance for 1-10V control	50m	-
Dim PB and ON/OFF module	Yes	Yes
Min. and max. dim lighting setting	Yes	Yes
IP Rating	IP20	1P20
Potentiometer	100k Ω , 200mW logarithmic	-
Environment		
Working temperature	-10°C to +45°C	-10°C to +45°C
Storage temperature	-20°C to +60°C	-25°C to +70°C
Cable capacity	Flexible	1 to 6mm ²
	Rigid	1.5 to 10mm ²
		1.5 to 6mm ²

Wiring diagram



Light sensitive switches

Using light sensitive switches can prevent the unnecessary use of lighting circuits where sufficient daylight exists. The benefit of modular devices is the facility to set the ambient lighting level at which the device will operate, and as the device is fitted at the distribution point prevent unauthorised tampering. The remote photocell unit can be mounted up to a distance of 50 metres from the device. Devices available is the standard EEN100 light sensitive switch.

Principle of operation

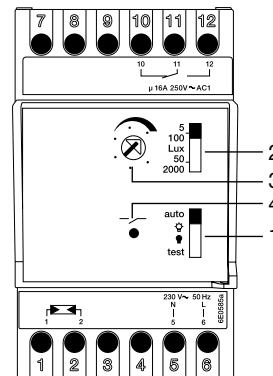
Both devices control lighting systems according to natural illumination;

- The user sets the working level
- The photo cell measures the external light level

The output of the EEN100 is:

- ON, when the measured level is lower than the pre-set light level
- OFF, when the measured level is higher than the pre-set light level

Description - EEN100

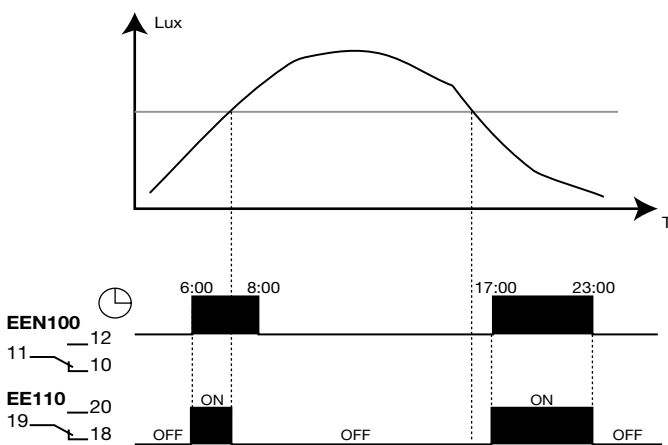


The programmable light sensitive switch EEN100 has one main function:

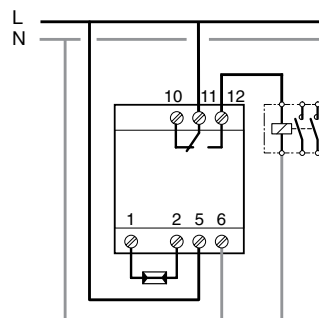
- Light sensitive switch comprising:
 - 1 Override selector switch to allow permanent ON or OFF, auto or test mode
 - 2 Lighting range selector
 - 3 Potentiometer to set light level
 - 4 Indicator to show output switching status

Built in time delay

The light sensitive switches include a built in time delay which avoids unnecessary switching due to temporary factors such as car headlight beams etc...



Wiring diagram - EEN100



Adjustment of the Working Level

The test position of the override selector 1 makes setting the preset level easier by removing the ON and OFF delay. Select the sensitivity range which suits your application (selector 1)

- ☐ 5 to 100 lux (low light level) application examples; public lighting, shop windows, signals...
- ☐ 50 to 2000 lux (high light level) application examples; controls of shades

At the appropriate moment of the day, put the selector 1 in test position; turn the potentiometer 2 up to the switching point (the indicator 4 lights); put the selector back to position 'auto' the normal operating mode of the device.

Mounting the cell

To ensure correct operation of the light sensitive switch, the cell must not be influenced by artificial light or direct solar radiation and should be sheltered from dust and humidity. In case of disconnection of the link between the cell and the light sensitive switch, the output of the device will be switched on. Make sure the light sensitive switch is unplugged before connecting the cell.

Electrical characteristics

Supply voltage	230V~ +10%/-15% 50Hz
Consumption	1.5VA max.
Output	1 voltage free changeover contact
Breaking capacity	16A 250V AC1

Lighting

Incandescent lighting	2000W
Halogen lighting 230V	1000W
Uncompensated fluoro lamp	1000W
Compensated fluoro lamp in series (10µF)	1000W
Parallel fluoro lamps (15µF)	200W
Compensated duo fluoro lamps in series	1000W

Functional characteristics

2 sensitivity ranges	5 to 100 lux and 50 to 2000 lux
ON and OFF delay	15 to 60s
Protection class (cell)	IP54
Insulation class (cell)	II

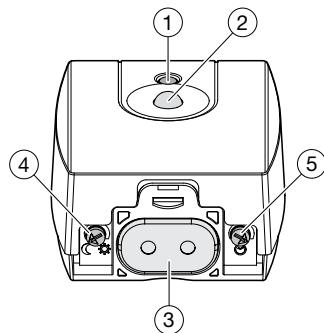
Environment

Working temperature	Cell	-30°C to +60°C
	Modular device	-10°C to +50°C
Storage temperature		-20°C to +60°C
Cable capacity	Cell	0.75 to 2.5mm ²
	Modular device	0.5 to 4mm ²
Max. length between cell and modular device		50m
Mounting of the cell with 2 screws		2.5mm Ø

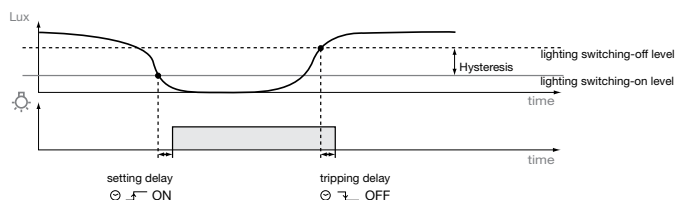
Compact light sensitive switch

The compact light-sensitive switch EE702 measures the natural light level and switches the lighting system according to the light-switching level and the programmed setting and tripping delay. Intended for applications such as street lighting, illumination signs, outside building access, windows... Mounting arrangements include fixing on wall, on round box or on pole using provided accessory and standard clamp.

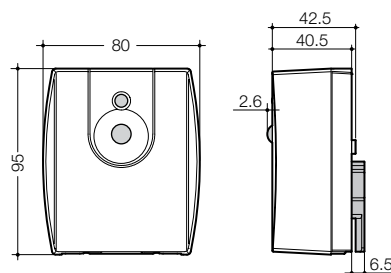
Product description



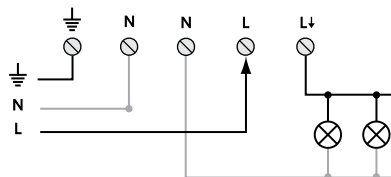
1. Indicator light
2. Brightness level sensor
3. Cable input & output
4. Potentiometer for adjustment of lighting level (2 to 1000lux)
5. Potentiometer for adjustment of setting and tripping delay (1 to 120sec)



Dimensions



Wiring diagram



Electrical characteristics

Supply voltage	230V~ +10%/-15% 50Hz
Cut phase output	Relay 16A AC1 2300W incandescent

Lighting

Incandescent lighting	2300W
Halogen ELV via ferromagnetic or electronic transformer	1500W
Uncompensated fluoro lamp	2 x 20W
Compact fluorescents	2000W
Electronic ballast	16 x 58W

Functional characteristics

Lighting switching-on level	Setting by potentiometer from 2 to 1 000 lux hysteresis 10%
Setting and tripping delay	Setting by potentiometer from 1 to 120 seconds
Class of isolation	II
IK	IK03
Protection index	IP55
Mounting	Surface, on round box or pole

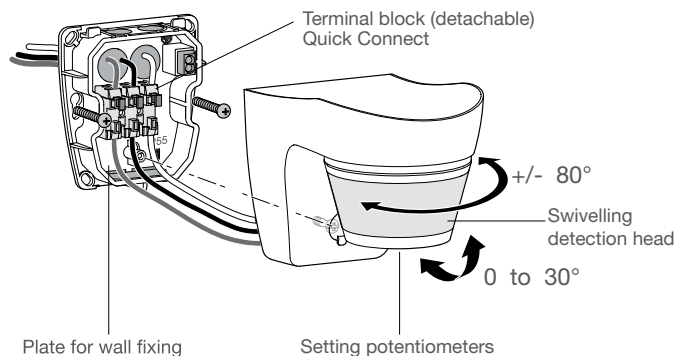
Environment

Working temperature	-25°C to +45°C
Storage temperature	-30°C to +60°C
Cable capacity	1 to 4mm ²

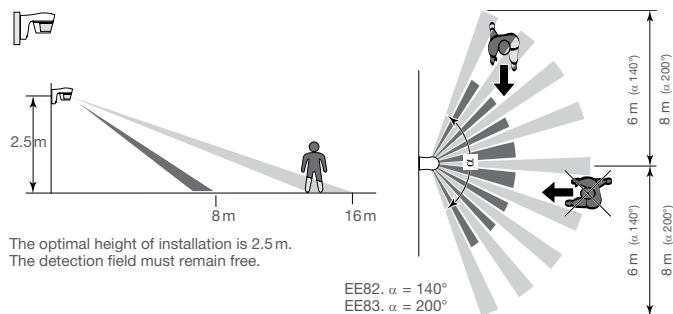
Electrical characteristics	Basic motion detector 140° White	Basic motion detector 360° White	Enhanced motion detector 220° White	Enhanced motion detector 220/360° White and Charcoal Grey
	EE820	EE840	EE860	EE870/EE871
Supply voltage	230V~ 50Hz	230V~ 50Hz	230V~ 50Hz	230V~ 50Hz
Detection (Length)	16m	12m	16m	16m
Detection (Width)	12m	12m	16m	16m
Detection angle	140°	360°	220°	220/360°
Standby consumption	1.2W	1.2W	1.2W	1.2W
Duration of lighting output operation (S1)	5sec to 15min	5sec to 15min	5sec to 30min	5sec to 30min
Luminosity threshold	5 to 1000lux	5 to 1000lux	5 to 1000lux	5 to 1000lux
Recommended installation height	2.5m (2m-4m)	2.5m (2m-4m)	2.5m (2m-4m)	2.5m (2m-4m)
Ceiling mounting	EE827	EE827	White = EE827 Charcoal Grey = EE828	White = EE827 Charcoal Grey = EE828
Wall mounting	Direct	Direct	Direct	Direct
Corner mounting (inside/outside corner)	EE825	EE825	White = EE825 Charcoal Grey = EE826	White = EE825 Charcoal Grey = EE826
Operating temperature	20°C to +55°C	20°C to +55°C	20°C to +55°C	20°C to +55°C
Storage temperature	20°C to +60°C	20°C to +60°C	20°C to +60°C	20°C to +60°C
Insulation class	II	II	II	II
Protection rating	IP55	IP55	IP55	IP55
Standards	EN 60669-1 EN 60669-2-1	EN 60669-1 EN 60669-2-1	EN 60669-1 EN 60669-2-1	EN 60669-1 EN 60669-2-1
Pollution degree	2	2	2	2
Connection flexible	Max 1.5mm ²	Max 1.5mm ²	Max 1.5mm ²	Max 1.5mm ²
Connection rigid	Max 1.5mm ²	Max 1.5mm ²	Max 1.5mm ²	Max 1.5mm ²
Switching channel	1	1	1	1
Lighting loads 230V~ AC1	10A	10A	10A	10A
Switching capacity (incandescent)	1500W	2300W	2300W	2300W
Halogen ELV (12 or 24V) via ferromagnetic or electronic transformer	1500VA	1500VA	1500VA	1500VA
Compact fluorescent	10 x 20W	20 x 20W	20 x 20W	20 x 20W
LED		20 x 20W	20 x 20W	20 x 20W
Parallel compensated Fluorescent tubes	290W/C=32µf	400W/C=45µf	400W/C=45µf	400W/C=45µf
Electronic ballast	580W	580W	580W	580W
Remote programming	N/A	N/A	EE806	EE806
Adjustable shutters	Yes	No	Yes	Yes
Dimensions (L x W x H)	127 x 83 x 97mm	127 x 83 x 97mm	127 x 83 x 97mm	127 x 83 x 97mm

EE820

Description

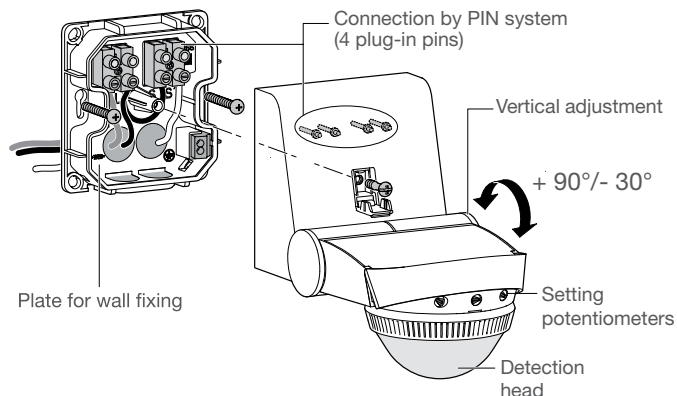


Detection area

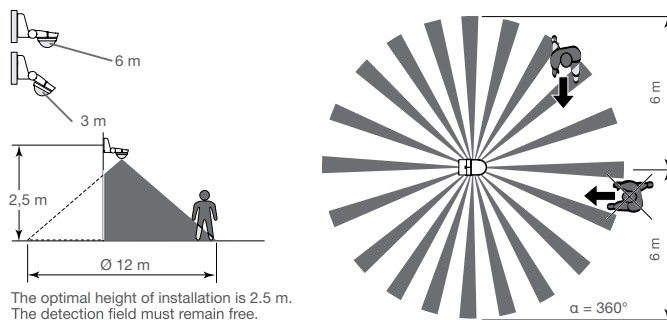


EE840

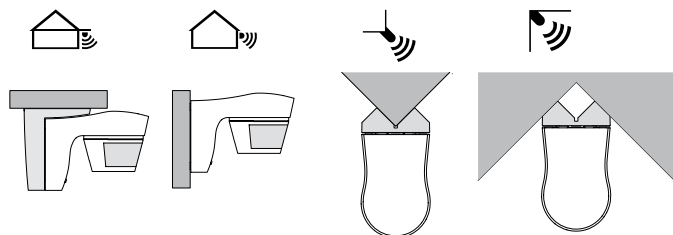
Description



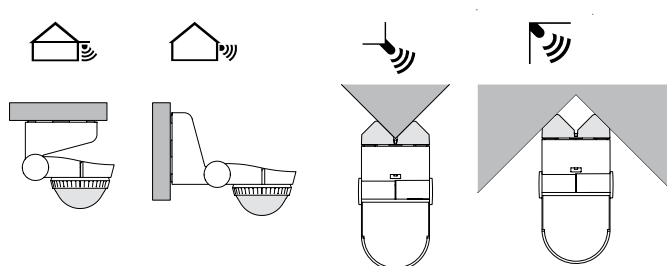
Detection area



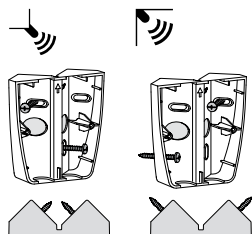
Installation



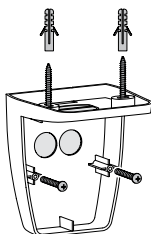
Installation



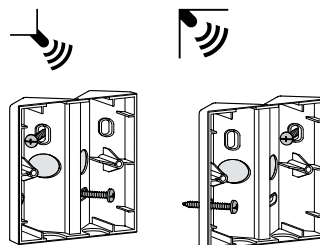
Corner mount



Ceiling

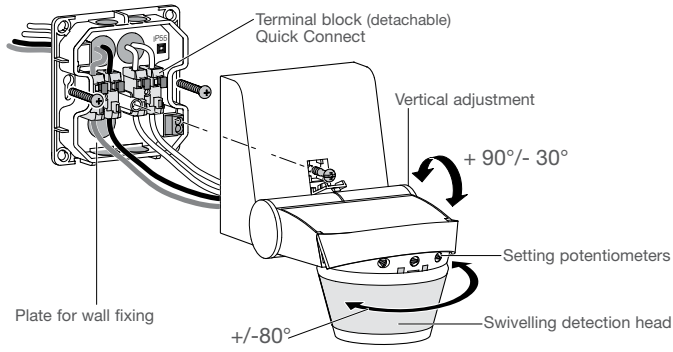


Corner mount

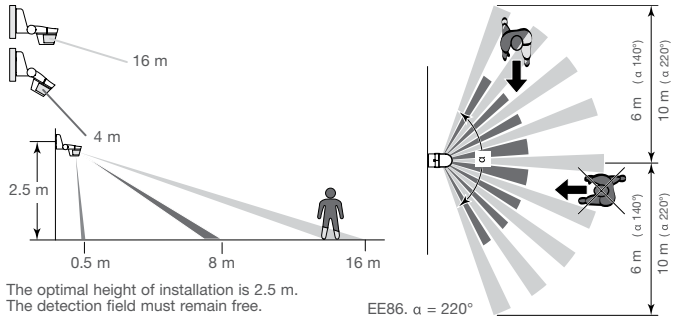


EE860

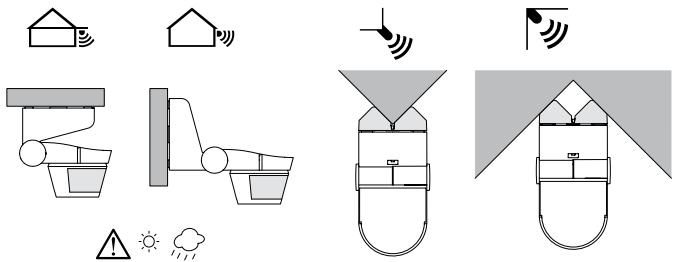
Description



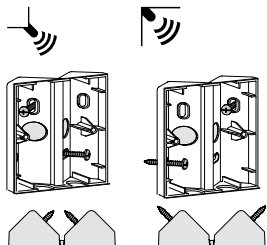
Detection area



Installation

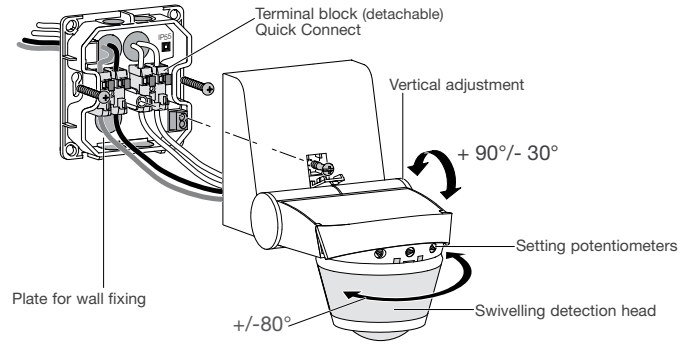


Corner mount

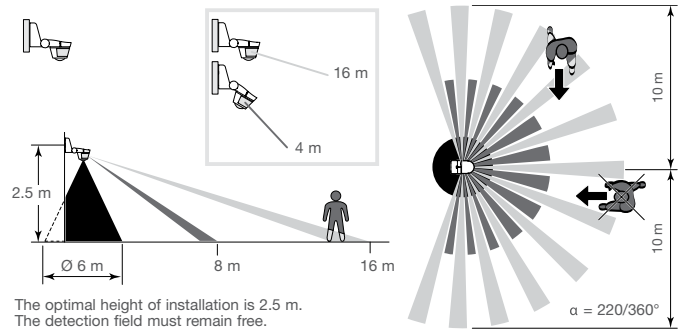


EE870/EE871

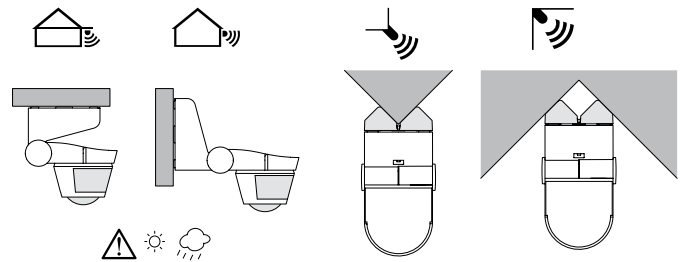
Description



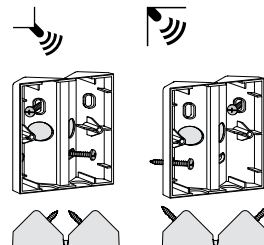
Detection area



Installation

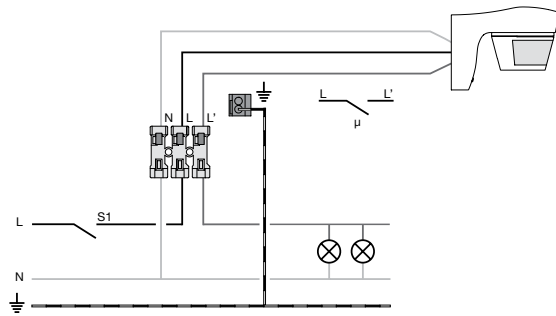


Corner mount



EE820

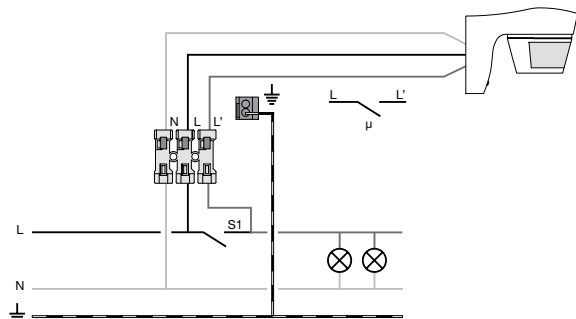
Auto/Off connection



(Optional)

S1 — = Off
 — = Automatic Mode

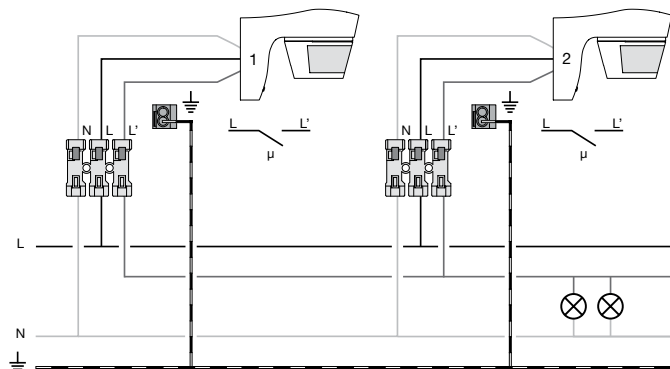
Auto/On connection



(Optional)

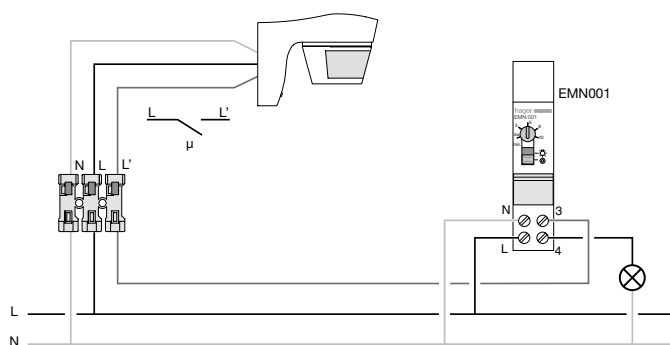
S1 — = Automatic Mode
 — = permanent On

Parallel connection



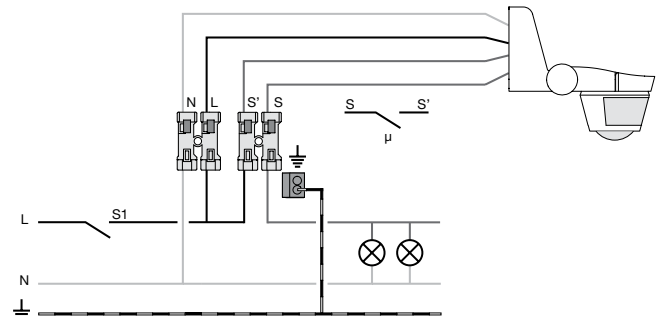
(Optional)

Connection with Timer



EE840/EE860/EE870/EE871

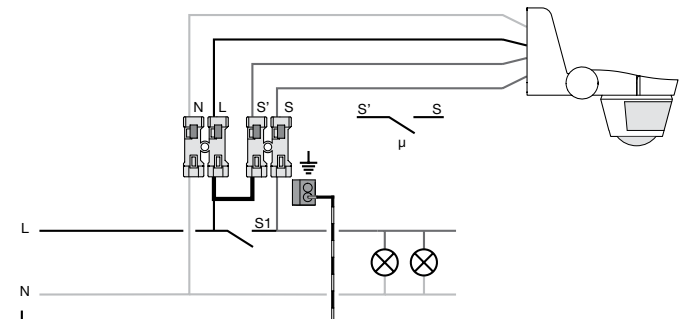
Auto/Off connection



Optional

S1 — = On
 — = Automatic Mode

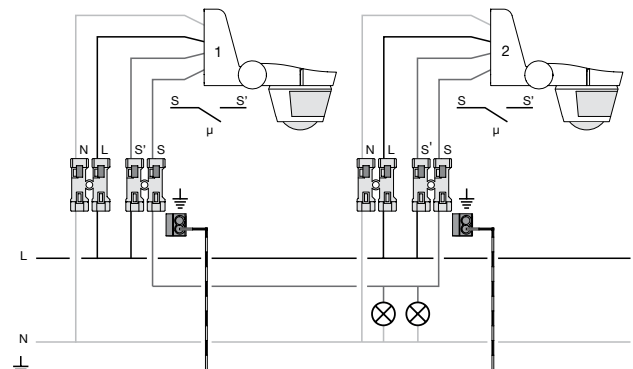
Auto/On connection



Optional

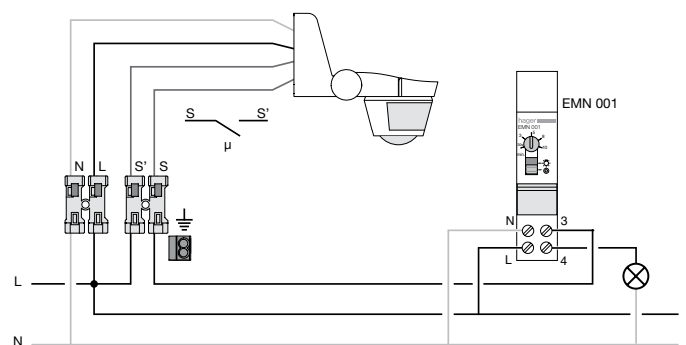
S1 — = Automatic Mode
 — = Permanent On
 — : Strap Ref. AWG16 (1.5mm², 50mm min.)

Parallel connection

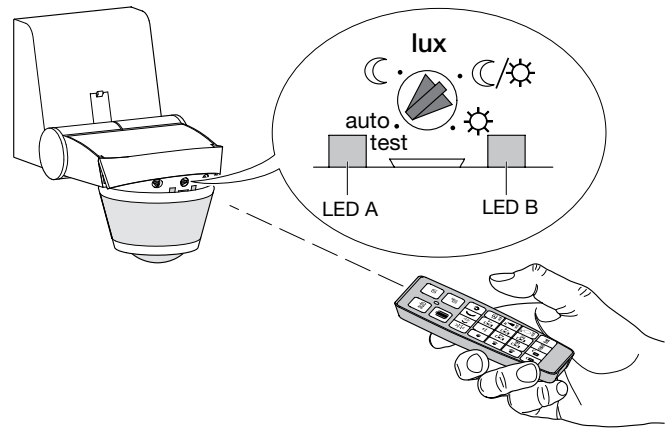
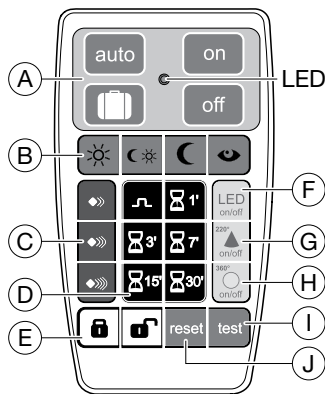


Optional

Connection with Timer



Description EE806



Use

The remote control allows you to set or modify settings on the comfort movement detectors, ref. EE860, EE870, EE871. Every button corresponds to a command. The LED flashes every time a button is pressed. The 4 buttons at the top can be accessed even when the remote control is locked. To lock/unlock the remote control and the settings, just press **A** and **E** for 1 sec.

Key

- A** User commands: mode Auto, holidays (simulation of presence) presetting ON, presetting OFF
- B** Setting Lux (day, twilight, night, ambient lighting learning)
- C** Sensitivity settings
- D** Fixed time settings
- E** To lock/unlock the settings of the detector
- F** ON/OFF of the LED A (detection) of the detector
- G** ON/OFF of the 220° detection of the EE87x detectors
- H** ON/OFF of the 360° detection of the EE87x detectors
- I** Test
- J** Reset, return to manufacturer's settings

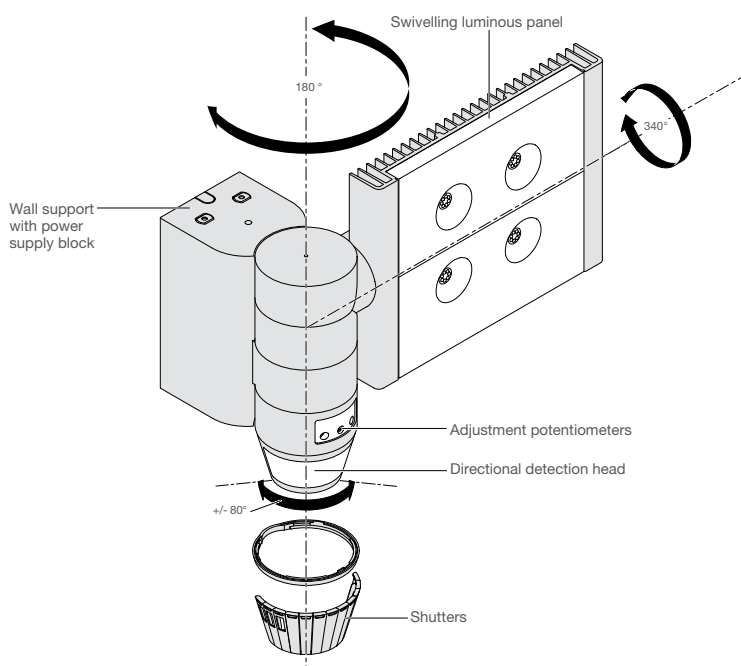
Technical specifications

- Power supply : 1x 3V CR2032
- Shelf life of battery : 5 years
- Protection index : IP30

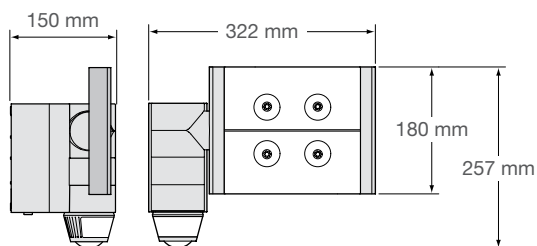
Electrical characteristics	EE600
Type	LED floodlight
Power	Around 60W (300W luminous energy)
Colour of light	5700 Kelvin
Luminous flux	3400 lumen
Power supply	230V~ +10/-15% 50/60Hz 240V~ +/-6% 50/60Hz
Compulsory protection	10A gG/gI fuse or 16A C curve circuit breaker
Insulation class	II
Recommended cable	U1000R02V3G1.5
Connection using screw free terminals	1 to 1.5mm ²
Protection class	IP55
Working temperature	-20°C to +45°C
Storage temperature	-20°C to +60°C
Detection angle	220/360°
Forward detection distance	12m
Twilight threshold setting	5 to 1000lux
Operating duration setting	5sec to 15min
Accessories	Adjustable shutters supplied

EE600

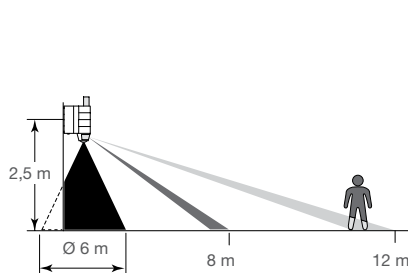
Description



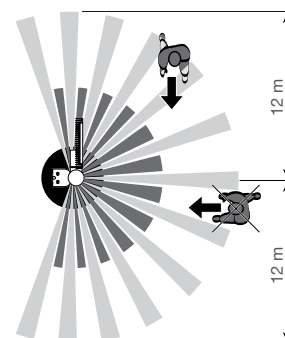
Dimensions



Detection area



Optimal installation height is 2.5m.
The detection zone shall remain free of obstacle.



Product description and working principle

Detectors EE804A and EE805A are 360° movement detectors with a built-in light-sensitive switch function. They are particularly intended for use in interior traffic areas such as corridors, entrance halls etc. These devices detect infrared radiation associated with heat emitted by moving bodies. Detection is by a pyro-electric sensor located under lens. These devices are response brightness adjustable and delay time adjustable.

Lighting output control

On power-on, the detector switches its circuit on for 30 seconds. The lighting output is switched on when the brightness level set by potentiometer 1 is considered too low and a movement is detected. After detection, the light remains on for the time set by potentiometer 2. The delay is reset after each movement detection occurrence.



Potentiometers

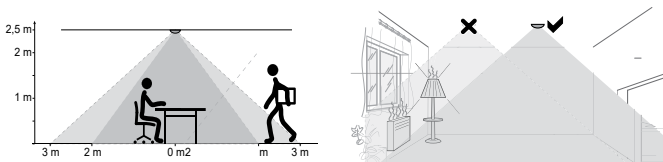
- 1 Brightness level setting
- 2 Operating time setting

Settings

It is possible to set potentiometers 1 and 2, the operating time and the brightness level. In order to facilitate set-up by the user, detectors are pre-set with a default setting suitable for standard installation: traffic area, corridor etc.

- Brightness level: from 5 to 1000 Lux. Potentiometer 1 is pre-set to a default value of approximately 200 Lux.
- Operating Time: from 5 seconds to 15 minutes. Potentiometer 2 is pre-set to a default value of approximately 3 min.

NOTE: These values can be changed using a screwdriver.



Installation

For optimum detection, it is desirable to follow these recommendations:

- Recommended height of installation: from 2.5 to 3.5m.
- Prevent disturbances from the environment (source of heat, ventilation, houseplant...).
- Provide a minimum distance of about 1m between the detector & its controlled lighting.

Electrical characteristics

Supply voltage	230V~ 50Hz
Consumption with no load	1.2W
Lighting	10A AC1 230V~
Incandescent and halogen lamps	23 00W
LED lamps/ Compact fluorescent lamps	20 x 20 W (400 W)
Ferromagnetic transformers	1500 VA
Electronic transformers	1500 W
Fluorescent lamps	
- parallel compensated	1000W
- with electronic ballast	1000W

NOTE: When using with unspecified loads, it is imperative to relay.

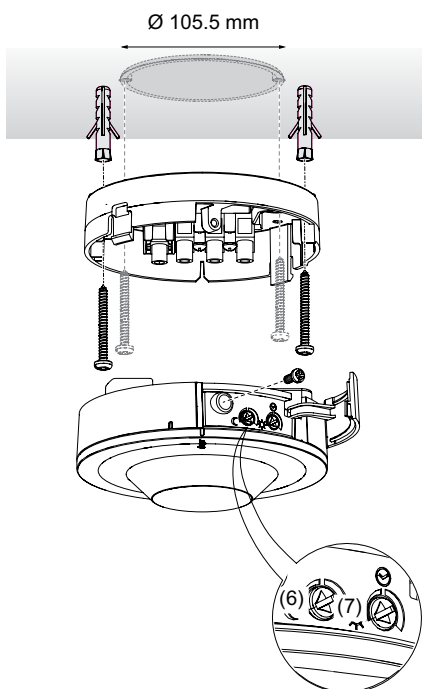
Functional characteristics

Lighting output operating time	5sec to 15min
Brightness level	5 to 1000lux
Recommended installation height	2.5 to 3.5m
Detection range Ø motion	3m approximately (installed product height 2.5m)
Detection range Ø presence	4m approximately (installed product height 2.5)
Upstream circuit breaker	10A
Fixing accessories	Screws (Ø4mm), pegs, protecting cover / connector block
Products in parallel	Yes

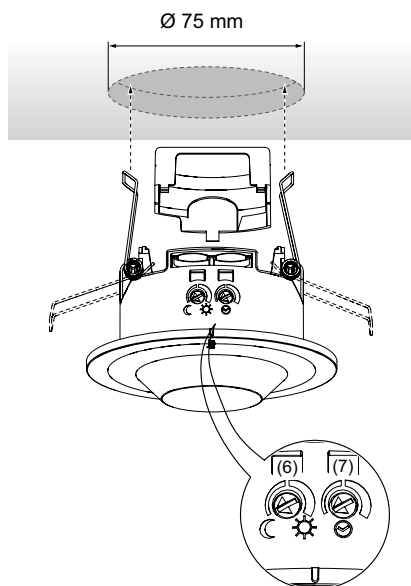
Environment

Working temperature	-5°C to +45°C
Storage temperature	-25°C to +70°C
Class of isolation	II
IK	IK04
Protection index	IP21
Relative humidity (no condensation)	30°C, 95%
Connection cross section	
- EE804A, screw terminals	1 to 2.5mm ²
- EE805A, plug-in terminals	1 to 2.5mm ²

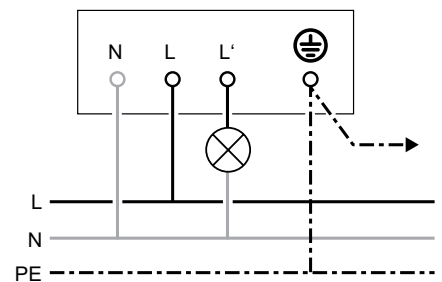
EE804A Description



EE805A Description



Wiring Diagram



Electrical characteristics

Power supply	230V~ 50/60Hz	
Detection Area	EE880	20m x 4m
	EE883	360°
Standby consumption	1W	
Operating duration setting	5sec to 15min	
Luminosity threshold setting	2 to 2000lux	
Recommended installation height	EE880	3m
	EE883	2.5m
Fixing accessories	2 screws Ø4.5mm and length 50mm	
Products in parallel	Yes	
Working temperature	-20°C to +50°C	
Storage temperature	-35°C to +70°C	
Insulation class	II	
Protection class	IP54	
Standards	EN 60669-2-1	
Upstream protection	10A (T ≤ +35°C)	
	6A (+35°C < T < +50°C)	
Maximum installation altitude	2000m	
Pollution degree	2	
Connection	Max 1.5mm ²	

Lighting	T ≤ +35°C	+35°C < T ≤ +50°C
	10A AC1 230V~	6A AC1 230V~
Incandescent lighting	2300W	1300W
Halogen ELV via ferromagnetic or electronic transformer	2300W	1300W
Uncompensated fluoro lamp	1200W	1200W
Fluoro lamps in parallel	1000W / 110µF	1000W / 110µF
Compact fluorescents	20 x 20W	20 x 20W
LED	20 x 20W	20 x 20W
Halogen lamps VLV with Ferromagnetic or electronic ballasts	1500VA	1300VA
Fluoro tubes with ferromagnetic or electronic ballasts	580W	580W

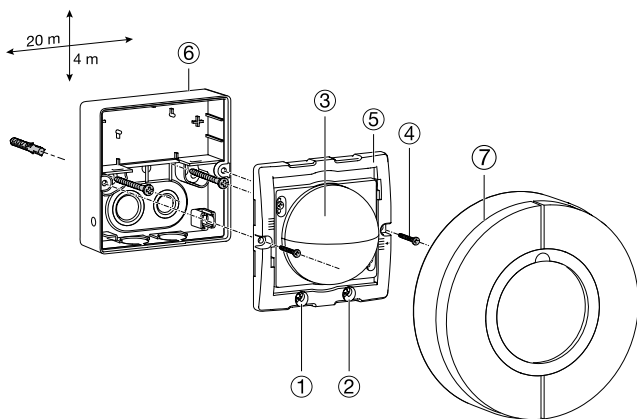
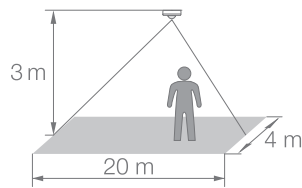
NOTE: When using with unspecified loads, it is imperative to relay.

EE880

Description

The EE880 motion detector is sensitive to infrared radiation emitted as heat from a moving body. The detector switches on the load connected to it when a heat-emitting body moves within its detection area. The load remains lit for the period of time to which the detector has been set and until it no longer detects movement in its surveillance area. This detector has been specially designed to meet the needs of corridors.

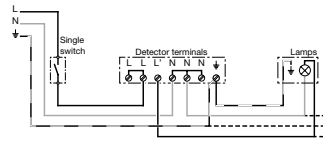
Detection area



Connections

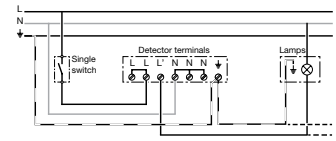
Lamp connection without neutral conductor

Auto operation by detection or Forced switch off.



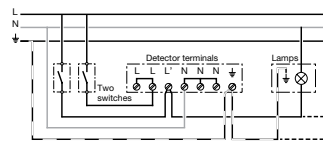
Lamp connection with neutral conductor

Auto operation by detection or Forced switch off.



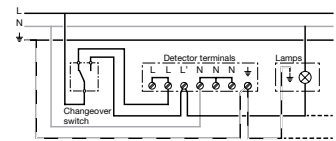
Connection using two switches for manual or automatic control (possibility of simultaneous switch off of the lamp AND the detector)

Auto operation by detection or Forced switch-off or Forced switch-on of the lamp.



Connection using a change over switch to operate either the lamp or the detector

Auto operation by detection or Forced switch-on of the lamp.

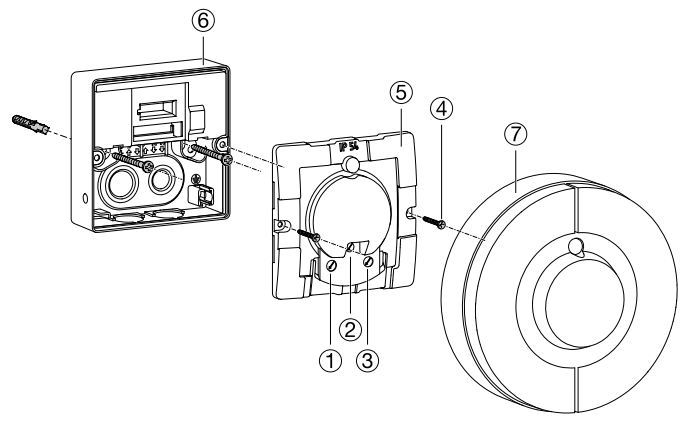
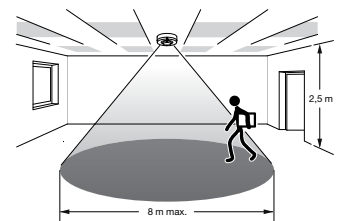


EE883

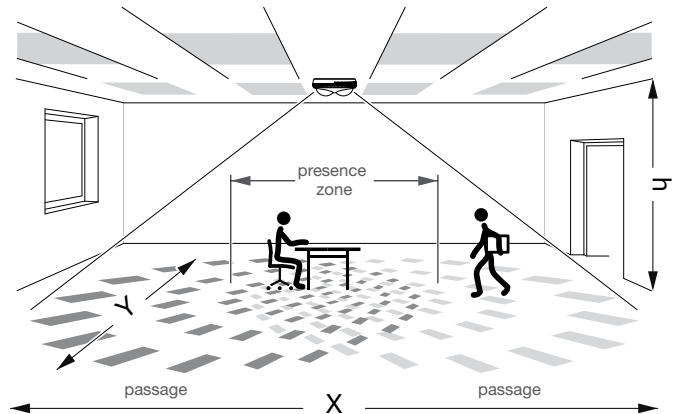
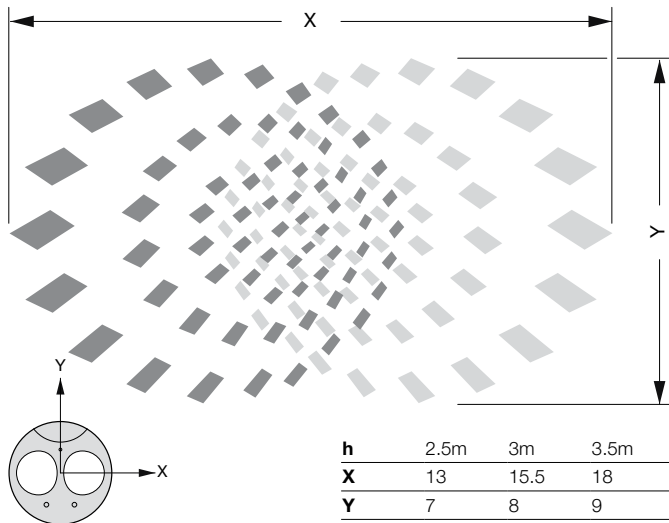
Description

The EE883 is a ceiling-mounted motion detector, active over 360°. The detector employs Hyper Frequency technology and reacts to movements regardless of the temperature. It can detect movements through doors, windows and even non-metallic low-thickness partitions.

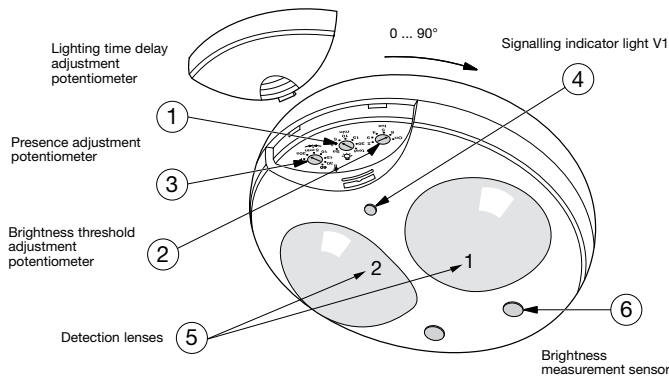
Detection area



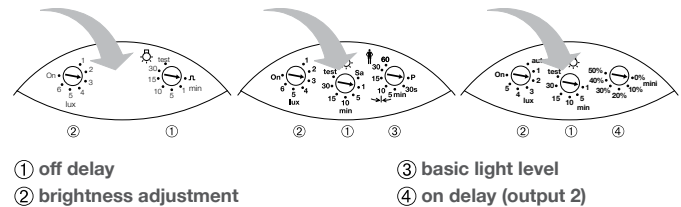
EE810/EE811/EE812 Detection zones



Description



Potentiometer adjustments



Mode 1: Potentiometer greater than 10° = ON delay **15 minutes**
(Application: set-point adjustment, heating, etc.)
Mode 2: Potentiometer smaller or equal to 10° = ON delay **15 seconds**
(Application: setting ventilation, lighting indication).

Technical data

Ref. No.	EE810	EE811	EE812
Type	1 channel	2 channel	1/10V
Electrical specifications			
Supply voltage	230V ~ 50Hz	230V ~ 50Hz	230V ~ 50Hz
Power consumption	1.2W	1.2W	1.2W
Master/Slave & override input:	-	230V ~ 50Hz	230V ~ 50Hz
1/10V output	-	-	EE810 / 50mA max.
Maximum cable length	-	50m	50m
Electrical connection	1mm ² to 4mm ²	1mm ² to 4mm ²	1mm ² to 4mm ²

Entering instructions

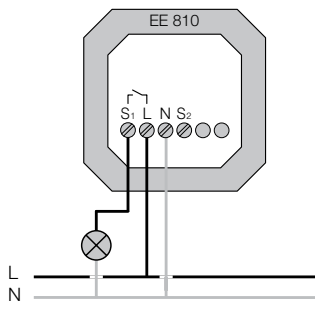
Lighting output time delay	1 to 30min	1 to 30min	1 to 30min
Lighting output time delay	1 to 30min	1 to 30min	1 to 30min
Presence output time delay	-	30s to 60min	-
Brightness threshold	5 - 1200 lux	5 - 1200 lux	5 - 1200 lux
Minimum adjustment range	-	-	0% to 50%
Presence level adjustment	-	-	mini to 100%
Recomm. height from ground	2.5m to 3.5m	2.5m to 3.5m	2.5m to 3.5m
Lighting loads	S1 AC1 16A 230V~	S2 AC1 10A 230V~	S1 AC1 16A 230V~
Incandescent halogen 230V	2300W	-	2300W
Halogen ELV (12 or 24V) via ferromagnetic or electronic transformer	1500W	-	1500W
Parallel compensated fluorescent tubes	290W/ C = 32µf	-	290W/ C = 32µf
Electronic ballast	580W	-	1000W

Test mode:

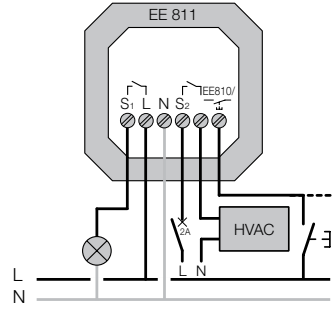
This mode makes it possible to validate the detection area. To select this mode, set the potentiometer ① to the position "test". Indicator V1 ④ will indicate any detection by lighting for one second if the level of illumination is lower than the preset threshold. The lighting outputs S1 and S2 are not controlled in this mode, the time settings will remain ignored.

Position of potentiometer	Lux value	Application
Auto	400	Default
1	5	-
2	100	Corridor
3	200	Corridor, WC
4	300	VDU work
5	500	Offices
6	800	Lab, classroom
On	-	Measurement of brightness inhibited

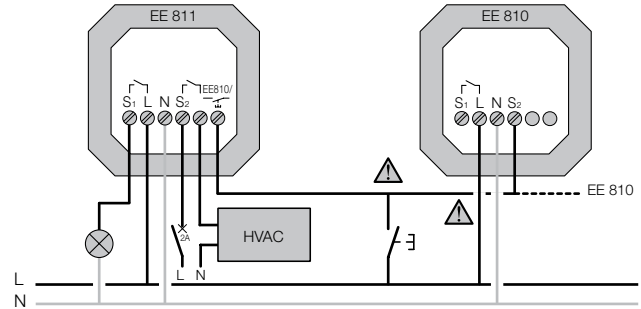
EE810



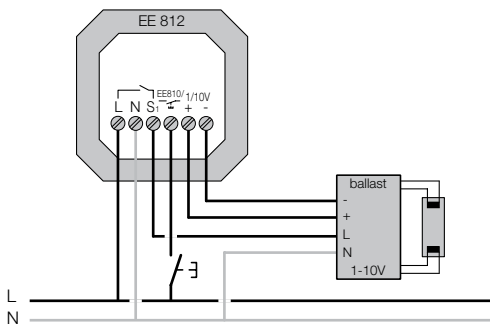
EE811



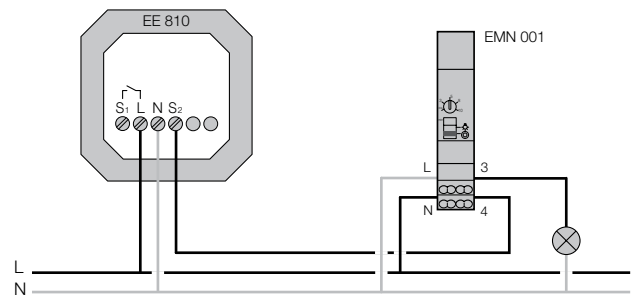
EE811 Master + EE810 Slave



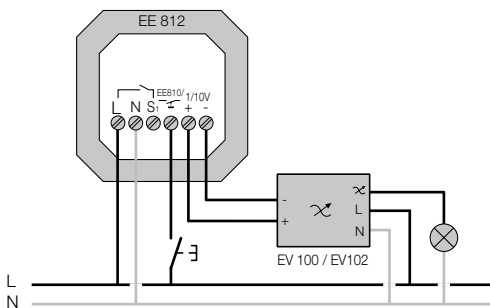
EE812 + Ballast



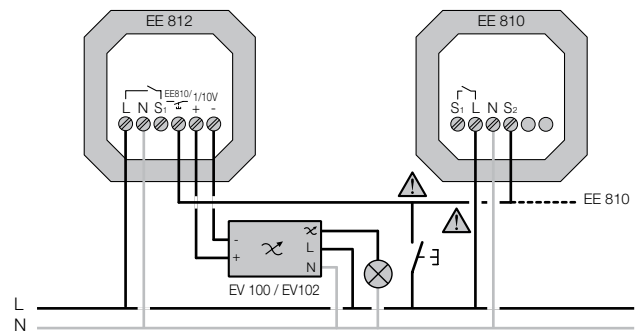
EE810 + EMN001



EE812 + EV100/EV102

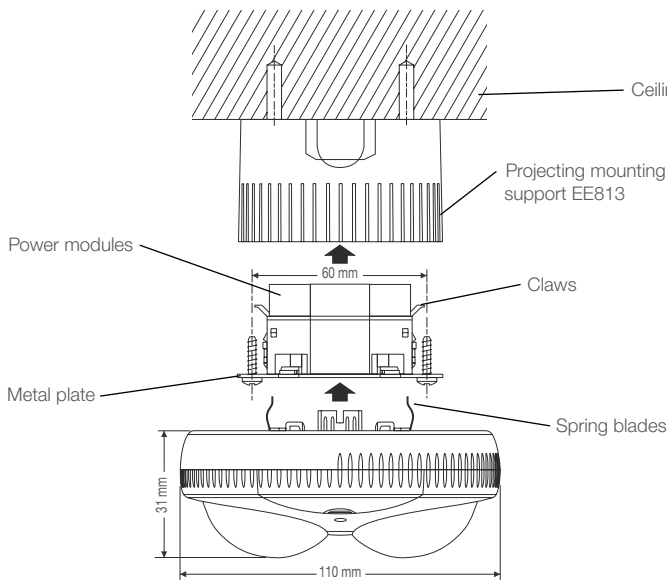


EE812 Master + EE810 Slave

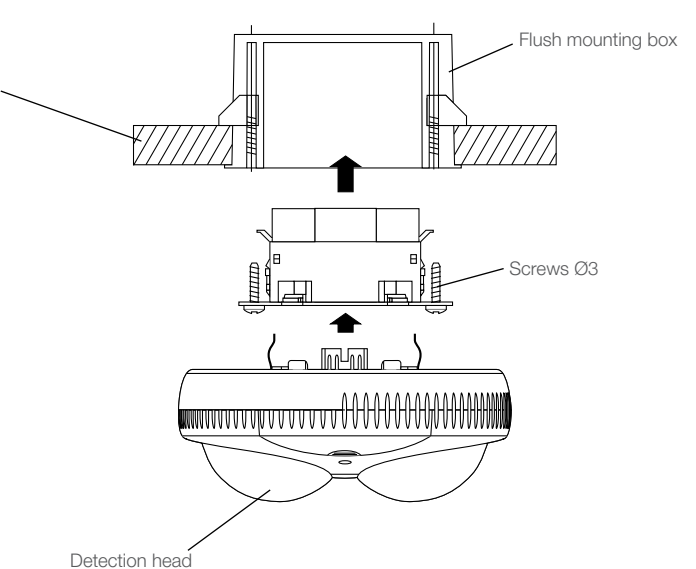


Light & energy management

Projecting mounting

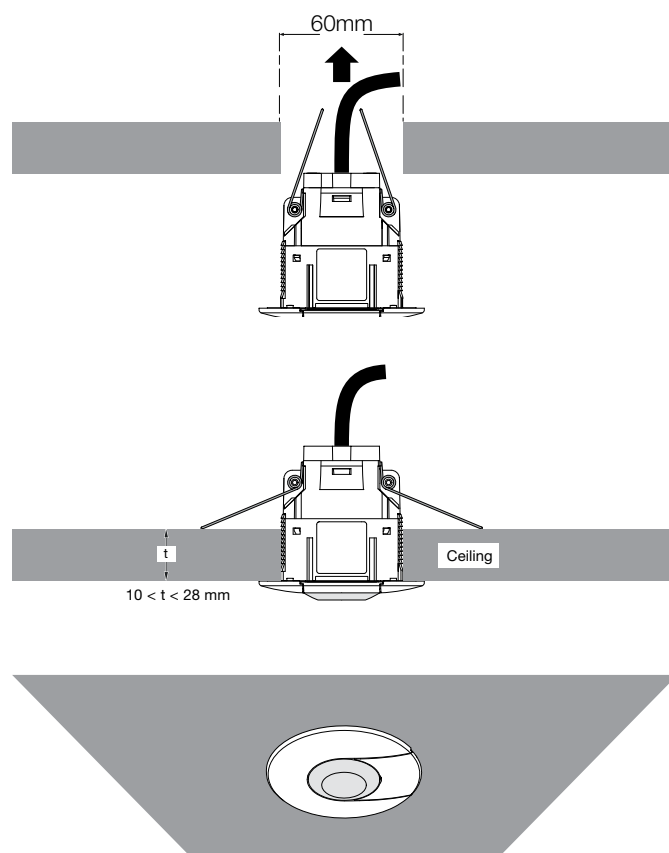
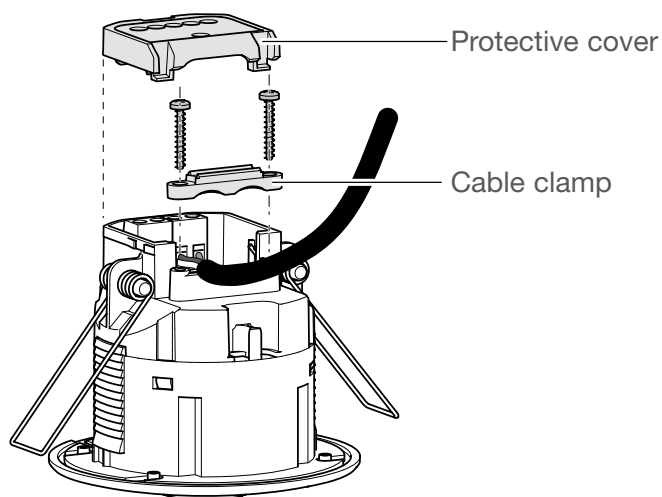


Semi-recessed mounting

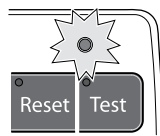
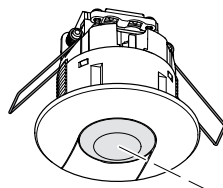
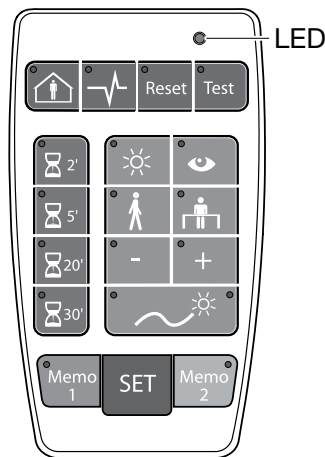


Technical data

Ref. No.	EE816
Detection range (Product installed at 2.5m height)	Movement area- Diameter 7m Presence area- Diameter 5m
Supply voltage	230V AC +10% - 15%
Frequency	50/60Hz
Local Lux threshold setting	3 modes available
Local time setting	1min. to 1hr
Commissioning via installer remote control	EE807 for power up, absence/presence mode, timer, active/passive cell.
Control with IR user remote control	EE808 for ON/OFF override & dimming up/down
Output	14V / 50mA (for a DALI bus with 24 ballasts)
2300W Incandescent or 230V halogen 1500W VLV halogen lamps with ferromagnetic or electronic transformer 1000W fluorescent via electronic ballast 23 x 23W fluoro-compact with electronic ballast	No isolation between the mains & the DALI bus!!
Push button input	To dim up/down & absence/presence detection (semi-automatic/automatic mode) Same phase as power supply.
Terminals	For 1.5mm ² rigid/flexible wires
Power dissipation	60mW
Isolation class	II
Protection	IP41/IK03
Operating temperature	-10°C to +45°C
Storage temperature	-20°C to +60°C
Standards	IEC 60669-1, IEC 60669-2-1, CE C tick



Description EE807



The acknowledgment LED blinks during the sending of the IR message.

Technical specifications

Power supply: 1x 3V CR2032
Shelf life of battery: 2.5 yrs
Protection index: IP30

Use

The remote control allows the user to set or modify settings on the presence detector EE816 when the potentiometer is on "auto test". It allows single and multiple settings. The SET key is used to send the IR messages to the occupancy sensors. Multiple settings can be stored in Memo 1 and Memo 2 and recalled to set several devices.

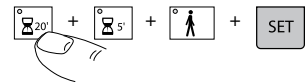
Single setting

Example: do a reset.



Multiple settings

Define the parameters to be changed and press SET to send. Example: for 25min. & corridor use, press 20', 5' and corridor.



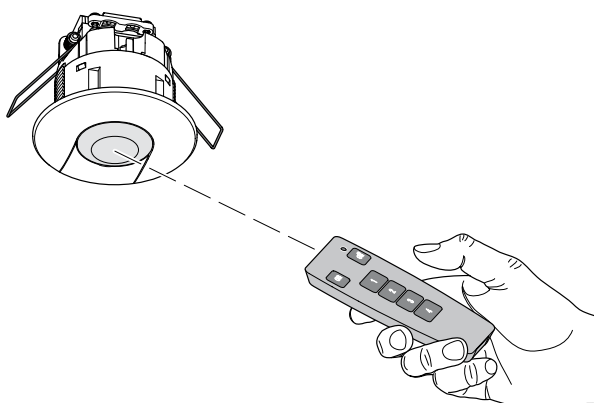
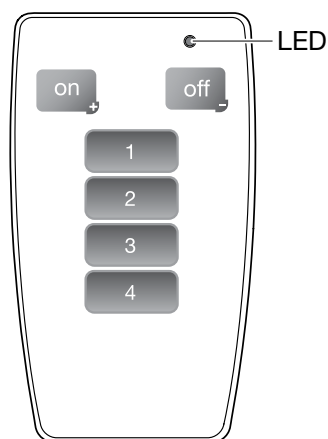
In the case of 2 opposite states the green LED denotes ON and the red LED denotes OFF (except presence/ absence). When no function is selected all LED's are OFF.

Settings available

Key	Meaning	Indication	Function
	Presence	Green LED on	Presence on (auto mode)
	Absence	Red LED on	Absence on (semi-auto mode)
	Power up	Green LED on Red LED on	The light is automatically switched ON for 30s after power up. During warm up phase, the light output is off
Reset	Reset	LED on	To return to factory settings (Lux = 400, time = 20min., presence on, power up off & cell active)
Test	Test	LED on	To validate the detection area
	Time	LED on	To set the time. It is possible to add times e.g. press 2' & 5', time value is 7'
	Day level 1000 Lux	LED on	To set the value on 1000 Lux
	Learn	LED on	To learn the current Lux level
	Corridor 200 Lux	LED on	To set the value on 200 Lux
	Office 400 Lux	LED on	To set the value on 400 Lux
-	Lux +	LED on	To increase the Lux level (+100)
+	Lux -	LED on	To decrease the Lux level (-100)
	Active cell	Green LED on	The light is continuously measured
	Passive cell	Red LED on	The product doesn't switch the light off even if the ambient luminosity is sufficient

Memo & set keys	Meaning	Indication	Function
Memo 1	Press	LED is on until a setting is changed	To load/unload Memo 1
	Long press	LED is on for 5s., then blinks until release press. After release, the LED goes off in case of setting change	To save the current setting as Memo 1
Memo 2	Press	LED is on until a setting is changed	To load/unload Memo 1
	Long press	LED is on for 5s., then blinks until release press. After release, the LED goes off in case of setting change	To save the current setting as Memo 1
SET	Short press	LED flashes	To send an IR message of the current setting

Description EE808

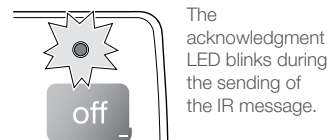


Use

The remote control allows the user to set or modify settings on the presence detector EE816. Each button corresponds to a command.

Technical specifications

Power supply: 1x 3V CR2032
Shelf life of battery: 3.5 yrs
Protection index: IP30



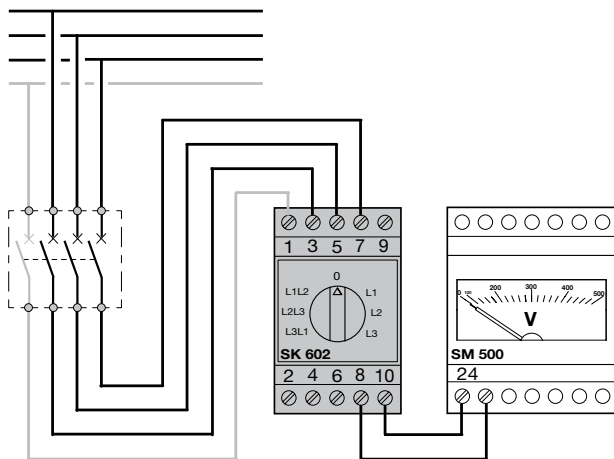
Settings available

Key	Action	Function	Product type	
	Short press (<0.5s)	On	EE816 DALI/DSI presence detectors	
	Long press (>0.5s)	Dim up		
	Short press	Off		
	Long press (>0.5s)	Dim down		
	Short press	To start scene 1		Only for EE816 DALI/DSI presence detectors
	Long press (>0.5s)	To learn scene 1		
	Short press	To start scene 2		
	Long press (>0.5s)	To learn scene 2		
	Short press	To start scene 3		
	Long press (>0.5s)	To learn scene 3		
	Short press	To start scene 4		
	Long press (>0.5s)	To learn scene 4		

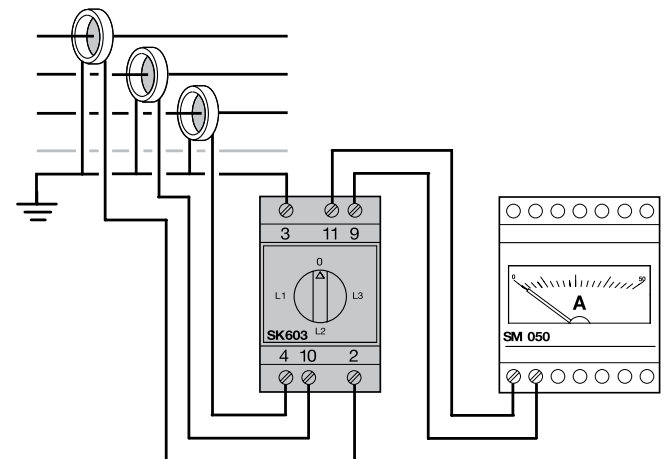
Electrical characteristics

	SM500	SM050	SM015	SM030	SM050	SM100	SM150	SM250	SM400	SM600
Product	Voltmeter	Ammeter	Ammeter	Ammeter	Ammeter with CT	Ammeter with CT	Ammeter with CT	Ammeter with CT	Ammeter with CT	Ammeter with CT
Range	500V	0-5A	0-15A	0-30A	0-50A	0-100A	0-150A	0-250A	0-400A	0-600A
Consumption	≤3 VA	≤1.1 VA	≤1.1 VA	≤1.1 VA	≤1.1 VA	≤1.1 VA	≤1.1 VA	≤1.1 VA	≤1.1 VA	≤1.1 VA
Accuracy %	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Ref temp °C	23 ±2°C	23 ±2°C	23 ±2°C	23 ±2°C	23 ±2°C	23 ±2°C	23 ±2°C	23 ±2°C	23 ±2°C	23 ±2°C
Accuracy variation °C	±0.03% / °C	±0.03% / °C	±0.03% / °C	±0.03% / °C	±0.03% / °C	±0.03% / °C	±0.03% / °C	±0.03% / °C	±0.03% / °C	±0.03% / °C
Maximum continuous	1.2Un	1.2Un	1.2Un	1.2Un	1.2Un	1.2Un	1.2Un	1.2Un	1.2Un	1.2Un
Momentary maximum	2Un / 5sec	10Un / 5sec	10Un / 5sec	10Un / 5sec	10Un / 5sec	10Un / 5sec	10Un / 5sec	10Un / 5sec	10Un / 5sec	10Un / 5sec
Frequency Hz	45 - 65	45 - 65	45 - 65	45 - 65	45 - 65	45 - 65	45 - 65	45 - 65	45 - 65	45 - 65
Isolating voltage	2kV / 50Hz - 1min	2kV / 50Hz - 1min	2kV / 50Hz - 1min	2kV / 50Hz - 1min	2kV / 50Hz - 1min	2kV / 50Hz - 1min	2kV / 50Hz - 1min	2kV / 50Hz - 1min	2kV / 50Hz - 1min	2kV / 50Hz - 1min
Operating temperature	-25°C to +50°C	-25°C to +50°C	-25°C to +50°C	-25°C to +50°C	-25°C to +50°C	-25°C to +50°C	-25°C to +50°C	-25°C to +50°C	-25°C to +50°C	-25°C to +50°C
Storage temperature	-40°C to +80°C	-40°C to +80°C	-40°C to +80°C	-40°C to +80°C	-40°C to +80°C	-40°C to +80°C	-40°C to +80°C	-40°C to +80°C	-40°C to +80°C	-40°C to +80°C
IP rating	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20
Connection flexible	1 to 6mm ²	1 to 6mm ²	1 to 6mm ²	1 to 6mm ²	1 to 6mm ²	1 to 6mm ²	1 to 6mm ²	1 to 6mm ²	1 to 6mm ²	1 to 6mm ²
Connection rigid	1.5 to 10mm ²	1.5 to 10mm ²	1.5 to 10mm ²	1.5 to 10mm ²	1.5 to 10mm ²	1.5 to 10mm ²	1.5 to 10mm ²	1.5 to 10mm ²	1.5 to 10mm ²	1.5 to 10mm ²

Electrical connection (voltmeter)



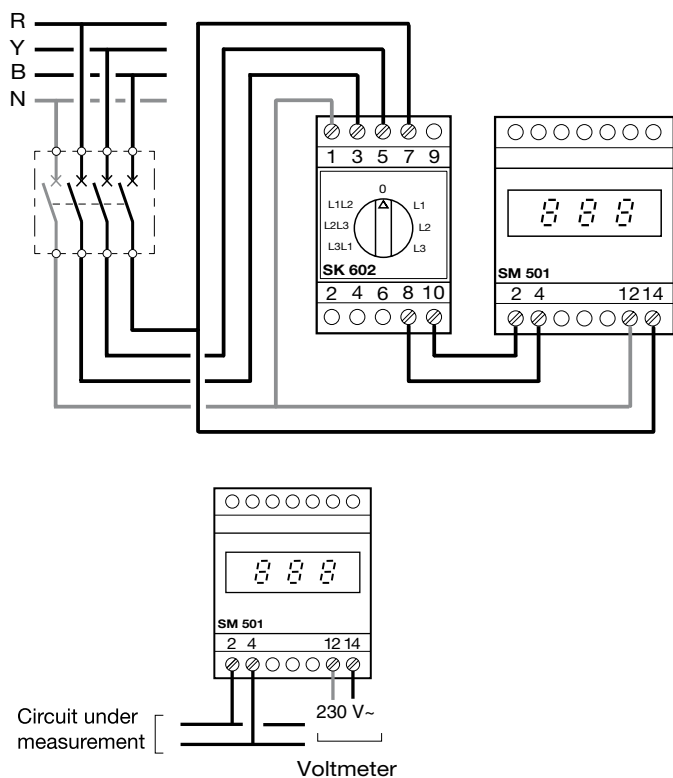
Electrical connection (ammeter)



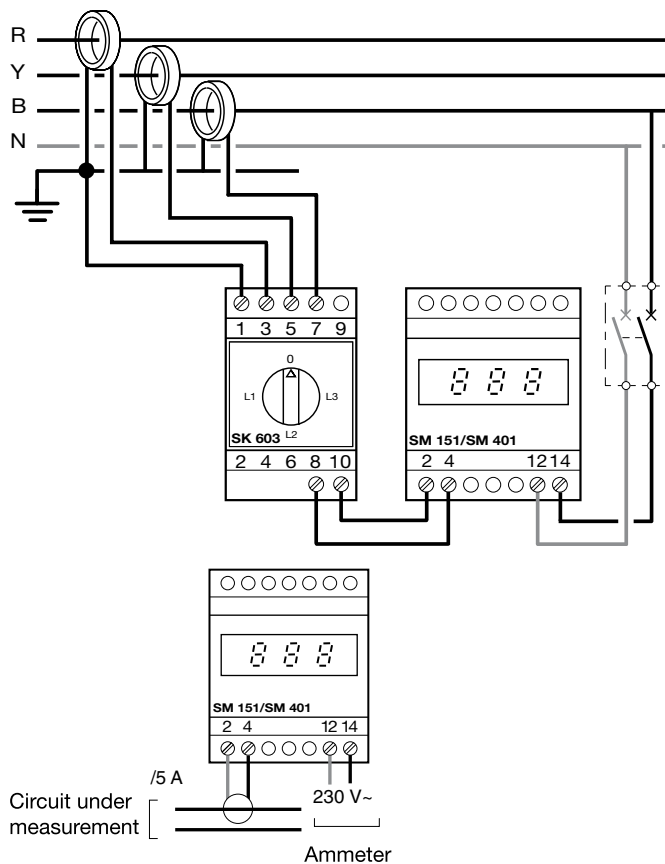
Electrical characteristics

	SM501	SM020	SM151	SM401	SM601
Product	Voltmeter	Ammeter	Ammeter with CT	Ammeter with CT	Ammeter with CT
Range	500V	0-20A	0-150A	0-400A	0-600A
Consumption	≤4.5 VA	≤1 VA	≤1 VA	≤1 VA	≤1 VA
Working voltage	230V~ 50/60Hz	230V~ 50/60Hz	230V~ 50/60Hz	230V~ 50/60Hz	230V~ 50/60Hz
Update of the display	3sec	3sec	3sec	3sec	3sec
Input impedance	>1MV	-	-	-	-
Isolating resistance	10MV	10MV	10MV	10MV	10MV
Maximum voltage	660V	660V	660V	660V	660V
Accuracy %	±1	±1	±1	±1	±1
Ref temp °C	23 ±1°C	23 ±1°C	23 ±1°C	23 ±1°C	23 ±1°C
Accuracy variation °C	±0.03% / °C	±0.03% / °C	±0.03% / °C	±0.03% / °C	±0.03% / °C
Maximum continuous	1.2Un	2In	2In	2In	2In
Momentary maximum	2Un / 5sec	10In / 5sec	10In / 5sec	10In / 5sec	10In / 5sec
Frequency Hz	45 - 65	45 - 65	45 - 65	45 - 65	45 - 65
Isolating voltage	2kV / 50Hz - 1min	2kV / 50Hz - 1min	2kV / 50Hz - 1min	2kV / 50Hz - 1min	2kV / 50Hz - 1min
Operating temperature	-10°C to +55°C	-10°C to +55°C	-10°C to +55°C	-10°C to +55°C	-10°C to +55°C
Storage temperature	-40°C to +70°C	-40°C to +70°C	-40°C to +70°C	-40°C to +70°C	-40°C to +70°C
IP rating	IP20	IP20	IP20	IP20	IP20
Connection flexible	1 to 6mm ²	1 to 6mm ²	1 to 6mm ²	1 to 6mm ²	1 to 6mm ²
Connection rigid	1.5 to 10mm ²	1.5 to 10mm ²	1.5 to 10mm ²	1.5 to 10mm ²	1.5 to 10mm ²

Electrical connection (voltmeter)



Electrical connection (ammeter)



Electrical characteristics	ECx140D	ECx180D	ECx180T	ECx380D	ECx310D	ECx300C
	1Ph - 40A	1Ph - 80A	1Ph - 80A (3 track)	3Ph - 80A	3Ph - 125A	3Ph - A via CT
Supply voltage	230V AC	230V AC	230V AC	400V AC	400V AC	400V AC
Frequency	45/65Hz	92/276Hz	184/276Hz	45/65Hz	45/65Hz	45/65Hz
Starting current	20mA	15mA	15mA	15mA	20mA	1mA
Base current	5A	5A	5A	5A	5A	1(6) A
Max current	40A	80A	80A	80A	125A	6A
Consumption on voltage circuit	<2<1	<2/<1	<2/<1	<2/<0.6	<2/<0.6	<2/<0.6
Consumption on current circuit	<1	<1	<1	<0.7	<0.7	<0.7
Accuracy	Class 1 (1%) in accordance with IEC 62053 and IEC 61557	Class 1 (1%) in accordance with IEC 62053 and IEC 61557	Class 1 (1%) in accordance with IEC 62053 and IEC 61557	Class 1 (1%) in accordance with IEC 62053 and IEC 61557	Class 1 (1%) in accordance with IEC 62053 and IEC 61557	Class 1 (1%) in accordance with IEC 62053 and IEC 61557
Connection	Direct	Direct	Direct	Direct	Direct	Via CT
Display	Digital 5+2 Digit	Digital 7+2 Digit	Digital 7+2 Digit	Digital 7+2 Digit	Digital 7+2 Digit	Digital 7+2 Digit
Metrological LED	Blinking = 5wh/impulse	Blinking = 1wh/impulse	Blinking = 2wh/impulse	Blinking = 1wh/impulse	Blinking = 1wph/impulse	Blinking = 1wph/impulse
Pulse output (Except ECRxxxx)	At 100wh load 1 pulse = 100ms 3 - 27 VAC 5 - 39 VDC	At 100wh load 1 pulse = 30ms -100ms	At 100wh load 1 pulse = 30ms -100ms	At 100wh load 1 pulse = 30ms -100ms	At 100wh load 1 pulse = 30ms -100ms	At 100wh load 1 pulse = 30ms -100ms
Modbus (Only ECR140D)	RS-485 3 wire 120 Ohm resistor required (Only ECR140R)	RS-485 3 wire 120 Ohm resistor required (Only ECR180D)	RS-485 3 wire 120 Ohm resistor required (Only ECR180T)	Built in 120 Ohm resistor (Only ECR380D)	Built in 120 Ohm resistor (Only ECR310D)	Built in 120 Ohm resistor (Only ECR300C)
Width	1 module	2 modules	4 modules	4 modules	6 modules	4 modules
Connection capacity of digital input	0.5 to 2.5mm ²	0.8 to 2.5mm ²	0.8 to 2.5mm ²	0.8 to 2.5mm ²	0.8 to 2.5mm ²	0.8 to 2.5mm ²
Connection capacity of power supply	0 to 16mm ²	0 to 33mm ²	0 to 33mm ²	0 to 33mm ²	0 to 50mm ²	0 to 4mm ²
Protection degree	IP20 / IK03	IP20 / IK03	IP20 / IK03	IP20 / IK03	IP20 / IK03	IP20 / IK03
Operating temperature	-25°C to +55°C	-25°C to +55°C	-25°C to +55°C	-25°C to +55°C	-25°C to +55°C	-25°C to +55°C
Storage temperature	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C

Description - SM102E

- 1 Key-pad with 4 dual-function keys (display or programming)
- 2 Backlighted LCD display
- 3 Phase
- 4 Values
- 5 Unit
- 6 Energy metering indication



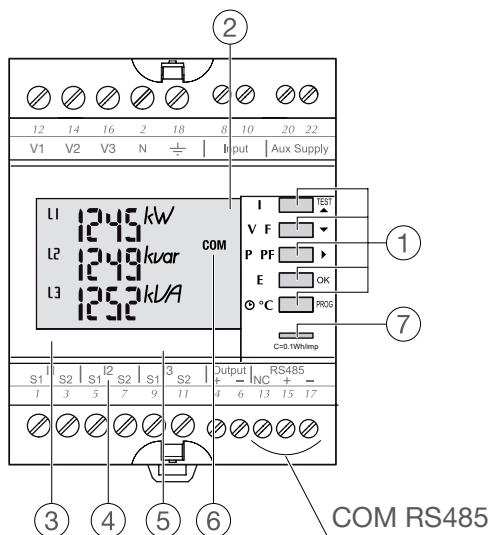
Description - SM103E

- 1 Key-pad with 6 dual-function keys (display or programming)
- 2 Backlighted LCD display
- 3 Phase
- 4 Values
- 5 Unit
- 6 Energy metering indication
- 7 Hour meter and energy display
- 8 Alarm relay 1
- 9 Alarm relay 2



Description - SM101C

- 1 Key-pad with 4 dual-function keys (display or programming)
- 2 Backlighted LCD display
- 3 Phase
- 4 Values
- 5 Unit
- 6 Activity indicator on the communication bus
- 7 Energy metering indication



Electrical characteristics

Current (TRMS)	SM102E	SM103E	SM101C
I (1st CT)	up to 9,999A	up to 9,995A	5A to 9,999A
I (2nd CT)	5A	1 or 5A	5A
In	0.5% (from 10 to 110% to In)	0.2% (from 10 to 110% to In)	Calculated
Minimum measuring current (2nd CT)	5mA	10mA	5mA
Input consumption	<0.6 VA	<0.3 VA	<0.6VA per phase
Permanent overload (2nd CT)	6A	10A	6A
Accuracy	±0.2%	±0.2%	±0.2%
THD	±1%	±1%	±1%
Update period	1sec	1sec	1sec

Voltage (TRMS)

U	50V AC to 500V AC (Ph-Ph) 28V AC to 289V AC (Ph-N)	17V AC to 700V AC (Ph-Ph) 11V AC to 404V AC (Ph-N)	50V AC to 520V AC (Ph-Ph) 28V AC to 300V AC (Ph-N)
Input consumption	-	-	<0.1VA per phase
Permanent overload (2nd CT)	800V AC	760V AC	760V AC
Accuracy	±0.2%	±0.2%	±0.2%
THD	±1%	±1%	±1%
Update period	1sec	1sec	1sec

Power

Accuracy (P,Q)	±0.5 to ±2% (from -90° to +90°)	±0.5 to ±2% (from -90° to +90°)	±0.5%
Accuracy (S)	±1%	±1%	±1%
Accuracy (PF)	±0.5% (for 0.5<PF<1)	±0.5% (for 0.6<PF<1)	±0.02%
Update period	1sec	1sec	1sec

Energy

Accuracy (Ea)	Class 0.5s	Class 0.5s	Class 0.5s
Accuracy (Er)	Class 2	Class 1	Class 2
Update period	1sec	1sec	1sec

Frequency

F	45Hz to 65Hz	45Hz to 65Hz	45Hz to 65Hz
Accuracy	±0.1%	±0.02%	±0.1%
Update period	1sec	1sec	1sec

Supply

Voltage	110V AC to 400V AC ±10%	110V AC to 400V AC ±10%	200V AC to 277V AC ±15%
Frequency	50/60Hz	50/60Hz	50/60Hz
Consumption	<10VA	<10VA	<5VA

Environment

Protection degree	IP52 (front panel) IP30 (case)	IP52 (front panel) IP30 (case)	IP51 (front panel) IP20 (case)
Operating temperature	-10°C to +55°C	-10°C to +55°C	-10°C to +55°C
Storage temperature	-20°C to +85°C	-20°C to +85°C	-20°C to +70°C
Insulation category	III (480Vac Ph-Ph)	III (480Vac Ph-Ph)	III (300Vac Ph-Ph)
Degree of pollution	PD2	PD2	PD2

Communication

Metrological LED	-	-	0.1Wh/pulse
Pulse output	-	-	30Vdc/27mA Max
Communication	Three phase (3 or 4 wires), two phase (2 wire) and single phase networks	Three phase (3 or 4 wires), two phase (2 wire) and single phase networks	RS485 2/3 wires half duplex Jbus/Modbus 2,400bds to 38,400bds Parity (no,odd,even) 1 or 2 Stop bytes

Shape

Weight	400g	400g	215g
Size	96mm x 96mm x 60mm or 96mm x 96mm x 80mm with all optional modules	96mm x 96mm x 60mm or 96mm x 96mm x 80mm with all optional modules	4 mod, 73mm x 90mm x 67mm

Electrical characteristics

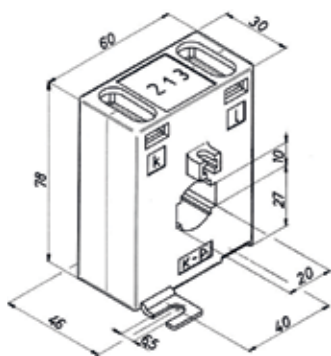
Primary rated current	50A - 2,000A
Rated secondary current	5A
Rated frequency	50 - 60Hz
Highest voltage for equipment U_m	720V
Rated power-frequency withstand voltage (r.m.s.)	3kV
Instrument security factor	FS 5
Rated continuous thermal current	$1.2 \times I_n$
Current rating	120%
Rated short time thermal current	$I_{th} = 60 \times I_n$ (max 50kA)
Rated dynamic current	$I_{dyn} = 2.5 \times I_{th}$ (max 120kA)
Permissible ambient temperature	-40°C to +40°C
Class of insulation in accordance with IEC 60085	E
Protection rating	IP20
Tightening torque	1.5 - 2Nm

	Prim. (A)	Sec. (A)	Power (VA)	Accuracy class	Dims (mm)	Max. busbar and cable size (mm)
SRA01005	100	5	2.5	1	70 x 49.5 x 30	30 x 10 25 x 15 20 x 20
SRA01505	150	5	2.5	1	70 x 49.5 x 30	30 x 10 25 x 15 20 x 20
SRA02005	200	5	2.5	1	70 x 49.5 x 30	30 x 10 25 x 15 20 x 20
SRA02505	250	5	2.5	1	70 x 49.5 x 30	30 x 10 25 x 15 20 x 20
SRC04005	400	5	5	1	70 x 49.5 x 30	30 x 10 25 x 15 20 x 20
SRC06005	600	5	5	1	70 x 49.5 x 30	30 x 10 25 x 15 20 x 20
SRA00505	50	5	1.5	1	78 x 60 x 30	20 x 10 15 x 15 Ø 20
SRI03005	300	5	5	1	78 x 60 x 30	40 x 12 Ø 28
SRD08005	800	5	5	1	108 x 85 x 30	60 x 10 50 x 30 Ø 45
SRE12505	1250	5	1.5	1	122 x 100 x 40	80 x 10 60 x 30 Ø 60
SRE16005	1600	5	1.5	1	122 x 100 x 48	80 x 10 60 x 30 Ø 60

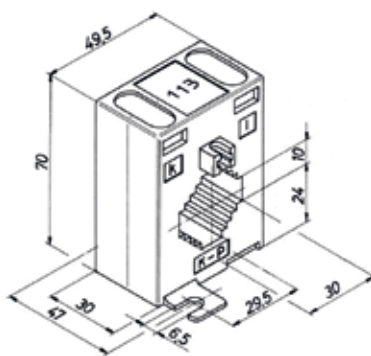
Electrical characteristics

- Primary current: 50 to 600A (depending on model). Secondary current: 5A
- Frequency: 50/60Hz

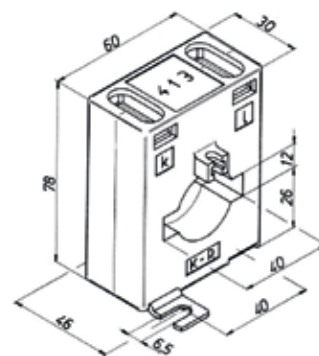
SRA00505: 50/5A



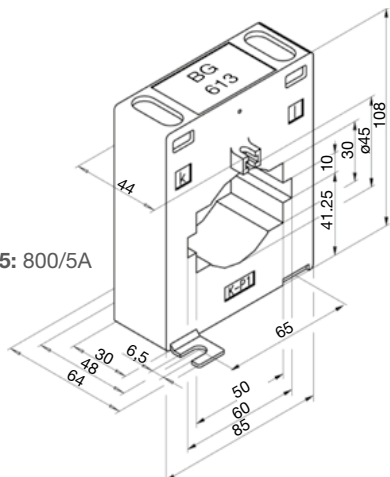
SRA01005: 100/5A SRA02505: 250/5A
SRA01505: 150/5A SRC04005: 150/5A
SRA02005: 200/5A SRC06005: 250/5A



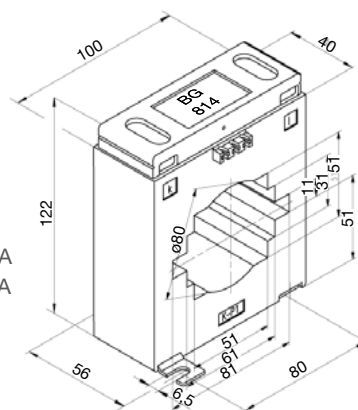
SRI03005: 300/5A



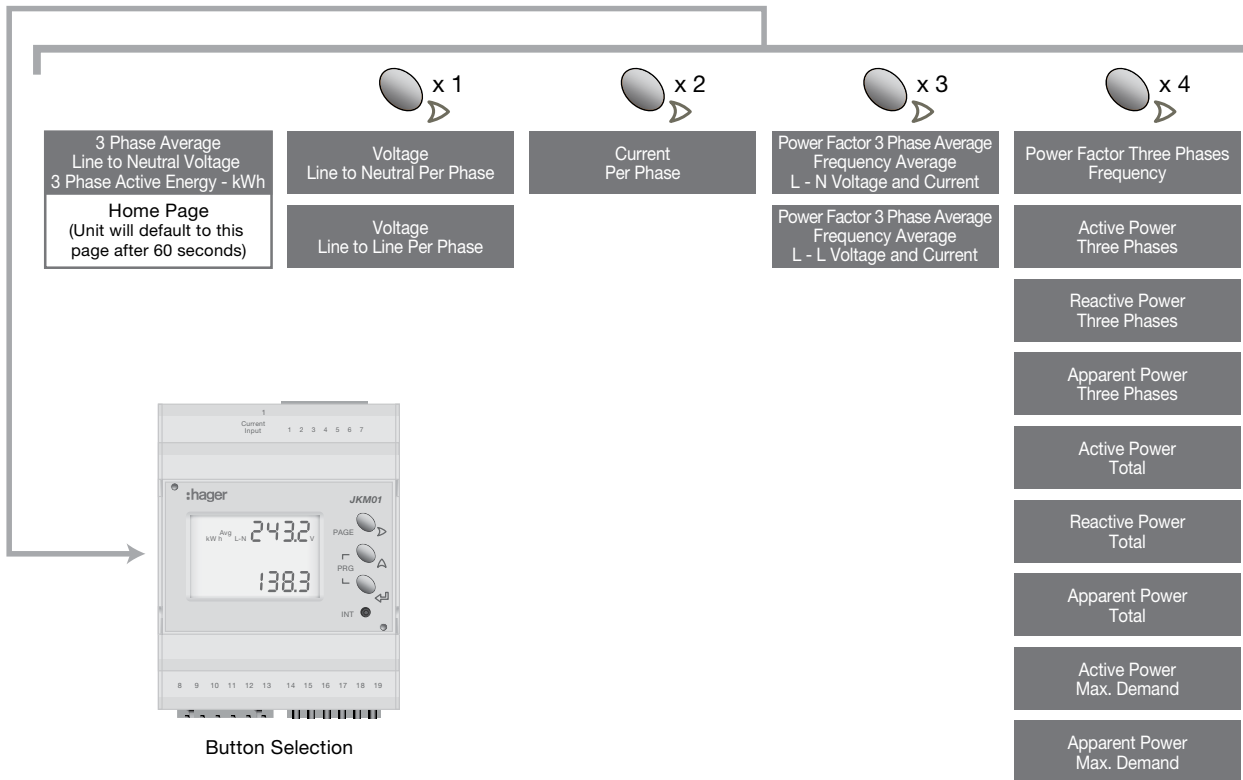
SRD08005: 800/5A



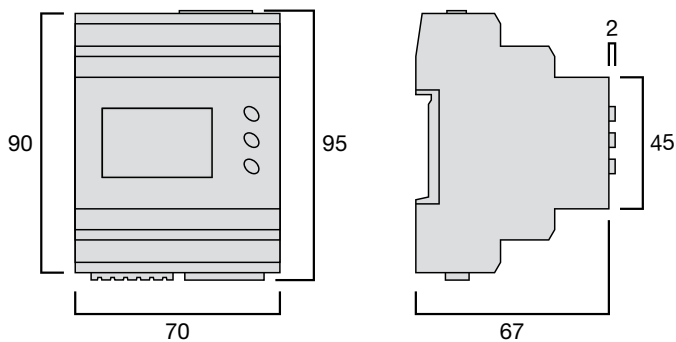
SRE12505: 1250/5A
SRE16005: 1600/5A



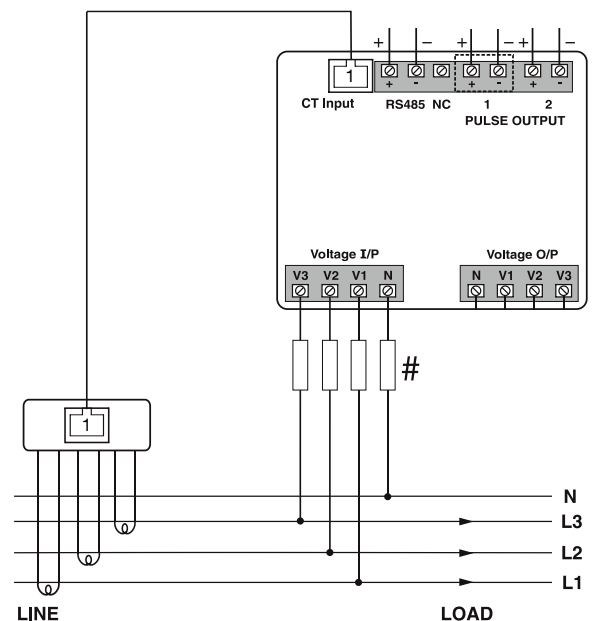
**JKM01
Function Diagram**



Dimension Diagrams (mm)

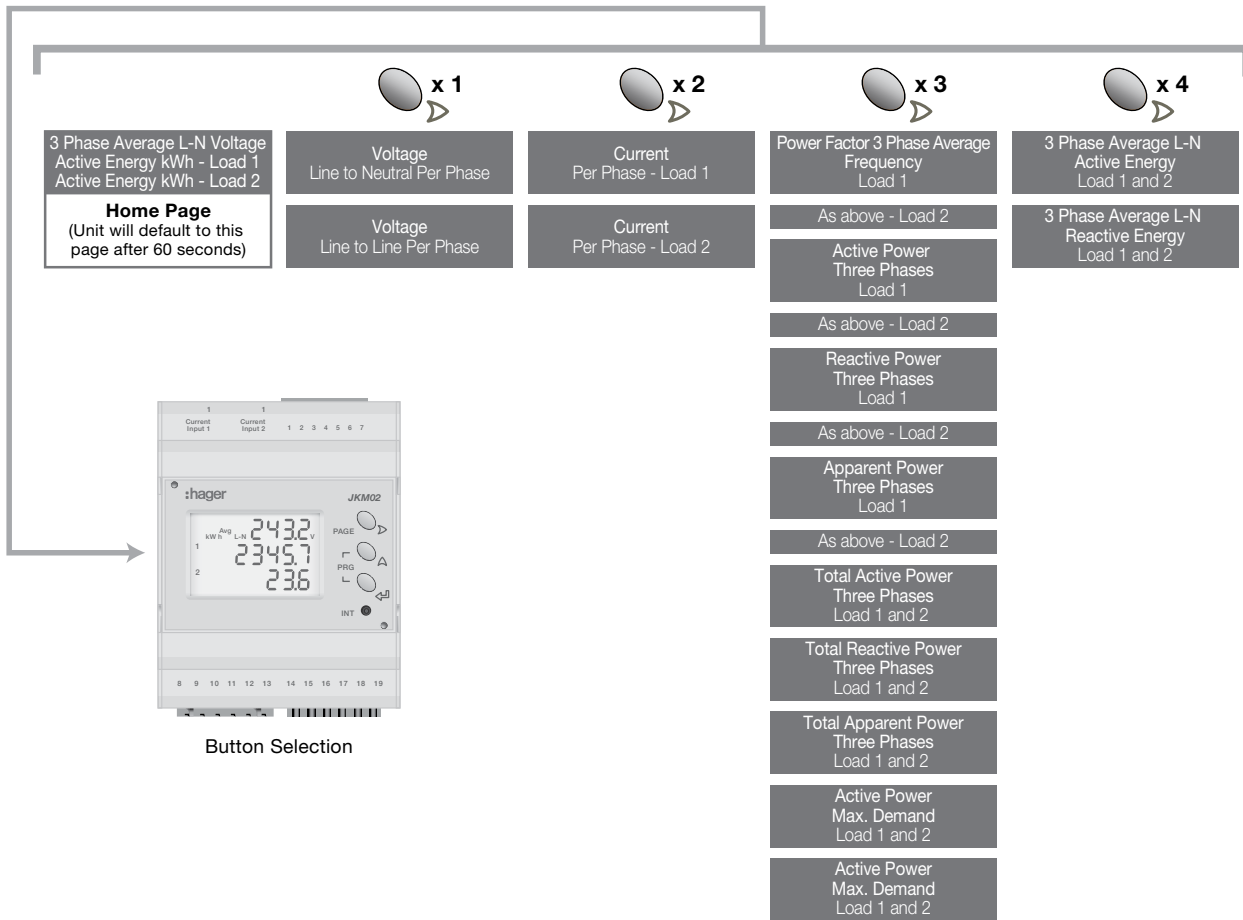


Please allow space above and below the meter for cable connections.

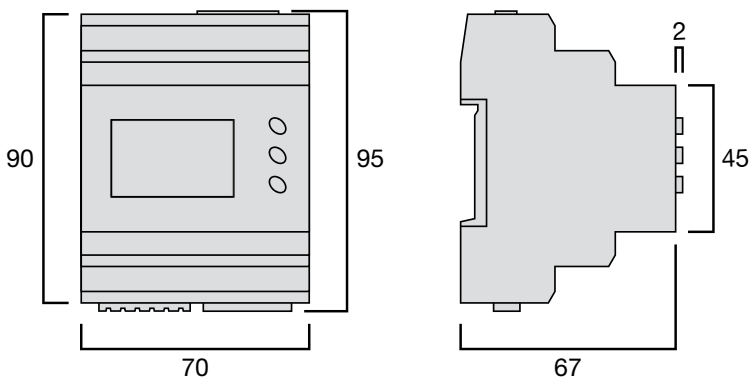


Light & energy management

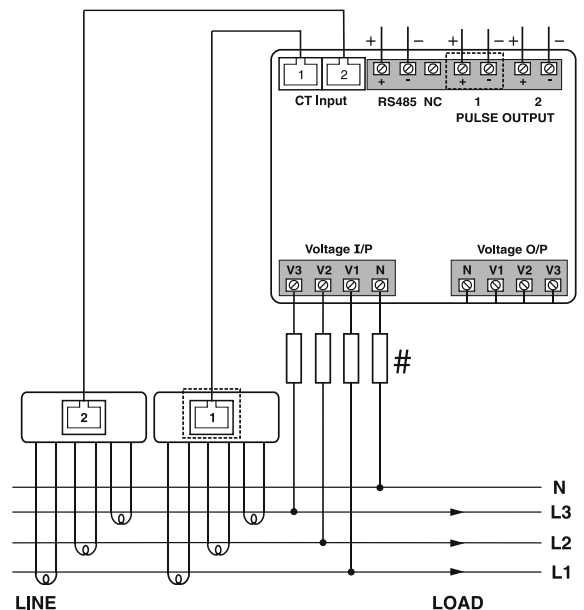
JKM02 Function Diagram



Dimension Diagrams (mm)



Please allow space above and below the meter for cable connections.



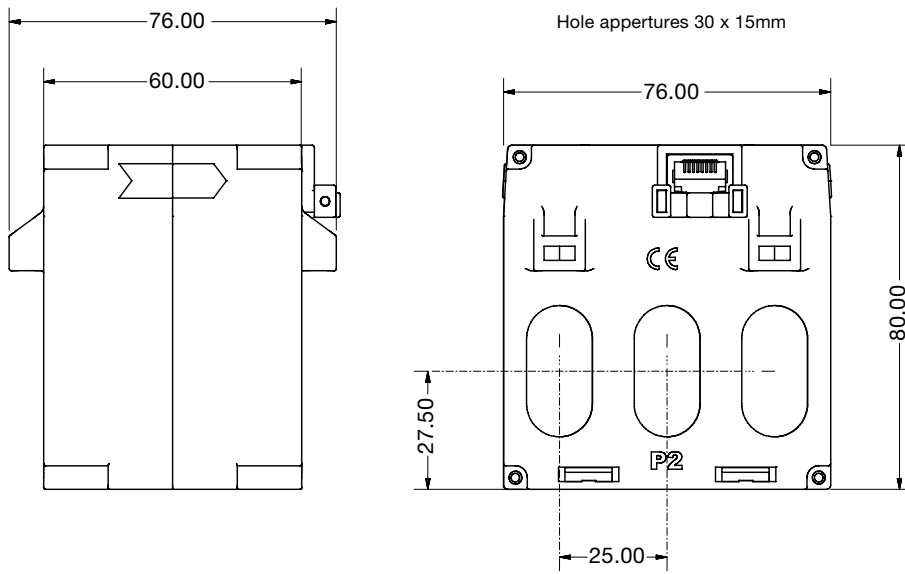
Description

140mm wide three phase measuring current transformer designed for use with the plug-in multifunction power meters.

This current transformer has three 31 x 31mm holes and is available with primary currents from 250 to 630A. (h630 frame)

Internal safety circuitry is provided which limits the output voltage to a safe level, allowing the transformer secondary to be left disconnected under load.

Dimensions diagram (mm)



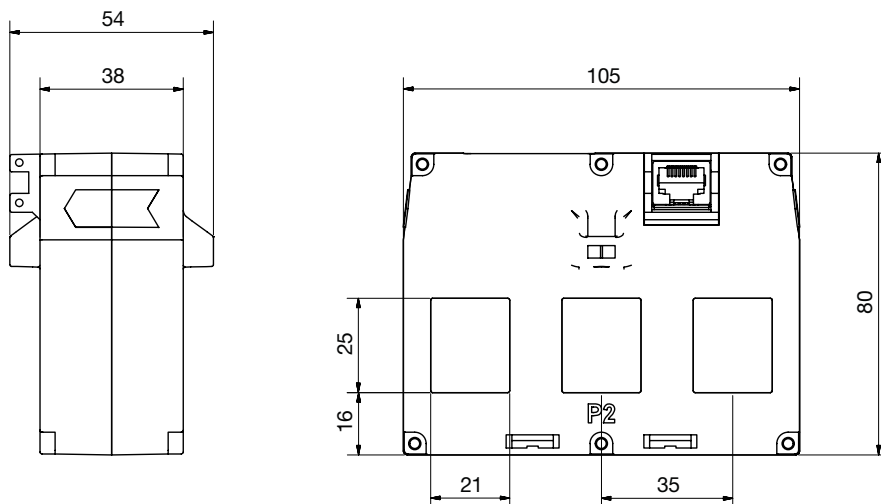
Description

215mm wide three phase measuring current transformer designed for use with the plug-in multifunction power meters.

This current transformer has three 54 x 50mm holes and is available with primary currents from 800.

Internal safety circuitry is provided which limits the output voltage to a safe level, allowing the transformer secondary to be left disconnected under load.

Dimensions diagram (mm)



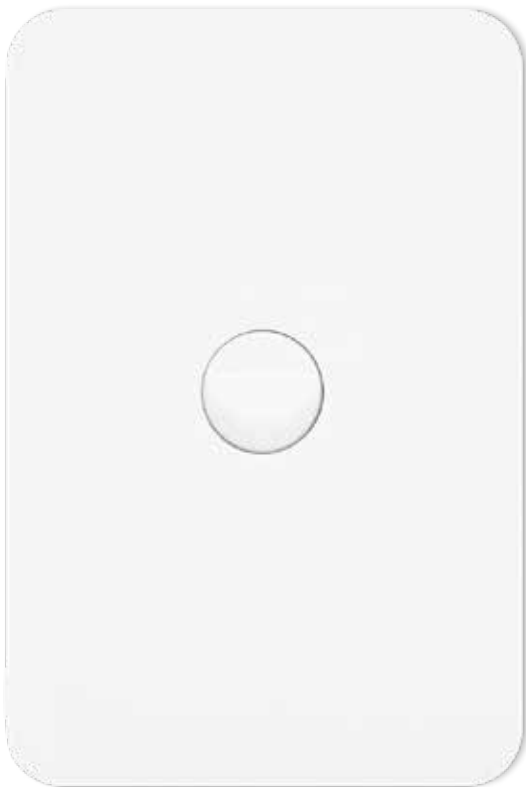
Switches and Sockets

Add a new dimension to your decor, with our award-winning ranges of modern switches and sockets. Combining world-class technical and safety features with stylish European and Australian design, we match form with function.



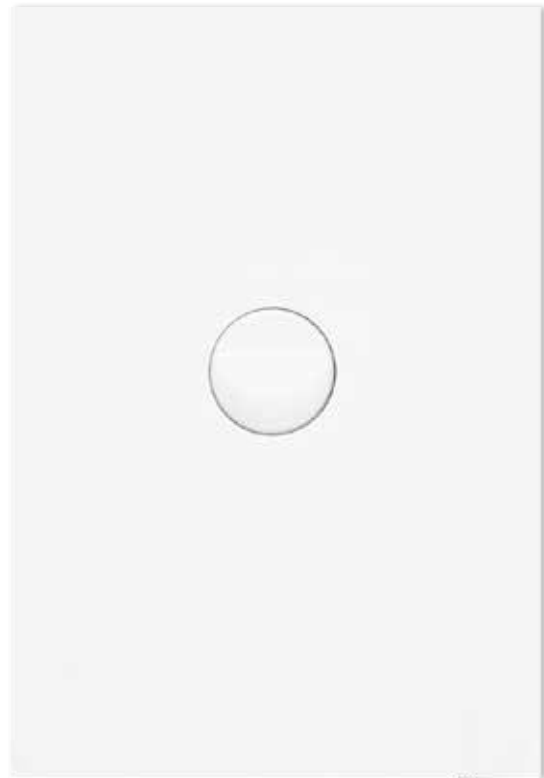
Overview	376
Quick reference	378
allure	382
finesse	390
silhouette	398
premiere	404
Mechanisms	413
Accessories	420
Weatherproof switches and sockets	422
Weatherproof isolators - IP66	423
Technical information	424

4 design styles, infinite combinations



authentic, honest allure range

The allure range is a contemporary addition and evolution of our switches and sockets. We have refreshed the traditional contour with the vision of keeping it sustainable and classical. [Pg.382](#)



minimal, sleek finesse range

With the Hager design language in mind, the finesse range is an architectural story. Its timeless and slim design creates a world of small elegance, making the range peaceful and quiet. [Pg.390](#)



so fine, so stunning silhouette range

The silhouette range has a simple but elegant form based on the serene balance of proportions and the reduction to the object essentials, giving the product the right tone of voice in order to fit within its environment. [Pg.398](#)



A modern day classic premiere range

Quietly offering functionality and a beautifully understated form, premiere has a simple and stylish look that creates a soothing effect on its surroundings. [Pg.404](#)

Make the switch...




Extensive research with architects, interior designers, electrical contractors and consumers have created a dynamic, fully featured product range - with an array of styles, colours and finishes to suit any space.

Complete the picture Modules, Mechs and Accessories


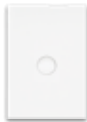
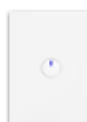

Explore our wide range of modules, mechanisms and accessories to complete your installation and exceed your project requirements. [Pg.413](#)



allure

	Designation	Cat. Ref.	Pack QTY.	Page No.
Switch plates				
	1 gang large plate switch, no mechanism	WBHSP1	10	Page 384
	2 gang large plate switch, no mechanism	WBHSP2	10	
	3 gang large plate switch, no mechanism	WBHSP3	10	
	4 gang large plate switch, no mechanism	WBHSP4	10	
Switches				
	1 gang large plate vertical switch	WBHSV1	10	Page 386
	2 gang large plate vertical switch	WBHSV2	10	
	3 gang large plate vertical switch	WBHSV3	5	
	4 gang large plate vertical switch	WBHSV4	5	
Socket outlets				
	10A single horizontal socket	WBHP1	10	Page 388
	10A single vertical socket	WBHP1VS	10	
	10A double horizontal socket	WBHP2S	10	
	10A double horizontal socket with extra switch	WBHP2XS	5	

finesse

	Designation	Cat. Ref.	Pack QTY.	Page No.
Switch plates				
	1 gang large plate switch, no mechanism	WBQSP1	10	Page 392
	2 gang large plate switch, no mechanism	WBQSP2	10	
	3 gang large plate switch, no mechanism	WBQSP3	10	
	4 gang large plate switch, no mechanism	WBQSP4	10	
Switches				
	1 gang large plate vertical switch	WBQSV1	10	Page 393
	2 gang large plate vertical switch	WBQSV2	10	
	3 gang large plate vertical switch	WBQSV3	5	
	4 gang large plate vertical switch	WBQSV4	5	
Mechanical Push Button Switches				
	1 gang large plate vertical mechanical push button switch	WBQSV1PB	10	Page 393
	2 gang large plate vertical mechanical push button switch	WBQSV2PB	10	
	3 gang large plate vertical mechanical push button switch	WBQSV3PB	5	
	4 gang large plate vertical mechanical push button switch	WBQSV4PB	5	
Socket outlets				
	10A single horizontal socket	WBQP1S	10	Page 395
	10A single vertical socket	WBQP1VS	10	
	10A double horizontal socket	WBQP2S	10	
	10A double horizontal socket with extra switch	WBQP2XS	5	

silhouette

Switch plates



Designation	Cat. Ref.	Pack QTY.	Page No.
1 gang large plate switch, no mechanism	WBSSP1	10	
2 gang large plate switch, no mechanism	WBSSP2	10	Page 400
3 gang large plate switch, no mechanism	WBSSP3	10	
4 gang large plate switch, no mechanism	WBSSP4	10	

Switches



1 gang large plate vertical switch	WBSSV1	10	
2 gang large plate vertical switch	WBSSV2	10	Page 400
3 gang large plate vertical switch	WBSSV3	5	
4 gang large plate vertical switch	WBSSV4	5	

Electronic push button switches



1 gang large plate vertical electronic push button switch	WBSEV1	1	
2 gang large plate vertical electronic push button switch	WBSEV2	1	Page 400401
3 gang large plate vertical electronic push button switch	WBSEV3	1	
4 gang large plate vertical electronic push button switch	WBSEV4	1	

Socket outlets



10A single horizontal socket	WBSP1S	10	
10A single vertical socket	WBSP1VS	10	Page 401
10A double horizontal socket	WBSP2S	10	
10A double horizontal socket with extra switch	WBSP2XS	5	

premiere

Switch plates



Designation	Cat. Ref.	Pack QTY.	Page No.
1 gang large plate switch, no mechanism	WBSP1	10	
2 gang large plate switch, no mechanism	WBSP2	10	Page 406
3 gang large plate switch, no mechanism	WBSP3	10	
4 gang large plate switch, no mechanism	WBSP4	10	

Switches



1 gang large plate vertical switch	WBSV1	10	
2 gang large plate vertical switch	WBSV2	10	Page 407
3 gang large plate vertical switch	WBSV3	5	
4 gang large plate vertical switch	WBSV4	5	




Socket outlets






10A single horizontal socket	WBP1S	1	
10A double horizontal socket	WBP2S	1	
10A double horizontal socket with extra switch	WBP2XS	1	Page 410
10A single vertical socket	WBP1VS	10	
10A twin vertical socket	WBP2VS	10	

Mechanisms

Standard and printed

	Designation	Cat. Ref.	Pack QTY.	Page No.
	Electronic Push Button	WBME5A	5	
	Universal Electronic Push Button Dimmer	WBMDUPB	5	Page 414
	Universal Rotary on/off Dimmer	WBMDUR	5	
	Slave	WBMSLL	5	
	16AX rated mechanism	WBM16AX	10	
	10A intermediate mechanism	WBM10I	5	Page 415
	10A double pole mechanism	WBM10D	5	
	10A 3 position rotary mechanism	WBM10R3	5	Page 417
	Cat 6 jack	WBMCAT6	10	Page 418
	F to PAL mechanism	WBMTV75PF	10	
	F to F 'Foxtel' approved	WBMTV75PY	10	

Accessories

	Designation	Cat. Ref.	Pack QTY.	Page No.
Mounting and surface accessories				
	Mounting block 32mm deep - suits Premiere range	WBBMD	5	Page 420
	Mounting block 32mm deep - insulated - suits Premiere range	WBBMI	5	
	Mounting block 32mm deep - suits silhouette range	WBSBMD	5	
	Mounting block 32mm deep - suits Allure range	WBHBMD	5	
	Mounting block 32mm deep - suits Finesse range	WBQBMD	5	
	10A single surface socket	WBAP1	10	
	Giant junction box	WBAJB4	5	Page 421
	Standard junction box	WBAJB4S	5	

allure

authentic, honest



Continuing on with Hager's design philosophy, the allure range is serenely balanced and can elevate any modern interior with its simplistic yet contemporary design.

The translucent edge that surrounds allure, accentuates its elegant profile – creating a unique floating effect.



Advantages:

- Available in gloss white, matt white and matt black to suit any decor or mood
- Quick close IP2x hinged screw caps
- Pre-fitted mounting screws for a quick installation
- Rotoloc® system

Characteristics:

- | | |
|-----------------------|---------------------------------|
| - External material: | - UV stabilised |
| - Switches terminals: | - 4 x 1.5mm ² cables |
| - Sockets terminals: | - 4 x 2.5mm ² cables |



01

Architecturally designed in Europe.



02

Available in Matt White, Matt Black and Gloss White.



03

Strong impact resistant polycarbonate material will not 'yellow' over time.



04

Our patented Rotoloc® system eliminates the possibility of the mechanism being pushed back into the wall cavity.



05

Easy hinged. IP2x, caps and screws ready to go.



06

A spring loaded shutter protects little fingers from live parts inside sockets.



07

A full range of accessories and mechs including electronic push buttons and dimmers are available.



08

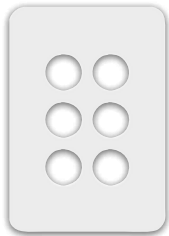
Built in spirit level to assist installation.

Features

- Multiple mounting holes
- Supplied with standard 32mm fixing screws
- No mechanism push back
- High impact, high gloss UV stabilised polycarbonate construction
- Spray matt finishes available in matt white and matt black
- Level to assist installation
- Hinged IP2x caps
- Screw retention



WBHSP1



WBHSP6

Switch Plates - No Mechanisms

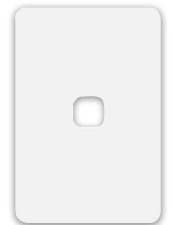
Description	Available colours	Box qty	Cat ref.
1 gang	<input type="radio"/> Gloss White	10	★ WBHSP1
	<input checked="" type="radio"/> Matt Black	10	★ WBHSP1-MB
	<input type="radio"/> Matt White	10	★ WBHSP1-MW
2 gang	<input type="radio"/> Gloss White	10	★ WBHSP2
	<input checked="" type="radio"/> Matt Black	10	★ WBHSP2-MB
	<input type="radio"/> Matt White	10	★ WBHSP2-MW
3 gang	<input type="radio"/> Gloss White	10	★ WBHSP3
	<input checked="" type="radio"/> Matt Black	10	★ WBHSP3-MB
	<input type="radio"/> Matt White	10	★ WBHSP3-MW
4 gang	<input type="radio"/> Gloss White	10	★ WBHSP4
	<input checked="" type="radio"/> Matt Black	10	★ WBHSP4-MB
	<input type="radio"/> Matt White	10	★ WBHSP4-MW
5 gang	<input type="radio"/> Gloss White	10	★ WBHSP5
	<input checked="" type="radio"/> Matt Black	10	★ WBHSP5-MB
	<input type="radio"/> Matt White	10	★ WBHSP5-MW
6 gang	<input type="radio"/> Gloss White	10	★ WBHSP6
	<input checked="" type="radio"/> Matt Black	10	★ WBHSP6-MB
	<input type="radio"/> Matt White	10	★ WBHSP6-MW
Blank	<input type="radio"/> Gloss White	10	★ WBHSPB
	<input checked="" type="radio"/> Matt Black	10	★ WBHSPB-MB
	<input type="radio"/> Matt White	10	★ WBHSPB-MW
Cable entry	<input type="radio"/> Gloss White	10	★ WBHSPCE
	<input checked="" type="radio"/> Matt Black	10	★ WBHSPCE-MB
	<input type="radio"/> Matt White	10	★ WBHSPCE-MW

Features

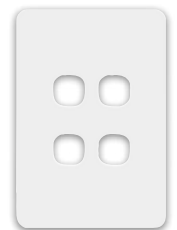
- Multiple mounting holes
- Supplied with standard 32mm fixing screws
- High impact, high gloss UV stabilised polycarbonate construction
- For use with non-Hager mechanisms
- Spray matt finishes available in matt white and matt black
- Level to assist installation
- Hinged IP2x caps
- Screw retention

Switch Plates - Hybrid

Description	Available colours	Box qty	Cat ref.
1 gang	<input type="radio"/> Gloss White	10	★ WBHHSP1
	<input checked="" type="radio"/> Matt Black	10	★ WBHHSP1-MB
	<input type="radio"/> Matt White	10	★ WBHHSP1-MW
2 gang	<input type="radio"/> Gloss White	10	★ WBHHSP2
	<input checked="" type="radio"/> Matt Black	10	★ WBHHSP2-MB
	<input type="radio"/> Matt White	10	★ WBHHSP2-MW
3 gang	<input type="radio"/> Gloss White	10	★ WBHHSP3
	<input checked="" type="radio"/> Matt Black	10	★ WBHHSP3-MB
	<input type="radio"/> Matt White	10	★ WBHHSP3-MW
4 gang	<input type="radio"/> Gloss White	10	★ WBHHSP4
	<input checked="" type="radio"/> Matt Black	10	★ WBHHSP4-MB
	<input type="radio"/> Matt White	10	★ WBHHSP4-MW



WBHHSP1



WBHHSP4

Features

- Multiple mounting holes
- Supplied with captive 32mm fixing screws
- No mechanism push back
- High impact, high gloss UV stabilised polycarbonate construction
- Level to assist installation
- Spray matt finishes available in matt white and matt black
- Switch when supplied are fitted with 16AX mechanisms (suitable for fluorescent loads)
- 2 way and loop terminal as standard
- Hinged IP2x caps
- Combination head screws Phillip's #1 'backed off' for ease of cable insertion
- Terminals accommodate 4 x 1.5mm² cable

Dimension data: [Page 426 and 427](#)



WBHSV1



WBHSV1-MB

Switches

Description	Available colours	Box qty	Cat ref.
1 gang	<input type="radio"/> Gloss White	10	★ WBHSV1
	<input checked="" type="radio"/> Matt Black	10	★ WBHSV1-MB
	<input type="radio"/> Matt White	10	★ WBHSV1-MW
2 gang	<input type="radio"/> Gloss White	10	★ WBHSV2
	<input checked="" type="radio"/> Matt Black	10	★ WBHSV2-MB
	<input type="radio"/> Matt White	10	★ WBHSV2-MW
3 gang	<input type="radio"/> Gloss White	5	★ WBHSV3
	<input checked="" type="radio"/> Matt Black	5	★ WBHSV3-MB
	<input type="radio"/> Matt White	5	★ WBHSV3-MW
4 gang	<input type="radio"/> Gloss White	5	★ WBHSV4
	<input checked="" type="radio"/> Matt Black	5	★ WBHSV4-MB
	<input type="radio"/> Matt White	5	★ WBHSV4-MW
5 gang	<input type="radio"/> Gloss White	5	★ WBHSV5
	<input checked="" type="radio"/> Matt Black	5	★ WBHSV5-MB
	<input type="radio"/> Matt White	5	★ WBHSV5-MW
6 gang	<input type="radio"/> Gloss White	5	★ WBHSV6
	<input checked="" type="radio"/> Matt Black	5	★ WBHSV6-MB
	<input type="radio"/> Matt White	5	★ WBHSV6-MW

Switches - Architrave

Description	Available colours	Box qty	Cat ref.
1 gang	<input type="radio"/> Gloss White	5	★ WBHSA1
	<input checked="" type="radio"/> Matt Black	5	★ WBHSA1-MB
	<input type="radio"/> Matt White	5	★ WBHSA1-MW
2 gang	<input type="radio"/> Gloss White	5	★ WBHSA2
	<input checked="" type="radio"/> Matt Black	5	★ WBHSA2-MB
	<input type="radio"/> Matt White	5	★ WBHSA2-MW
3 gang	<input type="radio"/> Gloss White	5	★ WBHSA3
	<input checked="" type="radio"/> Matt Black	5	★ WBHSA3-MB
	<input type="radio"/> Matt White	5	★ WBHSA3-MW



WBHSA2

Features

- Multiple mounting holes
- Supplied with captive 32mm tapered point fixing screws
- No mechanism push back
- High impact, high gloss UV stabilised polycarbonate construction
- Level to assist installation
- Spray matt finishes available in matt white and matt black
- 2 way and loop terminal as standard
- Combination head screws Phillip's #1 'backed off' for ease of cable insertion
- Hinged IP2x caps
- Terminals accommodate 4 x 1.5mm² cable

Cooker switch features

- Double pole
- Comes with 2 covers
 - One marked with 'cooker'
 - One with no marking
- Terminals accept 6mm² cable

Dimension data: [Page 426 and 427](#)



IP44 Switches - vertical

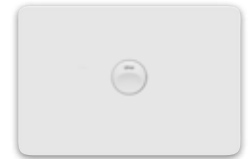
Description	Characteristics	Available colours	Box qty	Cat ref.
1 gang	10A	<input type="radio"/> Gloss White	10	★ WBHWSV1
		<input checked="" type="radio"/> Matt Black	10	★ WBHWSV1-MB
		<input type="radio"/> Matt White	10	★ WBHWSV1-MW
2 gang	10A	<input type="radio"/> Gloss White	10	★ WBHWSV2
		<input checked="" type="radio"/> Matt Black	10	★ WBHWSV2-MB
		<input type="radio"/> Matt White	10	★ WBHWSV2-MW
3 gang	10A	<input type="radio"/> Gloss White	10	★ WBHWSV3
		<input checked="" type="radio"/> Matt Black	10	★ WBHWSV3-MB
		<input type="radio"/> Matt White	10	★ WBHWSV3-MW



WBHWSV1

IP44 Switches - horizontal

Description	Characteristics	Available colours	Box qty	Cat ref.
1 gang	10A	<input type="radio"/> Gloss White	10	★ WBHWSH1
		<input checked="" type="radio"/> Matt Black	10	★ WBHWSH1-MB
		<input type="radio"/> Matt White	10	★ WBHWSH1-MW
2 gang	10A	<input type="radio"/> Gloss White	10	★ WBHWSH2
		<input checked="" type="radio"/> Matt Black	10	★ WBHWSH2-MB
		<input type="radio"/> Matt White	10	★ WBHWSH2-MW
3 gang	10A	<input type="radio"/> Gloss White	10	★ WBHWSH3
		<input checked="" type="radio"/> Matt Black	10	★ WBHWSH3-MB
		<input type="radio"/> Matt White	10	★ WBHWSH3-MW



WBHWSH1

Switches - Cooker Switch

Description	Characteristics	Available colours	Box qty	Cat ref.
Horizontal cooker switch Double pole	40A	<input type="radio"/> Gloss White	1	★ WBHCKSH1
		<input checked="" type="radio"/> Matt Black	1	★ WBHCKSH1-MB
		<input type="radio"/> Matt White	1	★ WBHCKSH1-MW
Vertical cooker switch Double pole	40A	<input type="radio"/> Gloss White	1	★ WBHCKSV1
		<input checked="" type="radio"/> Matt Black	1	★ WBHCKSV1-MB
		<input type="radio"/> Matt White	1	★ WBHCKSV1-MW



WBHCKSV1

Switches and sockets

Features

- Removable covers for ease of painting
- Multiple mounting holes
- Terminal screws "backed off"
- Level to assist installation
- Bevelled and colour coded cable entries aligned for ease of termination
- Supplied with retained tapered point 32mm fixing screws
- Hinged IP2x caps
- Spray matt finishes available in matt white and matt black

Technical data

- All sockets 250V 50Hz rated
- Extra switch models fitted with 16AX mechanisms
- High impact, high gloss UV stabilised polycarbonate construction
- Terminal accommodates 4 x 2.5mm² cable

Dimension data: [Page 426](#)



WBHP2S



WBHP2S-MB



WBHP2SUSBAC-MW

Sockets - horizontal

Description	Characteristics	Available colours	Box qty	Cat ref.
Single sockets	10A	<input type="radio"/> Gloss White	10	★ WBHP1S
		<input type="radio"/> Matt Black	10	★ WBHP1S-MB
		<input type="radio"/> Matt White	10	★ WBHP1S-MW
	10A 'Round Earth'	<input type="radio"/> Gloss White	10	★ WBHP1R
		<input type="radio"/> Matt Black	10	★ WBHP1R-MB
		<input type="radio"/> Matt White	10	★ WBHP1R-MW
	15A	<input type="radio"/> Gloss White	5	★ WBHP115
		<input type="radio"/> Matt Black	5	★ WBHP115-MB
		<input type="radio"/> Matt White	5	★ WBHP115-MW
20A	<input type="radio"/> Gloss White	5	★ WBHP120	
	<input type="radio"/> Matt Black	5	★ WBHP120-MB	
	<input type="radio"/> Matt White	5	★ WBHP120-MW	
Double sockets	10A	<input type="radio"/> Gloss White	10	★ WBHP2S
		<input type="radio"/> Matt Black	10	★ WBHP2S-MB
		<input type="radio"/> Matt White	10	★ WBHP2S-MW
		Double sockets with extra 16AX switch	10A	<input type="radio"/> Gloss White
		<input type="radio"/> Matt Black	5	★ WBHP2XS-MB
		<input type="radio"/> Matt White	5	★ WBHP2XS-MW
		Double sockets with extra switch position (no mech)	10A	<input type="radio"/> Gloss White
		<input type="radio"/> Matt Black	1	★ WBHP2XSB-MB
		<input type="radio"/> Matt White	1	★ WBHP2XSB-MW
		Double sockets with USB Type A and Type C	10A	<input type="radio"/> Gloss White
		<input type="radio"/> Matt Black	5	★ WBHP2SUSBAC-MB
		<input type="radio"/> Matt White	5	★ WBHP2SUSBAC-MW

Sockets - vertical

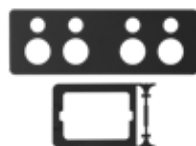
Description	Characteristics	Available colours	Box qty	Cat ref.
		<input type="radio"/> Gloss White	10	★ WBHP1V
		<input type="radio"/> Matt Black	10	★ WBHP1V-MB
		<input type="radio"/> Matt White	10	★ WBHP1V-MW



WBHP1V-MB

4 Gang Socket Cover Kit

Description	Characteristics	Available colours	Box qty	Cat ref.
		<input type="radio"/> Gloss White	5	★ WBHA4PP
		<input type="radio"/> Matt Black	5	★ WBHA4PP-MB
		<input type="radio"/> Matt White	5	★ WBHA4PP-MW



WBHA4PP-MB

Note: 2x allure double sockets (WBHP2S-xx) required (not supplied with kit)

Features

- High impact, high gloss UV stabilised polycarbonate
- Spray matt finishes available in matt white and matt black

Switch Cover Plates

Description	Available colours	Box qty	Cat ref.
1 gang	<input type="radio"/> Gloss White	10	★ WBHCS1
	<input checked="" type="radio"/> Matt Black	10	★ WBHCS1-MB
	<input type="radio"/> Matt White	10	★ WBHCS1-MW
2 gang	<input type="radio"/> Gloss White	10	★ WBHCS2
	<input checked="" type="radio"/> Matt Black	10	★ WBHCS2-MB
	<input type="radio"/> Matt White	10	★ WBHCS2-MW
3 gang	<input type="radio"/> Gloss White	10	★ WBHCS3
	<input checked="" type="radio"/> Matt Black	10	★ WBHCS3-MB
	<input type="radio"/> Matt White	10	★ WBHCS3-MW
4 gang	<input type="radio"/> Gloss White	10	★ WBHCS4
	<input checked="" type="radio"/> Matt Black	10	★ WBHCS4-MB
	<input type="radio"/> Matt White	10	★ WBHCS4-MW
5 gang	<input type="radio"/> Gloss White	10	★ WBHCS5
	<input checked="" type="radio"/> Matt Black	10	★ WBHCS5-MB
	<input type="radio"/> Matt White	10	★ WBHCS5-MW
6 gang	<input type="radio"/> Gloss White	10	★ WBHCS6
	<input checked="" type="radio"/> Matt Black	10	★ WBHCS6-MB
	<input type="radio"/> Matt White	10	★ WBHCS6-MW



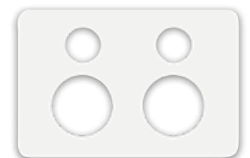
WBHCS1



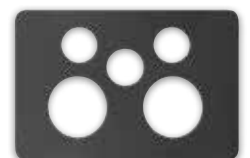
WBHCS4-MB

Socket Cover Plates - horizontal

Description	Available colours	Box qty	Cat ref.
Cover single socket	<input type="radio"/> Gloss White	5	★ WBHCP1
	<input checked="" type="radio"/> Matt Black	5	★ WBHCP1-MB
	<input type="radio"/> Matt White	5	★ WBHCP1-MW
Cover double socket	<input type="radio"/> Gloss White	5	★ WBHCP2
	<input checked="" type="radio"/> Matt Black	5	★ WBHCP2-MB
	<input type="radio"/> Matt White	5	★ WBHCP2-MW
Cover double socket with extra switch	<input type="radio"/> Gloss White	5	★ WBHCP2XS
	<input checked="" type="radio"/> Matt Black	5	★ WBHCP2XS-MB
	<input type="radio"/> Matt White	5	★ WBHCP2XS-MW



WBHCP2-MW

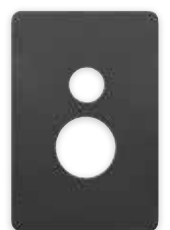


WBHCP2XS-MB

Switches and sockets

Socket Cover Plates - vertical

Description	Available colours	Box qty	Cat ref.
Cover single socket	<input type="radio"/> Gloss White	5	★ WBHCP1V
	<input checked="" type="radio"/> Matt Black	5	★ WBHCP1V-MB
	<input type="radio"/> Matt White	5	★ WBHCP1V-MW



WBHCP1V-MB

finesse

minimal, sleek



The architecturally inspired finesse range is sure to impress audiences with its minimalistic and precise design, and is considered to be ingeniously simplistic.

Its remarkable slim profile together with a refined translucent edge, perfectly complements the sharp and clean lines of a surrounding modern interior.



Advantages:

- Sleek 4.6mm profile
- Available in gloss white, matt white and matt black to suit any decor or mood
- Rotoloc® system

Characteristics:

- | | |
|-----------------------|---------------------------------|
| - External material: | - UV stabilised |
| - Switches terminals: | - 4 x 1.5mm ² cables |
| - Sockets terminals: | - 4 x 2.5mm ² cables |



01

With a profile of only 4.6mm off the wall surface, finesse has the lowest profile on the market.



02

Terminal screws partially backed out for faster installation.



03

Strong impact and UV resistant polycarbonate material will not 'yellow' over time.



04

Our patented Rotoloc® system eliminates the possibility of the mechanism being pushed back into the wall cavity.



05

Deep screw housing provides a cap free installation that meets standards compliance.



06

A spring loaded shutter protects little fingers from live parts inside sockets.



07

Available in Matt Black, Matt White and Gloss White.



08

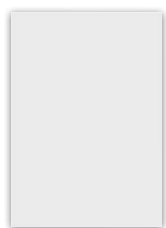
A full range of accessories and mechs including mechanical or electronic push button switches and universal dimmers.

Features

- Multiple mounting holes
- Supplied with standard 32mm tapered point fixing screws
- No mechanism push back
- High impact, high gloss UV stabilised polycarbonate construction
- Spray matt finishes available in matt white and matt black
- Screw retention
- Hybrid plates for non-Hager Roto-loc mechanisms



WBQSP4



WBQSPB

Switch Plates - No Mechanisms

Description	Available colours	Box qty	Cat ref.
1 gang	<input type="radio"/> Gloss White	10	★ WBQSP1
	<input checked="" type="radio"/> Matt Black	10	★ WBQSP1-MB
	<input type="radio"/> Matt White	10	★ WBQSP1-MW
2 gang	<input type="radio"/> Gloss White	10	★ WBQSP2
	<input checked="" type="radio"/> Matt Black	10	★ WBQSP2-MB
	<input type="radio"/> Matt White	10	★ WBQSP2-MW
3 gang	<input type="radio"/> Gloss White	10	★ WBQSP3
	<input checked="" type="radio"/> Matt Black	10	★ WBQSP3-MB
	<input type="radio"/> Matt White	10	★ WBQSP3-MW
4 gang	<input type="radio"/> Gloss White	10	★ WBQSP4
	<input checked="" type="radio"/> Matt Black	10	★ WBQSP4-MB
	<input type="radio"/> Matt White	10	★ WBQSP4-MW
5 gang	<input type="radio"/> Gloss White	10	★ WBQSP5
	<input checked="" type="radio"/> Matt Black	10	★ WBQSP5-MB
	<input type="radio"/> Matt White	10	★ WBQSP5-MW
6 gang	<input type="radio"/> Gloss White	10	★ WBQSP6
	<input checked="" type="radio"/> Matt Black	10	★ WBQSP6-MB
	<input type="radio"/> Matt White	10	★ WBQSP6-MW
Blank	<input type="radio"/> Gloss White	10	★ WBQSPB
	<input checked="" type="radio"/> Matt Black	10	★ WBQSPB-MB
	<input type="radio"/> Matt White	10	★ WBQSPB-MW
Brush cable entry plate	<input type="radio"/> Gloss White	10	★ WBQSPCE
	<input checked="" type="radio"/> Matt Black	10	★ WBQSPCE-MB
	<input type="radio"/> Matt White	10	★ WBQSPCE-MW



WBQHSP1



WBQHSP4

Switch Plates - Hybrid

(For use with non-Hager mechanisms)

Description	Available colours	Box qty	Cat ref.
1 gang	<input type="radio"/> Gloss White	10	★ WBQHSP1
	<input checked="" type="radio"/> Matt Black	10	★ WBQHSP1-MB
	<input type="radio"/> Matt White	10	★ WBQHSP1-MW
2 gang	<input type="radio"/> Gloss White	10	★ WBQHSP2
	<input checked="" type="radio"/> Matt Black	10	★ WBQHSP2-MB
	<input type="radio"/> Matt White	10	★ WBQHSP2-MW
3 gang	<input type="radio"/> Gloss White	10	★ WBQHSP3
	<input checked="" type="radio"/> Matt Black	10	★ WBQHSP3-MB
	<input type="radio"/> Matt White	10	★ WBQHSP3-MW
4 gang	<input type="radio"/> Gloss White	10	★ WBQHSP4
	<input checked="" type="radio"/> Matt Black	10	★ WBQHSP4-MB
	<input type="radio"/> Matt White	10	★ WBQHSP4-MW

Features

- Multiple mounting holes
- Supplied with captive 32mm tapered point fixing screws
- No mechanism push back
- High impact, high gloss UV stabilised polycarbonate construction
- Press mechs 10A
- Spray matt finishes available in matt white and matt black
- Switch when supplied are fitted with 16AX mechanisms (suitable for fluorescent loads)
- 2 way and loop terminal as standard
- Combination head screws 'backed off' for ease of cable insertion
- Terminals accommodate 4 x 1.5mm² cable
- Push button mechanical switches rated 10A
- 240V press button mechs - 10AX

Dimension data: [Page 428](#)



Switches

Description	Available colours	Box qty	Cat ref.
1 gang	<input type="radio"/> Gloss White	10	★ WBQSV1
	<input checked="" type="radio"/> Matt Black	10	★ WBQSV1-MB
	<input type="radio"/> Matt White	10	★ WBQSV1-MW
2 gang	<input type="radio"/> Gloss White	10	★ WBQSV2
	<input checked="" type="radio"/> Matt Black	10	★ WBQSV2-MB
	<input type="radio"/> Matt White	10	★ WBQSV2-MW
3 gang	<input type="radio"/> Gloss White	5	★ WBQSV3
	<input checked="" type="radio"/> Matt Black	5	★ WBQSV3-MB
	<input type="radio"/> Matt White	5	★ WBQSV3-MW
4 gang	<input type="radio"/> Gloss White	5	★ WBQSV4
	<input checked="" type="radio"/> Matt Black	5	★ WBQSV4-MB
	<input type="radio"/> Matt White	5	★ WBQSV4-MW
5 gang	<input type="radio"/> Gloss White	5	★ WBQSV5
	<input checked="" type="radio"/> Matt Black	5	★ WBQSV5-MB
	<input type="radio"/> Matt White	5	★ WBQSV5-MW
6 gang	<input type="radio"/> Gloss White	5	★ WBQSV6
	<input checked="" type="radio"/> Matt Black	5	★ WBQSV6-MB
	<input type="radio"/> Matt White	5	★ WBQSV6-MW



WBQSV1



WBQSV4-MB

Switches with 240V Press Mech

Description	Characteristics	Available colours	Box qty	Cat ref.
1 gang	10A	<input type="radio"/> Gloss White	10	★ WBQSV1PB
		<input checked="" type="radio"/> Matt Black	10	★ WBQSV1PB-MB
		<input type="radio"/> Matt White	10	★ WBQSV1PB-MW
2 gang	10A	<input type="radio"/> Gloss White	10	★ WBQSV2PB
		<input checked="" type="radio"/> Matt Black	10	★ WBQSV2PB-MB
		<input type="radio"/> Matt White	10	★ WBQSV2PB-MW
3 gang	10A	<input type="radio"/> Gloss White	5	★ WBQSV3PB
		<input checked="" type="radio"/> Matt Black	5	★ WBQSV3PB-MB
		<input type="radio"/> Matt White	5	★ WBQSV3PB-MW
4 gang	10A	<input type="radio"/> Gloss White	5	★ WBQSV4PB
		<input checked="" type="radio"/> Matt Black	5	★ WBQSV4PB-MB
		<input type="radio"/> Matt White	5	★ WBQSV4PB-MW
240V LED for PB mech LED - blue (Not supplied with switches)	240V		20	★ WBAPBLED



WBQSV1PB

Features

- Multiple mounting holes
 - Supplied with captive 32mm tapered point fixing screws
 - No mechanism push back
 - High impact, high gloss UV stabilised polycarbonate construction
 - Spray matt finishes available in matt white and matt black
 - Switch when supplied are fitted with 16AX mechanisms (suitable for fluorescent loads)
- 2 way and loop terminal as standard
 - Terminals accommodate 4 x 1.5mm² cable
 - Combination head screws Phillip's #1 'backed off' for ease of cable insertion

Cooker switch features

- Double pole
- Comes with 2 covers
- One marked with 'cooker'
- One with no marking
- Terminals accept 6mm² cable

Dimension data: [Page 428 and 429](#)



WBQSA2

Architrave Switches

Description	Available colours	Box qty	Cat ref.
1 gang	<input type="radio"/> Gloss White	10	★ WBQSA1
	<input checked="" type="radio"/> Matt Black	10	★ WBQSA1-MB
	<input type="radio"/> Matt White	10	★ WBQSA1-MW
2 gang	<input type="radio"/> Gloss White	10	★ WBQSA2
	<input checked="" type="radio"/> Matt Black	10	★ WBQSA2-MB
	<input type="radio"/> Matt White	10	★ WBQSA2-MW
3 gang	<input type="radio"/> Gloss White	5	★ WBQSA3
	<input checked="" type="radio"/> Matt Black	5	★ WBQSA3-MB
	<input type="radio"/> Matt White	5	★ WBQSA3-MW



WBQCKSV1

Switches - Cooker Switch

Description	Characteristics	Available colours	Box qty	Cat ref.
Vertical cooker switch Double pole	40A	<input type="radio"/> Gloss White	5	★ WBQCKSV1
		<input checked="" type="radio"/> Matt Black	5	★ WBQCKSV1-MB
		<input type="radio"/> Matt White	5	★ WBQCKSV1-MW
Horizontal cooker switch Double pole	40A	<input type="radio"/> Gloss White	5	★ WBQCKSH1
		<input checked="" type="radio"/> Matt Black	5	★ WBQCKSH1-MB
		<input type="radio"/> Matt White	5	★ WBQCKSH1-MW

Features

- Removable covers for ease of painting
- Multiple mounting holes
- Terminal screws "backed off"
- Bevelled and colour coded cable entries aligned for ease of termination
- Supplied with retained tapered point 32mm fixing screws
- Spray matt finishes available in matt white and matt black

Technical data

- All sockets 250V 50Hz rated
- Extra switch models fitted with 16AX mechanisms
- Terminal accommodates 4 x 2.5mm² cable
- High impact, high gloss UV stabilised polycarbonate construction

Dimension data: [Page 428](#)



Sockets - horizontal

Description	Characteristics	Available colours	Box qty	Cat ref.
Single sockets	10A	<input type="radio"/> Gloss White	10	★ WBQP1S
		<input checked="" type="radio"/> Matt Black	10	★ WBQP1S-MB
		<input type="radio"/> Matt White	10	★ WBQP1S-MW
	10A 'Round Earth'	<input type="radio"/> Gloss White	10	★ WBQP1R
		<input checked="" type="radio"/> Matt Black	10	★ WBQP1R-MB
		<input type="radio"/> Matt White	10	★ WBQP1R-MW
	15A	<input type="radio"/> Gloss White	5	★ WBQP115S
		<input checked="" type="radio"/> Matt Black	5	★ WBQP115S-MB
		<input type="radio"/> Matt White	5	★ WBQP115S-MW
Double sockets	10A	<input type="radio"/> Gloss White	10	★ WBQP2S
		<input checked="" type="radio"/> Matt Black	10	★ WBQP2S-MB
		<input type="radio"/> Matt White	10	★ WBQP2S-MW
Double sockets with extra switch	10A	<input type="radio"/> Gloss White	5	★ WBQP2XS
		<input checked="" type="radio"/> Matt Black	5	★ WBQP2XS-MB
		<input type="radio"/> Matt White	5	★ WBQP2XS-MW
Double sockets blanked extra switch	10A	<input type="radio"/> Gloss White	1	★ WBQP2XSB
		<input checked="" type="radio"/> Matt Black	1	★ WBQP2XSB-MB
		<input type="radio"/> Matt White	1	★ WBQP2XSB-MW
Double sockets with USB Type A and Type C	10A	<input type="radio"/> Gloss White	5	★ WBQP2SUSBAC
		<input checked="" type="radio"/> Matt Black	5	★ WBQP2SUSBAC-MB
		<input type="radio"/> Matt White	5	★ WBQP2SUSBAC-MW



WBQP2S



WBQP2S-MB



WBQP2XS

Sockets - vertical

Description	Characteristics	Available colours	Box qty	Cat ref.
Single socket	10A	<input type="radio"/> Gloss White	10	★ WBQP1VS
		<input checked="" type="radio"/> Matt Black	10	★ WBQP1VS-MB
		<input type="radio"/> Matt White	10	★ WBQP1VS-MW



WBQP1VS

Features

- High impact, high gloss UV stabilised polycarbonate
- Spray matt finishes available in matt white and matt black



WBQCV1



WBQCV4

Switch Cover Plates

Description	Available colours	Box qty	Cat ref.
1 gang	<input type="radio"/> Gloss White	10	★ WBQCV1
	<input checked="" type="radio"/> Matt Black	10	★ WBQCV1-MB
	<input type="radio"/> Matt White	10	★ WBQCV1-MW
2 gang	<input type="radio"/> Gloss White	10	★ WBQCV2
	<input checked="" type="radio"/> Matt Black	10	★ WBQCV2-MB
	<input type="radio"/> Matt White	10	★ WBQCV2-MW
3 gang	<input type="radio"/> Gloss White	10	★ WBQCV3
	<input checked="" type="radio"/> Matt Black	10	★ WBQCV3-MB
	<input type="radio"/> Matt White	10	★ WBQCV3-MW
4 gang	<input type="radio"/> Gloss White	10	★ WBQCV4
	<input checked="" type="radio"/> Matt Black	10	★ WBQCV4-MB
	<input type="radio"/> Matt White	10	★ WBQCV4-MW
5 gang	<input type="radio"/> Gloss White	10	★ WBQCV5
	<input checked="" type="radio"/> Matt Black	10	★ WBQCV5-MB
	<input type="radio"/> Matt White	10	★ WBQCV5-MW
6 gang	<input type="radio"/> Gloss White	10	★ WBQCV6
	<input checked="" type="radio"/> Matt Black	10	★ WBQCV6-MB
	<input type="radio"/> Matt White	10	★ WBQCV6-MW

Features

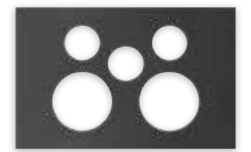
- High impact, high gloss UV stabilised polycarbonate
- Spray matt finishes available in matt white and matt black

Socket Cover Plates - horizontal

Description	Available colours	Box qty	Cat ref.
Cover single socket	<input type="radio"/> Gloss White	5	★ WBQCP1
	<input checked="" type="radio"/> Matt Black	5	★ WBQCP1-MB
	<input type="radio"/> Matt White	5	★ WBQCP1-MW
Cover double socket	<input type="radio"/> Gloss White	5	★ WBQCP2
	<input checked="" type="radio"/> Matt Black	5	★ WBQCP2-MB
	<input type="radio"/> Matt White	5	★ WBQCP2-MW
Cover double socket with extra switch	<input type="radio"/> Gloss White	5	★ WBQCP2XS
	<input checked="" type="radio"/> Matt Black	5	★ WBQCP2XS-MB
	<input type="radio"/> Matt White	5	★ WBQCP2XS-MW



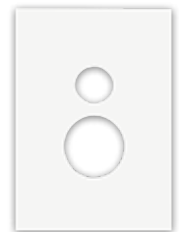
WBQCP1



WBQCP2XS-MB

Socket Cover Plates - vertical

Description	Available colours	Box qty	Cat ref.
Cover single socket	<input type="radio"/> Gloss White	5	★ WBQCPV1
	<input checked="" type="radio"/> Matt Black	5	★ WBQCPV1-MB
	<input type="radio"/> Matt White	5	★ WBQCPV1-MW



WBQCPV1

silhouette so fine, just stunning



Slim switches & sockets that blend into the wall have been a demand in the electrical industry for many years. silhouette has excelled in meeting this demand thanks to a thickness of only 4mm off the wall surface.

The silhouette range follows the Hager design philosophy – our design intention is to create meaningful, simple but elegant forms based on the serene balance of proportions.



Advantages:

- Slim 4mm profile off the wall surface
- Premium finish with real brushed aluminium and stainless steel materials.
- The small size socket base makes it easy to fit off with common mounting accessories.
- Electronic push button switches and dimmers fit into the range with our patented Rotoloc® system.

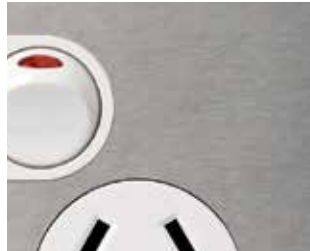
Characteristics:

- | | |
|-----------------------|---------------------------------|
| - External material: | - UV stabilised polycarbonate |
| - Switches terminals: | - 4 x 1.5mm ² cables |
| - Sockets terminals: | - 4 x 2.5mm ² cables |



01

With a thickness of only 4mm off the wall surface, silhouette has the lowest profile on the market.



02

For maximum lustre, metal covers have a treated surface to reduce fingerprint marks.



03

Strong impact resistant polycarbonate material will not 'yellow' over time.



04

Our patented Rotoloc® system eliminates the possibility of the mechanism being pushed back into the wall cavity.



05

Generous slots for easy fitment with no need for screw caps to meet standards compliance.



06

A spring loaded shutter protects little fingers from live parts inside sockets.



07

Available in Matt Black, Matt White and Gloss White as well as Stainless steel and aluminium coverplates.



08

A full range of accessories and mechs including electronic push buttons and dimmers are available.

RotoLoc
 Featured in all switch plates

Features

- Multiple mounting holes
- Supplied with standard 32mm tapered point fixing screws
- No mechanism push back
- High impact high gloss UV stabilised Polycarbonate construction
- 16AX used as standard mechanisms (suitable for fluorescent loads)
- 2 way and loop terminal as standard
- Combination head screws Phillip's #1 'backed off' for ease of cable insertion
- Terminals accommodate 4 x 1.5mm² cable

Dimension data [Page 425](#)



WBSSP4

Switch Plates only - No Mechanisms

Description	Available colours	Box qty	Cat ref.
1 gang	<input type="radio"/> White	10	WBSSP1
	<input checked="" type="radio"/> Matt Black	10	WBSSP1-MB
	<input type="radio"/> Matt White	10	WBSSP1-MW
2 gang	<input type="radio"/> White	10	WBSSP2
	<input checked="" type="radio"/> Matt Black	10	WBSSP2-MB
	<input type="radio"/> Matt White	10	WBSSP2-MW
3 gang	<input type="radio"/> White	10	WBSSP3
	<input checked="" type="radio"/> Matt Black	10	WBSSP3-MB
	<input type="radio"/> Matt White	10	WBSSP3-MW
4 gang	<input type="radio"/> White	10	WBSSP4
	<input checked="" type="radio"/> Matt Black	10	WBSSP4-MB
	<input type="radio"/> Matt White	10	WBSSP4-MW
5 gang	<input type="radio"/> White	10	WBSSP5
	<input checked="" type="radio"/> Matt Black	10	WBSSP5-MB
	<input type="radio"/> Matt White	10	WBSSP5-MW
6 gang	<input type="radio"/> White	10	WBSSP6
	<input checked="" type="radio"/> Matt Black	10	WBSSP6-MB
	<input type="radio"/> Matt White	10	WBSSP6-MW
Blank	<input type="radio"/> White	10	WBSSP6



WBSSV1-MW



WBSSV1-MB

Switches

Description	Available colours	Box qty	Cat ref.
1 gang	<input type="radio"/> White	10	WBSSV1
	<input checked="" type="radio"/> Matt Black	10	WBSSV1-MB
	<input type="radio"/> Matt White	10	WBSSV1-MW
2 gang	<input type="radio"/> White	10	WBSSV2
	<input checked="" type="radio"/> Matt Black	10	WBSSV2-MB
	<input type="radio"/> Matt White	10	WBSSV2-MW
3 gang	<input type="radio"/> White	5	WBSSV3
	<input checked="" type="radio"/> Matt Black	5	WBSSV3-MB
	<input type="radio"/> Matt White	5	WBSSV3-MW
4 gang	<input type="radio"/> White	5	WBSSV4
	<input checked="" type="radio"/> Matt Black	5	WBSSV4-MB
	<input type="radio"/> Matt White	5	WBSSV4-MW
5 gang	<input type="radio"/> White	5	WBSSV5
	<input checked="" type="radio"/> Matt Black	5	WBSSV5-MB
	<input type="radio"/> Matt White	5	WBSSV5-MW
6 gang	<input type="radio"/> White	5	WBSSV6
	<input checked="" type="radio"/> Matt Black	5	WBSSV6-MB
	<input type="radio"/> Matt White	5	WBSSV6-MW
40A cooker switches 1 gang	<input type="radio"/> White	1	WBSSV6
	<input checked="" type="radio"/> Matt Black	1	WBSSV6-MB
	<input type="radio"/> Matt White	1	WBSSV6-MW

Features

- Removable covers for ease of painting
- Transparent blue mounting grid for easy installation
- Multiple mounting holes
- Terminal screws "backed off"
- Bevelled and colour coded cable entries aligned for ease of termination

- Supplied with standard tapered point 32mm fixing screws

Technical data

- All sockets 250V 50Hz rated
- Extra switch models fitted with 16AX mechanisms
- Hi impact high gloss UV stabilised Polycarbonate construction

- Terminal accommodates 4 x 2.5mm² cable
- Electronic PB switches are 5A

Dimension data [Page 425](#)

Sockets - horizontal

Description	Characteristics	Available colours	Box qty	Cat ref.
Single sockets	10A	○ White	10	WBSP1S
		● Matt Black	10	WBSP1S-MB
		○ Matt White	10	WBSP1S-MW
	10A 'Round Earth'	○ White	10	WBSP1R
		● Matt Black	10	WBSP1R-MB
	15A	○ White	5	WBSP115S
		● Matt Black	5	WBSP115S-MB
		○ Matt White	5	WBSP115S-MW
	Double sockets	10A	○ White	10
● Matt Black			10	WBSP2S-MB
○ Matt White			10	WBSP2S-MW
Double socket with extra switch	10A	○ White	5	WBSP2XS
		● Matt Black	5	WBSP2XS-MB
		○ Matt White	5	WBSP2XS-MW
Double sockets with USB Type A and Type C	10A	○ White	1	★ WBSP2SUSBAC
		● Matt Black	1	★ WBSP2SUSBAC-MB
		○ Matt White	1	★ WBSP2SUSBAC-MW



Sockets - vertical

Description	Characteristics	Available colours	Box qty	Cat ref.
Single sockets	10A	○ White	5	WBSP1VS
		● Matt Black	5	WBSP1VS-MB
		○ Matt White	5	WBSP1VS-MW



Electronic Push Button Switches

Description	Available colours	Box qty	Cat ref.
1 gang	○ White	1	WBSEV1
2 gang	○ White	1	WBSEV2
3 gang	○ White	1	WBSEV3
4 gang	○ White	1	WBSEV4
5 gang	○ White	1	WBSEV5
6 gang	○ White	1	WBSEV6



Features

- Hi impact high gloss UV stabilised Polycarbonate, real aluminium or real stainless steel construction
- Matt black, white or clear anodized aluminium or brushed stainless steel finish, to reduce finger printing

Dimension data [Page 425](#)



WBSCV1-MB



WBSCV2-AL

Switch Covers

Description	Available colours	Box qty	Cat ref.
1 gang	Gloss White	5	WBSCV1
	Matt Black	5	WBSCV1-MB
	Matt White	5	WBSCV1-MW
	Aluminium	5	WBSCV1-AL
	Stainless Steel	5	WBSCV1-SS
2 gang	Gloss White	5	WBSCV2
	Matt Black	5	WBSCV2-MB
	Matt White	5	WBSCV2-MW
	Aluminium	5	WBSCV2-AL
	Stainless Steel	5	WBSCV2-SS
3 gang	Gloss White	5	WBSCV3
	Matt Black	5	WBSCV3-MB
	Matt White	5	WBSCV3-MW
	Aluminium	5	WBSCV3-AL
	Stainless Steel	5	WBSCV3-SS
4 gang	Gloss White	5	WBSCV4
	Matt Black	5	WBSCV4-MB
	Matt White	5	WBSCV4-MW
	Aluminium	5	WBSCV4-AL
	Stainless Steel	5	WBSCV4-SS
5 gang	Gloss White	5	WBSCV5
	Matt Black	5	WBSCV5-MB
	Matt White	5	WBSCV5-MW
	Aluminium	5	WBSCV5-AL
	Stainless Steel	5	WBSCV5-SS
6 gang	Gloss White	5	WBSCV6
	Matt Black	5	WBSCV6-MB
	Matt White	5	WBSCV6-MW
	Aluminium	5	WBSCV6-AL
	Stainless Steel	5	WBSCV6-SS
Blank	Matt Black	5	WBSCPB-MB
	Matt White	5	WBSCPB-MW
Special Application Plate Suits WBSSEA2	Aluminium	5	WBSCSEA2-AL
	Stainless Steel	5	WBSCSEA2-SS

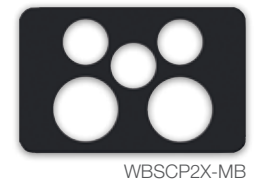
Features

- Hi impact high gloss UV stabilised Polycarbonate
- Spray matt finishes available in matt white and matt black

Dimension data [Page 425](#)

Socket Covers - horizontal

Description	Available colours	Box qty	Cat ref.
Cover single socket	<input type="radio"/> Gloss White	5	WBSCP1
	<input checked="" type="radio"/> Matt Black	5	WBSCP1-MB
	<input type="radio"/> Matt White	5	WBSCP1-MW
	<input type="radio"/> Aluminium	5	WBSCP1-AL
	<input type="radio"/> Stainless Steel	5	WBSCP1-SS
Cover double socket	<input type="radio"/> Gloss White	5	WBSCP2
	<input checked="" type="radio"/> Matt Black	5	WBSCP2-MB
	<input type="radio"/> Matt White	5	WBSCP2-MW
	<input type="radio"/> Aluminium	5	WBSCP2-AL
	<input type="radio"/> Stainless Steel	5	WBSCP2-SS
Cover double socket with extra switch	<input type="radio"/> Gloss White	5	WBSCP2X
	<input checked="" type="radio"/> Matt Black	5	WBSCP2X-MB
	<input type="radio"/> Matt White	5	WBSCP2X-MW
	<input type="radio"/> Aluminium	5	WBSCP2X-AL
	<input type="radio"/> Stainless Steel	5	WBSCP2X-SS



Socket Covers - vertical

Description	Available colours	Box qty	Cat ref.
Cover single socket	<input type="radio"/> Gloss White	5	WBSVCP1
	<input checked="" type="radio"/> Matt Black	5	WBSVCP1-MB
	<input type="radio"/> Aluminium	5	WBSVCP1-AL
	<input type="radio"/> Stainless Steel	5	WBSVCP1-SS



premiere

An award-winning modern day classic

When the space demands accessories that don't dominate, choose a design that combines classic aesthetics with modern day benefits for a simple and stylish look.

Quietly offering functionality and a beautifully understated form, you can now add a finishing touch to your decor with premiere Switches and Sockets.





01

Available in white and black colour options.



02

Strong impact resistant polycarbonate material will not 'yellow' over time.



03

A spring loaded shutter protects little fingers from live parts inside sockets.

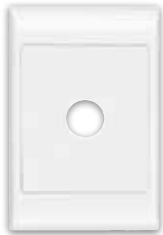


04

Our patented Rotoloc® system eliminates the possibility of the mechanism being pushed back into the wall cavity.

Features

- Transparent mounting grid for easy installation
- Multiple mounting holes
- Supplied with standard 32mm tapered point fixing screws
- No mechanism push back
- High impact, high gloss UV stabilised polycarbonate construction
- Removable surrounds for ease of painting



WBSP1



WBSP2-BK

Switch Plates only - No Mechanisms

Description	Available colours	Box qty	Cat ref.
1 gang	○ Gloss White	10	WBSP1
	● Black	10	WBSP1-BK
2 gang	○ Gloss White	10	WBSP2
	● Black	10	WBSP2-BK
3 gang	○ Gloss White	10	WBSP3
	● Black	10	WBSP3-BK
4 gang	○ Gloss White	10	WBSP4
	● Black	10	WBSP4-BK
5 gang	○ Gloss White	10	WBSP5
	● Black	10	WBSP5-BK
6 gang	○ Gloss White	10	WBSP6
	● Black	10	WBSP6-BK
Blank	○ Gloss White	10	WBSPB

Features

- Transparent mounting grid for easy installation
- Multiple mounting holes
- Supplied with standard 32mm tapered point fixing screws
- No mechanism push back
- High impact, high gloss UV stabilised polycarbonate construction
- Removable surrounds for ease of painting
- Rocker features in-built arc shield and chemical resistant pivots
- All plates fitted with 16AX mechanisms (suitable for fluorescent loads)
- 2 way and loop terminal as standard
- Combination head screws Phillip's #1 'backed off' for ease of cable insertion
- Terminals accommodate 4 x 1.5mm² cable

Dimension data [Page 430](#)



Large Plate Switches - vertical

Description	Available colours	Box qty	Cat ref.
1 gang	○ Gloss White	10	WBSV1
	● Black	10	WBSV1-BK
2 gang	○ Gloss White	10	WBSV2
	● Black	10	WBSV2-BK
3 gang	○ Gloss White	5	WBSV3
	● Black	5	WBSV3-BK
4 gang	○ Gloss White	5	WBSV4
	● Black	5	WBSV4-BK
5 gang	○ Gloss White	5	WBSV5
	● Black	5	WBSV5-BK
6 gang	○ Gloss White	5	WBSV6
	● Black	5	WBSV6-BK



WBSV1-BK

Large Plate switches - horizontal

Description	Available colours	Box qty	Cat ref.
1 gang	○ Gloss White	10	WBSH1
2 gang	○ Gloss White	10	WBSH2
3 gang	○ Gloss White	5	WBSH3



WBSH2

Architrave Switches features

- Supplied with both a premiere and a visage cover for your choice
- Common cover and mounting centres
- Supplied with 12mm tapered point fixing screws

Fan Controller features

- Fan knobs cannot be removed once installed into plate

Card Entry features

- Micro switch controlled
- Supplied with card

Dimension data [Page 431](#)



WBSA1-BK

Architrave Switches

Description	Available colours	Box qty	Cat ref.
1 gang	<input type="radio"/> Gloss White	10	WBSA1
	<input checked="" type="radio"/> Black	10	WBSA1-BK
2 gang	<input type="radio"/> Gloss White	10	WBSA2
	<input checked="" type="radio"/> Black	10	WBSA2-BK
3 gang	<input type="radio"/> Gloss White	5	WBSA3
	<input checked="" type="radio"/> Black	5	WBSA3-BK



WBSF3

Other products

Description	Available colours	Box qty	Cat ref.
Fan controller	<input type="radio"/> Gloss White	1	WBSF3
3 speed capacitance 250V 75A	<input checked="" type="radio"/> Black	1	WBSF3-BK
TV plate - PAL 75 OHM	<input type="radio"/> Gloss White	10	WBTV75
TV plate - 'F' to 'F' pay TV	<input type="radio"/> Gloss White	10	WBTV75PY
Permanent connection plate	<input type="radio"/> Gloss White	5	WBPPCU

Features

- Removable surrounds for ease of painting
- Transparent mounting grid for easy installation
- Multiple mounting holes
- Supplied with standard 32mm fixing screws
- High impact, high gloss UV stabilised polycarbonate

IP66 features

- 16A rated mechanism
- 2 way as standard
- Loop terminal as standard
- Terminals take 4 x 1.5mm² cable
- All IP66 switches can be mounted onto the WBBMI for surface mounting

- Designed to ensure IP66 when installed on suitable flat, smooth, non water absorbent surfaces
- Factory sealed IP tested gaskets
- IP rating maintained with sealing plugs in place

Dimension data [Page 431](#)



IP66 Large Plate Switches - vertical

Description	Available colours	Box qty	Cat ref.
1 gang	○ Gloss White	1	WBWSV1
	● Black	1	WBWSV1-BK
2 gang	○ Gloss White	1	WBWSV2
	● Black	1	WBWSV2-BK
3 gang	○ Gloss White	1	WBWSV3
	● Black	1	WBWSV3-BK
4 gang	○ Gloss White	1	WBWSV4
	● Black	1	WBWSV4-BK
3 gang with Light/Fan/Heat printed mechs	○ Gloss White	1	WBWSV3LFH
	● Black	1	WBWSV3LFH-BK
4 gang with Light/Fan/Heat/Heat printed mechs	○ Gloss White	1	WBWSV4LFHH
	● Black	1	WBWSV4LFHH-BK



WBWSV3LFH



WBWSV4LFHH-BK

IP66 Large Plate Switches - horizontal

Description	Available colours	Box qty	Cat ref.
1 gang	○ Gloss White	1	WBWSH1
	● Black	1	WBWSH1-BK
2 gang	○ Gloss White	1	WBWSH2
	● Black	1	WBWSH2-BK
3 gang	○ Gloss White	1	WBWSH3
	● Black	1	WBWSH3-BK
4 gang	○ Gloss White	1	WBWSH4
	● Black	1	WBWSH4-BK
3 gang with Light/Fan/Heat printed mechs	○ Gloss White	1	WBWSH3LFH
	● Black	1	WBWSH3LFH-BK
4 gang with Light/Fan/Heat/Heat printed mechs	○ Gloss White	1	WBWSH4LFHH
	● Black	1	WBWSH4LFHH-BK



WBWSH3LFH



WBWSH4LFHH-BK

Features

- Common cover
- Removable covers for ease of painting
- Transparent mounting grid for easy installation
- Multiple mounting holes
- Terminal screws "backed off"
- Bevelled and colour coded cable entries aligned for ease of termination
- Supplied with standard tapered point 32mm fixing screws

Technical data

- All sockets 250V 50Hz rated
- Extra switch models fitted with 16AX mechanisms
- High impact, high gloss UV stabilised polycarbonate construction
- Terminal accommodates 4 x 2.5mm² cable



Dimension data [Page 430](#)



WBP1S



WBP115S-BK

Single Sockets - horizontal

Description	Available colours	Box qty	Cat ref.
10A	○ Gloss White	10	WBP1S
	● Black	10	WBP1S-BK
15A	○ Gloss White	5	WBP115S
	● Black	5	WBP115S-BK
20A	○ Gloss White	5	WBP120
10A double pole	○ Gloss White	10	WBP1DS
15A	○ Gloss White	5	WBP115DS
10A with extra switch	○ Gloss White	5	WBP1XS
	● Black	5	WBP1XS-BK
10A with 2 extra switches	○ Gloss White	5	WBP1XXS
	● Black	5	WBP1XXS-BK
10A with round earth pin	○ Gloss White	5	WBP1R
	● Black	5	WBP1R-BK



WBP1VS



WBP1VXS-BK

Single Sockets - vertical

Description	Available colours	Box qty	Cat ref.
10A	○ Gloss White	5	WBP1VS
	● Black	5	WBP1VS-BK
	● Red	5	WBP1VS-RD
15A	○ Gloss White	5	WBP115VS
	● Black	5	WBP115VS-BK
10A with extra switch	○ Gloss White	5	WBP1VXS
	● Black	5	WBP1VXS-BK
10A with 2 extra switches	○ Gloss White	5	WBP1VXXS
	● Black	5	WBP1VXXS-BK

Features

- Common cover
- Removable covers for ease of painting
- Transparent mounting grid for easy installation
- Multiple mounting holes
- Terminal screws "backed off"
- Bevelled and colour coded cable entries aligned for ease of termination
- Supplied with standard tapered point 32mm fixing screws
- 4 outlet sockets have same mounting centres as double socket outlets.

Technical data

- All sockets 250V 50Hz rated with 16AX mechanisms
- Extra switch models fitted with 16AX mechanisms
- High impact high gloss UV stabilised polycarbonate construction
- Terminal accommodates 4 x 2.5mm² cable

Dimension data [Page 430 and 431](#)



Double Sockets - horizontal

Description	Available colours	Box qty	Cat ref.
10A	○ Gloss White	10	WBP2S
	● Black	10	WBP2S-BK
	● Red	10	WBP2S-RD
10A double pole	○ Gloss White	10	WBP2DS
10A with extra switch	○ White	5	WBP2XS
	● Black	5	WBP2XS-BK
10A with circuit id	○ Gloss White	10	WBP2CID
	● Black	10	WBP2CID-BK
Double sockets + USB Type A and C	○ Gloss White	1	WBP2SUSBAC



WBP2S

Double Sockets - vertical

Description	Available colours	Box qty	Cat ref.
10A	○ Gloss White	10	WBP2VS
	● Black	10	WBP2VS-BK
10A with extra switch	○ Gloss White	5	WBP2VXS
	● Black	5	WBP2VXS-BK



WBP2VS

4 Outlet Sockets - horizontal

Description	Available colours	Box qty	Cat ref.
10A	○ Gloss White	4	WBP4S
	● Black	4	WBP4S-BK
10A with extra switch	○ Gloss White	4	WBP4XS
	● Black	4	WBP4XS-BK



WBP4S



WBP4XS

Features

- Surrounds to fit to premiere range
- Easily removable for cleaning
- Manufactured from tempered glass, slate or polycarbonate



WBC2V

Standard Polycarbonate Surrounds

Description	Available colours	Box qty	Cat ref.
Single product surround	○ Gloss White	10	WBC1Z
	● Black	10	WBC1Z-BK
2 product vertical surround	○ Gloss White	10	WBC2V
	● Black	10	WBC2V-BK
2 product horizontal surround	○ Gloss White	10	WBC2H
	● Black	10	WBC2H-BK

Features

- HDMI modules can be easily mounted into any of the 'SEA2' plates
- The HDMI connection can be used in conjunction with HD TV and Audio devices

Dimension data:

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HDMI Connection Modules

Description	Available colours	Box qty	Cat ref.
HDMI passthrough	<input type="radio"/> White	1	★ WS263



WS263

silhouette Module Plates

Description	Available colours	Box qty	Cat ref.
2 module	<input type="radio"/> White	10	WBSSEA2



WBSSEA2

allure Module Plates

Description	Available colours	Box qty	Cat ref.
2 module	<input type="radio"/> White	10	★ WBHSEA2
	<input checked="" type="radio"/> Matt Black	10	★ WBHSEA2-MB
	<input type="radio"/> Matt White	10	★ WBHSEA2-MW
3 module	<input type="radio"/> White	10	★ WBHSEA3
	<input checked="" type="radio"/> Matt Black	10	★ WBHSEA3-MB
	<input type="radio"/> Matt White	10	★ WBHSEA3-MW



WBHSEA2

finesse Module Plates

Description	Available colours	Box qty	Cat ref.
2 module plate	<input type="radio"/> White	10	★ WBQSEA2
	<input checked="" type="radio"/> Matt Black	10	★ WBQSEA2-MB
	<input type="radio"/> Matt White	10	★ WBQSEA2-MW
3 module	<input type="radio"/> White	10	★ WBQSEA3
	<input checked="" type="radio"/> Matt Black	10	★ WBQSEA3-MB
	<input type="radio"/> Matt White	10	★ WBQSEA3-MW



WBQSEA2

Technical information [Page 432](#)

Features:

- Slave Push Button Switch available
- All electronic mechanisms are EMC compliant
- Supplied with White, Matt Black and Matt White caps or rotary knob



WBME5A

Electronic Push Button Switch Mechanism

Description	Available colours	Box qty	Cat ref.
230/240V AC 1200W	○ White Complete with MB and MW interchangeable coloured caps	5	WBME5A



WBMDUPB

Electronic Push Button Universal Dimmer Mechanism

Description	Available colours	Box qty	Cat ref.
250W - LED loads 300W - Incandescent loads	○ White Complete with MB and MW interchangeable coloured caps	5	★ WBMDUPB



WBMDUR

Electronic Universal Rotary Dimmer Mechanism

Description	Available colours	Box qty	Cat ref.
250W - LED loads 300W - Incandescent loads	○ White Complete with MB and MW knobs	5	★ WBMDUR



WBMSLL

Electronic Push Button Slave Mechanism

Description	Available colours	Box qty	Cat ref.
To be used only in conjunction with either WBMDUPB, WBMDUR or WBME5A.	○ White Complete with MB and MW interchangeable coloured caps	5	★ WBMSLL



WBAEDB



WBAEDK-MB

Dimmer Caps and Knobs

Description	Available colours	Cat ref.
Dimmer caps for WBMDUPB and WBMSLL	○ Gloss White	★ WBAEDB
	● Gloss Black	★ WBAEDB-BK
	● Matt Black	★ WBAEDB-MB
	○ Matt White	★ WBAEDB-MW
Dimmer knob for WBMDUR	○ Gloss White	★ WBAEDK
	● Gloss Black	★ WBAEDK-BK
	● Matt Black	★ WBAEDK-MB
	○ Matt White	★ WBAEDK-MW

Features

- Easy mechanism removal
- Rear housing colour coded for easy recognition of mechanism type
- All terminal screws are combination head Phillips No. 1 and backed off

Technical data:

- 3mm contact gap in WBM16AX
- All 250V mechanism's have M60 motor rating
- 32A and 20AX mechanism 'socket size' terminal accommodates 2 x 4mm² cables
- Intermediate and double pole have 75% of terminal screws accessible from 1 direction
- Terminals accommodate 4 x 1.5mm² cables
- Push mech rated at 10A
- Tactile mech rated 6A

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250V PB Mechanisms

Description	Available colours	Box qty	Cat ref.
LED for push button	<input type="radio"/> Blue	20	★ WBAPBLED
10A flush push button - 2 way	<input type="radio"/> White	5	★ WBMPB
	<input checked="" type="radio"/> Matt Black	5	★ WBMPB-MB
	<input type="radio"/> Matt White	5	★ WBMPB-MW
6A 240V push button tactile/momentary mech (Available early 2022)	<input type="radio"/> White	5	★ WBMPB
	<input checked="" type="radio"/> Matt Black	5	★ WBMPB-MB
	<input type="radio"/> Matt White	5	★ WBMPB-MW



WBMPB

250V Mechanisms

Description	Available colours	Box qty	Cat ref.
16A AX rated STANDARD	<input type="radio"/> White	5	WBM16AX
	<input checked="" type="radio"/> Black	5	WBM16AX-BK
	<input type="radio"/> Matt White	5	WBM16AX-MW
	<input checked="" type="radio"/> Matt Black	5	WBM16AX-MB
	<input checked="" type="radio"/> Red	5	WBM16AX-RD
20A Standard	<input type="radio"/> White	5	WBM20
	<input checked="" type="radio"/> Black	5	WBM20-BK
	<input type="radio"/> Matt White	5	WBM20-MW
	<input checked="" type="radio"/> Matt Black	5	WBM20-MB
16A AX rated with lens	<input type="radio"/> White	5	WBM16AXL
	<input checked="" type="radio"/> Black	5	WBM16AXL-BK
16A AX rated with neon light	<input type="radio"/> White	5	WBM16AXN
10A double pole	<input type="radio"/> White	5	WBM10D
	<input checked="" type="radio"/> Black	5	WBM10D-BK
	<input type="radio"/> Matt White	5	WBM10D-MW
	<input checked="" type="radio"/> Matt Black	5	WBM10D-MB
10A intermediate	<input type="radio"/> White	5	WBM10I
	<input checked="" type="radio"/> Black	5	WBM10I-BK
	<input type="radio"/> Matt White	5	WBM10I-MW
	<input checked="" type="radio"/> Matt Black	5	WBM10I-MB
20A AX rated 1 way only	<input type="radio"/> White	5	WBM20AX
	<input checked="" type="radio"/> Black	5	WBM20AX-BK
	<input type="radio"/> Matt White	5	WBM20AX-MW
	<input checked="" type="radio"/> Matt Black	5	WBM20AX-MB
32A 1 way only	<input type="radio"/> White	5	WBM32
	<input checked="" type="radio"/> Black	5	WBM32-BK
	<input type="radio"/> Matt White	5	WBM32-MW
	<input checked="" type="radio"/> Matt Black	5	WBM32-MB
15A press	<input type="radio"/> White	5	WBM15P
	<input type="radio"/> Matt White	5	WBM15P-MW
	<input checked="" type="radio"/> Matt Black	5	WBM15P-MB
15A without printed "press"	<input type="radio"/> White	5	WBM15PB
	<input type="radio"/> Matt White	5	WBM15PB-MW
	<input checked="" type="radio"/> Matt Black	5	WBM15PB-MB



WBM16AX
Standard Mechanism



WBM16AXL



WBM16AXN



WBM10D-MB



WBM10I-MB



WBM15P-MB

Features

- Easy mechanism removal
- Rear housing colour coded for easy recognition of mechanism type
- All terminal screws are combination head Phillips No. 1 and backed off

Technical data

- 3mm contact gap in WBM16AX
- All 250V mechanism's have M60 motor rating
- Intermediate and double pole have 75% of terminal screws accessible from 1 direction
- 10A, 16AX and 20A terminals accommodate 4 x 1.5mm² cables
- Push mech rated at 10A

- 32A and 20AX mechanism 'socket size' terminal accommodates 2 x 4mm² cables

Technical information

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WBM16L



WBM20F



WBM20H



WBM32HO



WBM32O

250V Printed Mechanisms

Description	Available colours	Box qty	Cat ref.
'LIGHT' 16A AX 2 way	<input type="radio"/> White	5	WBM16L
	<input checked="" type="radio"/> Black	5	WBM16L-BK
	<input type="radio"/> Matt White	5	WBM16L-MW
	<input checked="" type="radio"/> Matt Black	5	WBM16L-MB
'FAN' 20A 1 way	<input type="radio"/> White	5	WBM20F
	<input checked="" type="radio"/> Black	5	WBM20F-BK
	<input type="radio"/> Matt White	5	WBM20F-MW
	<input checked="" type="radio"/> Matt Black	5	WBM20F-MB
'HEAT' 20A 1 way	<input type="radio"/> White	5	WBM20H
	<input checked="" type="radio"/> Black	5	WBM20H-BK
	<input type="radio"/> Matt White	5	WBM20H-MW
	<input checked="" type="radio"/> Matt Black	5	WBM20H-MB
'HOT WATER' 20A 1 way	<input type="radio"/> White	5	WBM20HW
'HOT WATER' 32A 1 way	<input checked="" type="radio"/> Matt Black	5	WBM32HW-MB
	<input type="radio"/> Matt White	5	WBM32HW-MW
'SENSOR' 20A 1 way	<input type="radio"/> White	5	WBM20SN
'HOB' 32A 1 way	<input type="radio"/> White	5	WBM32HO
	<input checked="" type="radio"/> Black	5	WBM32HO-BK
	<input type="radio"/> Matt White	5	WBM32HO-MW
	<input checked="" type="radio"/> Matt Black	5	WBM32H-MB
'OVEN' 32A 1 way	<input type="radio"/> White	5	WBM32O
	<input checked="" type="radio"/> Black	5	WBM32O-BK
	<input type="radio"/> Matt White	5	WBM32O-MW
	<input checked="" type="radio"/> Matt Black	5	WBM32O-MB
'RANGE' 32A 1 way	<input type="radio"/> White	5	WBM32R
	<input checked="" type="radio"/> Black	5	WBM32R-BK
	<input type="radio"/> Matt White	5	WBM32R-MW
	<input checked="" type="radio"/> Matt Black	5	WBM32R-MB

Feature

- Easy mechanism removal

Technical data

- Terminals accommodate 4 x 1.5mm² cables

Technical information [Page 434](#)



250V Rotary Mechanisms

Description	Available colours	Box qty	Cat ref.
10A 3 position rotary	○ White	10	WBM10R3
10A 3 pos. rotary - w/ capacitor (fan)	● Matt Black	10	WBMSF3-MB
	○ Matt White	10	WBMSF3-MW
10A 3 pos. rotary - Auto/Manual	○ White	10	WBM10RAM
10A 3 pos. rotary - Lo/Hi	○ White	10	WBM10RLH
10A 3 pos. rotary - Sensor	○ White	10	WBM10RSN
10A 3 pos. rotary - Up/Down	○ White	10	WBM10RUD
Rotary Knob to suit rotary mechs	○ White	10	WBARK1
	● Black	10	WBARK1-BK
	○ Matt White	10	WBARK1-MW
	● Matt Black	10	WBARK1-MB



WBM10R3



WBARK1

Rotoloc Data Mechanisms

- Data Mechs are tested and approved to the following standards where relevant:

ANSI/TIA-568-C.2-2009
ISO/IEC 11801-1
IEC 60603-7-2
AS/CA S008:2015I

Audio Connectors

- RCA jacks have 'F' connection at rear
- Available in multiple colours for maximum installation flexibility
- Speaker connectors suitable for both bare wire termination and banana plugs

Technical information:

[Page 439, 440](#)



WBMTV75PF



WBMTV75PY-MB

TV Mechanisms

Description	Available colours	Box qty	Cat ref.
'F' to PAL type mechanism	○ White	10	WBMTV75PF
	● Black	10	WBMTV75PF-BK
	○ Matt White	10	WBMTV75PF-MW
	● Matt Black	10	WBMTV75PF-MB
TV socket mechanism 3GHz 75Ohm Foxtel approved	○ White	10	WBMTV75PY
	● Black	10	WBMTV75PY-BK
	○ Matt White	10	WBMTV75PY-MW
	● Matt Black	10	WBMTV75PY-MB



WBMCAT6-MW



WBMCAT6A

Rotoloc Data Mechanisms

Description	Available colours	Box qty	Cat ref.
8 Pin Cat5e	○ White	10	WBMCAT5
8 Pin Cat6	○ White	10	WBMCAT6
	● Black	10	WBMCAT6-BK
	○ Matt White	10	WBMCAT6-MW
	● Matt Black	10	WBMCAT6-MB
8 Pin Cat6A	○ White	10	WBMCAT6A



WBMHDMI

Audio Connectors

Description	Available colours	Box qty	Cat ref.
M/M HDMI pass through	○ White	5	WBMHDMI
	● Matt Black	5	WBMHDMI-MB
	○ Matt White	5	WBMHDMI-MW
RCA connectors for composite audio/video - 1 x red, 1 x white, 1 x yellow	○ White	5	WBMRCA1
	● Black	5	WBMRCA1-BK

Circuit ID features:

- Circuit ID cannot be removed from front of plate once installed

Technical data

- Cord grip mechanism will accept light and heavy duty flexible cables
- Circuit ID labels supplied in sheets of 10, A4 size.



Special Mechanisms

Description	Available colours	Box qty	Cat ref.
Cord grip mechanism	○ White	5	WBMPCU
Circuit ID mechanism	○ White	5	WBMCID
Blank mechanism	○ White	5	WBMBP
	● Black	5	WBMBP-BK
ELV tactile mechanism extra low voltage tactile switch momentary contact	○ White	5	WBMLVT
	● Black	5	WBMLVT-BK
	○ Matt White	5	WBMLVT-MW
ELV tactile mechanism + neon extra low voltage tactile switch with LED indication momentary contact	○ White	5	WBMLVTN
	● Black	5	WBMLVTN-BK
	○ Matt White	5	WBMLVTN-MW
	● Matt Black	5	WBMLVTN-MB
Neon lights	250V Neon – red	5	WBM250NRD
	250V Neon – amber	5	WBM250NAM
	250V Neon – green	5	WBM250NGR
	250V Neon – clear	5	WBM250NCL
USB Mechanism 1 x TYPE A 1 x TYPE C	○ White	1	★ WBMUSBAC
	● Black	1	★ WBMUSBAC-BK
	○ Matt White	1	★ WBMUSBAC-MW
	● Matt Black	1	★ WBMUSBAC-MB



Mounting Block features

- Hi Impact UV stabilised Polycarbonate
- Compatible with all large plate switches and sockets

Surface sockets features

- Safety Shroud for extra security and safety.
- Can be tested when fitted to mounting plate

Dimension data [Page 441](#)



WBBMD



WBSBMD



WBBMI

Mounting Accessories

Description	Available colours	Box qty	Cat ref.
premiere Mounting block 32mm deep	○ White	5	WBBMD
	● Black	5	WBBMD-BK
silhouette mounting block 32mm deep	○ White	5	WBSBMD
	● Matt Black	5	WBSBMD-MB
allure mounting block	○ White	5	★ WBHMBD
	● Matt Black	5	★ WBHMBD-MB
finesse mounting block 84mm interaxe	○ White	5	★ WBQMBD
	● Matt Black	5	★ WBQMBD-MB
premiere Mounting block 18mm deep	○ White	5	WBBMS
premiere Mounting block to suit 4 gang outlet	○ White	4	WBBM4
Insulated back to suit 4 gang mounting block	○ White	8	WBBM4BP
premiere Insulated mounting block 32mm deep	○ White	10	WBBMI
	● Black	10	WBBMI-BK
premiere Surface mounting kit 29mm deep suits premiere plates only	○ White	5	WBBSMK
	● Black	5	WBBSMK-BK
Wall box 1 gang moulded plastic		10	WBBWB



WBAP1

Surface Sockets

Description	Characteristics	Available colours	Box qty	Cat ref.
Single surface sockets	10A	○ White	10	WBAP1
	15A	○ White	10	WBAP115
with round earth pin	10A	○ White	10	WBAP1R
Replacement mounting plate			30	WBAP1MP

Junction Box feature

- Includes quickfix screws and terminal connectors

Dimension data [Page 441](#)

Shrouds

- Shroud for insulating live parts

Junction Boxes

Description	Available colours	Box qty	Cat ref.
Giant junction box with quick fix screws and 4 cable connectors	○ White	5	WBAJB4
Standard junction box with quick fix screws and 3 cable connectors	○ White	10	WBAJB4S



Shrouds and Covers

Description	Box qty	Cat ref.
Insulating shroud size 2 suits premiere products	10	WBBS2
Paint cover suits premiere products only	30	WBAPC



Miscellaneous

Description	Box qty	Cat ref.
M3.5 X 50mm long pan head tapered point mounting screw 50 screws per box	50	WBASC50
Mechanism removal tool		WBMS
Screw connectors - single	100	WBAC1B
Screw connectors - twin	50	WBAC2B



Description

Our surface mounted range of IP rated switches and sockets are designed for outdoor applications. Easy to install with two single screws fixing the top cover to the base.

Electrical Specification

Switch - 16A, 250V AC
 Single pole 2 way with loop
 Socket - 10/15A, 250V AC
 Single pole

Dimension data [Page 442](#)

Mechanical specification

- IP66 for switches
- IP53 for sockets
- External material is UV stabilised polycarbonate



WBWS216

Switches

Description	Characteristics	Box qty	Cat ref.
16A IP66 switches	1 gang	1	WBWS116
	2 gang	1	WBWS216



WBWP1S

Single Sockets

Description	Characteristics	Box qty	Cat ref.
IP53 single socket	10A	1	WBWP1S
	15A	1	WBWP115S
IP53 single socket (White)	10A	1	★ WBWP1S-W
	15A	1	★ WBWP115S-W



WBWP2S

10A Double Sockets

Description	Characteristics	Box qty	Cat ref.
10A, IP53 double socket		1	WBWP2S
	shallow mount	1	WBWP2SH
10A, IP53 double socket (White)		1	★ WBWP2S-W
	shallow mount	1	★ WBWP2SH-W



WBWP2SH

Description

Our range of Weatherproof Isolators are designed to be used in indoor or outdoor applications with IP66 degree of protection. They are switch disconnectors for 2, 3 and 4 pole supply, from 20A to 63A. Rated at AC-23A, they can also be used to isolate motor/compressor loads without derating. They provide ample wiring room and are easy to install with a 2 screw quick release top cover.

Electrical Specification


- AS/NZS IEC 60947-3
- Rated voltage:
250V AC 50/60Hz
440V AC 50/60Hz
- Utilization category
AC-21A, AC-22A, AC-23A for switching any type of load from resistive to highly inductive loads

Mechanical Specification

- IP66
- External material is UV stabilised polycarbonate
- Ø25mm top and bottom cable entry hole caps
- Ø25mm and Ø20mm conduit entry knock-cuts
- Ø20mm mounting holes
- Handle provides Ø6mm shank padlocking facility (ON & OFF position)

Technical information [Page 443](#)

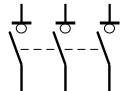
2 pole Isolators

Description	Characteristics	Operational power input			Box qty	Cat ref.
		AC-21A	AC-22A	AC-23A		
IP66 	20A	4.8kW	4.0kW	3.3kW	1	JG220IN
	32A	7.6kW	6.4kW	5.2kW	1	JG232IN
	40A	9.5kW	8.0kW	6.5kW	1	JG240IN
	63A	15kW	12.6kW	10.2kW	1	JG263IN



JG240IN

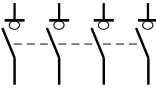
3 pole Isolators

Description	Characteristics	Operational power input			Box qty	Cat ref.
		AC-21A	AC-22A	AC-23A		
IP66 	20A	14.5kW	12.2kW	9.9kW	1	JG320IN
	32A	23.2kW	19.5kW	15.9kW	1	JG332IN
	40A	29kW	24.4kW	19.8kW	1	JG340IN



JG340IN

4 pole Isolators

Description	Characteristics	Operational power input			Box qty	Cat ref.
		AC-21A	AC-22A	AC-23A		
IP66 N 	20A	14.5kW	12.2kW	9.9kW	1	JG420IN
	32A	23.2kW	19.5kW	15.9kW	1	JG432IN
	40A	29kW	24.4kW	19.8kW	1	JG440IN
	63A	45.6kW	38.4kW	31.2kW	1	JG463IN



JG440IN

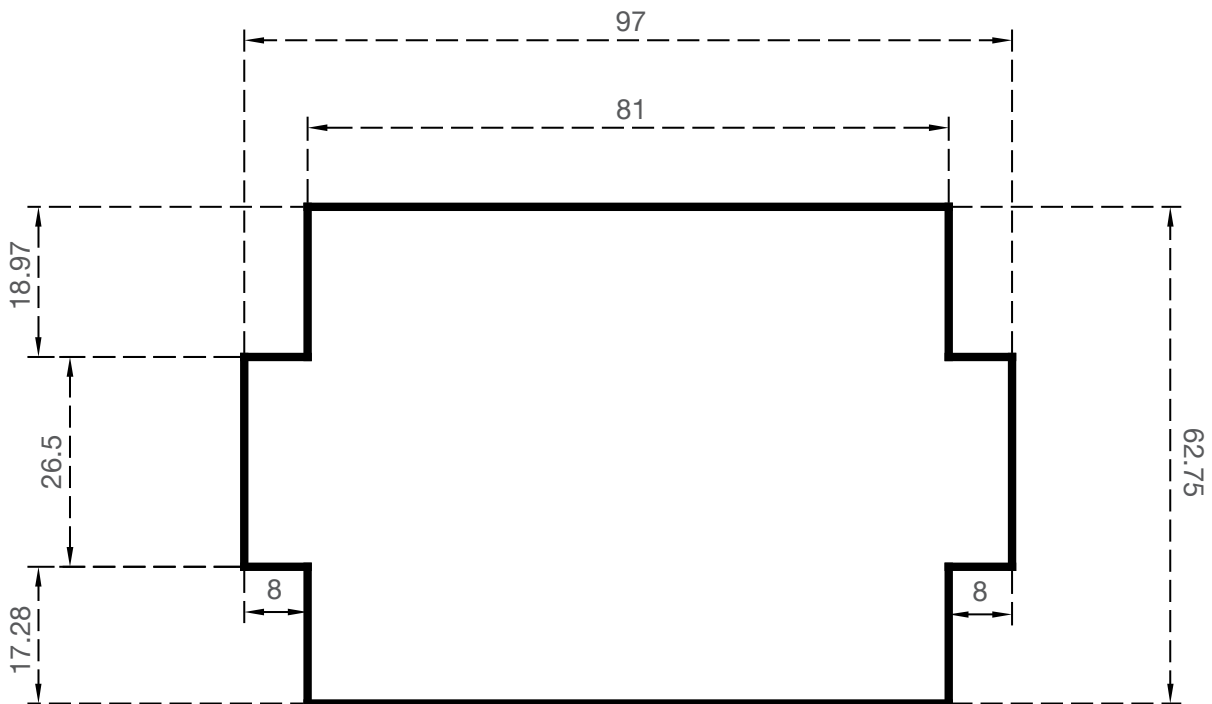
Regulatory Compliance Mark (RCM)



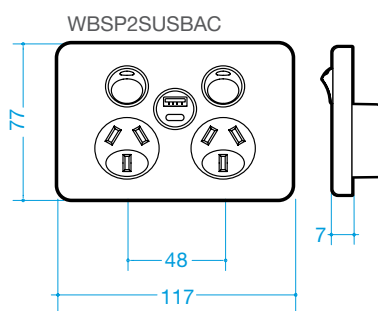
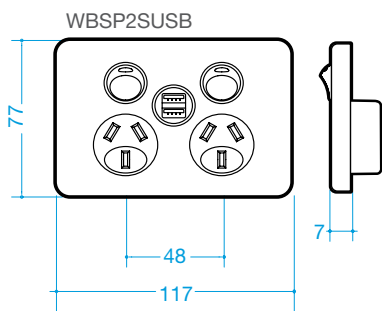
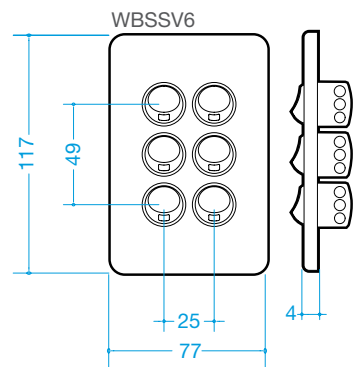
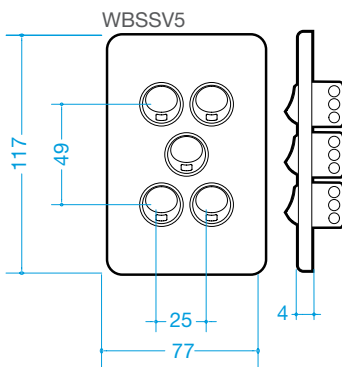
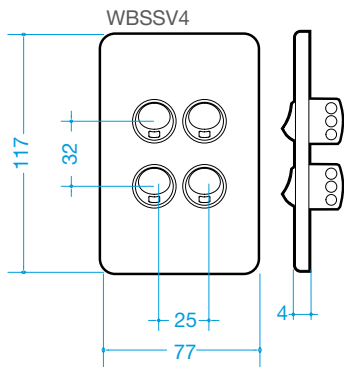
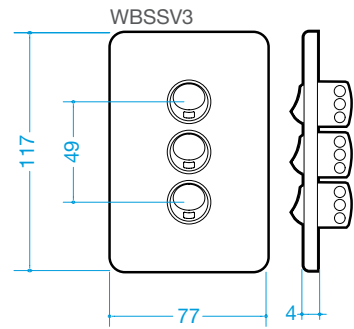
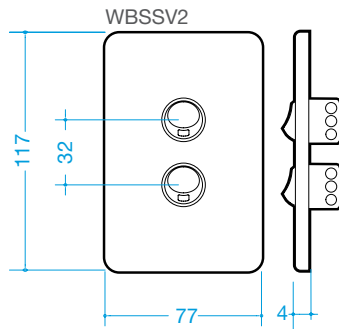
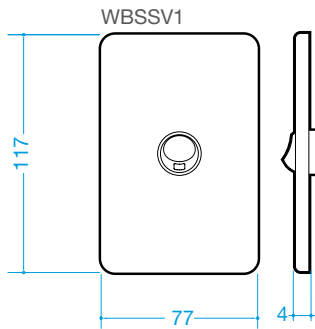
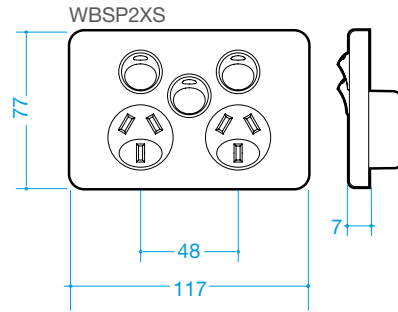
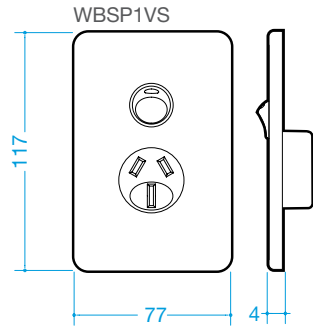
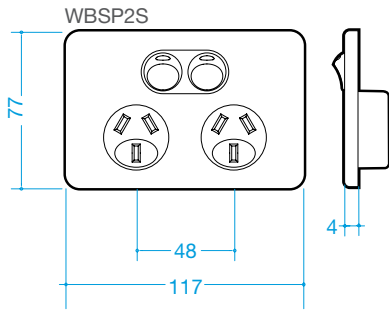
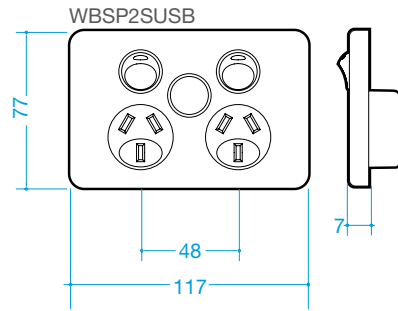
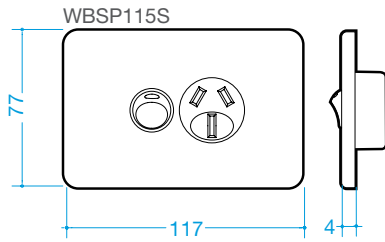
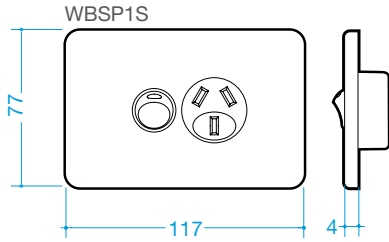
	Product	Max No. of cable cores to each terminal hole					Motor rating
		1.0mm ²	1.5mm ²	2.5mm ²	4.0mm ²	6.0mm ²	
Switch mechanisms	10A mechanism		4				M40
	16A mechanism		4				M60
	16AX mechanism		4				M60
	20A mechanism		4				M60
	20AX mechanism				2		M80
	32A mechanism				2		M80
	Card entry switches		4				N/A
Sockets	10A mechanism			4			N/A
	15A mechanism			4			N/A
	20A mechanism			4			N/A
	Screw connectors			4	3	2	N/A

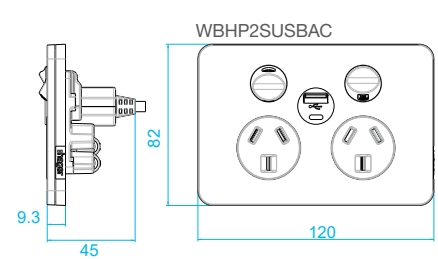
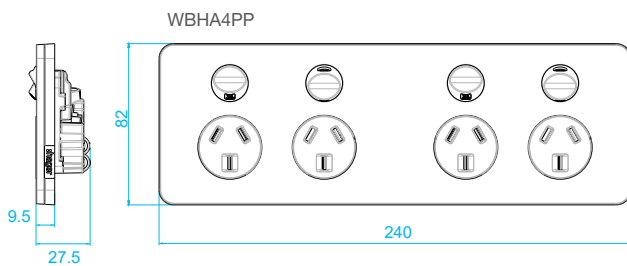
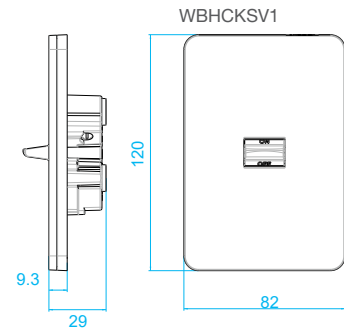
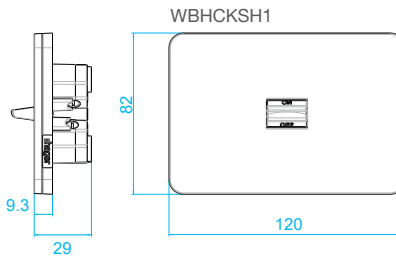
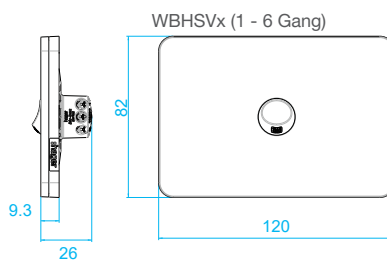
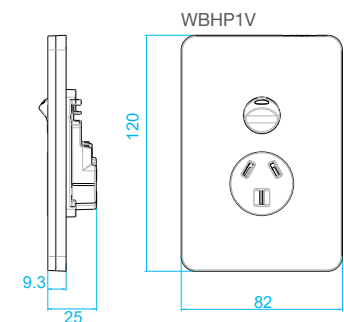
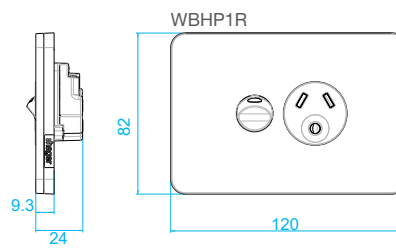
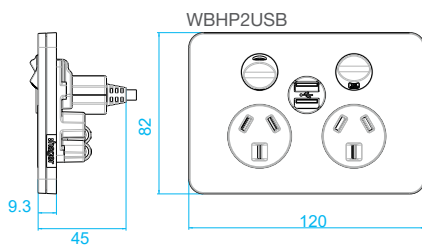
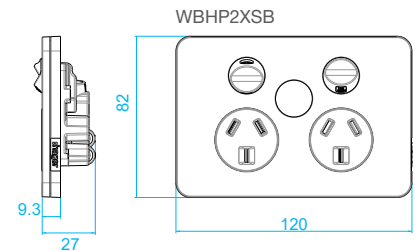
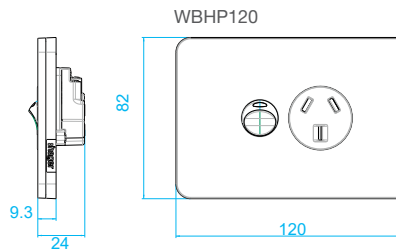
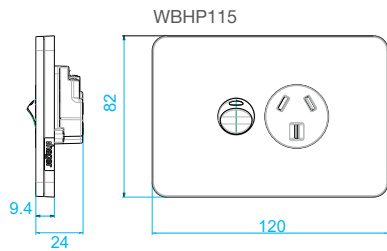
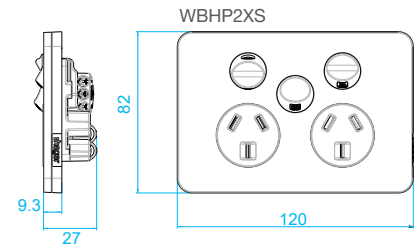
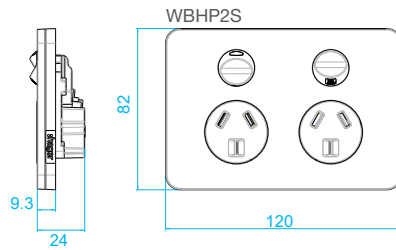
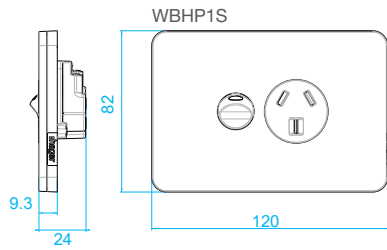
Motor Rating - Indicated on the mechanism as Mxx, where xx is the nominated locked rotor current in amperes (as per AS/NZS3133:2008)

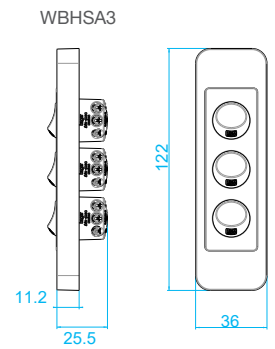
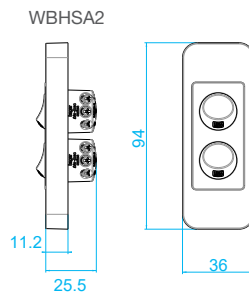
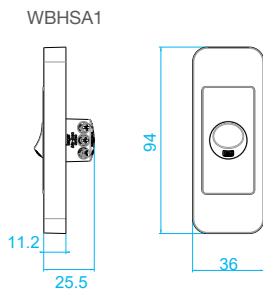
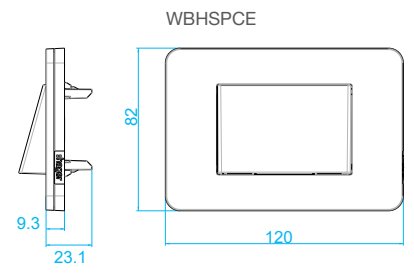
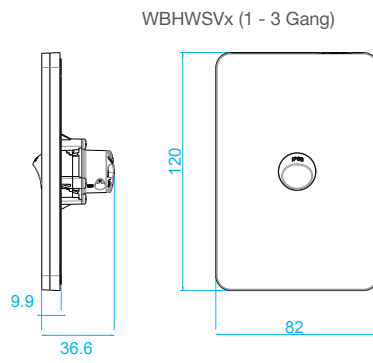
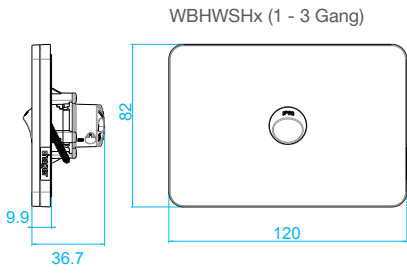
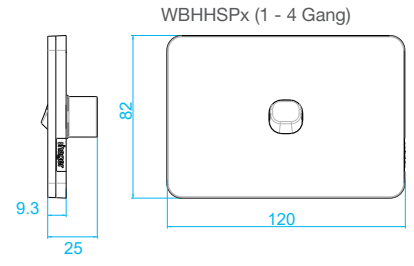
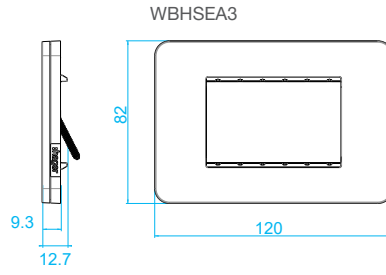
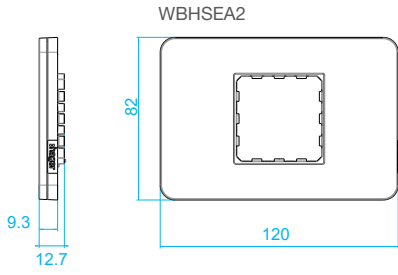
Switches and sockets cutout dimensions

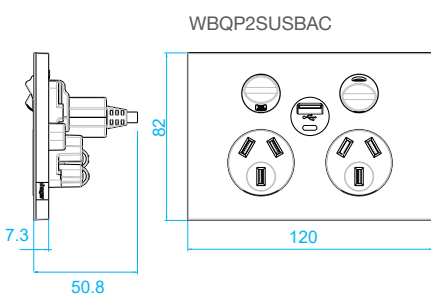
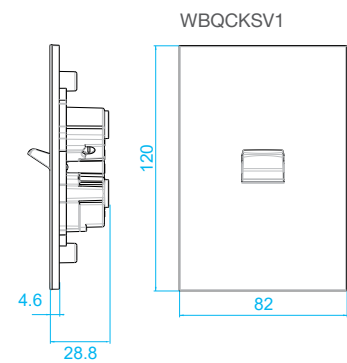
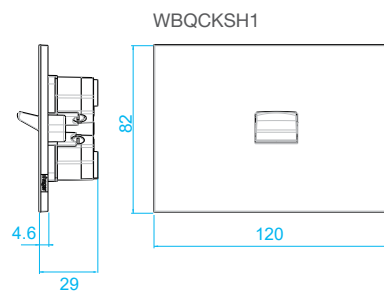
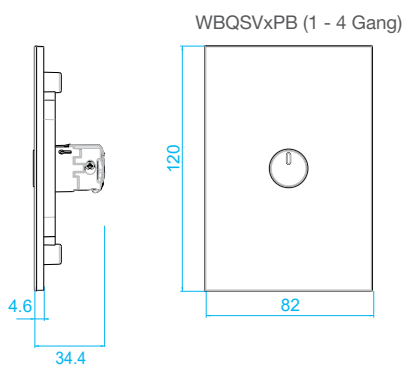
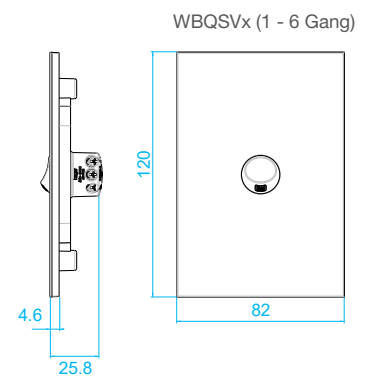
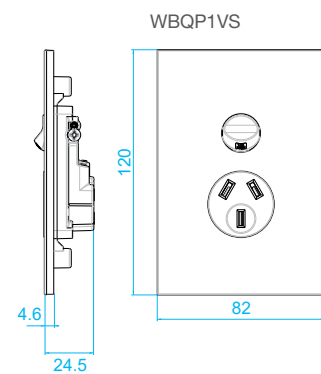
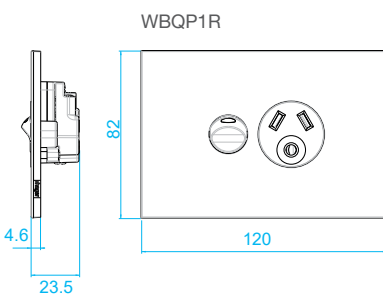
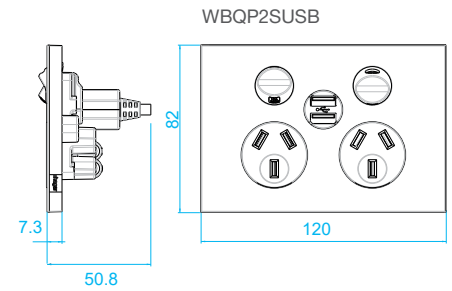
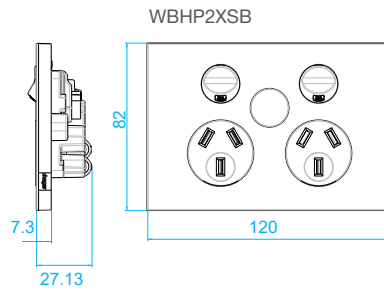
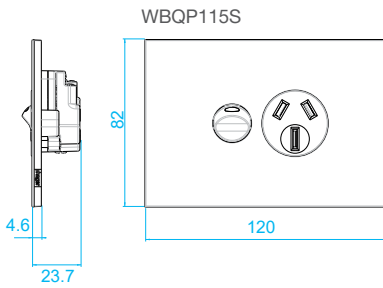
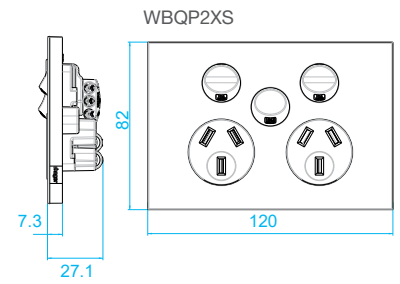
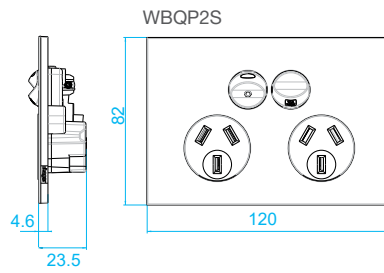
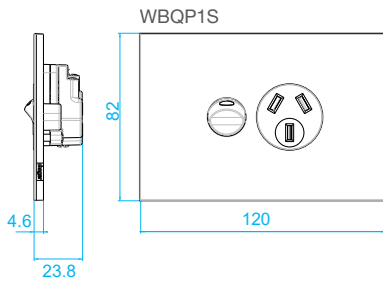


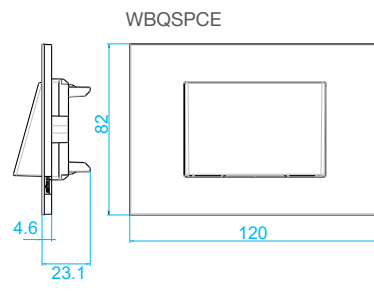
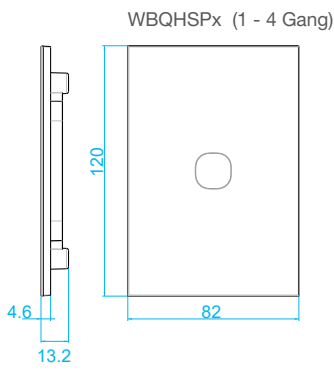
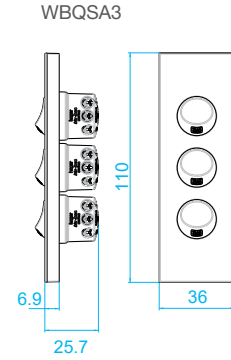
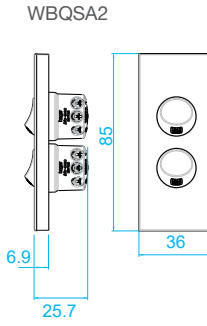
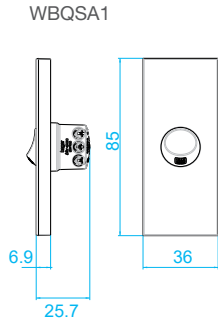
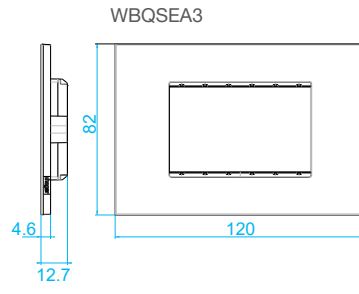
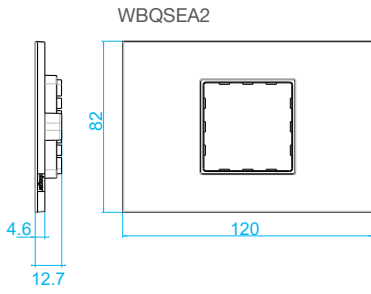
Cut out (mm) - Suits allure, finesse, silhouette & premiere ranges

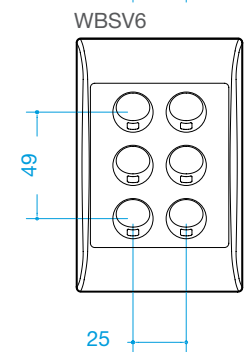
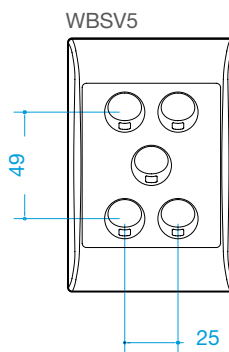
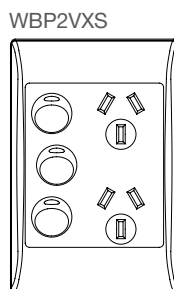
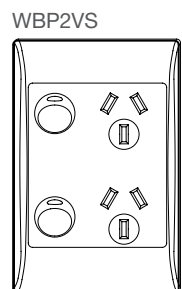
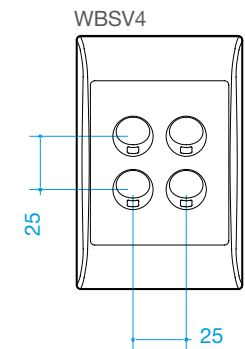
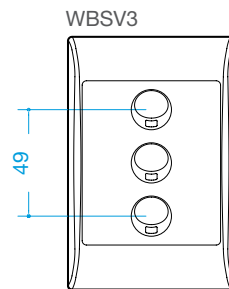
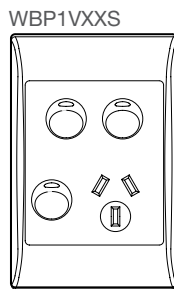
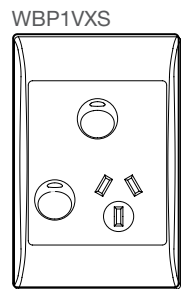
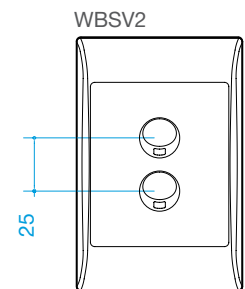
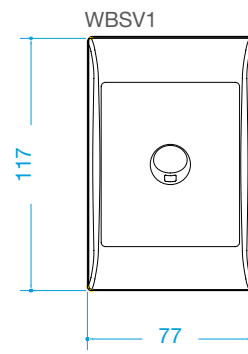
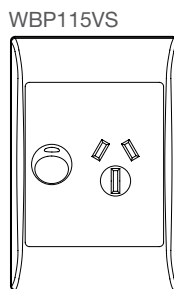
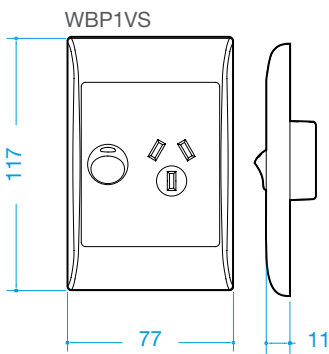
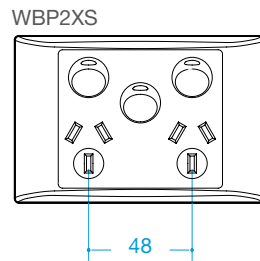
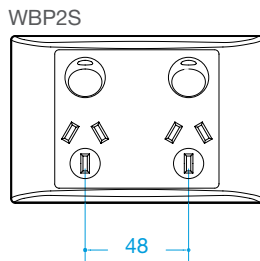
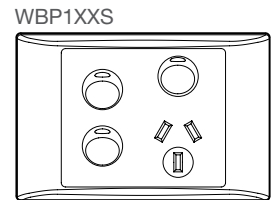
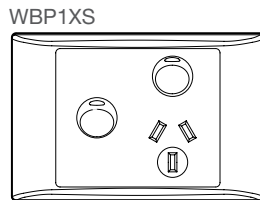
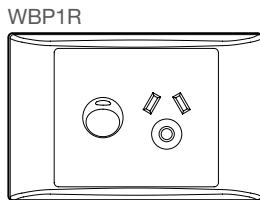
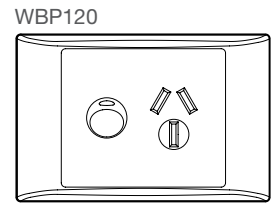
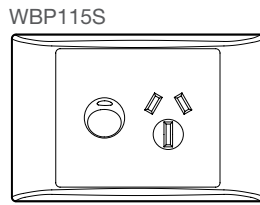
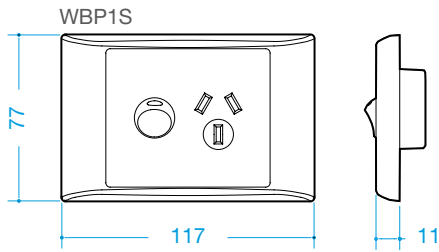


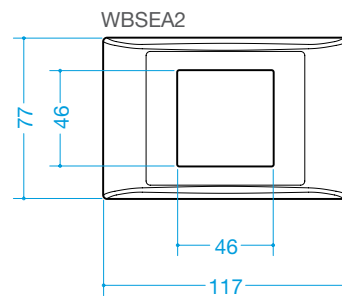
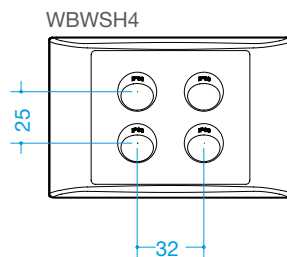
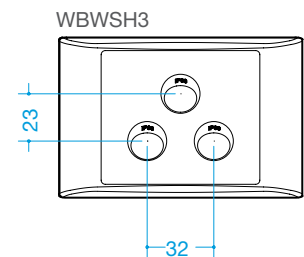
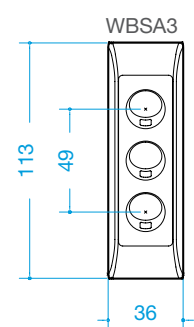
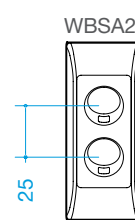
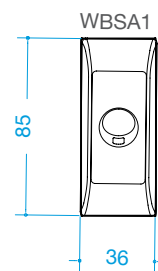
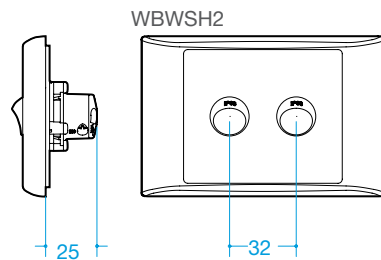
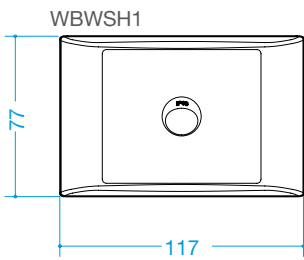
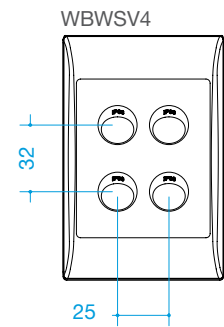
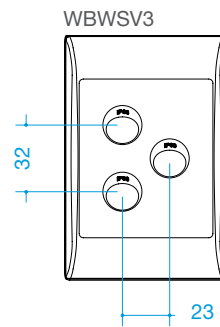
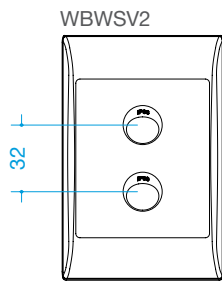
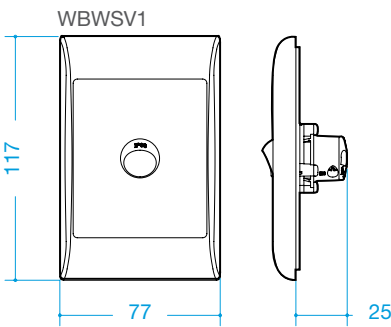
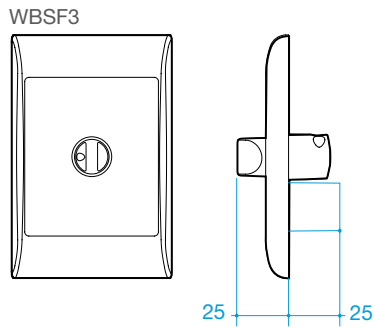
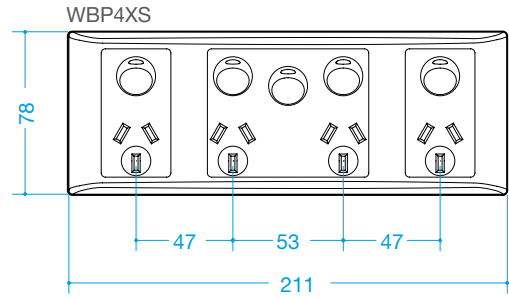
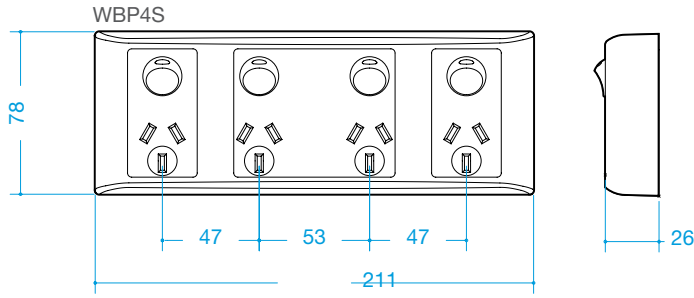


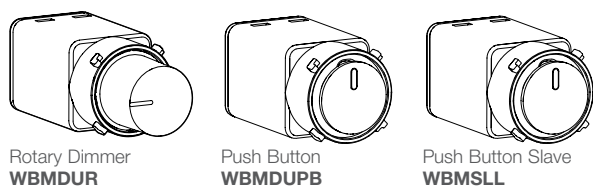












Programmable to:

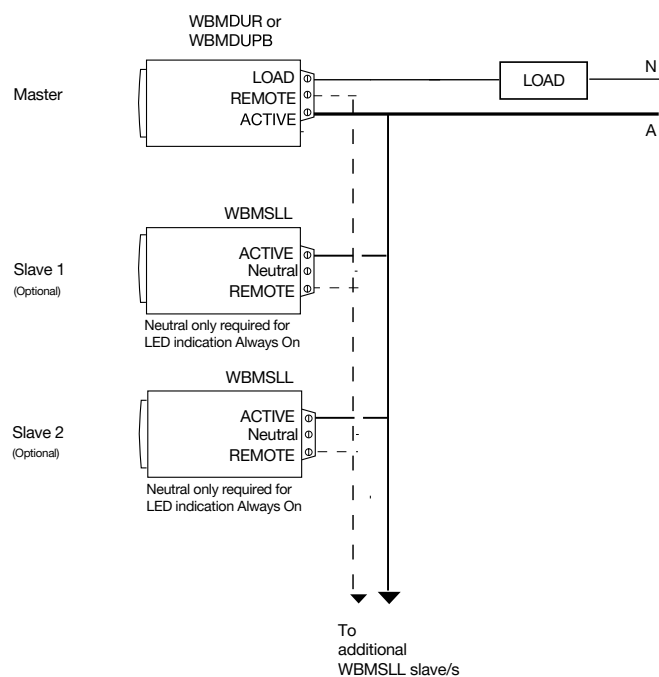
- Set minimum brightness
- Reduce max brightness (fixes reduction)
- Kick start
- Restore last position after power loss

Warnings:

- Derating of units is required if multi-gangging - see table below.
- Variation in transformers can result in differing maximum numbers that can be connected to the dimmer.
- Not all LED lights are compatible with the dimmer due to many different LED brands and drivers. Always test the compatibility with your desired LED lights before installing.

NOTE: WBMSLL slave LED indication is not based on load status. Slave LED indication can only be either permanently ON or OFF.

Wiring Diagram



NOTE: ONLY 1 Master per load group

It is not possible to use the WBMDUR or WBMDUPB as a secondary control device or slave for the same load. (i.e. 2x WBMDUPB's cannot be wired together to control the same load).

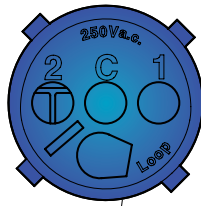
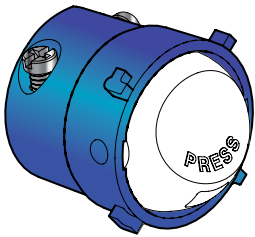
Dimmer specification	WBMDUR / WBMDUPB/
Voltage	230V a.c. +10% / -10%
Frequency	50Hz
Operating temperature	-5 ... 50°C
Storage temperature	-20 ... 70°C
Humidity	0% .. 65% RH
IP Class	IP2X
LED Dimmable 240V	3W (min) ... 250W (max)
Max number LED lights	20 (not exceeding 250W)
Incandescent lamps	7W... 300W
Halogen with electronic Tx	20W... 350W

Dimmer specification	WBMSLL
Voltage	230V a.c. +10% / -10%
Frequency	50Hz
Operating temperature	-5 ... 50°C
Storage temperature	-20 ... 70°C
Humidity	0% .. 65% RH
IP Class	IP2X

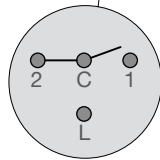
When operating dimmers in combination with others beneath a cover plate, the maximum connected load must be reduced depending on the number of dimmers.

Number of dimmers per combination	Connect load reduction
1	100%
2	75%
3	55%
4	40%
5	35%
6	30%

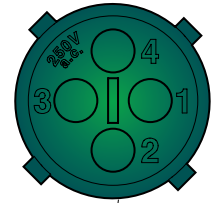
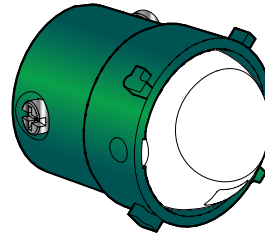
WBM15P
15A Press mechanisms



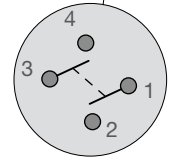
C - Common terminal
1 - N/O terminal
2 - N/C terminal
L - loop



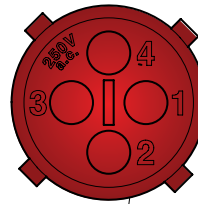
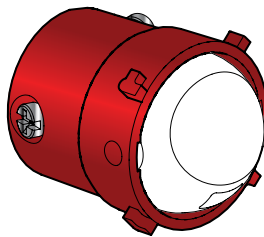
WBM10D
10A double pole mechanism



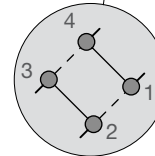
1 - Fixed terminal
3 - Fixed terminal
2 - N/O Contact
4 - N/O Contact



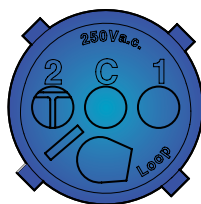
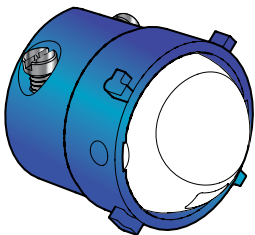
WBM10I
10A intermediate mechanism



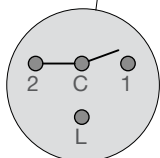
1 - Fixed terminal
3 - Fixed terminal
2 - Change over terminal
4 - Change over terminal



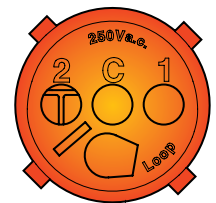
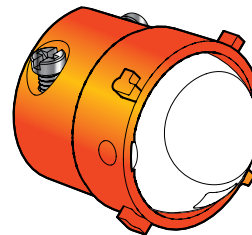
WBM16AX
16AX mechanism



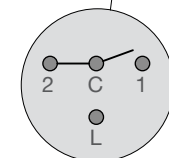
C - Common terminal
1 - N/O terminal
2 - N/C terminal
L - loop



WBM20
20A mechanism



C - Common terminal
1 - N/O terminal
2 - N/C terminal
L - loop



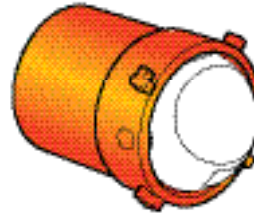
WBM20XX
Printed mechanisms
1 way only



C - Common terminal
1 - N/O terminal
L - loop



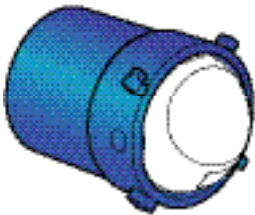
WBM20AX
20AX mechanism



C - Common terminal
1 - N/O terminal



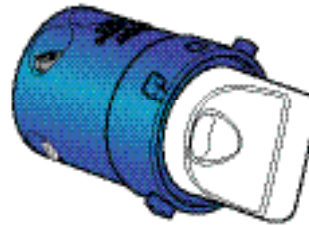
WBM32
32A mechanism



C - Common terminal
1 - N/O terminal



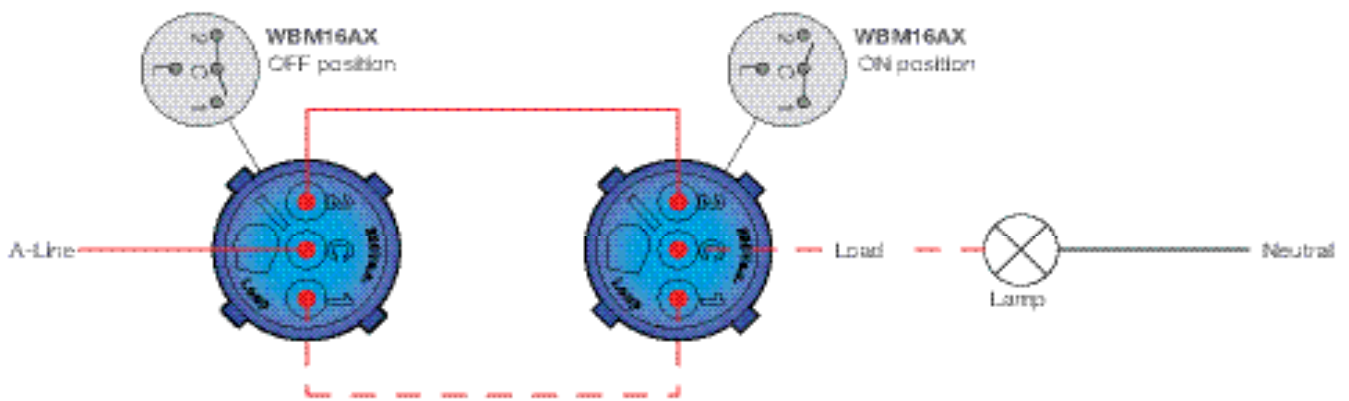
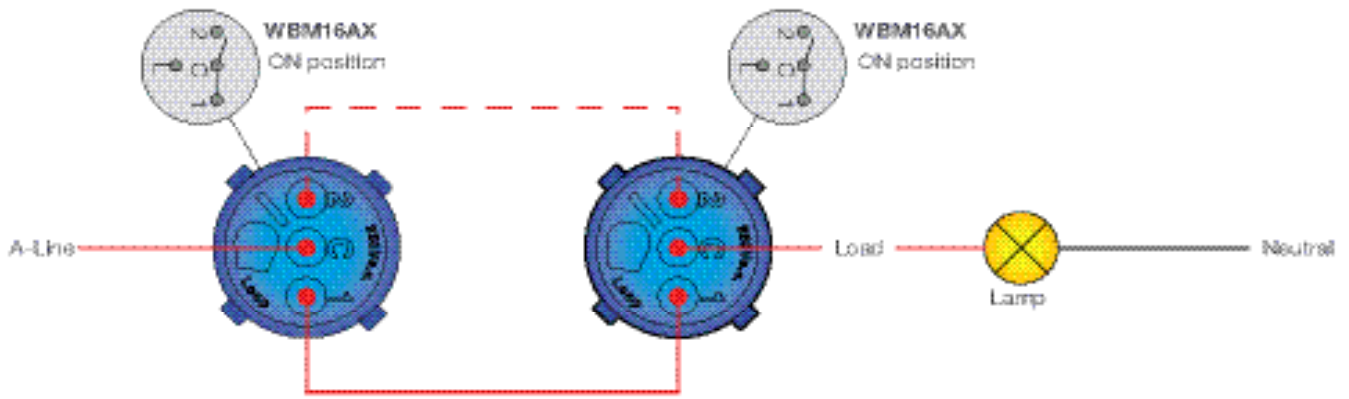
WBM10R3
Rotary mechanism



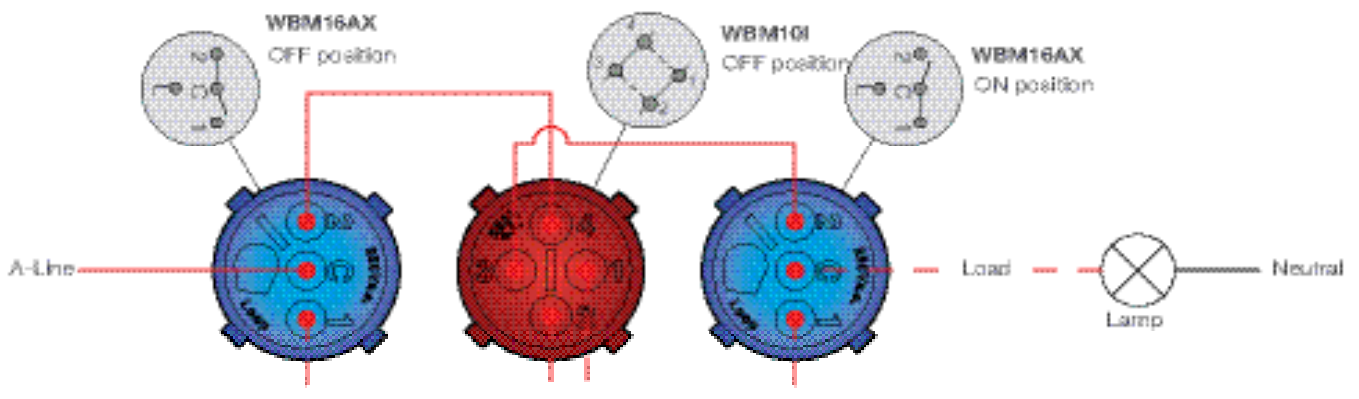
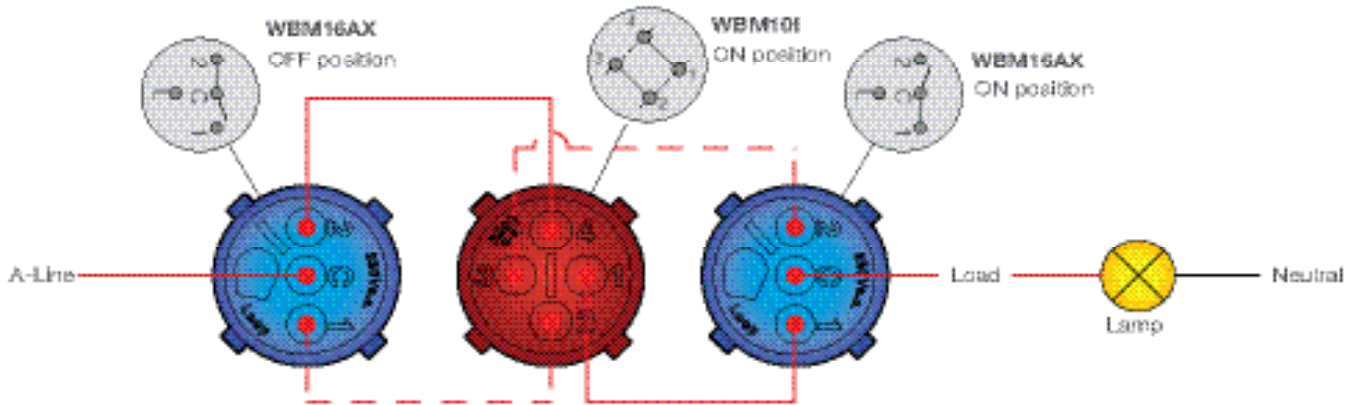
A - Common terminal
1 - load 1
2 - load 2
3 - load 3



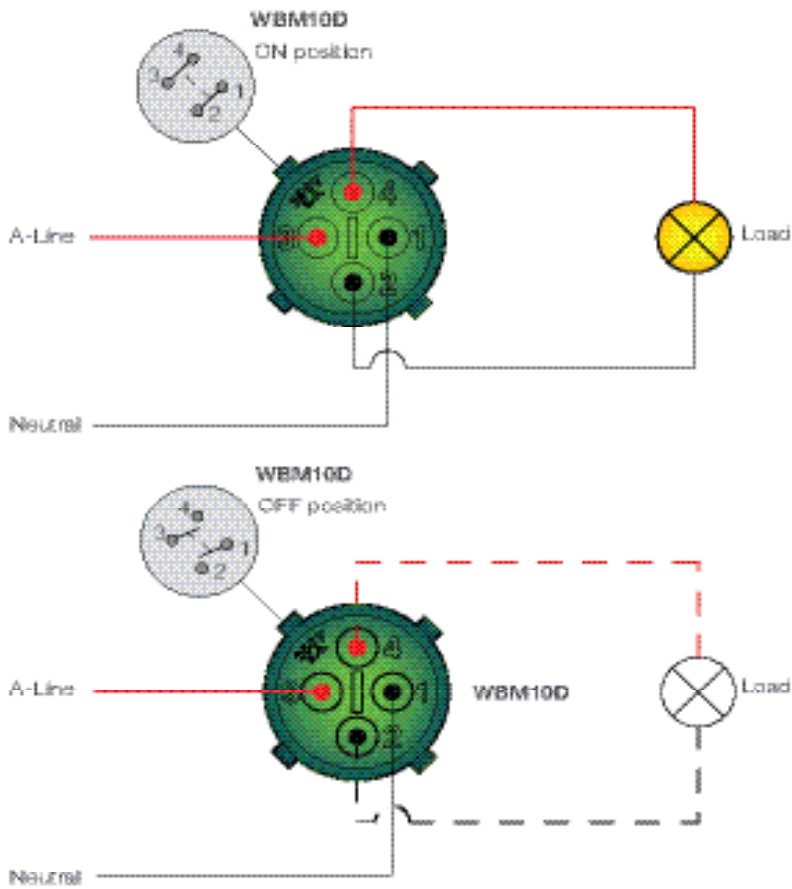
Two Way Mechanism



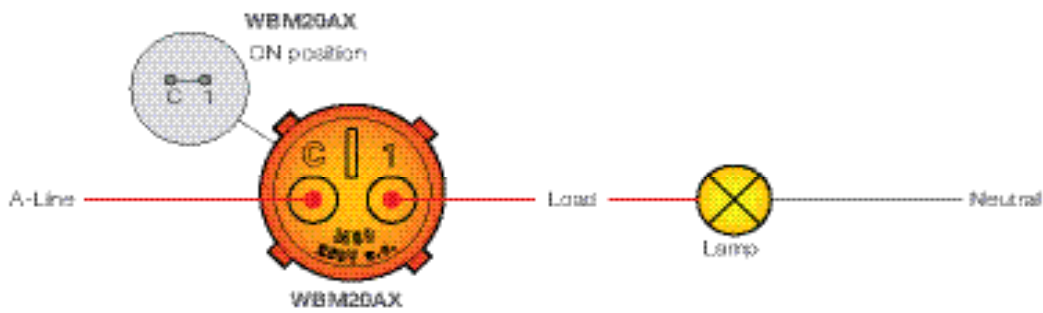
Intermediate Mechanism



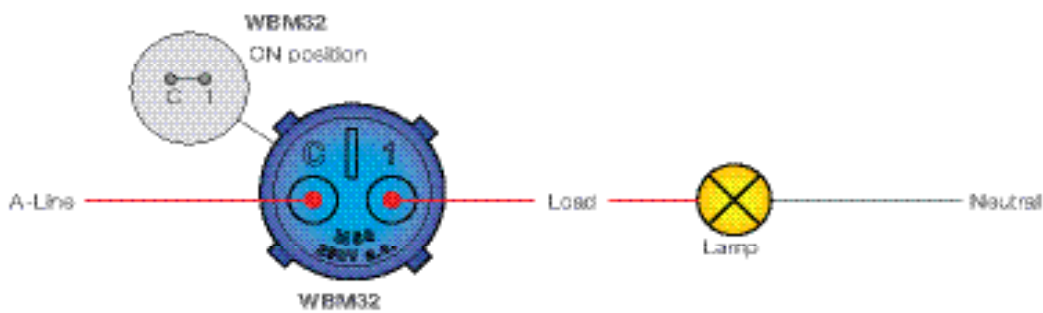
Double Pole Mechanism



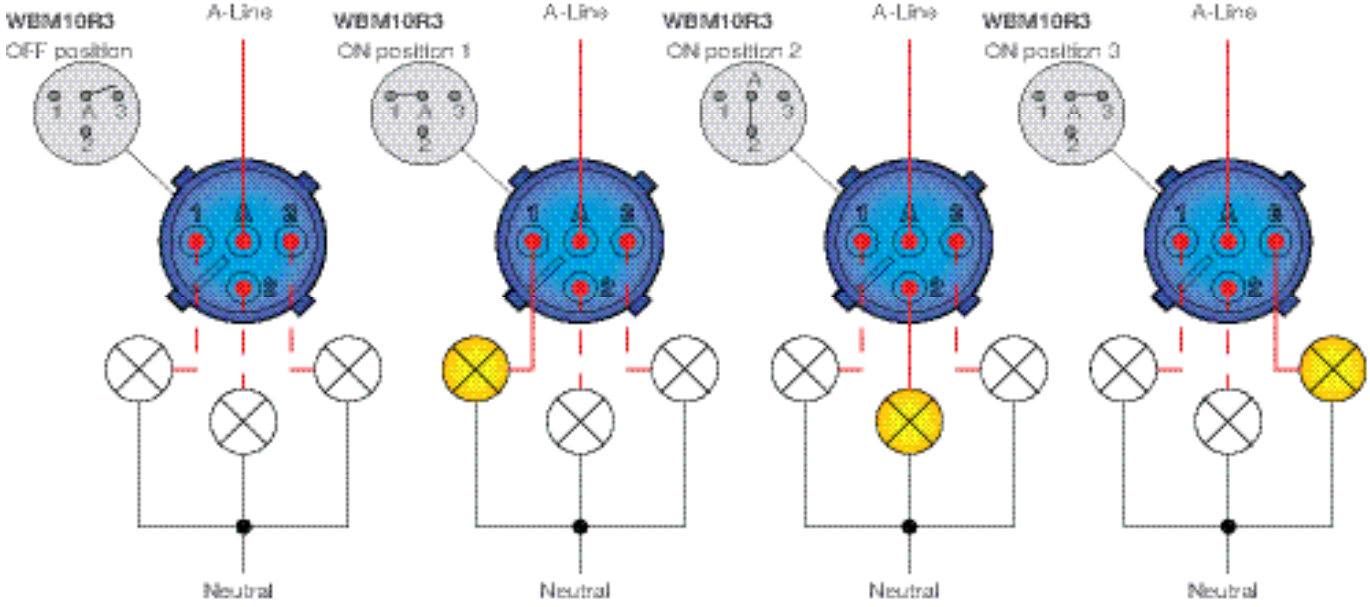
20AX Mechanism



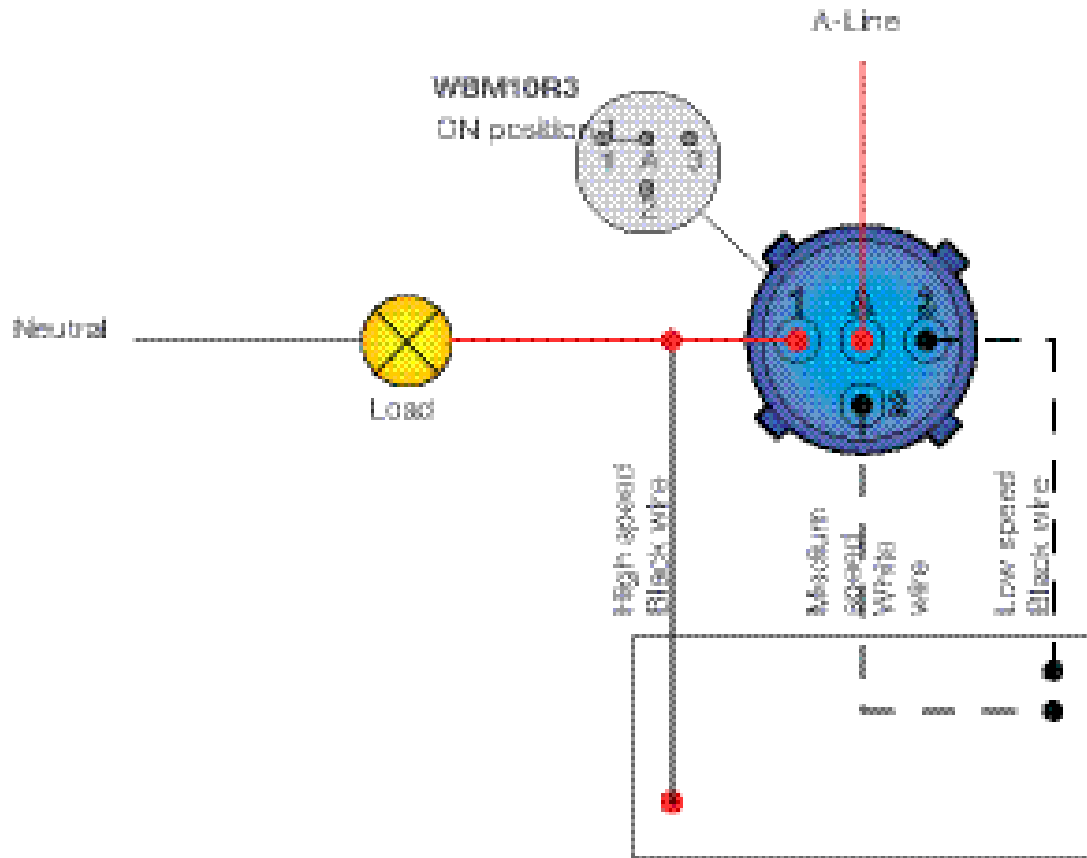
32A Mechanism



3 Position Rotary Mechanism



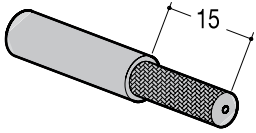
Fan Speed Control Connections for WBSF3 & WBVSF3



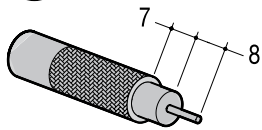
**WBMTV75PY, WBMCA1
& WBMTV75PF**

F to F, PAL to F, F to RCA mechanism

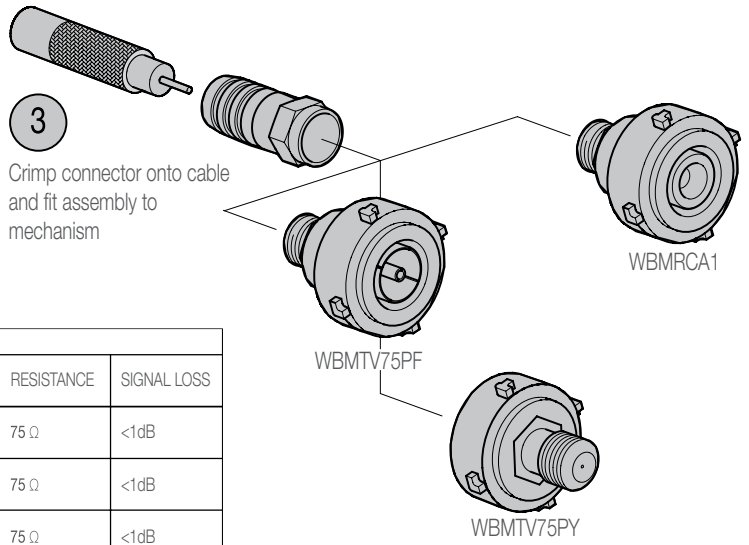
1 Strip 15mm off sheathing



2 Fold braid, strip insulation



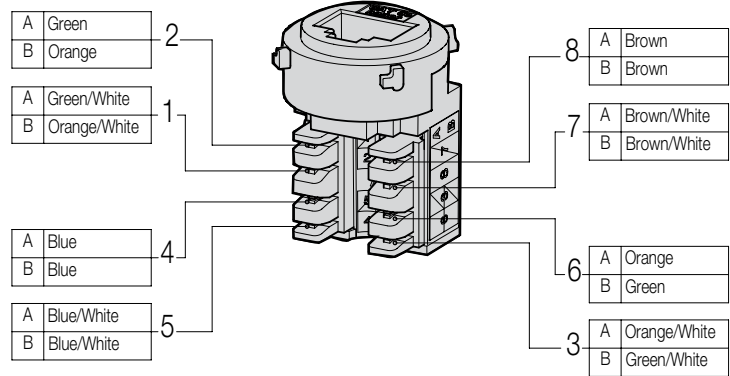
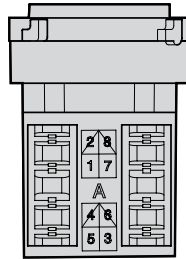
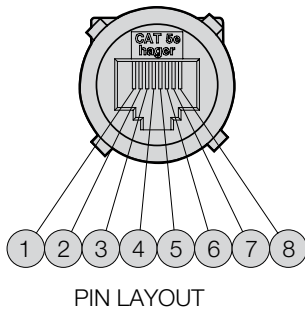
3 Crimp connector onto cable and fit assembly to mechanism



SPECIFICATIONS			
REFERENCE	TYPE CABLE	RESISTANCE	SIGNAL LOSS
WBMTV75PF	RG6 QUAD SHIELD	75 Ω	<1dB
WBMTV75PY	RG6 QUAD SHIELD	75 Ω	<1dB
WBMCA1	RG6 QUAD SHIELD	75 Ω	<1dB

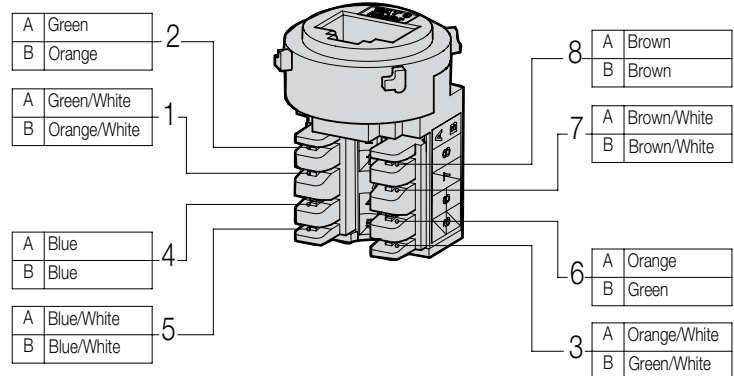
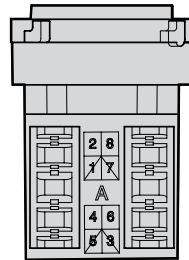
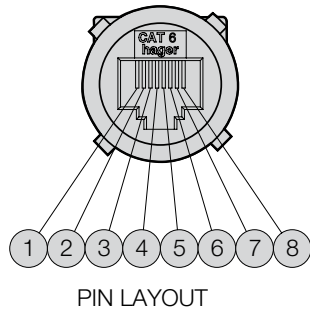
WBMCAT5

Cat 5 data jack



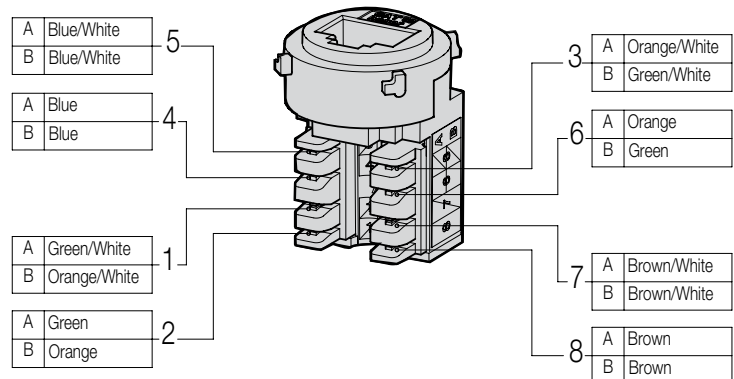
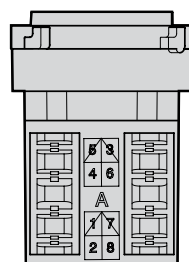
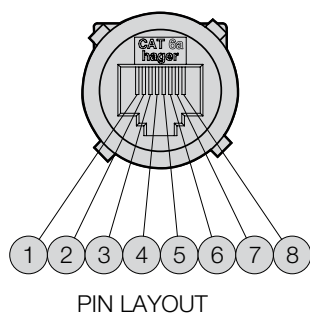
WBMCAT6

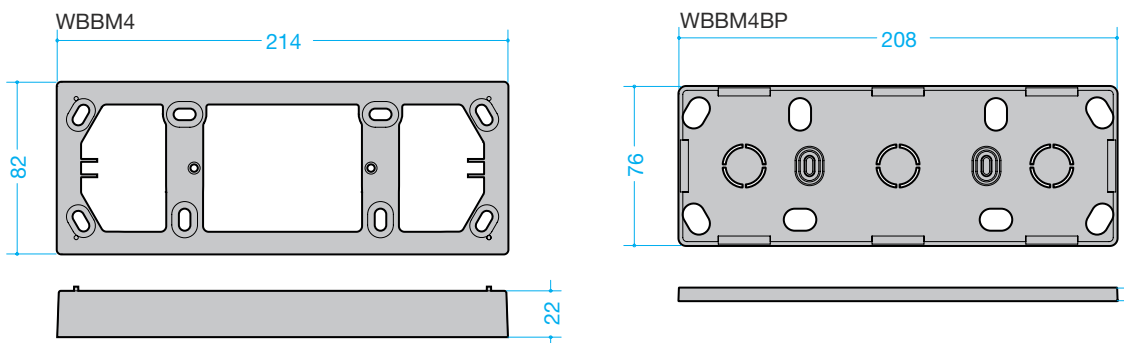
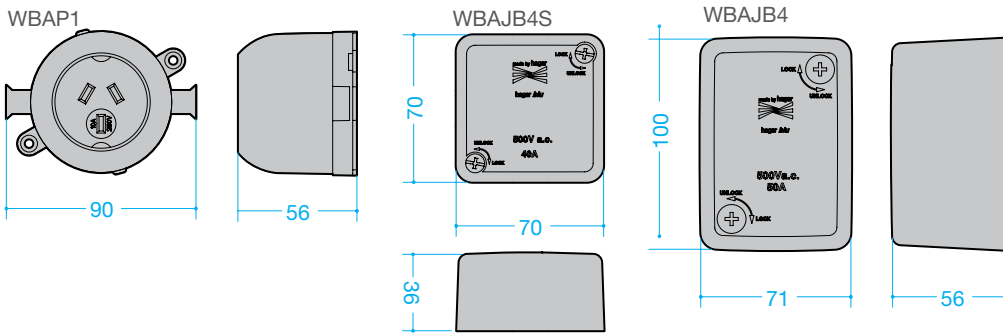
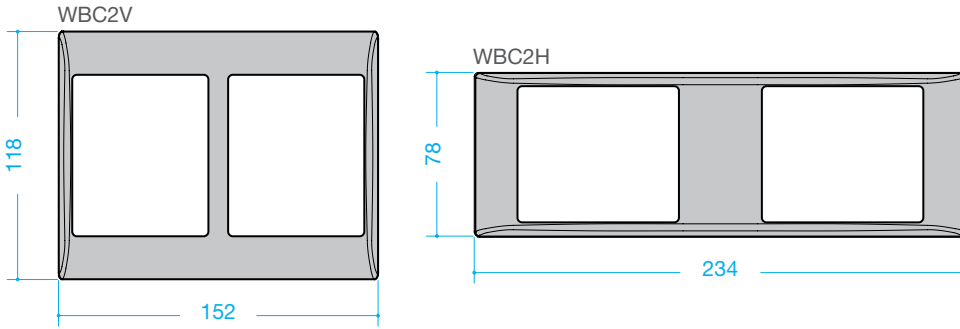
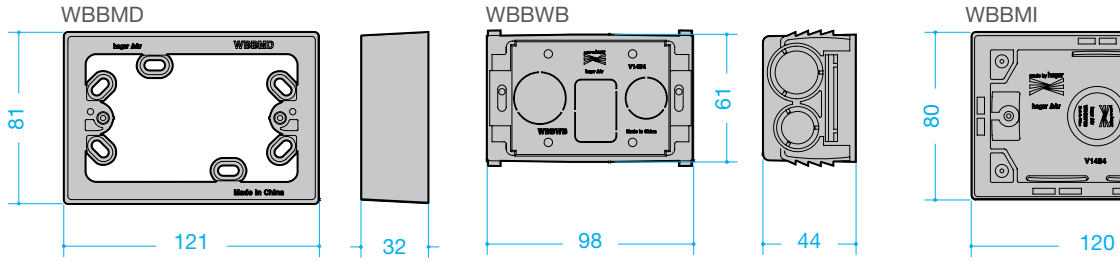
Cat 6 data jack



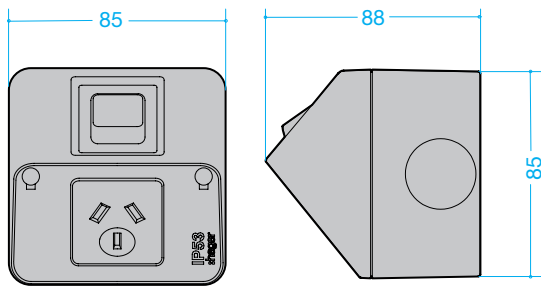
WBMCAT6A

Cat 6A data jack

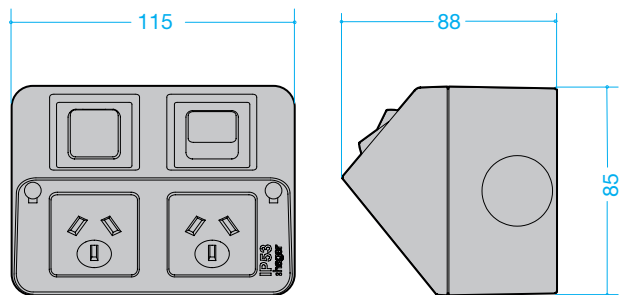




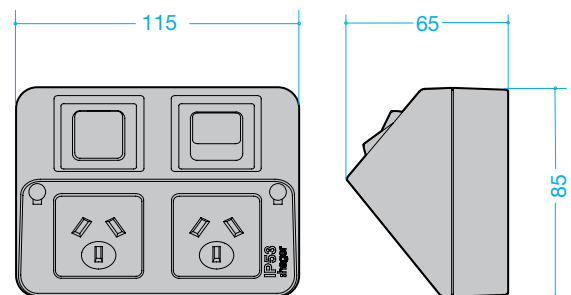
WBWP1S



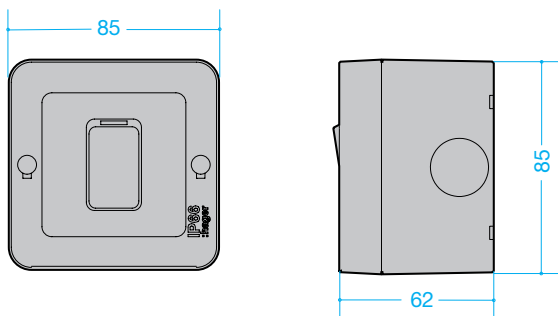
WBWP2S



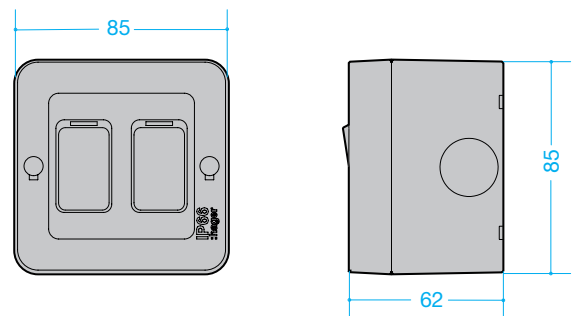
WBWP2SH



WBWS116



WBWS216



Choice of isolator switches

The switch-disconnectors are defined by:

- their ratings and voltage,
- their utilization category,
- their short circuit rating.

The choice of isolator is dependent upon many parameters:

- 01 - the number of poles,
- 02 - the type of electrical load it needs to isolate
- 03 - its consumption under normal operation

The appliances, when hard wired, shall be provided with a lockable isolation device, installed adjacent to the unit including water heaters, motors/ compressors, air conditioners, heat pump systems...

01 - Number of poles

Usually this is the subject of agreement between manufacturer and user. In the wiring rules, the minimum requirement for isolation devices is to isolate all active conductors from the circuit. However manufacturers generally recommend isolating the neutral as well, for safety purposes.

02 - Type of electrical load

Loads are categorised into various AC ratings (AC21, AC-22, AC-23 etc.) and the higher the AC rating the more inductive the load becomes. AS/NZS IEC 60947.3 defines utilization categories as well as their applications:

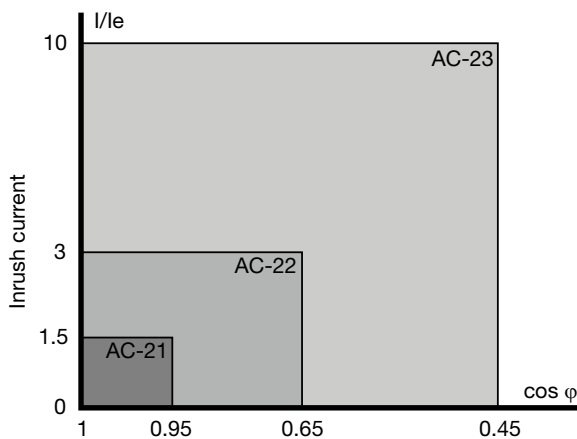
Utilization category

Frequent operation	Occasional operation	Typical applications
AC-20A*	AC-20B*	Connecting and breaking under no-load
AC-21A	AC-21B	Switching of resistive loads including moderate overloads (e.g. electric hot water heater)
AC-22A	AC-22B	Switching of mixed resistive and inductive loads, including moderate overloads (e.g. fluorescent lamp, slip-ring/shunt motors)
AC-23A	AC-23B	Switching of highly inductive loads or motor loads (e.g. compressors, series/squirrel-cage motor loads)

* not utilised in Australia

Generally, category AC-23 includes occasional switching of individual motors and does not cover the switching of capacitors or of tungsten filament lamps.

An easy way to choose the utilization category is to check the inrush current and/or the $\cos \phi$ of the load:



Source: Socomec UcRI

03 - Power demand

The selection of an isolating switch is reduced to the comparison of its performance data with the respective utilization category, the ratings of the load and the choice of a device which meets or exceeds the ratings of the load.

Motor/Compressor applications

The isolation of motor/compressor loads are covered under the utilization category AC-23.

Motor/compressor applications include:

- Heat pumps,
- Air-conditioning systems,
- Pumps,
- Ventilators,
- Elevators

The choice of the isolator depends on the maximum power input or the maximum load current of the appliance. As an example, the compliance plate of an air conditioner would provide the maximum power input in kW or the maximum load current in A.

AIR CONDITIONER SPLIT TYPE (OUTDOOR UNIT) MODEL AAP270G-A2			
STANDARD AS/NZS 3823.1			
PERFORMANCE (CLIMATE CLASS T1)		230/240V ~ 50Hz	
TOTAL CAPACITY	COOLING	2.0	kW
	HEATING	2.7	kW
TOTAL INPUT	COOLING	0.44	kW
	HEATING	0.62	kW
TOTAL CURRENT	COOLING	2.4/2.3	A
	HEATING	3.1/3.0	A
MAX. INPUT		1.65	kW
MAX. CURRENT		9	A
MAX. HIGH PRESSURE		4.15	MPa
MAX. LOW PRESSURE		1.60	MPa

The difficulty with all motor/compressor loads are the high inrush currents which can amount to 5-10 times the nominal current. Also, inductive loads tend to build electric arcs during shut off. Therefore, all Hager IP66 Isolator switch ratings are given at utilization category AC-23A without de-rating.

Resistive-type applications

The current demand of a heating appliance or an incandescent lamp is easily obtained from the nominal power quoted by the manufacturer (i.e. $1 > \cos \phi > 0.95$)

The currents are given by:

- 3-phase case: $I_e = P_n \div (\sqrt{3} \times U)$

- 1-phase case: $I_e = P_n \div U$

Where I_e is amps; U is volts, voltage between the terminals of the equipment; P_n is watts. If P_n is in kW, then multiply the equation by 1,000

Specifications to AS/NZS IEC60947-3 / IP66

Reference	JG220IN	JG232IN	JG240IN	JG263IN	JG320IN	JG332IN	JG340IN	JG420IN	JG432IN	JG440IN	JG463IN
Number of poles	2P	2P	2P	2P	3P	3P	3P	4P	4P	4P	4P
Operational frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Rated operational voltage Ue	250V AC	250V AC	250V AC	250V AC	440V AC	440V AC	440V AC	440V AC	440V AC	440V AC	440V AC
Rated insulation voltage Ui (AC)	440V	440V	440V	440V	440V	440V	440V	440V	440V	440V	440V
Rated impulse withstand voltage Uimp	4000V	4000V	4000V	4000V	4000V	4000V	4000V	4000V	4000V	4000V	4000V

Rated operational current and power ratings in AC

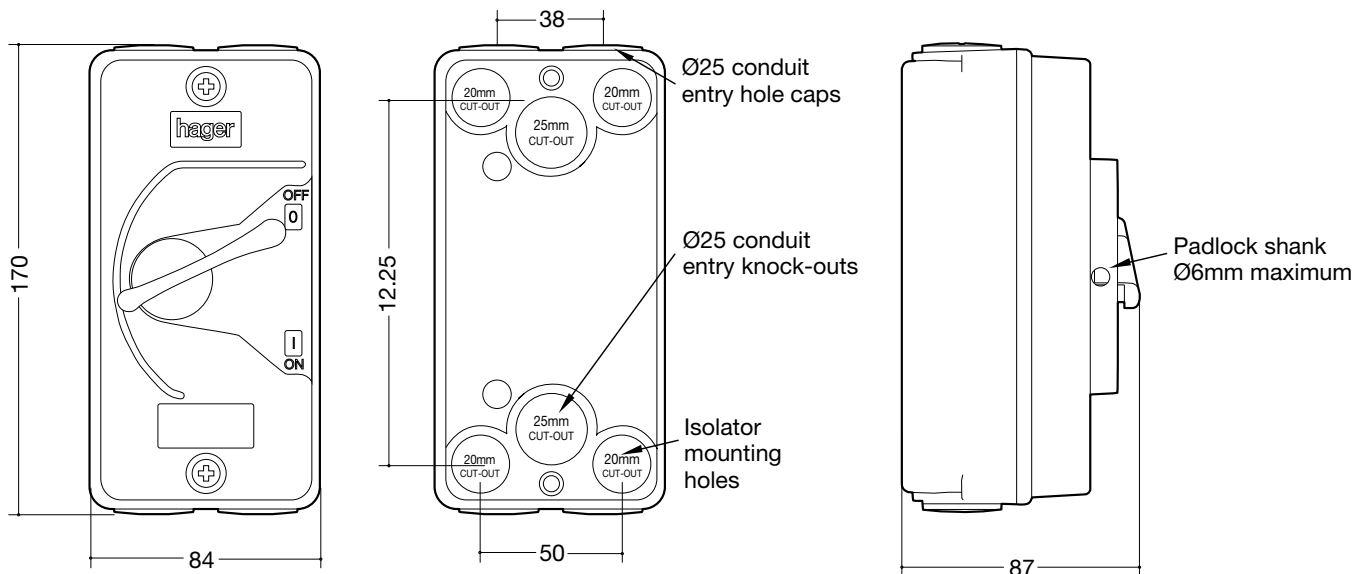
Rated operational current Ie	20A	32A	40A	63A	20A	32A	40A	20A	32A	40A	63A	
Rated operational power Pe	AC-21A	4.8kW	7.6kW	9.5kW	15kW	14.5kW	23.2kW	29kW	14.5kW	23.2kW	29kW	45.6kW
	AC-22A	4.0kW	6.4kW	8.0kW	12.6kW	12.2kW	19.5kW	24.4kW	12.2kW	19.5kW	24.4kW	38.4kW
	AC-23A	3.2kW	5.2kW	6.5kW	10.2kW	9.9kW	15.8kW	19.8kW	9.9kW	15.8kW	19.8kW	31.2kW

Short circuit characteristics

Rated short-time withstand current for 1 sec Icw	240A	384A	480A	756A	240A	384A	480A	240A	384A	480A	756A
Rated short-circuit capacity Icm	240A	384A	480A	756A	240A	384A	480A	240A	384A	480A	756A

Mechanical characteristics

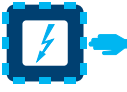

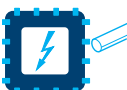
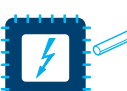


Conductor Rigid - stranded	Min. size & number	2.5mm ²	6mm ²	6mm ²	10mm ²	2.5mm ²	6mm ²	6mm ²	2.5mm ²	6mm ²	6mm ²	10mm ²
		Max. size	1	1	1	1	1	1	1	1	1	1



The IP rating for all low voltage enclosures up to 1000 V a.c. and 1500 V d.c. is defined in identical fashion by the standards EN 60529 - IEC 529. It comprises the letters IP followed by two character numerals and or additional/ supplementary letters.

The first character numeral indicates the degree of protection provided by the enclosure against access to hazardous parts by preventing or limiting the ingress of a part of the human body or an object held by a person and ingress of solid foreign objects.

The first character numeral:
Protection against foreign objects

IP	Description	
0		Non-protected
1		Protected against solid objects \geq than 50mm
2		Protected against solid objects \geq than 12.5mm
3		Protected against solid objects \geq than 2.5mm
4		Protected against solid objects \geq than 1.0mm
5		Dust-protected
6		Dust-tight





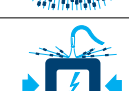
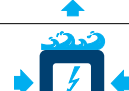


Additional letter (in option)

Protection of people against access to hazardous parts

	Description
A	Protected against access to hazardous parts with the back of the hand
B	Protected against access to hazardous parts with a finger
C	Protected against access to hazardous parts with a tool - \varnothing 2.5mm
D	Protected against access to hazardous parts with a wire - \varnothing 1mm

The second character numeral indicates the degree of protection provided by the enclosure with respect to harmful effects on the equipment due to the ingress of water. An X signifies that the tests are not applicable to the product.

The second character numeral:
Protection against ingress of water with harmful effects

IP	Description	
0		Non-protected
1		Protected against vertically falling water drops
2		Protected against vertically falling water drops when enclosure tilted up to 15°
3		Protected against spraying water
4		Protected against splashing water
5		Protected against water jets
6		Protected against powerful water jets
7		Protected against the effect of temporary immersion in water
8		Protected against continuous immersion in water

Additional letter (in option)

Specific information on the product

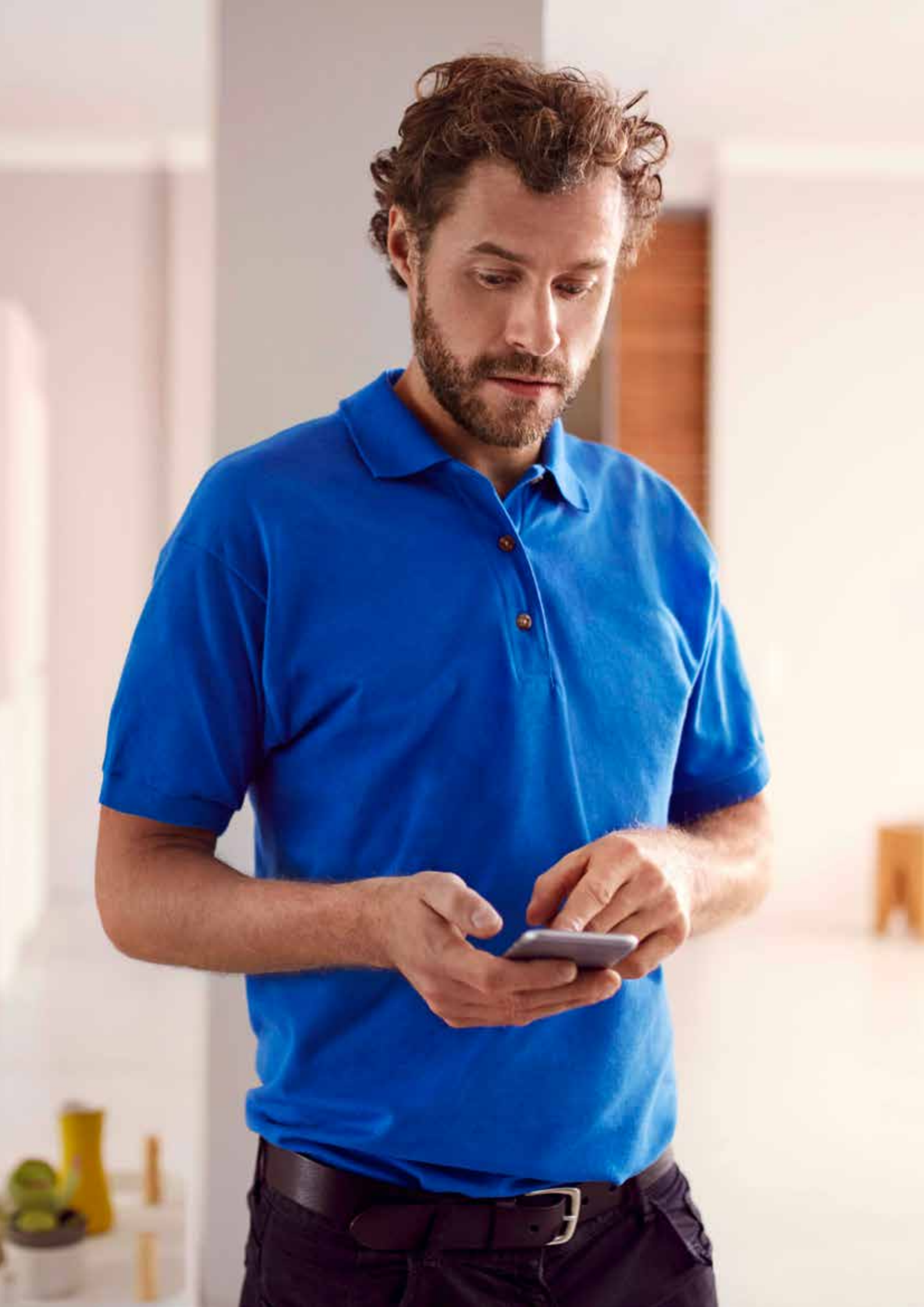
	Description
H	High voltage apparatus
M	Motion during water test
S	Stationary during water test
W	Weather conditions

Building Automation

Our Building Automation provides an easy retrofit solution to automate your home simply, while also providing the ability to control your home remotely or for larger commercial projects. The offer is built around KNX, an open standard guaranteeing flexibility and scalability when installing a bus based system.



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Discover our wireless solution for easy renovation

If you're considering retrofitting, modernising or upgrading a house, you're probably tempted by the benefits of a smart home. But the cost and time of hard-wiring systems may make you think twice.

Fortunately, there's a simple solution. With coviva, you can transform existing electrical installations into a cost effective smart home without any construction work or additional cabling.

Simply install coviva's Micro Modules or combine them with a smartbox and the coviva app to create a smart home that's easy to install, monitor and control.

coviva

wireless modules for easy retrofitting

When it comes to home retrofitting, less is more: No cabling and no plastering or painting means a quicker installation for you. And it's all possible thanks to coviva micro modules.

To build multipoint switching, dimming or centralisation, micro modules are the first step. Once installed behind existing or new switches they communicate wirelessly with each other without the need of a hub, to provide multiple functions throughout the home.



Quick and easy installation.

Micro modules can be connected to any brand of existing switch and are ready to go. They control dimming, on/off switches, raise/lower functions and communicate with other modules without the need of a central hub.



Universal controls

Each micro module can be linked to other modules, without any additional wiring and are fast and easy to program.



Superior wireless reach

The micro modules are designed to deliver exceptional wireless reach. Indoors, they can cross through 2 concrete slabs and still transmit up to 30 metres. Outdoors, their range extends up to 100 metres in the open.



Functions



Switch on / off



Dimming



Raise / lower



Timers

Program



Scenarios

to manage a combination of micro modules from the single push of a button. For example a 'going to bed' scenario could turn off all the lights, close the blinds or curtains and turn on the night light in the children's bedroom.

Control



Lights



Blinds or motorized curtains



Garage doors



Gates



Automatic sprinkler



Air conditioning*



Expansion

*switch on / off function available. Check A/C control wiring.

Pair the micro modules in a few easy steps

When developing coviva, we focused on creating a product that was easy to use and fast to install – for both you and your customers. Two modules can be linked together in less than 15 seconds and will work with both tactile press or standard on/off two-way switch mechanisms. The micro modules can be installed and configured in a few simple steps:



01 Remove the existing switch

Add our compact wireless micro modules to the back of the existing switch. For dimming functions and blinds, conventional switches should be replaced with push buttons.



02 Enter pairing mode on the transmitter

With the switch or push button connected to the transmitter module, enter the pairing mode by briefly pressing the configuration **cfg** button.






































03 Press the switch at the plate

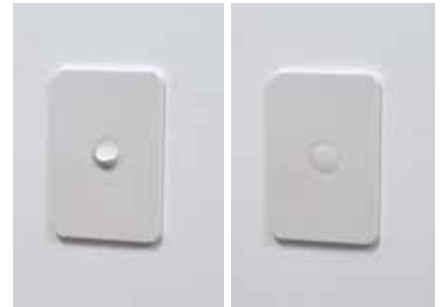
Press the connected switch or push button. (A signal is sent).

04

Function LED colourmodule

LED colour	Switch module	Dimming module	Shutter / Blinds module
	on/off ON / OFF, Toggle switch	 ON / OFF, Variation +/-	 Up / stop TRM692AU only
	on ON	 ON, variation +	 Up, stop
	off OFF	 OFF, variation -	 Down, stop
	 1 Scenario 1	 1 Scenario 1	 1 Scenario 1
	 2 Scenario 2	 2 Scenario 2	 2 Scenario 2
	 Timer	 Timer	 Down / stop
	 ON / OFF (light switch)	 ON / OFF (light switch)	 Shutters command (light switch)
	on  Force ON*		 Force Up
	off  Force OFF*		 Force Down
	 Erase	 Erase	 Erase

* functions only available on these products



04

Select the function on the receiver

Select the function (colour of the LED as per table above) on the receiver that you wish to control by briefly pressing the function **fct** button. Validate your choice by holding in the function **fct** button > 2s until the LED flashes.

05

Exit the pairing mode on the transmitter

Exit the pairing mode by briefly pressing the configuration **cfg** button on the original transmitter module from step 1.

06

Re-install the switch

Re-fit the switch plate to the wall.



((RF))

Features

Robust and reliable, our micro modules are compatible with all mechanical switches and push buttons on the market. They enable switching, dimming and linked together wirelessly opening/closing systems to be controlled remotely making installation and additional switch points easy.

TRM702AU

Provides the possibility to put switches in almost any location.

Programmable on/off

- On/Off (switch)
- On
- Off
- On/Off (switch)
- On/Off dimming
- On dimming '+'
- Off, dimming '-'
- Timer
- Scene setting
- See data sheet for specific functions for each module type.

TRM693AU

This module is particularly appropriate for any type of lighting control, including CFL and LED.

Rolling shutter functions

- Raise
- Lower
- Scene setting
- Raise / lower (switch)
- Force raise
- Force lower
- Repetition



TRM702AU

Micro Module 2 inputs, battery operated

Description	Characteristics	Cat ref.
Supply voltage:	3V DC	★ TRM702AU
Battery:	Lithium powered CR 2430 3 V	
Battery Life used with push button:	5+ years (avg 10 operations / day)	
Battery life used with On/Off switch:	3+ years (avg 10 operations / day)	
Transmission frequency / Emission power:	433.05 - 434.79 MHz / 10mW	
Contact closure Min:	50ms	
Degree of Protection:	IP30	
Operating temperature:	-10°C → + 50°C	
Storage temperature:	- 25°C → + 70°C	
Receiver category / Transmitter duty cycle:	2 / <10%	
Inputs:	2	
Dimensions (HxLxD):	41 × 39.5 × 11 mm	

Provides 2 wireless switches when no existing wiring is available, to control / switch other micro modules when linked wirelessly.



TRM690AU

Micro Module - ON/OFF, no neutral required

Description	Characteristics	Cat ref.
Supply voltage:	230V +10%/-15% 50Hz	★ TRM690AU
Product consumption:	100mW	
Transmission frequency / Emission power:	433.05 - 434.79 MHz / 10mW	
Max. switch rating:	200W (175 halogen via LVTx), 50W LED	
Contact closure Min:	50ms	
Degree of Protection:	IP20	
Operating altitude:	≤ 2000m	
Overvoltage category:	III	
Operating temperature:	-15°C → + 45°C	
Storage temperature:	- 25°C → + 70°C	
Receiver category / Transmitter duty cycle:	2 / <10%	
Inputs:	2	
Dimensions (HxLxD):	40 × 40 × 18 mm	



TRM691AU

Micro Module - Dimming, no neutral (2 wire)

Description	Characteristics	Cat ref.
Supply voltage:	230V +10%/-15% 50Hz	★ TRM691AU
Product consumption:	100mW	
Transmission frequency / Emission power:	433.05 - 434.79 MHz / 10mW	
Max. switch rating:	200W (175 halogen via LVTx), 50W LED	
Min rating:	10W (3W LED)	
Contact closure Min:	50ms	
Degree of Protection:	IP20	
Operating altitude:	≤ 2000m	
Overvoltage category:	III	
Operating temperature:	-15°C → + 45°C	
Storage temperature:	- 25°C → + 70°C	
Receiver category / Transmitter duty cycle:	2 / <10%	
Inputs:	2	
Dimensions (HxLxD):	40 × 40 × 18 mm	

Building automation

Micro Module - ON/OFF, requires neutral

Description	Characteristics	Cat ref.
Supply voltage:	230V +10%/-15% 50Hz	★ TRM693AU
Product consumption:	100mW	
Transmission frequency / Emission power:	433.05 - 434.79 MHz / 10mW	
Max. switch current:	3A (230V Halogen 500W, LV Halogen 250VA) Fluoro & LED - 150W, Inductive - 3A cos Φ 0.6	
Degree of Protection:	IP20	
Switching capacity:	15 cycles per minute	
Pollution degree:	2	
Overvoltage category / surge:	III / 4kV	
Operating temperature:	-15°C → + 45°C	
Storage temperature:	- 25°C → + 70°C	
Receiver category / Transmitter duty cycle:	2 / <10%	
Inputs:	2 for potential-free contacts	
Dimensions (HxLxD):	40 × 40 × 18 mm	



TRM693AU

Micro Module - Roller blind / shutter

Description	Characteristics	Cat ref.
Supply voltage:	230V +10%/-15% 50Hz	★ TRM692AU
Product consumption:	100mW (Max. 150mW)	
Transmission frequency / Emission power:	433.05 - 434.79 MHz / 10mW	
Delay between operating movements:	600ms	
Contact closure duration:	200ms	
Degree of Protection:	IP20	
Switching capacity:	3A cos Φ 0.6 / 15 cycles per minute	
Pollution degree:	2	
Overvoltage category / surge:	III / 4kV	
Operating temperature:	-15°C → + 45°C	
Storage temperature:	- 25°C → + 70°C	
Receiver category / Transmitter duty cycle:	2 / <10%	
Inputs:	2 for potential-free contacts	
Dimensions (HxLxD):	40 × 40 × 18 mm	



TRM692AU

Micro Module - ON/OFF volt free contact, requires neutral

Description	Characteristics	Cat ref.
Supply voltage:	230V +10%/-15% 50Hz	★ TRM694AU
Product consumption:	150mW	
Transmission frequency / Emission power:	433.05 - 434.79 MHz / 10mW	
Max. switch current:	AC1 - 4A	
Inductive DC load:	4A@12V DC 2A@24V DC Halogen 600W, LV Halogen 600VA Inductive - 4A cos Φ 0.6 , Fluoro 40W	
Degree of Protection:	IP20	
Switching capacity:	20 cycles per minute	
Overvoltage category / surge:	III / 4kV	
Operating temperature:	-15°C → + 45°C	
Storage temperature:	- 25°C → + 70°C	
Receiver category / Transmitter duty cycle:	2 / <10%	
Inputs:	2 for potential-free contacts	
Dimensions (HxLxD):	40 × 40 × 20 mm	



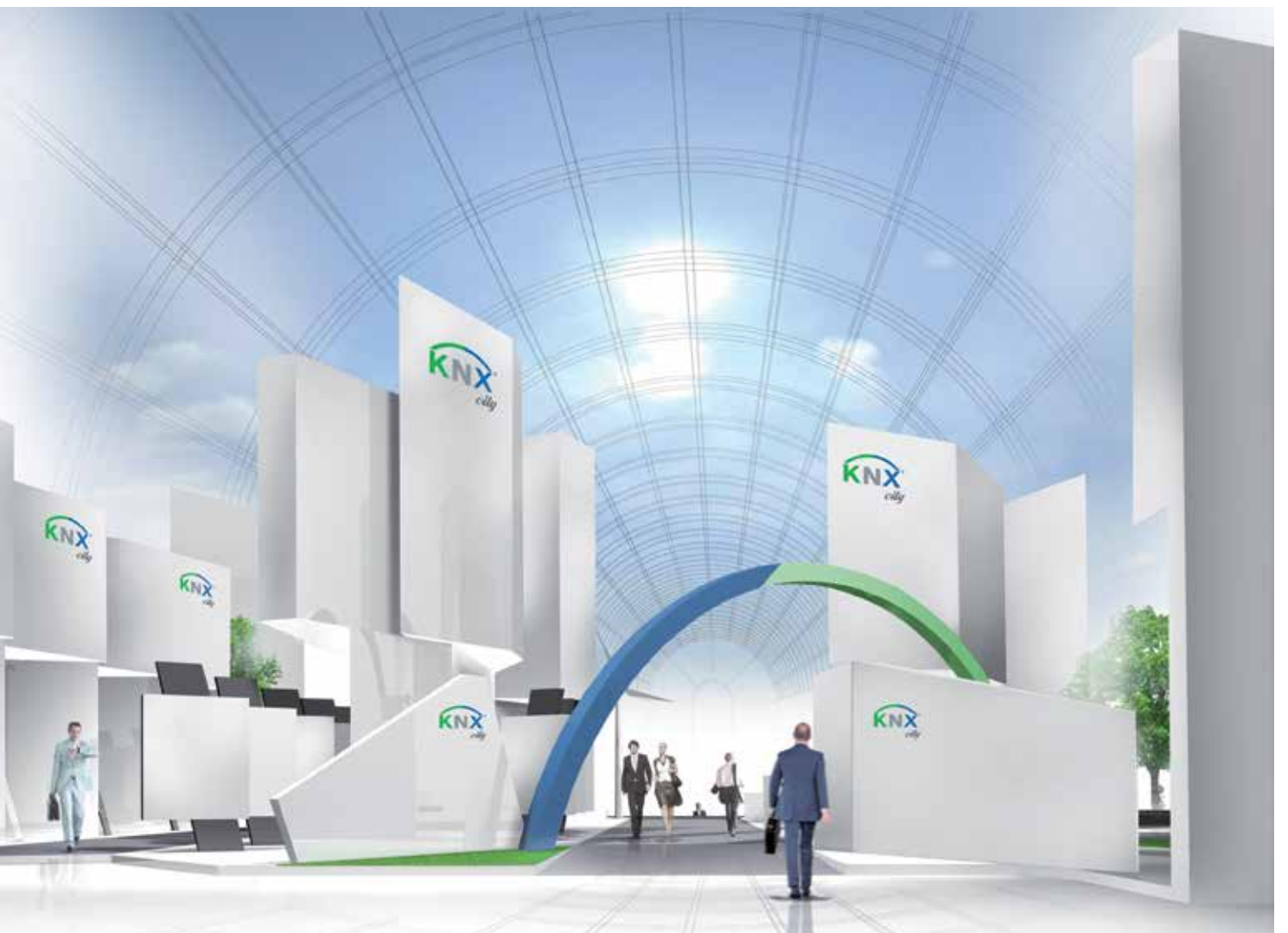
TRM694AU

Micro Module - Pulse contact

Description	Characteristics	Cat ref.
Supply voltage:	230V +10%/-15% 50Hz	★ TRM600AU
Product consumption:	100mW (max. 150mW)	
Transmission frequency / Emission power:	433.05 - 434.79 MHz / 10mW	
Max. switch current:	0.5A	
Contact closure duration:	200ms	
Degree of Protection:	IP30	
Operating altitude:	≤ 2000m	
Overvoltage category:	III	
Operating temperature:	-10°C → + 50°C	
Storage temperature:	- 25°C → + 70°C	
Receiver category / Transmitter duty cycle:	2 / <10%	
Inputs:	None	
Dimensions (HxLxD):	40 × 40 × 18 mm	



TRM600AU



KNX

the strength of a standard.

KNX Protocol has been adopted by Standards Australia as SA/SNZ ISO/IEC TS 14543.3.1-6:2018 Technical Specifications.

Hager manufactures a wide range of KNX products to meet both small and large automation requirements.

Guaranteed compatibility

For over 20 years, the presence of the KNX logo on products has certified that they communicate perfectly with each other, even when they are offered by different manufacturers. This ensures a high degree of flexibility in the extension and modification of facilities.

70%
of the home
automation market*

Seamless continuity

The extent of the KNX community gives the protocol a unique power in the home automation market. Its broad range of products constitutes a set of solutions to meet all situations.

350+
manufacturers

Openness, a state of mind

Various gateways are offered by the adherents of KNX to create links with other specification standards such as DALI and BACNET.

8000+
products

*Source: knx.org

When technology meets design

Add a new dimension to your decor, with our award-winning range of switches and sockets that are KNX compatible. All ranges are available in white or with a choice of colours.



so fine, so stunning silhouette range

The silhouette range has a simple but elegant form based on the serene balance of proportions and the reduction to the object essentials, giving the product the right tone of voice in order to fit within its environment. [Pg 470](#)

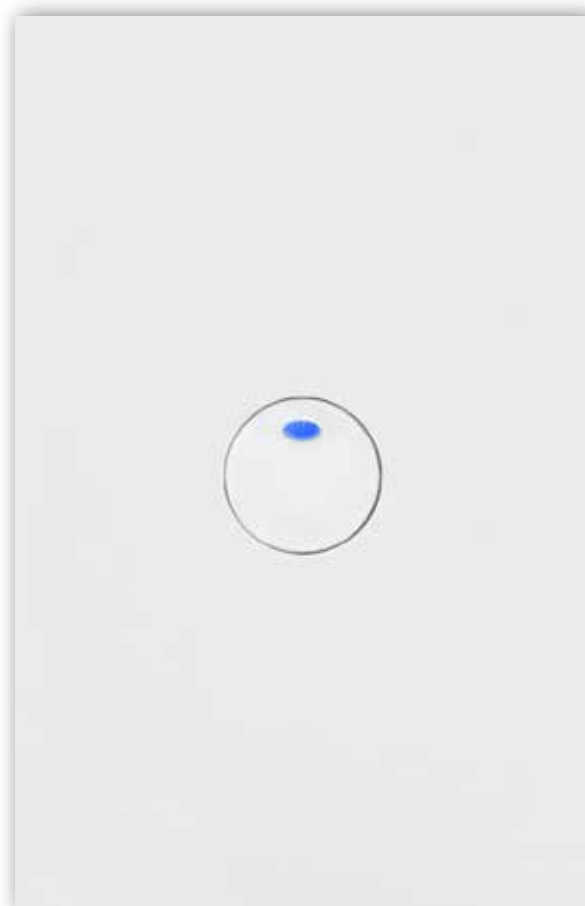


Honest, authentic allure range

The allure range is a contemporary addition and evolution of our switches and sockets. We have refreshed the traditional contour with the vision of keeping it sustainable and classical. [Pg 470](#)

Minimal, sleek finesse range

With the Hager design language in mind, the finesse range is an architectural story. Its timeless and slim design creates a world of small elegance, making the range peaceful and quiet. [Pg 471](#)



Relays, Dimmers, Shutter and Blind Devices



461

KNX Power Supplies



466

Presence Detectors



467

Time Switches and Weather Sensors



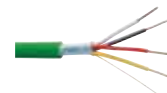
468

Input / Output Devices



469

Accessories



469

Tactile Switches



470

Features

- For switching of an independent load per actuator channel
- Any combined operation from drive and switching functions possible
- Manual operation
- Illuminated programming button
- Manual operation button for on/off and bus function on/off per channel (single area operation)
- Status LED integrated in manual operation button
- Normally-open contact
- Large labelling field
- Integrated bus coupling unit
- Bus connection via connecting terminal
- Quick Connect plug-in terminals



10A relays

Description		Channels	Cat ref.
For switching of independent loads or activation of drives.		6	TXA606B
KNX supply voltage	21 to 32 V DC	8	TXA608B
Frequency	50/60 Hz	10	TXA610B
Switching current at cos DC 0.8	max. 10 A		
230 V LED lamps	12 x 23 W		
Quantity LED lamps	per channel max. 12		
Quantity energy-saving lamps	per channel max. 12		
230 V incandescent lamps	1200 W		
230 V halogen lamps	1200 W		
Conventional transformers	1200 VA		
Electronic transformers	1000 W		
Fluorescent lamps:			
- with electronical ballast (EB)	15 x 36 W		
Operating temperature	- 5 to + 45 °C		
Connections	0.75 to 2.5 mm ²		

Follow the motor manufacturers' instructions.



TXA606B



TXA610B

16A relays - capacitive load

Description		Channels	Cat ref.
For switching of independent loads or activation of drives.		4	TXA604D
KNX supply voltage	21 to 32 V DC	6	TXA606D
Frequency	50/60 Hz	8	TXA608D
Switching current at cos = 0.8	max. 16 A	10	TXA610D
230 V LED lamps	18 x 23 W		
Quantity LED lamps	per channel max. 18		
Quantity energy-saving lamps	per channel max. 18		
230 V incandescent lamps	2300 W		
230 V halogen lamps	2300 W		
Electronic transformers	1200 W		
Operating temperature	- 5 to + 45 °C		
Connections	0.75 to 2.5 mm ²		

Follow the motor manufacturers' instructions.



TXA604D



TXA608D



Features

- For switching of an independent load per channel
- Manual operation can be activated via 2-level selection switch, thereby deactivation of the KNX function
- Illuminated programming button
- Manual operation button for on/off and bus function on/off per channel (single area operation)
- Status LED integrated in manual operation button
- Large labelling field
- Integrated bus coupling unit
- Bus connection via connecting terminal
- Screw terminals

TXB601B Features

- Status LED integrated into the manual operation button
- Illuminated programming button/button for manual operation
- Integrated bus coupling unit
- Potential-free normally-open contact
- Pre-assembled, with cables
- Installation in flush-mounted or splash-protected junction box
- Bus connection via pre-assembled cable with bus connection terminal
- Screw terminals



TXM616D



TXM620D

16A Relays - capacitive load

Description		Channels	Cat ref.
KNX supply voltage	21 to 32 V DC	16	TXM616D
Frequency	50/60 Hz	20	TXM620D
Switching current at $\cos \phi = 0.8$	max. 10 A		
230 V LED lamps	12 x 23 W		
Quantity LED lamps	per channel max. 12		
Quantity energy-saving lamps	per channel max. 12		
230 V incandescent lamps	1200 W		
230 V halogen lamps	1200 W		
Conventional transformers	1200 VA		
Electronic transformers	1000 W		
Fluorescent lamps:			
- with electronical ballast (EB)	15 x 36 W		
Operating temperature	- 5 to + 45 °C		
Connections	0.75 to 2.5 mm ²		



TXB601B

10A Relays - 1 gang flush-mounted

Description		Cat ref.
KNX supply voltage	21 to 32 V DC	TXB601B
Max. switching capacity at 230 V AC		
Frequency	50/60 Hz	
Switching current at $\cos \phi = 0.8$	max. 10 A	
Current consumption KNX {typ.}	typ. 7 mA	
230 V LED lamps	5 x 15 W	
Energy-saving lamps	5 x 15 W	
230 V incandescent lamps	600 W	
230 V halogen lamps	600 W	
Conventional transformers	600 VA	
Electronic transformers	600 W	
Fluorescent lamps:		
- with electronical ballast (EB)	6 x 58 W	
Compact fluorescent lamps	600 W	
Operating temperature	- 5 to + 45 °C	
Connections	0.75 to 2.5 mm ²	
Dimensions (W x H x D)	44 x 22.5 x 43 mm	

Features

- For switching/dimming of an independent load per actuator channel
- Illuminated programming button
- Manual operation button
- Status LED integrated in manual operation button
- Large labelling field
- Integrated bus coupling unit
- Bus connection via connecting terminal
- Quick Connect plug-in terminals
- Operating voltage over bus, 21 to 32 V DC
- Auxiliary voltage, 230 V AC
- Frequency, 50/60 Hz
- Operating temperature, - 5 to + 45 °C
- Conductor cross-section flexible 0.75 to 2.5 mm² rigid 0.75 to 2.5 mm²



Universal Dimmer 300W

Description

Dimmable 230 V LED lamps	60 W
Qty of dimmable, 230 V LED lamps	max. 8
Dimmable energy-saving lamps	60 W
Quantity energy-saving lamps	max. 8
230 V incandescent lamps	300 W
230 V halogen lamps	300 W
Dimmable transformers	300 VA
Electronic transformers	300 W
Dimensions (W x H x D)	70 x 90 x 65 mm
Width of rail mounted device	4 modules

Cat ref.

TXA661A



TXA661A

Universal Dimmer 600W

Description

Dimmable 230 V LED lamps	120 W
Qty of dimmable, 230 V LED lamps	max. 8
Dimmable energy-saving lamps	120 W
Qty energy-saving lamps	max. 8
230 V incandescent lamps	600 W
230 V halogen lamps	600 W
Dimmable transformers	600 VA
Electronic transformers	600 W
Dimensions (W x H x D)	70 x 90 x 65 mm
Width of rail mounted device	4 modules

Cat ref.

TXA661B



TXA661B

Universal Dimmer 3x 300W

Description

Dimmable 230 V LED lamps	per channel 60 W
Qty of dimmable, 230 V LED lamps	max. 8
Dimmable energy-saving lamps	per channel 60 W
Qty energy-saving lamps	max. 8
230 V incandescent lamps	per channel 300 W
230 v halogen lamps	per channel 300 W
Dimmable transformers	per channel 300 VA
Electronic transformers	per channel 300 W
Width of rail mounted device	6 modules

Cat ref.

TXA663A



TXA663A

Do not connect conventional transformers together with electronic transformers.

Universal Dimmer 4x 300W

Description

Dimmable 230 V LED lamps	per channel 60 W
Qty of dimmable, 230 V LED lamps	max. 8
Dimmable energy-saving lamps	per channel 60 W
Qty energy-saving lamps	max. 8
230 V incandescent lamps	per channel 300 W
230 V halogen lamps	per channel 300 W
Dimmable transformers	per channel 300 VA
Electronic transformers	per channel 300 W
Width of rail mounted device	8 modules

Cat ref.

TXA664A



TXA664A

Do not connect conventional transformers together with electronic transformers.



Features

- Manual operation can be activated via selection switch, thereby deactivation of the KNX function
- Manual operation per channel using button (single-area operation)
- Status LED integrated in manual operation button
- Illuminated programming button
- Positioning function for shutter and blade position
- Safety functions e.g. for wind, rain, alarm
- Sun shade function
- Large labelling field
- Integrated bus coupling unit
- Bus connection via connecting terminal
- Quick Connect plug-in terminals

TXM632C only feature

- Screw terminals



TXA624D

24V DC Shutter Devices

Description		Channels	Cat ref.
KNX supply voltage	21 to 32 V DC	4	TXA624D
Switching current (ohmic)	max. 6 A		
Switching current at 24 V DC	max. 6 A		
Operating temperature	- 5 to + 45 °C		
Connections	0.75 to 2.5 mm ²		
Width of rail mounted device	4 modules		

Follow the motor manufacturers' instructions.



TXA624C

230V AC Shutter Devices

Description		Channels	Cat ref.
KNX supply voltage	21 to 32 V DC	4	TXA624C
Frequency	50/60 Hz		
Switching current at cos φ = 0.8	max. 6 A	8	TXA628C
Operating temperature	- 5 to + 45 °C		
Connections	0.75 to 2.5 mm ²		
Width	4 Modules (TXA624C)		
Width	6 Modules (TXA628C)		

Follow the motor manufacturers' instructions.



TXM632C

230V Blind Actuator

Description		Channels	Cat ref.
KNX supply voltage	21 to 32 V DC	12	TXM632C
Frequency	50/60 Hz		
Operating temperature	- 5 to + 45 °C		
Connections	0.5 to 6mm ²		
Width	10 Modules		

TXB602F features

- For switching of two independent loads or activation of a blind drive
- Positioning function for shutter and blade position
- Status LED integrated into the manual operation button
- Illuminated programming button/button for manual operation
- Potential-free normally-open contact
- Pre-assembled, with cables
- Installation in flush-mounted or splash-protected junction box
- Bus connection via KNX bus connection cable
- Screw terminals

TXB692F features

- 2 binary inputs and 2 switching outputs or 1 blind input parameterisable
- Any combined operation from binary input and drive or switching functions possible
- Binary input functions: Switching, dimming, blind, scene, forced control and timer operation
- Positioning function for shutter and blade position
- Status LED integrated into the manual operation button
- Illuminated programming button
- Potential-free normally-open contact

- Pre-assembled, with cables
- Installation in flush-mounted or splash-protected junction box
- Bus connection via pre-assembled cable with bus connection terminal
- Screw terminals



6A, 2 Output or 1 Shutter/Blind Devices

Description		Cat ref.
KNX supply voltage	21 to 32 V DC	TXB602F
max. switching capacity at	230 V AC	
Frequency	50/60 Hz	
230 V LED lamps	5 x 13 W	
Energy-saving lamps	5 x 13 W	
230 V incandescent lamps	500 W	
230 V halogen lamps	500 W	
Conventional transformers	500 VA	
Electronic transformers	500 W	
Fluorescent lamps:		
- uncompensated	500 VA	
- with electronical ballast (EB)	6 x 48 W	
Operating temperature	- 5 to + 45 °C	
Connections	0.75 to 2.5 mm ²	



TXB602F

6A, 2 Input + 1 Shutter Output or 2 ON/OFF Output Devices

Description		Cat ref.
KNX supply voltage	21 to 32 V DC	TXB692F
max. switching capacity at	230 V AC	
Frequency	50/60 Hz	
230 V LED lamps	5 x 13 W	
Energy-saving lamps	5 x 13 W	
230 V incandescent lamps	500 W	
230 V halogen lamps	500 W	
Conventional transformers	500 VA	
Electronic transformers	500 W	
Fluorescent lamps:		
- uncompensated	500 VA	
- with electronical ballast (EB)	6 x 48 W	
Operating temperature	- 5 to + 45 °C	
Binary cable length, extendable to	max. 9.9 m	
Connections	0.75 to 2.5 mm ²	



TXB692F



Features

- Electronic short-circuit and overload protection
- Protected earth conductor must be connected
- Quick Connect plug-in terminals
- Green LED for display of power supply per output
- Red LED for display of short-circuit and overload protection per output



TXA112

KNX BUS Power Supply

Description			Cat ref.
Operating voltage	230 V AC	640mA	TXA112
Frequency	50/60 Hz		
Output voltage	28 to 32 V DC		
Output current	max. 640 mA		
Operating temperature	- 5 to + 45 °C		
Conductor cross-section (flexible)	0.75 to 2.5 mm ²		
Conductor cross-section (rigid)	0.75 to 2.5 mm ²		
Width of rail mounted device	4 modules		



TXA111

KNX BUS Power Supply

Description			Cat ref.
Operating voltage	230 V AC	320mA	TXA111
Frequency	50/60 Hz		
Output voltage	28 to 32 V DC		
Output current	max. 320 mA		
Bus lines	max. 1		
Operating temperature	- 5 to + 45 °C		
Conductor cross-section (flexible)	0.75 to 2.5 mm ²		
Conductor cross-section (rigid)	0.75 to 2.5 mm ²		
Width of rail mounted device	4 modules		



TGA200

DC Power Supply 24V DC

Description		Cat ref.
Operating voltage	230 V AC	TGA200
Frequency	50/60 Hz	
Output voltage	24 V DC	
Output current	max. 1 A	
Current consumption	< 150 mA	
Power consumption	36 W	
Operating temperature	+ 0 to + 45 °C	
Width of rail mounted device	4 modules	



Description

Energy saving by presence and brightness-controlled lighting control

TXC511 features

- Potentiometers for setting the response brightness and delay time without dismantling
- Energy saving by presence and brightness-controlled lighting control
- Bus connection via connecting terminal
- Constant light control

TCC510S features

- Linking several detectors in order to expand the detection range
- Integrated bus coupling unit
- Potentiometers for setting the response brightness and delay time without dismantling
- Programming button
- Bus connection via connecting terminal
- Spring clips for ceiling installation

Presence Detector with constant light control

Description

KNX supply voltage	21 to 32 V DC
Current consumption	12 mA
Recommended installation height	2.5 to 3.5 m
Brightness measuring range	5 to 1200 lx
Delay time, adjustable	1 min to 30 min
Detection angle	360 °
Operating temperature	+ 0 to + 45 °C
Dimensions (Ø x H)	110 x 44 mm

Cat ref.

TXC511



TXC511

IR Presence Detector

Description

KNX supply voltage	21 to 32 V DC
Recommended installation height	2.5 to 3.5 m
Brightness measuring range	5 to 1000 lx
Delay time, adjustable	1 min to 1 h
Detection angle	360 °
Detection field Ø, on floor	7 m
Detection field Ø, at desk height	5 m
Operating temperature	- 10 to + 45 °C
Installation opening Ø	60 to 63 mm
Dimensions (Ø x H)	78 x 70 mm

Cat ref.

TCC510S



TCC510S

Surface Mount Housing for Presence Detectors

Description

Description	Characteristics	Dimensions (Ø x H)	Cat ref.
For use in applications requiring mounting to the underside of concrete slabs or steel beams e.g. carparks and utility rooms	Housing for the installation of presence detector TXC511. - with cable entry	70 x 45mm	EE813
	Housing for the installation of presence detector TCC510S.	75 x 65 mm	EEK005



EE813

EEK005

Remote controls

Description

Description	Characteristics	Cat ref.
Battery service life [years]	2.5	EE807
Dimensions (L x W x H)	111 x 63 x 10 mm	
Infrared commissioning remote control for TCC510S		
Battery service life [years]	3.5	EE808
Dimensions (L x W x H)	120 x 70 x 10 mm	

Infrared user remote control for the local adjustment of detector settings for TCC510S



EE807



Time Switch

- Switch program can be stored in programming key - EG005 which comes with the TXA022.
- Program can be simply activated by insertion of the programming key into the time switch. The time switch will start to run the program stored in the programming key.
- Using the programming key provides a simple and safe copy of a sequence of input switching.
- Override control and priority control
- Temporary priority control
- Winter / summer schedule
- Lithium battery with a 5-year functioning reserve
- Up to 56 program steps
- Programmable by computer (via EG003U)
- Bar display chart of day profile
- Weekly program included
- 2 channel control
- Impulse cycle time setting
- Holiday mode
- Can be locked using the EG004 locking key
- Predefined parameters when activating heat protection function or heat recovery function
- Periodical emission for outside temperature, frost alarm, brightness, day/night mode, wind alarms and rain alarm predefined
- Three pre-set limit values for wind alarm
- bus connection via connecting terminal
- Plug-in terminals for power supply
- For wall and mast assembly
- Pipe clamp for mast fixing
- The configuration server (order no.: TJA665) or the tool set (order no.: TXA100) is required for easy commissioning via easy link.

Weather Sensor

- Wind, Precipitation, twilight, temperature and brightness sensor
- Automatic summer/winter time change-over
- Heater element for winter operation
- Red programming LED
- For control of shading systems for up to 4 façades
- Easy commissioning by means of predefined parameters



TXA022

2 Channel Time Switches

Description		Width	Cat ref.
KNX supply voltage	21 to 32 V DC	2 mod	TXA022
Lithium cell power reserve [years]	5		
Operating temperature	+ 0 to + 45 °C		
Conductor cross-section (flexible)	1.5 to 10 mm ²		
Conductor cross-section (rigid)	1 ... 6 mm ²		
Width of rail mounted device	2 modules		



EG004

Time Switch Accessories

Description	Width	Cat ref.
Locking key, yellow Authorization control to prevent change switch program		EG004

Features:

- Colour: yellow
- Protection of program and operation buttons

Programming key, grey

Supplied keys have been preprogrammed to "continuous close" mode. Specific programs can be installed to run on the time switch by inserting the programming key into the time switch.

Features:

- Colour: grey

Key storage module

For storage of 3 programming locking keys

Programming key adapter, USB computer interface for the computer programming of keys.

Features:

- Supplied with the required cable connection
- Simple computer programming for programmable keys
- Software available for download from www.hagerelectro.com.au

Software available for download from www.hagerelectro.com.au

Weather Station with Simulation - surface mounted



TXE531

Description		Cat ref.
KNX supply voltage	21 to 32 V DC	TXE531
Auxiliary voltage	24 V AC/ DC	
Rated current (heating incl.)	81 mA	
Brightness measuring range	0 to 150000 lx	
Temperature measuring range	- 30 to + 80 °C	
Measuring range, wind speed	0 to 35 m/s	
Precipitation (Yes/No)	1 bit	
Operating temperature	- 30 to + 50 °C	
Dimensions (W x H x D)	96 x 77 x 118 mm	
Weight	170 g	

For detection of wind, precipitation, temperature and brightness to process the signals. Ensure correct orientation and free-standing installation.

Input / Output devices with voltage free contacts

- Power supply by Bus.
- The modules are associated with push buttons or switches
- Connection length to push button and LEDs must not exceed 5m
- Easy Tool is used to configure the individual inputs of the TXB322 products.
- The products allow controlling of lighting, blinds, shutters, heating and scenes
- The Scene function sends group controls to different kinds of outputs to create ambiances or scenarios (leaving home scenario, reading ambience, etc.).
- The 2-channel mode function allows controlling, with the same push button, 2 independent circuits having different functions.



2-Input / 2-Output module LED (status indication)

Description		Cat ref.
LED outputs specifications	I = 850 µA U = 1.8V DC	TXB322
KNX supply voltage	30V DC	
Busline max consumption	15 mA	
Dimensions	38 x 35 x 12 mm	
Degree of protection	IP 30	
Operating temperature	+0 to +45°C	
Storage temperature	-20 to +70°C	
Standards	EN 60 669-2-1 NF EN 50 428	



TXB322

- The universal input modules interface potential free contacts with KNX.
- Push buttons, switches and conventional automatisms can thus be used to drive standard LED indicators.
- Outputs can control conventional signaling LEDs.
- 2 independent channels.

4-Input / 4-Output module LED (status indication)

Description		Cat ref.
LED outputs specifications	I = 850 µA U = 1.8V DC	TXB344
KNX supply voltage	30V DC	
Busline max consumption	15 mA	
Dimensions	38 x 35 x 12 mm	
Degree of protection	IP 30	
Operating temperature	+0 to +45°C	
Storage temperature	-20 to +70°C	
Standards	EN 60 669-2-1 NF EN 50 428	

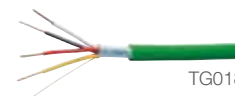


TXB344

- The universal input modules interface potential free contacts with KNX.
- Push buttons, switches and conventional automatisms can thus be used to drive standard LED indicators.
- Outputs can control conventional signaling LEDs.
- 4 independent channels.

Accessories

Description	Characteristics	Cat ref.
KNX cable	100m roll	TG018
- EIB - Y (ST)Y 2 x 2 x 0.8 (Voltage withstanding: 4kV)	500m roll	TG019
	100m roll halogen free	TG060
	500m roll halogen free	TG061
Connection terminals	-5 to +45 °C	TG008
- Operating temperature	Ø 0.6 to 0.8 mm	
- Conductor	2 x 4	
- Number of conductors	10.2 x 11.5 x 10 mm	
- Dimensions (L x W x H)		
Connection bridges	Grey, 50 per pack	TG200B
- For bridging between quick connect terminals on DIN relay devices		



TG018



TG008



TG200B



Switch Plate features

- Removable covers for ease of painting
- Multiple mounting holes
- Supplied with standard 32mm tapered point fixing screws

Mechanism features

- Tactile mechanism with quick fit cable plug system

Technical data

- High impact high gloss UV stabilised Polycarbonate construction

Supplied with

- Switch plate
- Tactile mechanism(s)
- Cover Plate
- Wiring loom
- Bus coupling unit(s)

Cover features

- Removable covers for ease of painting
- Hi impact high gloss UV stabilised Polycarbonate construction
- Matt Black or Matt White finish, to reduce finger printing



WBSTS2N

silhouette - Large Plate Switches with LED

Characteristics	Available colours	Box qty	Cat ref.
1 gang	○ White	1	WBSTS1N
	● Matt black	1	WBSTS1N-MB
	○ Matt White	1	WBSTS1N-MW
2 gang	○ White	1	WBSTS2N
	● Matt black	1	WBSTS2N-MB
	○ Matt White	1	WBSTS2N-MW
4 gang	○ White	1	WBSTS4N
	● Matt black	1	WBSTS4N-MB
	○ Matt White	1	WBSTS4N-MW
6 gang	○ White	1	WBSTS6N
	● Matt black	1	WBSTS6N-MB
	○ Matt White	1	WBSTS6N-MW



WBHTS1N

allure - Large Plate Switches with LED

Characteristics	Available colours	Box qty	Cat ref.
1 gang	○ White	1	★ WBHTS1N
	● Matt black	1	★ WBHTS1N-MB
	○ Matt White	1	★ WBHTS1N-MW
2 gang	○ White	1	★ WBHTS2N
	● Matt black	1	★ WBHTS2N-MB
	○ Matt White	1	★ WBHTS2N-MW
4 gang	○ White	1	★ WBHTS4N
	● Matt black	1	★ WBHTS4N-MB
	○ Matt White	1	★ WBHTS4N-MW
6 gang	○ White	1	★ WBHTS6N
	● Matt black	1	★ WBHTS6N-MB
	○ Matt White	1	★ WBHTS6N-MW

Switch Plate features

- Removable covers for ease of painting
- Multiple mounting holes
- Supplied with standard 32mm tapered point fixing screws

Mechanism features

- Tactile mechanism with quick fit cable plug system

Technical data

- High impact high gloss UV stabilised Polycarbonate construction

Supplied with

- Switch plate
- Tactile mechanism(s)
- Cover Plate
- Wiring loom
- Bus coupling unit(s)

Cover features

- Removable covers for ease of painting
- Hi impact high gloss UV stabilised Polycarbonate construction
- Matt Black or Matt White finish, to reduce finger printing

finesse - Large Plate Switches with LED

Characteristics	Available colours	Box qty	Cat ref.
1 gang	○ White	1	★ WBQTS1N
	● Matt black	1	★ WBQTS1N-MB
	○ Matt White	1	★ WBQTS1N-MW
2 gang	○ White	1	★ WBQTS2N
	● Matt black	1	★ WBQTS2N-MB
	○ Matt White	1	★ WBQTS2N-MW
4 gang	○ White	1	★ WBQTS4N
	● Matt black	1	★ WBQTS4N-MB
	○ Matt White	1	★ WBQTS4N-MW
6 gang	○ White	1	★ WBQTS6N
	● Matt black	1	★ WBQTS6N-MB
	○ Matt White	1	★ WBQTS6N-MW



WBQTS1N

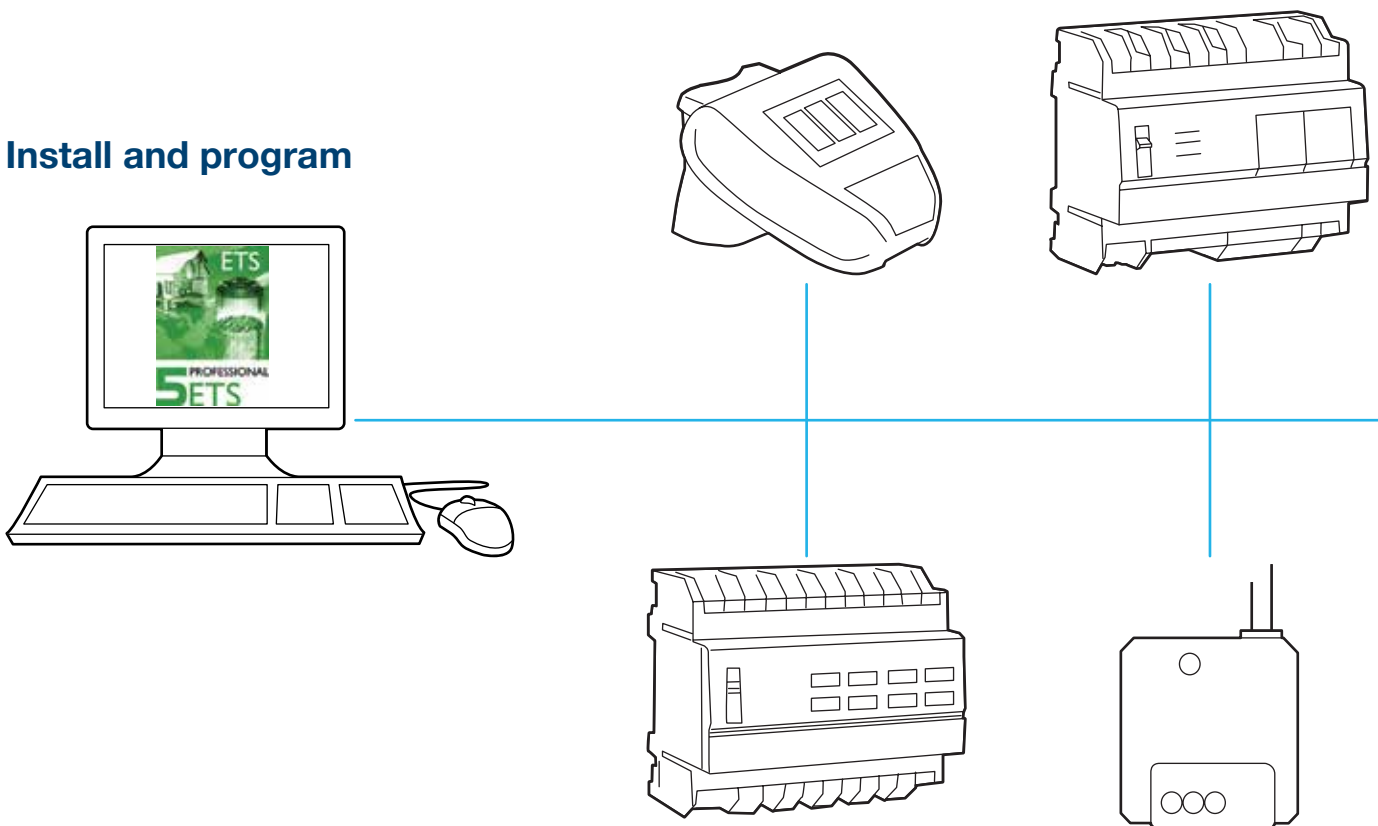
A flexible and scalable system



For commercial projects, the architecture of a Hager KNX System encompasses flexibility and scalability.

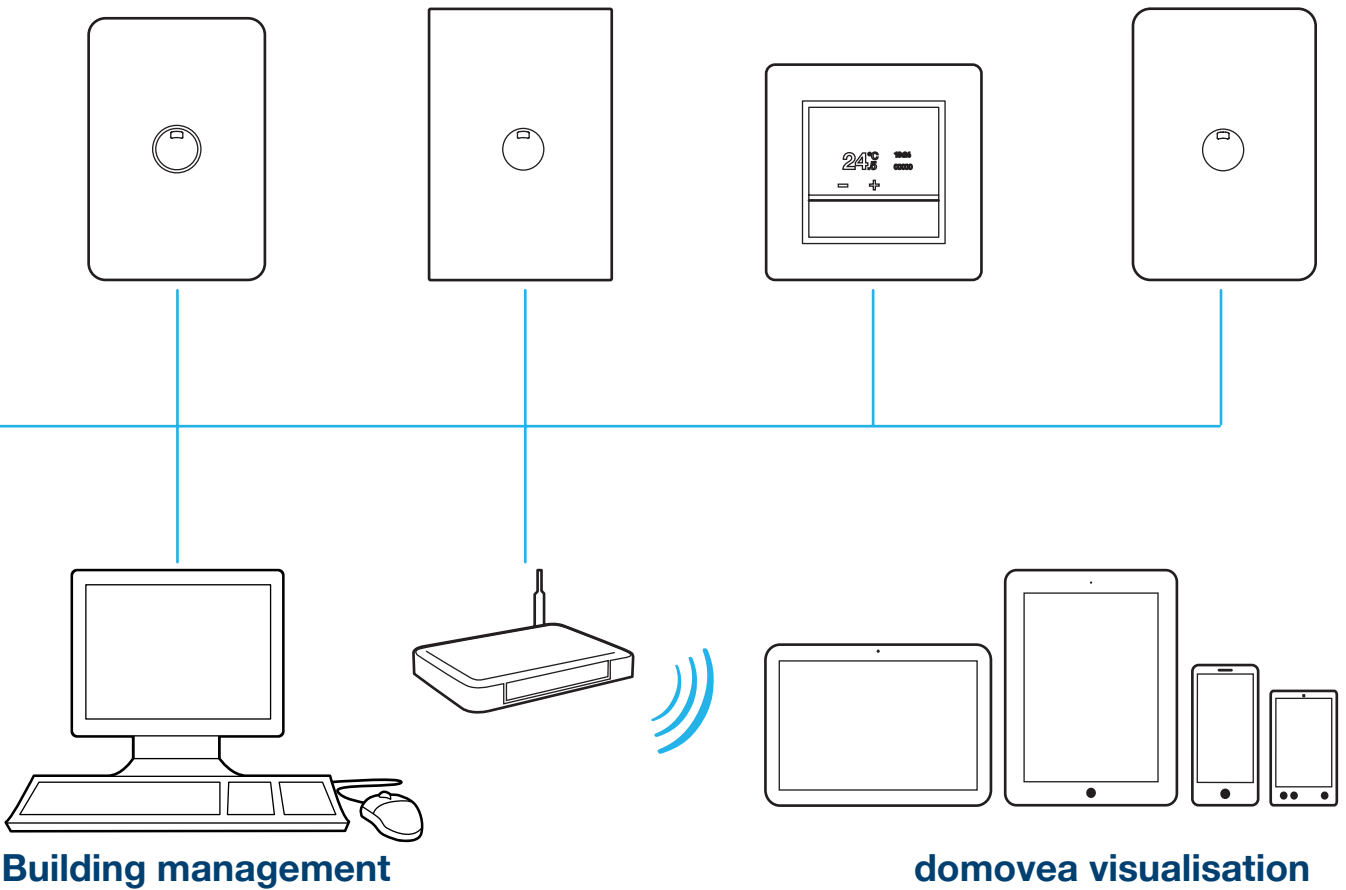
Hager KNX System uses ETS programming software which guarantees full interoperability with any other KNX member solutions from intrusion and technical alarms, video surveillance and videophones, all the way to multi-room function and maintenance systems. Gateways to create links with other control standards such as DALI modbus and BACNET guarantees smooth integration into more complex Building Management Systems (BMS).

Install and program





End-user control



Programming using KNX ETS 5 A premium solution



For commercial projects requesting a whole range of functionalities, system is the most adapted solution. Our KNX System range has been developed for the most complex and demanding installations. Our wide range of KNX devices offer very advanced configuration possibilities with the use of ETS software.



domovea



477

Relays, Dimmers and Shutter Devices



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KNX Power Supplies, DALI Gateways and Couplers



485

Presence Detectors and Time Switches



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DIN Mount Input Devices and Input/Output Devices



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Energy Meters, Current Transformers and Consumption Indicators



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Weather Sensors



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Accessories



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Tactile Switches



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domovea the dashboard of your home



Comfort at your fingertips

The quality of a home automation system is judged primarily by the benefits it brings to its users. In terms of comfort, offering several solutions to control the home automation functionality of a house is an asset. Stay connected with your home when you are outside.

A window in your home...

Remotely control your home via the secure portal at www.domovea.com you can turn off lights or you can view different locations of your home through IP cameras. You can trigger a predefined schedule at a predefined time or as you wish.



TJA670 (domovea Basic) functions

- Integrated KNX easytool
- Max of 500 KNX appliances
- Max of 5 IP cameras
- Google, Alexa, IFTTT services
- 50 user sequences (client)
- Remote access license
- User personalisation
- Installer and client remote access
- KNX / IP bridge (local access only)

TJA470 (domovea Expert) functions

- Integrated KNX easytool
- Max of 500 KNX appliances
- Max of 50 IP cameras
- Google, Alexa, IFTTT services
- 50 user sequences (client)
- 100 advanced sequences (configurator)
- Remote access license
- User personalisation
- Installer and client remote access
- KNX / IP bridge (local and remote access)

domovea Server (Basic and Expert)

Description	Characteristics	Type	Cat ref.
KNX power supply	KNX bus TBTS 30V DC	Basic	★ TJA670
Consumption on the bus line	10mA max - 30V DC	Expert	★ TJA470
Max consumption on the auxiliary supply	760mA max - 24V DC		
Standby consumption on the 24 V Ethernet and USB not connected	330mA		
Standard/standby consumption on the 2-wire bus	35mA / 12mA - 24V DC		
Maximum dissipation (24V output)	10W without USB, 15 W with 2 USB max		
Ethernet network communication	2 x 100/1000 BaseT		
Bus connection	0.2 - 1.5mm ²		
Power supply socket	0.75 - 2.5mm ²		
Ethernet/IP network socket	2 x RJ45		
Operating temperature	- 5°C to + 45°C		
Width	6 modules		
Impact resistance	IK04		



TJA470

- Central operating and visualisation unit for KNX installations via client software.
- Knowledge of the relevant network technology is required for installation.
- System requirements: Windows XP, VISTA and Windows 7 (32 or 64-bit).

Power Supply 24V DC

Description	Characteristics	Cat ref.
Operating voltage	230V AC	TGA200
Frequency	50/60 Hz	
Output voltage	24 V DC	
Output current	max. 1 A	
Current consumption	< 150 mA	
Power consumption	36 W	
Operating temperature	+ 0°C to + 45°C	
Width of device	4 modules	



TGA200



Features

- Common parameter of switching actuator
- Output states are displayed on the product.
- Outputs can be controlled manually from the product
- Each output to be individually configured for Lighting or Shutters/Blinds applications
- Shutters/Blinds applications required two Output Channel
- The ON/OFF function is used to switch a lighting circuit ON or OFF
- The Status indication function displays the status of the output contact
- The Timer function is used to switch a lighting circuit ON or OFF for an adjustable time
- The Time delayed switch function combines a toggle function and a cut-off delay
- The Priority function allows overriding an output to a definite status, ON or OFF
- The Jamming function allows locking an output in its current status
- Each output may be integrated into 32 different scenes
- The Timer and Automatic controls function allow the outputs to be controlled by:
- Timer functions: Timer/toggle change over, Switching delay, Tripping delay, Switching and tripping delay, Timer.
- Automatic control functions: Authorization, Logical AND or Logical OR
- Manual override, permanent or Time limited.
- Behavior in the event of bus voltage failure/Return parameterisable
- With programming button and red programming LED
- Bus connection via connecting terminal
- Quick Connection Terminal



TYA604A

Relays 4A

Description		Characteristics	Cat ref.
KNX supply voltage	30 V DC	4 channel	TYA604A
230 V LED lamps	6 x 23 W	6 channel	TYA606A
Quantity LED lamps	per channel max. 6	8 channel	TYA608A
Quantity energy-saving lamps	per channel max. 6	10 channel	TYA610A
230 V incandescent lamps	800 W		
230 V halogen lamps	800 W		
Conventional transformers	800 W		
Electronic transformers	800 W		
Fluorescent lamp:			
- with electronic ballast	450 W		
Width	4 modules (4 & 6 channel) 6 modules (8 & 10 channel)		
Operating temperature	0°C to +45°C		
Connections	0.75 to 2.5 mm ²		



TYA606B

Relays 10A

Description		Characteristics	Cat ref.
KNX supply voltage	30 V DC	4 channel	TYA604B
230 V LED lamps	12 x 23 W	6 channel	TYA606B
Quantity LED lamps	per channel max. 12	8 channel	TYA608B
Quantity energy-saving lamps	per channel max. 12	10 channel	TYA610B
230 V incandescent lamps	1200 W		
230 V halogen lamps	1200 W		
Conventional transformers	1000 W		
Electronic transformers	1000 W		
Fluorescent lamp:			
- with electronic ballast	550 W		
Width	4 modules (4 & 6 channel) 6 modules (8 & 10 channel)		
Operating temperature	0°C to +45°C		
Connections	0.75 to 2.5 mm ²		



TYA608C

Relays 16A

Description		Characteristics	Cat ref.
Bus voltage	30 V DC	4 channel	TYA604C
230 V LED lamps	12 x 23 W	6 channel	TYA606C
Quantity LED lamps	per channel max. 12	8 channel	TYA608C
Quantity energy-saving lamps	per channel max. 12	10 channel	TYA610C
230 V incandescent lamps	2300 W		
230 V halogen lamps	1600 W		
Conventional transformers	1200 W		
Electronic transformers	1200 W		
Fluorescent lamp:			
- with electronic ballast	725 W		
Width	4 modules (4 & 6 channel) 6 modules (8 & 10 channel)		
Operating temperature	0°C to +45°C		
Connections	0.75 to 2.5 mm ²		



Features

- Common parameter of switching actuator
- Output states are displayed on the product.
- Outputs can be controlled manually from the product
- Each output to be individually configured for Lighting or Shutters/Blinds applications
- Shutters/Blinds applications required two Output Channel
- The ON/OFF function is used to switch a lighting circuit ON or OFF
- The Status indication function displays the status of the output contact
- The Timer function is used to switch a lighting circuit ON or OFF for an adjustable time
- The Time delayed switch function combines a toggle function and a cut-off delay
- The Priority function allows overriding an output to a definite status, ON or OFF
- The Jamming function allows locking an output in its current status
- Each output may be integrated into 32 different scenes
- The Timer and Automatic controls function allow the outputs to be controlled by:
- Timer functions: Timer/toggle change over, Switching delay, Tripping delay, Switching and tripping delay, Timer.
- Automatic control functions: Authorization, Logical AND or Logical OR
- Manual override, permanent or Time limited.
- Behavior in the event of bus voltage failure/Return parameterisable
- With programming button and red programming LED
- Bus connection via connecting terminal
- Quick Connection Terminal

Relays 16A for capacitive load

Description	Characteristics	Cat ref.
KNX supply voltage	30 V DC	4 channel TYA604D
230 V LED lamps	18 x 23 W	6 channel TYA606D
Quantity LED lamps	per channel max. 18	8 channel TYA608D
Quantity energy-saving lamps	per channel max. 18	10 channel TYA610D
230 V incandescent lamps	2300 W	
230 V halogen lamps	2300 W	
Conventional transformers	1600 W	
Electronic transformers	1200 W	
Fluorescent lamp:		
- with electronic ballast	725 W	
- parallel compensated	1500 W (200µF)	
Width	4 modules (4 & 6 channel) 6 modules (8 & 10 channel)	
Operating temperature	0°C to +45°C	
Connections	0.75 to 2.5 mm ²	



TYA610D

Relays 16A for capacitive load

Description	Characteristics	Cat ref.
KNX supply voltage	30 V DC	16 channel TYM616D
230 V LED lamps	25 x 18 W	20 channel TYM620D
Quantity LED lamps	per channel max. 25	
Quantity energy-saving lamps	per channel max. 25	
230 V incandescent lamps	2300 W	
230 V halogen lamps	2300 W	
Conventional transformers	1600 W	
Electronic transformers	1000 W	
Fluorescent lamp:		
- with electronic ballast	27 x 36 W	
Width	8 modules (TYM616D) 10 modules (TYM620D)	
Operating temperature	0°C to +45°C	
Connections	0.75 to 2.5 mm ²	



TYM616D

Relays 16A for current monitoring

Description	Characteristics	Cat ref.
Bus voltage	30 V DC	6 channel TYA606E
230 V LED lamps	18 x 23 W	
Quantity LED lamps	per channel max. 18	
Quantity energy-saving lamps	per channel max. 18	
230 V incandescent lamps	2300 W	
230 V halogen lamps	2300 W	
Conventional transformers	1600 W	
Electronic transformers	1380 W	
Fluorescent lamp:		
- with electronic ballast	25 x 18 W	
- parallel compensated	1000W (130µF)	
Width	6 modules	
Operating temperature	0°C to +45°C	
Connections	0.75 to 2.5 mm ²	



TYA606E

Features

- Output states are displayed on the product.
- Outputs can be controlled manually using the push button
- Each output to be individually configured for Lighting or Heating
- Each product feature depends on its configuration and settings.



TYB602F

Relays 6A flush mount

Description		Characteristics	Cat ref.
KNX supply voltage	30 V DC	2 channel	TYB602F
230 V LED lamps	5 x 13 W		
Quantity LED lamps	per channel max. 5		
Quantity energy-saving lamps	per channel max. 5		
230 V incandescent lamps	500 W		
230 V halogen lamps	500 W		
Conventional transformers	500 W		
Electronic transformers	500 W		
Fluorescent lamp:			
- with electronic ballast	6 x 48 W		
Dimensions	53 x 29 mm		
Operating temperature	0°C to +45°C		
Connections	0.75 to 2.5 mm ²		
Protection degree	IP20		

- Channels controlled via the KNX bus (depending on features configured).



TYB601B

Relays 10A flush mount

Description		Characteristics	Cat ref.
Bus voltage	30 V DC	1 channel	TYB601B
230 V LED lamps	5 x 15 W		
Quantity LED lamps	per channel max. 5		
Quantity energy-saving lamps	per channel max. 5		
230 V incandescent lamps	600 W		
230 V halogen lamps	600 W		
Conventional transformers	600 W		
Electronic transformers	600 W		
Fluorescent lamp:			
- with electronic ballast	6 x 58 W		
Dimensions	53 x 29 mm		
Operating temperature	0°C to +45°C		
Connections	0.75 to 2.5 mm ²		
Protection degree	IP20		

- Channels controlled via the KNX bus (depending on features configured).



Features

- 1 dimming channels controlled by KNX bus.
- Universal dimmer with automatic load recognition
- Min/Max level local setting.
- Display of channel state on the product.
- Manual mode that allows dimming even when the bus is disconnected.
- Control button for manual mode.
- Per channels 32 light scenes with a related scene speed
- Short-circuit, over heating & overload protection with LED indication
- With programming button and red programming LED in same button.
- Bus connection via connecting terminal.
- Quick Connection Terminal

1 Channel, Universal Dimmer 300W

Description

KNX supply voltage	30 V DC 230 V DC
Busline max consumption	2.3 mA
Consumption without load	3 W
Power dissipation	4 W
Width	4 modules
Operating temperature	-5°C to +45°C
Connections	0.75 to 2.5 mm ²

Cat ref.
TYA661AN



TYA661AN

- Dimming suitability
 - 230 V incandescent and halogen lamps 300W
 - Halogen ELV (12 or 24V) via ferromagnetic transformer 300VA.
 - Halogen ELV (12 or 24V) via electronic transformer 300W
 - Dimmable CFL lamp (CFLi) with integrated ballast 60W
 - Dimmable LED lamp(LEDi) with integrated ballast 60W

1 Channel, Universal Dimmer 600W

Description

Bus voltage	30 V DC 230 V DC
Busline max consumption	2.3 mA
Consumption without load	3 W
Power dissipation	7.5 W
Width	4 modules
Operating temperature	-5°C to +45°C
Connections	0.75 to 2.5 mm ²

Cat ref.
TYA661BN



TYA661BN

- Dimming suitability
 - 230 V incandescent and halogen lamps 600W
 - Halogen ELV (12 or 24V) via ferromagnetic transformer 600VA.
 - Halogen ELV (12 or 24V) via electronic transformer 600W
 - Dimmable CFL lamp (CFLi) with integrated ballast 120W
 - Dimmable LED lamp (LEDi) with integrated ballast 120W

3 channels, Universal Dimmer 300W

Description

KNX supply voltage	30 V DC 230 V DC
Busline max consumption	2.3 mA
Consumption without load	1.7 W
Power dissipation	8.9 W
Width	6 modules
Operating temperature	-5°C to +45°C
Connections	0.75 to 2.5 mm ²

Cat ref.
TYA663AN



TYA663AN

- 1, 2, or 3 dimming channels controlled by KNX bus.
- The product can control 1, 2 or 3 independent lighting circuits, the outputs number depends on the switch position.
- Dimming suitability according to output selector switch per channel:
 - 230 V incandescent and halogen lamps 300W / 600W / 900W
 - ELV halogen (12 or 24V) via ferromagnetic transformer 300W / 600W / 900W
 - ELV halogen (12 or 24V) via electronic transformer 300W / 600W / 900W
 - Dimmable CFL lamp (CFLi) with integrated ballast 60W / 120W / 210W
 - Dimmable LED lamp (LEDi) with integrated ballast 60W / 120W / 210W



Features

- Dimming channels controlled by KNX bus.
- Universal dimmer with automatic load recognition
- Min/Max level local setting.
- Display of channel state on the product.
- Control button for manual mode.
- Manual mode that allows dimming even when the bus is disconnected.
- Per channels 32 light scenes with a related scene speed
- With programming button and red programming LED in same button.
- Bus connection via connecting terminal.
- Short-circuit, over heating & overload protection with LED indication
- Quick Connection Terminal



TYA664AN

4 Channels, Universal Dimmer 300W

Description

KNX supply voltage	30 V DC 230 V AC 50/60 Hz	Cat ref.
Busline max consumption	2.3 mA	TYA664AN
Consumption without load	1.7 W	
Power dissipation	8.9 W	
Width	8 modules	
Operating temperature	-5°C to +45°C	
Connections	0.75 to 2.5 mm ²	

- Dimming suitability according to output selector switch per channel:
 - 230 V incandescent and halogen lamps 300W per channel
 - ELV halogen (12 or 24V) via ferromagnetic transformer 300W / 600W / 900W
 - ELV halogen (12 or 24V) via electronic transformer 300W / 600W / 900W
 - Dimmable CFL lamp (CFLi) with integrated ballast 60W / 120W / 210W
 - Dimmable LED lamp (LEDi) with integrated ballast 60W / 120W / 210W



TX211A

3 channels, 1/10V Dimmer

Description

- Fluorescent and halogen lamps with 1/10V ballasts
- Able to interface with 1/10V LED control equipment
- Halogen lamps ELV supplied with variable or ferromagnetic electronic transformer

Functions:

- ON/OFF
- Dim control

Width

4 mod

Cat ref.

TX211A

Features

- Outputs can be controlled manually from the product
- Output states are displayed on the product
- Delay time between 2 opposite directions 600 ms.
- Application software allows each output to be individually configured for Shutter/Blind applications.
- The Up/Down Function allows the up or down movement of a shutter, a blind with inclinable slats, an awning, a Venetian blind, etc. or the opening and closing of electric curtains. The Stop function allows stopping the current shutter movement.
- The Slat angle/Stop function allows inclining the slats of a blind and stopping its current movement or modifying the occultation or the direction of the light beams coming from outside.
- The Position in % function allows putting a shutter or a blind in a desired position expressed in % of closure.
- The Slat angle function allows inclining the slats of a blind into a desired position expressed in degrees (0° to 180°).
- Each output may be integrated into 32 different scenes.
- Wind alarm and rain alarm functions allow putting a shutter or a blind in a parameterisable predefined status.
- The Priority function allows forcing a shutter or a blind into a predefined position.
- The Jamming function allows locking a shutter or a blind in its current position.
- The Status indication function allows sending on the bus:
 - Status indication (1 byte): indicates the current operating mode of the output (Alarm, Priority, Jamming, and Normal)
- Position indication in %: indicates the position of the shutter or blind
- Slat angle indication in °: indicates the position of the shutter or blind
- Status indication (1Bit): indicates the last movement, up or down, of the shutter or blind

4 Channel Shutter Devices 230V AC

Description	Characteristics	Cat ref.
KNX supply voltage	30 V DC SELV	4 shutters TYA624A
Power dissipation	2 W	4 shutters TYA624C
Typical consumption on KNX bus	5.2 mA	and / or blinds
Standby consumption on KNX bus	4.5 mA	
Width	4 modules	
Operating temperature	-5°C to +45°C	
Connections	0.75 to 2.5 mm ²	
Breaking capacity	μ230 Vv 6A AC1	
Surge voltage	4kV	
Protection degree	IP20	



TYA624A

- The 4-output drivers TYA624A and TYA624C are actuators that allow interfacing Bus KNX with opening devices. They are part of the tebis Installation System and are designed to control such devices as rolling shutters, blinds with awnings, blinds with slats, etc.
- 4 independent channels controlled by bus KNX.
- Each product feature depends on its configuration and settings.

4 channel Shutter Devices 24V DC

Description	Characteristics	Cat ref.
KNX supply voltage	30 V DC SELV	4 shutters TYA624B
Power dissipation	2 W	4 shutters TYA624D
Typical consumption on KNX bus	5.2 mA	and / or blinds
Standby consumption on KNX bus	4.5 mA	
Width	4 modules	
Operating temperature	-5°C to +45°C	
Connections	0.75 to 2.5 mm ²	
Breaking capacity	μ24 V DC 6A DC1	
Surge voltage	4kV	
Protection degree	IP20	



TYA624B

- The 4-output drivers TYA624A and TYA624C are actuators that allow interfacing Bus KNX with opening devices. They are part of the tebis Installation System and are designed to control such devices as rolling shutters, blinds with awnings, blinds with slats, etc.
- 4 independent channels controlled by bus KNX.
- Each product feature depends on its configuration and settings.



TYA628A

8 Channel Shutter Devices 230V AC

Description		Characteristics	Cat ref.
KNX supply voltage	30 V DC SELV	8 shutters	TYA628A
Power dissipation	2 W		
Typical consumption on KNX bus	15.8 mA	8 shutters	TYA628C
Standby consumption on KNX bus	8.8 mA	and / or blinds	
Width	6 modules		
Operating temperature	-5°C to +45°C		
Connections	0.75 to 2.5 mm ²		
Breaking capacity	μ230 Vv 6A AC1		
Surge voltage	4kV		
Protection degree	IP20		

- The 8-output drivers TYA624A and TYA624C are actuators that allow interfacing Bus KNX with opening devices. They are part of the tebis Installation System and are designed to control such devices as rolling shutters, blinds with awnings, blinds with slats, etc.
- 8 independent channels controlled by bus KNX.
- Product display of outputs status with or without the presence of bus and/or main supply (230V AC).
- The outputs may be switched with or without the presence of bus and/or main supply (230V AC).
- Each product feature depends on its configuration and settings.




TYB692F

1 Channel Output + 2 Channel Input Shutter Device - flush mount

Description		Characteristics	Cat ref.
KNX supply voltage	30 V DC SELV	1 out + 2 in shutters	TYB692F
Breaking capacity	μ 6A AC1 230V		
Min. switching current	10mA		
Max. switching cycles at full load	20/min		
Standby consumption on KNX bus	5mA		
Typical consumption on KNX bus	7mA		
Incandescent lamps	500W max.		
HV halogen lamps	500W max.		
Conventional transformer	500VA max.		
Electronic transformer	500W max.		
LED lamps	5 x 13W max.		
Inputs	2		

Power Supply

A power supply provides the 30V DC bus power for the KNX system to function.

- With integral choke
- Short-circuit and overload protection
- The "OK" indicator lights up in normal working mode
- The "I>I_{max}" indicator lights up, eliminate the origin of the fault (short circuit or overload)
- Protected earth conductor must be connected
- Quick Connection  Terminal

DALI Gateway

The DALI gateway permits the control of DALI devices form the KNX network and can provide status information using KNX visualisation.

- Control of a maximum of 64 DALI devices in a max. of 32 groups
- Manual control of the groups independent of the bus (site operation with broadcast control)
- Feedback of DALI error status or short-circuit and supply voltage failure message
- Central switching function
- Incorporation of the groups into up to 16 light scenes
- All channel-oriented functions can be adjusted separately for each group. This feature permits independent and multi-functional control of the DALI devices

- The Staircase timer function can only be adjusted for groups 1 to 16
- Adjusting the limit values for brightness is possible
- Dimming response can be adjusted
- Soft-On or Soft-Off function
- Disable function or, alternatively, forced-control position function can be adjusted for each group, with the disable function, blinking of lighting groups is possible
- Timer functions (ON-delay, OFF-delay, staircase lighting function, also with pre-warning function)
- Response to bus voltage failure and bus voltage return as well as after ETS programming can be adjusted for each group
- With programming button and red programming LED

- Automatic device replacement
- Bus connection via connecting terminal
- With screw terminals preferably on top.



Power Supply Modules

Description		Characteristics	Cat ref.
Supply voltage	230V AC 50/60 Hz	320mA	TXA111
Output voltage	30V DC	640mA	TXA112
Absorbed power	15 VA		
Operating temperature	-5 to +45°C		
Connections	0.75 to 2.5 mm ²		



TXA111

DALI Gateway

Description		Type	Cat ref.
KNX supply voltage	21 to 32 V DC SELV	DALI	TYA670W
External supply voltage	110 to 240 V AC +10%/-15% 50/60 Hz	DALI 2	TYA670WD2
Busline max consumption	typically 150 mW		
Power consumption	max. 6 W		
Total power loss	max. 3 W		
Operating temperature	-5°C to +45°C		
Connections	screw terminal preferably on top		
DALI voltage	typically 16 V DC with overvoltage protection		
DALI current	typically 128mA max. 200mA temporarily		
Width	4 modules		



TYA670WD2

Line Coupler

A line coupler or area coupler is used to interconnect two KNX bus lines or areas. The coupler device is also used as a signal amplifier and a data filter for bus communication.

- Can be used as line/area coupler or line amplifier.
- With programming button.
- With green operation LED, red programming LED and red diagnosis LED.
- With 2 yellow data traffic LEDs for higher and lower ranking line.
- Allows extension of a wire line and repeats the messages.
- Ensures a galvanic insulation between lines.
- Necessary in case of systems with more than 64 wire products.
- Line connection via connecting terminal

IP Router

The IP gateway operates as a line coupler and connects KNX lines over a data network. Besides this coupler function the IP gateway offers remote communication to KNX devices over the internet. By utilising a LAN or WAN connection, the KNX system can be expanded between two or more locations.

- Quick communication of lines/areas and systems via data networks (Internet protocols).
- Needed for operation a power supply of 24 V DC.
- As interface to PCs and data processing devices.
- For reporting bus voltage failure via data networks.
- Internet protocols supported: ARP, ICMP, IGMP, UDP/IP, and DHCP.
- IP according to Konnex specifications: Core, Routing, Tunnelling, Device Management.
- Can be used as line/area coupler.
- With RJ45 connection for Ethernet/ IP networks.
- With programming button and red programming LED.
- With green operation LED and yellow data traffic LED.
- With green, yellow and red LEDs for indicating the IP communication.
- Line connection via connecting terminal.
- Operating voltage connection via connecting terminal.

USB Interface

For connection between a computer and the KNX bus, for the purpose of programming.

- For addressing, programming and diagnosis of KNX components.
- With B-type USB socket for data traffic (voltage supply via PC)
- Compatible with USB 1.1/2.0 transmission protocols.
- With flash-controller technology



TYF130

Line/Area Coupler

Description		Cat ref.
KNX supply voltage	21 - 32 V DC	TYF130
Width	2 modules	
Operating temperature	-5 to +45°C	



TYFS120

KNX IP Secure Interface

Description		Cat ref.
KNX supply voltage	21 - 30 V DC	★ TYFS120
Power usage	20mA	
Ethernet communication	100 Base T	
Ethernet connection	RJ45	
IP rating	IP20	
Operating temperature	-5°C to 45°C	
Width	1 module	



TYFS121

KNX IP Secure Router

Description		Cat ref.
KNX supply voltage	21 - 30 V DC	★ TYFS121
Power usage	20mA	
Ethernet communication	100 Base T	
Ethernet connection	RJ45	
IP rating	IP20	
Operating temperature	-5°C to 45°C	
Width	1 module	



TYFS122

USB Interface

Description		Cat ref.
KNX supply voltage	21 - 32 V DC	★ TYFS122
Data transfer rate	max. 9.6 kBaud	
Operating temperature	-25 to +45°C	
Width	2 modules	

High performance detectors
TX510, TX511

That can be used in premises or in passage areas, where they increase comfort and reduce the energy costs drastically.

Combination of presence and motion detection area

The presence area is especially useful in offices, where the motion area may be used in long corridors. Head rotation for detection area adjustment.

Applications

TX510 - 2 channel detector

For KNX control of a light load or used as a slave for detection area enlargement.

- Lux level and ON delay setting via ETS or potentiometers.
- Test mode in order to set lux level and the detection pattern

TX511 - detector with light regulation

For KNX control of a light load. Separate presence channel fo HVAC.

- Lux level, ON delay setting for light channel and presence channel via ETS or potentiometers.
- Programmable as master or slave function.

Presence Detector, 2 channels

Description

- KNX supply voltage: 30V DC
- Size: 110 x 44 mm
- Colour: white

Functions:

- Switch ON/OFF lighting control
- UP/DOWN shutter and blind control
- Timer
- Heating control
- Override control
- Scene call
- Dimming

Channel 1 "Lighting device":

- Control the site status and luminance (5-1200Lux)
- Cutoff delay on device of 1min - 30 min. (on ETS 5s - 8s)

Channel 2 "HVAC device":

- Delay connection function (lowest 15 min.): e.g.: heating device, ventilating unit, in channel 2
- "HVAC device control" will switch on these devices when site status becomes stable in 15 min
- Cut-off delay on device of 1min - 30 min

Cat ref.

TX510



TX510

Presence Detector with constant luminance control

Description

- KNX supply voltage: 30V DC
- Size: 110 x 44 mm
- Colour: white

Functions:

- ON/OFF lighting control
- UP/DOWN shutter and blind control
- Timer
- Heating control
- Override control
- Scene call
- Dimming
- Master/slave function

3 potentiometers adjustments

- Potentiometer 1 "close": presence detector control (without lighting channel control)
- Potentiometer 2: constant luminance control through device Lux value (50 to 700 Lux) adjustment
- Potentiometer 3: Cutoff delay of 1min - 3 min

Cat ref.

TX511



TX511

Installation Boxes

Description

Surface mount housing for the installation of presence detector EE810/EE811/EE812. For use in applications requiring mounting to the underside of concrete slabs or steel beams e.g. carparks and utility rooms.

Cat ref.

EE813

Flush mount housing for the installation of presence detector EE810/EE811/EE812. For use in plasterboard or timber ceiling.

EEBOX



EE813

High Performance Detectors

TCC510S, TCC520E, TCC521E
High performance flush mounted presence detectors suitable for use in residential and commercial premises where energy control and/or reduction is required.

TCC510S - Detector ON/OFF

- Lux level and ON delay setting via ETS, potentiometers or EE807 remote control.

TCC520E - Detector ON/OFF

- Direct control of a light load.
- Lux level and ON delay setting via ETS, potentiometers or EE807 remote control.

TCC521E - Detector for light regulation

- 3 functional modes.
- Lux level and ON delay setting via ETS, potentiometers or EE807 remote control.

- DALI/DSI bus output accommodates up to 24 ballasts.

EE807 - IR Remote Control

- Installer remote control to commission settings.

EE808 - IR Remote Control

- Customer remote control for override control.



TCC510S



TCC520E



TCC530E

Detectors

Description	Characteristics	Cat ref.
1 channel - ON/OFF 360° - Channel 1: Presence + brightness 1 ON / OFF object	KNX supply voltage: 30V DC	TCC510S
3 channel - ON/OFF 360° - Channel 1: Presence + brightness 1 ON / OFF object 1 sec contact output 230V 16A resistive - Channels 2 and 3: presence only 1 item per channel (ON / OFF, timer, scene to)	Switched phase: 16A AC1 contact rating KNX supply voltage: 30V DC	TCC520E
3 channel - Light control 360° - Dual zone - Channel 1: Presence + brightness Controls 2 objects and 1 ON / OFF object - Channels 2 and 3: presence only 1 item per channel (ON / OFF, timer, scene ...)	Switched phase: 16A AC1 contact rating KNX supply voltage: 30V DC	TCC530E
DALI / DSI - Light control 360° Up to 24 ballasts - 1 output DALI / DSI - Channel 2 and 3: presence only 1 item per channel (ON / OFF, timer, scene ...)	DALI/DSI bus communication KNX supply voltage: 30V DC	TCC521E



EEK005

Installation Boxes

Description	Cat ref.
Surface mount Housing for the installation of presence detectors TCC5xxx. For use in applications requiring mounting to the underside of concrete slabs or steel beams e.g. carparks and utility rooms	EEK005



EE807

Remote Controls

Description	Cat ref.
Infrared commissioning remote control - For TCC510S, TCC520E and TCC521E presence detectors - For commissioning	EE807
Infrared user remote control - For TCC510S, TCC520E and TCC521E presence detectors - For the local adjustment of detector settings	EE808

Time Switch 2 Channel

- Switch program can be stored in programming key - EG005 which comes with the TXA022.
- Program can be simply activated by insertion of the programming key into the time switch. The time switch will start to run the program stored in the programming key.
- Using the programming key provides a simple and safe copy of a sequence of input switching.
- Override control and priority control
- Temporary priority control
- Winter / summer schedule
- Up to 56 program steps: On, Off , 1 s to 30 min pulse or options
- Bar display chart of day profile
- Weekly program included
- 2 channel control
- Transmission of date and time on the bus
- Impulse cycle time setting
- Holiday mode - overrides ON or OFF between two dates
- Lithium battery with a 5-year functioning reserve
- Can be locked using the EG004 locking key
- Programmable by computer (via EG003G)

Time Switch, 2 channels

Description		Cat ref.
KNX supply voltage	Bus 30 V DC	TXA022
Consumption	9.5 mA max (TXA022)	
IP	20	
Operating temperature	-5 °C to 45°C	
Size	2 modules	



TXA022

Accessories

Description	Width	Cat ref.
Locking key, yellow Authorization control to prevent change switch program Features: - Colour: yellow - Protection of program and operation buttons		EG004
Programming key, grey Supplied keys have been preprogrammed to "continuous close" mode. Specific programs can be installed to run on the time switch by inserting the programming key into the time switch. Features: - Colour: grey		EG005
Key storage module For storage of 3 programming locking keys	1 mod	EG006
Programming key adapter, USB computer interface for the computer programming of keys. Features: - Supplied with the required cable connection - Simple computer programming for programmable keys - Software available for download from www.hagerelectro.com.au		EG003G



EG004



EG006



EG003G

DIN Mount Input Devices

- Power failure detection is available to filter false alarms due to cut-off of all inputs connected on the same reference phase.
- Output states are displayed on the product.
- Outputs can be controlled manually from the product.
- Application software is used to configure the individual inputs
- The sensors associated to the inputs (push buttons, switches, automatic controls) are used to control lighting, shutters, blinds.
- The Toggle Switch function changes the status of the controlled output whenever it is operated.
- This function is used for switching lighting, blind or heating circuits ON or OFF. The command may come from switches, push buttons or automatic controls.
- This function is used to control lighting circuits using one or two buttons.
- The ON / OFF function transmits the ON / OFF object (short key-press)
- The Dimming function transmits the Dimming object (long key-press)
- This function controls a shutter or a blind using one or two push buttons.
- The Up / Down function transmits the Up / Down object (long key-press)
- The Stop / Angle function transmits the Stop / Angle object (short key-press)
- The Alarm 1 and Alarm 2 functions allow alarms coming from automatic controls to be periodically emitted (anemometer, rain detector, light sensitive switch, etc.)
- The Heating mode function is used to select a heating or air conditioning set point (Comfort, Eco, Frost protection, Absence).
- The command may come from switches, push buttons or automatic controls.
- The Value function (2 byte) is used for sending: Percentage %, Temperature °C, Luminosity level Lux, Brightness value % and Value 0-65535.
- The Scene function is used to select and storing scenes.
- The Timer function is used to switch ON or OFF a lighting circuit, shutters, heating for an adjustable time
- The Priority function allows an input to be forced to a defined status
- The Two Channel mode function allows controlling, with the same push button, two independent circuits having different functions.
- The Jamming function is used to lock an input via an object on the bus
- The power cut detection function is used for specific management of an input during a power cut, taking into account all the status changes which could occur during this period
- With programming button and red programming LED
- Bus connection via connecting terminal
- Quick Connection Terminal



TXA306

6 Channel Input Device, Universal

Description	Width	Cat ref.
<ul style="list-style-type: none"> - Universal input modules allow interfacing contacts free of potential or supplied with 24 - 230V AC/DC power by KNX bus - In this way, pushbuttons, switches or conventional automatic controls can become communicating devices - 6 independent channels with automatic recognition of the type of connected circuit (24 - 230V AC/DC or circuit free of potential). - It is possible to connect 5 illuminated pushbuttons per channel 	6 mod	TXA306

Input / Output Devices with voltage free contacts

- Power supply by Bus.
- Control of 2 LEDs.
- The modules are associated with push buttons or switches and are installed in a flush-mounted wall box of diameter 60mm and adapted depth.
- Connection length to push button and LEDs shall not exceed 5m.
- Physical addressing is done using push button and LED.
- Application software is used to configure the individual inputs of the TXB322 products.
- The products allow controlling lighting, blinds, shutters, heating and scenes.
- The Priority function sends priority-start or priority-stop commands.
- The Scene function sends group controls to different kinds of outputs to create ambiances or scenarios (leaving home scenario, reading ambience, etc.).
- The Jamming function authorizes product locking. Jamming forbids sending commands.
- The 2-channel mode function allows controlling, with the same push button, 2 independent circuits having different functions.
- LED outputs (status indication) control the lighting of standard LED signal lamps.

2-Input / 2-Output module LED (status indication)

Description		Cat ref.
LED outputs specifications	I = 850 µA U = 1.8V DC	TXB322
KNX supply voltage	30V DC	
Busline max consumption	15 mA	
Dimensions	38 x 35 x 12 mm	
Degree of protection	IP 30	
Operating temperature	+0 to +45°C	
Storage temperature	-20 to +70°C	
Standards	EN 60 669-2-1 NF EN 50 428	



- The universal input modules interface potential free contacts with KNX.
- Push buttons, switches and conventional automatisms can thus be used to drive standard LED indicators.
- Outputs can control conventional signaling LEDs.
- 2 independent channels.

4-Input / 4-Output Module LED (status indication)

Description		Cat ref.
LED outputs specifications	I = 850 µA U = 1.8V DC	TXB344
KNX supply voltage	30V DC	
Busline max consumption	15 mA	
Dimensions	38 x 35 x 12 mm	
Degree of protection	IP 30	
Operating temperature	+0 to +45°C	
Storage temperature	-20 to +70°C	
Standards	EN 60 669-2-1 NF EN 50 428	



- The universal input modules interface potential free contacts with KNX.
- Push buttons, switches and conventional automatisms can thus be used to drive standard LED indicators.
- Outputs can control conventional signaling LEDs.
- 4 independent channels.

Energy Meters

Energy meters measure the active energy used in an electric installation. They can monitor the detailed consumption within an installation to provide the consumption data between different appliances and circuits.

Technical data

- Fully compliant with EN50470-3
- Class B
- Accuracy 1%
- Energy readout: 7 digits
- Backlit display
- Indication of instantaneous power consumption
- Total/partial counter
- Pulsed output on most meters
- Unlimited saving of measurements
- LED flashing according to consumption
- Display indication in case of incorrect wiring

CTs

Current transformers (CTs) are used to feed analogue and digital ammeters, as well as kWh meters. Their current on secondary circuit (0-5A) is proportional to the current on primary circuit class: 1

- Can be mounted on copper busbar or on cable
- Can be mounted on DIN rail with adaptors

Interface TFX121

The KNX interface for TFX121 energy meters allows remote reading of data and values from single phase and three phase Hager energy meters. Through the infrared connection, the interface receives data from a Hager energy meter and transmits it via the KNX installation bus. The KNX installation bus directly powers the interface.



TFX121

KNX Meter Interface

Description	Cat ref.
KNX interface for energy meter	★ TFX121

Compatible with the following meters:
ECN140D, ECP140D, ECP180D, ECP180T, ECP300C, ECP310D, ECP380D, ECR180D, ECR180T, ECR300C, ECR310D, ECR380D



TE370

Three Phase Energy Meter

Description	Cat ref.
Connection via current transformer with 5A on the secondary	TE370
Voltage	230/400 V AC 50/60 H
Starting current	10 mA
Max current on CT secondary	6A
Width	4 modules



SRI03005

Current Transformers (CTs)

Ratio	Cat ref.
50/5	SRA00505
100/5	SRA01005
150/5	SRA01505
200/5	SRA02005
250/5	SRA02505
300/5	SRI03005
400/5	SRC04005
600/5	SRC06005
DIN rail mount for CTs	SRZH01

Description

The consumption indicator informs users of their consumption through 4 metering channels. It is used to monitor and control energy consumption and is built into an automatic global energy system.

- This product can be used in a single-phase or three phase installation. In three phase, consumption is measured phase by phase.
- Includes 3 current transformers and straps.

- In addition to metering, the consumption indicator also has:
 - 1 tariff input T1/T2
 - a temperature input for the connection of a probe
- It is used to display the current tariff and the energy consumption according to the current tariff. The tariff can also be distributed to other devices on the bus.
- The system can be constructed with several TE332. This makes it possible to measure one or more circuits using toroids.

- The consumption indicator is adapted for use with domovea. In this case, the display devices are:
 - meter (consumption)
 - meter (production)
 - energy
 - power
 - sub-counter (consumption)
- It can also be interfaced with the ambiance units or other display systems thanks to objects sent on the KNX bus.
- The data is sent on the KNX bus.

Consumption Indicator

Description

Voltage	230V AC +10/-15% 50Hz
Max. consumption on the bus:	15mA to 30V DC
Dissipated output	0.5W max.
Width	6 modules

Cat ref.
TE332



TE332

Description

For the detection of wind, precipitation, temperature and brightness to process the signals. Ensure correct orientation and free-standing installation.

Weather Station features

- With wind, precipitation, twilight, temperature and brightness sensor
- With automatic summer/winter time change-over
- With heater element for winter operation
- With red programming LED

- For control of shading systems for up to 4 facades
- Easy commissioning by means of predefined parameters
- Predefined parameters when activating heat protection function or heat recovery function
- Periodical emission for outside temperature, frost alarm, brightness, day/night mode, wind alarms and rain alarm predefined
- Three preset limit values for wind alarm

- Bus connection via connecting terminal
- With plug-in terminals for power supply
- For wall and mast assembly
- With pipe clamp for mast fixing
- The configuration server (order no.: TJA665) or the tool set (order no.: TXA100) is required for easy commissioning via easy link.



TXE530

Weather Station with GPS

Description		Cat ref.
Operating voltage over bus	21 to 32 V DC	TXE531
Auxiliary voltage	24 V AC/DC	
Rated current (heating incl.)	81 mA	
Brightness measuring range	0 to 150000 lx	
Temperature meas. range, linear	- 30 to + 80 °C	
Wind speed measuring range	0 to 35 m/s	
Precipitation (Yes/No)	1 bit	
Operating temperature	- 30 to + 50 °C	
Dimensions (W x H x D)	96 x 77 x 118 mm	
Weight	170 g	
Mounting support for tebis weather station TXE530		TG353



EK088

Temperature Sensors

Description	Cat ref.
Outdoor sensor	EK088

Surge Protection Devices

- The application is recommended if:
 - The bus line is laid parallel to high-performance power lines,
 - The bus line is routed in parallel to metal installation parts that can flow through the lightning currents,
 - The bus line is used building border.

Connection Terminal

- 2 pole
- For the bus connection of the units
- Polarization
red + black -
- Can be used as branch terminal
- With plug-in terminals

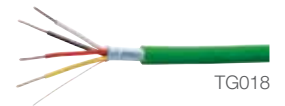
Surge Protection Device

Description		Cat ref.
Nominal voltage	24 V	TG029
Nominal current (max.)	3 A	
Nominal discharge current	5 kA	
Limiting discharge	8 kA	
Protection level at 100 V / S	≤ 350 V	
Protection level at 1 kV / S	≤ 500 V	
Response time	≤ 100 ms	
Insulation resistance	> 10,000 MΩ	
Capacity	1 pF	
Operating temperature	-25 to +80°C	
Bus connection	line Ø 0.8 mm, length 200 m	
Ground connection conductor	0.75 mm ² , length 200 m	



Bus Cable

Description	Characteristics	Cat ref.
EIB - Y (ST)Y 2 x 2 x 0.8 (Voltage withstanding: 4KV)	100m	TG018
	500m	TG019



Connection Terminal

Description		Cat ref.
Operating temperature	-5 to +45 °C	TG008
Conductor	Ø 0.6 to 0.8 mm	
Number of conductors	2 x 4	
Dimensions (L x W x H)	10.2 x 11.5 x 10 mm	



Connection Bridges

Description	Cat ref.
For bridging between quick connect terminals on DIN relay devices Grey, 50 per pack	TG200B



Switch Plate features

- Removable covers for ease of painting
- Multiple mounting holes
- Supplied with standard 32mm tapered point fixing screws

Mechanism features

- Tactile mechanism with quick fit cable plug system

Technical data

- High impact high gloss UV stabilised Polycarbonate construction

Supplied with

- Switch plate
- Tactile mechanism(s)
- Cover Plate
- Wiring loom
- Bus coupling unit(s)

Cover features

- Removable covers for ease of painting
- Hi impact high gloss UV stabilised Polycarbonate construction
- Matt Black or Matt White finish, to reduce finger printing



WBSTS2N

silhouette - Large Plate Switches with LED

Characteristics	Available colours	Box qty	Cat ref.
1 gang	○ White	1	WBSTS1N
	● Matt black	1	WBSTS1N-MB
	○ Matt White	1	WBSTS1N-MW
2 gang	○ White	1	WBSTS2N
	● Matt black	1	WBSTS2N-MB
	○ Matt White	1	WBSTS2N-MW
4 gang	○ White	1	WBSTS4N
	● Matt black	1	WBSTS4N-MB
	○ Matt White	1	WBSTS4N-MW
6 gang	○ White	1	WBSTS6N
	● Matt black	1	WBSTS6N-MB
	○ Matt White	1	WBSTS6N-MW



WBHTS1N

allure - Large Plate Switches with LED

Characteristics	Available colours	Box qty	Cat ref.
1 gang	○ White	1	★ WBHTS1N
	● Matt black	1	★ WBHTS1N-MB
	○ Matt White	1	★ WBHTS1N-MW
2 gang	○ White	1	★ WBHTS2N
	● Matt black	1	★ WBHTS2N-MB
	○ Matt White	1	★ WBHTS2N-MW
4 gang	○ White	1	★ WBHTS4N
	● Matt black	1	★ WBHTS4N-MB
	○ Matt White	1	★ WBHTS4N-MW
6 gang	○ White	1	★ WBHTS6N
	● Matt black	1	★ WBHTS6N-MB
	○ Matt White	1	★ WBHTS6N-MW



WBQTS1N

finesse - Large Plate Switches with LED

Characteristics	Available colours	Box qty	Cat ref.
1 gang	○ White	1	★ WBQTS1N
	● Matt black	1	★ WBQTS1N-MB
	○ Matt White	1	★ WBQTS1N-MW
2 gang	○ White	1	★ WBQTS2N
	● Matt black	1	★ WBQTS2N-MB
	○ Matt White	1	★ WBQTS2N-MW
4 gang	○ White	1	★ WBQTS4N
	● Matt black	1	★ WBQTS4N-MB
	○ Matt White	1	★ WBQTS4N-MW
6 gang	○ White	1	★ WBQTS6N
	● Matt black	1	★ WBQTS6N-MB
	○ Matt White	1	★ WBQTS6N-MW

Premium switches and sockets



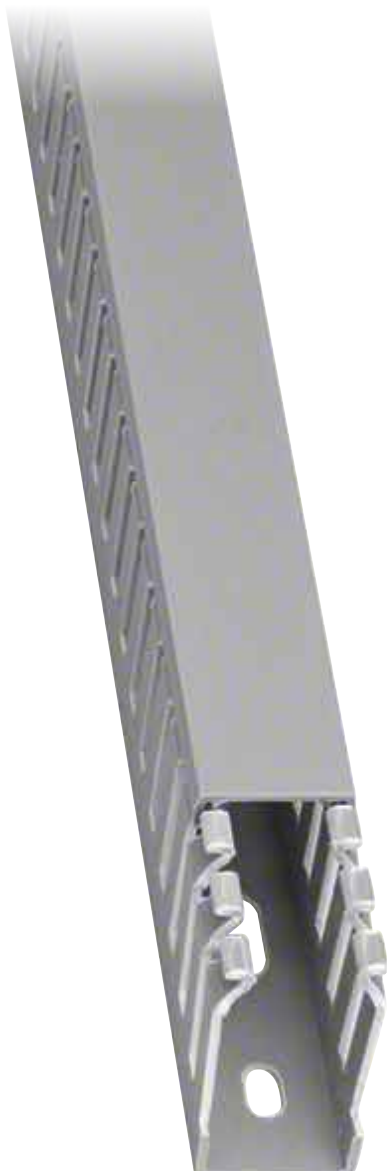
Make the switch allure and finesse

As a contemporary evolution of our switches and sockets range, allure offers a beautiful aesthetic and provides ease of installation.

The architecturally inspired finesse range impresses with its minimalistic and precise design.

The refined translucent sides that surround both allure and finesse, accentuates their elegant profiles – creating a unique floating effect.

Trunking Systems



10

Page

DNG Slotted Trunking	500
SL Floor Trunking	501
EK 'Chameleon' Corner Trunking	501
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*Note that cable management products are indent items.
Please check availability with your local Hager sales office at the time of order.

DNG Slotted Trunking supplied as

- Based (pre-drilled) and lid

Temperature range

- -5°C to +65°C

Material

- Rigid PVC

Standard length

- 2000mm

Colour

- RAL7030 grey (GR)

HNG Halogen-free trunking available upon request.

Technical information:

[Page 502](#)

*Please check availability with your local Hager sales office at time of order



DNG10005007030B

DNG Slotted Trunking

Description	Pack qty (lengths)	Slot config.	Cat ref.
20h x 20w slotted trunking	32	B	DNG2002007030B*
25h x 25w slotted trunking	24	A	DNG2502507030B*
25h x 37w slotted trunking	32	A	DNG2503707030B*
37h x 20w slotted trunking	16	B	DNG3702007030B*
37h x 37w slotted trunking	16	A	DNG3703707030B*
50h x 25w slotted trunking	19	A	DNG5002507030B*
50h x 37w slotted trunking	20	A	DNG5003707030B*
50h x 50w slotted trunking	24	A	DNG5005007030B*
50h x 75w slotted trunking	10	A	DNG5007507030B*
50h x 100w slotted trunking	12	A	DNG5010007030B*
75h x 25w slotted trunking	16	A	DNG7502507030B*
75h x 37w slotted trunking	20	A	DNG7503707030B*
75h x 50w slotted trunking	10	A	DNG7505007030B*
75h x 75w slotted trunking	18	A	DNG7507507030B*
75h x 100w slotted trunking	18	A	DNG7510007030B*
100h x 50w slotted trunking	12	A	DNG10005007030B*
100h x 75w slotted trunking	18	A	DNG10007507030B*
100h x 100w slotted trunking	16	A	DNG10010007030B*



LK750503

Cable Retainers

Description	Pack qty (lengths)	Cat ref.
Cable retainer for DNG75037	50	DN750373*
Cable retainer for DNG75050	50	LK750503*
Cable retainer for DNG75075	50	LK750753*
Cable retainer for DNG75100	50	LK751003*
Cable retainer for DNG100050	50	DN1000503*
Cable retainer for DNG100075	50	DN1000753*
Cable retainer for DNG100100	50	DN1001003*



DN3702027030

Lids only

Description	Pack qty (lengths)	Cat ref.
To suit 20mm width	20	DN3702027030*
To suit 37mm width	20	DN3703727030*
To suit 50mm width	20	DN5005027030*
To suit 75mm width	20	DN5007527030*
To suit 100mm width	20	DN5010027030*

SL Floor Trunking supplied as

- SL11040: cable cover
- SL18075: base (pre-drilled) and cover

Temperature

- -5°C to +65°C

Material:

- Rigid PVC

Standard length

- 2000mm

Colour

- RAL7030 grey
- RAL9001 cream white

EK Chameleon Trunking supplied as

- base (pre-drilled) and cover

Temperature range

- -5°C to +65°C

Material

- Rigid PVC

Standard length

- 2500mm

Colour

- RAL9010 pure white

Technical information [Page 503](#)

*Please check availability with your local Hager sales office at time of order

SL Floor Trunking

Description	Pack qty (lengths)	Colour	Cat ref.
11 x 40 floor trunking	35	grey	SL1104007030*
18 x 75 4 channel floor trunking	16	grey	SL1807507030*



SL1104007030



SL1807507030

EK 'Chameleon' Corner Trunking

Description	Pack qty (lengths)	Cat ref.
40h x 40w 2 channel trunking	20	EK4004009010*

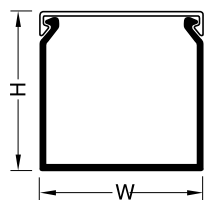


EK4004009010

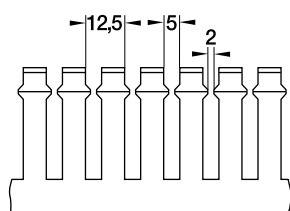


EK4004009010

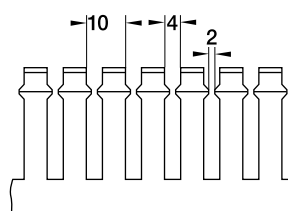
DNG Slotted Trunking dimensions



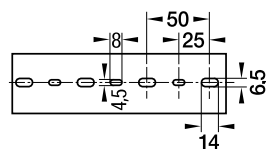
Cross section



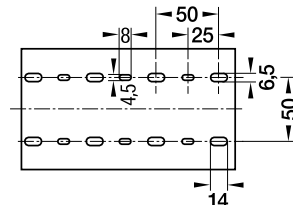
Slot configuration A



Slot configuration B

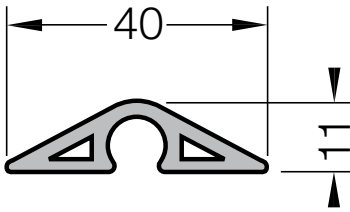


Base punching configuration for trunking widths 20, 25, 37 and 50mm to DIN 43659

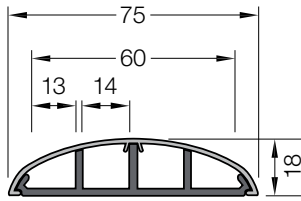


Base punching configuration for trunking widths 75, and 100mm to DIN 43659

SL Floor Trunking dimensions

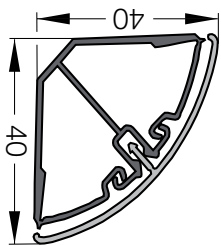


11 x 40 floor trunking
cross section



4 channel floor trunking
cross section

EK chameleon trunking dimensions



Cross section