

# Catalogue 2022/2023

:hager

**Your reliable  
partner for  
intelligent  
solutions.**

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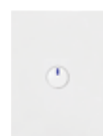
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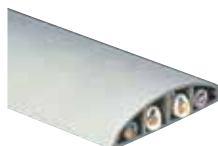
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# Stronger together



**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.”

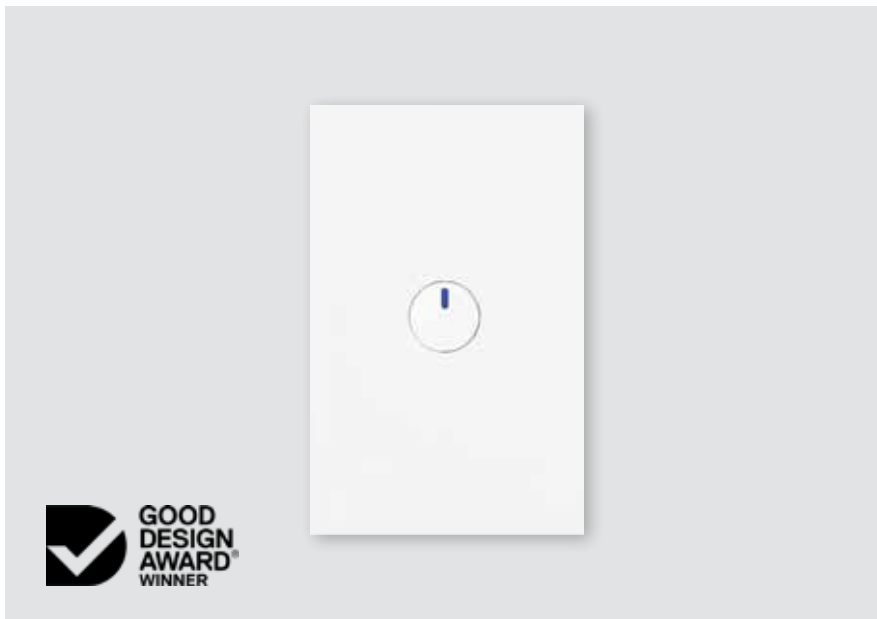
Erwin van Handenhoven

## Outstanding design

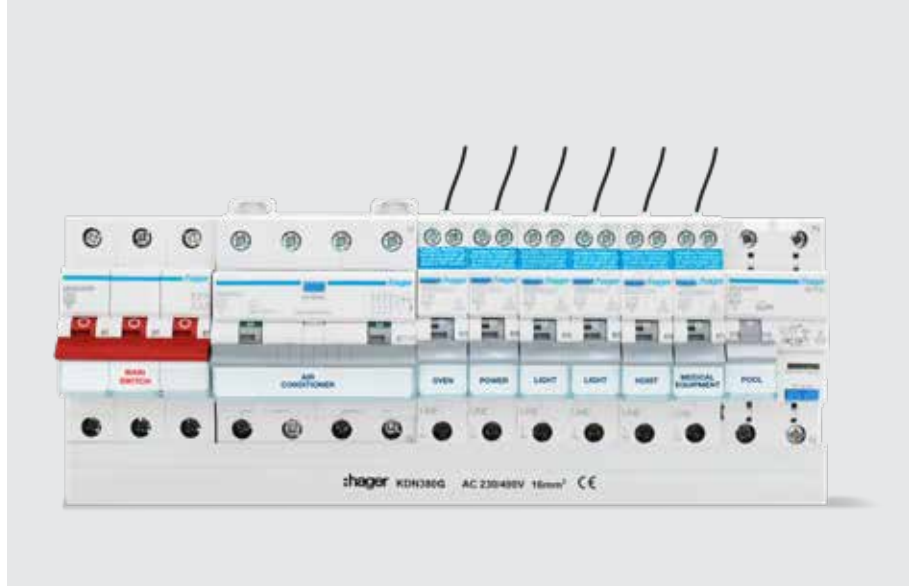
In the area of design, our efforts are regularly recognised by international awards that assess products based on aesthetics, ergonomics, ethics and emotion.



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](http://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](mailto:customerservice@hagerelectro.com.au)

[hagerelectro.com.au](http://hagerelectro.com.au)



## 01 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.



## 02 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.



## 03 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 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.



## 06 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.



## 07 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 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.



## 08 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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# 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.



# 02

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# 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.

## 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	<b>JVC2400S16TW</b>
	36 pole chassis	<b>JVC3600S16TW</b>
	48 pole chassis	<b>JVC4800S16TW</b>
	60 pole chassis	<b>JVC6000S16TW</b>
	72 pole chassis	<b>JVC7200S16TW</b>
With 250A main switch	24 pole chassis	<b>JVC2400S25TW</b>
	36 pole chassis	<b>JVC3600S25TW</b>
	48 pole chassis	<b>JVC4800S25TW</b>
	60 pole chassis	<b>JVC6000S25TW</b>
	72 pole chassis	<b>JVC7200S25TW</b>



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	<b>JVC0EXTDW</b>



JVC0EXTDW

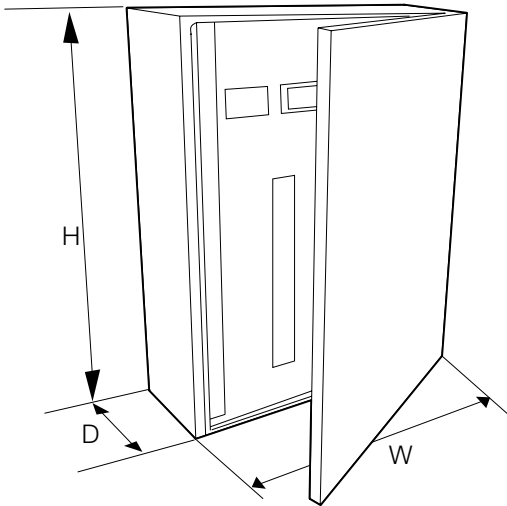
## Accessories

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



JVC0M12





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

**Enclosure**

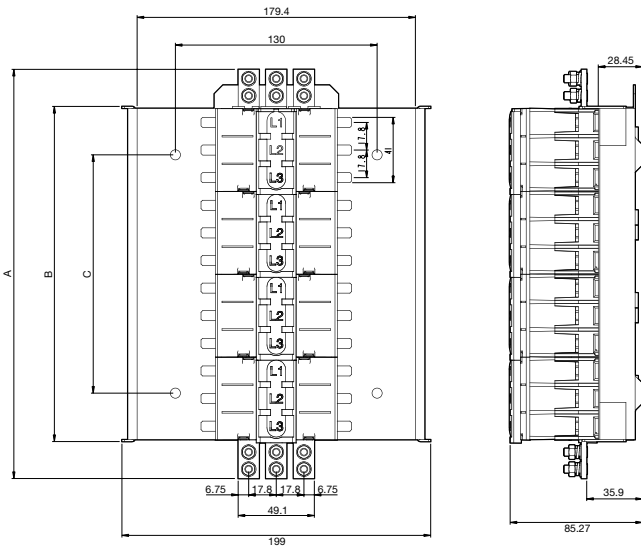
Material	1.2mm galvanised steel
Powdercoat	Ripple finish RAL7035 (light grey)

**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 <sup>2</sup> 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
<b>JVC2400xxxTW</b>	263.7	216	153.6
<b>JVC3600xxxTW</b>	370.7	322.8	130.2
<b>JVC4800xxxTW</b>	477.7	429.6	183.6
<b>JVC6000xxxTW</b>			
<b>JVC7200xxxTW</b>			

Chassis Type	Standard Chassis
Compatible product series	MSNxxx and MDNxxx MCBs, 6kA, 6-63A, Type C and ADC9xT 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

invicta panelboard



# Optimised solution

## More possibilities

Developed as an optimised solution for small to medium commercial installations and large home projects. invicta is available in 24, 36, 48, 60 and 72 Poles.

For complete protection against touching live parts once energised, safety caps and safety pole fillers (which remain with chassis after the removal of escutcheon) are also provided.

# 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 30



**GD IP30/IP40 Range**  
Page 31



**VT Range**  
Page 32



**VE IP65 Range**  
Page 33

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

DIN rail enclosures

### golf Enclosure Accessories

**Pg 36, 37, 39**



**Earthed metal back plates**



**Accessories**



**Enclosure Sliders**

**References**

VFxxBP

Key lock - VZ794N  
Cable guides - VZ699N  
Labelling stickers - VZ788N

VZ849N  
VZ850N  
VZ852N

### vega D Enclosure Accessories

**Pg 41**



**Key Locks**



**Schedule Holder**



**Universal Hybrid Link Terminal Mounting Support**

**References**

FD00S0  
FD00S1

FZ794

KN00A



**Gear Tray Module**

FD02C2



**Cable Management**

UZ25V1  
UZ25V2  
UZ01V1



**DIN Rail**

UZ02B9



**RAL 9010 pole fillers**

JP002



**golf Range**  
Page 34

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Surface or Flush

Plastic

RAL 9010 (pure white)

IP40

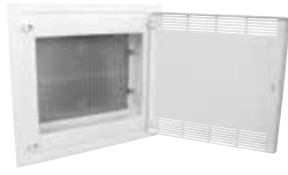
Brass links  
Q-Links

Supplied with enclosure  
Opaque or transparent

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

VZ794N

JP011 - White



**golf Home Networking Range**  
Page 37

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 38

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 40

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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



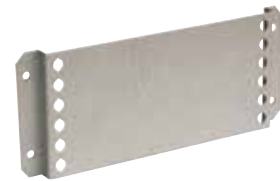
**Telephone Splitters**

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	<b>VD101NT</b>
- plastic DIN rail	2 mod	45.5w x 163.5h x 71d	<b>VD102NT</b>
	3 mod	63.5w x 163.5h x 71d	<b>VD103NT</b>
	4 mod	81.5w x 163.5h x 71d	<b>VD104NT</b>



VD106TT



VD118TT

### VD Surface Mounted Enclosures with opaque or transparent door

Description	Number of Module(s)	80A brass terminal	80A brass terminal		Dimensions (mm)	Cat ref. Transparent door	Cat ref. Opaque door
			16mm <sup>2</sup>	35mm <sup>2</sup>			
1 row	6 mod	-	-	-	134.5 w x 170h x 91d	<b>VD106TT</b>	<b>VD106PT</b>
	8 mod	Neutral	8	1	170.5w x 170h x 91d	<b>VD108TT</b>	<b>VD108PT</b>
		Earth	6	1			
	10 mod	Neutral	10	2	206.5 w x 170h x 91d	<b>VD110TT</b>	<b>VD110PT</b>
		Earth	7	2			
	12 mod	Neutral	13	4	292.5w x 200h x 91d	<b>VD112TT</b>	<b>VD112PT</b>
		Earth	7	2			
	18 mod	Neutral	20	4	400w x 200h x 91d	<b>VD118TT</b>	<b>VD118PT</b>
		Earth	10	2			



JP011

### VD Enclosure Accessories

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

### 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	<b>GD102T</b>
	4 mod	110w x 180h x 94d	<b>GD104T</b>
	6 mod	148w x 180h x 94d	<b>GD106T</b>



GD104T

### Doors for GD Surface Mounted Pole Cover Enclosures

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



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	<b>GD10T</b>



GD10T

### Pre-loaded GD Enclosures

Description	Number of rows and module(s)	Characteristics	Cat ref.
GD Meter isolators		Supplied with: 1 x GD102T 1 x NDN163	<b>GD163AQ</b>
		1 x GD104T 1 x NDN363	<b>GD363AQ</b>

### GD Enclosure Accessories

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



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 44](#)

### 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 <sup>2</sup> 35mm <sup>2</sup>		Dimensions (mm)	Cat ref. Surface	Cat ref. Flush
		Neutral	Earth			
1 row, 9 mod	Neutral	9	3	260w x 260h x 70d	<b>VT09S</b>	
	Earth	5	3	305w x 295h x 10d		
1 row, 12 mod	Neutral	12	3	310w x 260h x 70d	<b>VT12S</b>	
	Earth	6	3	355w x 305h x 10d		
1 row, 18 mod	Neutral	18	3	417w x 260h x 70d	<b>VT18S</b>	
	Earth	9	3	462w x 305h x 10d		
2 rows of 12 24 mod total	Neutral	24	3	370w x 420h x 70d	<b>VT24S</b>	
	Earth	12	3	415w x 460h x 10d		
3 rows of 12 36 mod total	Neutral	36	3	370w x 610h x 70d	<b>VT36S</b>	
	Earth	18	3	415w x 655h x 10d		
4 rows of 12 48 mod total	Neutral	48	3	465w x 750h x 70d	<b>VT48S</b>	
	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	<b>VT09TP</b>	
	Earth	5	3			
1 row of 12 mod with 10.5 mod lock cover	Neutral	12	3	309w x 259h x 71d	<b>VT12TP</b>	
	Earth	6	3			

### VT Enclosure Accessories



VT041

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

### 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 <sup>2</sup>	35mm <sup>2</sup>			
1 row, 2 mod + 1 moulded blank		-	-	0	111w x 175h x 93d	<b>VE103H</b>
1 row, 4 mod + 2 moulded blanks	Neutral	6	1	1	165w x 190h x 113d	<b>VE106H</b>
	Earth	4	1			
1 row, 8 mod + 2 moulded blanks	Neutral	11	3	1	237w x 210h x 114d	<b>VE110H</b>
	Earth	7	2			
1 row, 12 mod	Neutral	12	6	1	310w x 302h x 151d	<b>VE112H</b>
	Earth	6	2			
1 row, 18 mod	Neutral	18	6	1	418w x 302h x 151d	<b>VE118H</b>
	Earth	10	2			
2 rows of 12, 24 mod total	Neutral	24	8	2	310w x 427h x 151d	<b>VE212H</b>
	Earth	21	1			
2 rows of 18, 36 mod total	Neutral	36	8	2	418w x 452h x 151d	<b>VE218H</b>
	Earth	30	2			
3 rows of 12, 36 mod total	Neutral	37	7	3	310w x 552h x 151d	<b>VE312H</b>
	Earth	31	1			
3 rows of 18, 54 mod total	Neutral	48	8	3	418w x 602h x 151d	<b>VE318H</b>
	Earth	30	2			
4 rows of 12, 48 mod total	Neutral	42	5	4	310w x 677h x 151d	<b>VE412H</b>
	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	<b>VZ011</b>
Key lock - supplied with 2 keys - 61005	<b>VZ311</b>
Pole filler set - Grey - 5pk 5.5 mod	<b>JP010</b>
2x brass terminals set - 7 x 16mm <sup>2</sup> + 3 x 35mm <sup>2</sup>	<b>2AR904AU</b>
Connector - 35mm <sup>2</sup> cable adaptor for main neutral link	<b>KM035</b>



VZ011



VZ311

### Description

The golf VS are surface mounted enclosures with 1 to 2 rows, allowing for 4 to 36 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 In ≤ 80A
- Rated insulation voltage: 400V AC/50Hz

### Standards

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

**Technical information:** [Page 46](#)

DIN rail enclosures



VS118PN



VS218PN

### VS Surface Mount golf Enclosure with brass terminals Designed for RCD and MCB or upgrade to RCBO 4 - 36 Modules

Number of rows and module(s)	Single phase busbar supplied:	80A brass terminal	16mm <sup>2</sup> 35mm <sup>2</sup>		Dimensions (mm)	Cat ref. White Door
			16mm <sup>2</sup>	35mm <sup>2</sup>		
1 row, 4 mod	None	Neutral	4	1	138w x 184h x 99d	★ VS104PN
		Earth	3	1		
1 row, 8 mod	None	Neutral	8	1	210w x 184h x 99d	★ VS108PN
		Earth	4	1		
1 row, 12 mod	1 x 12 pole	Neutral	12	6	282w x 252h x 99d	★ VS112PN
		Earth	6	2		
1 row, 18 mod	1 x 18 pole	Neutral	18	6	390w x 252h x 99d	★ VS118PN
		Earth	10	2		
2 rows of 12, 24 mod total	2 x 12 pole	Neutral	24	8	282w x 377h x 99d	★ VS212PN
		Earth	21	1		
2 rows of 18, 36 mod total	2 x 18 pole	Neutral	35	8	390w x 377h x 99d	★ VS218PN
		Earth	30	2		

### 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 In ≤ 80A
- 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 47](#)

### VF Flush Mount golf Enclosure with 80A brass terminals

Designed for RCD and MCB or upgrade to RCBO

#### 4 - 72 Modules

Number of rows and module(s)	Single phase busbar supplied:	80A brass terminal		Dimensions (mm)	Cat ref. White Door
		16mm <sup>2</sup>	35mm <sup>2</sup>		
1 row, 4 mod	None	Neutral	4	204w x 225h x 72d	★ VF104PN
		Earth	3		
1 row, 8 mod	None	Neutral	8	275w x 225h x 72d	★ VF108PN
		Earth	4		
1 row, 12 mod	1 x 12 pole	Neutral	12	352w x 293h x 72d	★ VF112PN
		Earth	6		
1 row, 18 mod	1 x 18 pole	Neutral	18	460w x 293h x 72d	★ VF118PN
		Earth	10		
2 rows of 12, 24 mod total	2 x 12 pole	Neutral	24	352w x 418h x 72d	★ VF212PN
		Earth	21		
2 rows of 18 36 mod total	2 x 18 pole	Neutral	35	460w x 418h x 72d	★ VF218PN
		Earth	30		
3 rows of 12 36 mod total	3 x 12 pole	Neutral	37	352w x 543h x 72d	★ VF312PN
		Earth	31		
3 rows of 18 54 mod total	3 x 18 pole	Neutral	56	460w x 543h x 72d	★ VF318PN
		Earth	30		
4 rows of 18 72 mod total	4 x 18 pole	Neutral	63	460w x 688h x 72d	★ VF418PN
		Earth	44		



VF112PN



VF218PN

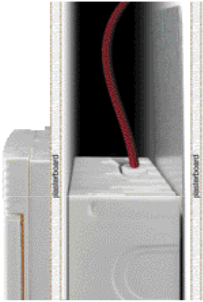
DIN rail enclosures

### 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 47](#)

DIN rail enclosures



### Earthed Metal Back Plate for golf VF

Provides mechanical protection of cables

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



VZ794N



VZ699N



2AR904AU

### golf VF/VS Accessories

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



VZ620N



VZ630N

### Doors

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

### 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 46](#)  
Flush mount [Page 47](#)  
NBN mounting [Page 47](#)

## VS Surface Mount Enclosures

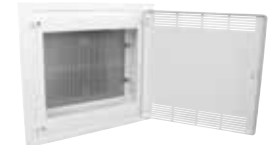
Description	Number of rows and module(s)	Dimensions (mm)	Cat ref.
Surface enclosure with	1 x row of 12 (optional)	390w x 252h x 99d	<b>VS218PZD</b>
- Vented door		390w x 500h x 99d	<b>VS318PZD</b>
- Mounting pan		390w x 647h x 99d	<b>VS418PZD</b>
- DIN rail (not fitted)			



VS218PZD

## VF Flush Mount Enclosures

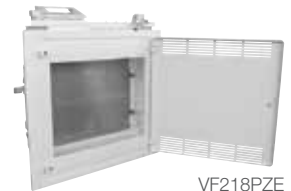
Description	Number of rows and module(s)	Dimensions (mm)	Cat ref.
Flush enclosure with:	1 x row of 12	460w x 418h x 72d	<b>VF218PZD</b>
- Vented door		460w x 543h x 72d	<b>VF318PZD</b>
- Pre installed vertical twin socket		460w x 688h x 72d	<b>VF418PZD</b>
- Mounting pan			
- DIN rail			
- Single slider			



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	<b>VF218PZE</b>
- 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	<b>VZ852N</b>
- Provides mounting point for a double outlet		
- Can be installed top or bottom of enclosure		
Double hybrid slider	VFx18	<b>★ VZ849N</b>
- 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	<b>VZ850N</b>
- 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	<b>VZ851N</b>
- between low voltage and extra low voltage		
- between main distribution board and home networking enclosure		
Socket Twin 10A Vertical Shutter	VFx18	<b>WBP2VS-ZD</b>



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	<b>TN470D</b>

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



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	<b>FD42DN</b>	<b>FU42DN</b>
	5 rows of 24, 120 mod total	900h x 550w x 193d 987h x 550w x 150d	<b>FD52DN</b>	<b>FU52DN</b>
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	<b>FD62DN</b>	<b>FU62DN</b>
	7 rows of 24, 168 mod total	1200h x 550w x 193d 1287h x 550w x 150d	<b>FD72DN</b>	<b>FU72DN</b>

### 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	<b>FD42TN</b>
	To suit FD52DN or FU52DN	<b>FD52TN</b>
	To suit FD62DN or FU62DN	<b>FD62TN</b>
	To suit FD72DN or FU72DN	<b>FD72TN</b>

### 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	<b>FD42PN</b>
	To suit FD52DN or FU52DN	<b>FD52PN</b>
	To suit FD62DN or FU62DN	<b>FD62PN</b>
	To suit FD72DN or FU72DN	<b>FD72PN</b>

### Accessories

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



FZ794



KN00A



FD00Q1



KN10N, KN10E, KN10P



FD02C2



UZ01V1

UZ25V1

UZ25V2



UZ02B9



JP002



FD00P5



FD00A3

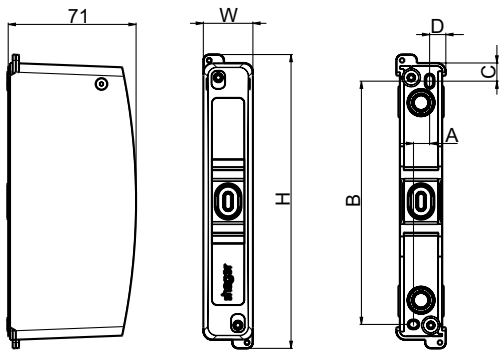


FD00F2



VZ405N

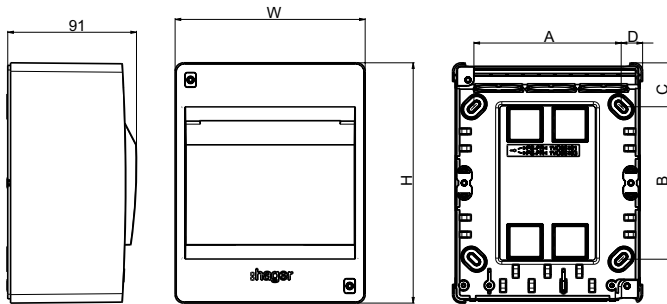
1 to 4 pole VD Enclosures



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

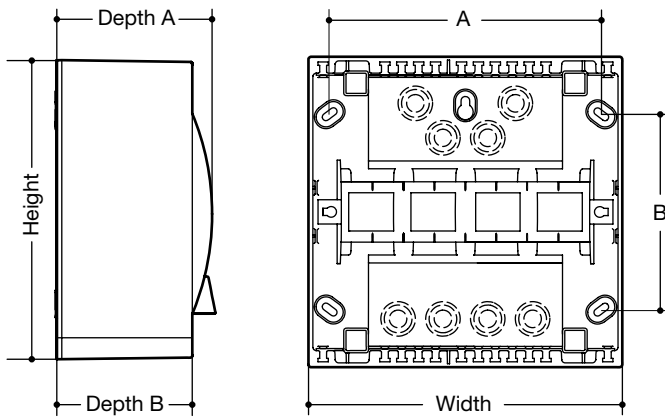
DIN rail enclosures

6 to 10 pole VD Enclosures



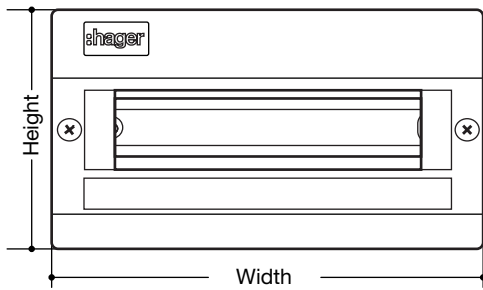
Refs	Width	Height	A	B	C	D
VD106NT	134.5	170	104	108	31	15
VD108NT	170.5	170	139.5	107	31.5	15.5
VD110NT	206.5	170	176	107	32	15
VD112NT	292.5	200	262.5	137	32	15
VD118NT	400	200	371.5	131.5	34	14.5

2 to 6 mod wide GD Enclosures



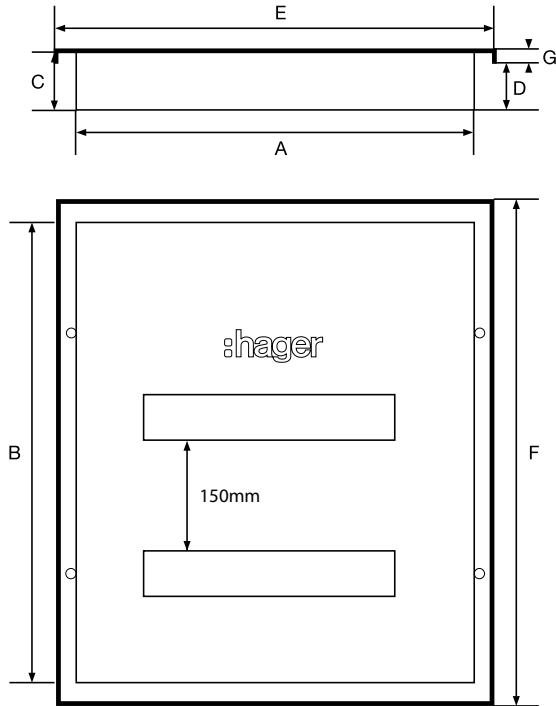
Refs	Dimensions (mm)				Fixing centres	
	Width	Height	Depth A	Depth B	A	B
GD102T	55	160	94	82	N/A	N/A
GD104T	110	180	94	82	86	114
GD106T	148	180	94	82	122	114

GD10T Enclosures



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

DIN rail enclosures

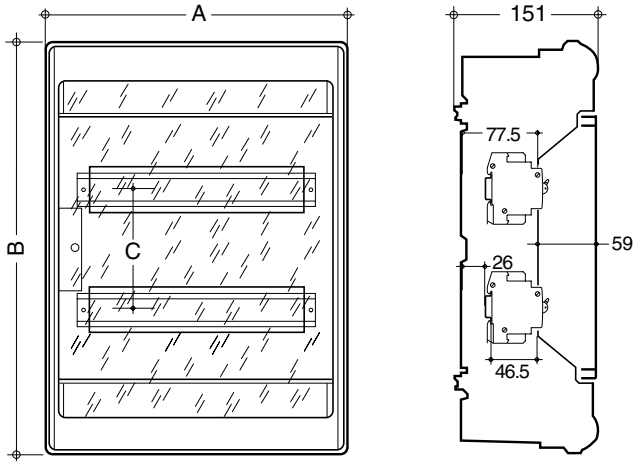


**VT Flush Enclosures**

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

**VT Surface Enclosures**

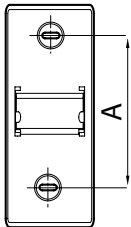
Refs	Row	Enclosure sizes		
		Width	Height	Depth
<b>VT09S</b>	1	<b>A</b>	<b>B</b>	<b>C</b>
<b>VT12S</b>	1	260	260	70
<b>VT18S</b>	1	310	260	70
<b>VT24S</b>	1	417	260	70
<b>VT24S</b>	2	370	420	70
<b>VT36S</b>	3	370	610	70
<b>VT48S</b>	4	465	750	70



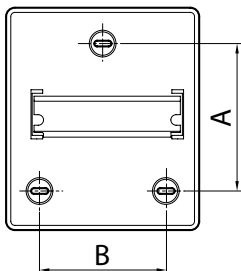
vector Enclosures

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	

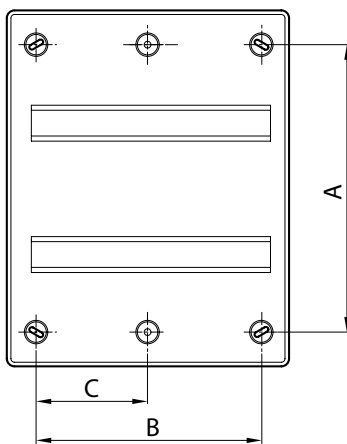
VE103



VE106 - VE110



VE112 - VE318

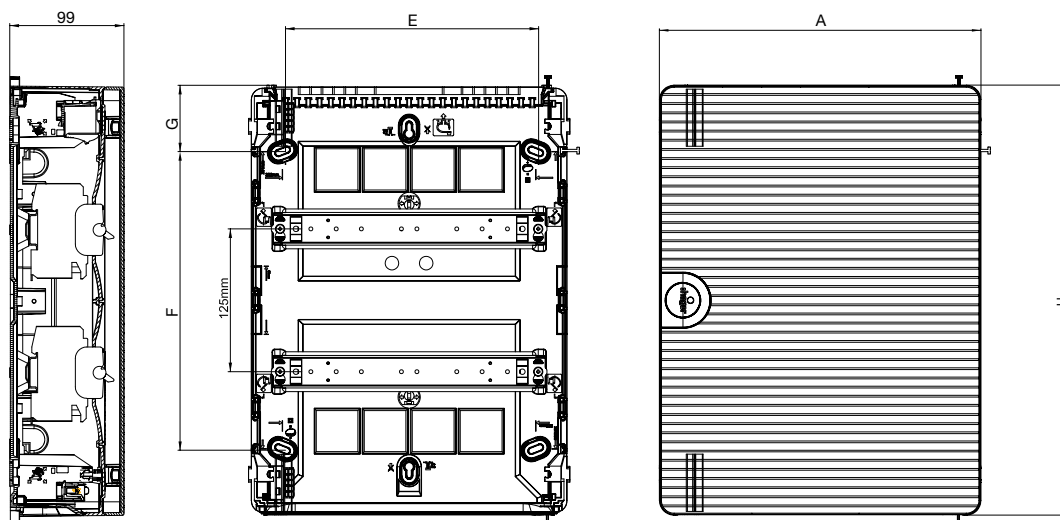


Mounting holes

	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

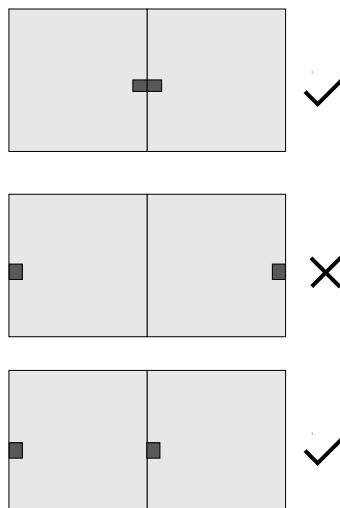
Ref		Dimension		Wall fixation		
		A	H	E	F	G
VS104...	1 row 4I	138	184	101	68	58
VS108...	1 row 8I	210	184	174	68	58
VS112...	1 row 12I	282	252	222	136	58
VS118...	1 row 18I	390	252	330	136	58
VS212...	2 rows of 12I 24I total	282	377	222	261	58
VS218...	2 rows of 18I 36I total	390	377	330	261	58
VS312...	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

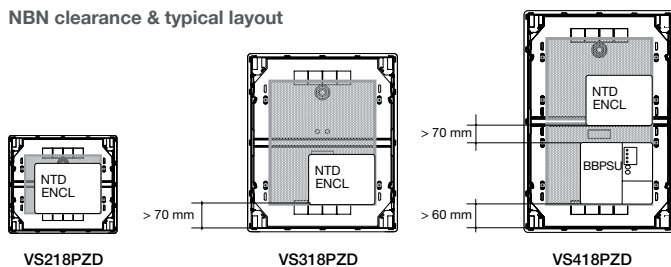
One side of the surface enclosure is designed for the use of trunking and knock outs. The other side of the enclosure has dimples located for the various sizes of conduit entries, 20mm, 25mm, 32mm and 40mm. The enclosure is symmetrical through 180°.

### 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.

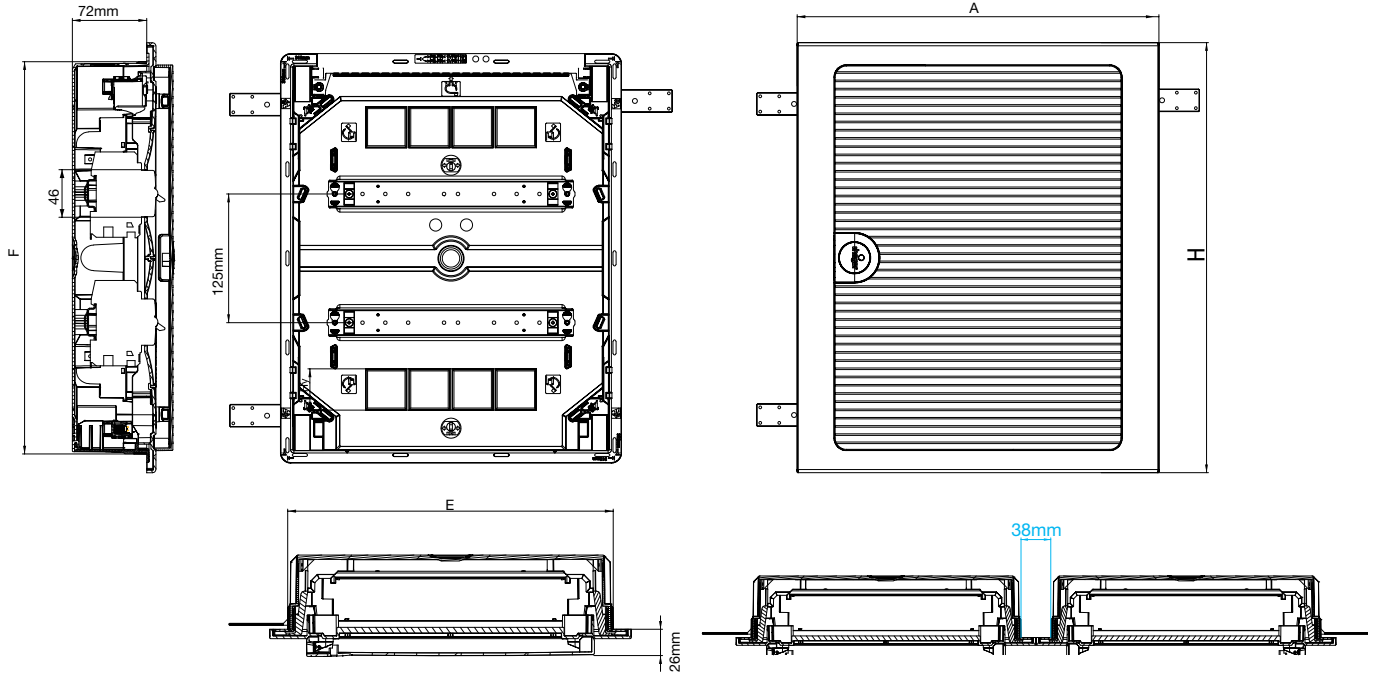


### NBN clearance & typical layout



**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**

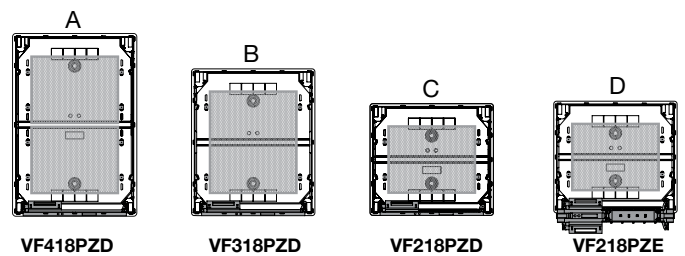
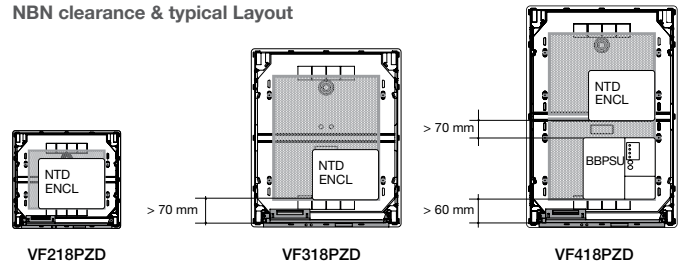
When connecting 2 x VFx18 enclosures with a double slider, an additional 38mm must be added to the total cutout height of the boards. e.g. VF118PT joining with a VF218PZD = 257mm + 382mm + 38mm. Total height for the cutout = 677mm. Width remains consistent at 426mm.

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.

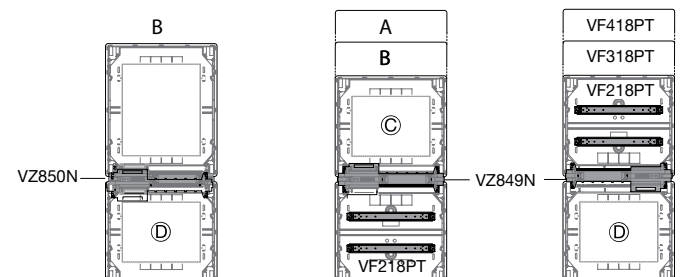
**NBN clearance & typical Layout**



**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

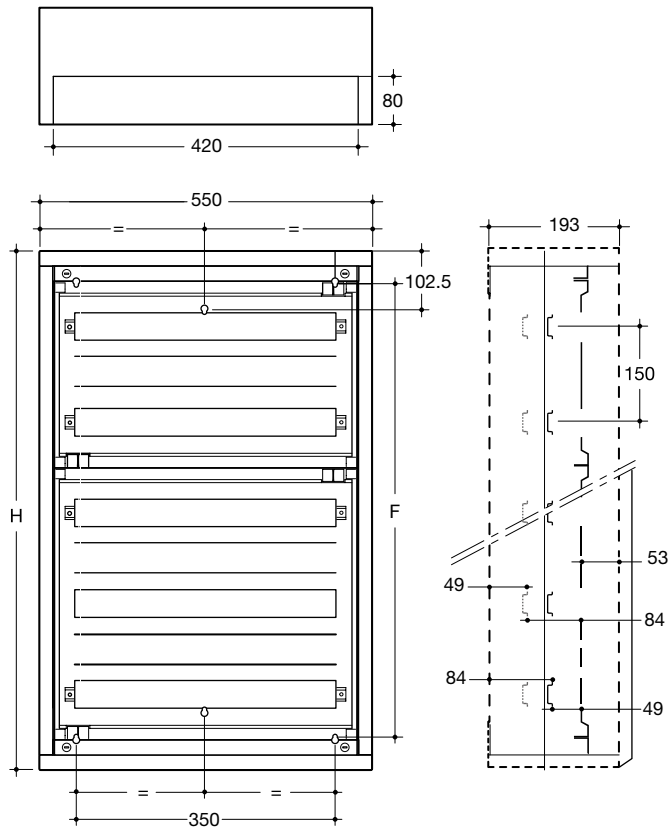
**Example combination of mains distribution and networking combined**



DIN rail enclosures

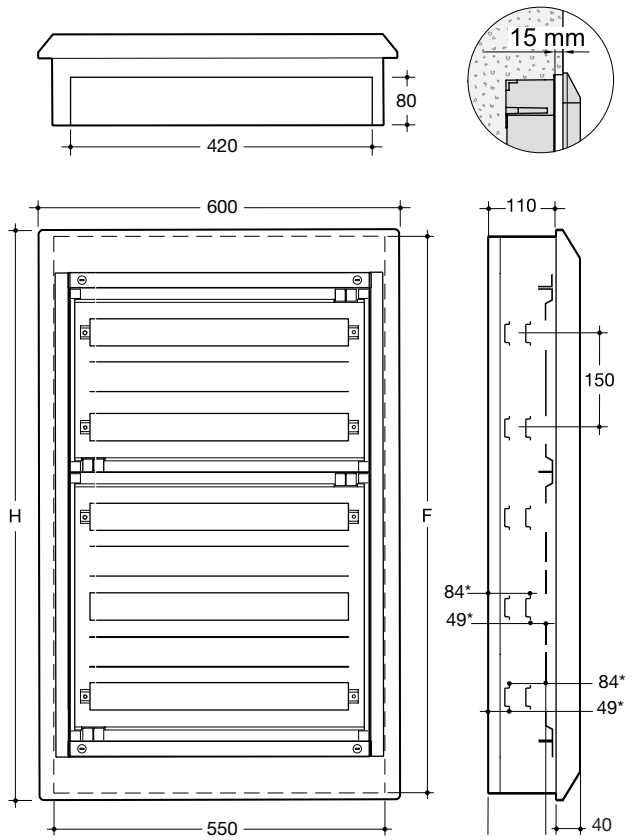


## vega D Surface Mount Enclosures



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

## vega D Flush Mount Enclosures



Dims (mm)	Hole height	
	H	F
<b>FU42DN</b>	837	806
<b>FU52DN</b>	987	956
<b>FU62DN</b>	1137	1106
<b>FU72DN</b>	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.



# 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.

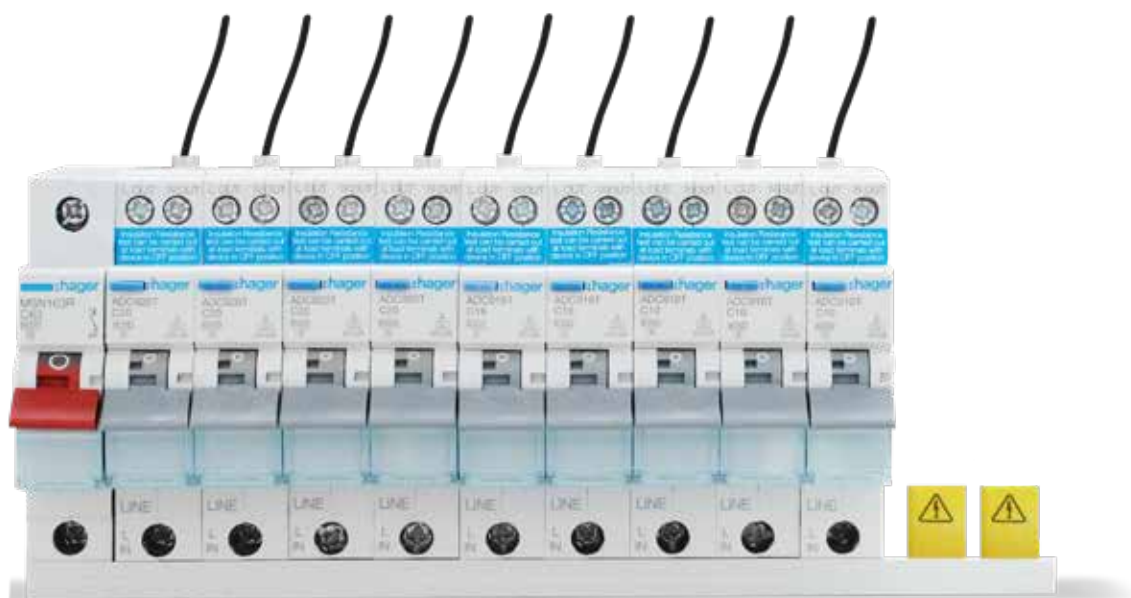


MCBs - 6-63A 6kA 'C' curve	56
MCBs - 6-63A 6kA 'D' curve	57
MCBs - 6-63A 10kA 'C' curve	58
MCBs - 6-63A 10kA 'D' curve	59
MCBs - 80-125A 10kA 'C' curve	60
MCBs - 80-125A 10kA 'D' curve	61
MCB Accessories	62
RCBOs - Residential	66
RCBOs - Commercial	69
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# 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

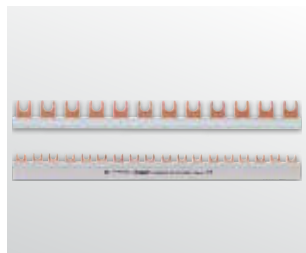
phase installations, that can all connect to the same busbar, increasing safety, reducing installation time, improving technical characteristics and aesthetics within one system, definitely is.





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

## 1 module RCBO characteristics:

- Rated current (I <sub>n</sub> ):	- 6A to 45A
- Rated voltage (U <sub>n</sub> ):	- 240V~
- Rated residual operating current (I <sub>Δn</sub> ):	- 10mA, 30mA
- Curve type:	- C
- Operating characteristic:	- Type A
- Rated frequency:	- 50Hz
- Rated short-circuit capacity (I <sub>cn</sub> ):	- 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 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<sub>n</sub>
- 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

- 25mm<sup>2</sup> rigid
- 16mm<sup>2</sup> flexible

### Standards

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

Technical information [Page 88](#)

### 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	<b>MSN106</b>
10	1 mod	17.5	12	<b>MSN110</b>
13	1 mod	17.5	12	<b>MSN113</b>
16	1 mod	17.5	12	<b>MSN116</b>
20	1 mod	17.5	12	<b>MSN120</b>
25	1 mod	17.5	12	<b>MSN125</b>
32	1 mod	17.5	12	<b>MSN132</b>
40	1 mod	17.5	12	<b>MSN140</b>
50	1 mod	17.5	12	<b>MSN150</b>
63	1 mod	17.5	12	<b>MSN163</b>
63	1 mod	17.5	12	<b>MSN163R</b>

Modular Protection devices



MSN220 MSN263R

### Double pole

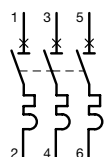


Current Rating (A)	Module(s)	Width (mm)	Box Qty	Cat ref.
6	2 mod	35	6	<b>MSN206</b>
10	2 mod	35	6	<b>MSN210</b>
16	2 mod	35	6	<b>MSN216</b>
20	2 mod	35	6	<b>MSN220</b>
25	2 mod	35	6	<b>MSN225</b>
32	2 mod	35	6	<b>MSN232</b>
40	2 mod	35	6	<b>MSN240</b>
50	2 mod	35	6	<b>MSN250</b>
63	2 mod	35	6	<b>MSN263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



MSN320

### Triple pole



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



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

- 25mm<sup>2</sup> rigid
- 16mm<sup>2</sup> 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 90](#)



### 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



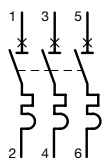
Current Rating (A)	Module(s)	Width (mm)	Box Qty	Cat ref.
6	2 mod	35	6	★ MDN206P
10	2 mod	35	6	★ MDN210P
16	2 mod	35	6	★ MDN216P
20	2 mod	35	6	★ MDN220P
25	2 mod	35	6	★ MDN225P
32	2 mod	35	6	★ MDN232P
40	2 mod	35	6	★ MDN240P
50	2 mod	35	6	★ MDN250P
63	2 mod	35	6	★ MDN263P
63	2 mod	35	6	★ MDN263R



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

# Modular Circuit Protection

## MCBs 6-63A 10kA 'C' curve

### 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<sub>n</sub>
- 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

- 35mm<sup>2</sup> rigid
- 26mm<sup>2</sup> flexible

### Standards

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

Technical information [Page 92](#)

### Accessories

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



NT110C

### Single pole

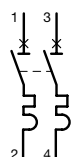


Current Rating (A)	Module(s)	Width (mm)	Pack Qty	Cat ref.
2	1 mod	17.5	12	<b>NT102C</b>
4	1 mod	17.5	12	<b>NT104C</b>
6	1 mod	17.5	12	<b>NT106C</b>
10	1 mod	17.5	12	<b>NT110C</b>
16	1 mod	17.5	12	<b>NT116C</b>
20	1 mod	17.5	12	<b>NT120C</b>
25	1 mod	17.5	12	<b>NT125C</b>
32	1 mod	17.5	12	<b>NT132C</b>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



NT216C

### Double pole

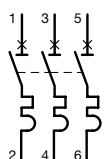


Current Rating (A)	Module(s)	Width (mm)	Pack Qty	Cat ref.
2	2 mod	35	6	<b>NT202C</b>
4	2 mod	35	6	<b>NT204C</b>
6	2 mod	35	6	<b>NT206C</b>
10	2 mod	35	6	<b>NT210C</b>
16	2 mod	35	6	<b>NT216C</b>
20	2 mod	35	6	<b>NT220C</b>
25	2 mod	35	6	<b>NT225C</b>
32	2 mod	35	6	<b>NT232C</b>
40	2 mod	35	6	<b>NT240C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



NT304C

### Triple pole



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

### 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

- 35mm<sup>2</sup> rigid
- 26mm<sup>2</sup> flexible

### Accessories

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

### Standards

- AS/NZS IEC 60947-2 compliant

Technical information [Page 94](#)



### Single pole



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



NDN116A

### Double pole



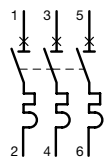
Current Rating (A)	Module(s)	Width (mm)	Pack Qty	Cat ref.
6	2 mod	35	6	<b>NDN206A</b>
10	2 mod	35	6	<b>NDN210A</b>
16	2 mod	35	6	<b>NDN216A</b>
20	2 mod	35	6	<b>NDN220A</b>
25	2 mod	35	6	<b>NDN225A</b>
32	2 mod	35	6	<b>NDN232A</b>
40	2 mod	35	6	<b>NDN240A</b>
50	2 mod	35	6	<b>NDN250A</b>
63	2 mod	35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



NDN232A

Modular Protection devices

### Triple pole

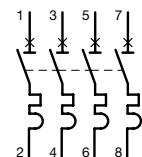


Current Rating (A)	Module(s)	Width (mm)	Pack Qty	Cat ref.
6	3 mod	52.5	4	<b>NDN306A</b>
10	3 mod	52.5	4	<b>NDN310A</b>
16	3 mod	52.5	4	<b>NDN316A</b>
20	3 mod	52.5	4	<b>NDN320A</b>
25	3 mod	52.5	4	<b>NDN325A</b>
32	3 mod	52.5	4	<b>NDN332A</b>
40	3 mod	52.5	4	<b>NDN340A</b>
50	3 mod	52.5	4	<b>NDN350A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



NDN316A

### Four pole



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



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

- 70mm<sup>2</sup> rigid
- 35mm<sup>2</sup> flexible

### Standards

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

### Technical information [Page 96](#)

### 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	<b>HMF180T</b>
100	1.5 mod	26.25	<b>HMF190T</b>
125	1.5 mod	26.25	<b>HMF199T</b>



HMF299T

### Double pole

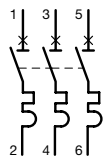


In / A	Module(s)	Width (mm)	Cat ref.
80	3 mod	52.5	<b>HMF280T</b>
100	3 mod	52.5	<b>HMF290T</b>
125	3 mod	52.5	<b>HMF299T</b>



HMF399T

### Triple pole



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

### 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

- 70mm<sup>2</sup> rigid
- 35mm<sup>2</sup> 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 96](#)



### Single pole



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



HMC199T

### Double pole

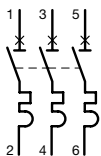


In / A	Module(s)	Width (mm)	Cat ref. 'C' curve	Cat ref. 'D' curve
80	3 mod	52.5	<b>HMC280T</b>	<b>HMD280T</b>
100	3 mod	52.5	<b>HMC290T</b>	<b>HMD290T</b>
125	3 mod	52.5	<b>HMC299T</b>	<b>HMD299T</b>



HMD299T

### Triple pole

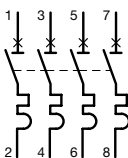


In / A	Module(s)	Width (mm)	Cat ref. 'C' curve	Cat ref. 'D' curve
80	4.5 mod	78.75	<b>HMC380T</b>	<b>HMD380T</b>
100	4.5 mod	78.75	<b>HMC390T</b>	<b>HMD390T</b>
125	4.5 mod	78.75	<b>HMC399T</b>	<b>HMD399T</b>



HMC399T

### Four pole



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



HMD499T

### Accessories to suit HMF, HMC and HMD

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



### 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 106](#)

### Connection

- 10mm<sup>2</sup> rigid
- 6mm<sup>2</sup> 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	<b>CZ001</b>
Auxiliary contacts 6A - 230V~ 	1NO + 1NC allows remote indication of main contact status	0.5	8.75	<b>MZ201</b>
Alarm contacts 6A - 230V~. 	1NO + 1NC indicates a fault over current on overload or short circuit (e.g. MCB tripped)	0.5	8.75	<b>MZ202</b>
Shunt trip relay Allows remote tripping of (combined) RCD when a voltage is applied. 	230V - 415V AC 110V to 130V DC	1	17.5	<b>MZ203</b>
	24V - 48V AC 12V - 48V DC	1	17.5	<b>MZ204</b>
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	<b>MZ206</b>
Locking device	To lock the MCB handle in on/off position	1	17.5	<b>MZN175</b>
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	<b>LZ060</b>
Terminal cover & screw shield for MCBs				<b>MZN120</b>
Phase barriers for MDNxxx + NDNxxx MCBs	1 set of 3			<b>MZN121</b>



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

## Four module RCBO characteristics:

- Rated current (I <sub>n</sub> ):	- 6A to 40A
- Rated voltage (U <sub>n</sub> ):	- 400V~
- Rated residual operating current (I <sub>Δn</sub> ):	- 30mA, 100mA
- Curve type:	- C
- Operating characteristic:	- Type A
- Rated frequency:	- 50Hz
- Rated short-circuit capacity (I <sub>cn</sub> ):	- 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.



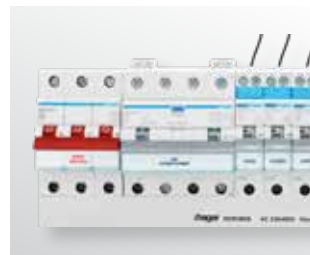
# 04

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

- 10mm<sup>2</sup> flexible
- 16mm<sup>2</sup> 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.

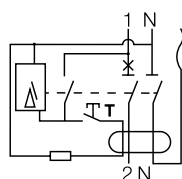
### Technical information:

Page 98



ADC920T

### RCBO 1P+N 6kA C curve



Current rating (A)	Residual current I <sub>dn</sub>	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



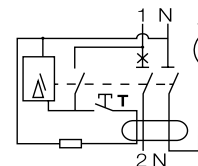
ACC925T

Modular Protection devices



ADD920T

### RCBO 1P+N 6kA D curve



Current rating (A)	Residual current I <sub>dn</sub>	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**

- 16mm<sup>2</sup> flexible
- 25mm<sup>2</sup> rigid

**Standards**

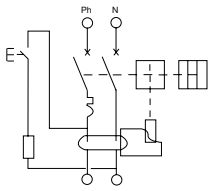
- Compliant to IEC 61009.1 and AS/NZS 61009.1

**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	<b>ADA906T</b>
10A	30mA	2 mod	35	<b>ADA910T</b>
13A	30mA	2 mod	35	<b>ADA913T</b>
16A	30mA	2 mod	35	<b>ADA916T</b>
20A	30mA	2 mod	35	<b>ADA920T</b>
25A	30mA	2 mod	35	<b>ADA925T</b>
32A	30mA	2 mod	35	<b>ADA932T</b>
40A	30mA	2 mod	35	<b>ADA940T</b>
6A	100mA	2 mod	35	<b>AEA906T</b>
10A	100mA	2 mod	35	<b>AEA910T</b>
13A	100mA	2 mod	35	<b>AEA913T</b>
16A	100mA	2 mod	35	<b>AEA916T</b>
20A	100mA	2 mod	35	<b>AEA920T</b>
25A	100mA	2 mod	35	<b>AEA925T</b>
32A	100mA	2 mod	35	<b>AEA932T</b>
40A	100mA	2 mod	35	<b>AEA940T</b>



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:

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### 4 mod connection capacity

- 16mm<sup>2</sup> flexible
- 25mm<sup>2</sup> rigid

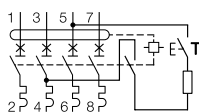


ADM413T



AEM420T

### RCBO 4P 6kA C curve



Current rating (A)	Residual current I <sub>dn</sub>	Module(s)	Width (mm)	Cat ref.
6A	30mA	4 mod	70	<b>ADM406T</b>
10A	30mA	4 mod	70	<b>ADM410T</b>
13A	30mA	4 mod	70	<b>ADM413T</b>
16A	30mA	4 mod	70	<b>ADM416T</b>
20A	30mA	4 mod	70	<b>ADM420T</b>
25A	30mA	4 mod	70	<b>ADM425T</b>
32A	30mA	4 mod	70	<b>ADM432T</b>
40A	30mA	4 mod	70	<b>ADM440T</b>
6A	100mA	4 mod	70	<b>AEM406T</b>
10A	100mA	4 mod	70	<b>AEM410T</b>
13A	100mA	4 mod	70	<b>AEM413T</b>
16A	100mA	4 mod	70	<b>AEM416T</b>
20A	100mA	4 mod	70	<b>AEM420T</b>
25A	100mA	4 mod	70	<b>AEM425T</b>
32A	100mA	4 mod	70	<b>AEM432T</b>
40A	100mA	4 mod	70	<b>AEM440T</b>

**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**

- 16mm<sup>2</sup> flexible  
- 25mm<sup>2</sup> rigid

**Accessories**

- Toggle locking device - MZN175

**Accessories -**

- MZ201, MZ202, MZ203, MZ204, MZ206

**Standards**

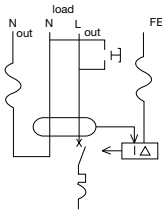
- Compliant to IEC 61009.1 and AS/NZS 61009.1  
- ACA5xxT is Type 1 according to AS/NZS 3190  
- ACA1xxT and AC1xxB are general type, not for patient areas according to AS/NZS 3190

**Technical information:**

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**RCBO 1P 6kA Type A C curve**



Current rating (A)	Residual current I <sub>dn</sub>	Module(s)	Width (mm)	Cat. ref.
6A	10mA	1 mod	17.5	<b>ACA106T</b>
10A	10mA	1 mod	17.5	<b>ACA110T</b>
16A	10mA	1 mod	17.5	<b>ACA116T</b>
20A	10mA	1 mod	17.5	<b>ACA120T</b>
25A	10mA	1 mod	17.5	<b>ACA125T</b>
32A	10mA	1 mod	17.5	<b>ACA132T</b>
6A	30mA	1 mod	17.5	<b>ADA106T</b>
10A	30mA	1 mod	17.5	<b>ADA110T</b>
16A	30mA	1 mod	17.5	<b>ADA116T</b>
20A	30mA	1 mod	17.5	<b>ADA120T</b>
25A	30mA	1 mod	17.5	<b>ADA125T</b>
32A	30mA	1 mod	17.5	<b>ADA132T</b>
40A	30mA	1 mod	17.5	<b>ADA140T</b>
45A	30mA	1 mod	17.5	<b>ADA145T</b>



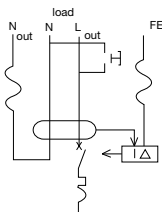
ACA110T



ADA140T

Modular Protection devices

**RCBO 1P 10kA Type A C curve**



Current rating (A)	Residual current I <sub>dn</sub>	Module(s)	Width (mm)	Cat. ref.
6A	10mA	1 mod	17.5	<b>AC106B</b>
10A	10mA	1 mod	17.5	<b>AC110B</b>
16A	10mA	1 mod	17.5	<b>AC116B</b>
20A	10mA	1 mod	17.5	<b>AC120B</b>
25A	10mA	1 mod	17.5	<b>AC125B</b>
32A	10mA	1 mod	17.5	<b>AC132B</b>
6A	30mA	1 mod	17.5	<b>AD106B</b>
10A	30mA	1 mod	17.5	<b>AD110B</b>
16A	30mA	1 mod	17.5	<b>AD116B</b>
20A	30mA	1 mod	17.5	<b>AD120B</b>
25A	30mA	1 mod	17.5	<b>AD125B</b>
32A	30mA	1 mod	17.5	<b>AD132B</b>



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

- 16mm<sup>2</sup> flexible
- 25mm<sup>2</sup> 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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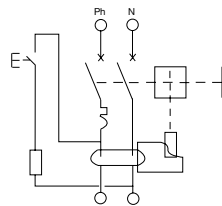


ACA566T



ADA566T

### RCBO 1P+N 10kA Type A C curve



Current rating (A)	Residual current I <sub>dn</sub>	Module(s)	Width (mm)	Cat ref.
10A	10mA	2 mod	35	<b>ACA560T</b>
13A	10mA	2 mod	35	<b>ACA563T</b>
16A	10mA	2 mod	35	<b>ACA566T</b>
6A	30mA	2 mod	35	<b>ADA556T</b>
10A	30mA	2 mod	35	<b>ADA560T</b>
13A	30mA	2 mod	35	<b>ADA563T</b>
16A	30mA	2 mod	35	<b>ADA566T</b>
20A	30mA	2 mod	35	<b>ADA570T</b>
25A	30mA	2 mod	35	<b>ADA575T</b>
32A	30mA	2 mod	35	<b>ADA582T</b>

Modular Protection devices

### 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

- 16mm<sup>2</sup> flexible
- 25mm<sup>2</sup> rigid

### Accessories 4 mod devices only

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

### Standards

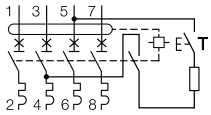
- Compliant to IEC 61009.1 and AS/NZS 61009.1

### Technical information:

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### RCBO 4P 10kA Type A C curve



Current rating (A)	Residual current I <sub>dn</sub>	Module(s)	Width (mm)	Cat. ref.
6A	30mA	4 mod	70	<b>ADX406T</b>
10A	30mA	4 mod	70	<b>ADX410T</b>
13A	30mA	4 mod	70	<b>ADX413T</b>
16A	30mA	4 mod	70	<b>ADX416T</b>
20A	30mA	4 mod	70	<b>ADX420T</b>
25A	30mA	4 mod	70	<b>ADX425T</b>
32A	30mA	4 mod	70	<b>ADX432T</b>
40A	30mA	4 mod	70	<b>ADX440T</b>
6A	100mA	4 mod	70	<b>AEX406T</b>
10A	100mA	4 mod	70	<b>AEX410T</b>
13A	100mA	4 mod	70	<b>AEX413T</b>
16A	100mA	4 mod	70	<b>AEX416T</b>
20A	100mA	4 mod	70	<b>AEX420T</b>
25A	100mA	4 mod	70	<b>AEX425T</b>
32A	100mA	4 mod	70	<b>AEX432T</b>
40A	100mA	4 mod	70	<b>AEX440T</b>



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

- 25mm<sup>2</sup> - Rigid (50mm<sup>2</sup> for 80A,100A)
- 16mm<sup>2</sup> - Flexible (35mm<sup>2</sup> 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 104](#)

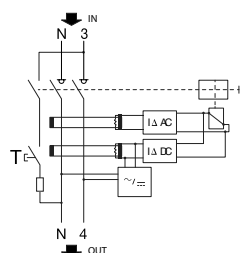


CDA240T



CEA563T

### RCCB 1P+N Type A



Current rating (A)	Residual current I <sub>dn</sub>	Module(s)	Width (mm)	Cat ref.
25A	30mA	2 mod	35	<b>CDA225T</b>
40A	30mA	2 mod	35	<b>CDA240T</b>
63A	30mA	2 mod	35	<b>CDA263T</b>
80A	30mA	2 mod	35	<b>CDA580T</b>
100A	30mA	2 mod	35	<b>CDA584T</b>
<hr/>				
25A	100mA	2 mod	35	<b>CEA525T</b>
40A	100mA	2 mod	35	<b>CEA540T</b>
63A	100mA	2 mod	35	<b>CEA563T</b>
80A	100mA	2 mod	35	<b>CEA580T</b>
100A	100mA	2 mod	35	<b>CEA584T</b>

Modular Protection devices

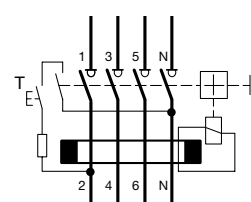


CDA440T



CEA663T

### RCCB 3P+N Type A



Current rating (A)	Residual current I <sub>dn</sub>	Module(s)	Width (mm)	Cat ref.
25A	30mA	4 mod	70	<b>CDA425T</b>
40A	30mA	4 mod	70	<b>CDA440T</b>
63A	30mA	4 mod	70	<b>CDA463T</b>
80A	30mA	4 mod	70	<b>CDA680T</b>
100A	30mA	4 mod	70	<b>CDA684T</b>
<hr/>				
25A	100mA	4 mod	70	<b>CEA625T</b>
40A	100mA	4 mod	70	<b>CEA640T</b>
63A	100mA	4 mod	70	<b>CEA663T</b>
80A	100mA	4 mod	70	<b>CEA680T</b>
100A	100mA	4 mod	70	<b>CEA684T</b>

**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**

- 25mm<sup>2</sup> - Rigid (50mm<sup>2</sup> for 80A,100A)
- 16mm<sup>2</sup> - Flexible (35mm<sup>2</sup> for 80A, 100A)

**Accessories**

- MZ201, MZ202, MZ203, MZ204, MZ206, MZN175, LZ060
- CZ001 for CDA2xxT and CDA4xxT
- MZN121 for others

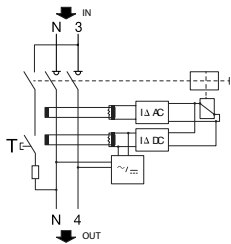
**Standards**

- All types conform with AS/NZS 61008.1
- Type F compliant to IEC62493

**Technical information:** [Page 104](#)



**RCCB 1P+N Type F**

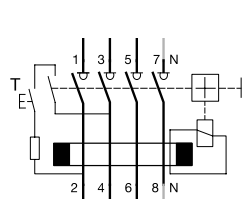


Current rating (A)	Residual current I <sub>dn</sub>	Module(s)	Width (mm)	Cat ref.
40A	30mA	2 mod	35	<b>CDF540T</b>
63A	30mA	2 mod	35	<b>CDF563T</b>



CDF540T

**RCCB 3P+N Type F**



Current rating (A)	Residual current I <sub>dn</sub>	Modules	Width (mm)	Cat ref.
40A	30mA	4 mod	70	<b>CDF640T</b>
63A	30mA	4 mod	70	<b>CDF663T</b>



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

- 25mm<sup>2</sup> - Rigid
- 16mm<sup>2</sup> - Flexible
- CDBxxx incompatible with KDNxxx busbar

### Accessories

- MZ201, MZ202, MZ203, MZ204, MZ206, MZN175, MZN121

### Standards

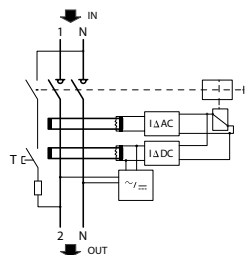
- Compliant to IEC61008.1, AS/ZS61008.1 and IEC62423

Technical information: [Page 105](#)



CDB540T

### RCCB 1P+N Type B

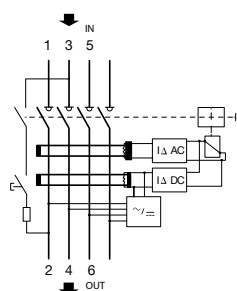


Current rating (A)	Residual current I <sub>dn</sub>	Module(s)	Width (mm)	Cat ref.
25A	30mA	4 mod	70	<b>CDB525T</b>
40A	30mA	4 mod	70	<b>CDB540T</b>
63A	30mA	4 mod	70	<b>CDB563T</b>



CDB640T

### RCCB 3P+N Type B



Current rating (A)	Residual current I <sub>dn</sub>	Module(s)	Width (mm)	Cat ref.
25A	30mA	4 mod	70	<b>CDB625T</b>
40A	30mA	4 mod	70	<b>CDB640T</b>
63A	30mA	4 mod	70	<b>CDB663T</b>

**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**

- 10mm<sup>2</sup> rigid
- 6mm<sup>2</sup> flexible

**Compatibility chart and technical information: [Page 106](#)**

**Accessories**

Description	Characteristics	Module(s)	Width (mm)	Cat. ref.
<b>Combination auxiliary &amp; alarm contacts</b> 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	<b>CZ001</b>
<b>Auxiliary contacts</b> Allows remote indication of main contact status for RCBOs and RCCBs (CxA5xxT & CxA6xxT).	6A - 240V~ 1NO + 1NC	0.5	8.75	<b>MZ201</b>
<b>Alarm contacts</b> 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	<b>MZ202</b>
<b>Shunt trip relay</b> Allows remote tripping of (combined) RCD when a voltage is applied.	230V - 415V AC 110V to 130V DC  24V - 48V AC 12V - 48V DC	1  1	17.5  17.5	<b>MZ203</b>  <b>MZ204</b>
<b>Undervoltage release</b> 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	<b>MZ206</b>
<b>Locking device</b> 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	<b>MZN175</b>
<b>Heat dissipation inserts</b>	Avoids overheating for DIN rail modules when several devices mounted side by side are carrying high continuous loads	0.5	8.75	<b>LZ060</b>
<b>Phase barriers for RCCBs (Inc 10kA)</b>	1 set of 3			<b>MZN121</b>



CZ001



MZ202



MZ203



MZN175



LZ060

Modular Protection devices

### Description

A range of connection devices to simplify installation of modular devices such as MCBs, RCDs etc...



KDN180A



KDN380G

### Insulated busbars - Fork type

Description	Module(s)	Width (mm)	Cat ref.
1 phase 80A	12 mod	210	<b>KDN180A</b>
1 phase 80A	18 mod	315	<b>KDN180G</b>
1 phase 100A - bulk	57 mod	1000	<b>KD190B</b>
2 phase 80A	12 mod	210	<b>KDN280A</b>
3 phase 80A	12 mod	210	<b>KDN380A</b>
3 phase 80A	18 mod	315	<b>KDN380G</b>



KB181GI

### 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	<b>KB181A1</b>
1 neutral 80A. Suits neutral supply in onekonekt range of RCBOs	9 tongues over 18 poles	18 mod	315	<b>KB181G1</b>



KB163P



KB163N



KB163NG

### 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	<b>KB163P</b>
1 neutral 63A	13 tongues over 13 poles	13 mod	227.5	<b>KB163N</b>
1 phase 63A	18 tongues over 18 poles	18 mod	315	<b>KB163PG</b>
1 neutral 63A	18 tongues over 18 poles	18 mod	315	<b>KB163NG</b>



KZN021



KZ059

### Insulated caps

Description	Characteristics	Quantity	Cat ref.
Busbar end caps	Suits KDN1xx & KB181xx	50	<b>KZN021</b>
Busbar end caps	Suits KDN2xx/KDN3xx	10	<b>KZN023</b>
Busbar fork protective cover	5 pole covers x10		<b>KZ059</b>

**Description**

A range of connection devices to simplify installation of modular devices such as MCBs, RCDs etc...

**Cable Connectors**

Description	Cat ref.
Tongue type connection from top for cables: 25mm <sup>2</sup>	<b>KF81A</b>
Tongue type connection from top for cables: 2 x 16mm <sup>2</sup>	<b>KF82A</b>
Tongue type connection from side for cables: 35mm <sup>2</sup>	<b>KF83A</b>
Tongue type connection from side of cables: 35mm <sup>2</sup> with longer tongue	<b>KF83D</b>
Chassis mounted 63A to supply power to the DIN Rail for cables: 25mm <sup>2</sup>	<b>KRN163</b>
Chassis or DIN Rail mounted 125A to connect main neutral cable: 50mm <sup>2</sup>	<b>KRN199</b>



KRN163

**Other accessories**

Description	Characteristics	Cat ref.
RCD neutral links	Brass link for neutral fitting to RCD's: 3 x 10mm <sup>2</sup>	<b>KM03A</b>
Cable adaptor - one hole	35mm <sup>2</sup> to suit golf enclosure	<b>KM035</b>



KM03A

# 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 New Zealand - please refer to the latest version of AS/NZS:1768 and AS/NZS: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.

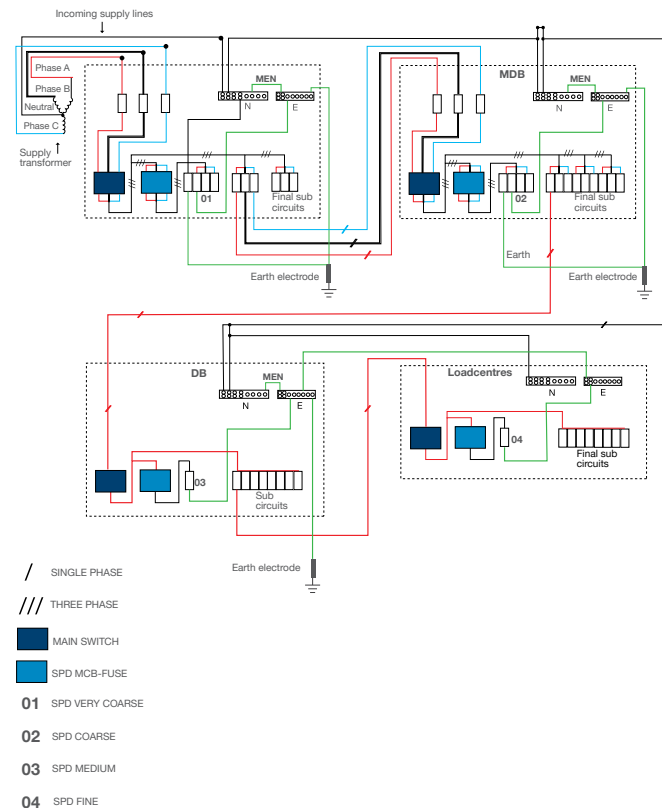
To simplify selection, Hager uses the terminology: Very Coarse, Coarse, Medium and Fine Surge Protection Devices.

### 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 111-112.



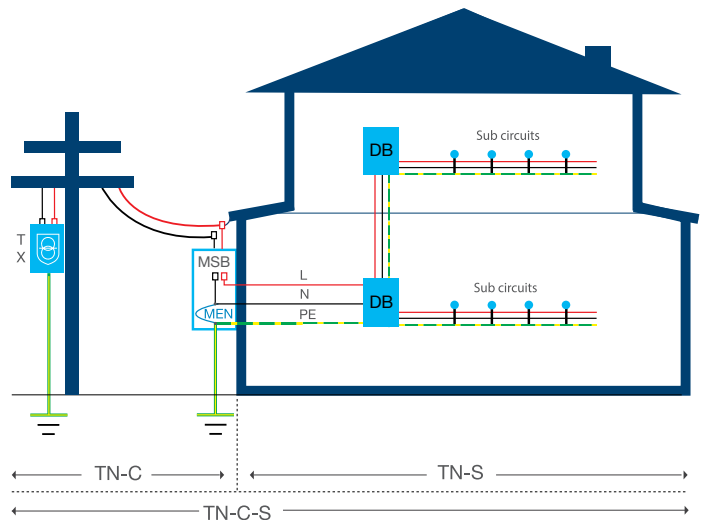
### Earthing

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)



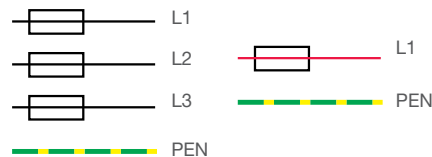
A TN-C earthing system is present between the transformer that supplies the site and the installation MSB, and is used in MEN Switchboard Solutions.

In 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

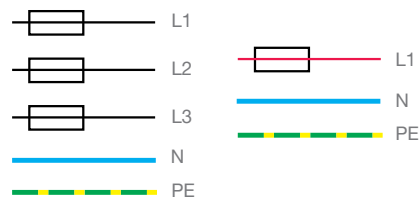
TN-C-S is comprised of both: The supply side of the system uses a combined Protective Earth Neutral (PEN) conductor for earthing, and the load side (downstream of the MSB) of the system uses a separate conductor for Protective Earth (PE) and Neutral (N).

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 New Zealand and is based upon the 'Thunder Day Map' that appears in AS/NZS 1768: 2017.

As indicated, New Zealand is split into three zones of activity.

**To choose the appropriate indirect lightning protection, it is important to determine what zone 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 111.

For definitive requirements for installation of Surge Protection Devices, please refer to the latest version of AS/NZS:1768 and AS/NZS: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.

Residential applications										
Commercial and institutional applications										
Type of Installation	<p><b>Very Coarse</b></p> <ul style="list-style-type: none"> <li>- Highly exposed to lightning</li> <li>- 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</li> <li>- Any installation with a Lightning Rod, LPS or Spark Gap Device</li> <li>- Proximity to very large motors or transformers; usually industrial sites, power plants or substations</li> </ul>	<p><b>Coarse</b></p> <ul style="list-style-type: none"> <li>- Somewhat exposed to lightning</li> <li>- Proximity to industrial or large commercial sites that have or induce transients from large transformers or motors.</li> <li>- Or supplied by long service supply cables including private power poles</li> <li>- Rural, Commercial or Large Institutional</li> <li>- Power lines: metering box, point of connection, private power pole</li> </ul>	<p><b>Medium</b></p> <ul style="list-style-type: none"> <li>- Rarely exposed to lightning with underground service entrance, and short distance to neighbours</li> <li>- Suitable for most subtropical urban and suburban homes and domestic applications</li> <li>- Suitable for cascaded use, downstream of higher rated SPDs such as in: Major Sub-mains, Distribution Boxes or Load Centres.</li> <li>- Available with (R) or without (D) contact for condition monitoring</li> </ul>				<p><b>Fine</b></p> <ul style="list-style-type: none"> <li>- Supplementary protection for final circuits with expensive, critical or important equipment</li> <li>- Load centres and equipment on long circuits or remote from other SPDs</li> <li>- Residential apartments or flats with computer, audio visual, measurement, security, laboratory and scientific equipment</li> </ul>			
Type of Surge Protection	<p><b>Type 1 Spark Gap</b> <b>Type 2 100kA</b></p>		<p><b>Type 2</b> <b>65kA</b></p>		<p><b>Type 2</b> <b>40kA</b></p>				<p><b>Type 2</b> <b>8kA</b></p>	
	Three phase	Single phase	Three phase	Single phase	Three phase	Single phase	Three phase	Single phase	Three phase	Single phase
<p><b>Spark Gap</b> Direct or frequent lightning protection</p>	SPA412A	SPA212A	-	-	-	-	-	-	-	-
<p><b>TN-C</b> 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.</p>	SPB300R	SPB100R	SPB365R	SPB165R	SPB340D	SPB340R	SPB140D	SPB140R	-	-
<p><b>TN-S / TT</b> Used after or downstream from the MSB or Switchboard MEN and in separate Neutral-Earth switchboard solutions.</p>	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:  
[Page 108](#)



SPA212A



SPA412A

### Spark Gap

Category C3 (Type 1)

Description	$i_{imp}$ kA	$U_p$ kV	$U_c$ V	Width	Cat ref.
For areas where lightning is frequent.	12.5	$\leq 2.5$	255	4 mod	<b>SPA212A</b>
Test wave 10/350 $\mu$ s	12.5	$\leq 2.5$	255	8 mod	<b>SPA412A</b>

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	$i_{Max}$ kA	$I_n$ kA	$U_p$ kV	$U_c$ V	Width	Cat ref.
Single phase						
SPD 1P T2 TNC 100kA Remote contact	100	40	2	320	1 mod	<b>★ SPB100R</b>
SPD 2P T2 TNS/TT 100kA Remote contact	100	40	2	320	2 mod	<b>★ SPB200R</b>
Three phase						
SPD 3P T2 TNC 100kA Remote contact	100	40	2	320	3 mod	<b>★ SPB300R</b>
SPD 4P T2 TNS/TT 100kA Remote contact	100	40	2	320	4 mod	<b>★ SPB400R</b>



SPB165R



SPB465R

### Coarse

Category C2 (Type 2) - Supplied with remote contact

Description	$i_{imp}$ kA	$i_{Max}$ kA	$I_n$ kA	$U_p$ kV	$U_c$ V	Width	Cat ref.
Single phase							
SPD 1P T2 TNC 65kA Remote contact	12.5	65	20	1.45	320	1 mod	<b>✗ SPN165R → ★ SPB165R</b>
SPD 2P T2 TNS/TT 65kA Remote contact	12.5	65	20	1.45	320	2 mod	<b>★ SPB265R</b>
Three phase							
SPD 3P T2 TNC 65kA Remote contact	12.5	65	20	1.45	320	3 mod	<b>★ SPB365R</b>
SPD 4P T2 TNS/TT 65kA Remote contact	12.5	65	20	1.45	320	4 mod	<b>★ SPB465R</b>

### 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:  
[Page 109](#)

### Medium

Category B and C1 (Type 2)

Description	iMax kA	In kA	Up kV	Uc V	Width	Cat ref.
<b>Single phase</b>						
SPD 1P T2 TNC 40kA	40	20	1.35	275	1 mod	<del>x SPN140D</del> → <b>★ SPB140D</b> <del>x SPN115D</del>
SPD 1P T2 TNC 40kA Remote contact	40	20	1.35	275	1 mod	<del>x SPN140R</del> → <b>★ SPB140R</b> <del>x SPN115R</del>
SPD 2P T2 TNS/TT 40kA	40	20	1.35	275	2 mod	<b>★ SPB240D</b>
SPD 2P T2 TNS/TT 40kA Remote contact	40	20	1.35	275	2 mod	<b>★ SPB240R</b>
<b>Three phase</b>						
SPD 3P T2 TNC 40kA	40	20	1.35	275	3 mod	<b>★ SPB340D</b>
SPD 3P T2 TNC 40kA Remote contact	40	20	1.35	275	3 mod	<b>★ SPB340R</b>
SPD 4P T2 TNS/TT 40kA	40	20	1.35	275	4 mod	<b>★ SPB440D</b>
SPD 4P T2 TNS/TT 40kA Remote contact	40	20	1.35	275	4 mod	<b>★ SPB440R</b>



SPB140D



SPB440R

### Fine

Category A (Type 2) - Supplied without remote contact

Description	iMax kA	In kA	Up kV	Uc V	Width	Cat ref.
<b>Single phase</b>						
SPD 2P TNS/TT 8 kA	8	2	0.9	275	2 mod	<del>x SPN208D</del> → <b>★ SPB208D</b>
<b>Three phase</b>						
SPD 4P TNS/TT 8 kA	8	2	0.9	275	4 mod	<del>x SPN408D</del> → <b>★ SPB408D</b>



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 110](#)



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 <sub>max</sub> 100kA	Very Coarse	100	★ <a href="#">SPB010R</a>
Cartridge L-N; In 20kA, I <sub>max</sub> 65kA	Coarse	65	★ <a href="#">SPB065R</a>
Cartridge L-N; In 20kA, I <sub>max</sub> 40kA	Medium	40	★ <a href="#">SPB040R</a>
Cartridge L-N; In 2kA, I <sub>max</sub> 8kA	Fine	8	★ <a href="#">SPB008R</a>



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 <sub>max</sub> 100kA	Very Coarse	100	★ <a href="#">SPB010N</a>
Cartridge N-PE; In 20kA, I <sub>max</sub> 65kA	Coarse	65	★ <a href="#">SPB065N</a>
Cartridge N-PE; In 20kA, I <sub>max</sub> 40kA	Medium	40	★ <a href="#">SPB040N</a>



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**

- 16mm<sup>2</sup> rigid cable
- 16mm<sup>2</sup> flexible + busbar

**Technical information:**

**Page 113**

**Fuses & Fuse Carriers**

Description	Current rating (A)	Width	Cat ref.
Fuse carriers for BS88 fuses (supplied without fuse cartridge)	32A max	1 mod	<b>LS201</b>
BS88 cartridge fuses 29 x 12.7mm	6A		<b>L17300</b>
	8A		<b>L17400</b>
	10A		<b>L17500</b>
	16A		<b>L17600</b>
	20A		<b>L17700</b>
	25A		<b>L17800</b>
	32A		<b>L17900</b>



LS201

**Accessories**

Description	Width	Cat ref.
Handle link pin	3 mod	<b>L023</b>
Spare fuse holder (DIN mounted)	1 mod	<b>L14700</b>
Locking kit		<b>MZ178</b>



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 ( $Z_s$ ) must be below a certain value. If  $Z_s$  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
mm <sup>2</sup>	mm <sup>2</sup>	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 ( $Z_s$ ) 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  $14 \times I_n$  will require more energy to trip it (in the required time) than a circuit breaker with a magnetic setting of  $7.5 \times I_n$ .

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.

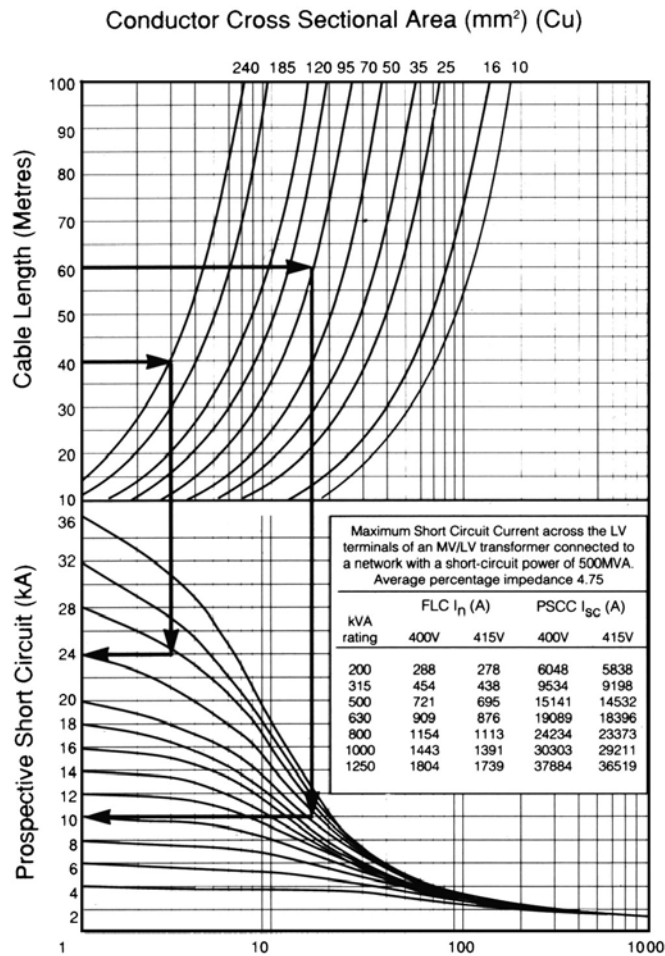


Figure 1

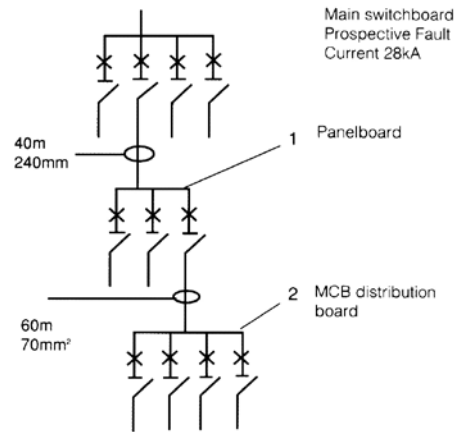


Figure 2

**Example in figure 2**

- 1 Project 40m of cable length across on to the 240mm<sup>2</sup> 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 70mm<sup>2</sup> 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.

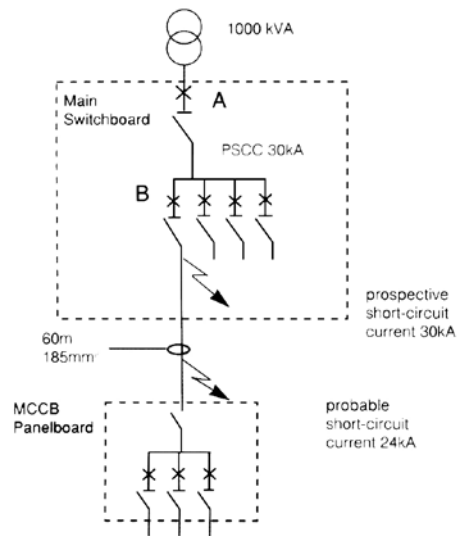
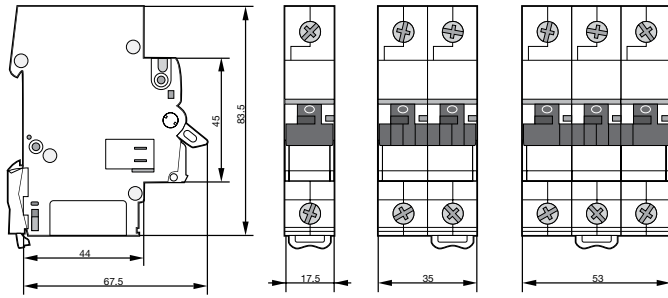


Figure 3

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<sub>cs</sub> 30kA and an I<sub>cu</sub> 30kA. The panelboard feeder circuit breaker (B) should have an I<sub>cu</sub> 30kA and an I<sub>cs</sub> 24kA.



### Dimensions

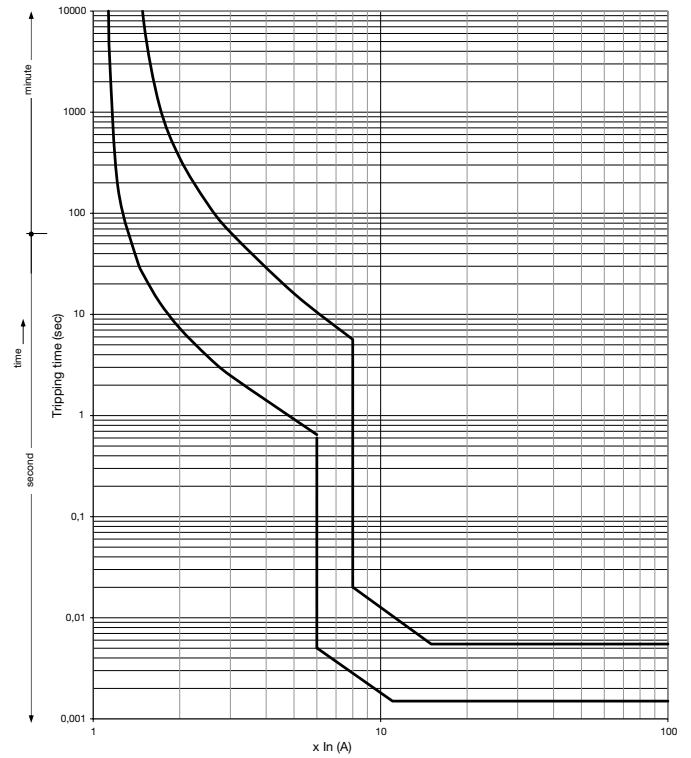


### Specifications

<b>Standards</b>	AS/NZS 60898
<b>Thermal trip characteristic</b>	C curve (5-10 x I <sub>n</sub> )
<b>Breaking capacity I<sub>cn</sub></b>	6000A
<b>Voltage rating</b>	240/415V AC
<b>Frequency</b>	50-60Hz
<b>Current rating</b>	6A - 63A
<b>No. of operations</b>	20,000
<b>Connection capacity</b>	<b>Rigid</b> 25mm <sup>2</sup> max. <b>Flexible</b> 16mm <sup>2</sup> max.
<b>Tightening torque</b>	2.8Nm
<b>Toggle</b>	Sealable in Off position
<b>Operating temperature</b>	-25°C to 60°C

<b>Grouping factor</b>	<b>Assumed load factor</b>	
<b>Number of outgoing circuits</b>	<b>2 &amp; 3</b>	0.8
	<b>4 &amp; 5</b>	0.7
	<b>6 to 9</b>	0.6
	<b>10 +</b>	0.5

### Tripping curve - All In Tcal= 30°C C curve



### Temperature derating table 1P/2P (calibration temperature 30°C)

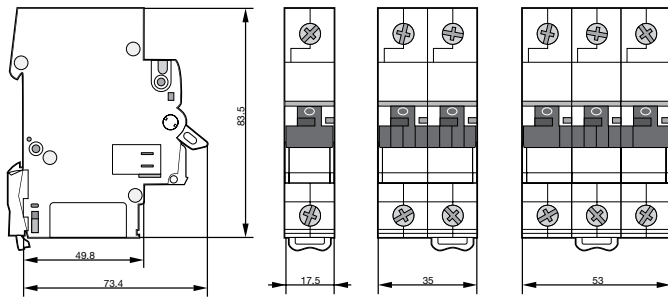
Ambiant temp (°C)	Rated current (A)										
	6	8	10	13	16	20	25	32	40	50	63
-25	7.82	9.22	11.14	17.07	21.82	27.36	33.35	41.83	51.36	67.46	83.89
-20	7.67	9.12	10.98	16.72	21.31	26.70	32.58	41.01	50.43	66.02	82.07
-15	7.52	9.01	10.83	16.37	20.81	26.03	31.81	40.18	49.49	64.58	80.24
-10	7.37	8.91	10.50	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.

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

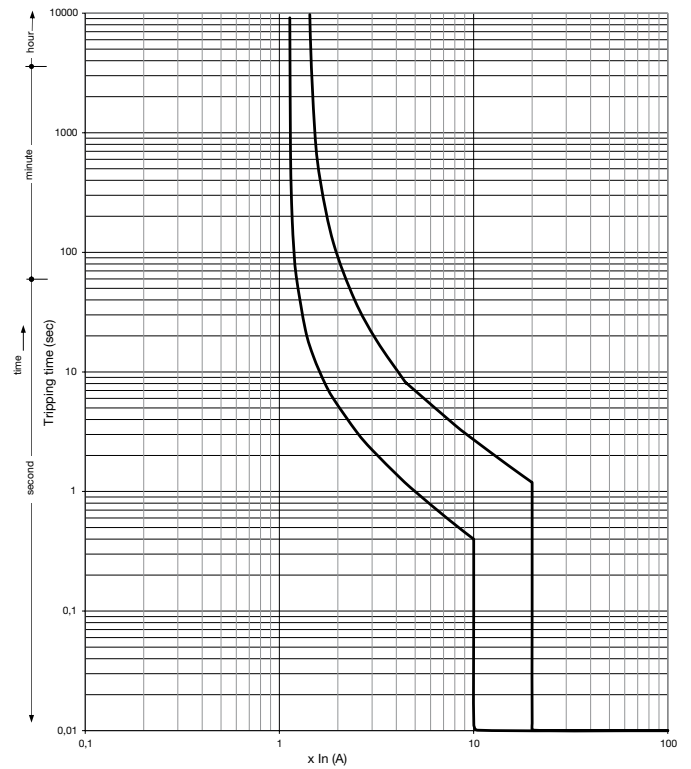


### Specifications

<b>Standards</b>	AS/NZS 60898
<b>Thermal trip characteristic</b>	D curve (10-20 x In)
<b>Breaking capacity Icn</b>	6000A
<b>Voltage rating</b>	240/415V AC
<b>Frequency rating</b>	50-60Hz
<b>Current rating</b>	6A - 63A
<b>No. of operations</b>	20,000
<b>Connection capacity</b>	<b>Rigid</b> 35mm <sup>2</sup> max. <b>Flexible</b> 25mm <sup>2</sup> max.
<b>Tightening torque</b>	2.8Nm
<b>Toggle</b>	Sealable in Off position
<b>Operating temperature</b>	-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)

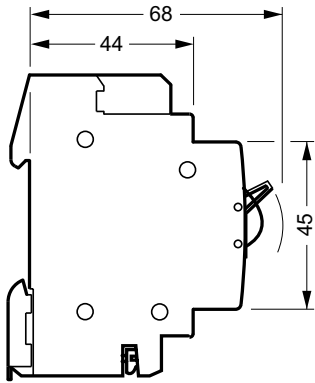
Ambiant temp (°C)	Rated current (A)								
	6	10	16	20	25	32	40	50	63
-25	7.82	11.14	21.82	27.36	33.35	41.83	51.36	67.46	83.89
-20	7.67	10.98	21.31	26.70	32.58	41.01	50.43	66.02	82.07
-15	7.52	10.83	20.81	26.03	31.81	40.18	49.49	64.58	80.24
-10	7.37	10.50	20.41	25.40	31.01	39.62	48.53	63.69	78.67
-5	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

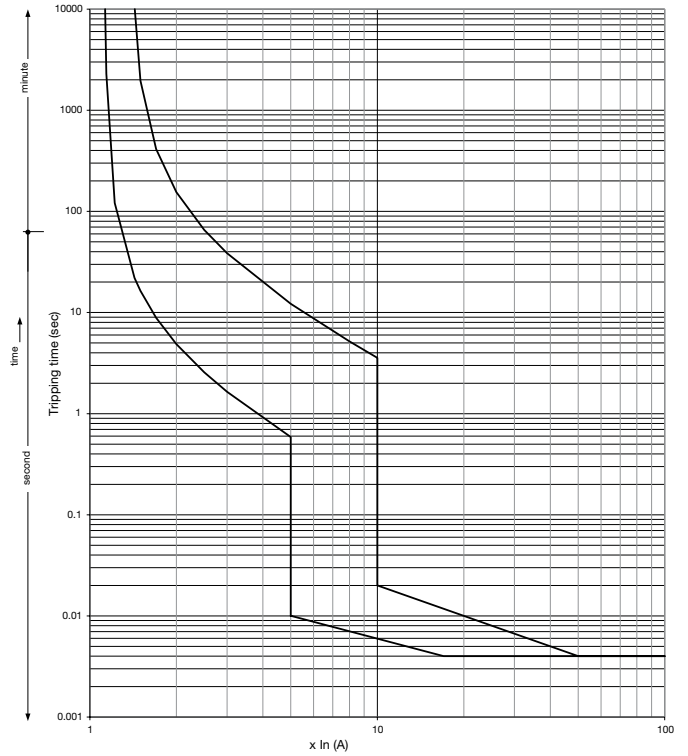
### Dimensions



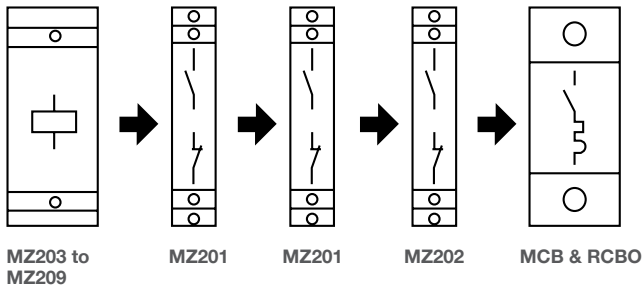
### Specifications

<b>Standards</b>	AS/NZS 60898
<b>Thermal trip characteristic</b>	C curve (5-10 x I <sub>n</sub> )
<b>Breaking capacity</b>	10,000A
<b>Voltage rating</b>	230/400V AC
<b>Current rating</b>	2A - 63A
<b>No. of operations</b>	20,000
<b>Connection Rigid capacity</b>	35mm <sup>2</sup> max.
<b>Flexible capacity</b>	25mm <sup>2</sup> max.
<b>Tightening torque</b>	2.8Nm

### Tripping curve - T<sub>cal</sub>= 30°C C curve



### Auxiliary possibilities



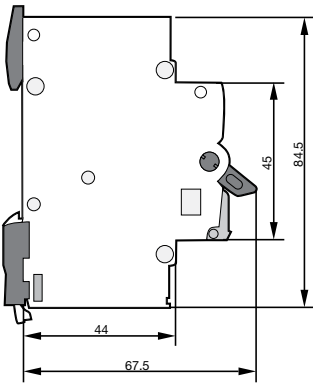
### Temperature derating table 1P/2P (calibration temperature 30°C)

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

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

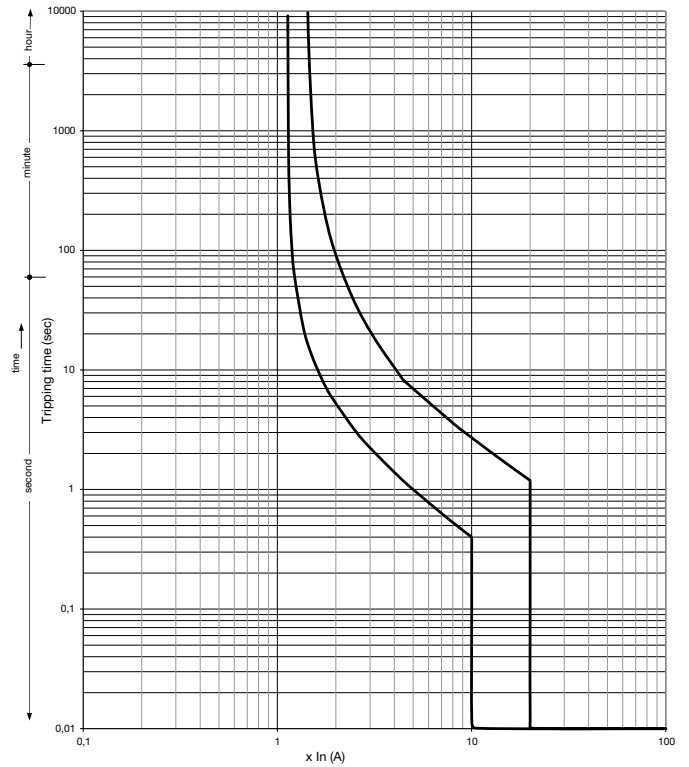


### Specifications

<b>Standards</b>	AS/NZS 60898
<b>Thermal trip characteristic</b>	D curve (10-20 x In)
<b>Breaking capacity</b>	10,000A
<b>Voltage rating</b>	240/415V AC
<b>Current rating</b>	6A - 63A
<b>No. of operations</b>	20,000
<b>Connection capacity</b>	<b>Rigid</b> 35mm <sup>2</sup> max. <b>Flexible</b> 25mm <sup>2</sup> max.
<b>Tightening torque</b>	2.8Nm

Grouping factor	Assumed load factor	
Number of outgoing circuits	<b>2 &amp; 3</b>	0.8
	<b>4 &amp; 5</b>	0.7
	<b>6 to 9</b>	0.6
	<b>10 +</b>	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

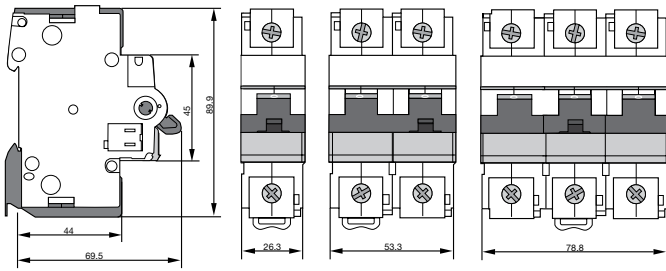
Modular Protection devices

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



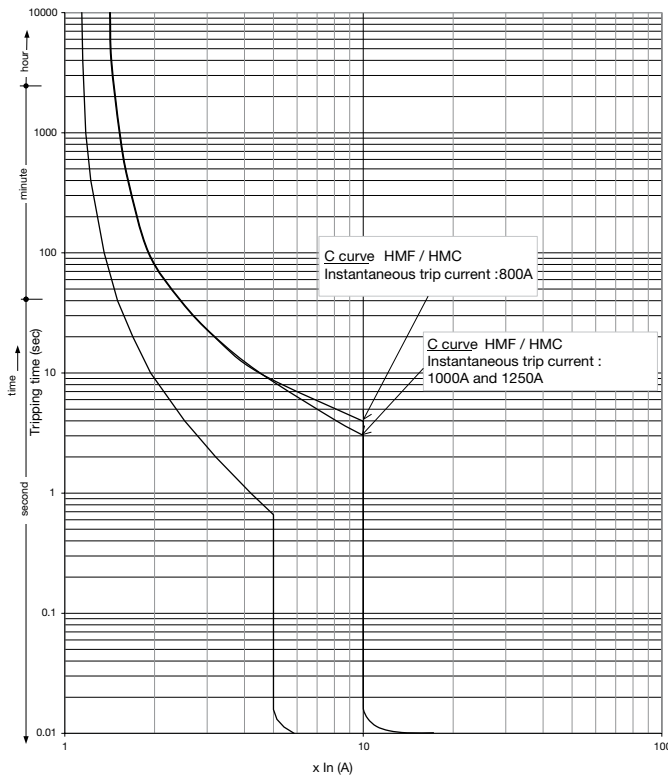
Specifications	HMFxxT	HMCxxT	HMDxxT
<b>Standards</b>	AS/NZS 60898	AS/NZS 60898	AS/NZS 60898
<b>Thermal trip characteristic</b>	C curve (5-10 x I <sub>n</sub> )	C curve (5-10 x I <sub>n</sub> )	D curve (10-20 x I <sub>n</sub> )
<b>Breaking capacity</b>	10,000A	15,000A	15,000A
<b>Voltage rating</b>	240/415V AC	240/415V AC	240/415V AC
<b>Current rating</b>	80A - 125A	80A - 125A	80A - 125A
<b>No. of operations</b>	20,000	20,000	20,000
<b>Rigid connection</b>	70mm <sup>2</sup> max.	70mm <sup>2</sup> max.	70mm <sup>2</sup> max.
<b>Flexible connection</b>	35mm <sup>2</sup> max.	35mm <sup>2</sup> max.	35mm <sup>2</sup> max.
<b>Tightening torque</b>	3.5 to 5Nm	3.5 to 5Nm	3.5 to 5Nm

### Derating table

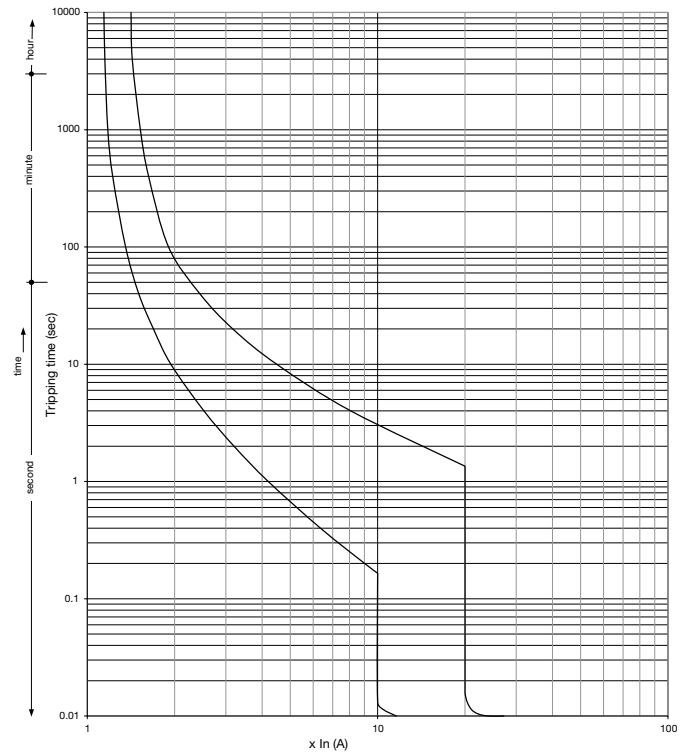
Ambiant temp (°C)	T° cal = 30°C: Rated current (A)		
	80	100	125
-25	115.0	-	-
-20	112.0	-	-
-15	109.0	-	-
-10	106.0	-	-
-5	102.0	-	-
0	99.2	124.0	-
5	96.0	120.0	-
10	92.8	116.0	-
15	89.6	112.0	-
20	86.4	108.0	-
25	83.2	104.0	-
30	80	100	125
35	77.6	96.6	122.0
40	75.1	93.1	119.0
45	72.6	89.4	115.7
50	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



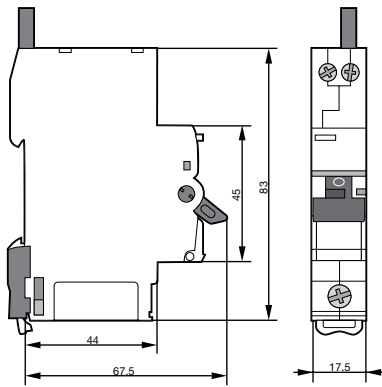
## ADC9 RCBO



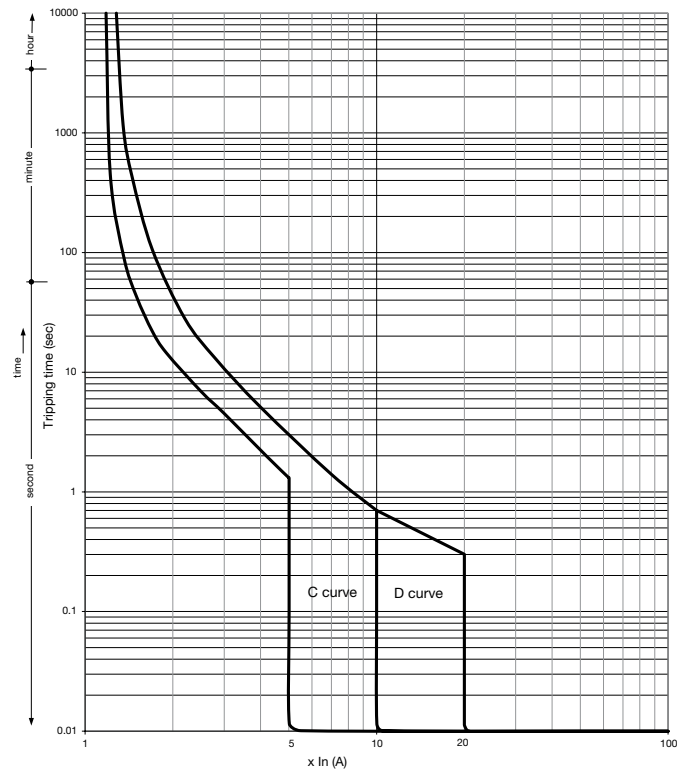
# A compact solution for every situation

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

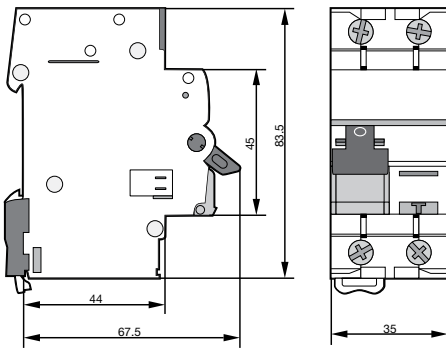
<b>Standards</b>	AS/NZS 61009.1
<b>Wave form of earth fault detected</b>	Type A
<b>Residual current tripping technology</b>	Voltage dependent, bi-directional and facility insulation resistance test
<b>Thermal trip characteristic</b>	C curve (5-10 x In) for ADC9xxT and ACC9xxT D curve (10-20 x In) for ADD9xxT
<b>Breaking capacity Icn</b>	6000A
<b>Frequency</b>	50Hz
<b>Voltage rating</b>	230 - 240V AC
<b>Current rating In</b>	6A - 32A for ADC9xxT and ACC9xxT 6A - 25A for ADD9xxT
<b>Residual operating current</b>	30mA for ADC9xxT and ADD9xxT 10mA for ACC9xxT
<b>No. of operations</b>	30,000
<b>Connection capacity</b>	<b>Rigid</b> 16mm <sup>2</sup> max. <b>Flexible</b> 10mm <sup>2</sup> max.
<b>Tightening torque</b>	2.1Nm bottom and 1.9Nm top
<b>Neutral-IN connectivity</b>	Stranded cable 1m long
<b>Toggle</b>	Sealable Off position
<b>Operating temperature</b>	-25°C to 70°C

### Temperature derating table (calibration temperature 30°C)

Ambiant 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

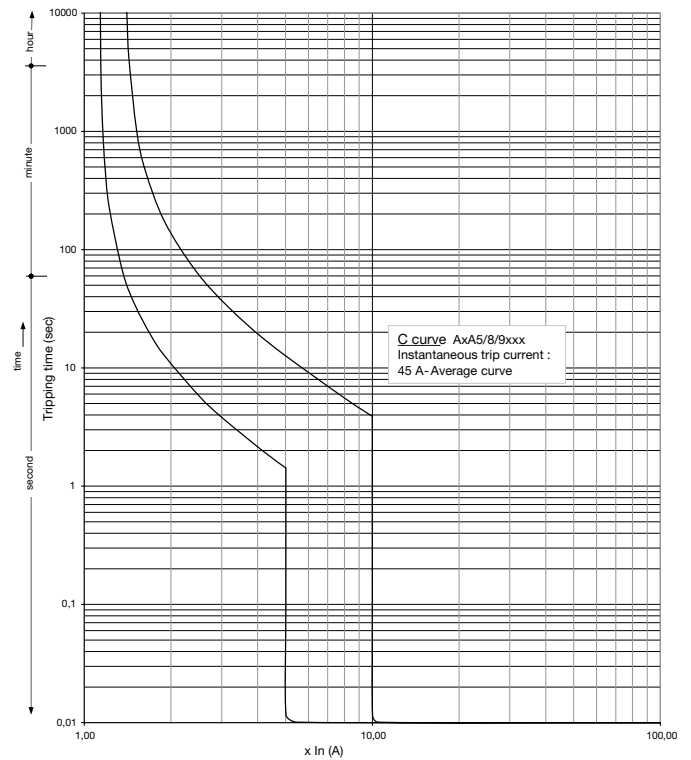
### Dimensions



### Specifications

<b>Standards</b>	AS/NZS 61009.1
<b>Wave form of earth fault detected</b>	Type A
<b>Residual current tripping technology</b>	Voltage independent, bi-directional and facility insulation resistance test
<b>Thermal trip characteristic</b>	C curve (5-10 x In)
<b>Breaking capacity Icn</b>	6000A
<b>Voltage rating</b>	240V AC
<b>Frequency</b>	50Hz
<b>Current rating</b>	6A - 40A
<b>Residual operating current</b>	30mA for ADA9xxT 100mA for AEA9xxT
<b>Test button operational voltage</b>	Network voltage
<b>No. of operations</b>	4000 for AEA9xxT 2000 for ADA9xxT
<b>Connection capacity</b>	<b>Rigid</b> 25mm <sup>2</sup> max. <b>Flexible</b> 16mm <sup>2</sup> max.
<b>Tightening torque</b>	2.1 Nm
<b>Neutral-IN connectivity</b>	Neutral in the cage - insulated busbar slot
<b>Toggle</b>	Sealable Off position
<b>Operating temperature</b>	-25°C to 40°C

### Tripping curve - All In Tcal= 30°C C curve

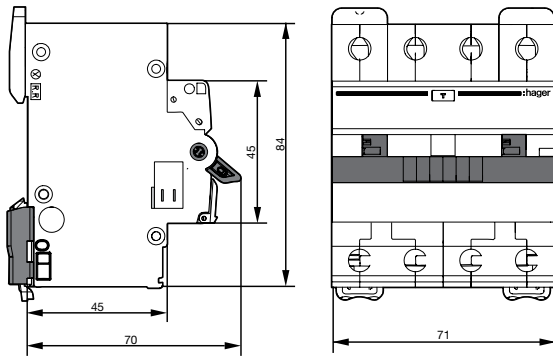


### Temperature derating table (calibration temperature 30°C)

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.

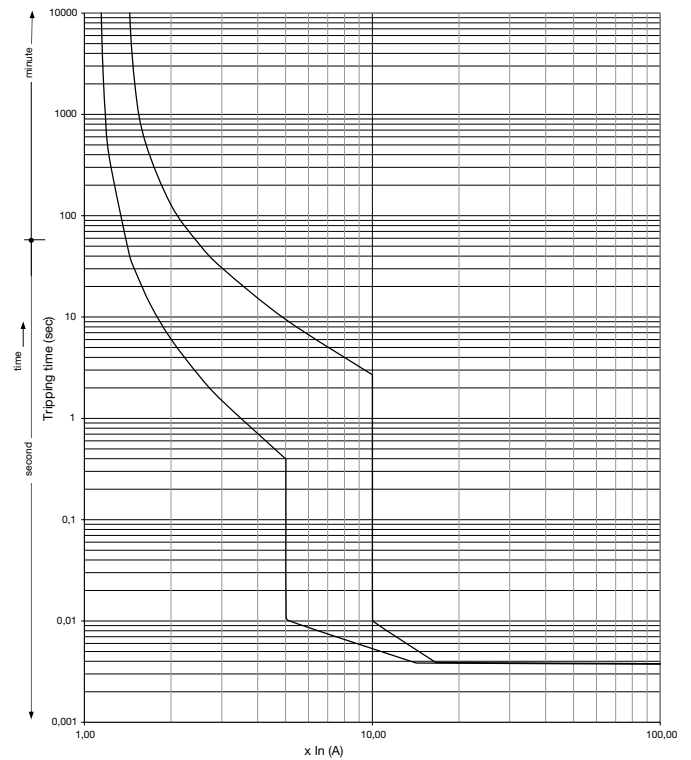
### Dimensions



### Specifications

<b>Standards</b>	AS/NZS 61009.1
<b>Wave form of earth fault detected</b>	Type A
<b>Residual current tripping technology</b>	Voltage independent, bi-directional and facility insulation resistance test
<b>Thermal trip characteristic</b>	C curve (5-10 x I <sub>n</sub> )
<b>Breaking capacity I<sub>cn</sub></b>	6000A
<b>Frequency</b>	50Hz
<b>Voltage rating</b>	240 - 415V AC
<b>Current rating</b>	6A - 40A
<b>Residual operating current</b>	30mA for ADM4xxT 100mA for AEM4xxT
<b>Test button operational voltage</b>	375V to 440V
<b>No. of operations</b>	4000
<b>Connection capacity</b>	<b>Rigid</b> 25mm <sup>2</sup> max. <b>Flexible</b> 16mm <sup>2</sup> max.
<b>Tightening torque</b>	2Nm
<b>Neutral-IN connectivity</b>	Neutral in the cage - insulated neutral busbar slot
<b>Toggle</b>	Sealable On/Off position
<b>Operating temperature</b>	-25°C to 40°C

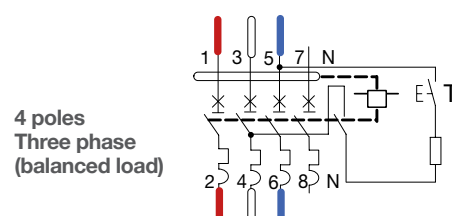
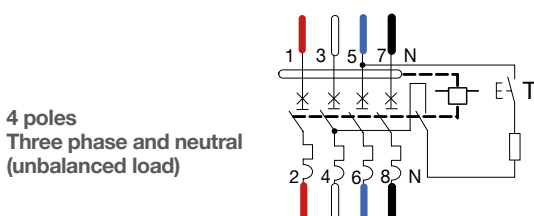
### Tripping curve - Tcal= 30°C C curve



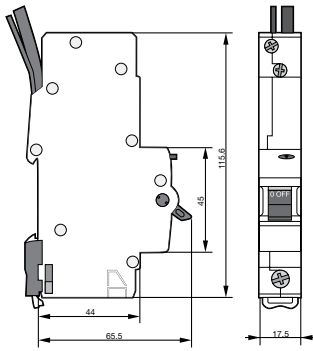
### Temperature derating table (calibration temperature 30°C)

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



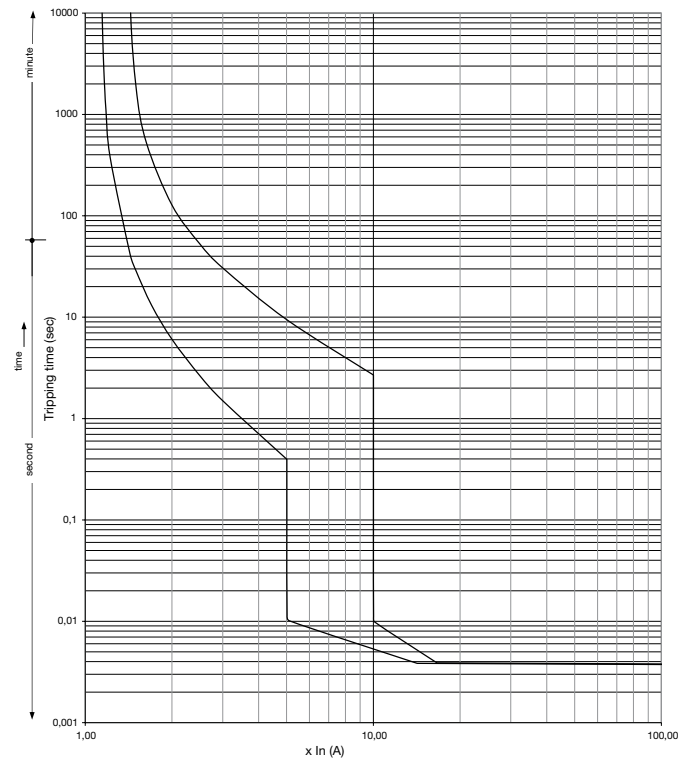
### Dimensions



### 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	<b>Rigid</b> 25mm <sup>2</sup> max.
	<b>Flexible</b> 16mm <sup>2</sup> 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

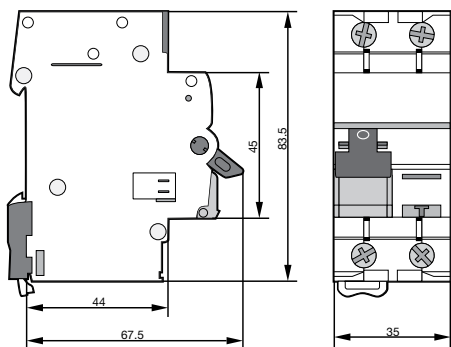
### Tripping curve - All In Tcal= 30°C C curve



### 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

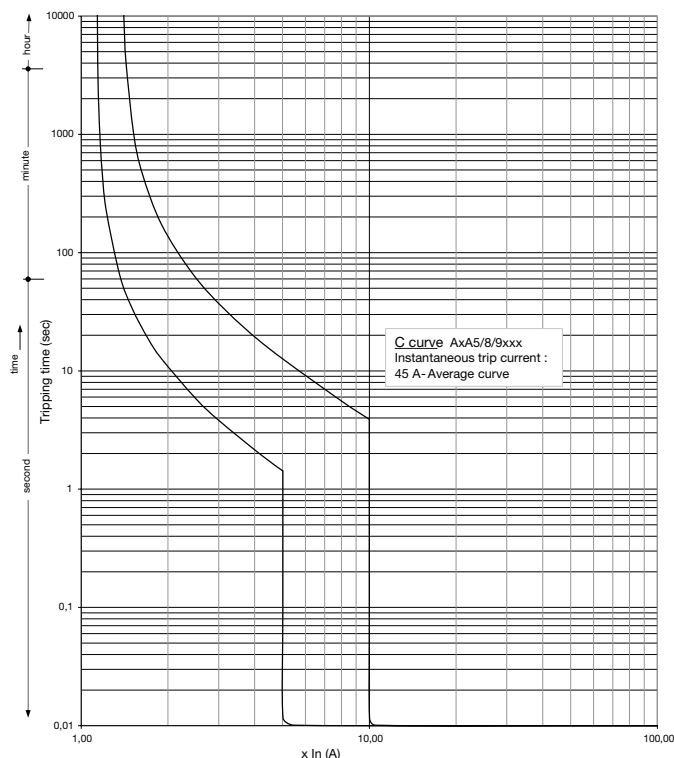
### Dimensions



### Specifications

<b>Standards</b>	AS/NZS 61009.1
<b>Wave form of earth fault detected</b>	Type A
<b>Residual current tripping technology</b>	Voltage independent, bi-directional and facility insulation resistance test
<b>Thermal trip characteristic</b>	C curve (5-10 x In)
<b>Breaking capacity Icn</b>	10,000A
<b>Voltage rating</b>	240V AC
<b>Frequency rating</b>	50Hz
<b>Current rating</b>	6A - 32A
<b>Residual operating current</b>	10mA for ACA5xxT 30mA for ADA5xxT
<b>Test button operational voltage</b>	375V to 440V
<b>No. of operations</b>	2000
<b>Connection capacity</b>	<b>Rigid</b> 25mm <sup>2</sup> max. <b>Flexible</b> 16mm <sup>2</sup> max.
<b>Tightening torque</b>	2.1 Nm
<b>Toggle</b>	Sealable Off position
<b>Operating temperature</b>	-25°C to 40°C

### Tripping curve - All In Tcal= 30°C C curve

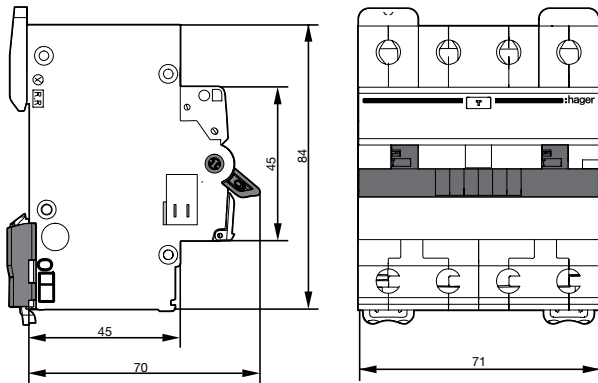


### Temperature derating table (calibration temperature 30°C)

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.

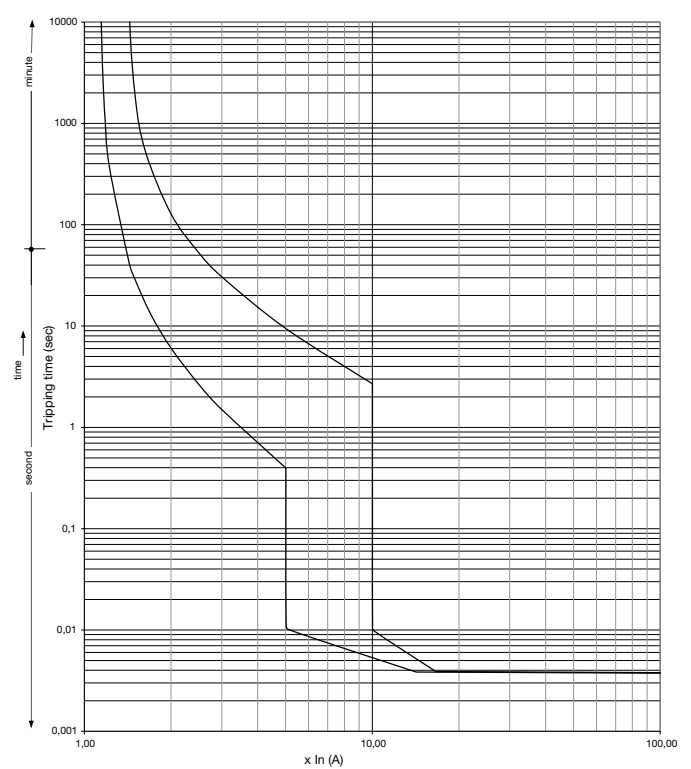
**Dimensions**



**Specifications**

<b>Standards</b>	AS/NZS 61009.1
<b>Wave form of earth fault detected</b>	Type A
<b>Residual current tripping technology</b>	Voltage independent, bi-directional and facility insulation resistance test
<b>Thermal trip characteristic</b>	C curve (5-10 x In)
<b>Breaking capacity Icn</b>	10,000A
<b>Voltage rating</b>	240 - 415V AC
<b>Frequency</b>	50Hz
<b>Current rating</b>	6A - 40A
<b>Residual operating current</b>	30mA for ADX4xxT 100mA for AEX4xxT
<b>Test button operational voltage</b>	375V to 440V
<b>No. of operations</b>	4000
<b>Connection capacity</b>	<b>Rigid</b> 25mm <sup>2</sup> max. <b>Flexible</b> 16mm <sup>2</sup> max.
<b>Tightening torque</b>	2Nm
<b>Neutral-IN connectivity</b>	Neutral in the cage - insulated neutral busbar slot
<b>Toggle</b>	Sealable On/Off position
<b>Operating temperature</b>	-25°C to 40°C

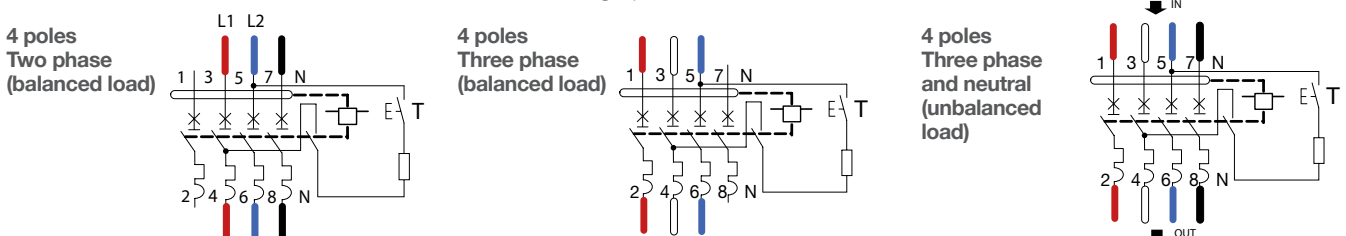
**Tripping curve - Tcal= 30°C C curve**



**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**

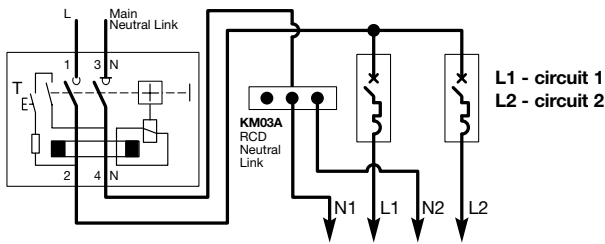




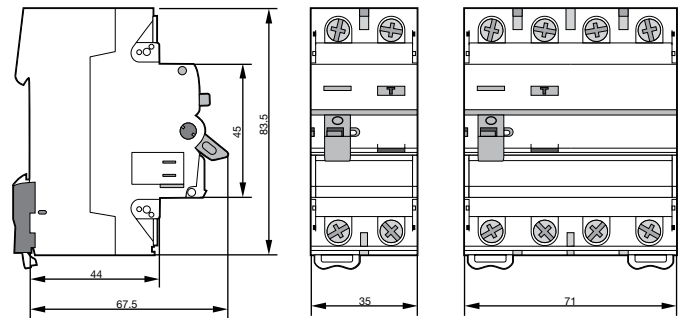
### Electrical Connection

RCCB load and line circuits may be connected top or bottom.

#### 2 poles



### Dimensions



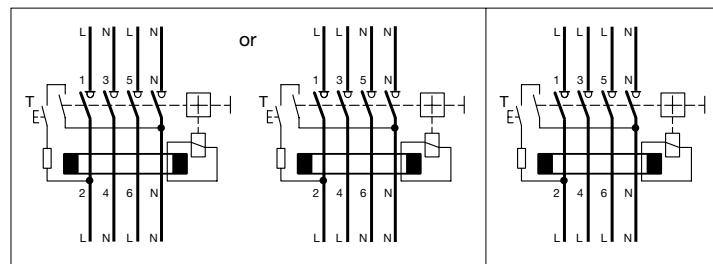
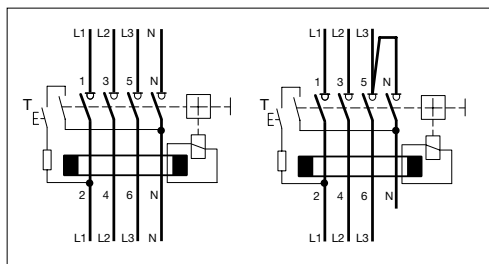
#### 4 poles (CDA4xxT)

Three phase & neutral  
(unbalanced load)

Three phase  
(balanced load)

Single phase  
Two circuits

Single phase  
Three circuits  
common neutral



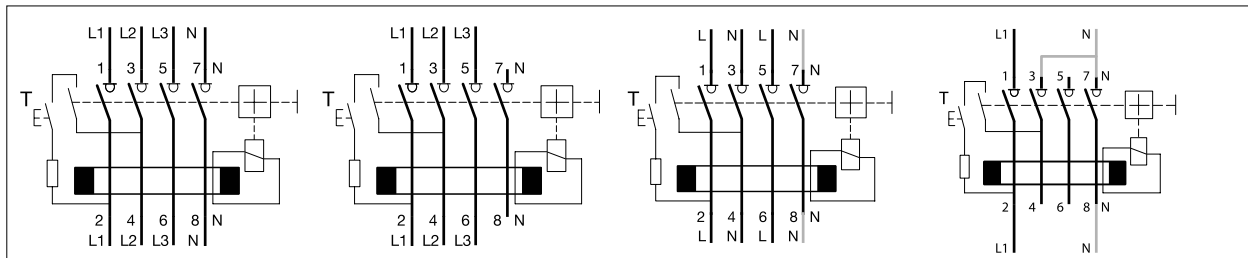
#### 4 poles (CxA5xxT, CxA6xxT & CDFxxxT)

Three phase & neutral use

Three phase use, no neutral

Single phase use  
Two circuits

One circuit



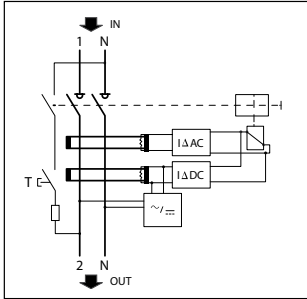
### Specifications

	CDA2xxT	CDA4xxT	CxA5xxT	CxA6xxT	CDF5xxT/CDF6xxT
<b>Standards</b>	AS/NZS 61008.1	AS/NZS 61008.1	AS/NZS 61008.1	AS/NZS 61008.1	AS/NZS 61008.1 and IEC62423
<b>Wave form of earth fault current detected</b>	Type A	Type A	Type A	Type A	Type F
<b>Residual current tripping technology</b>	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
<b>Voltage rating</b>	<b>2 mod</b> 230V AC	<b>4 mod</b> 230/400V AC	240 AC	240/415V AC	230-240V AC
<b>Frequency</b>	50Hz	50Hz	50Hz	50Hz	50Hz
<b>Current rating</b>	<b>2 mod</b> 25A to 63A - 30mA	<b>4 mod</b> 25A to 63A - 30mA	80A to 100A - 30mA 25A to 100A - 100mA	80A to 100A - 30mA 25A to 100A - 100mA	40A to 63A - 30mA
<b>Rated conditional short circuit Inc</b>	6kA	6kA	10kA	10kA	10kA
<b>Test button operational voltage</b>	<b>2 mod</b> 195V to 265V	<b>4 mod</b> 195V to 456V	19w5V to 264V	195V to 456V	195V to 264V
<b>Connection capacity</b>	<b>≤ 63A</b> 25mm <sup>2</sup> rigid max 16mm <sup>2</sup> flexible max	25mm <sup>2</sup> rigid max 16mm <sup>2</sup> flexible max	25mm <sup>2</sup> rigid max 16mm <sup>2</sup> flexible max	25mm <sup>2</sup> rigid max 16mm <sup>2</sup> flexible max	25mm <sup>2</sup> rigid max 16mm <sup>2</sup> flexible max
	<b>≥ 80A</b>		50mm <sup>2</sup> rigid max 35mm <sup>2</sup> flexible max	50mm <sup>2</sup> flexible max 35mm <sup>2</sup> flexible max	
<b>Tightening torque</b>	2.8Nm	2.8Nm	3.6Nm	3.6Nm	3.6Nm
<b>Operating temperature</b>	-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
<b>Toggle</b>	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.

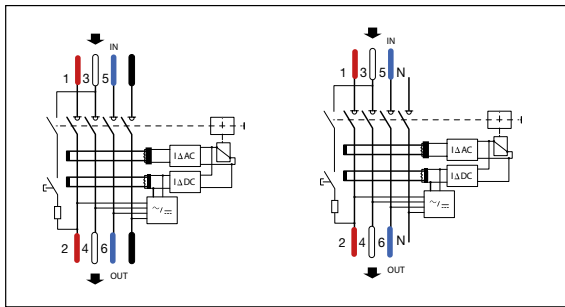
**1P+N**



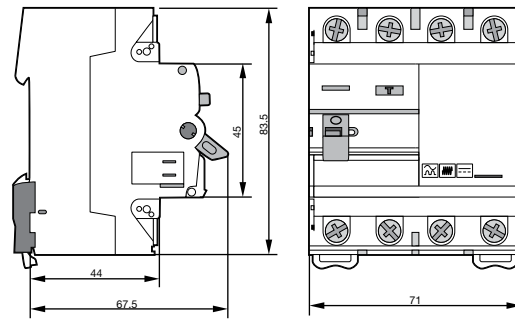
**3P+N**

**Three phase & neutral**  
(unbalanced load)

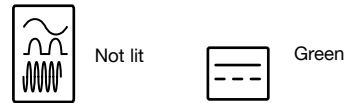
**Three phase**  
(balanced load)



**Dimensions**



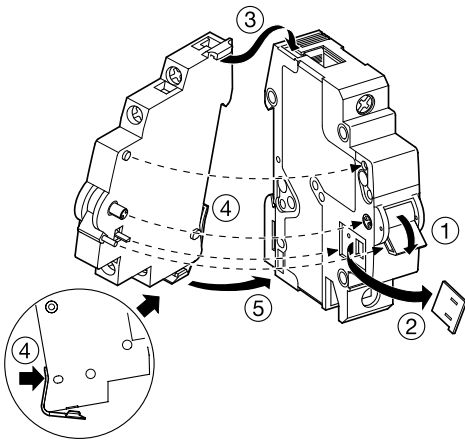
**LED indicator**  
Waveform of leakage current detected:



**Specifications**

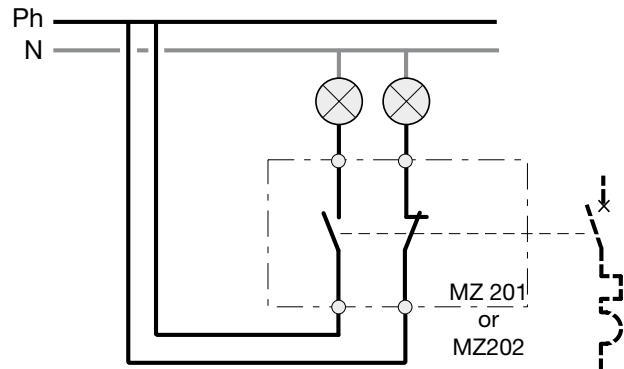
	CDBxxxT	
<b>Standards</b>	AS/NZS 61008.1 and IEC62423	
<b>Wave form of earth fault current detected</b>	Type B	
<b>Residual current tripping technology</b>	Voltage independent - disconnect outgoing cables before circuit insulation resistance test.	
<b>Voltage rating</b>	<b>1P+N</b>	230-240V AC
	<b>3P+N</b>	230-240/400-415V AC
<b>Frequency</b>	50Hz	
<b>Current rating</b>	25A to 63A - 30mA	
<b>Rated conditional short circuit <i>I<sub>nc</sub></i></b>	10kA	
<b>Test button operational voltage</b>	195V to 456V	
<b>Connection capacity ≤ 63A</b>	25mm <sup>2</sup> rigid max 16mm <sup>2</sup> flexible max	
<b>Tightening torque</b>	3.6Nm	
<b>Connectivity</b>	Not suitable for 1P/3P fork busbar	
<b>Operating temperature</b>	-25°C to 70°C	
<b>Toggle</b>	Sealable On-Off position	

	Cat ref.	MSNxxx	NTxxxC	NDNxxxA	HMFxxxT HMCxxxT HMDxxxT	Axx3xxT Ax1xxT Ax1xxB	ADA9xxT	AxA5xxT	AxM4xxT AxX4xxT	CDA2xxT CDA4xxT	Cxx5xxT Cxx6xxT
<b>Switch type</b>		MCB	MCB	MCB	MCB	RCBO	RCBO	RCBO	RCBO	RCCB	RCCB
<b>kA rating</b>		6kA	10kA	10kA	10kA	4.5 & 6kA	6kA	10kA	6 & 10kA	-	-
<b>No. of modules</b>		1/2/3	1/2/3	1/2/3	1.5/3.5/4.5	1	2	2	4	2/4	2/4
<b>Combination auxiliary and alarm contacts</b>	<b>CZ001</b>	-	-	-	-	-	-	-	-	•	-
<b>Heat dissipation inserts</b>	<b>LZ060</b>	•	•	•	•	•	•	•	•	•	•
<b>Auxiliary contacts</b>	<b>MZ201</b>	-	•	•	•	-	-	•	•	With CZ001	•
<b>Alarm contacts</b>	<b>MZ202</b>	-	•	•	•	-	-	•	•	With CZ001	•
<b>Shunt trip relays</b>	<b>MZ203</b>	-	•	•	•	-	-	•	•	•	•
	<b>MZ204</b>	-	•	•	•	-	-	•	•	•	•
<b>Undervoltage releases</b>	<b>MZ206</b>	-	•	•	•	-	-	•	•	•	•
<b>Terminal covers</b>	<b>MZN120</b>	-	-	•	-	-	-	-	-	-	-
	<b>MZN130</b>	-	-	-	•	-	-	-	-	-	-
<b>Phase barriers</b>	<b>MZN121</b>	-	-	•	-	-	-	-	-	-	•
	<b>MZN131</b>	-	-	-	•	-	-	-	-	-	-
<b>Toggle locking device</b>	<b>MZN175</b>	•	•	•	•	•	•	•	•	•	•



### Wiring diagram - MZ201 or MZ202 contact

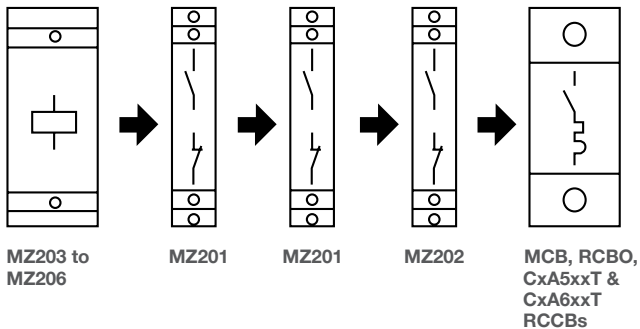
MZ201 auxiliary contact or MZ 202 Alarm contact



### Grouping / combination of several auxiliaries

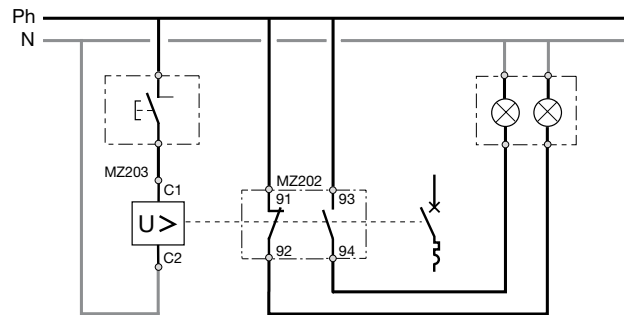
On compatible 1, 2 and 3 pole MCBs, RCBOs and RCCBs (Cx5xxT and Cx6xxT) it is possible to associate 3 auxiliaries - 2 indication auxiliaries and 1 release auxiliary. In this case, it is important to first fix the indication auxiliary (MZ201 and MZ202) and then the release auxiliary (MZ203, MZ204 and MZ206).

### Auxiliary possibilities



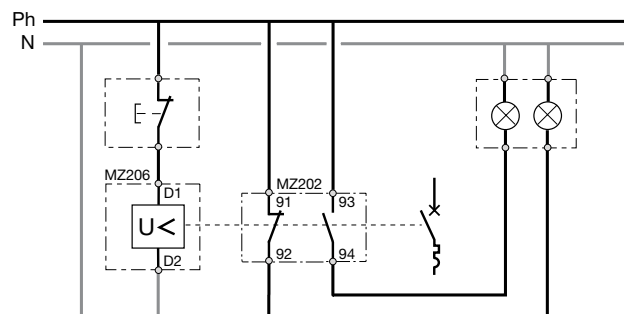
### Wiring diagram - MZ203 shunt trip + MZ202 Alarm Contact

An emergency stop button (NO) and a shunt trip - commonly used in automation.



### Wiring diagram - MZ206 Undervoltage release + MZ202 Alarm Contact

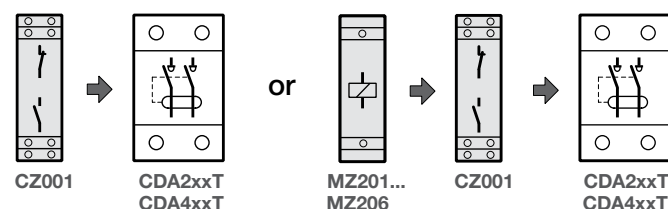
An emergency stop button (NC) and an undervoltage release. For when positive safety is required. e.g. emergency button.



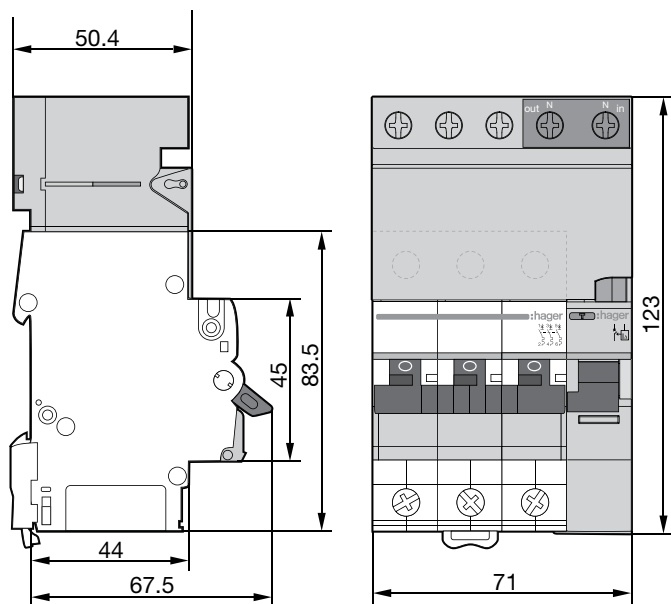
### Combination auxiliary and alarm contact

If shunt trip or undervoltage release is required, the CZ001 must be used as a coupler for RCCBs (CDA2xxT and CDA4xxT).

### RCCB Auxiliary possibilities

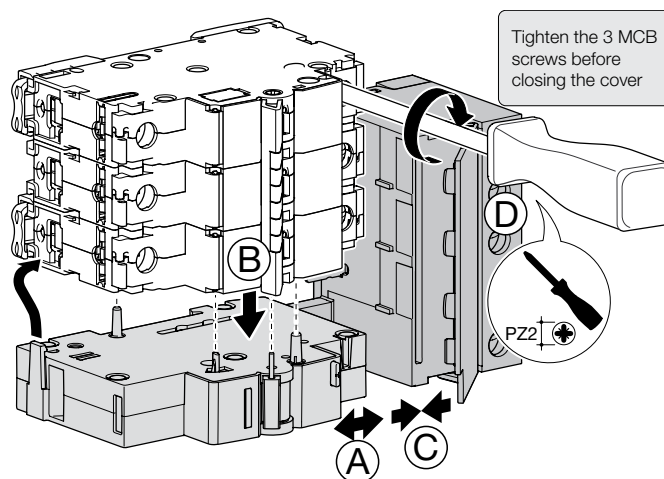


### Dimensions

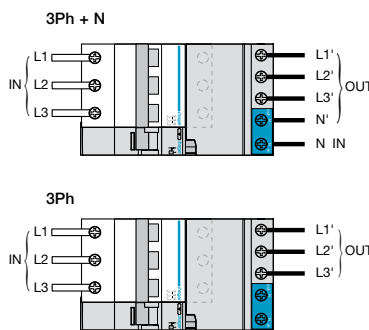
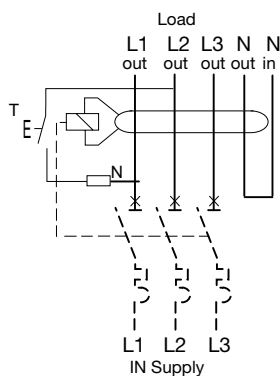


### Specifications

<b>Standards</b>	AS/NZS 61008.1
<b>Voltage rating</b>	240/415V AC
<b>Frequency</b>	50Hz
<b>Thermal trip characteristic</b>	C curve (5-10 x I <sub>n</sub> ) D curve (10-14.4 x I <sub>n</sub> )
<b>Current rating</b>	Suitable Add-On for commercial 3 pole MCB's up to 63A (NT, NDN, MSN series).
<b>Test button operational voltage</b>	338V to 457V
<b>No. of operations</b>	1000
<b>Connection capacity</b>	<b>Rigid</b> 25mm <sup>2</sup> max. <b>Flexible</b> 16mm <sup>2</sup> max.
<b>Tightening torque</b>	3.5Nm
<b>Waveform of earth fault detected</b>	Type A
<b>Residual current technology</b>	Voltage dependent
<b>Residual current</b>	30mA for BD163T 100mA for BE163T 300mA for BF163T
<b>Operating temperature</b>	-5°C to 40°C
<b>Toggle</b>	Sealable OFF position
<b>Breaking capacity I<sub>cn</sub></b>	6000A for MSN and MDN range 10,000A for NT and NDN range 15,000A for NDN range



### Electrical connection



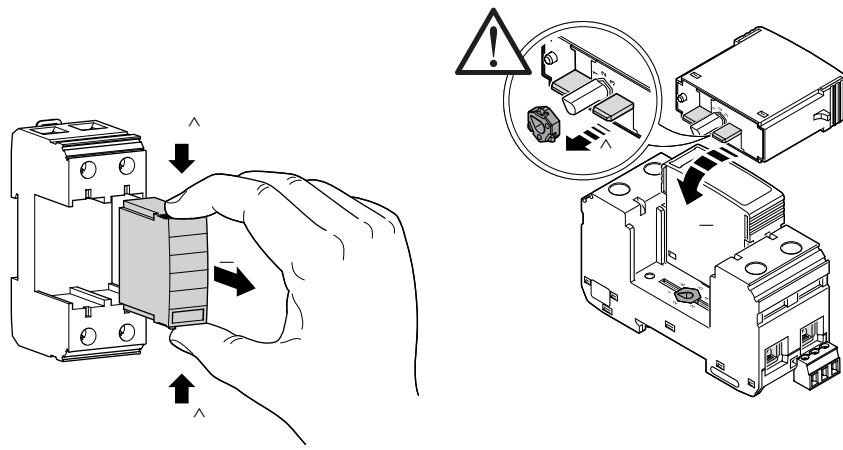
14 mm max.  
6 - 40 A : 10 mm<sup>2</sup>  
40 - 63 A : 16 mm<sup>2</sup>

6 - 40 A : 16 mm<sup>2</sup>  
40 - 63 A : 25 mm<sup>2</sup>

## Electrical characteristics

Ref	SPA212A	SPA412A	SPB100R	SPB200R	SPB300R	SPB400R	SPB165R	SPB265R	SPB365R	SPB465R
<b>AS/NZ1768 Location Category</b>	Cat C3	Cat C3	Cat C2	Cat C2	Cat C2	Cat C2	Cat C2	Cat C2	Cat C2	Cat C2
<b>AS/NZ1768: Zone Boundary</b>	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
<b>EN 61643 SPD Type</b>	T1	T1	T2	T2	T2	T2	T2	T2	T2	T2
<b>IEC 61643-1 SPD Class</b>	I	I	II	II	II	II	II	II	II	II
<b>Single Max impulse (8/20 µs)</b>	$I_{max}$		100kA	100kA	100kA	100kA	65kA	65kA	65kA	65kA
<b>Nominal discharge current (8/20µs)</b>	$I_n$		40kA	40kA	40kA	40kA	20kA	20kA	20kA	20kA
<b>Pulse discharge current (10/350µs)</b>	$I_{imp}$	12.5kA	12.5kA	2.5kA	2.5kA	2.5kA	2.5kA	12.5kA	12.5kA	12.5kA
<b>Max. continuous operating voltage</b>	$U_c$	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
<b>Voltage protection (common)</b>	$U_p$	2.5kV	2.5kV	2kV	2kV	2kV	2kV	1.45kV	1.45kV	1.45kV
<b>Residual current</b>	$I_{FE}$	<100mA	<100mA	<0.45 mA	<5 µA	<0.45 mA	<5 µA	<0.45 mA	<5 µA	<0.45 mA
<b>Iscrr</b>	-	-	25kA	25kA	25kA	25kA	25kA	25kA	25kA	25kA
<b>Maximum rating MCB for overcurrent protection</b>	125A series / 315A parallel	125A series / 315A parallel	63A "C"	63A "C"	63A "C"	63A "C"	63A "C"	63A "C"	63A "C"	63A "C"
<b>Recommended MCB rating</b>	63A "C"	63A "C"	63A "C"	63A "C"	63A "C"	63A "C"	40A "C"	40A "C"	40A "C"	40A "C"
<b>Max Back-up Fuse</b>	-	-	250A	250A	250A	250A	160A	160A	160A	160A
<b>Recommended Back-up Fuse</b>	-	-	63A to 125A	63A to 125A	63A to 125A	63A to 125A	63A to 125A	63A to 125A	63A to 125A	63A to 125A
<b>Conductor Connection Capacity</b>	Min 1.5mm <sup>2</sup> Max 35 mm <sup>2</sup>	Min 1.5mm <sup>2</sup> Max 35 mm <sup>2</sup>	Min 1.5mm <sup>2</sup> Max 35 mm <sup>2</sup>	Min 1.5mm <sup>2</sup> Max 35 mm <sup>2</sup>	Min 1.5mm <sup>2</sup> Max 35 mm <sup>2</sup>	Min 1.5mm <sup>2</sup> Max 35 mm <sup>2</sup>	Min 1.5mm <sup>2</sup> Max 35 mm <sup>2</sup>	Min 1.5mm <sup>2</sup> Max 35 mm <sup>2</sup>	Min 1.5mm <sup>2</sup> Max 35 mm <sup>2</sup>	Min 1.5mm <sup>2</sup> Max 35 mm <sup>2</sup>
<b>Operating Temperature</b>	-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
<b>Contact for Remote Monitoring</b>	N	N	Y	Y	Y	Y	Y	Y	Y	Y
<b>Number of modules total</b>	4	8	1	2	3	4	1	2	3	4
<b>Single phase</b>	Y	-	Y	Y	-	Y	Y	-	-	Y
<b>Three Phase</b>	-	Y	-	-	Y	-	-	Y	Y	-
<b>TNC</b>	-	-	TNC	-	TNC	-	TNC	-	TNC	-
<b>TNS/TT</b>	-	-	-	TNS/TT	-	TNS/TT	-	TNS/TT	-	TNS/TT
<b>Indication of SPD disconnecter</b>	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
<b>L-N Replacement cartridge</b>	-	-	SPB010R	SPB010R	SPB010R	SPB010R	SPB065R	SPB065R	SPB065R	SPB065R
<b>N-PE Replacement cartridge</b>	-	-	-	SPB010N	-	SPB010N	-	SPB065N	-	SPB065N
<b>L-N</b>	-	-	1	1	3	1	1	3	3	1
<b>N-PE</b>	-	-	0	1	0	1	0	1	0	1
<b>Response time</b>	$t_A$	≤100ns	≤100ns	-	-	-	-	-	-	-
<b>Dimensions: Length, Width, Height</b>	-	-	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.



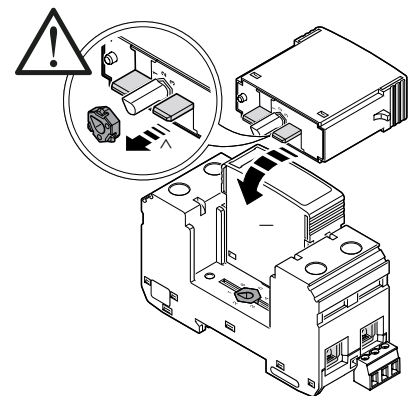
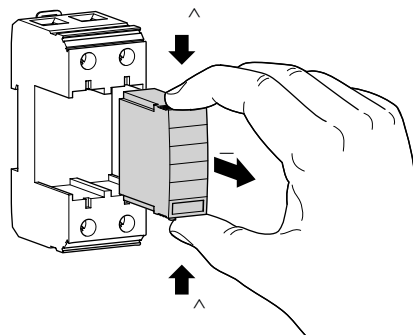
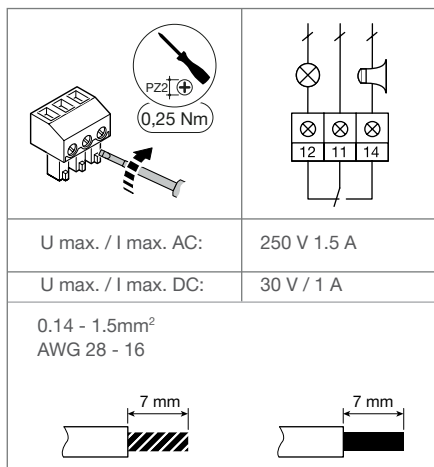
### How do I know if I need to replace a SPD cartridge?

- 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
<b>AS/NZ1768 Location Category</b>	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
<b>AS/NZ1768: Zone Boundary</b>	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
<b>EN 61643 SPD Type</b>	T2	T2	T2	T2	T2	T2	T2	T2	T2	T2
<b>IEC 61643-1 SPD Class</b>	II	II	II	II	II	II	II	II	II	II
<b>Single Max impulse (8/20 µs)</b>	$I_{max}$ 40kA	40kA	40kA	40kA	40kA	40kA	40kA	40kA	8kA	8kA
<b>Nominal discharge current (8/20 µs)</b>	$I_n$ 20kA	20kA	20kA	20kA	20kA	20kA	20kA	20kA	2kA	2kA
<b>Pulse discharge current (10/350 µs)</b>	$I_{imp}$ -	-	-	-	-	-	-	-	-	-
<b>Max. continuous operating voltage</b>	$U_c$ 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
<b>Voltage protection (common)</b>	$U_p$ 1.35kV	1.35kV	1.35kV	1.35kV	1.35kV	1.35kV	1.35kV	1.35kV	0.9kV	0.9kV
<b>Residual current</b>	$I_{RE}$ <0.45 mA	<0.45 mA	<5 µA	<5 µA	<0.45 mA	<0.45 mA	<5 µA	<5 µA	<5 µA	<5 µA
<b>Iscrr</b>	25kA	25kA	25kA	25kA	25kA	25kA	25kA	25kA	10kA	10kA
<b>Maximum rating MCB for overcurrent protection</b>	32A "C"	32A "C"	32A "C"	32A "C"	32A "C"	32A "C"	32A "C"	32A "C"	32A "C"	32A "C"
<b>Recommended MCB rating</b>	32A "C"	32A "C"	32A "C"	32A "C"	32A "C"	32A "C"	32A "C"	32A "C"	32A "C"	32A "C"
<b>Max Back-up Fuse</b>	125A	125A	125A	125A	125A	125A	125A	125A	125A	125A
<b>Recommended Back-up Fuse</b>	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
<b>Connection Capacity</b>	Min 1.5mm <sup>2</sup> Max 35 mm <sup>2</sup>	Min 1.5mm <sup>2</sup> Max 35 mm <sup>2</sup>	Min 1.5mm <sup>2</sup> Max 35 mm <sup>2</sup>	Min 1.5mm <sup>2</sup> Max 35 mm <sup>2</sup>	Min 1.5mm <sup>2</sup> Max 35 mm <sup>2</sup>	Min 1.5mm <sup>2</sup> Max 35 mm <sup>2</sup>	Min 1.5mm <sup>2</sup> Max 35 mm <sup>2</sup>	Min 1.5mm <sup>2</sup> Max 35 mm <sup>2</sup>	Min 1.5mm <sup>2</sup> Max 35 mm <sup>2</sup>	Min 1.5mm <sup>2</sup> Max 35 mm <sup>2</sup>
<b>Operating Temperature</b>	-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
<b>Contact for Remote Monitoring</b>	N	Y	N	Y	N	Y	N	Y	N	N
<b>Number of modules total</b>	1	1	2	2	3	3	4	4	2	4
<b>Single phase</b>	Y	Y	Y	Y	-	-	-	-	Y	-
<b>Three Phase</b>	-	-	-	-	Y	Y	Y	Y	-	Y
<b>TNC</b>	TNC	TNC	-	-	TNC	TNC	-	-	-	-
<b>TNS/TT</b>	-	-	TNS/TT	TNS/TT	-	-	TNS/TT	TNS/TT	TNS/TT	TNS/TT
<b>Indication of SPD disconnector</b>	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
<b>L-N Replacement cartridge</b>	SPB040D	SPB040D	SPB040D	SPB040D	SPB040D	SPB040D	SPB040D	SPB040D	SPB008D	SPB008D
<b>N-PE Replacement cartridge</b>	-	-	SPB040N	SPB040N	-	-	SPB040N	SPB040N	SPB040N	SPB040N
<b>L-N</b>	1	1	1	1	3	3	3	3	1	3
<b>N-PE</b>	0	0	1	1	0	0	1	1	1	1
<b>Dimensions: Length, Width, Height</b>	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?

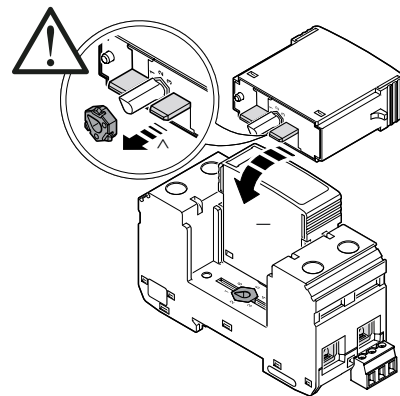
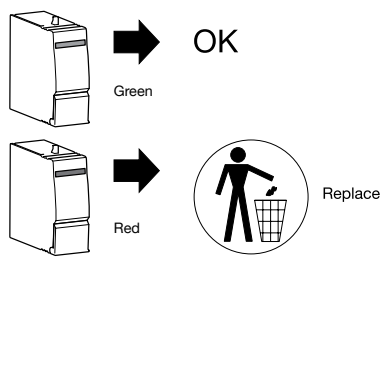
- For Very Coarse (100kA) and Coarse (65kA) SPDs - a small oval indicator will change colours from Green (Ok) to Red (Faulty).
- For Medium (40kA) and Fine (8kA) SPDs - a rectangular window is present, when this window is bright red, there is a fault.
- Please note the rectangular style fault indicators 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

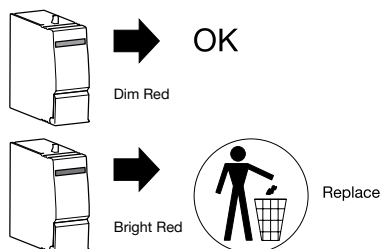
Ref		Very Coarse	Very Coarse	Coarse	Coarse	Medium	Medium	Fine
		SPB010R	SPB010N	SPB065R	SPB065N	SPB040D	SPB040N	SPB008D
AS/NZ1768 Location Category		Cat C3	Cat C3	Cat C2	Cat C2	Cat C1/B	Cat C1/B	Cat CA
AS/NZ1768: Zone Boundary		LPZ 0A - LPZ 1	LPZ 0A - LPZ 1	LPZ 0A - LPZ 1	LPZ 0A - LPZ 1	LPZ 1 - LPZ OB	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

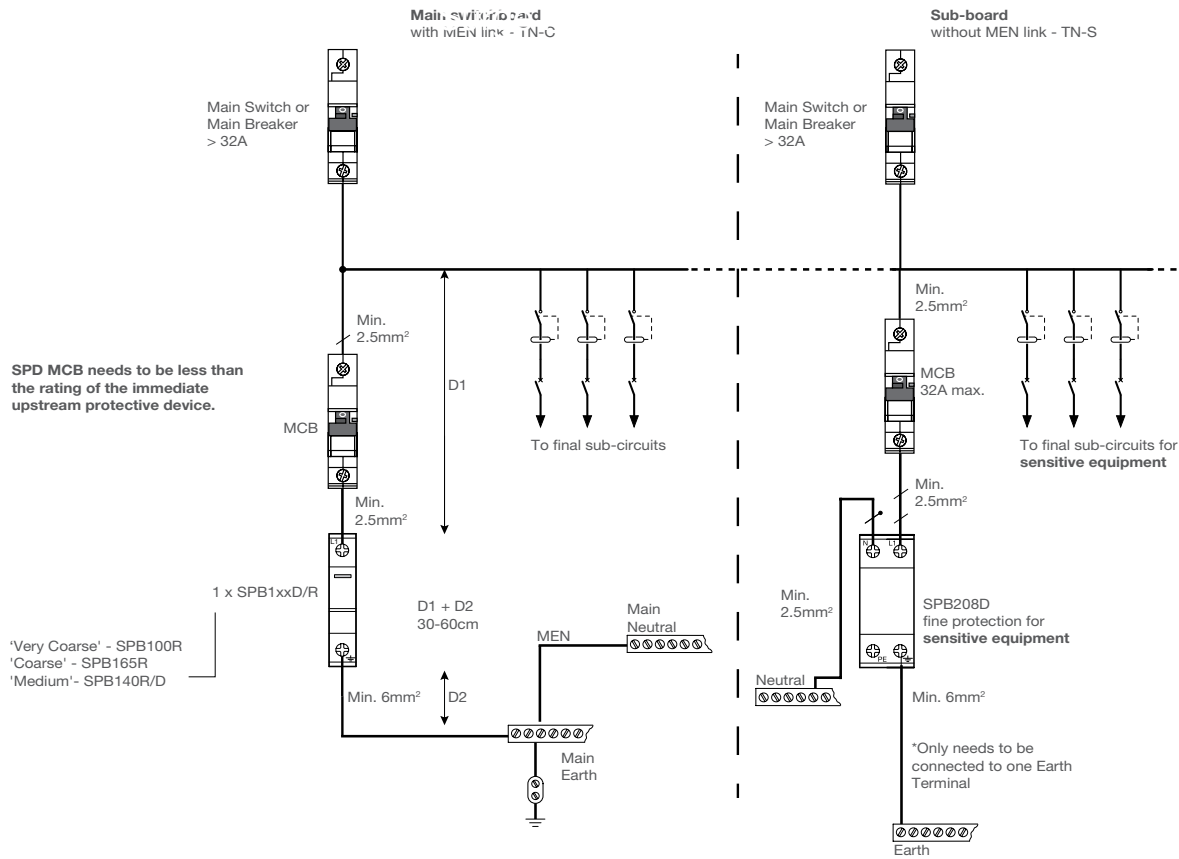


### Medium and Fine SPDs

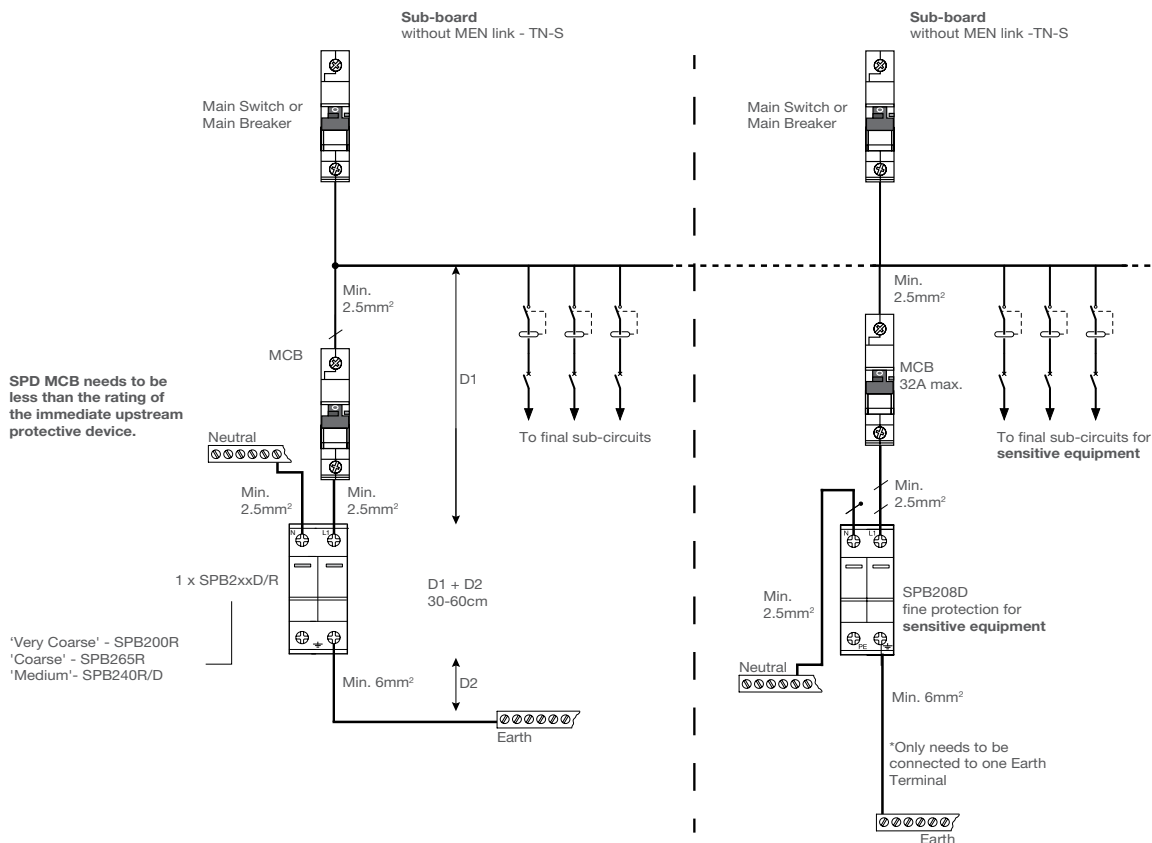


The indicator circled on the left shows this cartridge needs to be replaced, the cartridge not circled to the right of it is ok.

## Surge protection single phase layout example in Main switchboard with MEN link

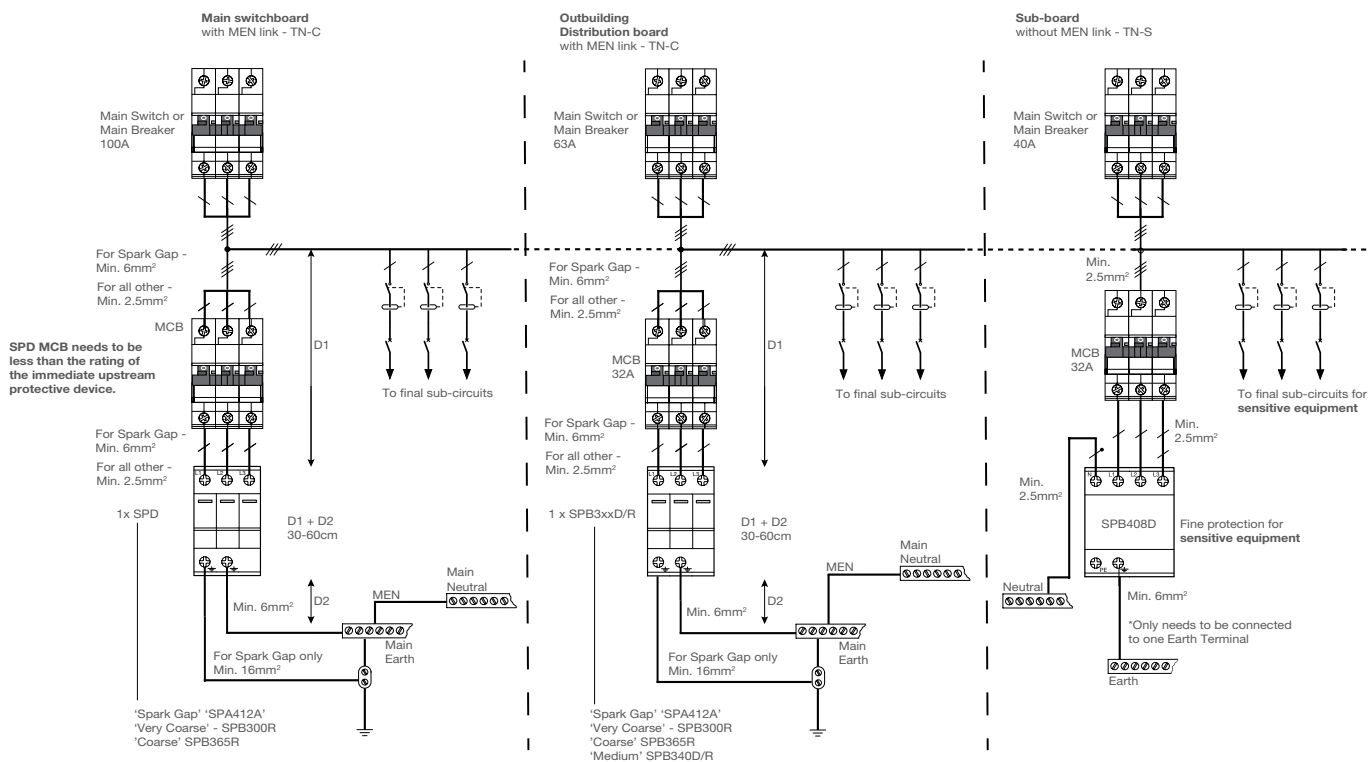


## Surge protection single phase layout example in sub-board without MEN link

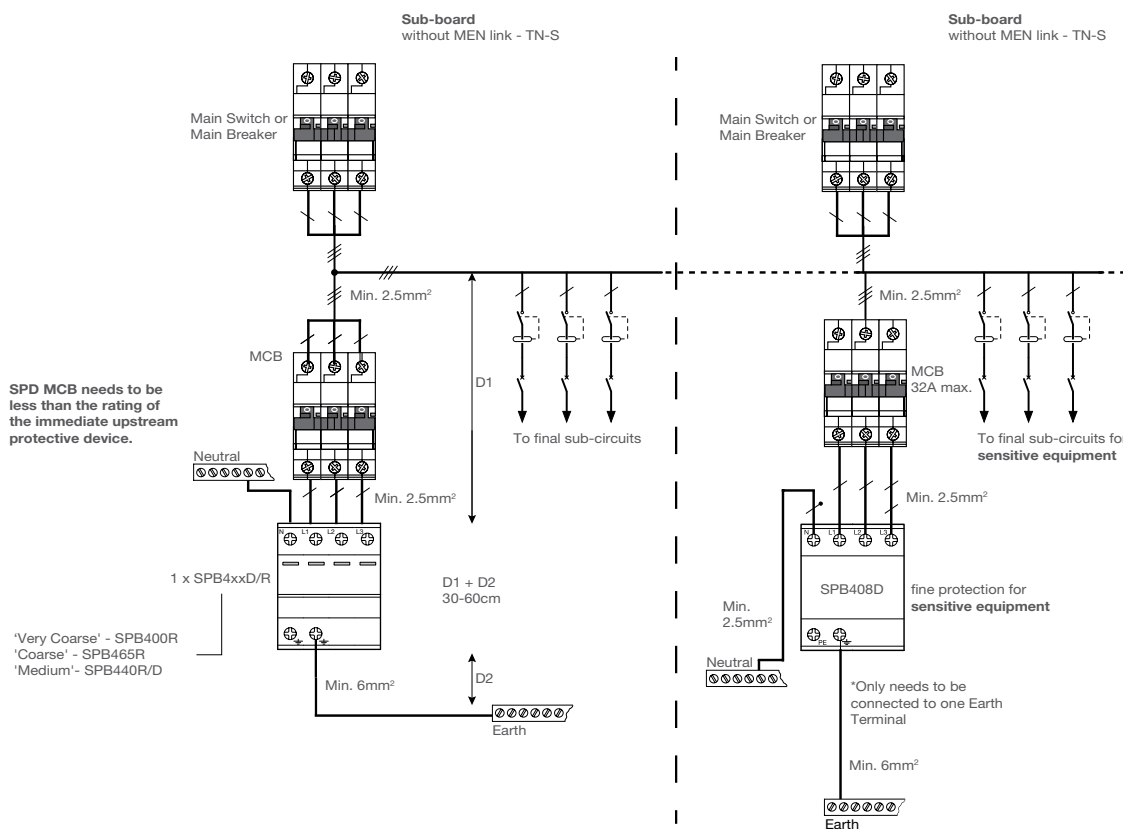




## Surge protection three phase layout example in Main switchboard with MEN link



## Surge protection three phase layout example in sub-board without MEN link



Modular Protection devices

		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

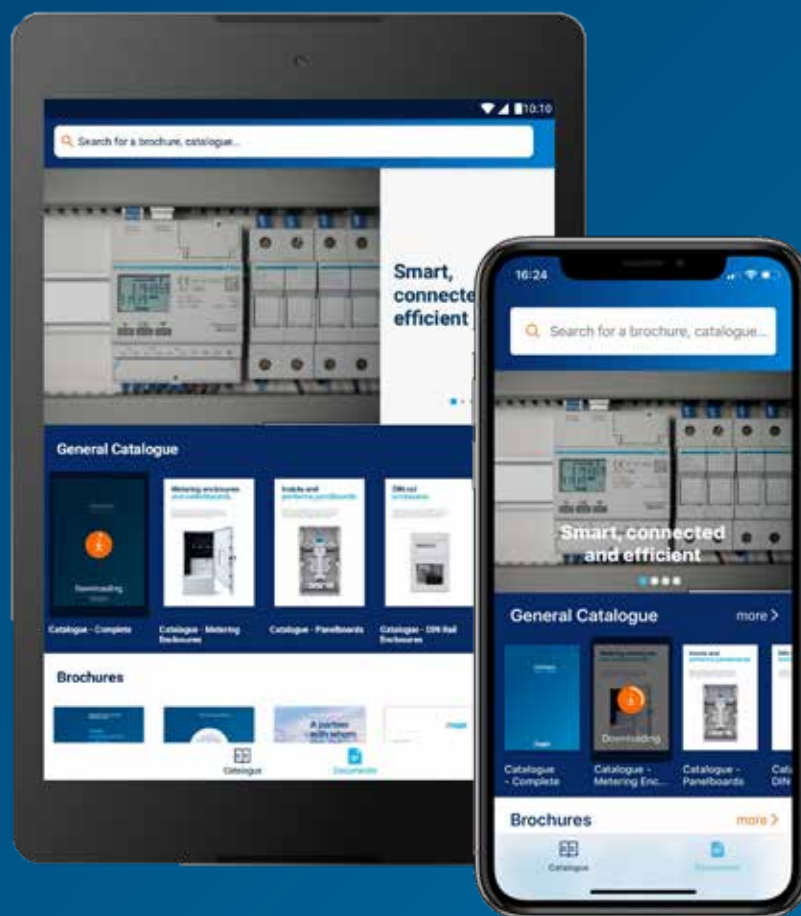
Notes: « T » = total selectivity (up to the breaking capacity of the downstream device)

« - » = no selectivity

	Device	Curve	In (A)	Upstream			
				50	63	80	100
Downstream	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

	Device	Curve	In (A)	Upstream			
				50	63	80	100
Downstream	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	T
			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
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	-	-	-	-	
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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Isolating Switches	118
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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
- 25mm<sup>2</sup> rigid cables
- 16mm<sup>2</sup> flexible cables
- In: 63A and higher
- 50mm<sup>2</sup> rigid cables
- 35mm<sup>2</sup> flexible cables

## Standards

- Compliant with AS/NZS IEC 60947-3 and IEC60669-2-4 for ratings up to 63A

Technical information: [Page 128](#)



SBR164

### Single pole



Characteristics	Width	Cat ref.
1 x 40A 230V~	1 mod	<b>SBR140</b>
1 x 63A 230V~	1 mod	<b>SBR164</b>
1 x 80A 230V~	1 mod	<b>SBR180</b>
1 x 100A 230V~	1 mod	<b>SBR190</b>



SBR264

### Double pole

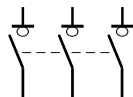


Characteristics	Width	Cat ref.
2 x 40A 230 to 400V~	2 mod	<b>SBR240</b>
2 x 63A 230 to 400V~	2 mod	<b>SBR264</b>
2 x 80A 230 to 400V~	2 mod	<b>SBR280</b>
2 x 100A 230 to 400V~	2 mod	<b>SBR290</b>



SBR399

### Triple pole

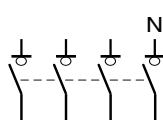


Characteristics	Width	Cat ref.
3 x 40A 400V~	3 mod	<b>SBR340</b>
3 x 63A 400V~	3 mod	<b>SBR364</b>
3 x 80A 400V~	3 mod	<b>SBR380</b>
3 x 100A 400V~	3 mod	<b>SBR390</b>
3 x 125A 400V~	3 mod	<b>SBR399</b>



SBR490

### Four pole

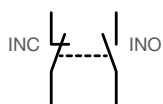


Characteristics	Width	Cat ref.
4 x 63A 400V~ neutral right	4 mod	<b>SBR464</b>
4 x 100A 400V~ neutral right	4 mod	<b>SBR490</b>



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	<b>ESC080</b>

**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**

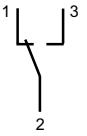
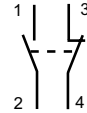
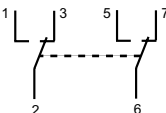
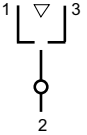
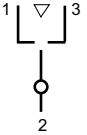
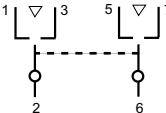
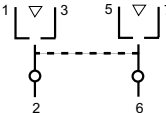
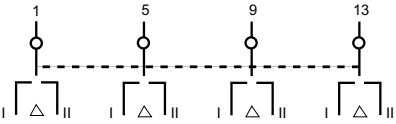
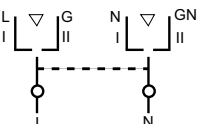
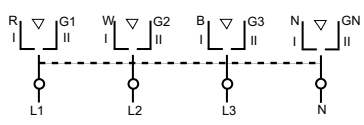
- 16mm<sup>2</sup> rigid
- 10mm<sup>2</sup> flexible

**Standards**

Compliant to IEC 60947-3. SFx63 comply to IEC 60669-2-4.

**Technical information: [Page 129](#)**

**Manual Changeover Switches**

Description	Characteristics	Width	Cat ref.
I-II Single pole, 2 ways with bottom common point 	1 x 25A 230V~	1 mod	<b>SFL125</b>
I-II Single pole, 2 ways, 1NO/1NC w/out common point 	2 x 25A 230V~	1 mod	<b>SFM125</b>
I-II Double pole with bottom common point 	2 x 25A 230V~	2 mod	<b>SFL225</b>
I-O-II Single pole Switches centre - off changeover with top common point 	1 x 25A 230V~	1 mod	<b>SFT125</b>
I-O-II Single pole Switches centre - off changeover with top common point 	1 x 40A 230V~	1 mod	<b>SFT140</b>
I-O-II Double pole Switches centre - off changeover with top common point 	2 x 25A 230V~	2 mod	<b>SFT225</b>
I-O-II Double pole Switches centre - off changeover with top common point 	2 x 40A 230V~	2 mod	<b>SFT240</b>
I-O-II Four pole Switches centre - off changeover with top common point 	4 x 40A 230V~	4 mod	<b>SFT440</b>
I-O-II Double pole Switches centre - off changeover with bottom common point 	2 x 63A 230V~	4 mod	<b>SF263</b>
I-O-II Four pole Switches centre - off changeover with bottom common point 	4 x 63A 400V~	8 mod	<b>SF463</b>



SFL125



SFM125



SFT125



SFT225



SFT240



SF263



SF463

Control & indication



### Description

Provides command signals or program selection in electrical control schemes.

### Connection capacity

- Rigid conductor: 1.5 to 10mm<sup>2</sup>
- Flexible conductor: 1 to 6mm<sup>2</sup>

### 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	<b>SK600</b>
2 pole selector switch 	20A 400V~ Spring return	3 mod	<b>SK601</b>
Voltmeter selector 3Ph&N - 3 readings between phases - 3 readings between phase & neutral - Null position (no reading) 	20A 400V~	3 mod	<b>SK602</b>
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	<b>SK603</b>
Step selector switch 	20A 400V~	3 mod	<b>SK604</b>
Key selector switch 	10A 400V~	3 mod	<b>SK606</b>
Spare key For SK606			<b>SK001</b>

### 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 131](#)

## Contactors

Type	Diagram	Coil AC (50Hz)		Rated output current			Cat ref.
		Override	AC1/AC7a	AC3/AC7b	Width		
1NO		Manual	25A	8.5A	1 mod	<b>ERC125</b>	
		No	25A	8.5A	1 mod	<b>ESC125</b>	
1NO+1NC		No	25A	8.5A	1 mod	<b>ESC227</b>	
		No	25A	8.5A	1 mod	<b>ESD227</b>	
2NC		No	25A	8.5A	1 mod	<b>ESC226</b>	
2NO		Manual	25A	8.5A	1 mod	<b>ERC225</b>	
		Manual	25A	8.5A	1 mod	<b>ERD225</b>	
		Night & Day	25A	8.5A	1 mod	<b>ETC225</b>	
		No	25A	8.5A	1 mod	<b>ESC225</b>	
		No	25A	8.5A	1 mod	<b>ESD225</b>	
		No	40A	25A	3 mod	<b>ESC240</b>	
3NO		No	25A	8.5A	2 mod	<b>ESC325</b>	
		No	40A	25A	3 mod	<b>ESC340</b>	
		Night & Day	40A	25A	3 mod	<b>ETC340</b>	
2NO+2NC		No	25A	8.5A	2 mod	<b>ESC427</b>	
		No	63A	32A	3 mod	<b>ESC465</b>	
4NC		No	40A	25A	3 mod	<b>ESC441</b>	
		No	63A	32A	3 mod	<b>ESC464</b>	
4NO		Manual	25A	8.5A	2 mod	<b>ERC425</b>	
		No	25A	8.5A	2 mod	<b>ESC425</b>	
		No	40A	25A	3 mod	<b>ESC440</b>	
		No	63A	32A	3 mod	<b>ESC463</b>	



ERC225



ESC425



ESC463

Control & indication

## Accessories

Description	Characteristics	Cat ref.
Auxiliary contact (1NO+1NC) 	(Leftside fitting - maximum one AUX per contactor device)	<b>ESC080</b>
Heat dissipation insert		<b>LZ060</b>



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 131](#)



ESC425S



ESC463S

## Hum-free Contactors

Type	Diagram	Coil AC (50Hz) or DC	Override	Rated output current			Cat ref.
				AC1/AC7a	AC3/AC7b	Width	
2NO		230V AC	No	25A	8.5A	1 mod	<b>ESC225S</b>
		230V AC	No	40A	25A	3 mod	<b>ESC240S</b>
		230V AC	No	63A	32A	3 mod	<b>ESC263S</b>
3NO		230V AC	Manual	25A	8.5A	2 mod	<b>ESC325S</b>
		230V AC	No	40A	25A	3 mod	<b>ESC340S</b>
3NO+1NC		230V AC	No	25A	8.5A	2 mod	<b>ESC428S</b>
4NC		230V AC	No	25A	8.5A	2 mod	<b>ESC426S</b>
4NO		230V AC	No	25A	8.5A	2 mod	<b>ESC425S</b>
		230V AC	No	40A	25A	3 mod	<b>ESC440S</b>
		230V AC	No	63A	32A	3 mod	<b>ESC463S</b>

## Accessories

Description	Characteristics	Cat ref.
Auxiliary contact (1NO+1NC) 	(Leftside fitting - maximum one AUX per contactor device)	<b>ESC080</b>
Heat dissipation insert		<b>LZ060</b>



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 10mm<sup>2</sup>
- Flexible capacity: 1 to 6mm<sup>2</sup>

**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**

- 6mm<sup>2</sup> rigid cables
- 4mm<sup>2</sup> flexible cables

**Technical information:** [Page 135](#)

**Latching Relays**

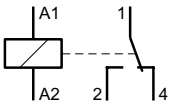
Description	Coil 50/60Hz V ac	Coil V dc	Power circuit AC1	Width	Cat ref.
1NO	230V ac	110V dc	16A-250V	1 mod	<b>EPE510</b>
1NO + 1NC	230V ac	110V dc	16A-250V	1 mod	<b>EPE515</b>
2NO	230V ac	110V dc	16A-250V	1 mod	<b>EPE520</b>
2NO	24V ac	12V dc	16A-250V	1 mod	<b>EPE524</b>



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	<b>EN145</b>



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

- 10mm<sup>2</sup> rigid cables
- 6mm<sup>2</sup> 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	<b>SVN311M</b>
	Contacts: 1NC	1 mod	<b>SVN321M</b>
	Contacts: 1NO+1NC (stop/start)	1 mod	<b>SVN391M</b>



SVN422M

### Push Buttons impulse with indicator light

Description	Characteristics	Width	Cat ref.
	Contacts: 1NO green	1 mod	<b>SVN411M</b>
	Contacts: 1NC red	1 mod	<b>SVN422M</b>



SVN311M

### Push Buttons latching without indicator light 16A - 250V~

Description	Characteristics	Width	Cat ref.
	Contacts: 1NO	1 mod	<b>SVN312M</b>
	Contacts: 1NO+1NC	1 mod	<b>SVN352M</b>



SVN413M

### Push Buttons latching with indicator light

Description	Characteristics	Width	Cat ref.
	Contacts: 1NO green	1 mod	<b>SVN413M</b>

**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**

- 10mm<sup>2</sup> rigid cable
- 6mm<sup>2</sup> flexible cable

**Standards**

- IEC62094-1 for indicator lights

**Indicator Lights**

Description	Characteristics	Width	Cat ref.
With light 230V~ 	1 x green	1 mod	<b>SVN121M</b>
	1 x red	1 mod	<b>SVN122M</b>
	1 x blue	1 mod	<b>SVN124M</b>
	1 x clear	1 mod	<b>SVN125M</b>
	3 x red	1 mod	<b>SVN127M</b>



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	<b>SNO10DA</b>
	15A	2.5 mod	<b>SNO15DA</b>



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  $\leq 30$ 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 136](#)



ST312

### Safety Transformers

Description	Characteristics	Width	Cat. ref.
Frequency: 50/60Hz Primary voltage: 230V Secondary voltage: 12 / 24V~	25VA	4 mod	<b>ST312</b>



63VA	6 mod	<b>ST315</b>
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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	<b>ST303</b>

Frequency: 50/60Hz Primary voltage 230V~ 16VA Secondary voltage: 8V~ 2A 12V~ 1.33A	3 mod	<b>ST305</b>
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SU212

### Bells

Description	Characteristics	Width	Cat. ref.
	8/12V~ 4VA - 0.35A	1 mod	<b>SU212</b>
	230V~ 6.5VA - 0.03A	1 mod	<b>SU213</b>



SU214

### Buzzers

Description	Characteristics	Width	Cat. ref.
	8/12V~ 4VA - 0.35A	1 mod	<b>SU214</b>
	230V~ 6.5VA - 0.03A	1 mod	<b>SU215</b>

**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 136](#)

**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	<b>EMERG1W</b>
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	<b>EMERG2W</b>
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	<b>EMERG3W</b>
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	<b>EMERG4W</b>



EMERG2W and EMERG1W



EMERG3W



## Electrical characteristics

Family	SBRx40	SBRx64	SBRx80	SBRx90	SBR399	ESC080
Thermal current I <sub>th</sub> (40°C)	40A	63A	80A	100A	125A	-
Operational frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50Hz
Rated insulation voltage (U <sub>i</sub> )	440V	440V	440V	440V	440V	240V
Rated impulse withstand voltage (U <sub>imp</sub> )	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<sub>e</sub> (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 <sub>cw</sub> ) (rms)	IEC 60947-3	SBRx40	SBRx64	SBRx80	SBRx90	SBR399	ESC080
Rated short circuit making capacity (I <sub>cm</sub> )	IEC 60669	6kA with 40A MCB C curve	-	-	-	-	-

## Mechanical characteristics

Rigid cable section	25mm <sup>2</sup>	50mm <sup>2</sup>	50mm <sup>2</sup>	50mm <sup>2</sup>	50mm <sup>2</sup>	50mm <sup>2</sup>	10mm <sup>2</sup>
Flexible cable section	16mm <sup>2</sup>	35mm <sup>2</sup>	35mm <sup>2</sup>	35mm <sup>2</sup>	35mm <sup>2</sup>	35mm <sup>2</sup>	6mm <sup>2</sup>
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 <sub>th</sub> (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 <sub>i</sub> )	440V	440V	440V	440V	440V	440V	440V	440V	500V	500V
Rated impulse withstand voltage U <sub>imp</sub>	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<sub>e</sub> (IEC 60947-3)

Load duty category	Rated voltage										
<b>AC 21A</b>	230-400V AC	25A	25A	25A	25A	40A	25A	40A	40A	63A	63A
<b>AC 22A</b>	230-400V AC	25A	25A	25A	25A	40A	25A	40A	40A	40A	40A
<b>AC 22B</b>	230-400V AC	25A	25A	25A	25A	40A	25A	40A	40A	40A	40A

*A category = Frequent operation*

*B category = Infrequent operation*

## Short circuit characteristics

Rated short time withstand current 1s I <sub>cs</sub> (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 <sup>2</sup>	16mm <sup>2</sup>	16mm <sup>2</sup>	16mm <sup>2</sup>	16mm <sup>2</sup>	16mm <sup>2</sup>	16mm <sup>2</sup>	16mm <sup>2</sup>	16mm <sup>2</sup>	25mm <sup>2</sup>	25mm <sup>2</sup>
Flexible cable section (max.)	10mm <sup>2</sup>	10mm <sup>2</sup>	10mm <sup>2</sup>	10mm <sup>2</sup>	10mm <sup>2</sup>	10mm <sup>2</sup>	10mm <sup>2</sup>	10mm <sup>2</sup>	10mm <sup>2</sup>	16mm <sup>2</sup>	16mm <sup>2</sup>
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

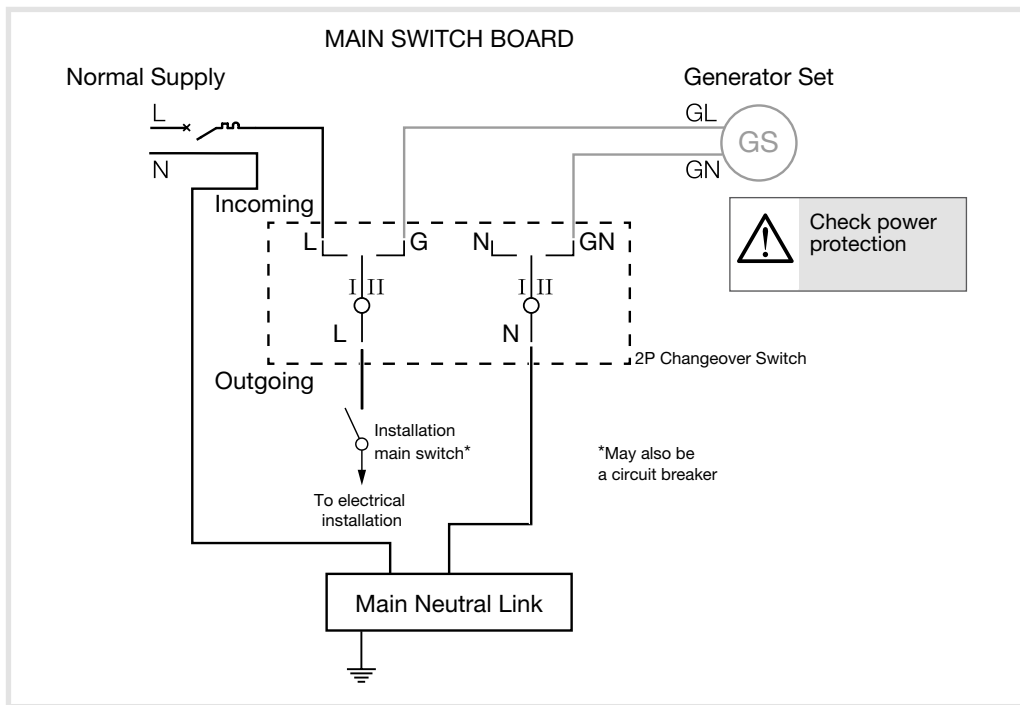
Stand-by generator or Alternative supply generator: typical location of manual changeover device with centre "off" position in the main switch board.

The incoming changeover must be protected with an appropriate MCB 63A - 6kA - C curve to protect against short circuit and disconnection.

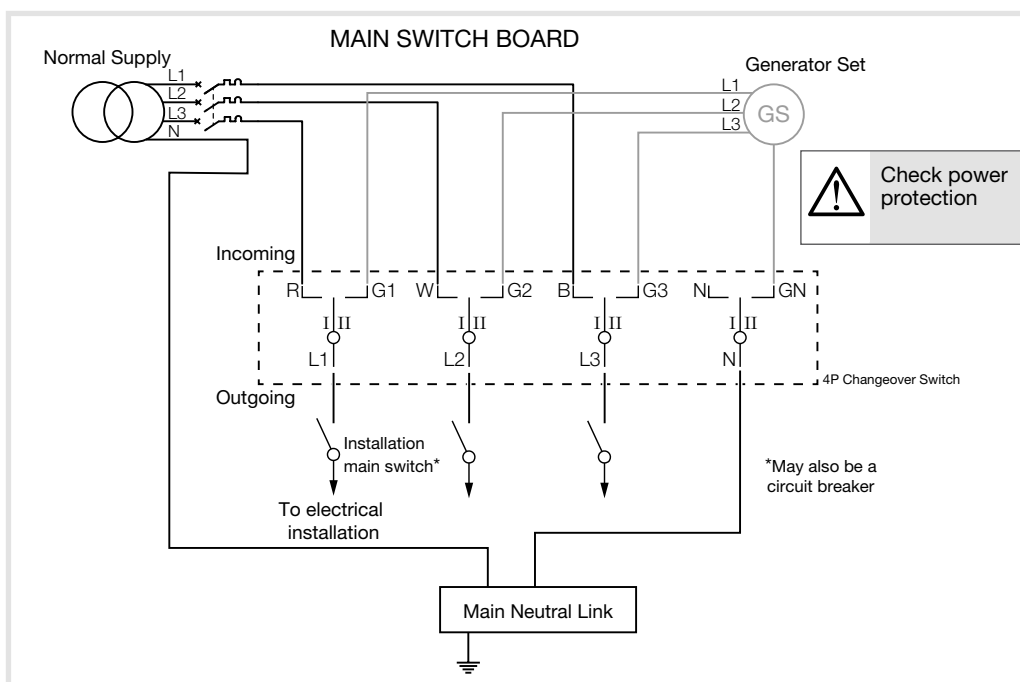
NOTE 1: In Australia and NZ, the Main Supply Neutral upstream of the MEN connection is NOT allowed to be switched. (AS/NZS 3010: Electrical installations - Generating sets).

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



Control & indication

## 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 <sub>th</sub> (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 <sub>imp</sub> )	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 <sub>e</sub>	25A	25A	40A	63A	-
	Rated operating power	230V 4.6kW	-	7.3kW	11.6kW	-
AC3/AC7b	Rated operating currents I <sub>e</sub>	8.5A	8.5A	25A	32A	-
	Rated operating power	230V 880W	400V -	2.6kW	3.3kW	-
			2.6kW	7.8kW	10kW	-

## Mechanical & electrical dururances

Mechanical endurance	no. of operations	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Electrical endurance @ I <sub>e</sub> 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
------------------------------------	------	------	------	----	------

## 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 <sup>2</sup>	1 to 10mm <sup>2</sup>	4 to 25mm <sup>2</sup>	4 to 25mm <sup>2</sup>	10mm <sup>2</sup>
	flexible	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	4 to 16mm <sup>2</sup>	4 to 16mm <sup>2</sup>	6mm <sup>2</sup>
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 <sup>2</sup>	1 to 10mm <sup>2</sup>	1 to 10mm <sup>2</sup>	1 to 10mm <sup>2</sup>	6mm <sup>2</sup>
	flexible	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	6mm <sup>2</sup>
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	-

<b>Working temperature</b>	-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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<b>Storage temperature</b>	-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.

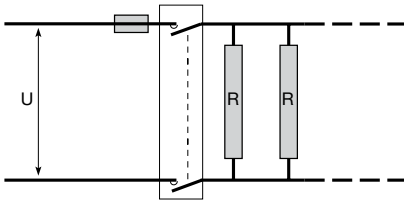
### Adjacent fitting

LZ060 inserts are to be fitted between all contactors and adjacent devices to ensure optimum operation and heat dissipation.

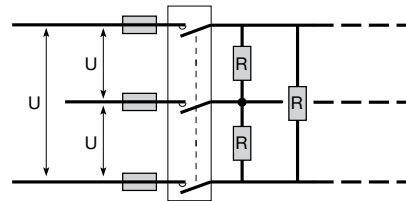
## Heating applications

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		
<b>No. of operations (# see note)</b>		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

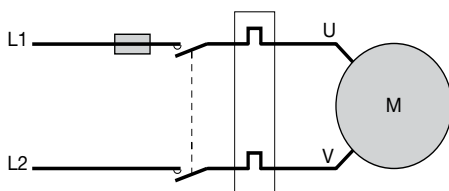
How long will ESC225 (25A) connected to 4kW load last ?

- 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).

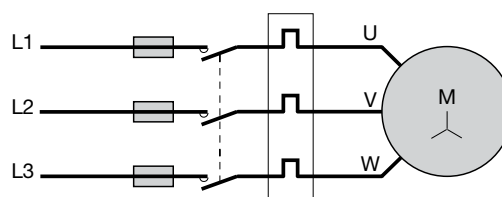
If higher durability is required, the contactor can be up-sized to a higher current rating.

## Motor applications (AC7-b equivalent to AC3)

### Single phase 230V




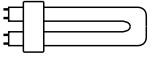

### Three phase 400V



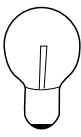
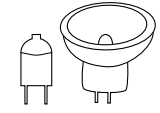
	Contactor rating		Control diagram	
	2P 230V single phase	3P 400V three phase	2P 230V single phase	3P 400V three phase
<b>Maximum power for the motor</b>	16A	0.57 kW	1.7 kW	1.7 kW
	25A	0.88 kW	2.65 kW	2.65 kW
	40A	2.6 kW	7.8 kW	7.8 kW
	63A	3.3 kW	10 kW	10 kW

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.

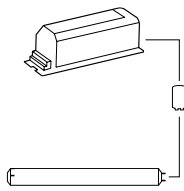
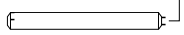
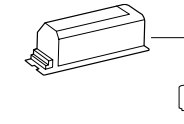
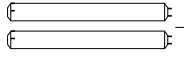
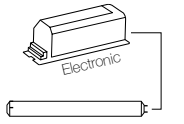
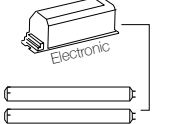
- From June 2014, Hager has improved the performance of 1 and 2 module contactors. The products identified on the front face with the pictogram  can accept a higher number of lamps.

		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		
	Single with electronic ballast	36	22	34	53		
		40 - 42	22	29	45		
		58 - 80	20	27	42		
		115	20	25	39		
	Double with electronic ballast	2 x 18	22	34	53		
		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		
<b>LED's</b>					
	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 <sup>2</sup>	1.5 to 10mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>
Flexible cable section	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>
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 <sup>(a)</sup>	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 <sup>(a)</sup>	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 <sup>(a)</sup>	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 <sup>(a)</sup>	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

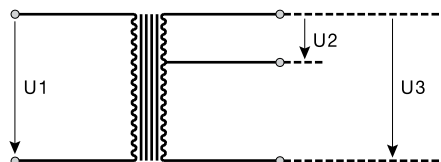
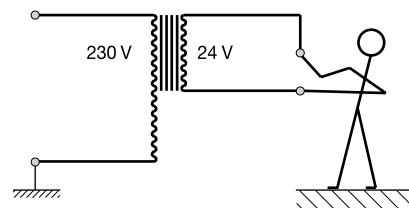
Bell transformers are similar to safety transformers but the secondary voltages do not exceed 24 volts, they are also similarly protected against short circuits and overloads, by thermal protection in the primary winding.

## 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

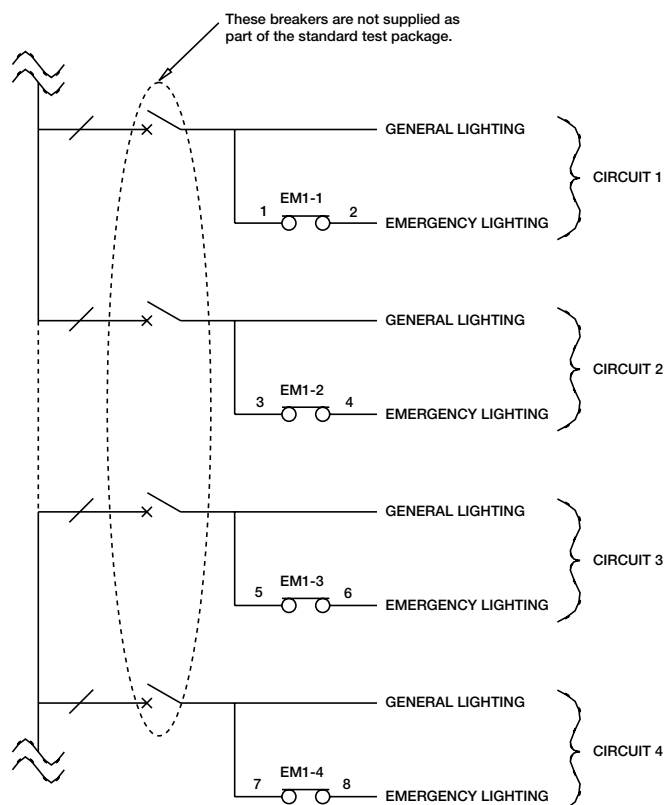
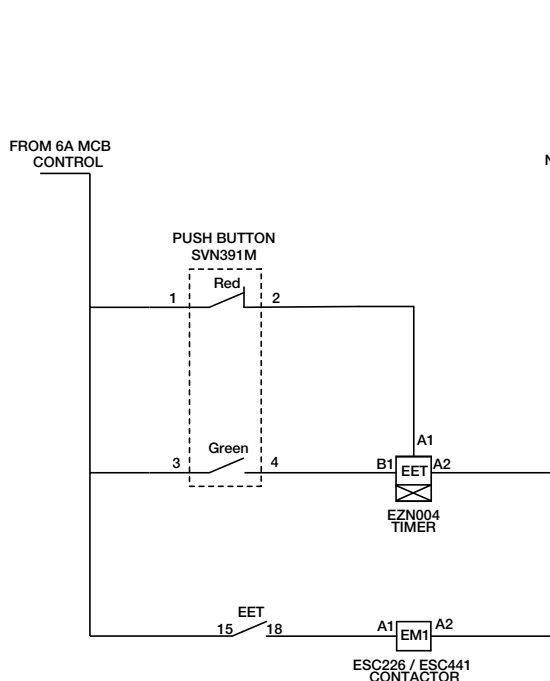
- To link only a secondary (never link both simultaneously)
- Do not connect (in series or in parallel) secondaries of different transformers.



## 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 4mm<sup>2</sup>

### 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 161](#)

## Analogue Time Switches - DIN Mount

Description	Characteristic	Width	Cat ref.
Compact versions	24hr	1 mod	<b>EH010</b>
- Supply: 230V 50Hz	Without battery reserve		
- 1NO changeover	24hr	1 mod	<b>EH011</b>
- 16A AC1 contact rating	With battery reserve		
Standard versions	24hr	3 mod	<b>EH110</b>
- Supply: 230V 50Hz	Without battery reserve		
- 1NO changeover	24hr	3 mod	<b>EH111</b>
- 16A AC1 contact rating	With battery reserve		
	7 day	3 mod	<b>EH171</b>
	With battery reserve		



EH010

## Analogue Time Switches - Panel Mount

Description	Characteristic	Cat ref.
Daily cycle versions	24hr	<b>EH710</b>
- Supply: 230V 50Hz	Manual override	
- 16A AC1 contact rating	Without battery reserve	
- Programming in steps of 10mins	24hr	<b>EH711</b>
- Minimum time between 2 switching intervals: 20min	Manual override	
	With battery reserve	
Weekly cycle version	7 day	<b>EH771</b>
- 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

<b>EG010</b> (1)	<b>EG071</b> (1)	<b>EG103E</b>	<b>EG203E</b>	<b>EG293B</b> (2)	<b>EG403E</b>	<b>EG493E</b>	<b>EGN100AU</b>	<b>EGN103</b> (3)	<b>EGN200AU</b>	<b>EGN400AU</b>
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

<b>Program steps</b>	6	20	56	56	300	300	300	100	56	200	400
<b>LED Display</b>	•	•	•	•	•	•	•		•	•	•
<b>Program key</b>			•	•		•	•		•		
<b>Pulse</b>			•	•	•	•	•	•		•	•
<b>Cycle</b>					•	•	•	•	•	•	•
<b>Day-light saving</b>			•	•	•	•	•		•		
<b>Astro Mode</b>								•		•	•
<b>External input</b>					•	•	•	•		•	•
<b>Overrides</b>	•	•	•	•	•	•	•	•		•	•
<b>Keyboard locking</b>			•	•	•	•	•	•	•	•	•
<b>Holiday</b>			•	•	•	•	•	•		•	•
<b>Bluetooth</b>								•	•	•	•

### 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 162](#)

## 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	<b>EG010</b>



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	<b>EG071</b>
1 channel - Capacity: 56 program steps - Delivered with key EG005	7 day Voltage rating: 230V AC 50Hz	2 mod	<b>EG103E</b>
2 channel - Capacity: 56 program steps - Delivered with key EG005	7 day Voltage rating: 230V AC 50Hz	2 mod	<b>EG203E</b>
4 channel - Delivered with key EG007	7day Voltage rating: 230V AC 50Hz Output: 3 changeover contacts	4 mod	<b>EG403E</b>



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	<b>EG293B</b>
4 channel - Delivered with key EG007	365 day Voltage rating: 230V AC 50Hz Output: 3 changeover contacts	4 mod	<b>EG493E</b>



EG493E

## Accessories

Description	Characteristics	Cat ref.
Programming key	For EG403E, EG493E, EG293B	<b>EG007</b>
Keypad locking key	For EG103E, EG203E	<b>EG005</b>
USB interface	For EG103E, EG203E	<b>EG004</b>
Software available to download from <a href="http://www.hagerelectro.com.au">www.hagerelectro.com.au</a>	Minimum PC configuration: Windows XP, vista, 7, 8, 8.1	<b>EG003G</b>



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 169



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



EEN002

### 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

**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**

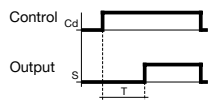
- Rigid capacity: 1.5 to 10mm<sup>2</sup>
- Flexible capacity: 1 to 6mm<sup>2</sup>

**Technical information: [Page 173](#)**

**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**

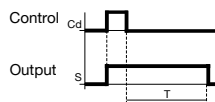


Characteristics	Width	Cat ref.
1 c/o contact 8A AC1 contact rating Time delay T: 0.1s to 10hr	1 mod	<b>EZN001</b>



EZN001

**1 Delay OFF**

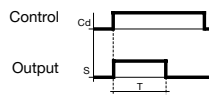


Characteristics	Width	Cat ref.
1 c/o contact 8A AC1 contact rating Time delay T: 0.1s to 10hr	1 mod	<b>EZN002</b>



EZN002

**Adjustable time ON**

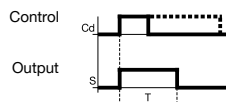


Characteristics	Width	Cat ref.
1 c/o contact 8A AC1 contact rating Time delay T: 0.1s to 10hr	1 mod	<b>EZN003</b>



EZN003

**Timer**

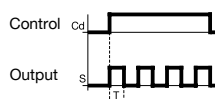


Characteristics	Width	Cat ref.
1 c/o contact 8A AC1 contact rating Time delay T: 0.1s to 10hr	1 mod	<b>EZN004</b>



EZN004

**Symmetrical flasher**



Characteristics	Width	Cat ref.
1 c/o contact 8A AC1 contact rating Time delay T: 0.1s to 10hr	1 mod	<b>EZN005</b>



EZN005

**Multifunction**

Description  
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

Characteristics	Width	Cat ref.
1 c/o contact 8A AC1 contact rating Time delay T: 0.1s to 10hr	1 mod	<b>EZN006</b>



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 174](#)

### 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 175](#)



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	<b>EMN001</b>



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	<b>EVN002</b>



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	<b>EV100</b>



LZ060

### Heat dissipation insert

Description	Width	Cat ref.
To help minimise heat transfer between devices	0.5 mod	<b>LZ060</b>

**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 10mm<sup>2</sup>
- Flexible capacity: 1 to 6mm<sup>2</sup>
- Maximum distance between photocell and controller: 50m

Should be used in conjunction with a suitably rated contactor.

**Technical information: [Page 176](#)**

**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	<b>EEN100</b>



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)	-	<b>EE702</b>



EE702

**Photo Electric Cell for Light Switch**

Description	Cat ref.
Surface cell IP54 for EEN100	<b>EEN003</b>



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°
<b>EE820</b> white	<b>EE840</b> white	<b>EE860</b> white	<b>EE870</b> white	<b>EE805A*</b> white	<b>EE804A*</b> white	<b>EE883</b> white IP54	<b>EE816</b> DALI/DSI	<b>EE810</b> 1 channel	<b>EE600</b> white
				<b>EE871</b> charcoal				<b>EE811</b> 2 channels	
							<b>EE812</b> 1/10 V		

### Accessories

Ceiling mount <b>EE827</b> white	Remote control <b>EE806</b> installer and user	Remote control <b>EE806</b> installer and user	Remote control <b>EE807</b> installer	Remote control <b>EE806</b> installer and user
Corner mounting <b>EE825</b> white	Corner mounting <b>EE855</b> white	Corner mounting <b>EE855</b> white	Corner mounting <b>EE855</b> white	Remote control <b>E808</b> user
Corner mounting <b>EE856</b> charcoal	Corner mounting <b>EE856</b> charcoal	Corner mounting <b>EE856</b> 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 180](#)  
[Motion detectors w. LED Page 184](#)

### Basic Range

Description	Cat ref.
Detector 140° White	<b>EE820</b>
Detector 360° White	<b>EE840</b>



EE820

### Enhanced Range

Description	Cat ref.
Detector 220° White	<b>EE860</b>
Detector Twin 220/360° White	<b>EE870</b>
Detector Twin 220/360° Charcoal Grey	<b>EE871</b>



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	<b>EE806</b>
Ceiling mount accessory	Suits 140° White	<b>EE827</b>
Corner mount accessory	Suits 140° White	<b>EE825</b>
	Suits 220°/360°/Twin White	<b>EE855</b>
	Suits 220°/360°/Twin Charcoal Grey	<b>EE856</b>



EE806

### Motion Detectors with LED lights

Description	Characteristics	Cat ref.
Floodlight with Twin 220°/360° detector	60W (eq. to 300W halogen)	<b>EE600</b>



EE600



### 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: [Page 186](#)



EE883

### Hyper Frequency Detector

Description	Characteristics	Cat ref.
Hyper frequency detector	Surface mount	<b>EE883</b>



EE880

### Corridor Detector

Description	Characteristics	Cat ref.
Corridor motion detector	Surface mount	<b>EE880</b>



**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 187](#)

**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)	<b>EE810</b>
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	<b>EE811</b>
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	<b>EE812</b>



EE810



EE812

Light & energy management

**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.	<b>EE813</b>
Flush mount housing for the installation of presence detector EE810/EE811/EE812. For use in plasterboard or timber ceiling.	<b>EEBOX</b>



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 189, 191, 192](#)



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	<b>EE816</b>



EE807

### Remote Controls

Description	Cat ref.
Infrared commissioning remote control - For EE816 presence detectors - For commissioning	<b>EE807</b>
Infrared user remote control - For EE816 presence detectors - For local lighting control through the detector	<b>EE808</b>



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 185](#)

**Motion & Presence Detectors - 360°**

Description	Characteristics	Cat ref.
White surface mount	10A AC1 contact rating	★ <a href="#">EE804A</a>
White flush mount	10A AC1 contact rating	★ <a href="#">EE805A</a>



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

- 10mm<sup>2</sup> rigid
- 6mm<sup>2</sup> 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 193](#)

\*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	<b>SM500</b>



SM030

### Analogue Ammeters

Description	Characteristics	Width	Cat ref.
Direct	0 - 5A	4 mod	<b>SM005*</b>
	0 - 15A	4 mod	<b>SM015</b>
	0 - 30A	4 mod	<b>SM030</b>
Current transformer operated	Accuracy: 1.5% (full scale)		
- Reading via CT SRA00505	Scale: 0 - 50A	4 mod	<b>SM050*</b>
- Reading via CT SRA01005	Scale: 0 - 100A	4 mod	<b>SM100*</b>
- Reading via CT SRA01505	Scale: 0 - 150A	4 mod	<b>SM150</b>
- Reading via CT SRA02505	Scale: 0 - 250A	4 mod	<b>SM250</b>
- Reading via CT SRA04005	Scale: 0 - 400A	4 mod	<b>SM400</b>
- Reading via CT SRA06005	Scale: 0 - 600A	4 mod	<b>SM600</b>



SM501

### Digital Voltmeter

Description	Width	Cat ref.
Voltage: 220/230V, 50/60Hz Accuracy: ±1% Consumption: 4VA Scale: 0-500V	4 mod	<b>SM501</b>



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
		<b>SM020*</b>
		<b>SM151*</b>
		<b>SM401</b>
		<b>SM601</b>

### 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 195](#)

\*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	★ <a href="#">ECN140D</a>
- Direct reading 40A - Pulsed output	Voltage: 230V AC 45/65Hz Starting current: 20mA Base current: 5A Maximum current: 40A	1 mod	★ <a href="#">ECP140D</a>
- Direct reading 80A - Pulsed output	Voltage: 230V AC 92/276Hz Starting current: 15mA Base current: 5A Maximum current: 80A	2 mod	★ <a href="#">ECP180D</a>
- Direct reading 80A (x3 measurement points) - Pulsed output	Voltage: 230V AC 184/276Hz Starting current: 15mA Base current: 5A Maximum current: 80A	4 mod	★ <a href="#">ECP180T</a>
- Direct reading 40A - Modbus output	Voltage: 230V AC 45/65Hz Starting current: 20mA Base current: 5A Maximum current: 40A	1 mod	★ <a href="#">ECR140D</a>
- Direct reading 80A - Modbus output	Voltage: 230V AC 92/276Hz Starting current: 15mA Base current: 5A Maximum current: 80A	2 mod	★ <a href="#">ECR180D</a>
- Direct reading 80A (x3 measurement points) - Modbus output	Voltage: 230V AC 184/276Hz Starting current: 15mA Base current: 5A Maximum current: 80A	4 mod	★ <a href="#">ECR180T</a>



ECN140D



ECR180T

### Accessories

Description		Cat. ref.
End resistor	120 Ohm end resistor for MODBUS RTU *Not required for ECR3xxD or ECR180T	★ <a href="#">SMC120R</a>



SMC120R

### KNX Meter Interface

Description		Cat. ref.
KNX interface for energy meter - Compatible with the energy meters above (excluding ECR140D)		★ <a href="#">TXF121</a>



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 195](#)



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 196](#)



**SM101C Multimeter**

Description	Width	Cat ref.
Voltage supply: 230/400V 50/60hz	4 mod	<b>SM101C</b>
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	<b>SM102E</b>
Add on modules	RS485 JBus/Modbus	<b>SM210</b>



SM102E

**SM103E Multimeter and Add On Modules**

Description	Characteristics	Cat ref.
Multifunction meter	Panel mount	<b>SM103E</b>
Add on modules	Memory module	<b>SM204</b>
	RS485 JBus/Modbus	<b>SM211</b>
	Ethernet	<b>SM213</b>
	Ethernet + RS485 Jbus/Modbus	<b>SM214</b>



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 198](#)



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 199](#)

### DIN Rail Meters

Description	Cat ref.
Multi-Function Meter Pulsed/Modbus Single Input	★ <b>JKM01</b>
Multi-Function Meter Pulsed/Modbus Dual Input For supply cable, see JF130VMF Note: No cables are supplied with these meters	★ <b>JKM02</b>



JKM01

### Plug-in CTs

No leads supplied with these CTs (RJ45 connection cable)

Description	Cat ref.
125A Frame Size 60A 3 Phase CT	★ <b>EC1260CT</b>
125A Frame Size 100A 3 Phase CT	★ <b>EC12100CT</b>
125A Frame Size 125A 3 Phase CT	★ <b>EC12125CT</b>
125A Frame Size 160A 3 Phase CT	★ <b>EC12160CT</b>
250A Frame Size 60A 3 Phase CT	★ <b>EC2560CT</b>
250A Frame Size 100A 3 Phase CT	★ <b>EC25100CT</b>
250A Frame Size 125A 3 Phase CT	★ <b>EC25125CT</b>
250A Frame Size 160A 3 Phase CT	★ <b>EC25160CT</b>
250A Frame Size 200A 3 Phase CT	★ <b>EC25200CT</b>
250A Frame Size 250A 3 Phase CT	★ <b>EC25250CT</b>
400A Frame Size 250A 3 Phase CT	★ <b>EC40250CT</b>
400A Frame Size 400A 3 Phase CT	★ <b>EC40400CT</b>
400A Frame Size 630A 3 Phase CT	★ <b>EC40630CT</b>
800A Frame Size 800A 3 Phase CT	★ <b>EC80800CT</b>



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	<b>PGMF300</b>
0.50m - HHi Flex Voltage Supply Cable	<b>PGMF500</b>
1.00m - Hi Flex Voltage Supply Cable	<b>PGMF1000</b>
1.30m - Hi Flex Voltage Supply Cable	<b>PGMF1300</b>
2.00m - Hi Flex Voltage Supply Cable	<b>PGMF2000</b>



PGMFT500

### Meter to Meter Supply Cable - PVC - 1mm

Description	Cat ref.
0.30m - Hi Flex Meter to Meter Supply Cable	<b>PGMFT300</b>
0.50m - Hi Flex Meter to Meter Supply Cable	<b>PGMFT500</b>
1.00m - Hi Flex Meter to Meter Supply Cable	<b>PGMFT1000</b>
1.30m - Hi Flex Meter to Meter Supply Cable	<b>PGMFT1300</b>
2.00m - Hi Flex Meter to Meter Supply Cable	<b>PGMFT2000</b>



PGRJ1000

### RJ45 Connection Cable

Description	Cat ref.
0.30m - RJ45 Connector Cable 67 7003	<b>PGRJ300</b>
0.50m - RJ45 Connector Cable 67 L7005 LSZH	<b>PGRJ500</b>
1.00m - RJ45 Connector Cable 67 L7005 LSZH	<b>PGRJ1000</b>
1.50m - RJ45 Connector Cable 67 L7005 LSZH	<b>PGRJ1500</b>
2.00m - RJ45 Connector Cable 67 L7005 LSZH	<b>PGRJ2000</b>

Light & energy management



PG9522FEMALE

### Supply Voltage Connector Plugs

For those who want to make up their own power cable looms

Description	Cat ref.
Voltage IN (Male) Connector	<b>PG9523MALE</b>
Voltage OUT (Female) Connector	<b>PG9522FEMALE</b>

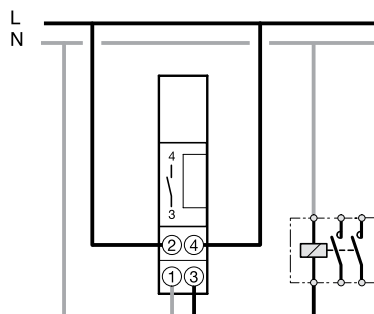


PG9523MALE

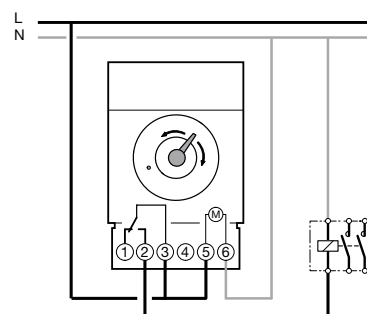
Technical specifications	EH010	EH011	EH110	EH111	EH171	EH710	EH711	EH771
<b>Version</b>	Daily	Daily	Daily	Daily	Weekly	Daily	Daily	Weekly
<b>Voltage supply</b>	230V 50Hz	230V 50Hz	230V 50Hz	230V 50Hz	230V 50Hz	230V 50Hz	230V 50Hz	230V 50Hz
<b>Consumption</b>	0.5VA	0.5VA	0.5VA	0.5VA	0.5VA	0.5VA	0.5VA	0.5VA
<b>Output</b>	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
<b>Switching capacity</b>								
<b>AC 1</b>	16A / 250V	16A / 250V	16A / 250V	16A / 250V	16A / 250V	16A / 250V	16A / 250V	16A / 250V
<b>Incandescent lamp</b>	900W	900W	900W	900W	900W	1000W	1000W	1000W
<b>Compact fluorescent tube</b>	100W	100W	200W	200W	200W	-	-	-
<b>Characteristics</b>								
<b>Technology</b>	Quartz	Quartz	Quartz	Quartz	Quartz	Quartz	Quartz	Quartz
<b>Dial</b>	24hrs	24hrs	24hrs	24hrs	7 days	24hrs	24hrs	7 days
<b>Minimum switching</b>	15min	15min	15min	5min	2hrs	10min	10min	60min
<b>Programming capacity</b>	96 steps	96 steps	96 steps	96 steps	84 steps	72 steps	72 steps	84 steps
<b>Working accuracy</b>	1sec per day	1sec per day	1sec per day	1sec per day	1sec per day	1sec per day	1sec per day	1sec per day
<b>Supply failure reserve</b>	No	200hrs	No	200hrs	200hrs	No	200hrs	200hrs
<b>Reached in</b>	120h	120h	120h	120h	120h	-	-	-
<b>Manual switch type</b>	Auto On	Auto On	Auto On Off	Auto On Off	Auto On Off	On Off	On Off	On Off
<b>Protection degree</b>	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20
<b>Environment</b>								
<b>Working temp</b>	-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
<b>Storage temp</b>	-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
<b>Connection</b>								
<b>Flexible</b>	1 to 4mm <sup>2</sup>	1 to 4mm <sup>2</sup>	1 to 4mm <sup>2</sup>	1 to 4mm <sup>2</sup>	1 to 4mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>
<b>Rigid</b>	1 to 4mm <sup>2</sup>	1 to 4mm <sup>2</sup>	1 to 4mm <sup>2</sup>	1 to 4mm <sup>2</sup>	1 to 4mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>
<b>Dimensions</b>								
<b>Height</b>	80mm	80mm	90mm	90mm	90mm	72mm	72mm	72mm
<b>Width</b>	18mm	18mm	54mm	54mm	54mm	72mm	72mm	72mm
<b>Depth</b>	60mm	60mm	60mm	60mm	60mm	48.5mm	48.5mm	48.5mm

### Wiring diagrams

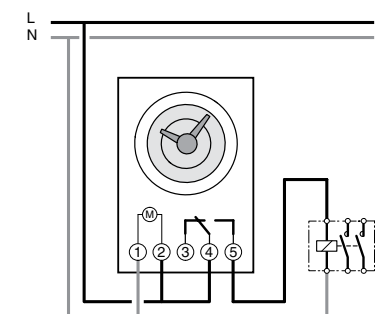
**EH010 / EH011**  
230 V~ ± 10% 50/60Hz



**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
<b>Version</b>	Daily	Weekly	Weekly	Weekly	Weekly	Annual	Annual	Daily/ Weekly/ Annual	Daily/ Weekly	Daily/ Weekly/ Annual	Daily/ Weekly/ Annual
<b>Modules</b>	1mod	1mod	2mod	2mod	4mod	4mod	4mod	1mod	2mod	2mod	4mod
<b>Channels</b>	1ch	1ch	1ch	2ch	4ch	2ch	4ch	1ch	1ch	2ch	4ch
<b>Voltage Supply</b>	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
<b>Consumption</b>	1VA	1VA	6VA	6VA	2VA	2VA	2VA	0.28VA	0.39VA	0.6VA	0.71VA
<b>Output</b>	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
<b>Bluetooth</b>								Bluetooth	Bluetooth	Bluetooth	Bluetooth
<b>Switching Capacity</b>											
<b>AC 1</b>	16A / 250V	16A / 250V	16A / 250V	16A / 250V	10A / 250V	10A / 250V	10A / 250V	10A / 250V	16A / 250V	16A / 250V	16A / 250V
<b>Incandescent lamp</b>	1000W	1000W	2300W	2300W	1500W	1500W	1500W	2300W	2300W	2300W	2300W
<b>LED lamp</b>								20x20W LED	20x20W LED	20x20W LED	20x20W LED
<b>Characteristics</b>											
<b>Technology</b>	Digital	Digital	Digital	Digital	Digital	Digital	Digital	Digital	Digital	Digital	Digital
<b>Minimum switching</b>	1min	1min	1min	1min	1min	1min	1min	1min	1min	1min	1min
<b>Programming capacity</b>	6 steps	20 steps	56 steps	56 steps	300 steps	300 steps	300 steps	100 steps	56 steps	200 steps	400 steps
<b>Working accuracy</b>	±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
<b>Supply failure reserve</b>	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
<b>Protection degree</b>	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20
<b>Environment</b>											
<b>Working temp</b>	-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
<b>Storage temp</b>	-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
<b>Connection</b>											
<b>Flexible</b>	1 to 4mm <sup>2</sup>	1 to 4mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>	0.75 to 2.5mm <sup>2</sup>	0.75 to 2.5mm <sup>2</sup>	0.75 to 2.5mm <sup>2</sup>	0.2 to 2.5mm <sup>2</sup>	1 to 6mm <sup>2</sup>	0.2 to 2.5mm <sup>2</sup>	0.2 to 2.5mm <sup>2</sup>
<b>Rigid</b>	1 to 4mm <sup>2</sup>	1 to 4mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	0.75 to 2.5mm <sup>2</sup>	0.75 to 2.5mm <sup>2</sup>	0.75 to 2.5mm <sup>2</sup>	0.2 to 4mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>	0.2 to 4mm <sup>2</sup>	0.2 to 4mm <sup>2</sup>
<b>Dimensions</b>											
<b>Height</b>	92mm	92mm	85mm	85mm	90mm	90mm	90mm	90mm	90mm	90mm	90mm
<b>Width</b>	18mm	18mm	35mm	35mm	71mm	70mm	70mm	18mm	36mm	36mm	36mm
<b>Depth</b>	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 <sup>2</sup>

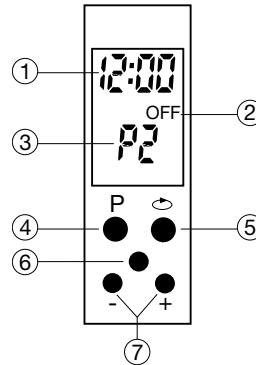
#### Main characteristics

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



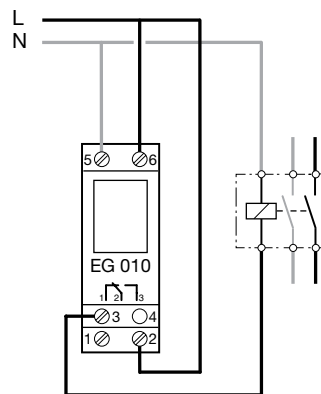
#### Display

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

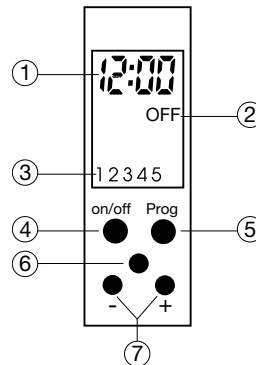
#### Functional characteristics

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 <sup>2</sup>

#### Product presentation



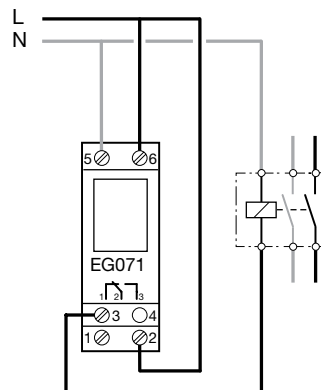
#### Display

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

<b>Supply voltage</b>	230V ±15% 50/60Hz
<b>Consumption</b>	6VA
<b>Output</b>	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

<b>Minimum current</b>	100mA 250V~
<b>Galvanic insulation between power supply and output</b>	= 4kV
<b>Rated impulse voltage</b>	4kV

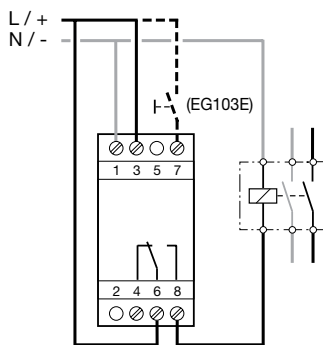
## Functional characteristics

<b>Number of programs</b>	56 program steps
<b>Minimum time between 2 steps</b>	1min
<b>Accuracy</b>	±1.5sec per day
<b>Supply failure reserve</b>	Total of 5 years - lithium battery
<b>Protection degree</b>	IP20

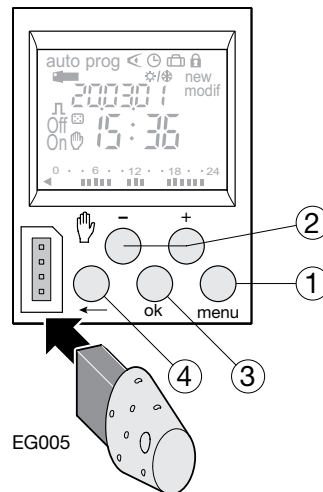
## Environment

<b>Working temperature</b>	-5°C to +45°C
<b>Storage temperature</b>	-20°C to +70°C
<b>Cable capacity</b>	<b>Flexible</b> 1 to 6mm <sup>2</sup> <b>Rigid</b> 1.5 to 10mm <sup>2</sup>

## 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

<b>Supply voltage</b>	230V~ +10%/-15% 50/60Hz
<b>Consumption</b>	6VA
<b>Output</b>	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
<b>Minimum current</b>	100mA 230V~
<b>Galvanic insulation between power supply and output</b>	< 4kV
<b>Rated impulse voltage</b>	4kV

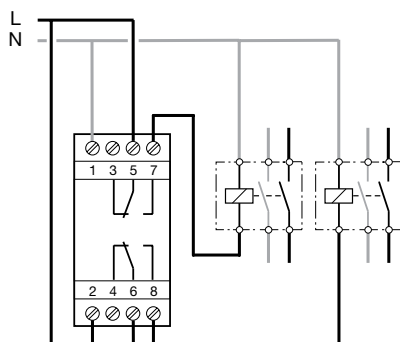
## Functional characteristics

<b>Number of programs</b>	56 program steps
<b>Minimu time between 2 steps</b>	1min
<b>Accuracy</b>	±1.5sec per day
<b>Supply failure reserve</b>	Total of 5 years - lithium battery
<b>Protection degree</b>	IP20

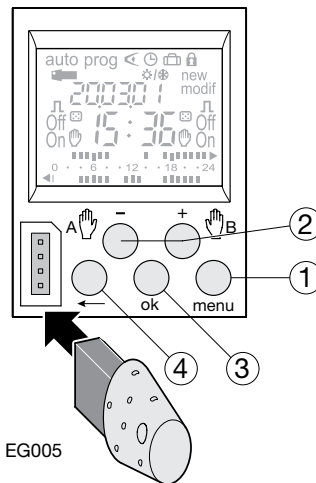
## Environment

<b>Working temperature</b>	-5°C to +45°C
<b>Storage temperature</b>	-20°C to +70°C
<b>Cable capacity</b>	<b>Flexible</b> 1 to 6mm <sup>2</sup> <b>Rigid</b> 1.5 to 10mm <sup>2</sup>

## 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

<b>Supply voltage</b>	230V~ +10%/-15% 50/60Hz
<b>Consumption</b>	< 2VA
<b>Output</b>	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

<b>Minimum current</b>	100mA 250V~
<b>Galvanic insulation between power supply and output</b>	< 4kV

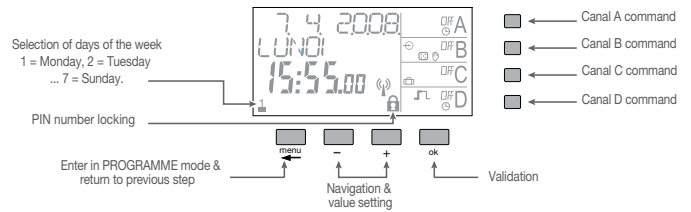
## Functional characteristics

<b>Number of programs</b>	300 program steps
<b>Minimu time between 2 steps</b>	1min
<b>Accuracy</b>	±0.2sec per day
<b>Supply failure reserve</b>	Total of 10 years - lithium battery
<b>Protection degree</b>	IP20 / IK04

## Environment

<b>Working temperature</b>	-10°C to +50°C
<b>Storage temperature</b>	-20°C to +70°C
<b>Cable capacity</b>	0.75 to 2.5mm <sup>2</sup>

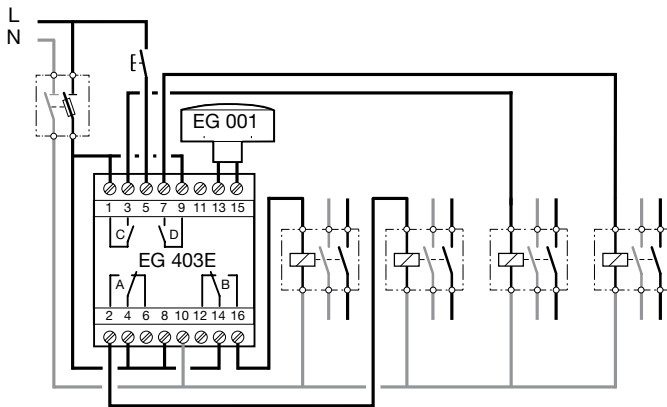
## Product presentation



## 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
- Keyboard locking possible
- Counter of operating time on every output
- Programmable with power off
- Back lit display

## Wiring diagram



## Electrical characteristics

<b>Supply voltage</b>	230V~ +10%/-15% 50/60Hz
<b>Consumption</b>	< 2VA
<b>Output</b>	2 changeover contacts 10A - 250V AC 1
<b>Lighting</b>	
Incandescent lighting	1500W
Halogen lighting 230V	1500W
Compensated fluoro tubes	400W
Non-compensated fluoro tubes in series	1000W
Compact fluoro lamps	400W
<b>Minimum current</b>	100mA 250V~
<b>Galvanic insulation between power supply and output</b>	< 4kV

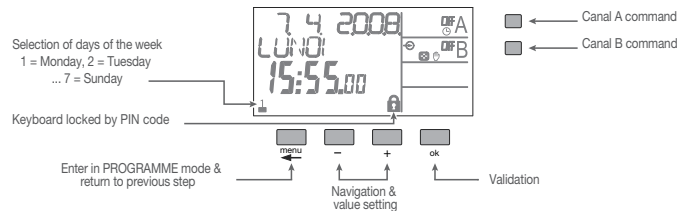
## Functional characteristics

<b>Number of programs</b>	300 program steps
<b>Minimum time between 2 steps</b>	1min
<b>Accuracy</b>	±0.2sec per day
<b>Supply failure reserve</b>	Total of 5 years - lithium battery
<b>Protection degree</b>	IP20 / IK04

## Environment

<b>Working temperature</b>	-10°C to +50°C
<b>Storage temperature</b>	-20°C to +70°C
<b>Cable capacity</b>	0.75 to 2.5mm <sup>2</sup>

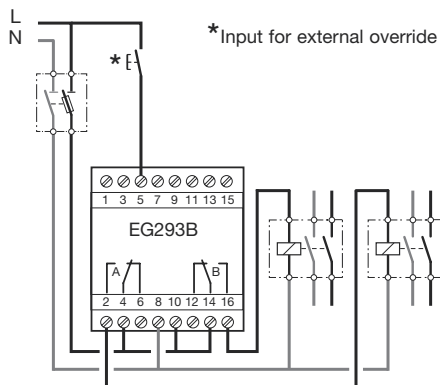
## Product presentation



## 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

<b>Supply voltage</b>	230V~ +10%/-15% 50/60Hz
<b>Consumption</b>	< 2VA
<b>Output</b>	2 changeover + 2 NO contacts 10A - 250V AC 1
<b>Lighting</b>	
Incandescent lighting	1500W
Halogen lighting 230V	1500W
Compensated fluoro tubes	400W
Non-compensated fluoro tubes in series	1000W
Compact fluoro lamps	400W
<b>Minimum current</b>	100mA 250V~
<b>Galvanic insulation between power supply and output</b>	< 4kV

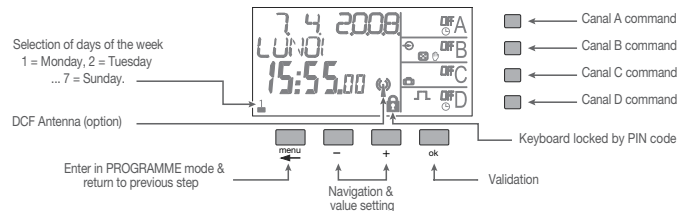
## Functional characteristics

<b>Number of programs</b>	300 program steps
<b>Minimum time between 2 steps</b>	1min
<b>Accuracy</b>	±0.2sec per day
<b>Supply failure reserve</b>	Total of 5 years - lithium battery
<b>Protection degree</b>	IP20 / IK04

## Environment

<b>Working temperature</b>	-10°C to +50°C
<b>Storage temperature</b>	-20°C to +70°C
<b>Cable capacity</b>	0.75 to 2.5mm <sup>2</sup>

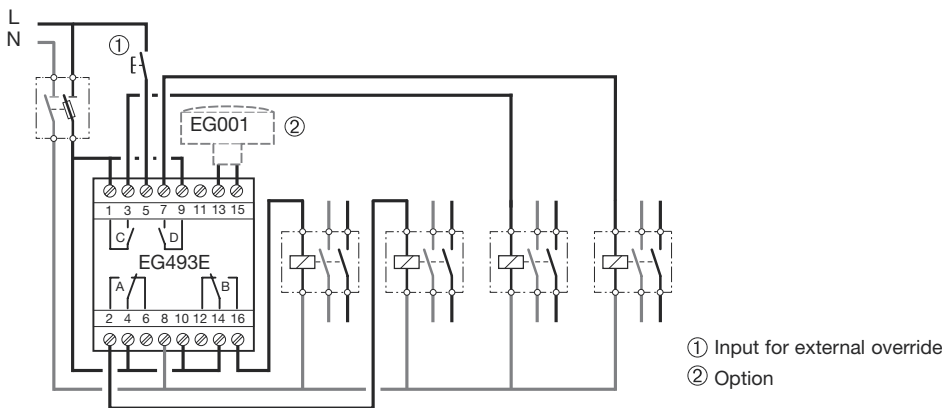
## Product presentation



## 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 (Ⓜ permanent light on)
- Temporary overrides On or Off (Ⓜ flashing)
- Overrides (temporary, permanent or time delayed) remote activation possible
- Simulation of presence (Ⓜ)
- Keyboard locking possible (Ⓜ)
- Counter of operating time on every output
- Programmable with power off
- Back lit display

## Wiring diagram

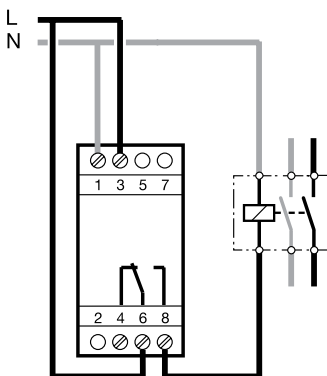


- ① Input for external override
- ② Option

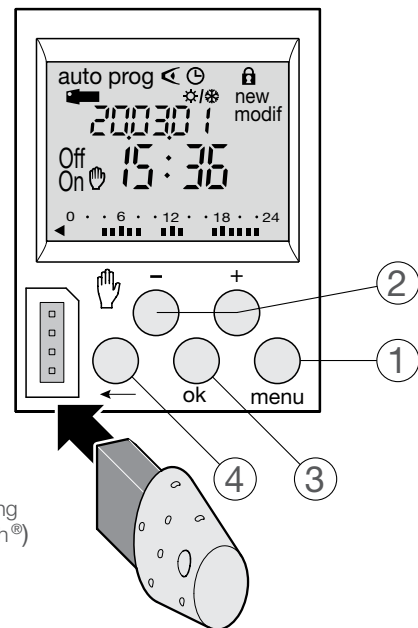
## Electrical characteristics

Operating voltage	230V (+10% / -15%)
Frequency	50/60 Hz
Contact rating	AC1 $\mu$ 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 $\mu$ 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 <sup>2</sup>
Conductor cross-section (rigid)	1.5 ... 10 mm <sup>2</sup>
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.

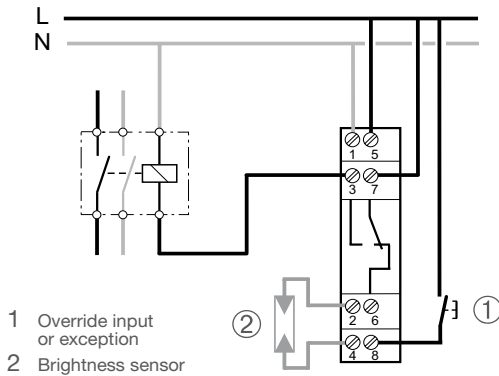
## Major characteristics

- 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

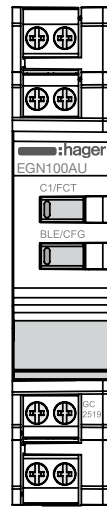
### Electrical characteristics

<b>Operating voltage</b>	230V (+10% / -15%)
<b>Frequency</b>	50/60 Hz
<b>Contact rating</b>	AC1 $\mu$ 10A 230 V~
<b>Power input</b>	0.17VA
<b>Switching current at <math>\cos \phi = 0.6</math></b>	
<b>Power loss at full load</b>	
<b>230 V incandescent and halogen lamps</b>	max. 2300 W
<b>LED lamps</b>	400 W
<b>Fluorescent tubes, compensated // (max. 45 <math>\mu</math> F)</b>	400 W
<b>Fluorescent tubes, uncompensated, series compensated</b>	1000 W
<b>Compact fluorescent lamps</b>	400 W
<b>Number of function channels</b>	1
<b>Number of contacts per channel</b>	2
<b>Shortest switching time</b>	1 min
<b>Number of switching times for On/Off</b>	100
<b>Power reserve (years)</b>	$\approx$ 10 a
<b>Accuracy rate</b>	$\pm$ 90 s/year
<b>Operating temperature</b>	- 5 ... 45 °C
<b>Conductor cross-section (flexible)</b>	0.2 ... 2.5 mm <sup>2</sup>
<b>Conductor cross-section (rigid)</b>	0.2 ... 4 mm <sup>2</sup>
<b>Rail-mounted device (RMD) width</b>	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.

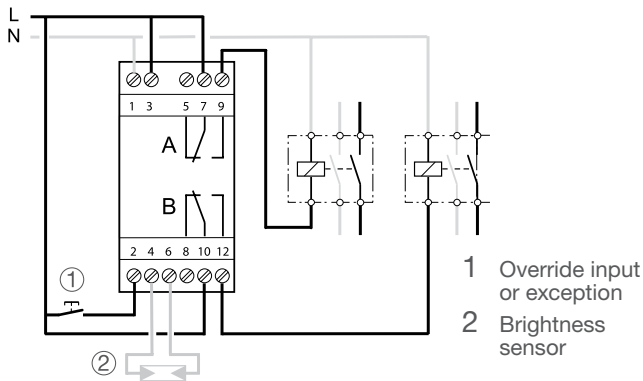
### Major characteristics

- 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

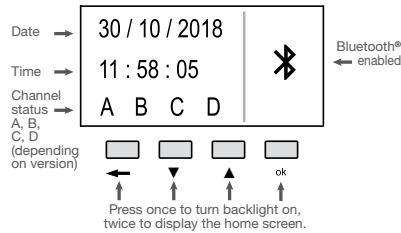
<b>Operating voltage</b>	230V (+10% / -15%)
<b>Frequency</b>	50/60 Hz
<b>Contact rating</b>	AC1 $\mu$ 16A 230 V~
<b>Power input</b>	0.3VA
<b>Switching current at <math>\cos \phi = 0.6</math></b>	
<b>Power loss at full load</b>	
<b>230 V incandescent and halogen lamps</b>	max. 2300 W
<b>LED lamps</b>	400 W
<b>Fluorescent tubes, compensated // (max. 45 <math>\mu</math> F)</b>	400 W
<b>Fluorescent tubes, uncompensated, series compensated</b>	1000 W
<b>Compact fluorescent lamps</b>	400 W
<b>Number of function channels</b>	2
<b>Number of contacts per channel</b>	2
<b>Shortest switching time</b>	1 min
<b>Number of switching times for On/Off</b>	200
<b>Power reserve [years]</b>	$\approx$ 10 a
<b>Accuracy rate</b>	$\pm$ 90 s/year
<b>Operating temperature</b>	- 5 ... 45 °C
<b>Conductor cross-section (flexible)</b>	0.2 ... 2.5 mm <sup>2</sup>
<b>Conductor cross-section (rigid)</b>	0.2 ... 4 mm <sup>2</sup>
<b>Rail-mounted device (RMD) width</b>	2 units

## Wiring diagram

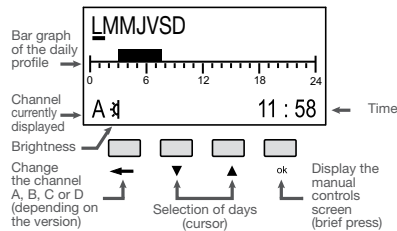


## Product presentation

### Screensaver



### Home screen



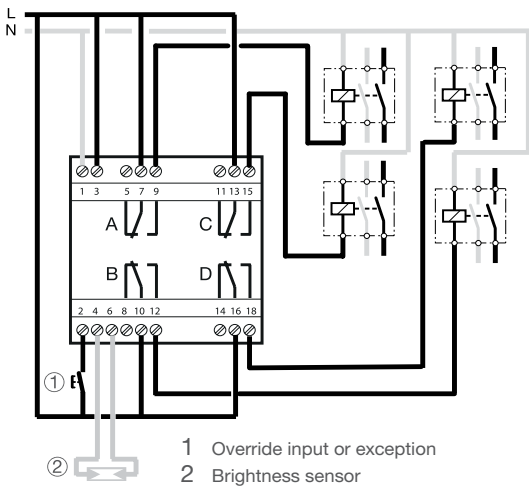
## Major characteristics

- 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**

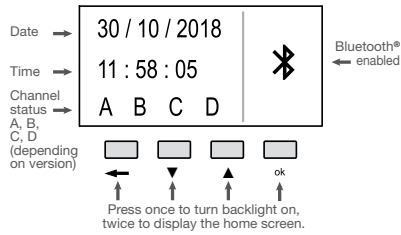
Operating voltage	230V (+10% / -15%)
Frequency	50/60 Hz
Contact rating	AC1 $\mu$ 16A 230 V~
Power input	0.45VA
Switching current at $\cos \phi = 0.6$	
Power loss at full load	
230 V incandescent and halogen lamps	max. 2300 W
LED lamps	400 W
Fluorescent tubes, compensated // (max. 45 $\mu$ F)	400 W
Fluorescent 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 <sup>2</sup>
Conductor cross-section (rigid)	0.2 ... 4 mm <sup>2</sup>
Rail-mounted device (RMD) width	4 units

**Wiring diagram**

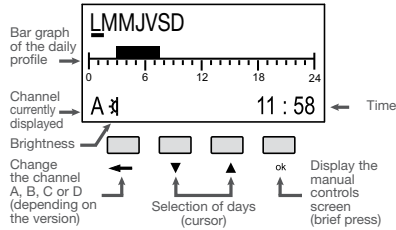


**Product presentation**

**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
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- button lock
- LC display with lighting
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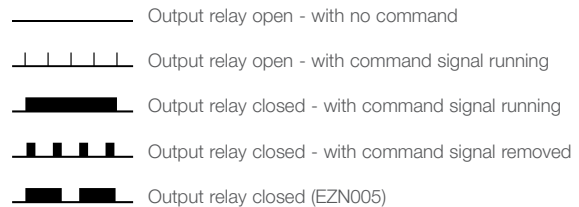
## Delay timers

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:

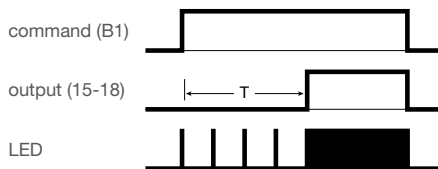
- Delay ON: Intended to delay the starting or switching of a circuit for a set period of time following the command signal e.g. to delay the starting of motor loads where a large number of motors are to be started by the same switch to reduce the effects of the starting currents.
- Delay OFF: Intended 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

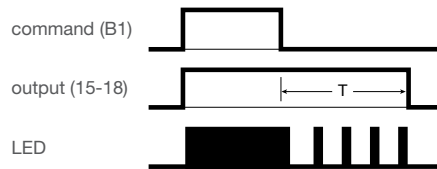
- A = timer.
  - B = delay off (output relay opens either at end of command or after set time period - whichever is shorter).
  - C = delay off.
  - D = delay on.
  - E = delay on (output relay closes either at end of command or after set time period - whichever is shorter).
  - F = symmetrical timer.
- On selection - contact permanently closed.  
Off selection - contact permanently open.



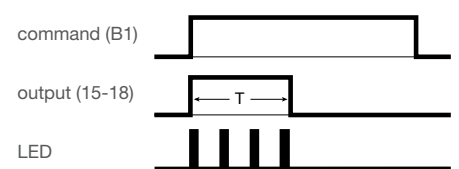
### Delay On EZN001 & EZN006 Function D



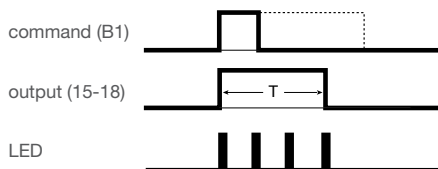
### Delay Off EZN002 & EZN006 Function C



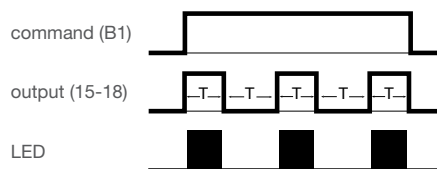
### Adjustable Time On EZN003 & EZN006 Function E



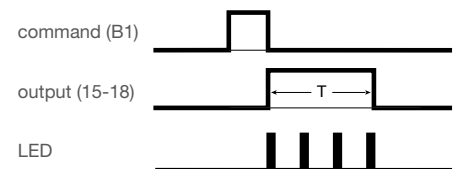
### Impulse Timer EZN004 & EZN006 Function A



### Symmetrical Timer EZN005 & EZN006 Function F



### Multifunction Timer EZN006 Function B



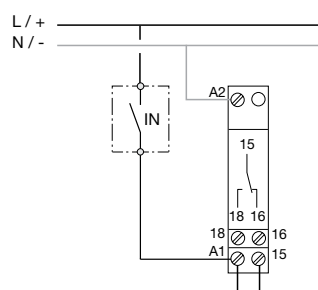
## EZN001 - EZN002 - EZN003 - EZN004 - EZN005 - EZN006

### Electrical characteristics

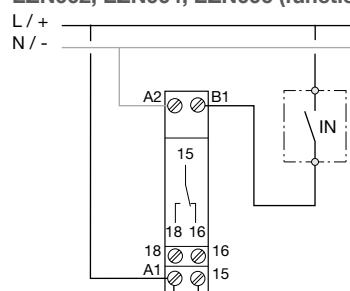
Supply voltage AC	12 - 230 V AC (±10%), 50/60Hz
Supply voltage DC	12 - 48 V DC (±10%)
Output	1 volt free C/O contact
Max load AC1	8A / 230V~ 50,000 cycles
Incandescent	450W~ 50,000 cycles
Fluorescent non comp.	600W~ 50,000 cycles
Inductive load 0.6pf	5A~ 100,000 cycles
Min power AC	100mA at 230 V
Min 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 <sup>2</sup>
Connection capacity - rigid	1.5 - 100mm <sup>2</sup>

### 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

<b>Supply voltage</b>	230V~ +10%/-15% 50/60Hz
<b>Consumption</b>	1VA
<b>Size</b>	1 module
<b>Output</b>	16A - 230V AC1
<b>Lighting</b>	
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

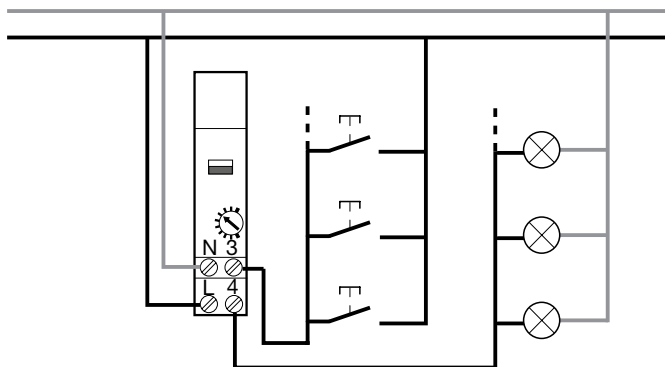
<b>Time delay</b>	30s to 10min
<b>Retrigger</b>	Yes
<b>Maximum current in rest position</b>	100mA
<b>Automatic 3/4 recognition</b>	Yes
<b>Local command</b>	Automatic / override On

### Environment

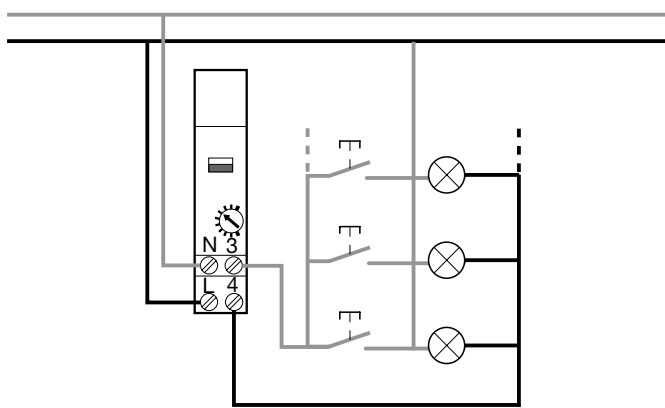
<b>Working temperature</b>	-10°C to +55°C
<b>Storage temperature</b>	-20°C to +60°C
<b>Cable capacity</b>	<b>Flexible</b> 1 to 6mm <sup>2</sup> <b>Rigid</b> 1.5 to 10mm <sup>2</sup>

## Wiring diagrams

### 4 wire

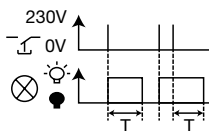


### 3 wire



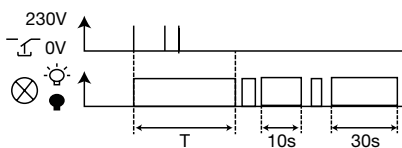
### A: Basic mode

Press push button to switch ON the light. After a set time (Adjustable "T", the light will switch OFF automatically.



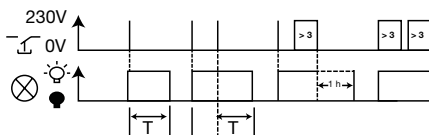
### B: Prewarning mode

A signal (blink) will appear before the end of the lighting period.



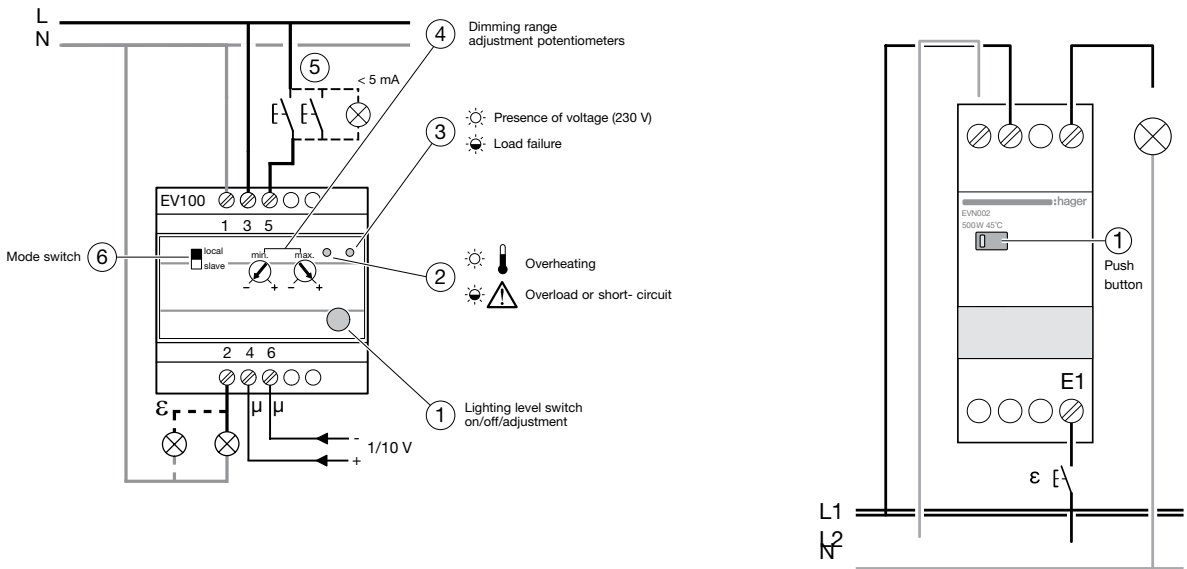
### C: Double delay mode

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
<b>Lighting</b>		
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.		
<b>Functional characteristics</b>		
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 $\Omega$ , 200mW logarithmic	-
<b>Environment</b>		
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 <sup>2</sup>
	Rigid	1.5 to 10mm <sup>2</sup>
		1.5 to 6mm <sup>2</sup>

**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;

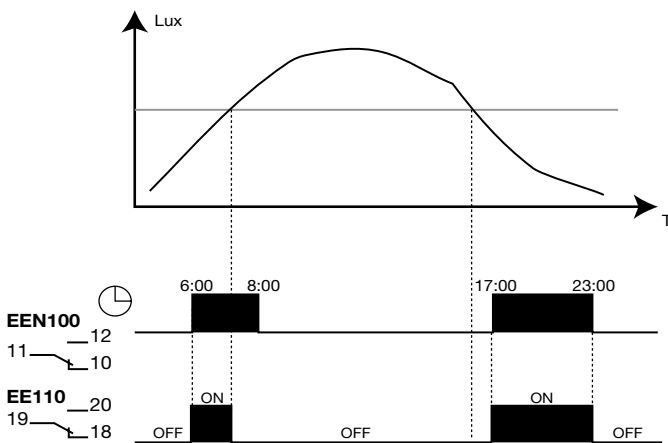
- The user sets the working level
- The photo cell measures the external light level

The output of the EEN100 is:

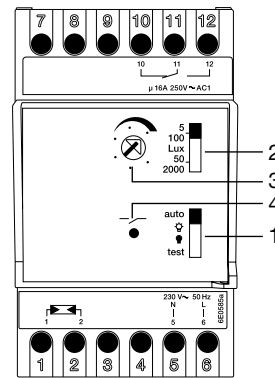
- ON, when the measured level is lower than the pre-set light level
- OFF, when the measured level is higher than the pre-set light level

### 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...



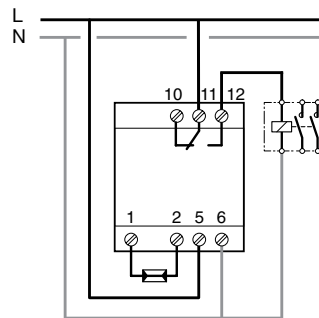
### Description - EEN100



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

### 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**

<b>Supply voltage</b>	230V~ +10%/-15% 50Hz
<b>Consumption</b>	1.5VA max.
<b>Output</b>	1 voltage free changeover contact
<b>Breaking capacity</b>	16A 250V AC1

**Lighting**

<b>Incandescent lighting</b>	2000W
<b>Halogen lighting 230V</b>	1000W
<b>Uncompensated fluoro lamp</b>	1000W
<b>Compensated fluoro lamp in series (10µF)</b>	1000W
<b>Parallel fluoro lamps (15µF)</b>	200W
<b>Compensated duo fluoro lamps in series</b>	1000W

**Functional characteristics**

<b>2 sensitivity ranges</b>	5 to 100 lux and 50 to 2000 lux
<b>ON and OFF delay</b>	15 to 60s
<b>Protection class (cell)</b>	IP54
<b>Insulation class (cell)</b>	II

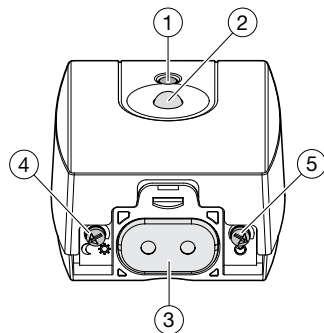
**Environment**

<b>Working temperature</b>	<b>Cell</b>	-30°C to +60°C
	<b>Modular device</b>	-10°C to +50°C
<b>Storage temperature</b>		-20°C to +60°C
<b>Cable capacity</b>	<b>Cell</b>	0.75 to 2.5mm <sup>2</sup>
	<b>Modular device</b>	0.5 to 4mm <sup>2</sup>
<b>Max. length between cell and modular device</b>		50m
<b>Mounting of the cell with 2 screws</b>		2.5mm Ø

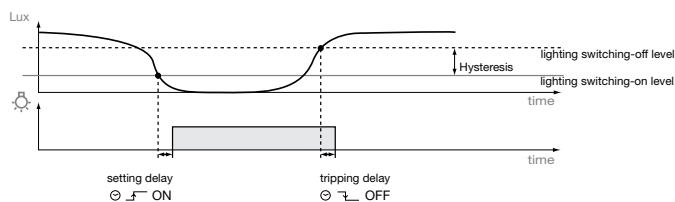
### Compact light sensitive switch

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.

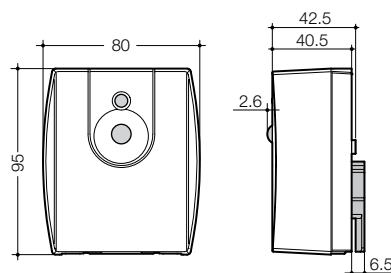
### Product description



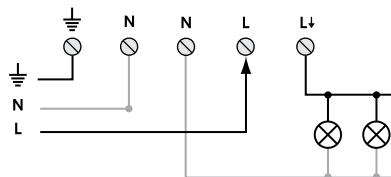
1. Indicator light
2. Brightness level sensor
3. Cable input & output
4. Potentiometer for adjustment of lighting level (2 to 1000lux)
5. Potentiometer for adjustment of setting and tripping delay (1 to 120sec)



### Dimensions



### Wiring diagram



### Electrical characteristics

<b>Supply voltage</b>	230V~ +10%/-15% 50Hz
<b>Cut phase output</b>	Relay 16A AC1 2300W incandescent

### Lighting

<b>Incandescent lighting</b>	2300W
<b>Halogen ELV via ferromagnetic or electronic transformer</b>	1500W
<b>Uncompensated fluoro lamp</b>	2 x 20W
<b>Compact fluorescents</b>	2000W
<b>Electronic ballast</b>	16 x 58W

### Functional characteristics

<b>Lighting switching-on level</b>	Setting by potentiometer from 2 to 1 000 lux hysteresis 10%
<b>Setting and tripping delay</b>	Setting by potentiometer from 1 to 120 seconds
<b>Class of isolation</b>	II
<b>IK</b>	IK03
<b>Protection index</b>	IP55
<b>Mounting</b>	Surface, on round box or pole

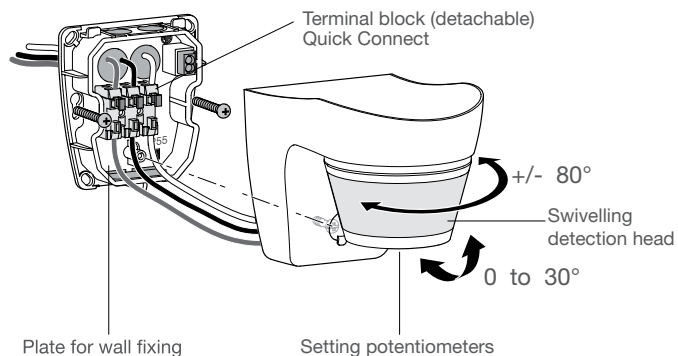
### Environment

<b>Working temperature</b>	-25°C to +45°C
<b>Storage temperature</b>	-30°C to +60°C
<b>Cable capacity</b>	1 to 4mm <sup>2</sup>

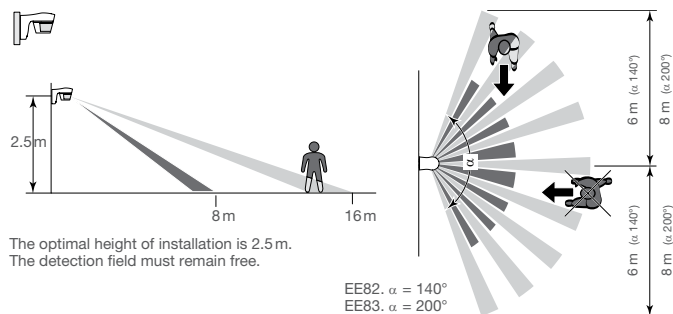
Electrical characteristics	Basic motion detector 140° White	Basic motion detector 360° White	Enhanced motion detector 220° White	Enhanced motion detector 220/360° White and Charcoal Grey
	EE820	EE840	EE860	EE870/EE871
Supply voltage	230V~ 50Hz	230V~ 50Hz	230V~ 50Hz	230V~ 50Hz
Detection (Length)	16m	12m	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 <sup>2</sup>	Max 1.5mm <sup>2</sup>	Max 1.5mm <sup>2</sup>	Max 1.5mm <sup>2</sup>
Connection rigid	Max 1.5mm <sup>2</sup>	Max 1.5mm <sup>2</sup>	Max 1.5mm <sup>2</sup>	Max 1.5mm <sup>2</sup>
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

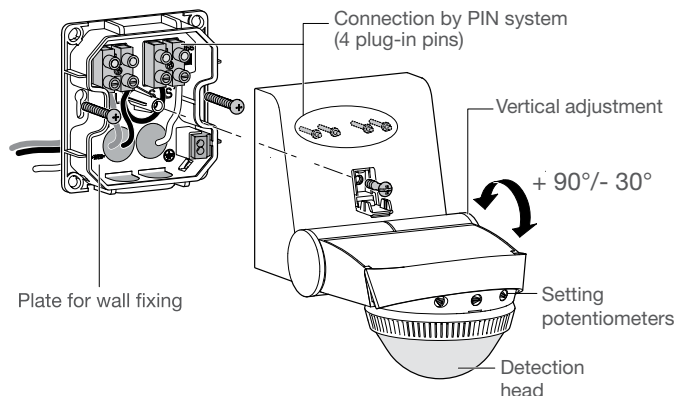


Detection area

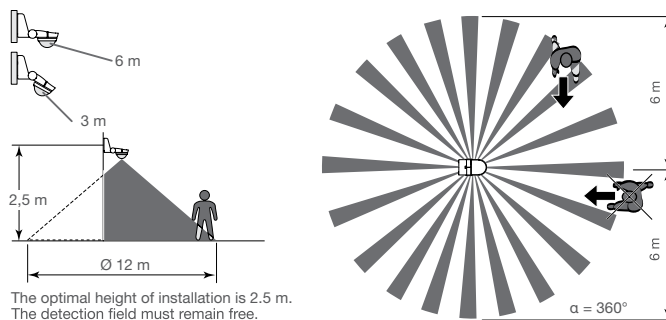


EE840

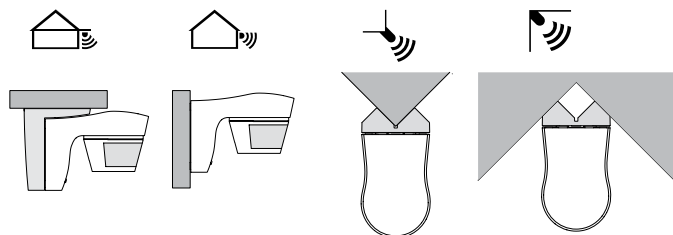
Description



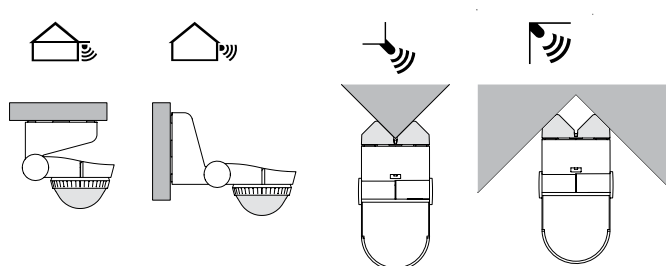
Detection area



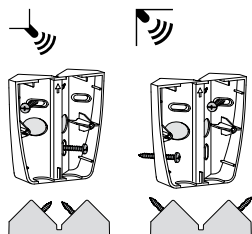
Installation



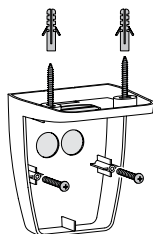
Installation



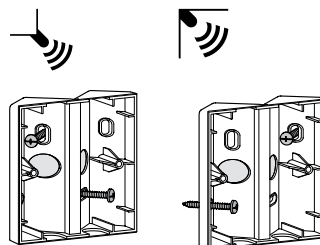
Corner mount



Ceiling



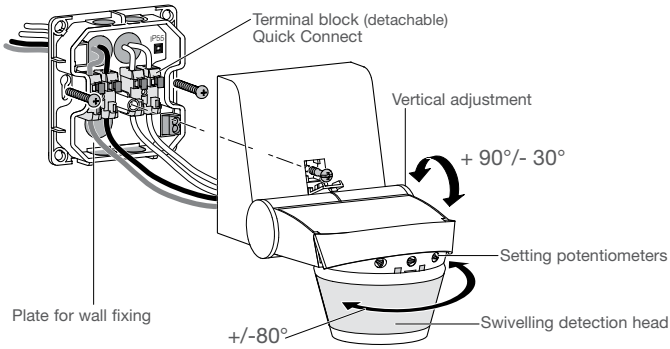
Corner mount



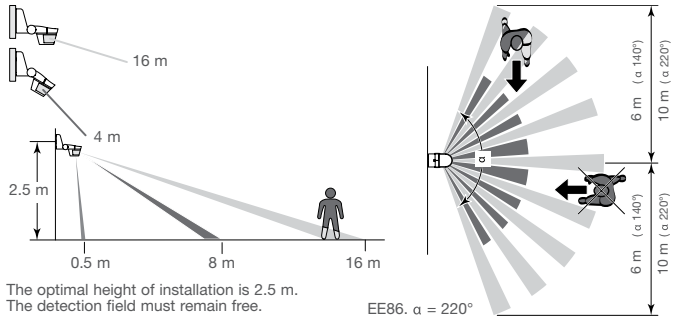
Light & energy management

EE860

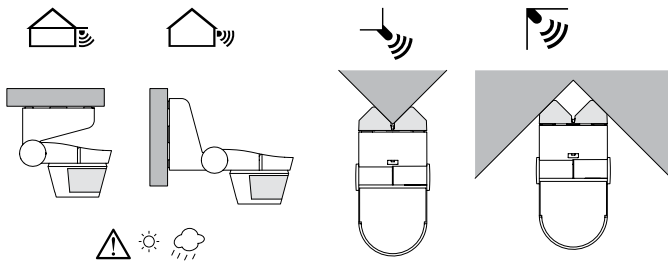
Description



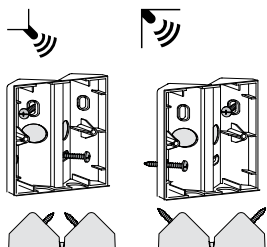
Detection area



Installation

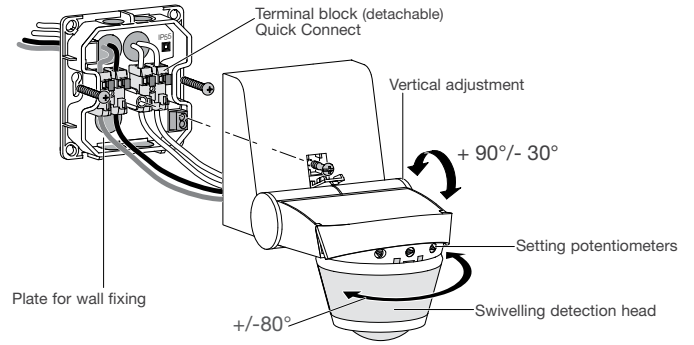


Corner mount

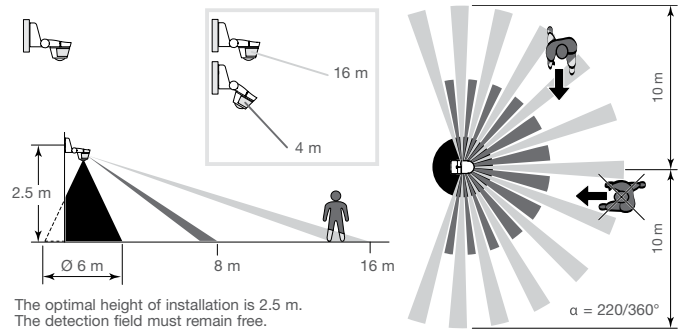


EE870/EE871

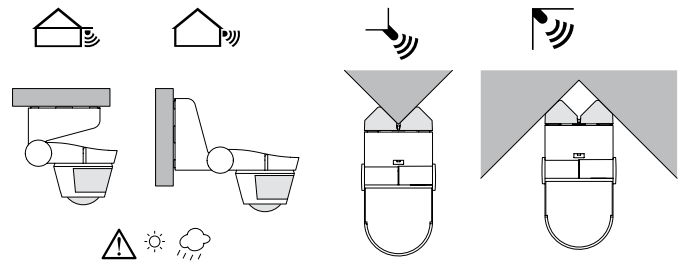
Description



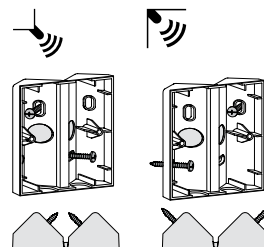
Detection area



Installation



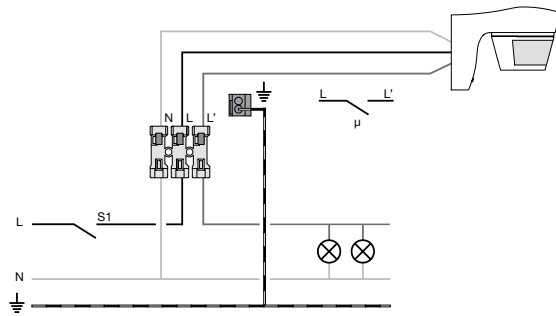
Corner mount



Light & energy management

EE820

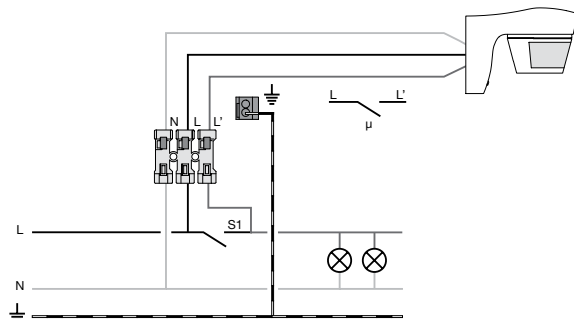
Auto/Off connection



(Optional)

- S1 — = Off
- = Automatic Mode

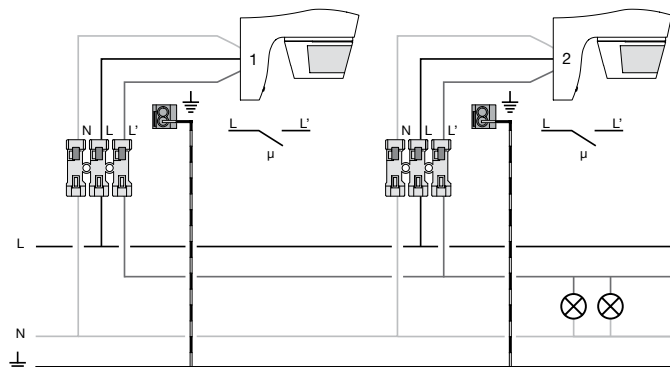
Auto/On connection



(Optional)

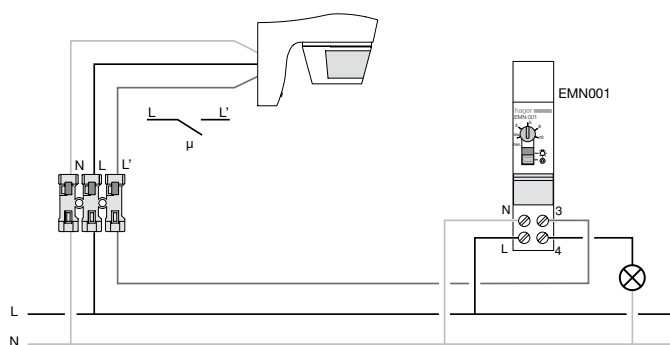
- S1 — = Automatic Mode
- = permanent On

Parallel connection



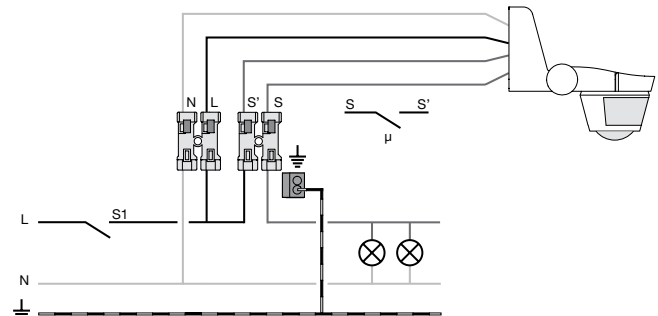
(Optional)

Connection with Timer



EE840/EE860/EE870/EE871

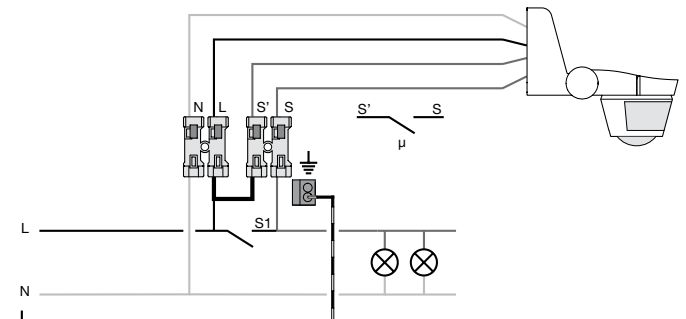
Auto/Off connection



Optional

- S1 — = On
- = Automatic Mode

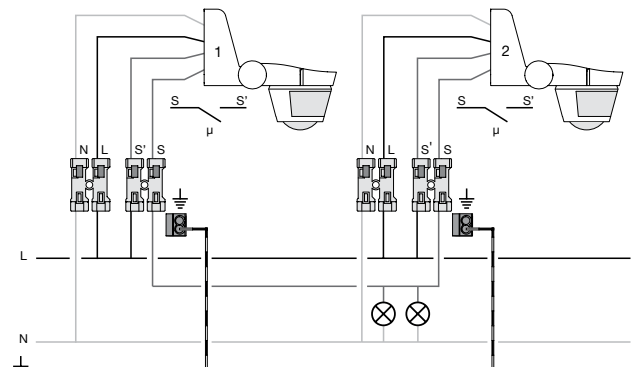
Auto/On connection



Optional

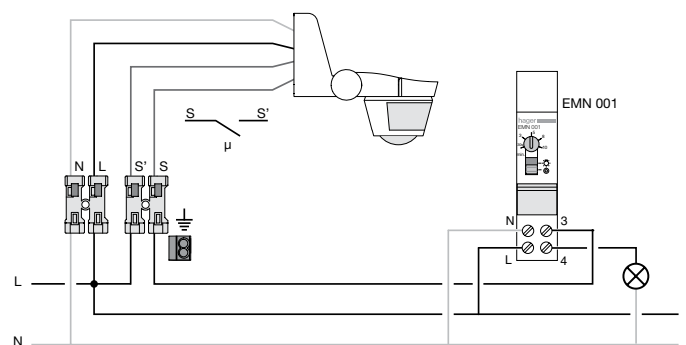
- S1 — = Automatic Mode
  - = Permanent On
- ⌋ : Strap Ref. AWG16 (1.5mm<sup>2</sup>, 50mm min.)

Parallel connection

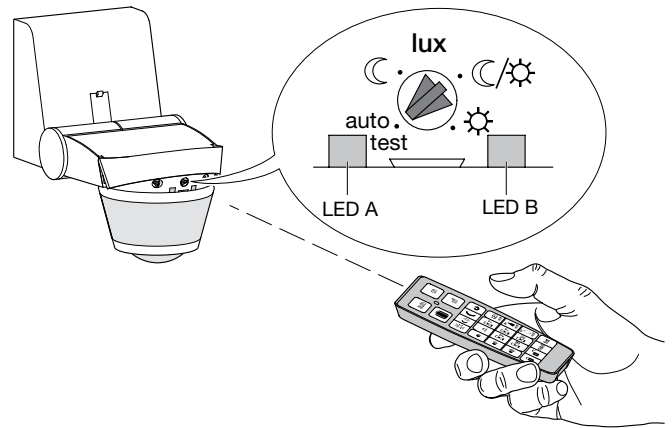
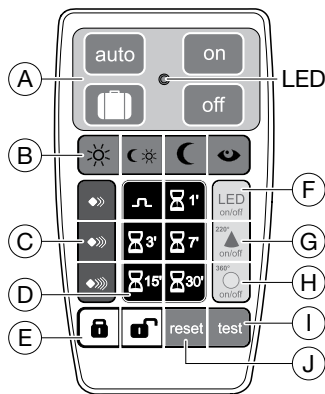


Optional

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 **E** 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**

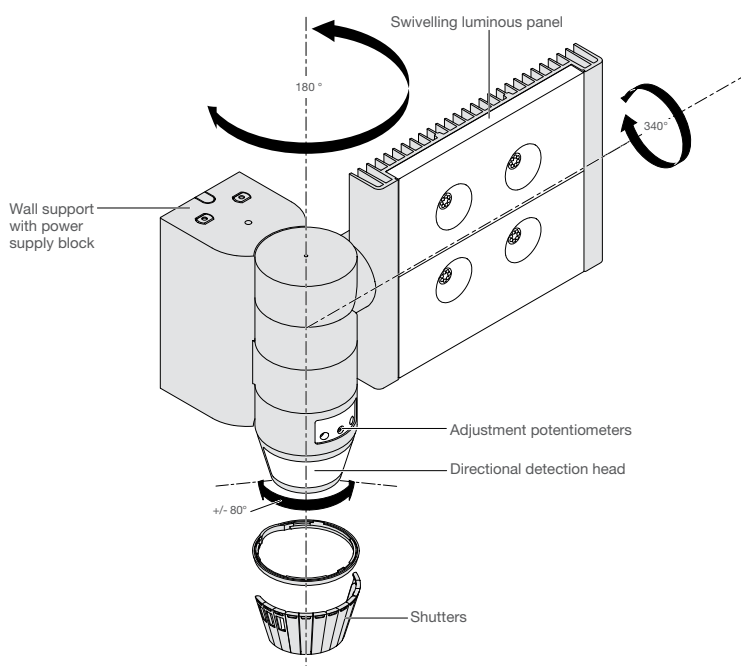
- Power supply : 1x 3V CR2032
- Shelf life of battery : 5 years
- Protection index : IP30



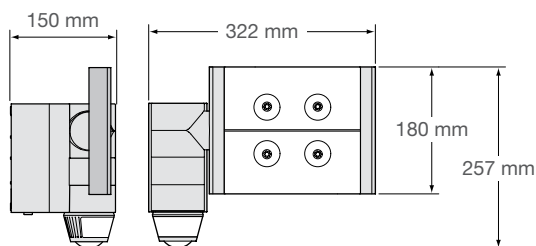
Electrical characteristics	EE600
Type	LED floodlight
Power	Around 60W (300W luminous energy)
Colour of light	5700 Kelvin
Luminous flux	3400 lumen
Power supply	230V~ +10/-15% 50/60Hz 240V~ +/-6% 50/60Hz
Compulsory protection	10A gG/gI fuse or 16A C curve circuit breaker
Insulation class	II
Recommended cable	U1000R02V3G1.5
Connection using screw free terminals	1 to 1.5mm <sup>2</sup>
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

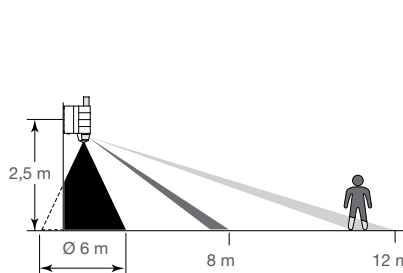
#### Description



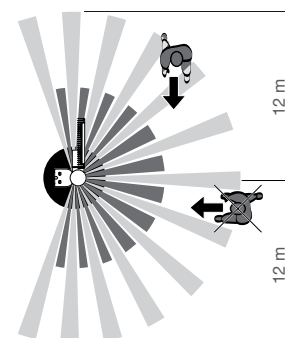
#### Dimensions



#### 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**

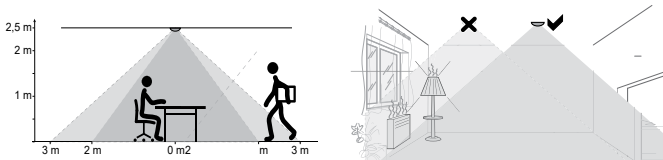
- 1 Brightness level setting
- 2 Operating time setting

**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**

<b>Supply voltage</b>	230V~ 50Hz
<b>Consumption with no load</b>	1.2W

<b>Lighting</b>	<b>10A AC1 230V~</b>
<b>Incandescent and halogen lamps</b>	23 00W
<b>LED lamps/ Compact fluorescent lamps</b>	20 x 20 W (400 W)
<b>Ferromagnetic transformers</b>	1500 VA
<b>Electronic transformers</b>	1500 W
<b>Fluorescent lamps</b>	
- parallel compensated	1000W
- with electronic ballast	1000W

**NOTE:** When using with unspecified loads, it is imperative to relay.

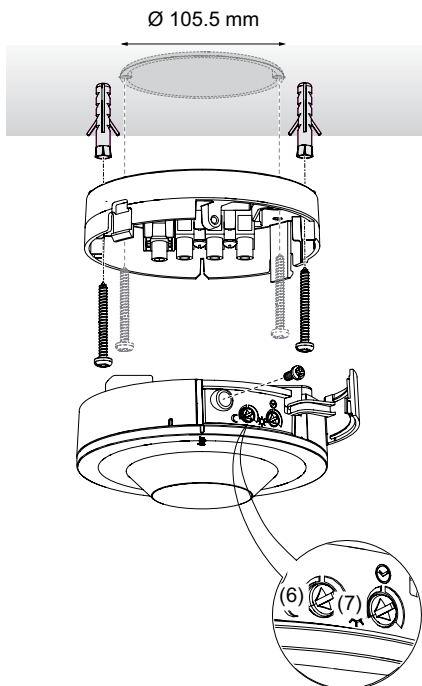
**Functional characteristics**

<b>Lighting output operating time</b>	5sec to 15min
<b>Brightness level</b>	5 to 1000lux
<b>Recommended installation height</b>	2.5 to 3.5m
<b>Detection range Ø motion</b>	3m approximately (installed product height 2.5m)
<b>Detection range Ø presence</b>	4m approximately (installed product height 2.5)
<b>Upstream circuit breaker</b>	10A
<b>Fixing accessories</b>	Screws (Ø4mm), pegs, protecting cover / connector block
<b>Products in parallel</b>	Yes

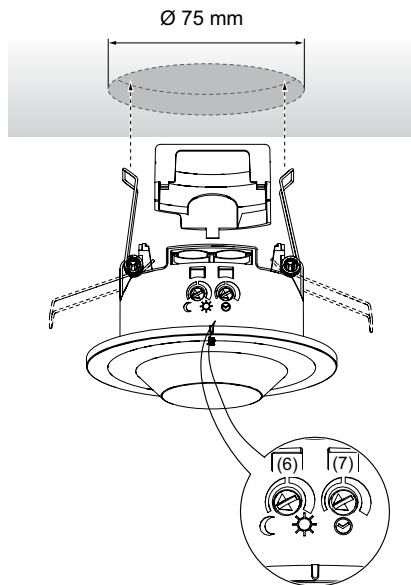
**Environment**

<b>Working temperature</b>	-5°C to +45°C
<b>Storage temperature</b>	-25°C to +70°C
<b>Class of isolation</b>	II
<b>IK</b>	IK04
<b>Protection index</b>	IP21
<b>Relative humidity (no condensation)</b>	30°C, 95%
<b>Connection cross section</b>	
- EE804A, screw terminals	1 to 2.5mm <sup>2</sup>
- EE805A, plug-in terminals	1 to 2.5mm <sup>2</sup>

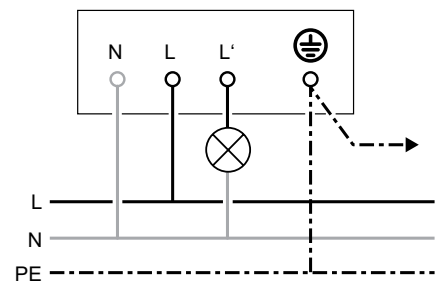
**EE804A  
Description**



**EE805A  
Description**



**Wiring Diagram**



### Electrical characteristics

<b>Power supply</b>	230V~ 50/60Hz	
<b>Detection Area</b>	<b>EE880</b>	20m x 4m
	<b>EE883</b>	360°
<b>Standby consumption</b>	1W	
<b>Operating duration setting</b>	5sec to 15min	
<b>Luminosity threshold setting</b>	2 to 2000lux	
<b>Recommended installation height</b>	<b>EE880</b>	3m
	<b>EE883</b>	2.5m
<b>Fixing accessories</b>	2 screws Ø4.5mm and length 50mm	
<b>Products in parallel</b>	Yes	
<b>Working temperature</b>	-20°C to +50°C	
<b>Storage temperature</b>	-35°C to +70°C	
<b>Insulation class</b>	II	
<b>Protection class</b>	IP54	
<b>Standards</b>	EN 60669-2-1	
<b>Upstream protection</b>	10A ( $T \leq +35^\circ\text{C}$ ) 6A ( $+35^\circ\text{C} < T < +50^\circ\text{C}$ )	
<b>Maximum installation altitude</b>	2000m	
<b>Pollution degree</b>	2	
<b>Connection</b>	Max 1.5mm <sup>2</sup>	

Lighting	$T \leq +35^\circ\text{C}$	$+35^\circ\text{C} < T \leq +50^\circ\text{C}$
	10A AC1 230V~	6A AC1 230V~
<b>Incandescent lighting</b>	2300W	1300W
<b>Halogen ELV via ferromagnetic or electronic transformer</b>	2300W	1300W
<b>Uncompensated fluoro lamp</b>	1200W	1200W
<b>Fuoro lamps in parallel</b>	1000W / 110µF	1000W / 110µF
<b>Compact fluorescents</b>	20 x 20W	20 x 20W
<b>LED</b>	20 x 20W	20 x 20W
<b>Halogen lamps VLV with Ferromagnetic or electronic ballasts</b>	1500VA	1300VA
<b>Fuoro tubes with ferromagnetic or electronic ballasts</b>	580W	580W

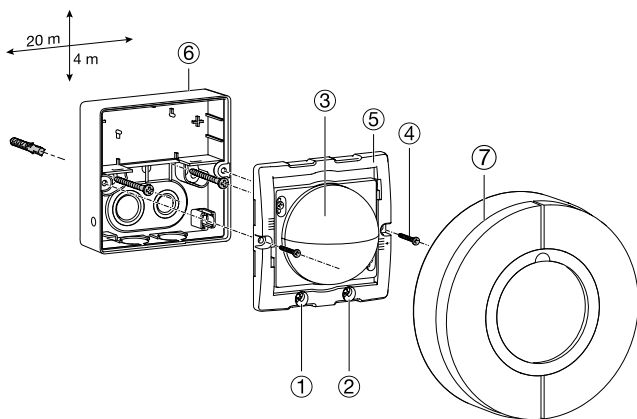
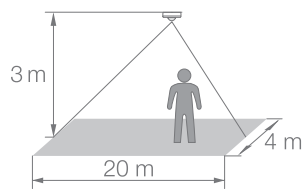
**NOTE: When using with unspecified loads, it is imperative to relay.**

### 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.

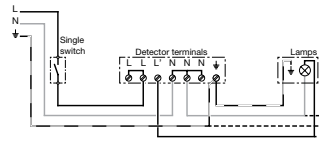
#### Detection area



### Connections

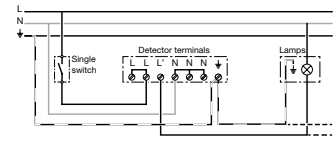
#### Lamp connection without neutral conductor

Auto operation by detection or Forced switch off.



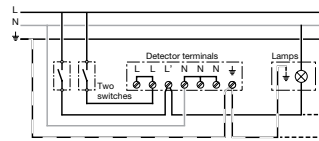
#### Lamp connection with neutral conductor

Auto operation by detection or Forced switch off.



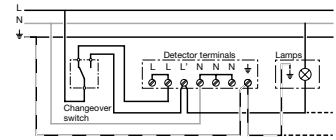
#### Connection using two switches for manual or automatic control (possibility of simultaneous switch off of the lamp AND the detector)

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.

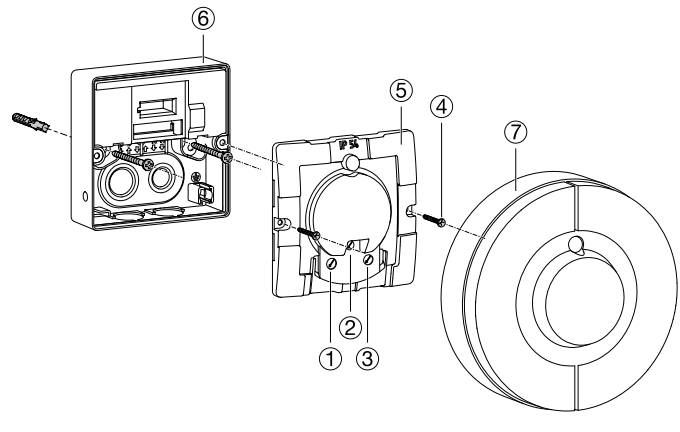
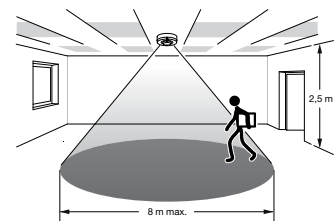


### EE883

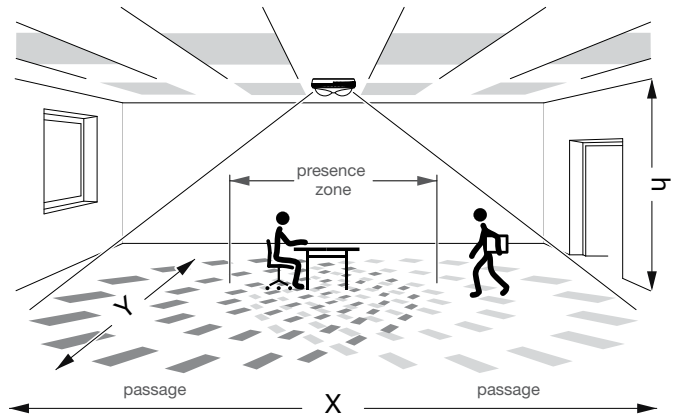
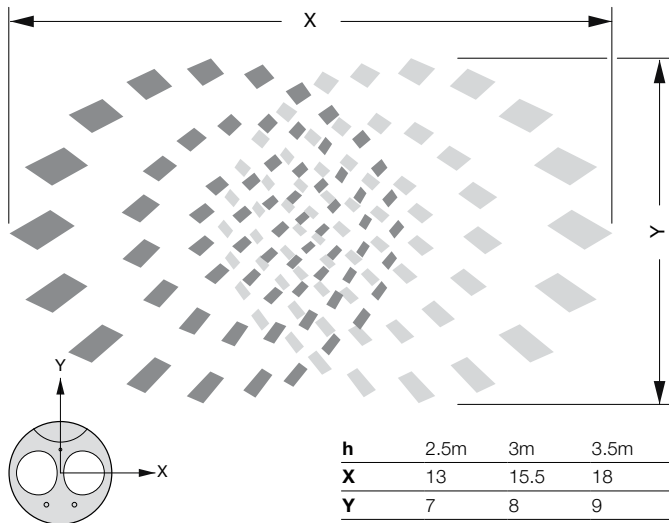
#### Description

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.

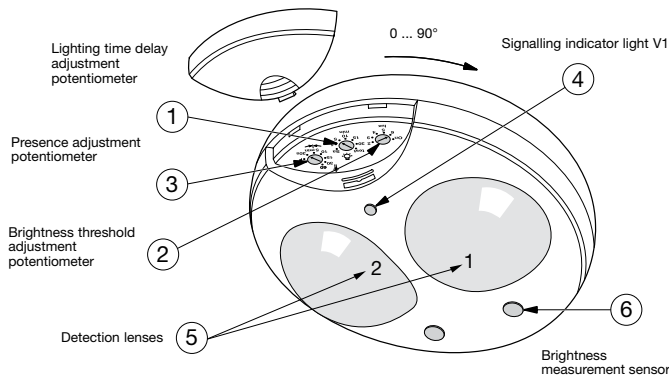
#### Detection area



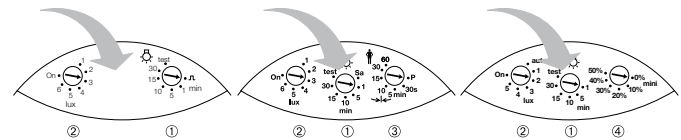
### EE810/EE811/EE812 Detection zones



### Description



### Potentiometer adjustments



- ① off delay
- ② brightness adjustment
- ③ basic light level
- ④ on delay (output 2)

**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
<b>Type</b>	1 channel	2 channel	1/10V
<b>Electrical specifications</b>			
<b>Supply voltage</b>	230V ~ 50Hz	230V ~ 50Hz	230V ~ 50Hz
<b>Power consumption</b>	1.2W	1.2W	1.2W
<b>Master/Slave &amp; override input:</b>	-	230V ~ 50Hz	230V ~ 50Hz
<b>1/10V output</b>	-	-	EE810 / 50mA max.
<b>Maximum cable length</b>	-	50m	50m
<b>Electrical connection</b>	1mm <sup>2</sup> to 4mm <sup>2</sup>	1mm <sup>2</sup> to 4mm <sup>2</sup>	1mm <sup>2</sup> to 4mm <sup>2</sup>

### Entering instructions

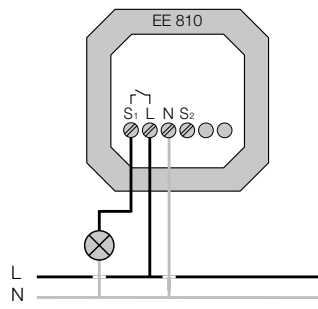
<b>Lighting output time delay</b>	1 to 30min	1 to 30min	1 to 30min
<b>Presence output time delay</b>	-	30s to 60min	-
<b>Brightness threshold</b>	5 - 1200 lux	5 - 1200 lux	5 - 1200 lux
<b>Minimum adjustment range</b>	-	-	0% to 50%
<b>Presence level adjustment</b>	-	-	mini to 100%
<b>Recomm. height from ground</b>	2.5m to 3.5m	2.5m to 3.5m	2.5m to 3.5m
<b>Lighting loads</b>	S1 AC1 16A 230V~	S2 AC1 10A 230V~	S1 AC1 16A 230V~ S2 AC1 2A 230V~
<b>Incandescent halogen 230V</b>	2300W	-	2300W
<b>Halogen ELV (12 or 24V) via ferromagnetic or electronic transformer</b>	1500W	-	1500W
<b>Parallel compensated fluorescent tubes</b>	290W/ C = 32µf	-	290W/ C = 32µf
<b>Electronic ballast</b>	580W	-	1000W

### Test mode:

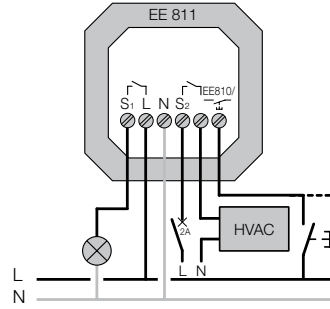
This mode makes it possible to validate the detection area. To select this mode, set the potentiometer ① to the position "test". Indicator V1 ④ will indicate any detection by lighting for one second if the level of illumination is lower than the preset threshold. The lighting outputs S1 and S2 are not 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

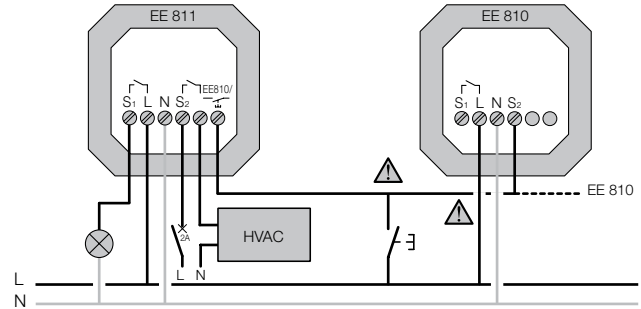
EE810



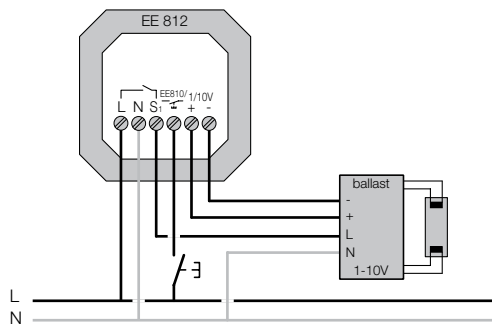
EE811



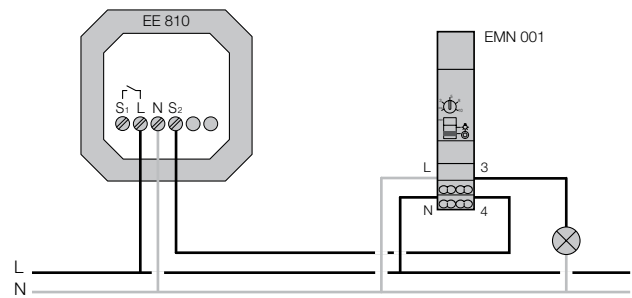
EE811 Master + EE810 Slave



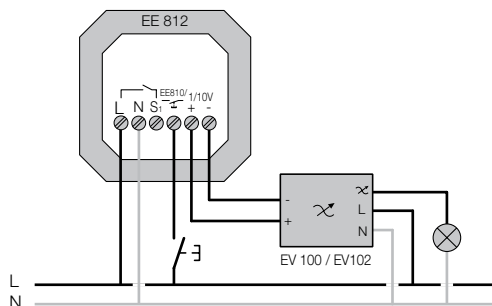
EE812 + Ballast



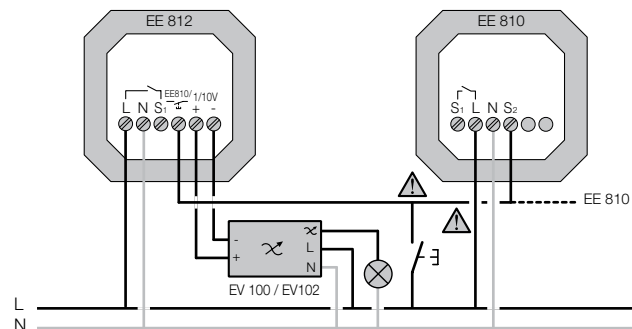
EE810 + EMN001



EE812 + EV100/EV102

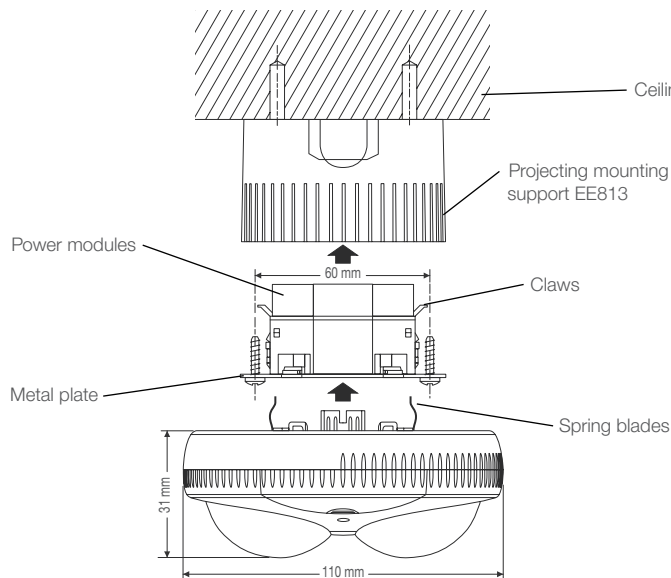


EE812 Master + EE810 Slave

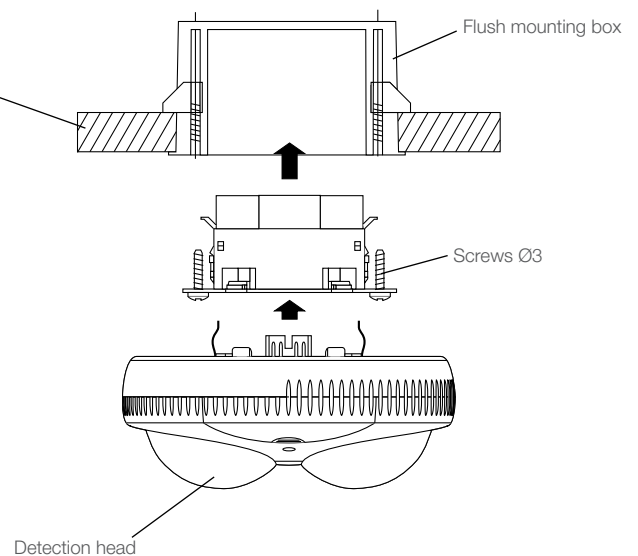


Light & energy management

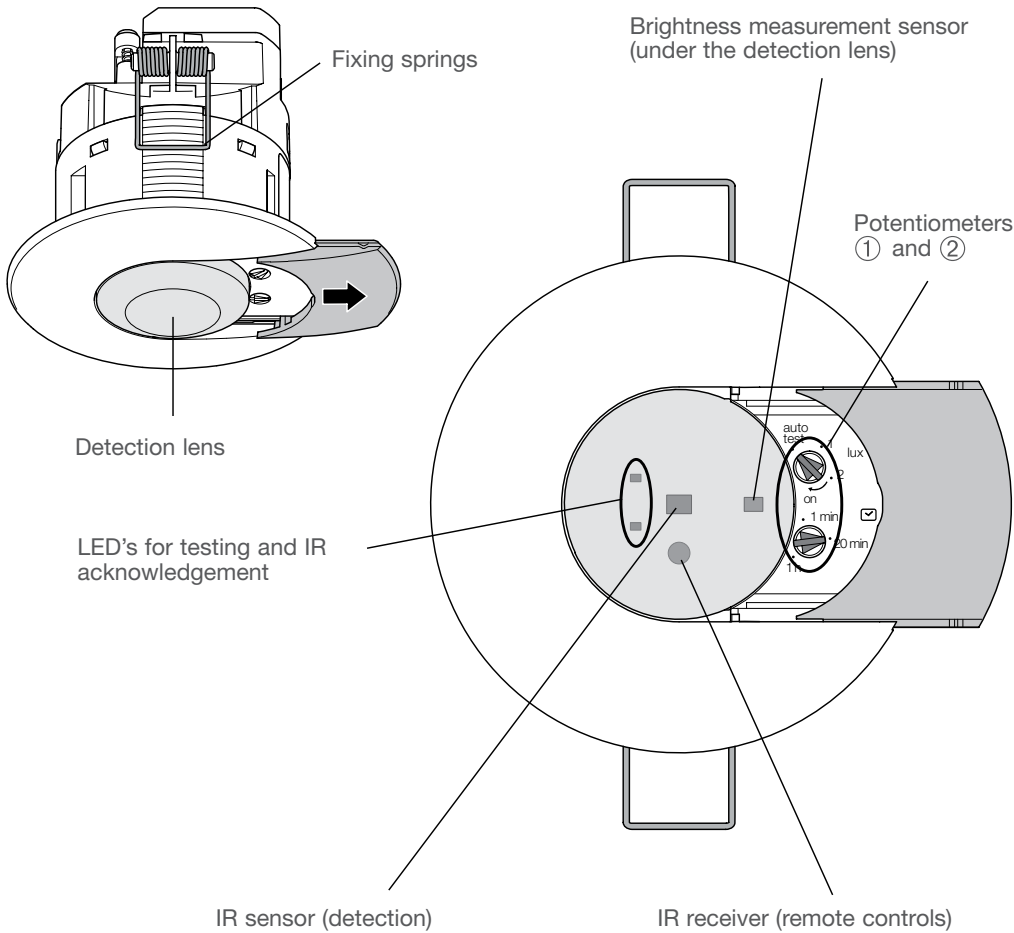
Projecting mounting



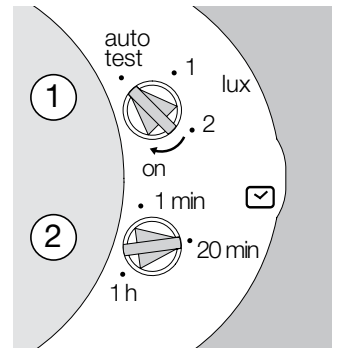
Semi-recessed mounting



Description EE816



Settings



Instances of lighting levels

Position of potentiometer	Approximate Lux value
Auto test	preset
1	200
1 to 2	200 to 400
2	400
2 to On	400 to 1000
On	1000

\* The light measurement accuracy (Lux) is affected by the environment (furniture, ground...). If necessary, the level has to be adjusted by potentiometer or remote control.

Remote control for settings

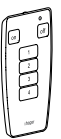
The installer remote control EE807 can be used to set the following features if the potentiometer is set on "auto test":



- Lux levels (☼) (☼ - ☼)
- Time (⌚)
- Absence/presence detection (⬆)
- Power up behaviour (⚡)
- Active/passive cell (☼)

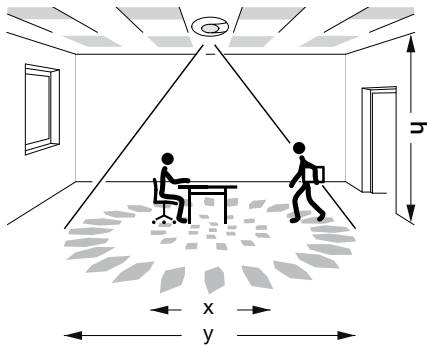
Override remote control

The user remote control EE808 allows operators to:

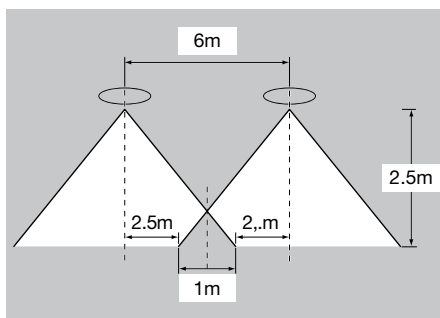


- EE816:**
- Switch on/off the light (short press), (ON OFF)
- EE816 only:**
- Dim up/down the light (long press 0.5s.)
  - To control scenes **1, 2, 3, 4**  
A short push recalls a luminosity level and a long push (0.5s.) memorizes a new level.

Detection areas



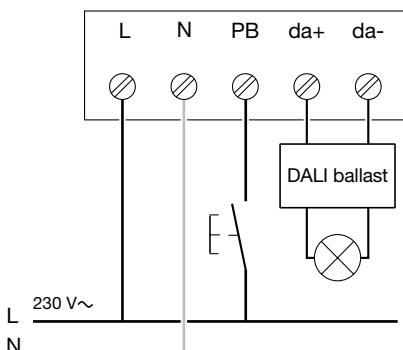
Overlap



h	2.5m	3m	3.5m
x	5m	5m	5m
y	7m	8m	9m

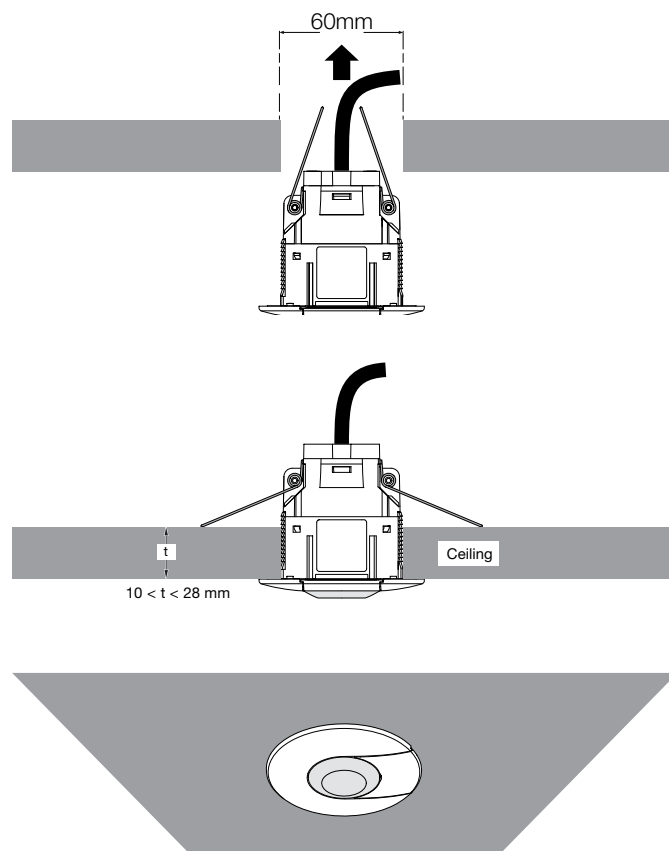
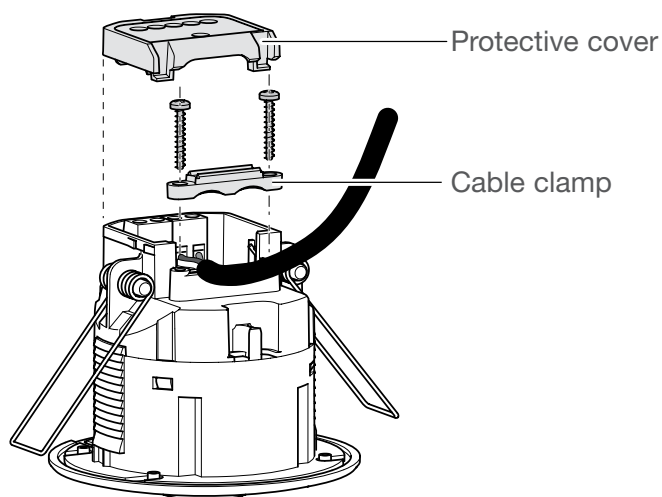
⚠ The "y" values are given for lateral range.  
The range may be reduced if walking towards the sensor.

Connection EE816

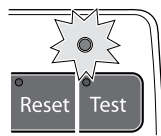
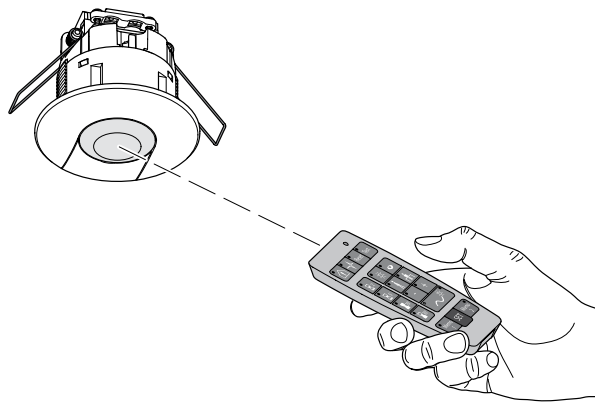
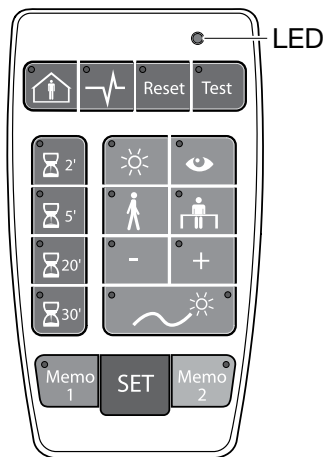


## Technical data

<b>Ref. No.</b>	<b>EE816</b>
<b>Detection range (Product installed at 2.5m height)</b>	Movement area- Diameter 7m Presence area- Diameter 5m
<b>Supply voltage</b>	230V AC +10% - 15%
<b>Frequency</b>	50/60Hz
<b>Local Lux threshold setting</b>	3 modes available
<b>Local time setting</b>	1min. to 1hr
<b>Commissioning via installer remote control</b>	EE807 for power up, absence/presence mode, timer, active/passive cell.
<b>Control with IR user remote control</b>	EE808 for ON/OFF override & dimming up/down
<b>Output</b>	14V / 50mA (for a DALI bus with 24 ballasts)
<b>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</b>	No isolation between the mains & the DALI bus!!
<b>Push button input</b>	To dim up/down & absence/presence detection (semi-automatic/automatic mode) Same phase as power supply.
<b>Terminals</b>	For 1.5mm <sup>2</sup> rigid/flexible wires
<b>Power dissipation</b>	60mW
<b>Isolation class</b>	II
<b>Protection</b>	IP41/IK03
<b>Operating temperature</b>	-10°C to +45°C
<b>Storage temperature</b>	-20°C to +60°C
<b>Standards</b>	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.

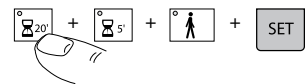
Single setting

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.

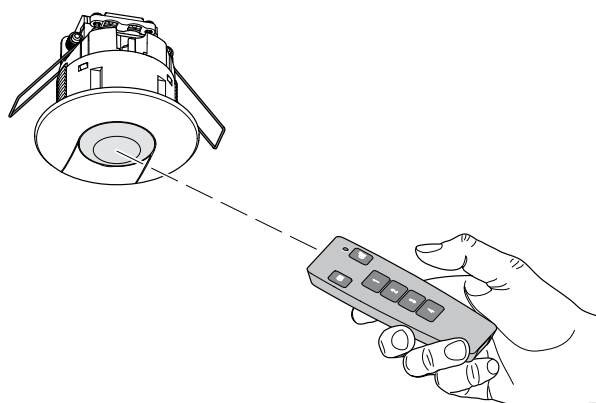
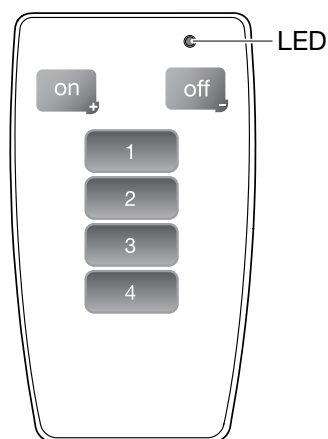
Settings available

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**

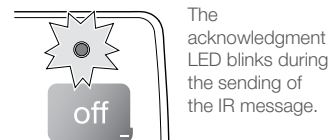


**Use**

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



The acknowledgment LED blinks during the sending of the IR message.

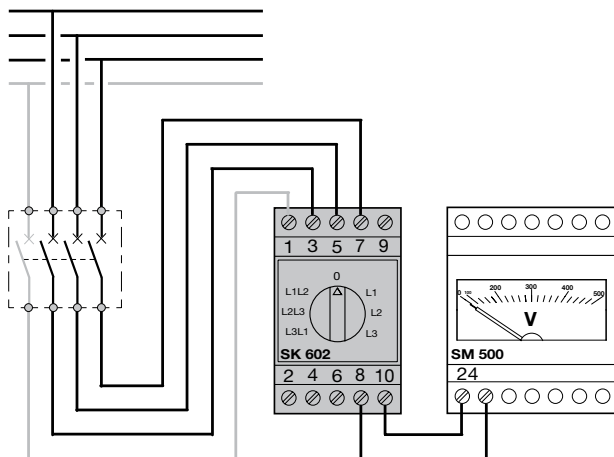
**Settings available**

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		

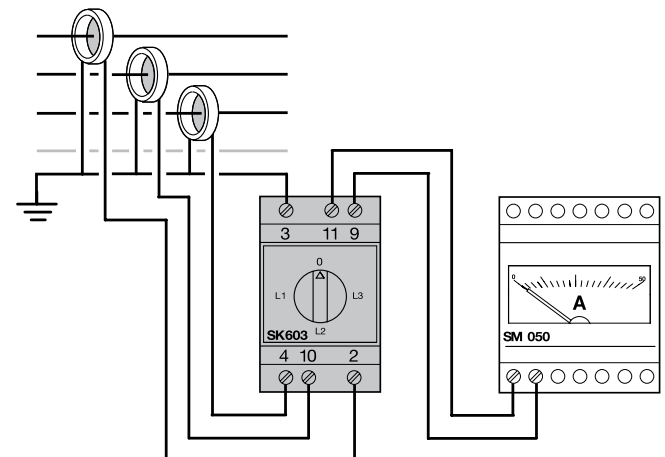
## Electrical characteristics

	SM500	SM050	SM015	SM030	SM050	SM100	SM150	SM250	SM400	SM600
<b>Product</b>	Voltmeter	Ammeter	Ammeter	Ammeter	Ammeter with CT	Ammeter with CT	Ammeter with CT	Ammeter with CT	Ammeter with CT	Ammeter with CT
<b>Range</b>	500V	0-5A	0-15A	0-30A	0-50A	0-100A	0-150A	0-250A	0-400A	0-600A
<b>Consumption</b>	≤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
<b>Accuracy %</b>	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
<b>Ref temp °C</b>	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
<b>Accuracy variation °C</b>	±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
<b>Maximum continuous</b>	1.2Un	1.2Un	1.2Un	1.2Un	1.2Un	1.2Un	1.2Un	1.2Un	1.2Un	1.2Un
<b>Momentary maximum</b>	2Un / 5sec	10Un / 5sec	10Un / 5sec	10Un / 5sec	10Un / 5sec	10Un / 5sec	10Un / 5sec	10Un / 5sec	10Un / 5sec	10Un / 5sec
<b>Frequency Hz</b>	45 - 65	45 - 65	45 - 65	45 - 65	45 - 65	45 - 65	45 - 65	45 - 65	45 - 65	45 - 65
<b>Isolating voltage</b>	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
<b>Operating temperature</b>	-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
<b>Storage temperature</b>	-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
<b>IP rating</b>	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20
<b>Connection flexible</b>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>
<b>Connection rigid</b>	1.5 to 10mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>

Electrical connection (voltmeter)



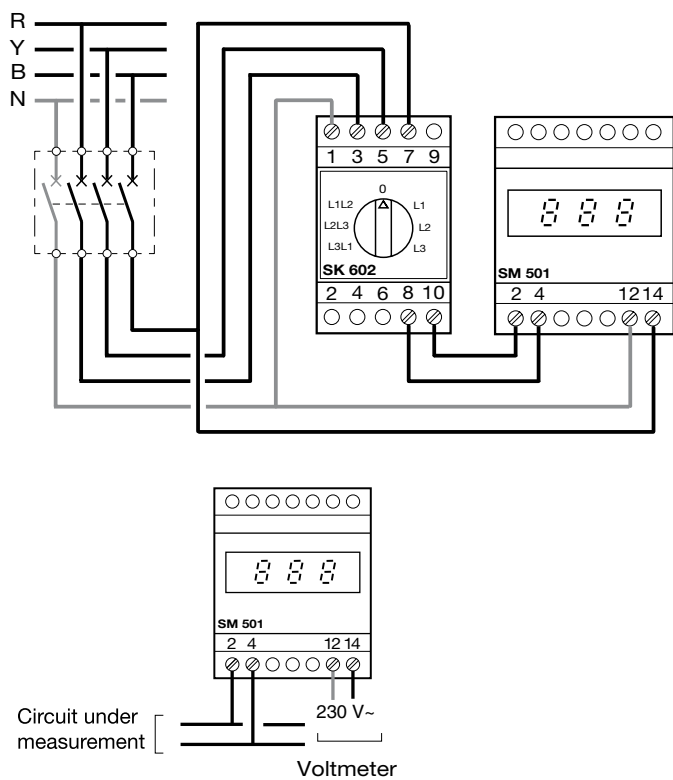
Electrical connection (ammeter)



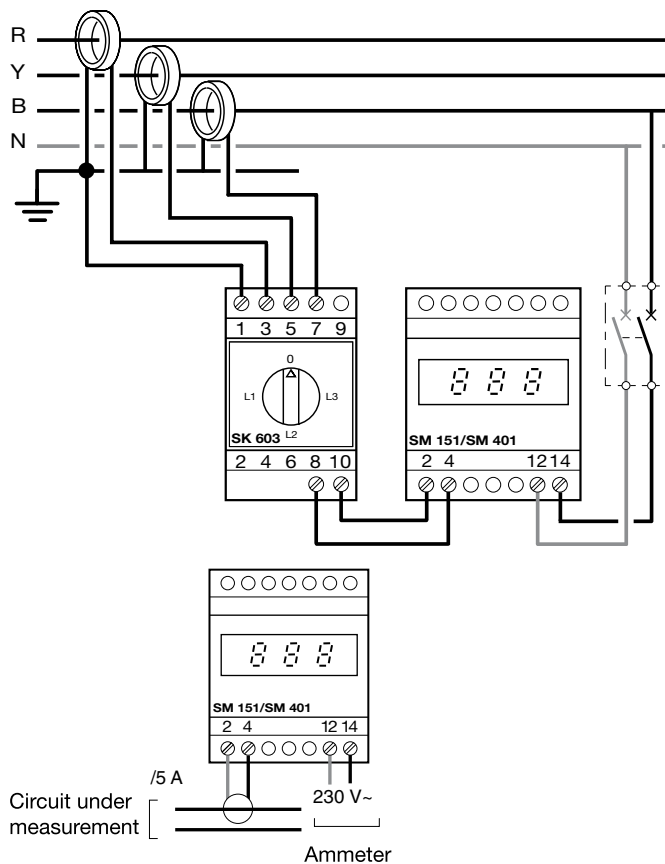
## Electrical characteristics

	SM501	SM020	SM151	SM401	SM601
<b>Product</b>	Voltmeter	Ammeter	Ammeter with CT	Ammeter with CT	Ammeter with CT
<b>Range</b>	500V	0-20A	0-150A	0-400A	0-600A
<b>Consumption</b>	≤4.5 VA	≤1 VA	≤1 VA	≤1 VA	≤1 VA
<b>Working voltage</b>	230V~ 50/60Hz	230V~ 50/60Hz	230V~ 50/60Hz	230V~ 50/60Hz	230V~ 50/60Hz
<b>Update of the display</b>	3sec	3sec	3sec	3sec	3sec
<b>Input impedance</b>	>1MV	-	-	-	-
<b>Isolating resistance</b>	10MV	10MV	10MV	10MV	10MV
<b>Maximum voltage</b>	660V	660V	660V	660V	660V
<b>Accuracy %</b>	±1	±1	±1	±1	±1
<b>Ref temp °C</b>	23 ±1°C	23 ±1°C	23 ±1°C	23 ±1°C	23 ±1°C
<b>Accuracy variation °C</b>	±0.03% / °C	±0.03% / °C	±0.03% / °C	±0.03% / °C	±0.03% / °C
<b>Maximum continuous</b>	1.2Un	2In	2In	2In	2In
<b>Momentary maximum</b>	2Un / 5sec	10In / 5sec	10In / 5sec	10In / 5sec	10In / 5sec
<b>Frequency Hz</b>	45 - 65	45 - 65	45 - 65	45 - 65	45 - 65
<b>Isolating voltage</b>	2kV / 50Hz - 1min	2kV / 50Hz - 1min	2kV / 50Hz - 1min	2kV / 50Hz - 1min	2kV / 50Hz - 1min
<b>Operating temperature</b>	-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
<b>Storage temperature</b>	-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
<b>IP rating</b>	IP20	IP20	IP20	IP20	IP20
<b>Connection flexible</b>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>
<b>Connection rigid</b>	1.5 to 10mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>

### Electrical connection (voltmeter)



### Electrical connection (ammeter)



Light & energy management

Electrical characteristics	ECx140D	ECx180D	ECx180T	ECx380D	ECx310D	ECx300C
	1Ph - 40A	1Ph - 80A	1Ph - 80A (3 track)	3Ph - 80A	3Ph - 125A	3Ph - A via CT
<b>Supply voltage</b>	230V AC	230V AC	230V AC	400V AC	400V AC	400V AC
<b>Frequency</b>	45/65Hz	92/276Hz	184/276Hz	45/65Hz	45/65Hz	45/65Hz
<b>Starting current</b>	20mA	15mA	15mA	15mA	20mA	1mA
<b>Base current</b>	5A	5A	5A	5A	5A	1(6) A
<b>Max current</b>	40A	80A	80A	80A	125A	6A
<b>Consumption on voltage circuit</b>	<2<1	<2/<1	<2/<1	<2/<0.6	<2/<0.6	<2/<0.6
<b>Consumption on current circuit</b>	<1	<1	<1	<0.7	<0.7	<0.7
<b>Accuracy</b>	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
<b>Connection</b>	Direct	Direct	Direct	Direct	Direct	Via CT
<b>Display</b>	Digital 5+2 Digit	Digital 7+2 Digit	Digital 7+2 Digit	Digital 7+2 Digit	Digital 7+2 Digit	Digital 7+2 Digit
<b>Metrological LED</b>	Blinking = 5wh/impulse	Blinking = 1wh/impulse	Blinking = 2wh/impulse	Blinking = 1wh/impulse	Blinking = 1wph/impulse	Blinking = 1wph/impulse
<b>Pulse output (Except ECRxxxx)</b>	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
<b>Modbus (Only ECR140D)</b>	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)
<b>Width</b>	1 module	2 modules	4 modules	4 modules	6 modules	4 modules
<b>Connection capacity of digital input</b>	0.5 to 2.5mm <sup>2</sup>	0.8 to 2.5mm <sup>2</sup>	0.8 to 2.5mm <sup>2</sup>	0.8 to 2.5mm <sup>2</sup>	0.8 to 2.5mm <sup>2</sup>	0.8 to 2.5mm <sup>2</sup>
<b>Connection capacity of power supply</b>	0 to 16mm <sup>2</sup>	0 to 33mm <sup>2</sup>	0 to 33mm <sup>2</sup>	0 to 33mm <sup>2</sup>	0 to 50mm <sup>2</sup>	0 to 4mm <sup>2</sup>
<b>Protection degree</b>	IP20 / IK03	IP20 / IK03	IP20 / IK03	IP20 / IK03	IP20 / IK03	IP20 / IK03
<b>Operating temperature</b>	-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
<b>Storage temperature</b>	-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



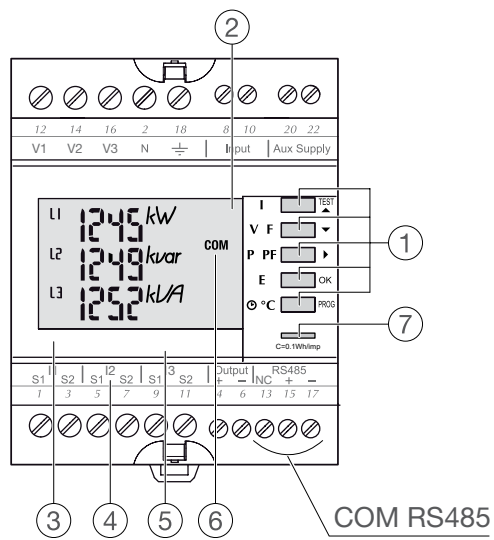
**Description - SM103E**

- 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



Light & energy management

## Electrical characteristics

Current (TRMS)	SM102E	SM103E	SM101C
<b>I (1st CT)</b>	up to 9,999A	up to 9,995A	5A to 9,999A
<b>I (2nd CT)</b>	5A	1 or 5A	5A
<b>In</b>	0.5% (from 10 to 110% to In)	0.2% (from 10 to 110% to In)	Calculated
<b>Minimum measuring current (2nd CT)</b>	5mA	10mA	5mA
<b>Input consumption</b>	<0.6 VA	<0.3 VA	<0.6VA per phase
<b>Permanent overload (2nd CT)</b>	6A	10A	6A
<b>Accuracy</b>	±0.2%	±0.2%	±0.2%
<b>THD</b>	±1%	±1%	±1%
<b>Update period</b>	1sec	1sec	1sec
<b>Voltage (TRMS)</b>			
<b>U</b>	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)
<b>Input consumption</b>	-	-	<0.1VA per phase
<b>Permanent overload (2nd CT)</b>	800V AC	760V AC	760V AC
<b>Accuracy</b>	±0.2%	±0.2%	±0.2%
<b>THD</b>	±1%	±1%	±1%
<b>Update period</b>	1sec	1sec	1sec
<b>Power</b>			
<b>Accuracy (P,Q)</b>	±0.5 to ±2% (from -90° to +90°)	±0.5 to ±2% (from -90° to +90°)	±0.5%
<b>Accuracy (S)</b>	±1%	±1%	±1%
<b>Accuracy (PF)</b>	±0.5% (for 0.5<PF<1)	±0.5% (for 0.6<PF<1)	±0.02%
<b>Update period</b>	1sec	1sec	1sec
<b>Energy</b>			
<b>Accuracy (Ea)</b>	Class 0.5s	Class 0.5s	Class 0.5s
<b>Accuracy (Er)</b>	Class 2	Class 1	Class 2
<b>Update period</b>	1sec	1sec	1sec
<b>Frequency</b>			
<b>F</b>	45Hz to 65Hz	45Hz to 65Hz	45Hz to 65Hz
<b>Accuracy</b>	±0.1%	±0.02%	±0.1%
<b>Update period</b>	1sec	1sec	1sec
<b>Supply</b>			
<b>Voltage</b>	110V AC to 400V AC ±10%	110V AC to 400V AC ±10%	200V AC to 277V AC ±15%
<b>Frequency</b>	50/60Hz	50/60Hz	50/60Hz
<b>Consumption</b>	<10VA	<10VA	<5VA
<b>Environment</b>			
<b>Protection degree</b>	IP52 (front panel) IP30 (case)	IP52 (front panel) IP30 (case)	IP51 (front panel) IP20 (case)
<b>Operating temperature</b>	-10°C to +55°C	-10°C to +55°C	-10°C to +55°C
<b>Storage temperature</b>	-20°C to +85°C	-20°C to +85°C	-20°C to +70°C
<b>Insulation category</b>	III (480Vac Ph-Ph)	III (480Vac Ph-Ph)	III (300Vac Ph-Ph)
<b>Degree of pollution</b>	PD2	PD2	PD2
<b>Communication</b>			
<b>Metrological LED</b>	-	-	0.1Wh/pulse
<b>Pulse output</b>	-	-	30Vdc/27mA Max
<b>Communication</b>	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
<b>Shape</b>			
<b>Weight</b>	400g	400g	215g
<b>Size</b>	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

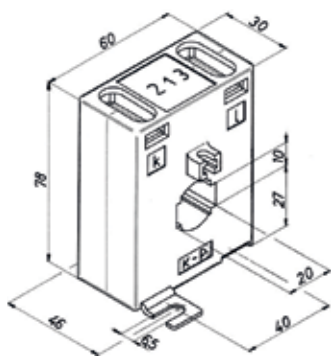
Primary rated current	50A - 2,000A
Rated secondary current	5A
Rated frequency	50 - 60Hz
Highest voltage for equipment $U_m$	720V
Rated power-frequency withstand voltage (r.m.s.)	3kV
Instrument security factor	FS 5
Rated continuous thermal current	$1.2 \times I_n$
Current rating	120%
Rated short time 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

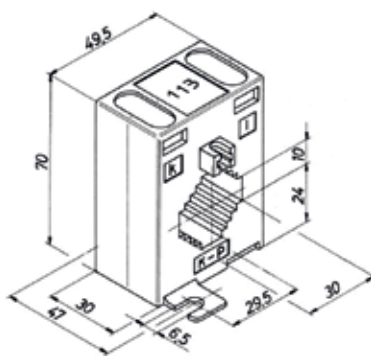
### Electrical characteristics

- Primary current: 50 to 600A (depending on model). Secondary current: 5A
- Frequency: 50/60Hz

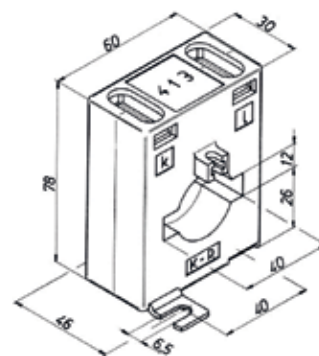
SRA00505: 50/5A



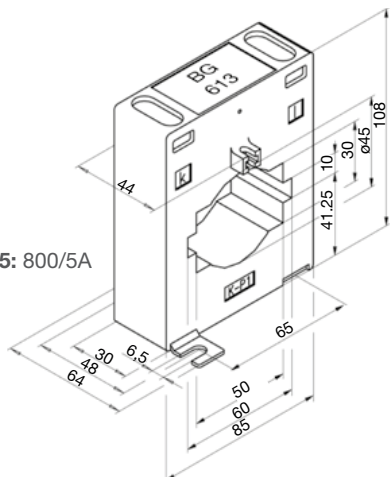
SRA01005: 100/5A    SRA02505: 250/5A  
SRA01505: 150/5A    SRC04005: 150/5A  
SRA02005: 200/5A    SRC06005: 250/5A



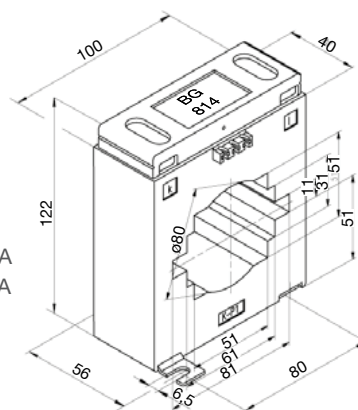
SRI03005: 300/5A



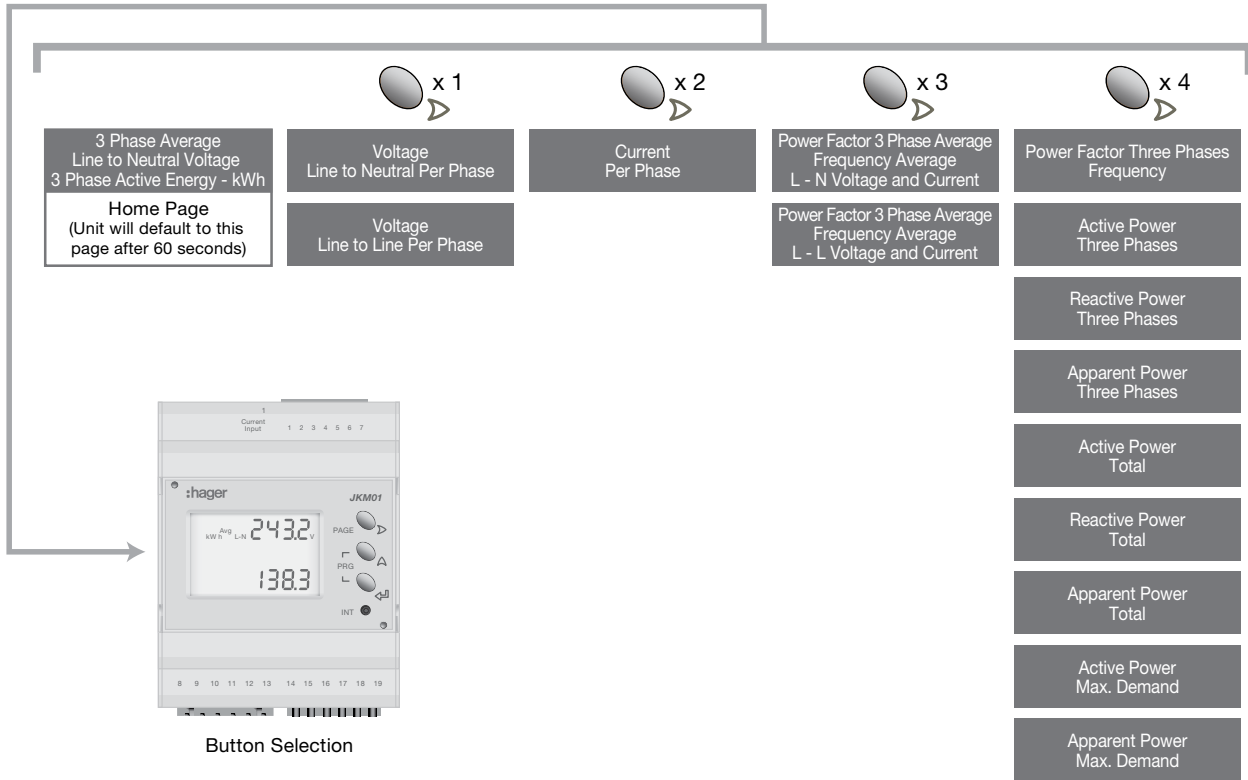
SRD08005: 800/5A



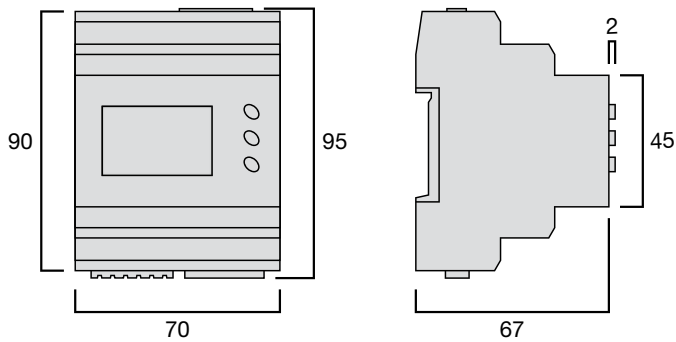
SRE12505: 1250/5A  
SRE16005: 1600/5A



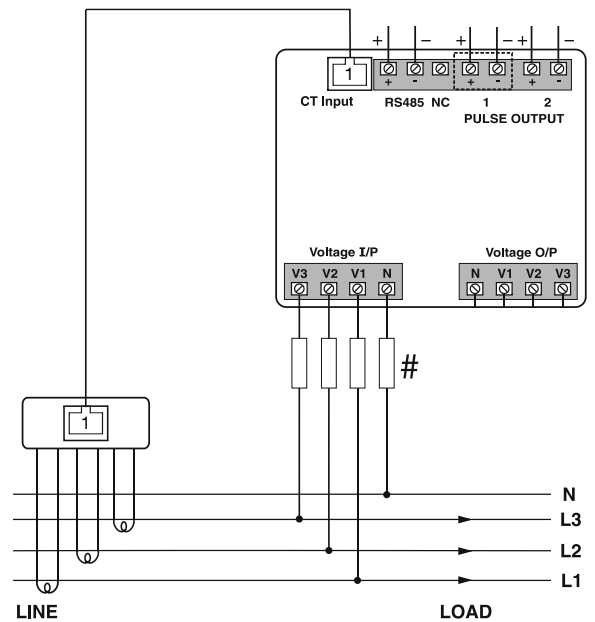
**JKM01  
Function Diagram**



**Dimension Diagrams (mm)**



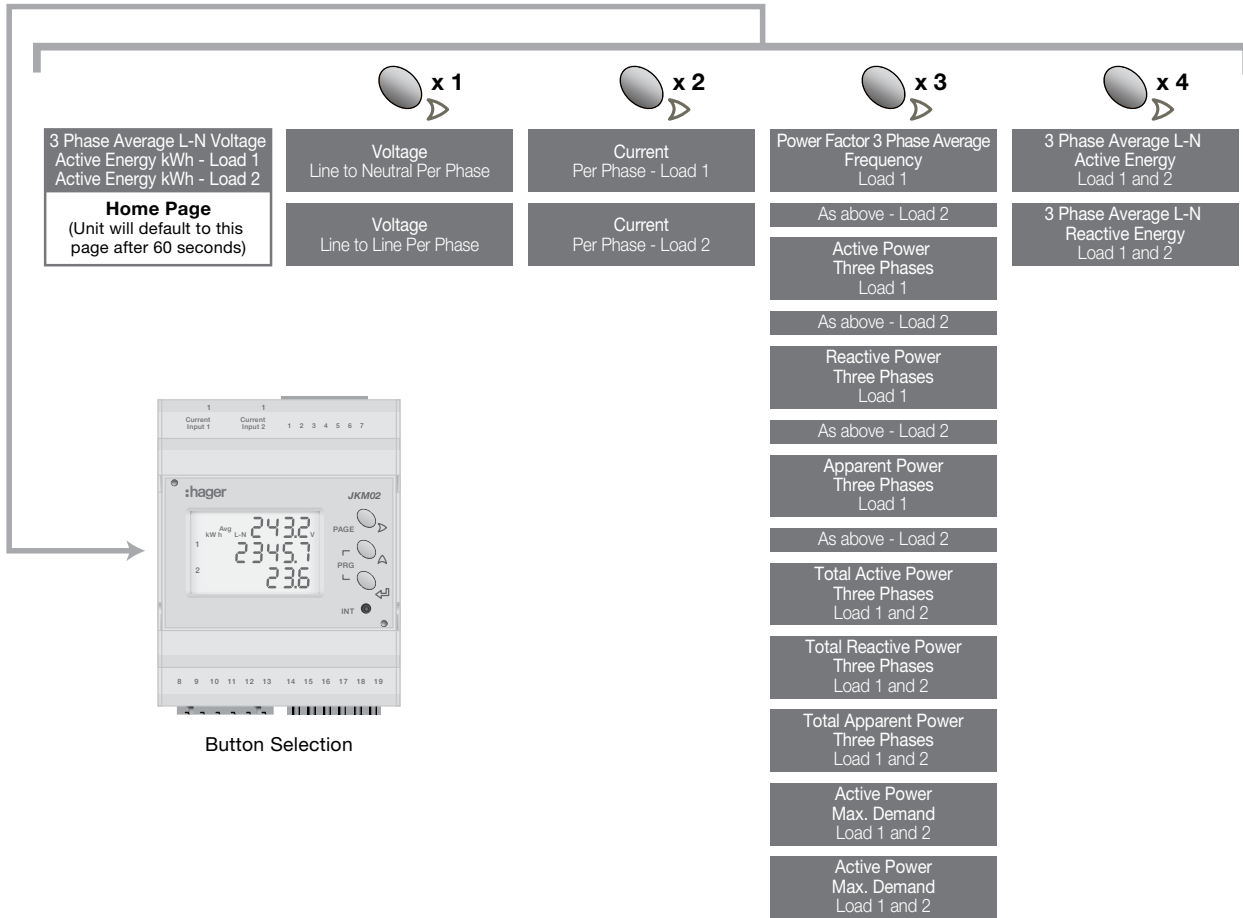
Please allow space above and below the meter for cable connections.



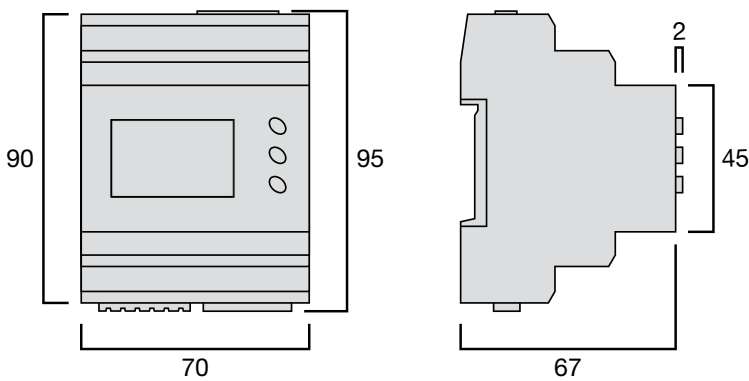
Light & energy management



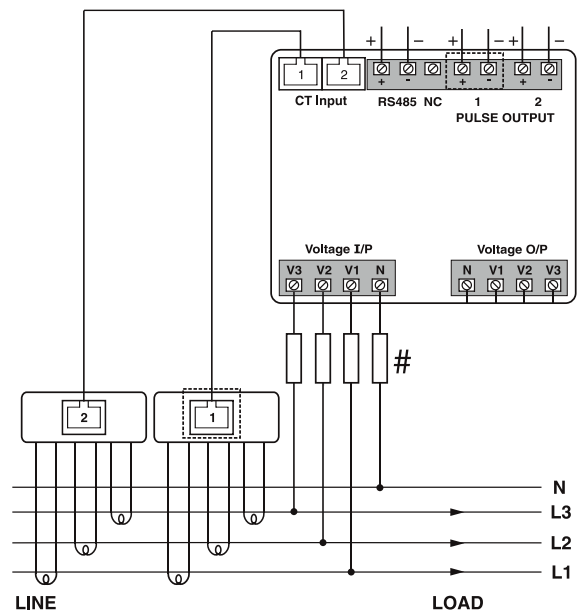
## JKM02 Function Diagram



## Dimension Diagrams (mm)



Please allow space above and below the meter for cable connections.



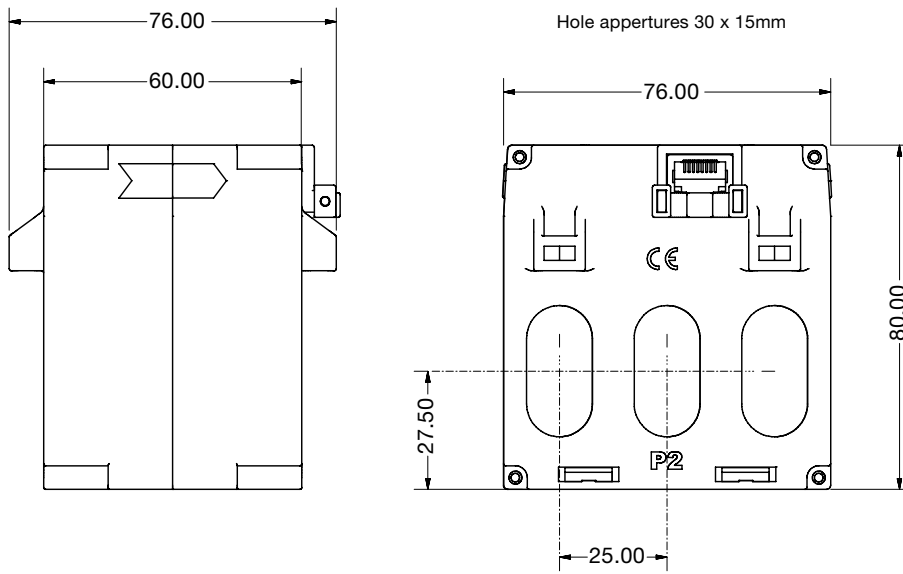
**Description**

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)**



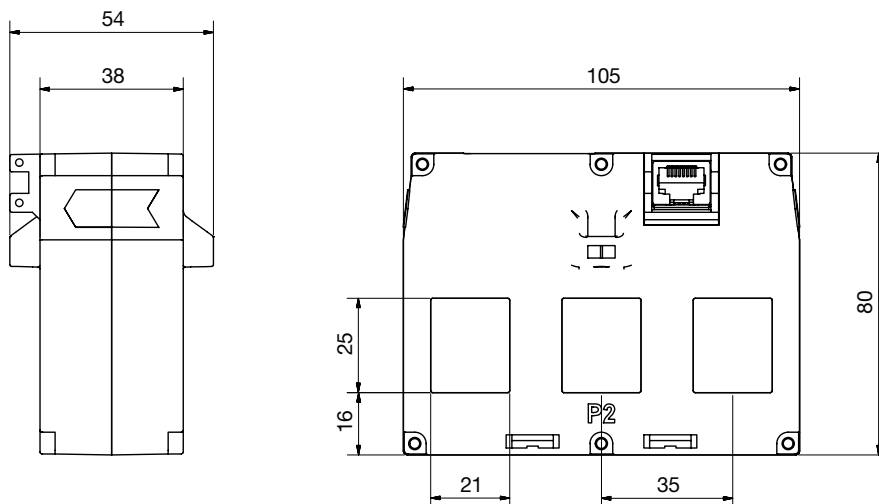
**Description**

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.

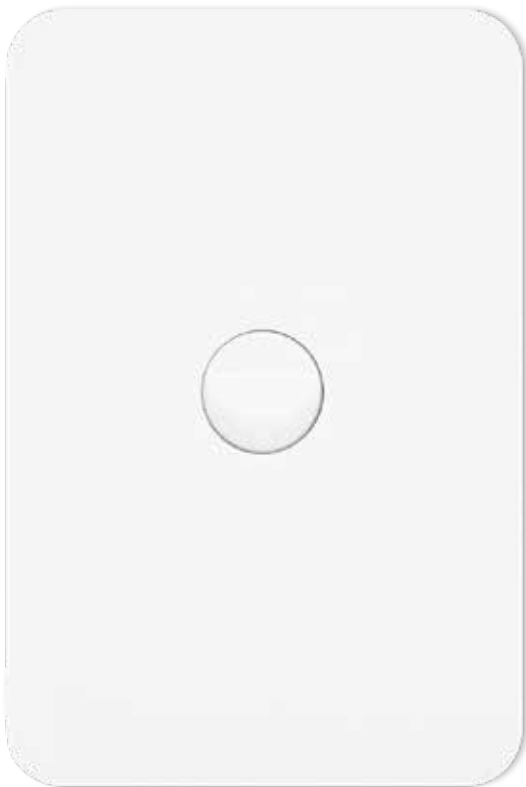


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Weatherproof switches and sockets	250
Weatherproof isolators - IP66	251
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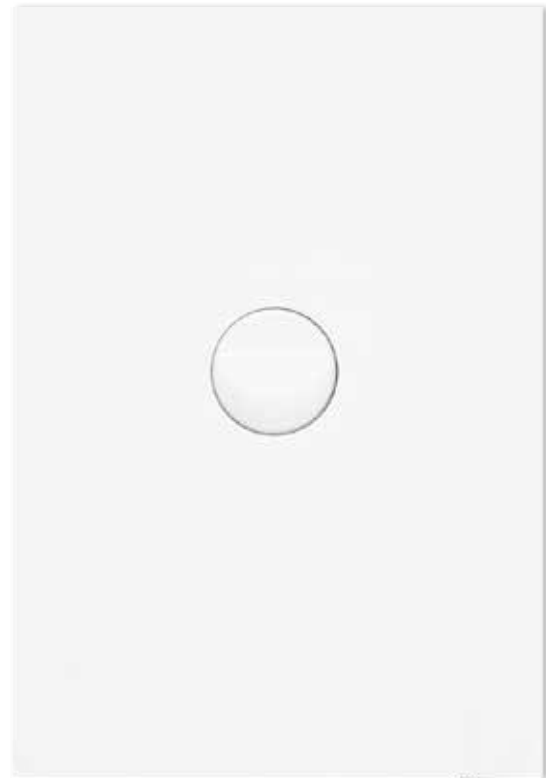
---

# 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.210](#)



## 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.219](#)



## 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.226](#)



## 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.232](#)

## 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.241](#)



### allure

	Designation	Cat. Ref.	Pack QTY.	Page No.
<b>Switch plates</b>				
	1 gang large plate switch, no mechanism	<b>WBHSP1</b>	10	<b>Page 212</b>
	2 gang large plate switch, no mechanism	<b>WBHSP2</b>	10	
	3 gang large plate switch, no mechanism	<b>WBHSP3</b>	10	
	4 gang large plate switch, no mechanism	<b>WBHSP4</b>	10	
<b>Switches</b>				
	1 gang large plate vertical switch	<b>WBHSV1</b>	10	<b>Page 214</b>
	2 gang large plate vertical switch	<b>WBHSV2</b>	10	
	3 gang large plate vertical switch	<b>WBHSV3</b>	5	
	4 gang large plate vertical switch	<b>WBHSV4</b>	5	
<b>Socket outlets</b>				
	10A single horizontal socket	<b>WBHP1</b>	10	<b>Page 216</b>
	10A single vertical socket	<b>WBHP1VS</b>	10	
	10A double horizontal socket	<b>WBHP2S</b>	10	
	10A double horizontal socket with extra switch	<b>WBHP2XS</b>	5	

### finesse

	Designation	Cat. Ref.	Pack QTY.	Page No.
<b>Switch plates</b>				
	1 gang large plate switch, no mechanism	<b>WBQSP1</b>	10	<b>Page 220</b>
	2 gang large plate switch, no mechanism	<b>WBQSP2</b>	10	
	3 gang large plate switch, no mechanism	<b>WBQSP3</b>	10	
	4 gang large plate switch, no mechanism	<b>WBQSP4</b>	10	
<b>Switches</b>				
	1 gang large plate vertical switch	<b>WBQSV1</b>	10	<b>Page 221</b>
	2 gang large plate vertical switch	<b>WBQSV2</b>	10	
	3 gang large plate vertical switch	<b>WBQSV3</b>	5	
	4 gang large plate vertical switch	<b>WBQSV4</b>	5	
<b>Mechanical Push Button Switches</b>				
	1 gang large plate vertical mechanical push button switch	<b>WBQSV1PB</b>	10	<b>Page 221</b>
	2 gang large plate vertical mechanical push button switch	<b>WBQSV2PB</b>	10	
	3 gang large plate vertical mechanical push button switch	<b>WBQSV3PB</b>	5	
	4 gang large plate vertical mechanical push button switch	<b>WBQSV4PB</b>	5	
<b>Socket outlets</b>				
	10A single horizontal socket	<b>WBQP1S</b>	10	<b>Page 223</b>
	10A single vertical socket	<b>WBQP1VS</b>	10	
	10A double horizontal socket	<b>WBQP2S</b>	10	
	10A double horizontal socket with extra switch	<b>WBQP2XS</b>	5	

**silhouette**

**Switch plates**



Designation	Cat. Ref.	Pack QTY.	Page No.
1 gang large plate switch, no mechanism	<b>WBSSP1</b>	10	<b>Page 228</b>
2 gang large plate switch, no mechanism	<b>WBSSP2</b>	10	
3 gang large plate switch, no mechanism	<b>WBSSP3</b>	10	
4 gang large plate switch, no mechanism	<b>WBSSP4</b>	10	

**Switches**



1 gang large plate vertical switch	<b>WBSSV1</b>	10	<b>Page 228</b>
2 gang large plate vertical switch	<b>WBSSV2</b>	10	
3 gang large plate vertical switch	<b>WBSSV3</b>	5	
4 gang large plate vertical switch	<b>WBSSV4</b>	5	

**Electronic push button switches**



1 gang large plate vertical electronic push button switch	<b>WBSEV1</b>	1	<b>Page 229</b>
2 gang large plate vertical electronic push button switch	<b>WBSEV2</b>	1	
3 gang large plate vertical electronic push button switch	<b>WBSEV3</b>	1	
4 gang large plate vertical electronic push button switch	<b>WBSEV4</b>	1	

**Socket outlets**



10A single horizontal socket	<b>WBSP1S</b>	10	<b>Page 229</b>
10A single vertical socket	<b>WBSP1VS</b>	10	
10A double horizontal socket	<b>WBSP2S</b>	10	
10A double horizontal socket with extra switch	<b>WBSP2XS</b>	5	

**premiere**

**Switch plates**



Designation	Cat. Ref.	Pack QTY.	Page No.
1 gang large plate switch, no mechanism	<b>WBSP1</b>	10	<b>Page 234</b>
2 gang large plate switch, no mechanism	<b>WBSP2</b>	10	
3 gang large plate switch, no mechanism	<b>WBSP3</b>	10	
4 gang large plate switch, no mechanism	<b>WBSP4</b>	10	

**Switches**



1 gang large plate vertical switch	<b>WBSV1</b>	10	<b>Page 235</b>
2 gang large plate vertical switch	<b>WBSV2</b>	10	
3 gang large plate vertical switch	<b>WBSV3</b>	5	
4 gang large plate vertical switch	<b>WBSV4</b>	5	

**Socket outlets**






10A single horizontal socket	<b>WBP1S</b>	1	<b>Page 238</b>
10A double horizontal socket	<b>WBP2S</b>	1	
10A double horizontal socket with extra switch	<b>WBP2XS</b>	1	
10A single vertical socket	<b>WBP1VS</b>	10	
10A twin vertical socket	<b>WBP2VS</b>	10	






### Mechanisms

#### Standard and printed

	Designation	Cat. Ref.	Pack QTY.	Page No.
	Electronic Push Button	<b>WBME5A</b>	5	<a href="#">Page 242</a>
	Universal Electronic Push Button Dimmer	<b>WBMDUPB</b>	5	
	Universal Rotary on/off Dimmer	<b>WBMDUR</b>	5	
	Slave	<b>WBMSLL</b>	5	
	16AX rated mechanism	<b>WBM16AX</b>	10	<a href="#">Page 243</a>
	10A intermediate mechanism	<b>WBM10I</b>	5	
	10A double pole mechanism	<b>WBM10D</b>	5	
	10A 3 position rotary mechanism	<b>WBM10R3</b>	5	
<h4>Data and television</h4> 	Cat 6 jack	<b>WBMCAT6</b>	10	<a href="#">Page 246</a>
	F to PAL mechanism	<b>WBMTV75PF</b>	10	
	F to F 'Foxtel' approved	<b>WBMTV75PY</b>	10	

**Accessories**

	Designation	Cat. Ref.	Pack QTY.	Page No.
<b>Mounting and surface accessories</b>				
	Mounting block 32mm deep - suits Premiere range	<b>WBBMD</b>	5	<a href="#">Page 248</a>
	Mounting block 32mm deep - insulated - suits Premiere range	<b>WBBMI</b>	5	
	Mounting block 32mm deep - suits silhouette range	<b>WBSBMD</b>	5	
	Mounting block 32mm deep - suits Allure range	<b>WBHBMD</b>	5	
	Mounting block 32mm deep - suits Finesse range	<b>WBQBMD</b>	5	
	10A single surface socket	<b>WBAP1</b>	10	
	Giant junction box	<b>WBAJB4</b>	5	<a href="#">Page 249</a>
	Standard junction box	<b>WBAJB4S</b>	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 <sup>2</sup> cables |
| - Sockets terminals:  | - 4 x 2.5mm <sup>2</sup> cables |



# 01

Architectually 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

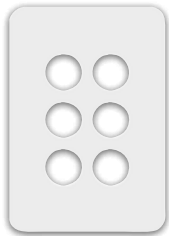
Built in spirit level to assist installation.

### 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

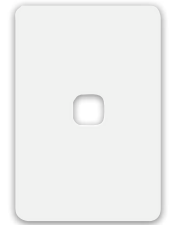
Description	Available colours	Box qty	Cat ref.
1 gang	<input type="radio"/> Gloss White	10	★ WBHSP1
	<input checked="" type="radio"/> Matt Black	10	★ WBHSP1-MB
	<input type="radio"/> Matt White	10	★ WBHSP1-MW
2 gang	<input type="radio"/> Gloss White	10	★ WBHSP2
	<input checked="" type="radio"/> Matt 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**

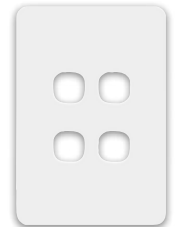
- Multiple mounting holes
- Supplied with standard 32mm fixing screws
- High impact, high gloss UV stabilised polycarbonate construction
- For use with non-Hager mechanisms
- Spray matt finishes available in matt white and matt black
- Level to assist installation
- Hinged IP2x caps
- Screw retention

**Switch Plates - Hybrid**

Description	Available colours	Box qty	Cat ref.
1 gang	<input type="radio"/> Gloss White	10	★ <b>WBHHSP1</b>
	<input checked="" type="radio"/> Matt Black	10	★ <b>WBHHSP1-MB</b>
	<input type="radio"/> Matt White	10	★ <b>WBHHSP1-MW</b>
2 gang	<input type="radio"/> Gloss White	10	★ <b>WBHHSP2</b>
	<input checked="" type="radio"/> Matt Black	10	★ <b>WBHHSP2-MB</b>
	<input type="radio"/> Matt White	10	★ <b>WBHHSP2-MW</b>
3 gang	<input type="radio"/> Gloss White	10	★ <b>WBHHSP3</b>
	<input checked="" type="radio"/> Matt Black	10	★ <b>WBHHSP3-MB</b>
	<input type="radio"/> Matt White	10	★ <b>WBHHSP3-MW</b>
4 gang	<input type="radio"/> Gloss White	10	★ <b>WBHHSP4</b>
	<input checked="" type="radio"/> Matt Black	10	★ <b>WBHHSP4-MB</b>
	<input type="radio"/> Matt White	10	★ <b>WBHHSP4-MW</b>



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 1.5mm<sup>2</sup> cable

**Dimension data:** [Page 254 and 255](#)



WBHSV1



WBHSV1-MB

### Switches

Description	Available colours	Box qty	Cat ref.
1 gang	<input type="radio"/> Gloss White	10	★ <a href="#">WBHSV1</a>
	<input checked="" type="radio"/> Matt Black	10	★ <a href="#">WBHSV1-MB</a>
	<input type="radio"/> Matt White	10	★ <a href="#">WBHSV1-MW</a>
2 gang	<input type="radio"/> Gloss White	10	★ <a href="#">WBHSV2</a>
	<input checked="" type="radio"/> Matt Black	10	★ <a href="#">WBHSV2-MB</a>
	<input type="radio"/> Matt White	10	★ <a href="#">WBHSV2-MW</a>
3 gang	<input type="radio"/> Gloss White	5	★ <a href="#">WBHSV3</a>
	<input checked="" type="radio"/> Matt Black	5	★ <a href="#">WBHSV3-MB</a>
	<input type="radio"/> Matt White	5	★ <a href="#">WBHSV3-MW</a>
4 gang	<input type="radio"/> Gloss White	5	★ <a href="#">WBHSV4</a>
	<input checked="" type="radio"/> Matt Black	5	★ <a href="#">WBHSV4-MB</a>
	<input type="radio"/> Matt White	5	★ <a href="#">WBHSV4-MW</a>
5 gang	<input type="radio"/> Gloss White	5	★ <a href="#">WBHSV5</a>
	<input checked="" type="radio"/> Matt Black	5	★ <a href="#">WBHSV5-MB</a>
	<input type="radio"/> Matt White	5	★ <a href="#">WBHSV5-MW</a>
6 gang	<input type="radio"/> Gloss White	5	★ <a href="#">WBHSV6</a>
	<input checked="" type="radio"/> Matt Black	5	★ <a href="#">WBHSV6-MB</a>
	<input type="radio"/> Matt White	5	★ <a href="#">WBHSV6-MW</a>



WBHSA2

### Switches - Architrave

Description	Available colours	Box qty	Cat ref.
1 gang	<input type="radio"/> Gloss White	5	★ <a href="#">WBHSA1</a>
	<input checked="" type="radio"/> Matt Black	5	★ <a href="#">WBHSA1-MB</a>
	<input type="radio"/> Matt White	5	★ <a href="#">WBHSA1-MW</a>
2 gang	<input type="radio"/> Gloss White	5	★ <a href="#">WBHSA2</a>
	<input checked="" type="radio"/> Matt Black	5	★ <a href="#">WBHSA2-MB</a>
	<input type="radio"/> Matt White	5	★ <a href="#">WBHSA2-MW</a>
3 gang	<input type="radio"/> Gloss White	5	★ <a href="#">WBHSA3</a>
	<input checked="" type="radio"/> Matt Black	5	★ <a href="#">WBHSA3-MB</a>
	<input type="radio"/> Matt White	5	★ <a href="#">WBHSA3-MW</a>

**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 1.5mm<sup>2</sup> cable

**Cooker switch features**

- Double pole
- Comes with 2 covers
  - One marked with 'cooker'
  - One with no marking
- Terminals accept 6mm<sup>2</sup> cable

**Dimension data:** [Page 254 and 255](#)



**IP44 Switches - vertical**

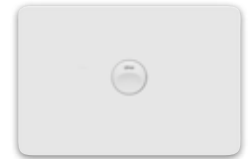
Description	Characteristics	Available colours	Box qty	Cat ref.
1 gang	10A	<input type="radio"/> Gloss White	10	★ <a href="#">WBHWSV1</a>
		<input checked="" type="radio"/> Matt Black	10	★ <a href="#">WBHWSV1-MB</a>
		<input type="radio"/> Matt White	10	★ <a href="#">WBHWSV1-MW</a>
2 gang	10A	<input type="radio"/> Gloss White	10	★ <a href="#">WBHWSV2</a>
		<input checked="" type="radio"/> Matt Black	10	★ <a href="#">WBHWSV2-MB</a>
		<input type="radio"/> Matt White	10	★ <a href="#">WBHWSV2-MW</a>
3 gang	10A	<input type="radio"/> Gloss White	10	★ <a href="#">WBHWSV3</a>
		<input checked="" type="radio"/> Matt Black	10	★ <a href="#">WBHWSV3-MB</a>
		<input type="radio"/> Matt White	10	★ <a href="#">WBHWSV3-MW</a>



WBHWSV1

**IP44 Switches - horizontal**

Description	Characteristics	Available colours	Box qty	Cat ref.
1 gang	10A	<input type="radio"/> Gloss White	10	★ <a href="#">WBHWSH1</a>
		<input checked="" type="radio"/> Matt Black	10	★ <a href="#">WBHWSH1-MB</a>
		<input type="radio"/> Matt White	10	★ <a href="#">WBHWSH1-MW</a>
2 gang	10A	<input type="radio"/> Gloss White	10	★ <a href="#">WBHWSH2</a>
		<input checked="" type="radio"/> Matt Black	10	★ <a href="#">WBHWSH2-MB</a>
		<input type="radio"/> Matt White	10	★ <a href="#">WBHWSH2-MW</a>
3 gang	10A	<input type="radio"/> Gloss White	10	★ <a href="#">WBHWSH3</a>
		<input checked="" type="radio"/> Matt Black	10	★ <a href="#">WBHWSH3-MB</a>
		<input type="radio"/> Matt White	10	★ <a href="#">WBHWSH3-MW</a>



WBHWSH1

**Switches - Cooker Switch**

Description	Characteristics	Available colours	Box qty	Cat ref.
Horizontal cooker switch Double pole	40A	<input type="radio"/> Gloss White	1	★ <a href="#">WBHCKSH1</a>
		<input checked="" type="radio"/> Matt Black	1	★ <a href="#">WBHCKSH1-MB</a>
		<input type="radio"/> Matt White	1	★ <a href="#">WBHCKSH1-MW</a>
Vertical cooker switch Double pole	40A	<input type="radio"/> Gloss White	1	★ <a href="#">WBHCKSV1</a>
		<input checked="" type="radio"/> Matt Black	1	★ <a href="#">WBHCKSV1-MB</a>
		<input type="radio"/> Matt White	1	★ <a href="#">WBHCKSV1-MW</a>



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 2.5mm<sup>2</sup> cable

Dimension data: [Page 254](#)



WBHP2S



WBHP2S-MB



WBHP2SUSBAC-MW

### Sockets - horizontal

Description	Characteristics	Available colours	Box qty	Cat ref.
Single sockets	10A	<input type="radio"/> Gloss White	10	★ <a href="#">WBHP1S</a>
		<input type="radio"/> Matt Black	10	★ <a href="#">WBHP1S-MB</a>
		<input type="radio"/> Matt White	10	★ <a href="#">WBHP1S-MW</a>
	10A 'Round Earth'	<input type="radio"/> Gloss White	10	★ <a href="#">WBHP1R</a>
		<input type="radio"/> Matt Black	10	★ <a href="#">WBHP1R-MB</a>
		<input type="radio"/> Matt White	10	★ <a href="#">WBHP1R-MW</a>
	15A	<input type="radio"/> Gloss White	5	★ <a href="#">WBHP115</a>
		<input type="radio"/> Matt Black	5	★ <a href="#">WBHP115-MB</a>
		<input type="radio"/> Matt White	5	★ <a href="#">WBHP115-MW</a>
20A	<input type="radio"/> Gloss White	5	★ <a href="#">WBHP120</a>	
	<input type="radio"/> Matt Black	5	★ <a href="#">WBHP120-MB</a>	
	<input type="radio"/> Matt White	5	★ <a href="#">WBHP120-MW</a>	
Double sockets	10A	<input type="radio"/> Gloss White	10	★ <a href="#">WBHP2S</a>
		<input type="radio"/> Matt Black	10	★ <a href="#">WBHP2S-MB</a>
		<input type="radio"/> Matt White	10	★ <a href="#">WBHP2S-MW</a>
		Double sockets with extra 16AX switch	10A	<input type="radio"/> Gloss White
		<input type="radio"/> Matt Black	5	★ <a href="#">WBHP2XS-MB</a>
		<input type="radio"/> Matt White	5	★ <a href="#">WBHP2XS-MW</a>
		Double sockets with extra switch position (no mech)	10A	<input type="radio"/> Gloss White
		<input type="radio"/> Matt Black	1	★ <a href="#">WBHP2XSB-MB</a>
		<input type="radio"/> Matt White	1	★ <a href="#">WBHP2XSB-MW</a>
		Double sockets with USB Type A and Type C	10A	<input type="radio"/> Gloss White
		<input type="radio"/> Matt Black	5	★ <a href="#">WBHP2SUSBAC-MB</a>
		<input type="radio"/> Matt White	5	★ <a href="#">WBHP2SUSBAC-MW</a>

### Sockets - vertical

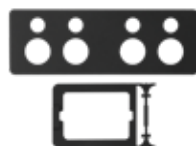
Description	Characteristics	Available colours	Box qty	Cat ref.
		<input type="radio"/> Gloss White	10	★ <a href="#">WBHP1V</a>
		<input type="radio"/> Matt Black	10	★ <a href="#">WBHP1V-MB</a>
		<input type="radio"/> Matt White	10	★ <a href="#">WBHP1V-MW</a>



WBHP1V-MB

### 4 Gang Socket Cover Kit

Description	Characteristics	Available colours	Box qty	Cat ref.
		<input type="radio"/> Gloss White	5	★ <a href="#">WBHA4PP</a>
		<input type="radio"/> Matt Black	5	★ <a href="#">WBHA4PP-MB</a>
		<input type="radio"/> Matt White	5	★ <a href="#">WBHA4PP-MW</a>



WBHA4PP-MB

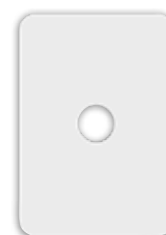
Note: 2x allure double sockets (WBHP2S-xx) required (not supplied with kit)

### Features

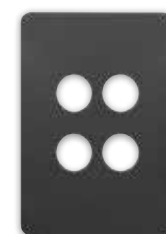
- High impact, high gloss UV stabilised polycarbonate
- Spray matt finishes available in matt white and matt black

### Switch Cover Plates

Description	Available colours	Box qty	Cat ref.
1 gang	<input type="radio"/> Gloss White	10	★ <b>WBHCS1</b>
	<input checked="" type="radio"/> Matt Black	10	★ <b>WBHCS1-MB</b>
	<input type="radio"/> Matt White	10	★ <b>WBHCS1-MW</b>
2 gang	<input type="radio"/> Gloss White	10	★ <b>WBHCS2</b>
	<input checked="" type="radio"/> Matt Black	10	★ <b>WBHCS2-MB</b>
	<input type="radio"/> Matt White	10	★ <b>WBHCS2-MW</b>
3 gang	<input type="radio"/> Gloss White	10	★ <b>WBHCS3</b>
	<input checked="" type="radio"/> Matt Black	10	★ <b>WBHCS3-MB</b>
	<input type="radio"/> Matt White	10	★ <b>WBHCS3-MW</b>
4 gang	<input type="radio"/> Gloss White	10	★ <b>WBHCS4</b>
	<input checked="" type="radio"/> Matt Black	10	★ <b>WBHCS4-MB</b>
	<input type="radio"/> Matt White	10	★ <b>WBHCS4-MW</b>
5 gang	<input type="radio"/> Gloss White	10	★ <b>WBHCS5</b>
	<input checked="" type="radio"/> Matt Black	10	★ <b>WBHCS5-MB</b>
	<input type="radio"/> Matt White	10	★ <b>WBHCS5-MW</b>
6 gang	<input type="radio"/> Gloss White	10	★ <b>WBHCS6</b>
	<input checked="" type="radio"/> Matt Black	10	★ <b>WBHCS6-MB</b>
	<input type="radio"/> Matt White	10	★ <b>WBHCS6-MW</b>



WBHCS1



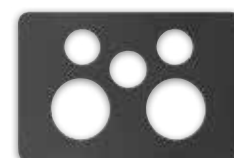
WBHCS4-MB

### Socket Cover Plates - horizontal

Description	Available colours	Box qty	Cat ref.
Cover single socket	<input type="radio"/> Gloss White	5	★ <b>WBHCP1</b>
	<input checked="" type="radio"/> Matt Black	5	★ <b>WBHCP1-MB</b>
	<input type="radio"/> Matt White	5	★ <b>WBHCP1-MW</b>
Cover double socket	<input type="radio"/> Gloss White	5	★ <b>WBHCP2</b>
	<input checked="" type="radio"/> Matt Black	5	★ <b>WBHCP2-MB</b>
	<input type="radio"/> Matt White	5	★ <b>WBHCP2-MW</b>
Cover double socket with extra switch	<input type="radio"/> Gloss White	5	★ <b>WBHCP2XS</b>
	<input checked="" type="radio"/> Matt Black	5	★ <b>WBHCP2XS-MB</b>
	<input type="radio"/> Matt White	5	★ <b>WBHCP2XS-MW</b>



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	★ <b>WBHCP1V</b>
	<input checked="" type="radio"/> Matt Black	5	★ <b>WBHCP1V-MB</b>
	<input type="radio"/> Matt White	5	★ <b>WBHCP1V-MW</b>



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 <sup>2</sup> cables |
| - Sockets terminals:  | - 4 x 2.5mm <sup>2</sup> 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

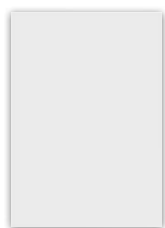
A full range of accessories and mechs including mechanical or electronic push button switches and universal dimmers.

### 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	○ Gloss White	10	★ WBQSP1
	● Matt Black	10	★ WBQSP1-MB
	○ Matt White	10	★ WBQSP1-MW
2 gang	○ Gloss White	10	★ WBQSP2
	● Matt Black	10	★ WBQSP2-MB
	○ Matt White	10	★ WBQSP2-MW
3 gang	○ Gloss White	10	★ WBQSP3
	● Matt Black	10	★ WBQSP3-MB
	○ Matt White	10	★ WBQSP3-MW
4 gang	○ Gloss White	10	★ WBQSP4
	● Matt Black	10	★ WBQSP4-MB
	○ Matt White	10	★ WBQSP4-MW
5 gang	○ Gloss White	10	★ WBQSP5
	● Matt Black	10	★ WBQSP5-MB
	○ Matt White	10	★ WBQSP5-MW
6 gang	○ Gloss White	10	★ WBQSP6
	● Matt Black	10	★ WBQSP6-MB
	○ Matt White	10	★ WBQSP6-MW
Blank	○ Gloss White	10	★ WBQSPB
	● Matt Black	10	★ WBQSPB-MB
	○ Matt White	10	★ WBQSPB-MW
Brush cable entry plate	○ Gloss White	10	★ WBQSPCE
	● Matt Black	10	★ WBQSPCE-MB
	○ Matt White	10	★ WBQSPCE-MW

### Switch Plates - Hybrid (For use with non-Hager mechanisms)

Description	Available colours	Box qty	Cat ref.
1 gang	○ Gloss White	10	★ WBQHSP1
	● Matt Black	10	★ WBQHSP1-MB
	○ Matt White	10	★ WBQHSP1-MW
2 gang	○ Gloss White	10	★ WBQHSP2
	● Matt Black	10	★ WBQHSP2-MB
	○ Matt White	10	★ WBQHSP2-MW
3 gang	○ Gloss White	10	★ WBQHSP3
	● Matt Black	10	★ WBQHSP3-MB
	○ Matt White	10	★ WBQHSP3-MW
4 gang	○ Gloss White	10	★ WBQHSP4
	● Matt Black	10	★ WBQHSP4-MB
	○ Matt White	10	★ WBQHSP4-MW



WBQHSP1



WBQHSP4

### 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 1.5mm<sup>2</sup> cable
- Push button mechanical switches rated 10A
- 240V press button mechs - 10AX

Dimension data: [Page 256](#)



### Switches

Description	Available colours	Box qty	Cat ref.
1 gang	<input type="radio"/> Gloss White	10	★ <a href="#">WBQSV1</a>
	<input checked="" type="radio"/> Matt Black	10	★ <a href="#">WBQSV1-MB</a>
	<input type="radio"/> Matt White	10	★ <a href="#">WBQSV1-MW</a>
2 gang	<input type="radio"/> Gloss White	10	★ <a href="#">WBQSV2</a>
	<input checked="" type="radio"/> Matt Black	10	★ <a href="#">WBQSV2-MB</a>
	<input type="radio"/> Matt White	10	★ <a href="#">WBQSV2-MW</a>
3 gang	<input type="radio"/> Gloss White	5	★ <a href="#">WBQSV3</a>
	<input checked="" type="radio"/> Matt Black	5	★ <a href="#">WBQSV3-MB</a>
	<input type="radio"/> Matt White	5	★ <a href="#">WBQSV3-MW</a>
4 gang	<input type="radio"/> Gloss White	5	★ <a href="#">WBQSV4</a>
	<input checked="" type="radio"/> Matt Black	5	★ <a href="#">WBQSV4-MB</a>
	<input type="radio"/> Matt White	5	★ <a href="#">WBQSV4-MW</a>
5 gang	<input type="radio"/> Gloss White	5	★ <a href="#">WBQSV5</a>
	<input checked="" type="radio"/> Matt Black	5	★ <a href="#">WBQSV5-MB</a>
	<input type="radio"/> Matt White	5	★ <a href="#">WBQSV5-MW</a>
6 gang	<input type="radio"/> Gloss White	5	★ <a href="#">WBQSV6</a>
	<input checked="" type="radio"/> Matt Black	5	★ <a href="#">WBQSV6-MB</a>
	<input type="radio"/> Matt White	5	★ <a href="#">WBQSV6-MW</a>



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	★ <a href="#">WBQSV1PB</a>
		<input checked="" type="radio"/> Matt Black	10	★ <a href="#">WBQSV1PB-MB</a>
		<input type="radio"/> Matt White	10	★ <a href="#">WBQSV1PB-MW</a>
2 gang	10A	<input type="radio"/> Gloss White	10	★ <a href="#">WBQSV2PB</a>
		<input checked="" type="radio"/> Matt Black	10	★ <a href="#">WBQSV2PB-MB</a>
		<input type="radio"/> Matt White	10	★ <a href="#">WBQSV2PB-MW</a>
3 gang	10A	<input type="radio"/> Gloss White	5	★ <a href="#">WBQSV3PB</a>
		<input checked="" type="radio"/> Matt Black	5	★ <a href="#">WBQSV3PB-MB</a>
		<input type="radio"/> Matt White	5	★ <a href="#">WBQSV3PB-MW</a>
4 gang	10A	<input type="radio"/> Gloss White	5	★ <a href="#">WBQSV4PB</a>
		<input checked="" type="radio"/> Matt Black	5	★ <a href="#">WBQSV4PB-MB</a>
		<input type="radio"/> Matt White	5	★ <a href="#">WBQSV4PB-MW</a>
240V LED for PB mech LED - blue (Not supplied with switches)	240V		20	★ <a href="#">WBAPBLED</a>



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 1.5mm<sup>2</sup> 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 6mm<sup>2</sup> cable

**Dimension data:** [Page 256 and 257](#)



WBQSA2

### Architrave Switches

Description	Available colours	Box qty	Cat ref.
1 gang	<input type="radio"/> Gloss White	10	★ <a href="#">WBQSA1</a>
	<input checked="" type="radio"/> Matt Black	10	★ <a href="#">WBQSA1-MB</a>
	<input type="radio"/> Matt White	10	★ <a href="#">WBQSA1-MW</a>
2 gang	<input type="radio"/> Gloss White	10	★ <a href="#">WBQSA2</a>
	<input checked="" type="radio"/> Matt Black	10	★ <a href="#">WBQSA2-MB</a>
	<input type="radio"/> Matt White	10	★ <a href="#">WBQSA2-MW</a>
3 gang	<input type="radio"/> Gloss White	5	★ <a href="#">WBQSA3</a>
	<input checked="" type="radio"/> Matt Black	5	★ <a href="#">WBQSA3-MB</a>
	<input type="radio"/> Matt White	5	★ <a href="#">WBQSA3-MW</a>



WBQCKSV1

### Switches - Cooker Switch

Description	Characteristics	Available colours	Box qty	Cat ref.
Vertical cooker switch Double pole	40A	<input type="radio"/> Gloss White	5	★ <a href="#">WBQCKSV1</a>
		<input checked="" type="radio"/> Matt Black	5	★ <a href="#">WBQCKSV1-MB</a>
		<input type="radio"/> Matt White	5	★ <a href="#">WBQCKSV1-MW</a>
Horizontal cooker switch Double pole	40A	<input type="radio"/> Gloss White	5	★ <a href="#">WBQCKSH1</a>
		<input checked="" type="radio"/> Matt Black	5	★ <a href="#">WBQCKSH1-MB</a>
		<input type="radio"/> Matt White	5	★ <a href="#">WBQCKSH1-MW</a>

### 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 2.5mm<sup>2</sup> cable
- High impact, high gloss UV stabilised polycarbonate construction

Dimension data: [Page 256](#)



### Sockets - horizontal

Description	Characteristics	Available colours	Box qty	Cat ref.
Single sockets	10A	<input type="radio"/> Gloss White	10	★ <a href="#">WBQP1S</a>
		<input checked="" type="radio"/> Matt Black	10	★ <a href="#">WBQP1S-MB</a>
		<input type="radio"/> Matt White	10	★ <a href="#">WBQP1S-MW</a>
	10A 'Round Earth'	<input type="radio"/> Gloss White	10	★ <a href="#">WBQP1R</a>
		<input checked="" type="radio"/> Matt Black	10	★ <a href="#">WBQP1R-MB</a>
		<input type="radio"/> Matt White	10	★ <a href="#">WBQP1R-MW</a>
	15A	<input type="radio"/> Gloss White	5	★ <a href="#">WBQP115S</a>
		<input checked="" type="radio"/> Matt Black	5	★ <a href="#">WBQP115S-MB</a>
		<input type="radio"/> Matt White	5	★ <a href="#">WBQP115S-MW</a>
Double sockets	10A	<input type="radio"/> Gloss White	10	★ <a href="#">WBQP2S</a>
		<input checked="" type="radio"/> Matt Black	10	★ <a href="#">WBQP2S-MB</a>
		<input type="radio"/> Matt White	10	★ <a href="#">WBQP2S-MW</a>
Double sockets with extra switch	10A	<input type="radio"/> Gloss White	5	★ <a href="#">WBQP2XS</a>
		<input checked="" type="radio"/> Matt Black	5	★ <a href="#">WBQP2XS-MB</a>
		<input type="radio"/> Matt White	5	★ <a href="#">WBQP2XS-MW</a>
Double sockets blanked extra switch	10A	<input type="radio"/> Gloss White	1	★ <a href="#">WBQP2XSB</a>
		<input checked="" type="radio"/> Matt Black	1	★ <a href="#">WBQP2XSB-MB</a>
		<input type="radio"/> Matt White	1	★ <a href="#">WBQP2XSB-MW</a>
Double sockets with USB Type A and Type C	10A	<input type="radio"/> Gloss White	5	★ <a href="#">WBQP2SUSBAC</a>
		<input checked="" type="radio"/> Matt Black	5	★ <a href="#">WBQP2SUSBAC-MB</a>
		<input type="radio"/> Matt White	5	★ <a href="#">WBQP2SUSBAC-MW</a>



WBQP2S



WBQP2S-MB



WBQP2XS

### Sockets - vertical

Description	Characteristics	Available colours	Box qty	Cat ref.
Single socket	10A	<input type="radio"/> Gloss White	10	★ <a href="#">WBQP1VS</a>
		<input checked="" type="radio"/> Matt Black	10	★ <a href="#">WBQP1VS-MB</a>
		<input type="radio"/> Matt White	10	★ <a href="#">WBQP1VS-MW</a>



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	★ <a href="#">WBQCV1</a>
	<input checked="" type="radio"/> Matt Black	10	★ <a href="#">WBQCV1-MB</a>
	<input type="radio"/> Matt White	10	★ <a href="#">WBQCV1-MW</a>
2 gang	<input type="radio"/> Gloss White	10	★ <a href="#">WBQCV2</a>
	<input checked="" type="radio"/> Matt Black	10	★ <a href="#">WBQCV2-MB</a>
	<input type="radio"/> Matt White	10	★ <a href="#">WBQCV2-MW</a>
3 gang	<input type="radio"/> Gloss White	10	★ <a href="#">WBQCV3</a>
	<input checked="" type="radio"/> Matt Black	10	★ <a href="#">WBQCV3-MB</a>
	<input type="radio"/> Matt White	10	★ <a href="#">WBQCV3-MW</a>
4 gang	<input type="radio"/> Gloss White	10	★ <a href="#">WBQCV4</a>
	<input checked="" type="radio"/> Matt Black	10	★ <a href="#">WBQCV4-MB</a>
	<input type="radio"/> Matt White	10	★ <a href="#">WBQCV4-MW</a>
5 gang	<input type="radio"/> Gloss White	10	★ <a href="#">WBQCV5</a>
	<input checked="" type="radio"/> Matt Black	10	★ <a href="#">WBQCV5-MB</a>
	<input type="radio"/> Matt White	10	★ <a href="#">WBQCV5-MW</a>
6 gang	<input type="radio"/> Gloss White	10	★ <a href="#">WBQCV6</a>
	<input checked="" type="radio"/> Matt Black	10	★ <a href="#">WBQCV6-MB</a>
	<input type="radio"/> Matt White	10	★ <a href="#">WBQCV6-MW</a>

**Features**

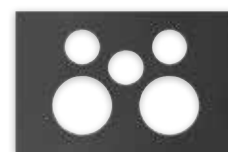
- High impact, high gloss UV stabilised polycarbonate
- Spray matt finishes available in matt white and matt black

**Socket Cover Plates - horizontal**

Description	Available colours	Box qty	Cat ref.
Cover single socket	<input type="radio"/> Gloss White	5	★ <a href="#">WBQCP1</a>
	<input checked="" type="radio"/> Matt Black	5	★ <a href="#">WBQCP1-MB</a>
	<input type="radio"/> Matt White	5	★ <a href="#">WBQCP1-MW</a>
Cover double socket	<input type="radio"/> Gloss White	5	★ <a href="#">WBQCP2</a>
	<input checked="" type="radio"/> Matt Black	5	★ <a href="#">WBQCP2-MB</a>
	<input type="radio"/> Matt White	5	★ <a href="#">WBQCP2-MW</a>
Cover double socket with extra switch	<input type="radio"/> Gloss White	5	★ <a href="#">WBQCP2XS</a>
	<input checked="" type="radio"/> Matt Black	5	★ <a href="#">WBQCP2XS-MB</a>
	<input type="radio"/> Matt White	5	★ <a href="#">WBQCP2XS-MW</a>



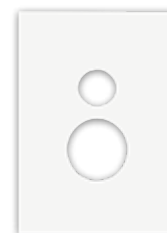
WBQCP1



WBQCP2XS-MB

**Socket Cover Plates - vertical**

Description	Available colours	Box qty	Cat ref.
Cover single socket	<input type="radio"/> Gloss White	5	★ <a href="#">WBQCPV1</a>
	<input checked="" type="radio"/> Matt Black	5	★ <a href="#">WBQCPV1-MB</a>
	<input type="radio"/> Matt White	5	★ <a href="#">WBQCPV1-MW</a>



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:

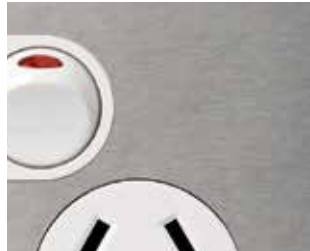
---

- |                       |                                 |
|-----------------------|---------------------------------|
| - External material:  | - UV stabilised polycarbonate   |
| - Switches terminals: | - 4 x 1.5mm <sup>2</sup> cables |
| - Sockets terminals:  | - 4 x 2.5mm <sup>2</sup> 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 1.5mm<sup>2</sup> cable

**Dimension data** [Page 253](#)



WBSSP4

### Switch Plates only - No Mechanisms

Description	Available colours	Box qty	Cat ref.
1 gang	<input type="radio"/> White	10	<b>WBSSP1</b>
	<input checked="" type="radio"/> Matt Black	10	<b>WBSSP1-MB</b>
	<input type="radio"/> Matt White	10	<b>WBSSP1-MW</b>
2 gang	<input type="radio"/> White	10	<b>WBSSP2</b>
	<input checked="" type="radio"/> Matt Black	10	<b>WBSSP2-MB</b>
	<input type="radio"/> Matt White	10	<b>WBSSP2-MW</b>
3 gang	<input type="radio"/> White	10	<b>WBSSP3</b>
	<input checked="" type="radio"/> Matt Black	10	<b>WBSSP3-MB</b>
	<input type="radio"/> Matt White	10	<b>WBSSP3-MW</b>
4 gang	<input type="radio"/> White	10	<b>WBSSP4</b>
	<input checked="" type="radio"/> Matt Black	10	<b>WBSSP4-MB</b>
	<input type="radio"/> Matt White	10	<b>WBSSP4-MW</b>
5 gang	<input type="radio"/> White	10	<b>WBSSP5</b>
	<input checked="" type="radio"/> Matt Black	10	<b>WBSSP5-MB</b>
	<input type="radio"/> Matt White	10	<b>WBSSP5-MW</b>
6 gang	<input type="radio"/> White	10	<b>WBSSP6</b>
	<input checked="" type="radio"/> Matt Black	10	<b>WBSSP6-MB</b>
	<input type="radio"/> Matt White	10	<b>WBSSP6-MW</b>
Blank	<input type="radio"/> White	10	<b>WBSSP6</b>



WBSSV1-MW



WBSSV1-MB

### Switches

Description	Available colours	Box qty	Cat ref.
1 gang	<input type="radio"/> White	10	<b>WBSSV1</b>
	<input checked="" type="radio"/> Matt Black	10	<b>WBSSV1-MB</b>
	<input type="radio"/> Matt White	10	<b>WBSSV1-MW</b>
2 gang	<input type="radio"/> White	10	<b>WBSSV2</b>
	<input checked="" type="radio"/> Matt Black	10	<b>WBSSV2-MB</b>
	<input type="radio"/> Matt White	10	<b>WBSSV2-MW</b>
3 gang	<input type="radio"/> White	5	<b>WBSSV3</b>
	<input checked="" type="radio"/> Matt Black	5	<b>WBSSV3-MB</b>
	<input type="radio"/> Matt White	5	<b>WBSSV3-MW</b>
4 gang	<input type="radio"/> White	5	<b>WBSSV4</b>
	<input checked="" type="radio"/> Matt Black	5	<b>WBSSV4-MB</b>
	<input type="radio"/> Matt White	5	<b>WBSSV4-MW</b>
5 gang	<input type="radio"/> White	5	<b>WBSSV5</b>
	<input checked="" type="radio"/> Matt Black	5	<b>WBSSV5-MB</b>
	<input type="radio"/> Matt White	5	<b>WBSSV5-MW</b>
6 gang	<input type="radio"/> White	5	<b>WBSSV6</b>
	<input checked="" type="radio"/> Matt Black	5	<b>WBSSV6-MB</b>
	<input type="radio"/> Matt White	5	<b>WBSSV6-MW</b>
40A cooker switches 1 gang	<input type="radio"/> White	1	<b>WBSSV6</b>
	<input checked="" type="radio"/> Matt Black	1	<b>WBSSV6-MB</b>
	<input type="radio"/> Matt White	1	<b>WBSSV6-MW</b>

### 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 2.5mm<sup>2</sup> cable
- Electronic PB switches are 5A

### Dimension data [Page 253](#)

### Sockets - horizontal

Description	Characteristics	Available colours	Box qty	Cat ref.
Single sockets	10A	○ White	10	<b>WBSP1S</b>
		● Matt Black	10	<b>WBSP1S-MB</b>
		○ Matt White	10	<b>WBSP1S-MW</b>
	10A 'Round Earth'	○ White	10	<b>WBSP1R</b>
		● Matt Black	10	<b>WBSP1R-MB</b>
	15A	○ White	5	<b>WBSP115S</b>
		● Matt Black	5	<b>WBSP115S-MB</b>
		○ Matt White	5	<b>WBSP115S-MW</b>
	Double sockets	10A	○ White	10
● Matt Black			10	<b>WBSP2S-MB</b>
○ Matt White			10	<b>WBSP2S-MW</b>
Double socket with extra switch	10A	○ White	5	<b>WBSP2XS</b>
		● Matt Black	5	<b>WBSP2XS-MB</b>
		○ Matt White	5	<b>WBSP2XS-MW</b>
Double sockets with USB Type A and Type C	10A	○ White	1	★ <b>WBSP2SUSBAC</b>
		● Matt Black	1	★ <b>WBSP2SUSBAC-MB</b>
		○ Matt White	1	★ <b>WBSP2SUSBAC-MW</b>



### Sockets - vertical

Description	Characteristics	Available colours	Box qty	Cat ref.
Single sockets	10A	○ White	5	<b>WBSP1VS</b>
		● Matt Black	5	<b>WBSP1VS-MB</b>
		○ Matt White	5	<b>WBSP1VS-MW</b>



### Electronic Push Button Switches

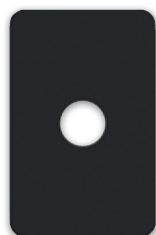
Description	Available colours	Box qty	Cat ref.
1 gang	○ White	1	<b>WBSEV1</b>
2 gang	○ White	1	<b>WBSEV2</b>
3 gang	○ White	1	<b>WBSEV3</b>
4 gang	○ White	1	<b>WBSEV4</b>
5 gang	○ White	1	<b>WBSEV5</b>
6 gang	○ White	1	<b>WBSEV6</b>



### 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 253](#)



WBSCV1-MB



WBSCV2-AL

### Switch Covers

Description	Available colours	Box qty	Cat ref.
1 gang	○ Gloss White	5	<b>WBSCV1</b>
	● Matt Black	5	<b>WBSCV1-MB</b>
	○ Matt White	5	<b>WBSCV1-MW</b>
	○ Aluminium	5	<b>WBSCV1-AL</b>
	● Stainless Steel	5	<b>WBSCV1-SS</b>
2 gang	○ Gloss White	5	<b>WBSCV2</b>
	● Matt Black	5	<b>WBSCV2-MB</b>
	○ Matt White	5	<b>WBSCV2-MW</b>
	○ Aluminium	5	<b>WBSCV2-AL</b>
	● Stainless Steel	5	<b>WBSCV2-SS</b>
3 gang	○ Gloss White	5	<b>WBSCV3</b>
	● Matt Black	5	<b>WBSCV3-MB</b>
	○ Matt White	5	<b>WBSCV3-MW</b>
	○ Aluminium	5	<b>WBSCV3-AL</b>
	● Stainless Steel	5	<b>WBSCV3-SS</b>
4 gang	○ Gloss White	5	<b>WBSCV4</b>
	● Matt Black	5	<b>WBSCV4-MB</b>
	○ Matt White	5	<b>WBSCV4-MW</b>
	○ Aluminium	5	<b>WBSCV4-AL</b>
	● Stainless Steel	5	<b>WBSCV4-SS</b>
5 gang	○ Gloss White	5	<b>WBSCV5</b>
	● Matt Black	5	<b>WBSCV5-MB</b>
	○ Matt White	5	<b>WBSCV5-MW</b>
	○ Aluminium	5	<b>WBSCV5-AL</b>
	● Stainless Steel	5	<b>WBSCV5-SS</b>
6 gang	○ Gloss White	5	<b>WBSCV6</b>
	● Matt Black	5	<b>WBSCV6-MB</b>
	○ Matt White	5	<b>WBSCV6-MW</b>
	○ Aluminium	5	<b>WBSCV6-AL</b>
	● Stainless Steel	5	<b>WBSCV6-SS</b>
Blank	● Matt Black	5	<b>WBSCP-B-MB</b>
	○ Matt White	5	<b>WBSCP-B-MW</b>
Special Application Plate Suits WBSSEA2	○ Aluminium	5	<b>WBSCSEA2-AL</b>
	● Stainless Steel	5	<b>WBSCSEA2-SS</b>

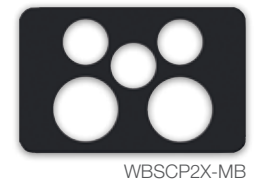
**Features**

- Hi impact high gloss UV stabilised Polycarbonate
- Spray matt finishes available in matt white and matt black

**Dimension data** [Page 253](#)

**Socket Covers - horizontal**

Description	Available colours	Box qty	Cat ref.
Cover single socket	<input type="radio"/> Gloss White	5	<b>WBSCP1</b>
	<input checked="" type="radio"/> Matt Black	5	<b>WBSCP1-MB</b>
	<input type="radio"/> Matt White	5	<b>WBSCP1-MW</b>
	<input type="radio"/> Aluminium	5	<b>WBSCP1-AL</b>
	<input type="radio"/> Stainless Steel	5	<b>WBSCP1-SS</b>
Cover double socket	<input type="radio"/> Gloss White	5	<b>WBSCP2</b>
	<input checked="" type="radio"/> Matt Black	5	<b>WBSCP2-MB</b>
	<input type="radio"/> Matt White	5	<b>WBSCP2-MW</b>
	<input type="radio"/> Aluminium	5	<b>WBSCP2-AL</b>
	<input type="radio"/> Stainless Steel	5	<b>WBSCP2-SS</b>
Cover double socket with extra switch	<input type="radio"/> Gloss White	5	<b>WBSCP2X</b>
	<input checked="" type="radio"/> Matt Black	5	<b>WBSCP2X-MB</b>
	<input type="radio"/> Matt White	5	<b>WBSCP2X-MW</b>
	<input type="radio"/> Aluminium	5	<b>WBSCP2X-AL</b>
	<input type="radio"/> Stainless Steel	5	<b>WBSCP2X-SS</b>



**Socket Covers - vertical**

Description	Available colours	Box qty	Cat ref.
Cover single socket	<input type="radio"/> Gloss White	5	<b>WBSVCP1</b>
	<input checked="" type="radio"/> Matt Black	5	<b>WBSVCP1-MB</b>
	<input type="radio"/> Aluminium	5	<b>WBSVCP1-AL</b>
	<input type="radio"/> Stainless Steel	5	<b>WBSVCP1-SS</b>





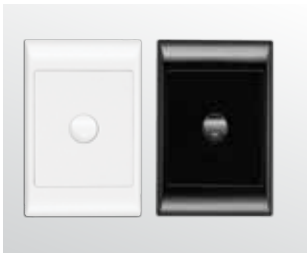
# premiere

## 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.

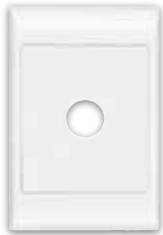


# 04

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	<b>WBSP1</b>
	● Black	10	<b>WBSP1-BK</b>
2 gang	○ Gloss White	10	<b>WBSP2</b>
	● Black	10	<b>WBSP2-BK</b>
3 gang	○ Gloss White	10	<b>WBSP3</b>
	● Black	10	<b>WBSP3-BK</b>
4 gang	○ Gloss White	10	<b>WBSP4</b>
	● Black	10	<b>WBSP4-BK</b>
5 gang	○ Gloss White	10	<b>WBSP5</b>
	● Black	10	<b>WBSP5-BK</b>
6 gang	○ Gloss White	10	<b>WBSP6</b>
	● Black	10	<b>WBSP6-BK</b>
Blank	○ Gloss White	10	<b>WBSPB</b>

**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 1.5mm<sup>2</sup> cable

**Dimension data** [Page 258](#)



**Large Plate Switches - vertical**

Description	Available colours	Box qty	Cat ref.
1 gang	○ Gloss White	10	<b>WBSV1</b>
	● Black	10	<b>WBSV1-BK</b>
2 gang	○ Gloss White	10	<b>WBSV2</b>
	● Black	10	<b>WBSV2-BK</b>
3 gang	○ Gloss White	5	<b>WBSV3</b>
	● Black	5	<b>WBSV3-BK</b>
4 gang	○ Gloss White	5	<b>WBSV4</b>
	● Black	5	<b>WBSV4-BK</b>
5 gang	○ Gloss White	5	<b>WBSV5</b>
	● Black	5	<b>WBSV5-BK</b>
6 gang	○ Gloss White	5	<b>WBSV6</b>
	● Black	5	<b>WBSV6-BK</b>



WBSV1-BK

**Large Plate switches - horizontal**

Description	Available colours	Box qty	Cat ref.
1 gang	○ Gloss White	10	<b>WBSH1</b>
2 gang	○ Gloss White	10	<b>WBSH2</b>
3 gang	○ Gloss White	5	<b>WBSH3</b>



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 259](#)



WBSA1-BK

### Architrave Switches

Description	Available colours	Box qty	Cat ref.
1 gang	<input type="radio"/> Gloss White	10	<b>WBSA1</b>
	<input checked="" type="radio"/> Black	10	<b>WBSA1-BK</b>
2 gang	<input type="radio"/> Gloss White	10	<b>WBSA2</b>
	<input checked="" type="radio"/> Black	10	<b>WBSA2-BK</b>
3 gang	<input type="radio"/> Gloss White	5	<b>WBSA3</b>
	<input checked="" type="radio"/> Black	5	<b>WBSA3-BK</b>



WBSF3

### Other products

Description	Available colours	Box qty	Cat ref.
Fan controller	<input type="radio"/> Gloss White	1	<b>WBSF3</b>
3 speed capacitance 250V 75A	<input checked="" type="radio"/> Black	1	<b>WBSF3-BK</b>
TV plate - PAL 75 OHM	<input type="radio"/> Gloss White	10	<b>WBTV75</b>
TV plate - 'F' to 'F' pay TV	<input type="radio"/> Gloss White	10	<b>WBTV75PY</b>
Permanent connection plate	<input type="radio"/> Gloss White	5	<b>WBPPCU</b>

### 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 1.5mm<sup>2</sup> 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 259](#)



### IP66 Large Plate Switches - vertical

Description	Available colours	Box qty	Cat ref.
1 gang	○ Gloss White	1	<b>WBWSV1</b>
	● Black	1	<b>WBWSV1-BK</b>
2 gang	○ Gloss White	1	<b>WBWSV2</b>
	● Black	1	<b>WBWSV2-BK</b>
3 gang	○ Gloss White	1	<b>WBWSV3</b>
	● Black	1	<b>WBWSV3-BK</b>
4 gang	○ Gloss White	1	<b>WBWSV4</b>
	● Black	1	<b>WBWSV4-BK</b>
3 gang with Light/Fan/Heat printed mechs	○ Gloss White	1	<b>WBWSV3LFH</b>
	● Black	1	<b>WBWSV3LFH-BK</b>
4 gang with Light/Fan/Heat/Heat printed mechs	○ Gloss White	1	<b>WBWSV4LFHH</b>
	● Black	1	<b>WBWSV4LFHH-BK</b>



WBWSV3LFH



WBWSV4LFHH-BK

### IP66 Large Plate Switches - horizontal

Description	Available colours	Box qty	Cat ref.
1 gang	○ Gloss White	1	<b>WBWSH1</b>
	● Black	1	<b>WBWSH1-BK</b>
2 gang	○ Gloss White	1	<b>WBWSH2</b>
	● Black	1	<b>WBWSH2-BK</b>
3 gang	○ Gloss White	1	<b>WBWSH3</b>
	● Black	1	<b>WBWSH3-BK</b>
4 gang	○ Gloss White	1	<b>WBWSH4</b>
	● Black	1	<b>WBWSH4-BK</b>
3 gang with Light/Fan/Heat printed mechs	○ Gloss White	1	<b>WBWSH3LFH</b>
	● Black	1	<b>WBWSH3LFH-BK</b>
4 gang with Light/Fan/Heat/Heat printed mechs	○ Gloss White	1	<b>WBWSH4LFHH</b>
	● Black	1	<b>WBWSH4LFHH-BK</b>



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 2.5mm<sup>2</sup> cable



Dimension data [Page 258](#)



WBP1S



WBP115S-BK

### Single Sockets - horizontal

Description	Available colours	Box qty	Cat ref.
10A	○ Gloss White	10	<b>WBP1S</b>
	● Black	10	<b>WBP1S-BK</b>
15A	○ Gloss White	5	<b>WBP115S</b>
	● Black	5	<b>WBP115S-BK</b>
20A	○ Gloss White	5	<b>WBP120</b>
10A double pole	○ Gloss White	10	<b>WBP1DS</b>
15A	○ Gloss White	5	<b>WBP115DS</b>
10A with extra switch	○ Gloss White	5	<b>WBP1XS</b>
	● Black	5	<b>WBP1XS-BK</b>
10A with 2 extra switches	○ Gloss White	5	<b>WBP1XXS</b>
	● Black	5	<b>WBP1XXS-BK</b>
10A with round earth pin	○ Gloss White	5	<b>WBP1R</b>
	● Black	5	<b>WBP1R-BK</b>



WBP1VS



WBP1VXS-BK

### Single Sockets - vertical

Description	Available colours	Box qty	Cat ref.
10A	○ Gloss White	5	<b>WBP1VS</b>
	● Black	5	<b>WBP1VS-BK</b>
	● Red	5	<b>WBP1VS-RD</b>
15A	○ Gloss White	5	<b>WBP115VS</b>
	● Black	5	<b>WBP115VS-BK</b>
10A with extra switch	○ Gloss White	5	<b>WBP1VXS</b>
	● Black	5	<b>WBP1VXS-BK</b>
10A with 2 extra switches	○ Gloss White	5	<b>WBP1VXXS</b>
	● Black	5	<b>WBP1VXXS-BK</b>

### 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 2.5mm<sup>2</sup> cable

Dimension data [Page 258 and 259](#)



### Double Sockets - horizontal

Description	Available colours	Box qty	Cat ref.
10A	○ Gloss White	10	<b>WBP2S</b>
	● Black	10	<b>WBP2S-BK</b>
	● Red	10	<b>WBP2S-RD</b>
10A double pole	○ Gloss White	10	<b>WBP2DS</b>
10A with extra switch	○ White	5	<b>WBP2XS</b>
	● Black	5	<b>WBP2XS-BK</b>
10A with circuit id	○ Gloss White	10	<b>WBP2CID</b>
	● Black	10	<b>WBP2CID-BK</b>
Double sockets + USB Type A and C	○ Gloss White	1	<b>WBP2SUSBAC</b>



WBP2S

### Double Sockets - vertical

Description	Available colours	Box qty	Cat ref.
10A	○ Gloss White	10	<b>WBP2VS</b>
	● Black	10	<b>WBP2VS-BK</b>
10A with extra switch	○ Gloss White	5	<b>WBP2VXS</b>
	● Black	5	<b>WBP2VXS-BK</b>



WBP2VS

### 4 Outlet Sockets - horizontal

Description	Available colours	Box qty	Cat ref.
10A	○ Gloss White	4	<b>WBP4S</b>
	● Black	4	<b>WBP4S-BK</b>
10A with extra switch	○ Gloss White	4	<b>WBP4XS</b>
	● Black	4	<b>WBP4XS-BK</b>



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	<b>WBC1Z</b>
	● Black	10	<b>WBC1Z-BK</b>
2 product vertical surround	○ Gloss White	10	<b>WBC2V</b>
	● Black	10	<b>WBC2V-BK</b>
2 product horizontal surround	○ Gloss White	10	<b>WBC2H</b>
	● Black	10	<b>WBC2H-BK</b>

**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:**  
[Page 255, 257](#)

**HDMI Connection Modules**

Description	Available colours	Box qty	Cat ref.
HDMI passthrough	<input type="radio"/> White	1	★ <a href="#">WS263</a>



WS263

**silhouette Module Plates**

Description	Available colours	Box qty	Cat ref.
2 module	<input type="radio"/> White	10	<a href="#">WBSSEA2</a>



WBSSEA2

**allure Module Plates**

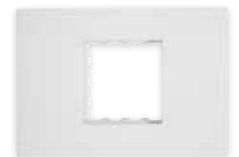
Description	Available colours	Box qty	Cat ref.
2 module	<input type="radio"/> White	10	★ <a href="#">WBHSEA2</a>
	<input checked="" type="radio"/> Matt Black	10	★ <a href="#">WBHSEA2-MB</a>
	<input type="radio"/> Matt White	10	★ <a href="#">WBHSEA2-MW</a>
3 module	<input type="radio"/> White	10	★ <a href="#">WBHSEA3</a>
	<input checked="" type="radio"/> Matt Black	10	★ <a href="#">WBHSEA3-MB</a>
	<input type="radio"/> Matt White	10	★ <a href="#">WBHSEA3-MW</a>



WBHSEA2

**finesse Module Plates**

Description	Available colours	Box qty	Cat ref.
2 module plate	<input type="radio"/> White	10	★ <a href="#">WBQSEA2</a>
	<input checked="" type="radio"/> Matt Black	10	★ <a href="#">WBQSEA2-MB</a>
	<input type="radio"/> Matt White	10	★ <a href="#">WBQSEA2-MW</a>
3 module	<input type="radio"/> White	10	★ <a href="#">WBQSEA3</a>
	<input checked="" type="radio"/> Matt Black	10	★ <a href="#">WBQSEA3-MB</a>
	<input type="radio"/> Matt White	10	★ <a href="#">WBQSEA3-MW</a>



WBQSEA2

Technical information [Page 260](#)

**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	<b>WBME5A</b>



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	<b>★ WBMDUPB</b>



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	<b>★ WBMDUR</b>



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	<b>★ WBMSLL</b>



WBAEDB



WBAEDK-MB

### Dimmer Caps and Knobs

Description	Available colours	Cat ref.
Dimmer caps for WBMDUPB and WBMSLL	○ Gloss White	<b>★ WBAEDB</b>
	● Gloss Black	<b>★ WBAEDB-BK</b>
	● Matt Black	<b>★ WBAEDB-MB</b>
	○ Matt White	<b>★ WBAEDB-MW</b>
Dimmer knob for WBMDUR	○ Gloss White	<b>★ WBAEDK</b>
	● Gloss Black	<b>★ WBAEDK-BK</b>
	● Matt Black	<b>★ WBAEDK-MB</b>
	○ Matt White	<b>★ WBAEDK-MW</b>

### 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 4mm<sup>2</sup> cables
- Intermediate and double pole have 75% of terminal screws accessible from 1 direction
- Terminals accommodate 4 x 1.5mm<sup>2</sup> cables
- Push mech rated at 10A
- Tactile mech rated 6A

### Technical information Page 261, 262



### 250V PB Mechanisms

Description	Available colours	Box qty	Cat ref.
LED for push button	<input type="radio"/> Blue	20	★ <b>WBAPBLED</b>
10A flush push button - 2 way	<input type="radio"/> White	5	★ <b>WBMPB</b>
	<input checked="" type="radio"/> Matt Black	5	★ <b>WBMPB-MB</b>
	<input type="radio"/> Matt White	5	★ <b>WBMPB-MW</b>
6A 240V push button tactile/momentary mech (Available early 2022)	<input type="radio"/> White	5	★ <b>WBMTPB</b>
	<input checked="" type="radio"/> Matt Black	5	★ <b>WBMTPB-MB</b>
	<input type="radio"/> Matt White	5	★ <b>WBMTPB-MW</b>



WBMPB

### 250V Mechanisms

Description	Available colours	Box qty	Cat ref.
16A AX rated STANDARD	<input type="radio"/> White	5	<b>WBM16AX</b>
	<input checked="" type="radio"/> Black	5	<b>WBM16AX-BK</b>
	<input type="radio"/> Matt White	5	<b>WBM16AX-MW</b>
	<input checked="" type="radio"/> Matt Black	5	<b>WBM16AX-MB</b>
	<input checked="" type="radio"/> Red	5	<b>WBM16AX-RD</b>
20A Standard	<input type="radio"/> White	5	<b>WBM20</b>
	<input checked="" type="radio"/> Black	5	<b>WBM20-BK</b>
	<input type="radio"/> Matt White	5	<b>WBM20-MW</b>
	<input checked="" type="radio"/> Matt Black	5	<b>WBM20-MB</b>
16A AX rated with lens	<input type="radio"/> White	5	<b>WBM16AXL</b>
	<input checked="" type="radio"/> Black	5	<b>WBM16AXL-BK</b>
16A AX rated with neon light	<input type="radio"/> White	5	<b>WBM16AXN</b>
10A double pole	<input type="radio"/> White	5	<b>WBM10D</b>
	<input checked="" type="radio"/> Black	5	<b>WBM10D-BK</b>
	<input type="radio"/> Matt White	5	<b>WBM10D-MW</b>
	<input checked="" type="radio"/> Matt Black	5	<b>WBM10D-MB</b>
10A intermediate	<input type="radio"/> White	5	<b>WBM10I</b>
	<input checked="" type="radio"/> Black	5	<b>WBM10I-BK</b>
	<input type="radio"/> Matt White	5	<b>WBM10I-MW</b>
	<input checked="" type="radio"/> Matt Black	5	<b>WBM10I-MB</b>
20A AX rated 1 way only	<input type="radio"/> White	5	<b>WBM20AX</b>
	<input checked="" type="radio"/> Black	5	<b>WBM20AX-BK</b>
	<input type="radio"/> Matt White	5	<b>WBM20AX-MW</b>
	<input checked="" type="radio"/> Matt Black	5	<b>WBM20AX-MB</b>
32A 1 way only	<input type="radio"/> White	5	<b>WBM32</b>
	<input checked="" type="radio"/> Black	5	<b>WBM32-BK</b>
	<input type="radio"/> Matt White	5	<b>WBM32-MW</b>
	<input checked="" type="radio"/> Matt Black	5	<b>WBM32-MB</b>
15A press	<input type="radio"/> White	5	<b>WBM15P</b>
	<input type="radio"/> Matt White	5	<b>WBM15P-MW</b>
	<input checked="" type="radio"/> Matt Black	5	<b>WBM15P-MB</b>
15A without printed "press"	<input type="radio"/> White	5	<b>WBM15PB</b>
	<input type="radio"/> Matt White	5	<b>WBM15PB-MW</b>
	<input checked="" type="radio"/> Matt Black	5	<b>WBM15PB-MB</b>



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 1.5mm<sup>2</sup> cables
- Push mech rated at 10A

- 32A and 20AX mechanism 'socket size' terminal accommodates 2 x 4mm<sup>2</sup> cables

### Technical information

[Page 262](#)



WBM16L



WBM20F



WBM20H



WBM32HO



WBM32O

### 250V Printed Mechanisms

Description	Available colours	Box qty	Cat ref.
'LIGHT' 16A AX 2 way	○ White	5	<b>WBM16L</b>
	● Black	5	<b>WBM16L-BK</b>
	○ Matt White	5	<b>WBM16L-MW</b>
	● Matt Black	5	<b>WBM16L-MB</b>
'FAN' 20A 1 way	○ White	5	<b>WBM20F</b>
	● Black	5	<b>WBM20F-BK</b>
	○ Matt White	5	<b>WBM20F-MW</b>
	● Matt Black	5	<b>WBM20F-MB</b>
'HEAT' 20A 1 way	○ White	5	<b>WBM20H</b>
	● Black	5	<b>WBM20H-BK</b>
	○ Matt White	5	<b>WBM20H-MW</b>
	● Matt Black	5	<b>WBM20H-MB</b>
'HOT WATER' 20A 1 way	○ White	5	<b>WBM20HW</b>
'HOT WATER' 32A 1 way	● Matt Black	5	<b>WBM32HW-MB</b>
	○ Matt White	5	<b>WBM32HW-MW</b>
'SENSOR' 20A 1 way	○ White	5	<b>WBM20SN</b>
'HOB' 32A 1 way	○ White	5	<b>WBM32HO</b>
	● Black	5	<b>WBM32HO-BK</b>
	○ Matt White	5	<b>WBM32HO-MW</b>
	● Matt Black	5	<b>WBM32H-MB</b>
'OVEN' 32A 1 way	○ White	5	<b>WBM32O</b>
	● Black	5	<b>WBM32O-BK</b>
	○ Matt White	5	<b>WBM32O-MW</b>
	● Matt Black	5	<b>WBM32O-MB</b>
'RANGE' 32A 1 way	○ White	5	<b>WBM32R</b>
	● Black	5	<b>WBM32R-BK</b>
	○ Matt White	5	<b>WBM32R-MW</b>
	● Matt Black	5	<b>WBM32R-MB</b>

**Feature**

- Easy mechanism removal

**Technical data**

- Terminals accommodate 4 x 1.5mm<sup>2</sup> cables

**Technical information** [Page 262](#)



**250V Rotary Mechanisms**

Description	Available colours	Box qty	Cat ref.
10A 3 position rotary	○ White	10	<b>WBM10R3</b>
10A 3 pos. rotary - w/ capacitor (fan)	● Matt Black	10	<b>WBMSF3-MB</b>
	○ Matt White	10	<b>WBMSF3-MW</b>
10A 3 pos. rotary - Auto/Manual	○ White	10	<b>WBM10RAM</b>
10A 3 pos. rotary - Lo/Hi	○ White	10	<b>WBM10RLH</b>
10A 3 pos. rotary - Sensor	○ White	10	<b>WBM10RSN</b>
10A 3 pos. rotary - Up/Down	○ White	10	<b>WBM10RUD</b>
Rotary Knob to suit rotary mechs	○ White	10	<b>WBARK1</b>
	● Black	10	<b>WBARK1-BK</b>
	○ Matt White	10	<b>WBARK1-MW</b>
	● Matt Black	10	<b>WBARK1-MB</b>



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 267, 268](#)



WBMTV75PF



WBMTV75PY-MB

### TV Mechanisms

Description	Available colours	Box qty	Cat ref.
'F' to PAL type mechanism	○ White	10	<b>WBMTV75PF</b>
	● Black	10	<b>WBMTV75PF-BK</b>
	○ Matt White	10	<b>WBMTV75PF-MW</b>
	● Matt Black	10	<b>WBMTV75PF-MB</b>
TV socket mechanism 3GHz 75Ohm Foxtel approved	○ White	10	<b>WBMTV75PY</b>
	● Black	10	<b>WBMTV75PY-BK</b>
	○ Matt White	10	<b>WBMTV75PY-MW</b>
	● Matt Black	10	<b>WBMTV75PY-MB</b>



WBMCAT6-MW



WBMCAT6A

### Rotoloc Data Mechanisms

Description	Available colours	Box qty	Cat ref.
8 Pin Cat5e	○ White	10	<b>WBMCAT5</b>
8 Pin Cat6	○ White	10	<b>WBMCAT6</b>
	● Black	10	<b>WBMCAT6-BK</b>
	○ Matt White	10	<b>WBMCAT6-MW</b>
	● Matt Black	10	<b>WBMCAT6-MB</b>
8 Pin Cat6A	○ White	10	<b>WBMCAT6A</b>



WBMHDMI

### Audio Connectors

Description	Available colours	Box qty	Cat ref.
M/M HDMI pass through	○ White	5	<b>WBMHDMI</b>
	● Matt Black	5	<b>WBMHDMI-MB</b>
	○ Matt White	5	<b>WBMHDMI-MW</b>
RCA connectors for composite audio/video - 1 x red, 1 x white, 1 x yellow	○ White	5	<b>WBMRCA1</b>
	● Black	5	<b>WBMRCA1-BK</b>

**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	<b>WBMPCU</b>
Circuit ID mechanism	○ White	5	<b>WBMCID</b>
Blank mechanism	○ White	5	<b>WBMBP</b>
	● Black	5	<b>WBMBP-BK</b>
ELV tactile mechanism extra low voltage tactile switch momentary contact	○ White	5	<b>WBMLVT</b>
	● Black	5	<b>WBMLVT-BK</b>
	○ Matt White	5	<b>WBMLVT-MW</b>
ELV tactile mechanism + neon extra low voltage tactile switch with LED indication momentary contact	○ White	5	<b>WBMLVTN</b>
	● Black	5	<b>WBMLVTN-BK</b>
	○ Matt White	5	<b>WBMLVTN-MW</b>
	● Matt Black	5	<b>WBMLVTN-MB</b>
Neon lights	250V Neon – red	5	<b>WBM250NRD</b>
	250V Neon – amber	5	<b>WBM250NAM</b>
	250V Neon – green	5	<b>WBM250NGR</b>
	250V Neon – clear	5	<b>WBM250NCL</b>
USB Mechanism 1 x TYPE A 1 x TYPE C	○ White	1	★ <b>WBMUSBAC</b>
	● Black	1	★ <b>WBMUSBAC-BK</b>
	○ Matt White	1	★ <b>WBMUSBAC-MW</b>
	● Matt Black	1	★ <b>WBMUSBAC-MB</b>





### 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 269](#)



WBBMD



WBSBMD



WBBMI

### Mounting Accessories

Description	Available colours	Box qty	Cat ref.
premiere Mounting block 32mm deep	○ White	5	<b>WBBMD</b>
	● Black	5	<b>WBBMD-BK</b>
silhouette mounting block 32mm deep	○ White	5	<b>WBSBMD</b>
	● Matt Black	5	<b>WBSBMD-MB</b>
allure mounting block	○ White	5	★ <b>WBHMBD</b>
	● Matt Black	5	★ <b>WBHMBD-MB</b>
finesse mounting block 84mm interaxe	○ White	5	★ <b>WBQMBD</b>
	● Matt Black	5	★ <b>WBQMBD-MB</b>
premiere Mounting block 18mm deep	○ White	5	<b>WBBMS</b>
premiere Mounting block to suit 4 gang outlet	○ White	4	<b>WBBM4</b>
Insulated back to suit 4 gang mounting block	○ White	8	<b>WBBM4BP</b>
premiere Insulated mounting block 32mm deep	○ White	10	<b>WBBMI</b>
	● Black	10	<b>WBBMI-BK</b>
premiere Surface mounting kit 29mm deep suits premiere plates only	○ White	5	<b>WBBSMK</b>
	● Black	5	<b>WBBSMK-BK</b>
Wall box 1 gang moulded plastic		10	<b>WBBWB</b>



WBAP1

### Surface Sockets

Description	Characteristics	Available colours	Box qty	Cat ref.
Single surface sockets	10A	○ White	10	<b>WBAP1</b>
	15A	○ White	10	<b>WBAP115</b>
with round earth pin	10A	○ White	10	<b>WBAP1R</b>
Replacement mounting plate			30	<b>WBAP1MP</b>

**Junction Box feature**

- Includes quickfix screws and terminal connectors

Dimension data [Page 269](#)

**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	<b>WBAJB4</b>
Standard junction box with quick fix screws and 3 cable connectors	○ White	10	<b>WBAJB4S</b>



**Shrouds and Covers**

Description	Box qty	Cat ref.
Insulating shroud size 2 suits premiere products	10	<b>WBBS2</b>
Paint cover suits premiere products only	30	<b>WBAPC</b>



**Miscellaneous**

Description	Box qty	Cat ref.
M3.5 X 50mm long pan head tapered point mounting screw 50 screws per box	50	<b>WBASC50</b>
Mechanism removal tool		<b>WBMS</b>
Screw connectors - single	100	<b>WBAC1B</b>
Screw connectors - twin	50	<b>WBAC2B</b>



### 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 270](#)

### 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	<b>WBWS116</b>
	2 gang	1	<b>WBWS216</b>



WBWP1S

### Single Sockets

Description	Characteristics	Box qty	Cat ref.
IP53 single socket	10A	1	<b>WBWP1S</b>
	15A	1	<b>WBWP115S</b>
IP53 single socket (White)	10A	1	★ <b>WBWP1S-W</b>
	15A	1	★ <b>WBWP115S-W</b>



WBWP2S

### 10A Double Sockets

Description	Characteristics	Box qty	Cat ref.
10A, IP53 double socket		1	<b>WBWP2S</b>
	shallow mount	1	<b>WBWP2SH</b>
10A, IP53 double socket (White)		1	★ <b>WBWP2S-W</b>
	shallow mount	1	★ <b>WBWP2SH-W</b>



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 271](#)

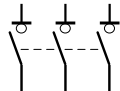
### 2 pole Isolators

Description	Characteristics	Operational power input			Box qty	Cat ref.
		AC-21A	AC-22A	AC-23A		
IP66 	20A	4.8kW	4.0kW	3.3kW	1	<b>JG220IN</b>
	32A	7.6kW	6.4kW	5.2kW	1	<b>JG232IN</b>
	40A	9.5kW	8.0kW	6.5kW	1	<b>JG240IN</b>
	63A	15kW	12.6kW	10.2kW	1	<b>JG263IN</b>



JG240IN

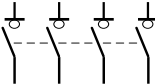
### 3 pole Isolators

Description	Characteristics	Operational power input			Box qty	Cat ref.
		AC-21A	AC-22A	AC-23A		
IP66 	20A	14.5kW	12.2kW	9.9kW	1	<b>JG320IN</b>
	32A	23.2kW	19.5kW	15.9kW	1	<b>JG332IN</b>
	40A	29kW	24.4kW	19.8kW	1	<b>JG340IN</b>



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	<b>JG420IN</b>
	32A	23.2kW	19.5kW	15.9kW	1	<b>JG432IN</b>
	40A	29kW	24.4kW	19.8kW	1	<b>JG440IN</b>
	63A	45.6kW	38.4kW	31.2kW	1	<b>JG463IN</b>



JG440IN

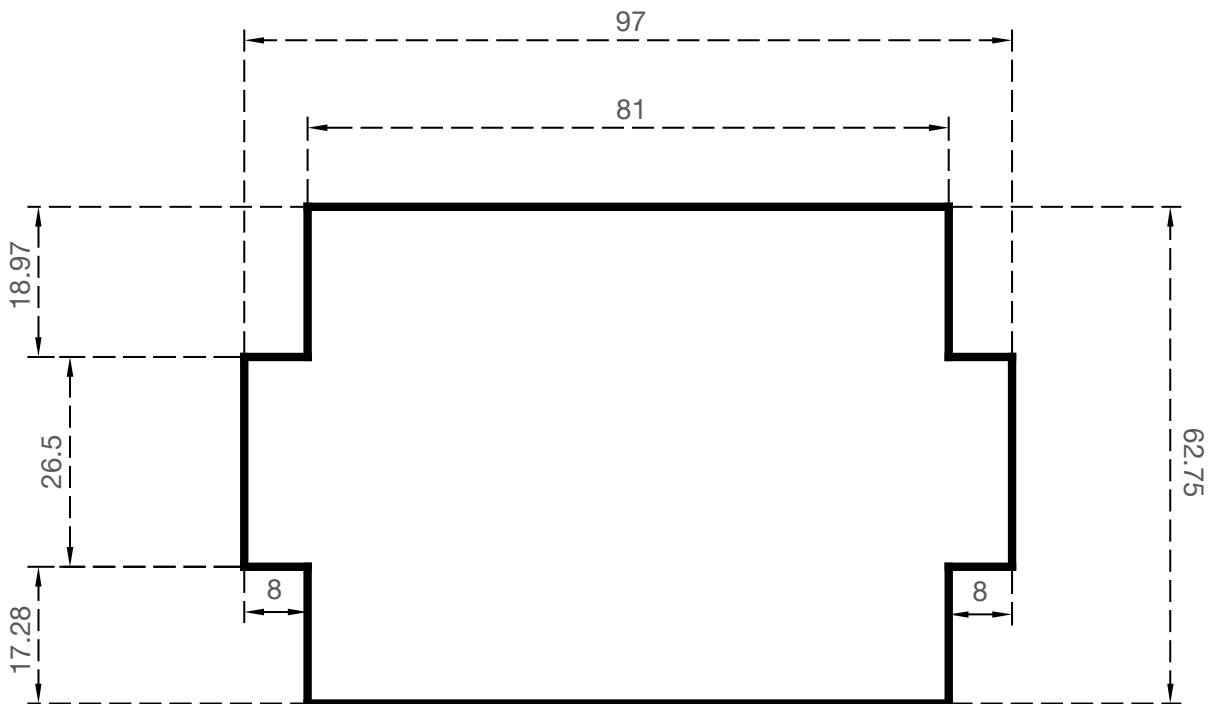
Regulatory Compliance Mark (RCM)



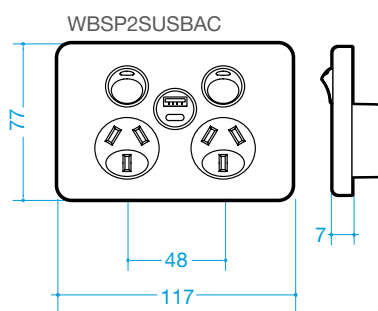
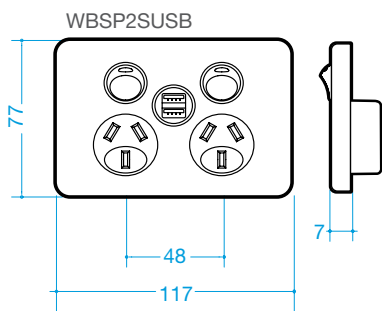
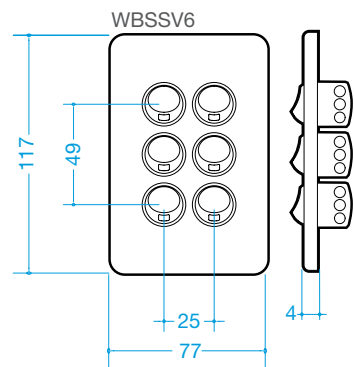
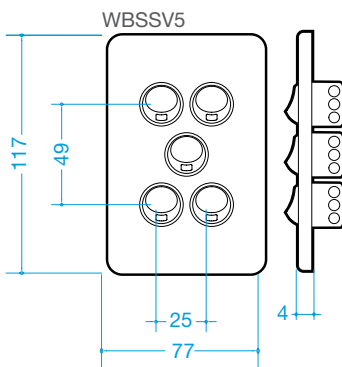
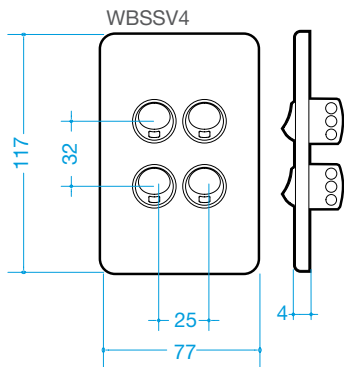
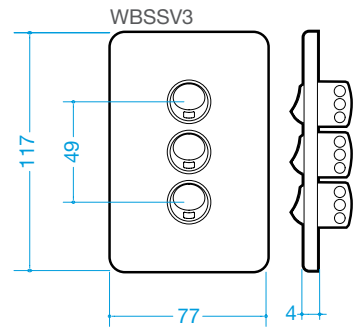
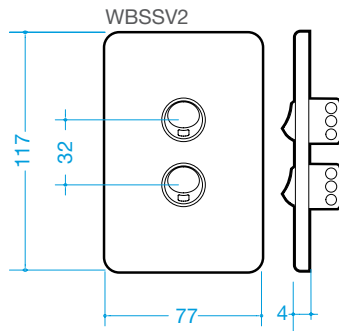
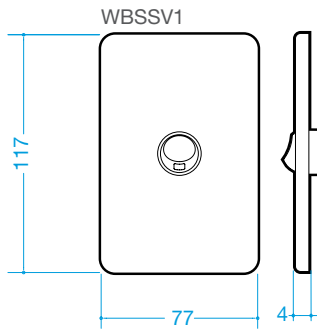
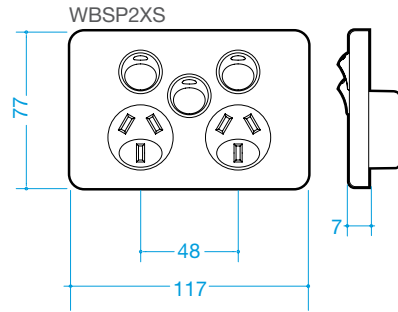
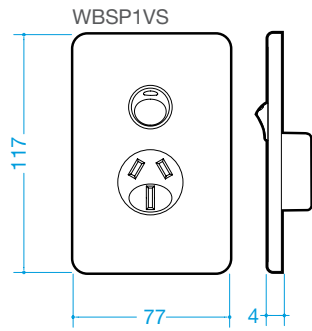
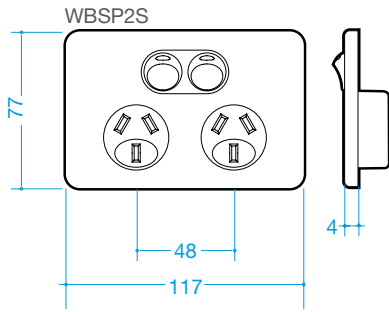
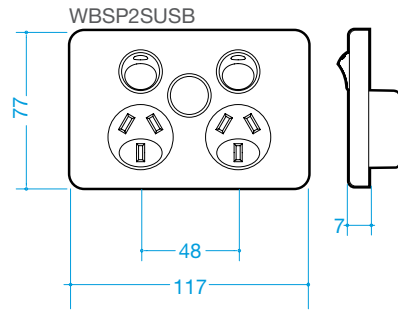
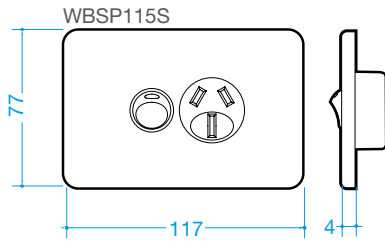
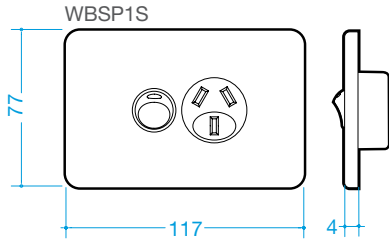
	Product	Max No. of cable cores to each terminal hole					Motor rating
		1.0mm <sup>2</sup>	1.5mm <sup>2</sup>	2.5mm <sup>2</sup>	4.0mm <sup>2</sup>	6.0mm <sup>2</sup>	
<b>Switch mechanisms</b>	10A mechanism		4				M40
	16A mechanism		4				M60
	16AX mechanism		4				M60
	20A mechanism		4				M60
	20AX mechanism				2		M80
	32A mechanism				2		M80
	Card entry switches		4				N/A
<b>Sockets</b>	10A mechanism			4			N/A
	15A mechanism			4			N/A
	20A mechanism			4			N/A
	Screw connectors			4	3	2	N/A

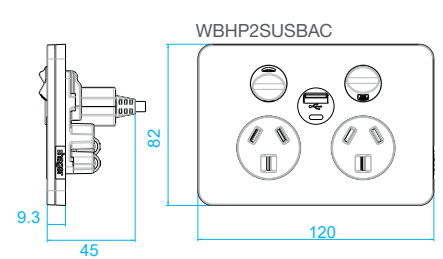
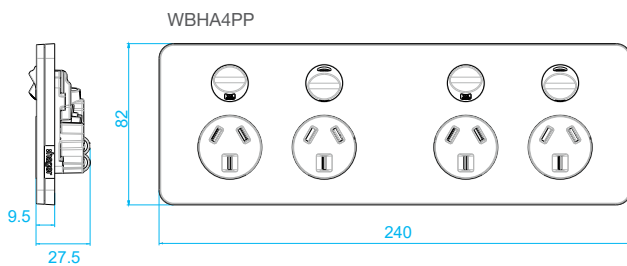
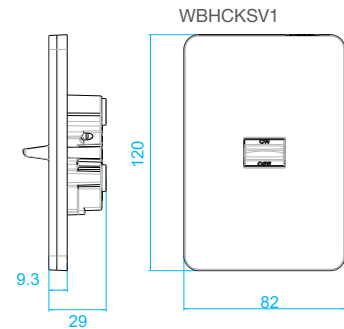
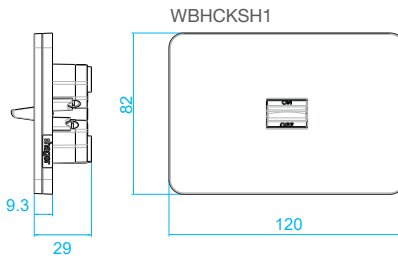
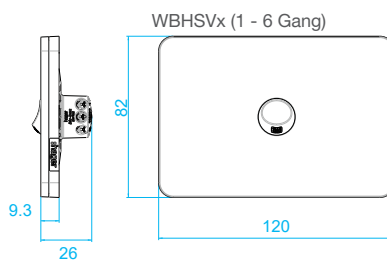
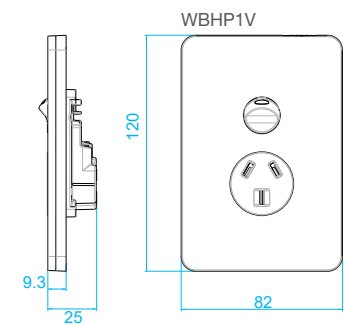
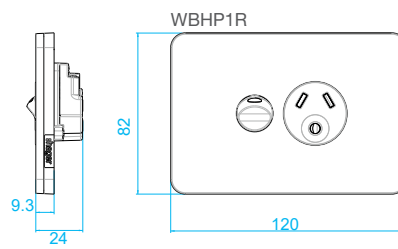
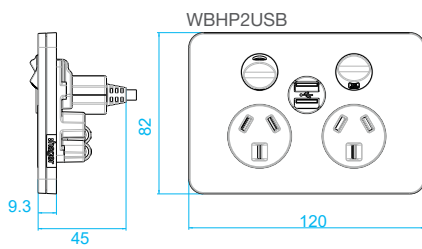
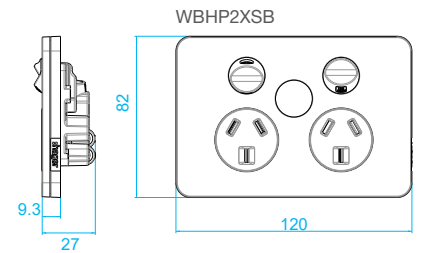
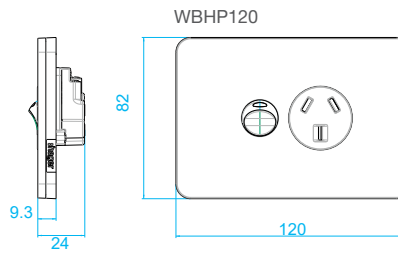
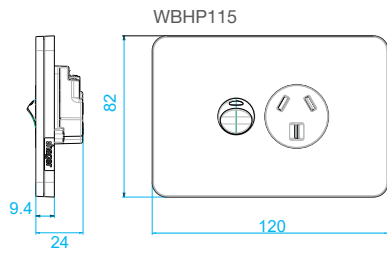
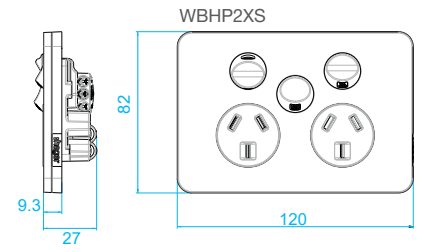
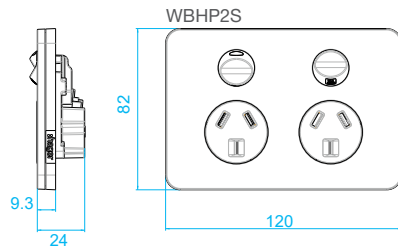
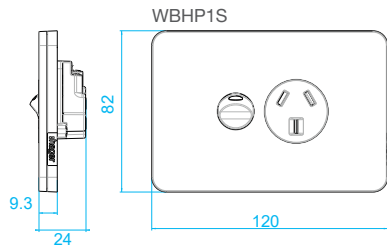
**Motor Rating** - Indicated on the mechanism as Mxx, where xx is the nominated locked rotor current in amperes (as per AS/NZS3133:2008)

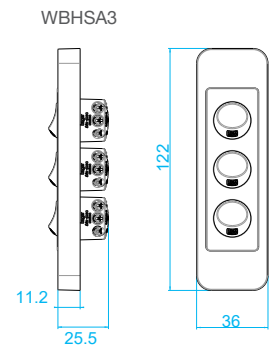
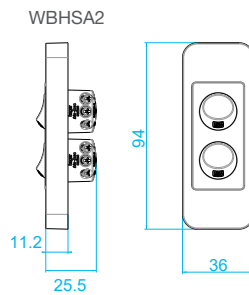
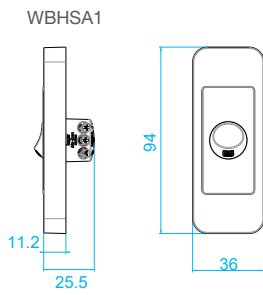
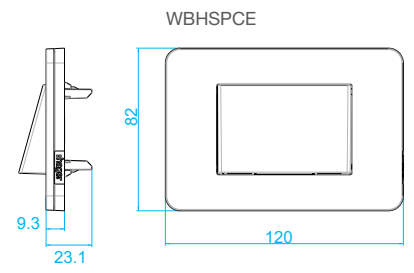
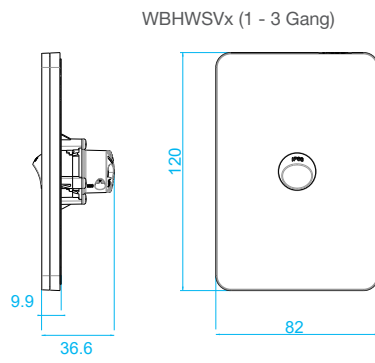
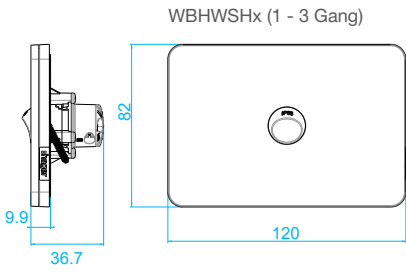
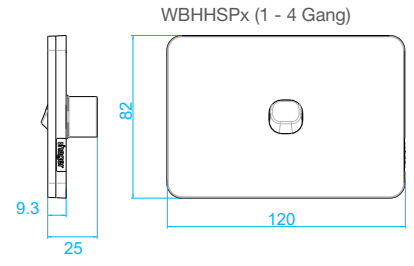
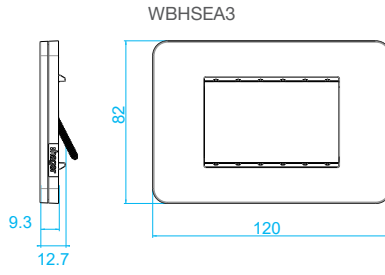
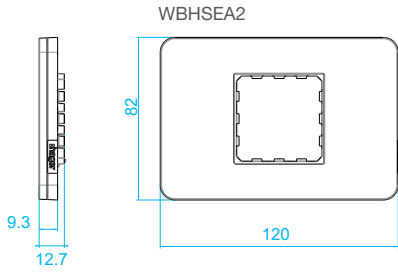
## Switches and sockets cutout dimensions



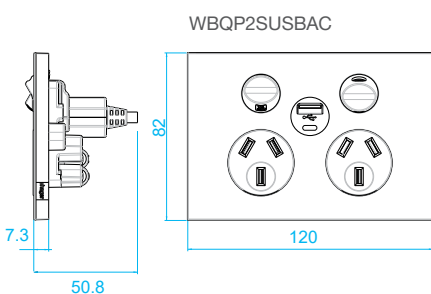
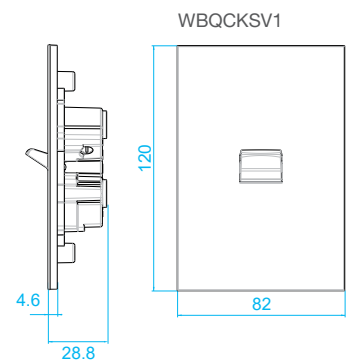
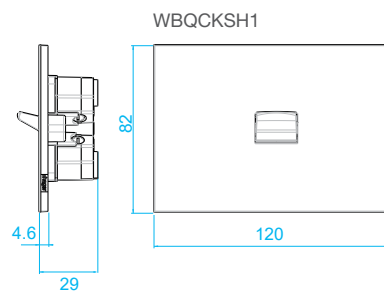
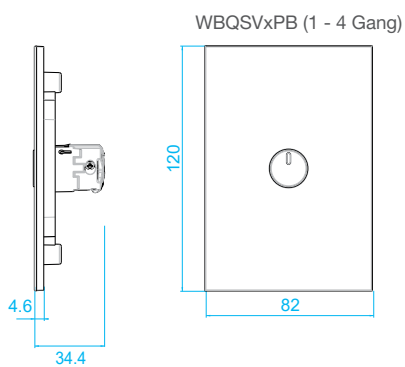
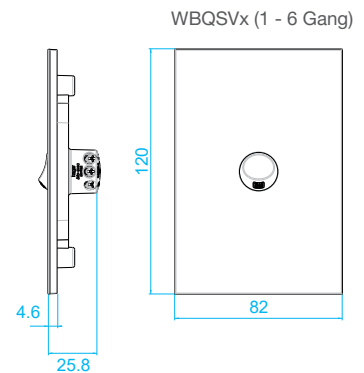
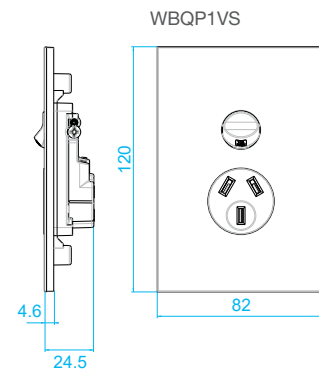
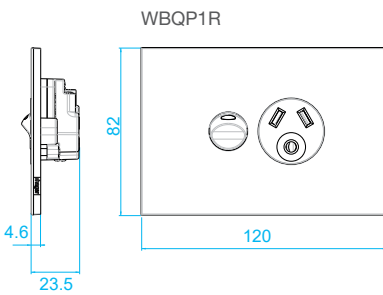
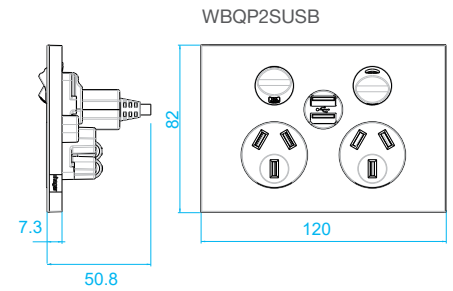
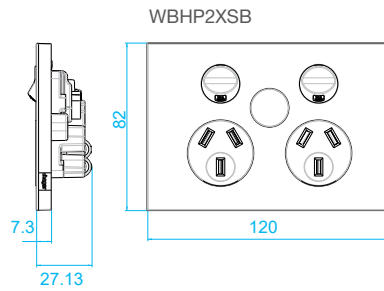
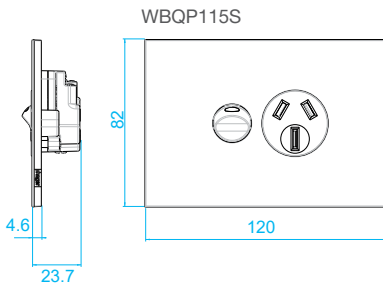
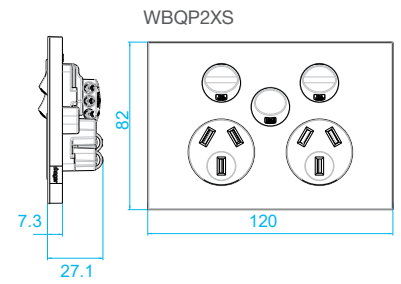
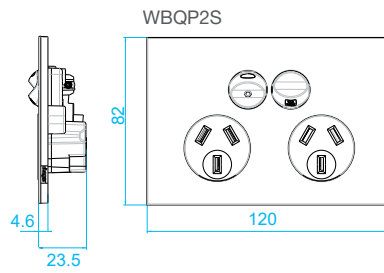
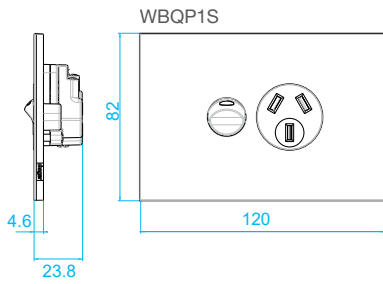
Cut out (mm) - Suits allure, finesse, silhouette & premiere ranges

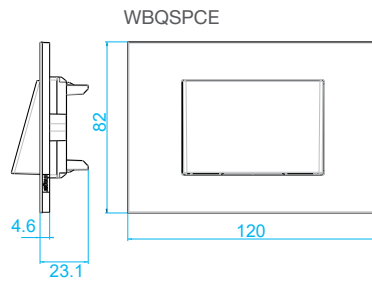
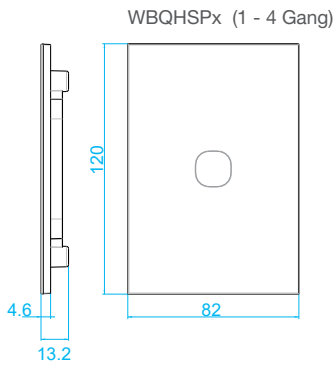
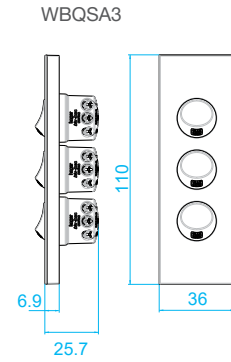
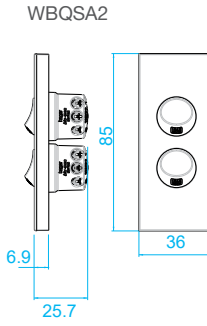
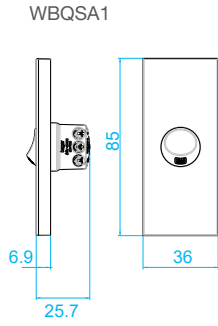
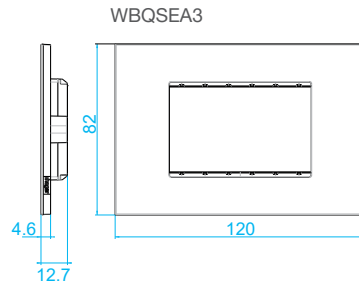
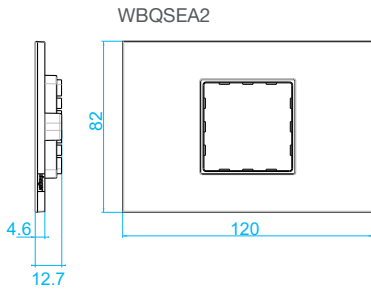


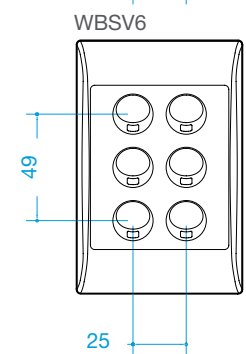
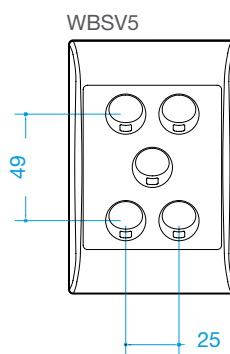
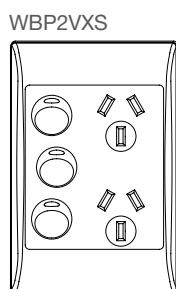
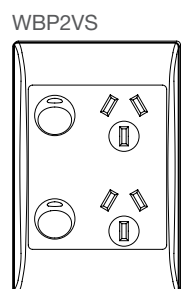
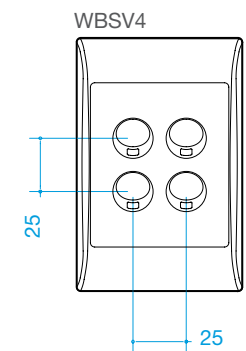
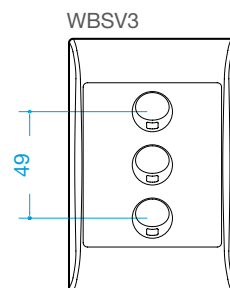
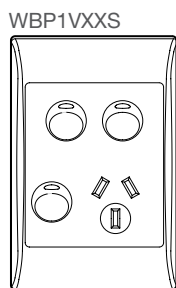
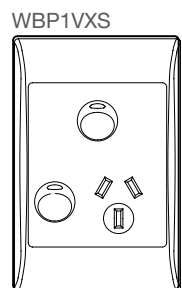
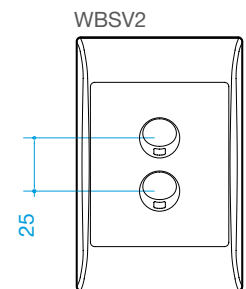
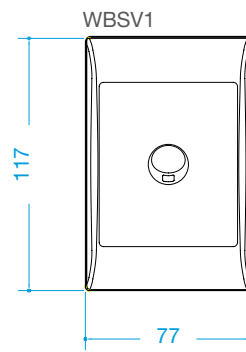
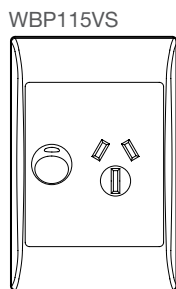
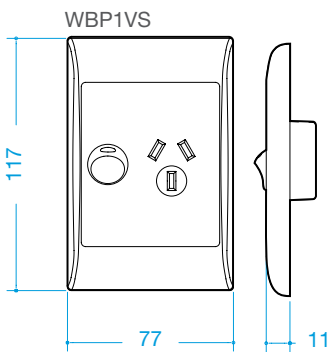
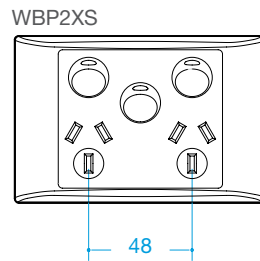
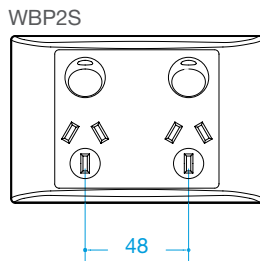
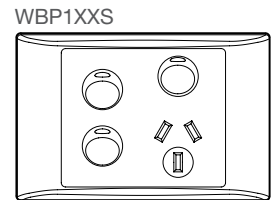
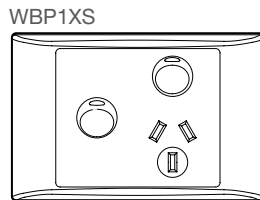
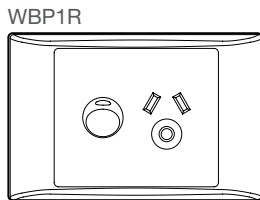
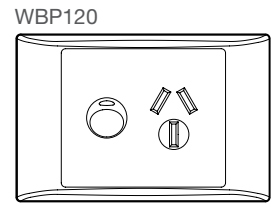
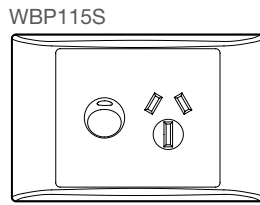
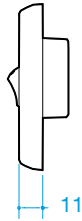
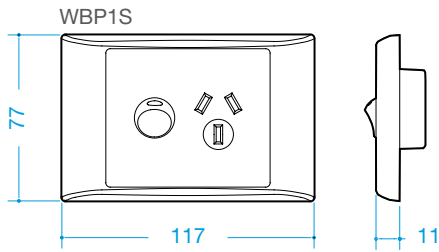


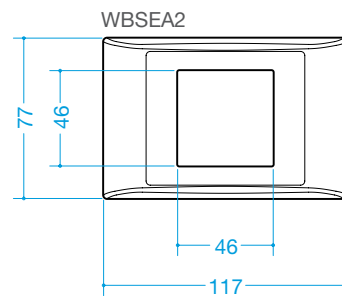
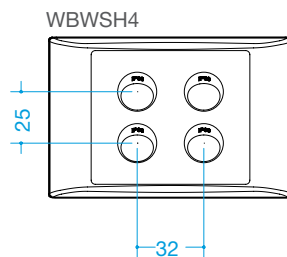
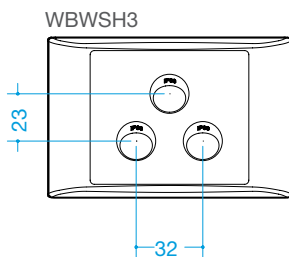
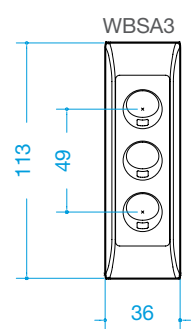
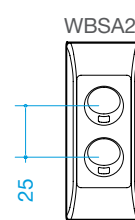
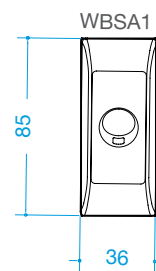
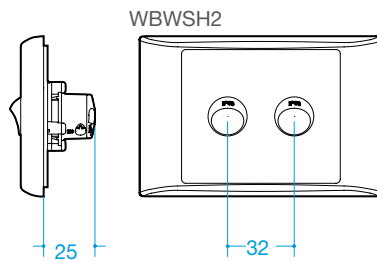
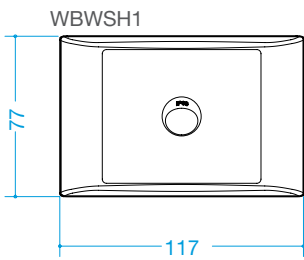
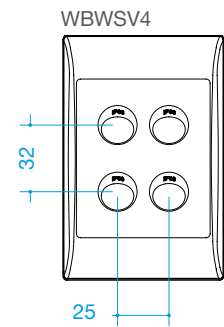
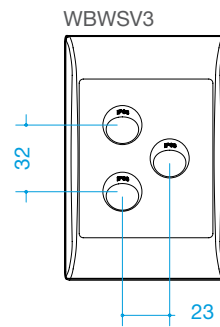
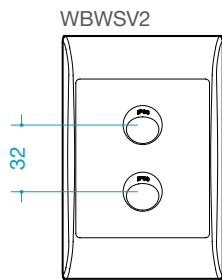
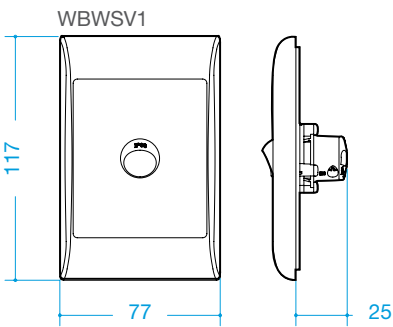
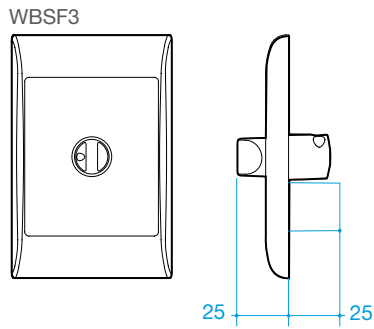
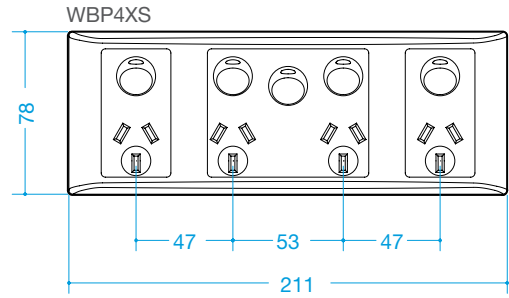
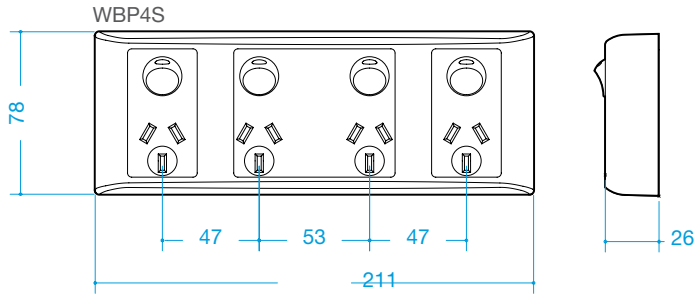


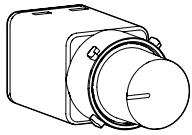




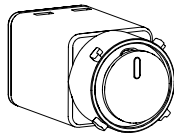




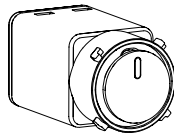




Rotary Dimmer  
**WBMDUR**



Push Button  
**WBMDUPB**



Push Button Slave  
**WBMSLL**

### Programmable to:

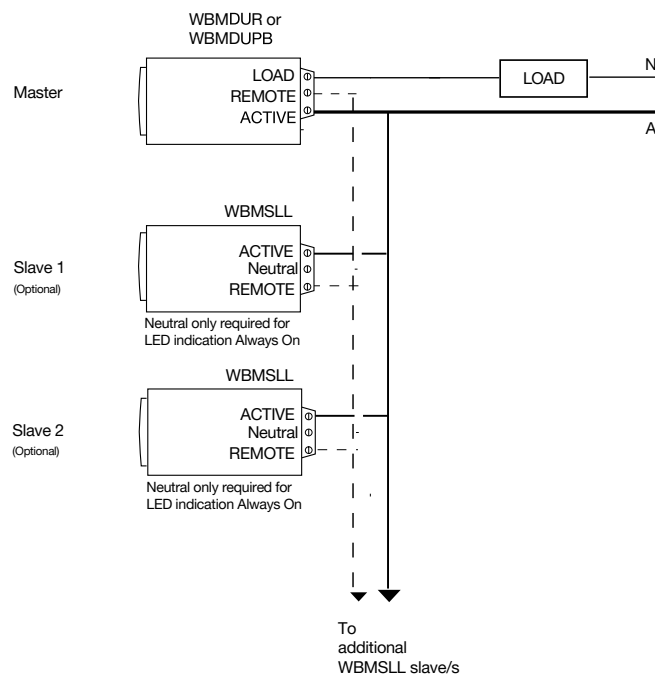
- Set minimum brightness
- Reduce max brightness (fixes reduction)
- Kick start
- Restore last position after power loss

### 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).

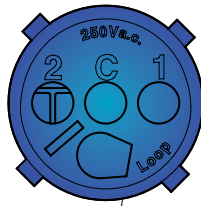
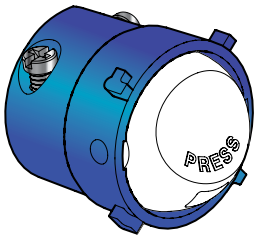
Dimmer specification	WBMDUR / WBMDUPB/
Voltage	230V a.c. +10% / -10%
Frequency	50Hz
Operating temperature	-5 ... 50°C
Storage temperature	-20 ... 70°C
Humidity	0% .. 65% RH
IP Class	IP2X
LED Dimmable 240V	3W (min) ... 250W (max)
Max number LED lights	20 (not exceeding 250W)
Incandescent lamps	7W... 300W
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

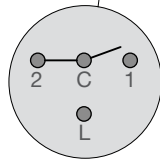
When operating dimmers in combination with others beneath a cover plate, the maximum connected load must be reduced depending on the number of dimmers.

Number of dimmers per combination	Connect load reduction
1	100%
2	75%
3	55%
4	40%
5	35%
6	30%

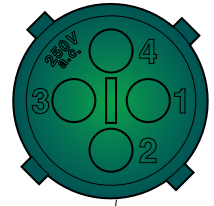
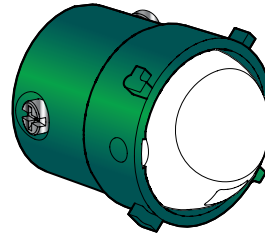
**WBM15P**  
15A Press mechanisms



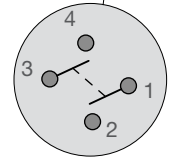
C - Common terminal  
1 - N/O terminal  
2 - N/C terminal  
L - loop



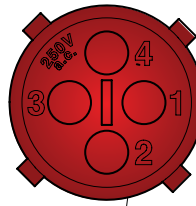
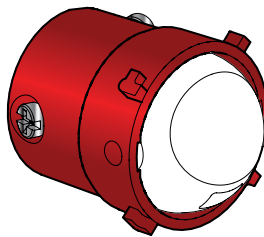
**WBM10D**  
10A double pole mechanism



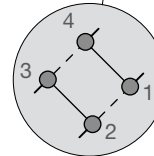
1 - Fixed terminal  
3 - Fixed terminal  
2 - N/O Contact  
4 - N/O Contact



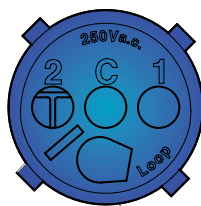
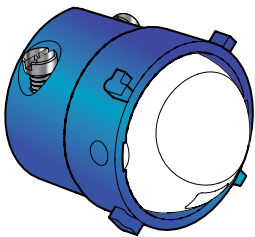
**WBM10I**  
10A intermediate mechanism



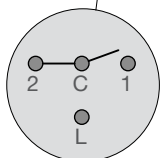
1 - Fixed terminal  
3 - Fixed terminal  
2 - Change over terminal  
4 - Change over terminal



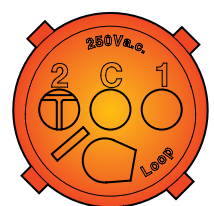
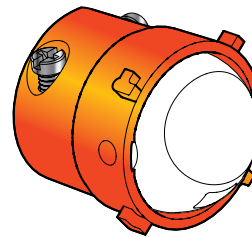
**WBM16AX**  
16AX mechanism



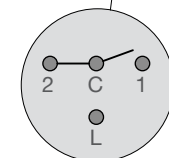
C - Common terminal  
1 - N/O terminal  
2 - N/C terminal  
L - loop



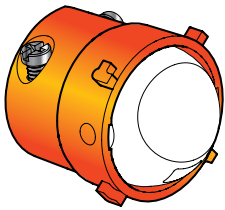
**WBM20**  
20A mechanism



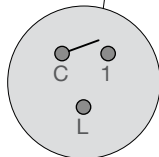
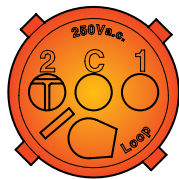
C - Common terminal  
1 - N/O terminal  
2 - N/C terminal  
L - loop



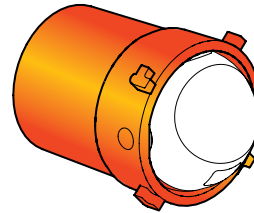
**WBM20XX**  
Printed mechanisms  
1 way only



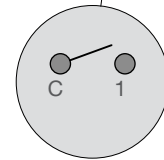
C - Common terminal  
1 - N/O terminal  
L - loop



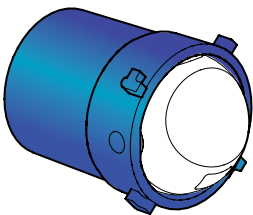
**WBM20AX**  
20AX mechanism



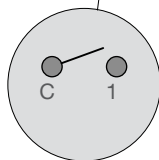
C - Common terminal  
1 - N/O terminal



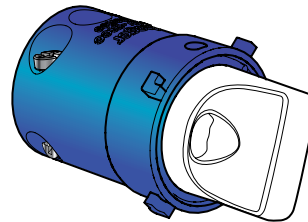
**WBM32**  
32A mechanism



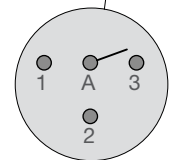
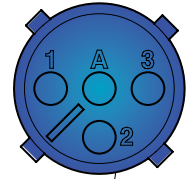
C - Common terminal  
1 - N/O terminal



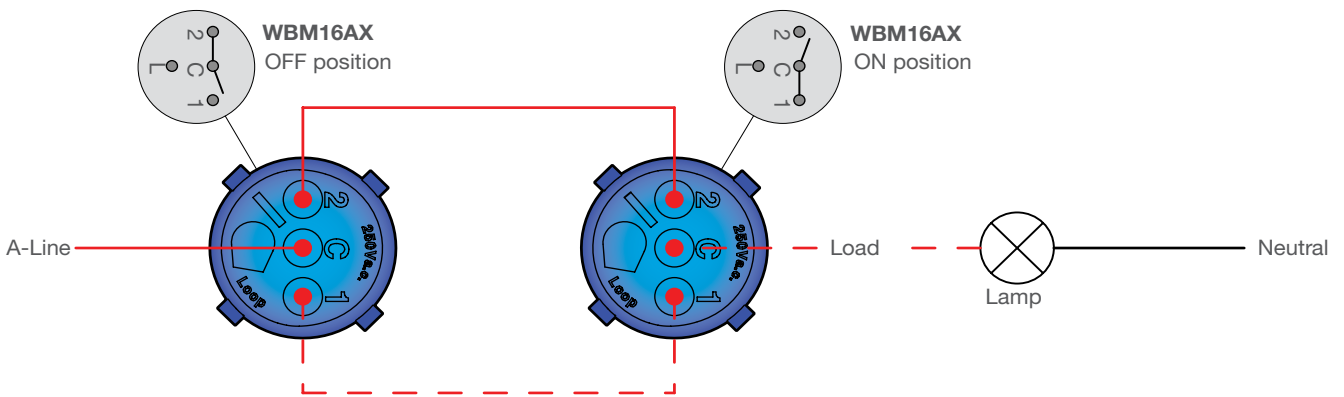
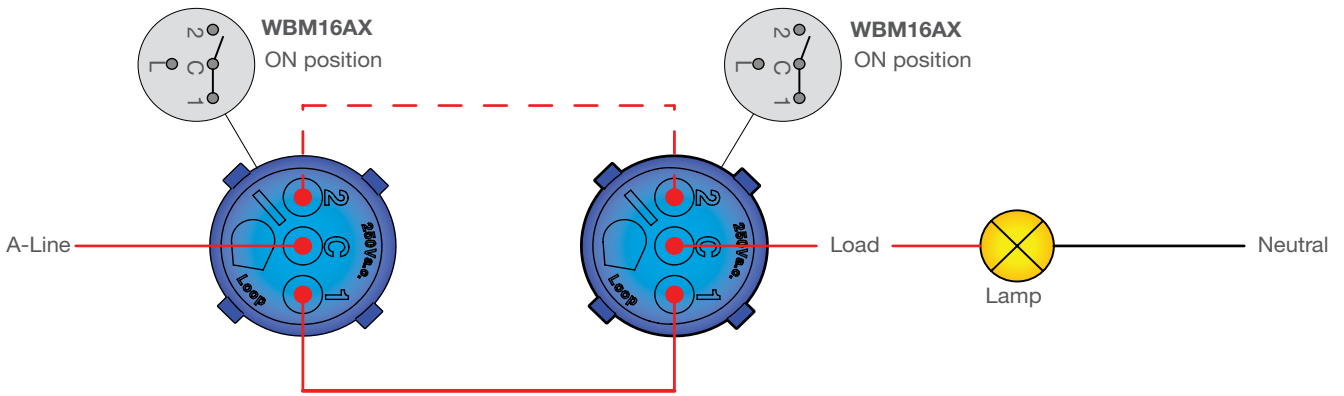
**WBM10R3**  
Rotary mechanism



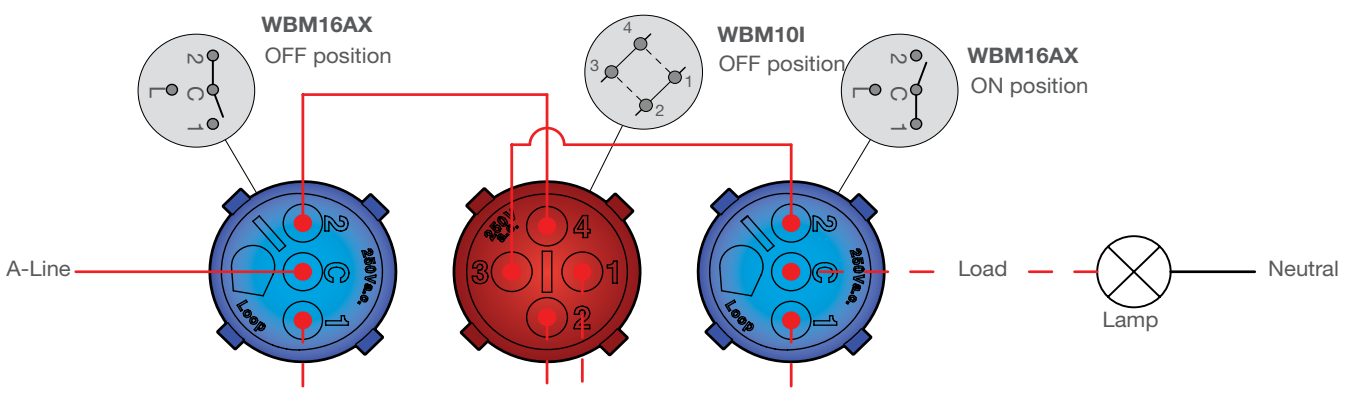
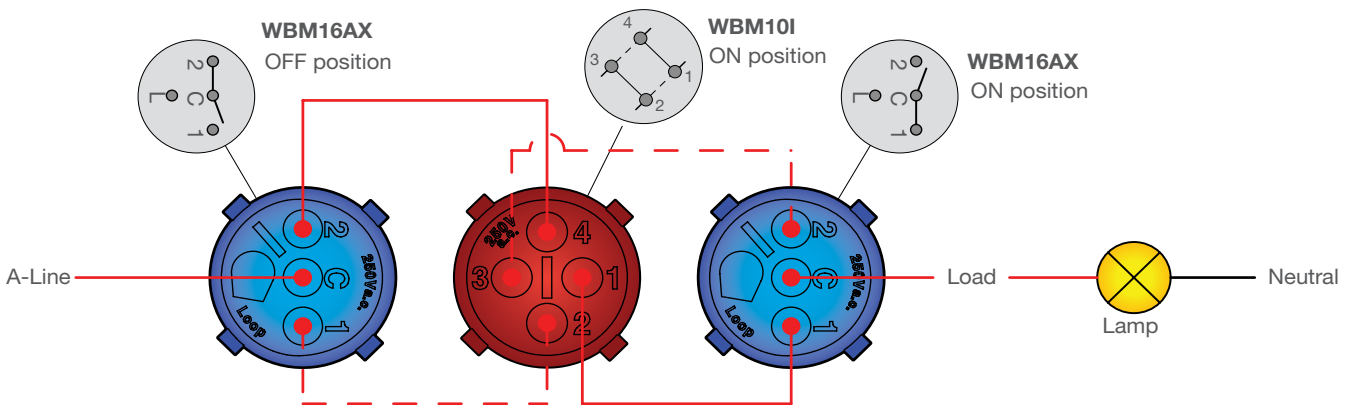
A - Common terminal  
1 - load 1  
2 - load 2  
3 - load 3



Two Way Mechanism



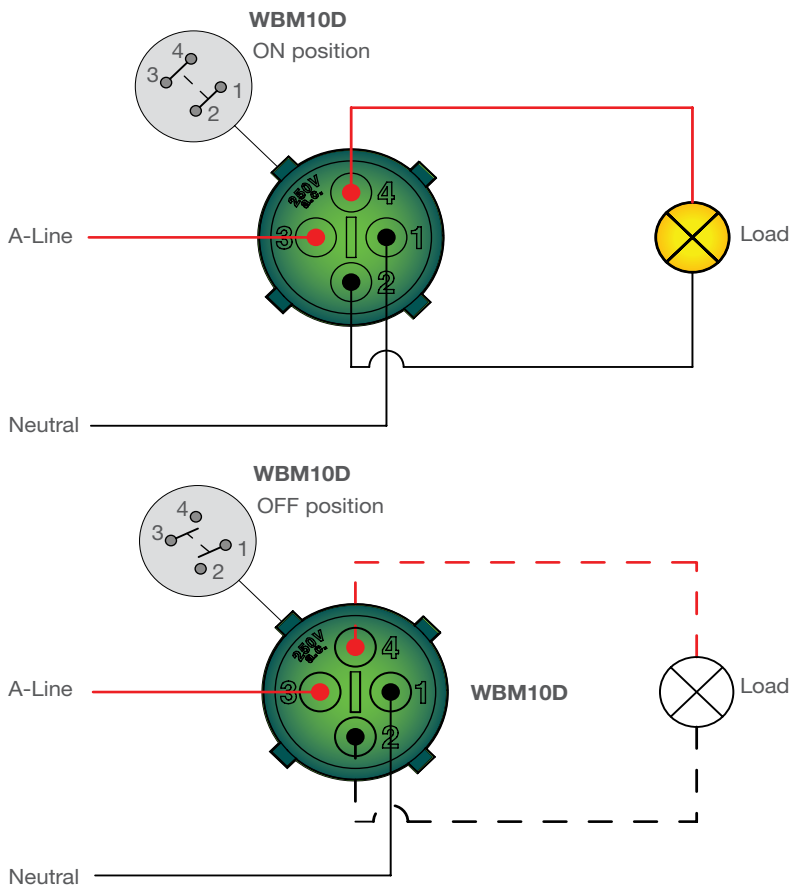
Intermediate Mechanism



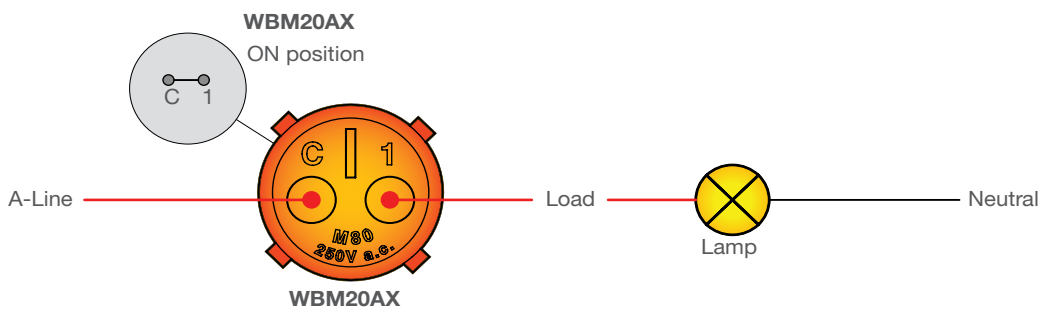
Switches and sockets



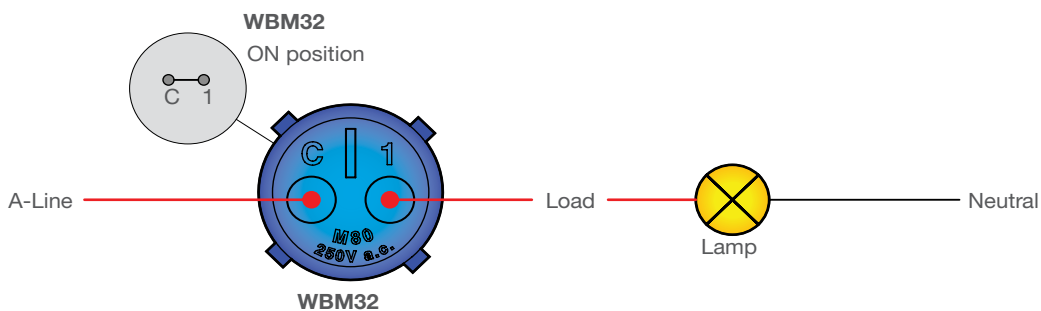
### Double Pole Mechanism



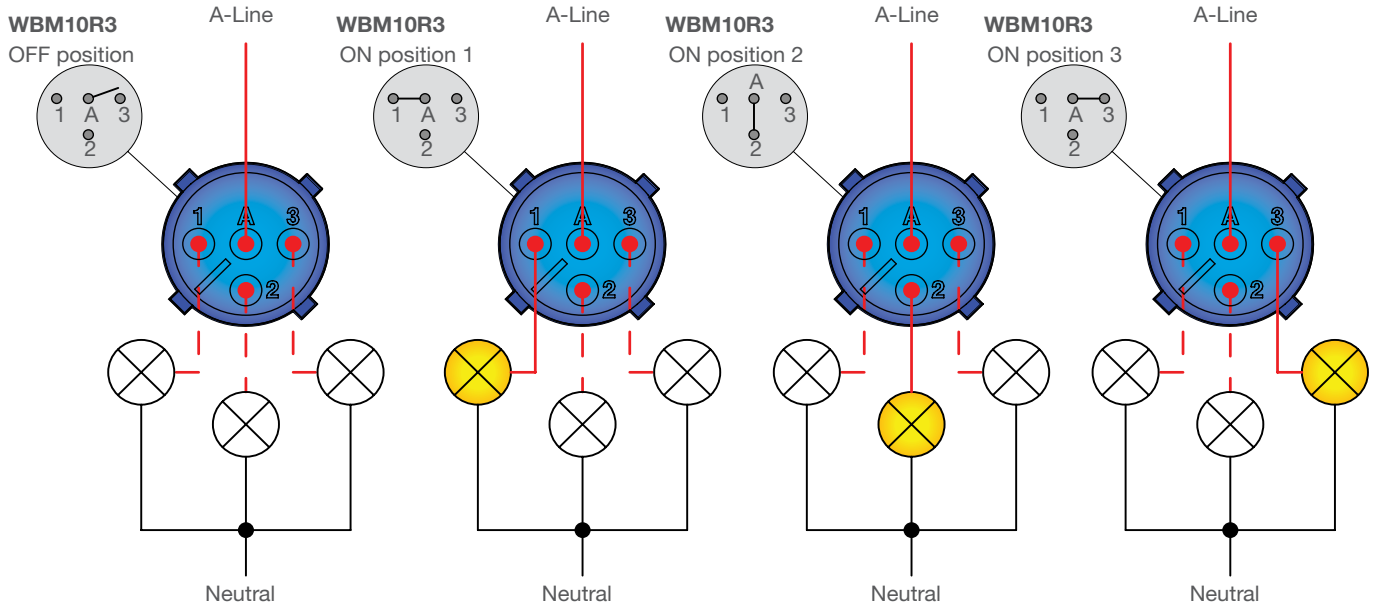
### 20AX Mechanism



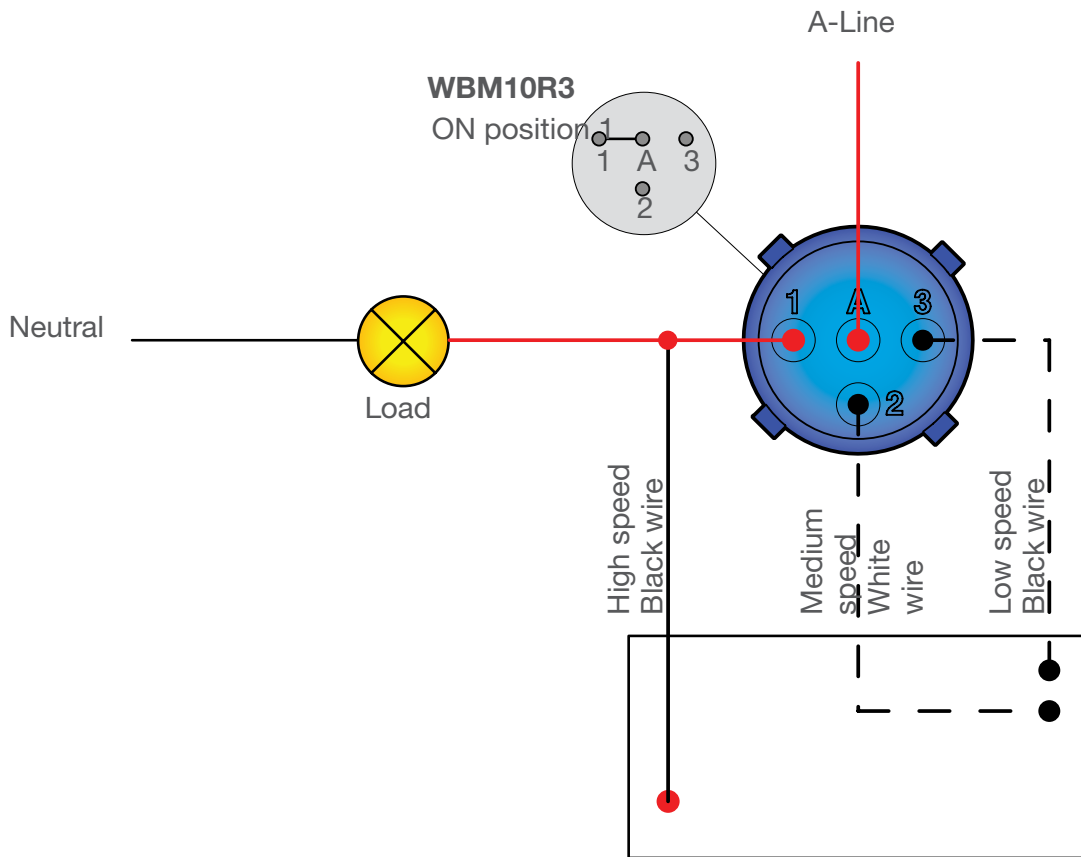
### 32A Mechanism



3 Position Rotary Mechanism

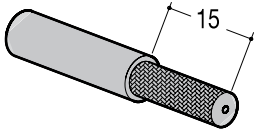


Fan Speed Control Connections for WBSF3 & WBVSF3

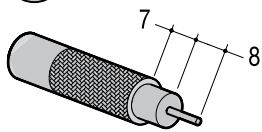


**WBMTV75PY, WBMCA1  
& WBMTV75PF**  
F to F, PAL to F, F to RCA mechanism

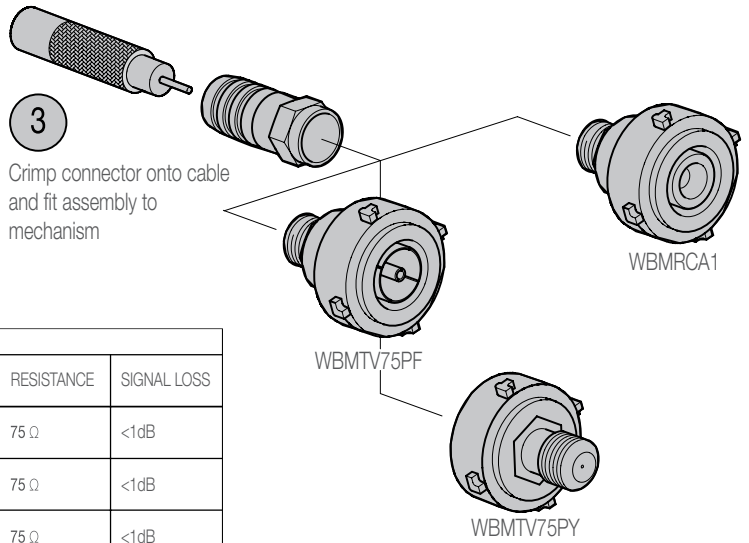
**1** Strip 15mm off sheathing



**2** Fold braid, strip insulation



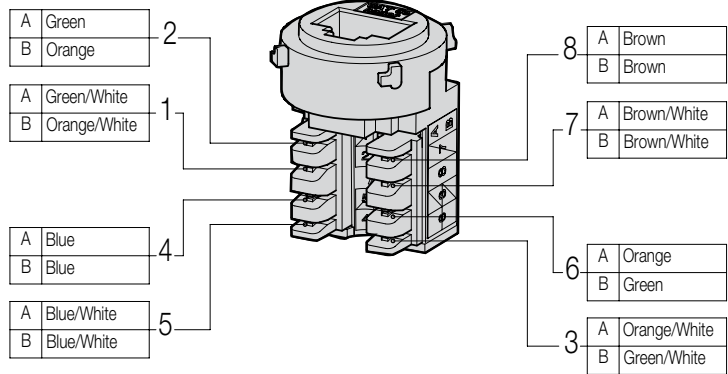
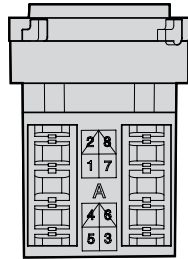
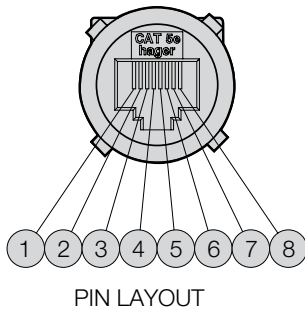
**3**  
Crimp connector onto cable  
and fit assembly to  
mechanism



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

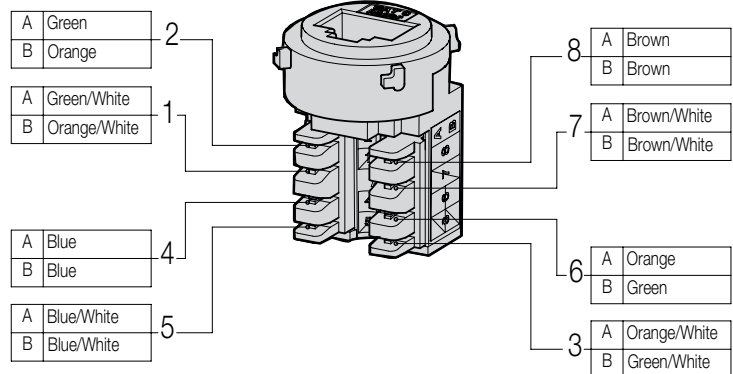
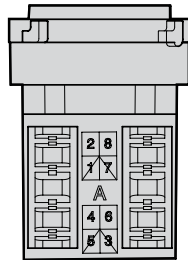
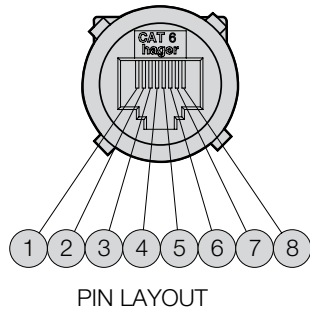
### WBMCAT5

Cat 5 data jack



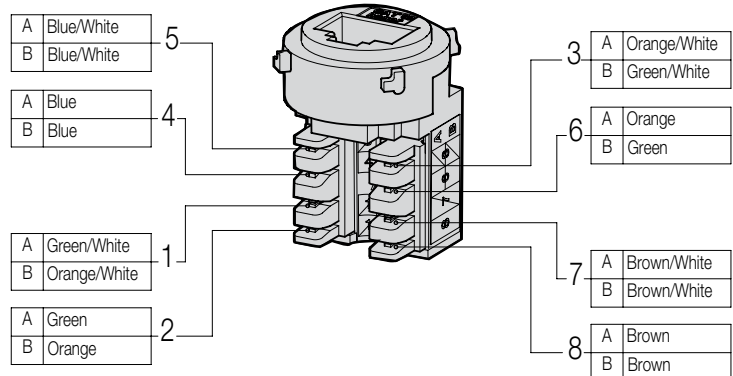
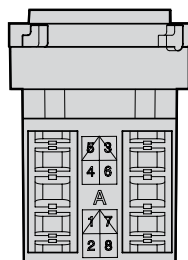
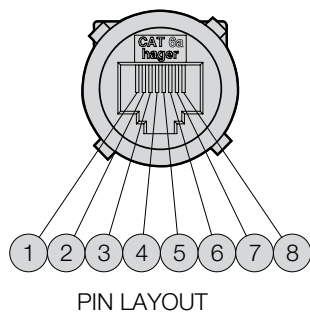
### WBMCAT6

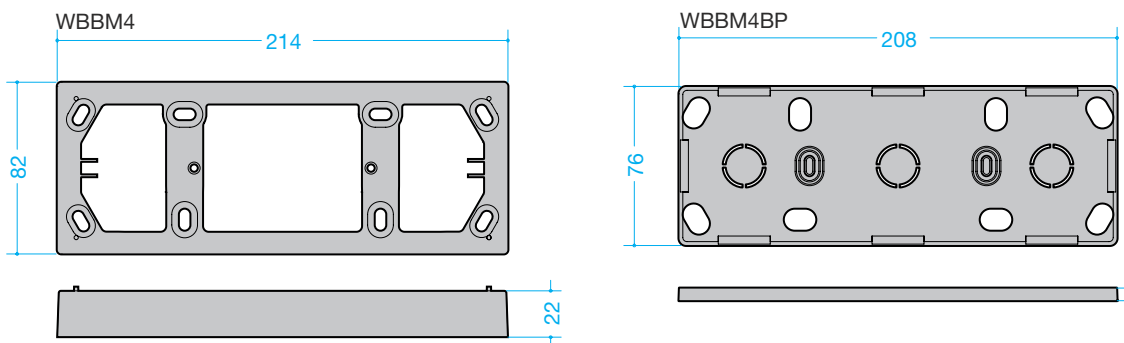
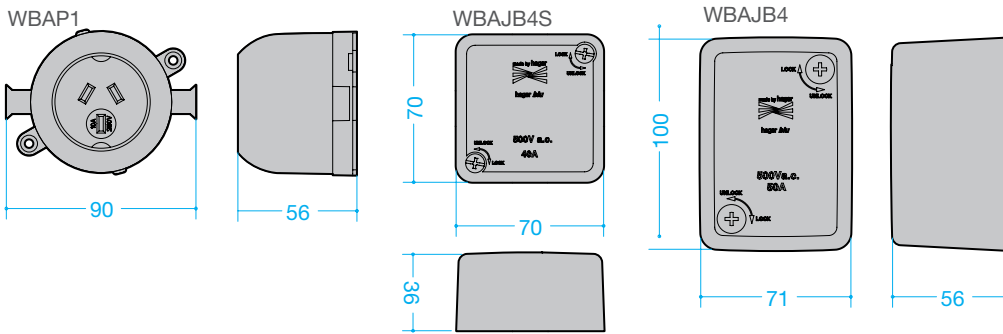
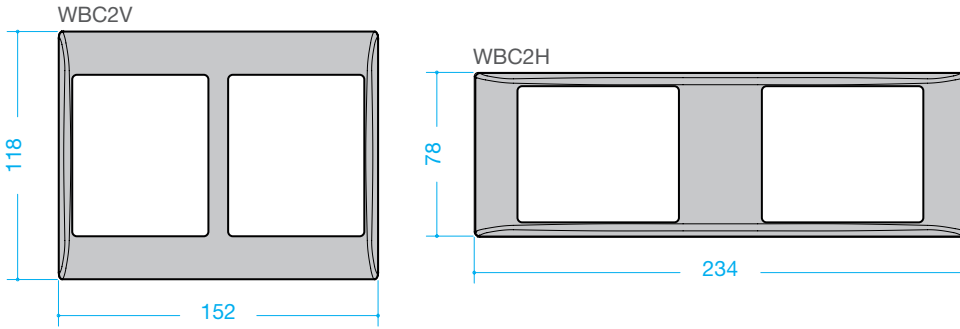
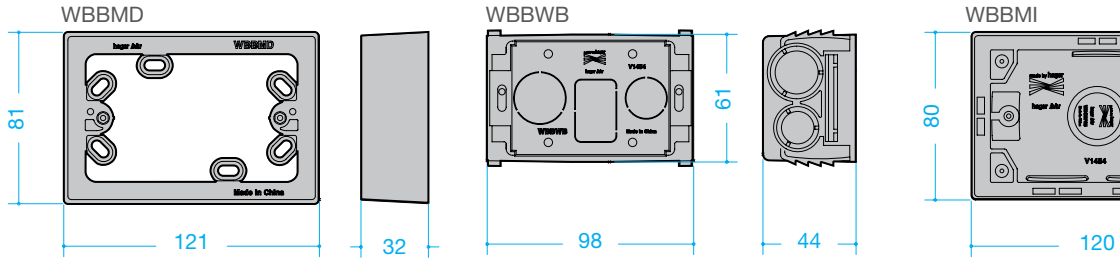
Cat 6 data jack



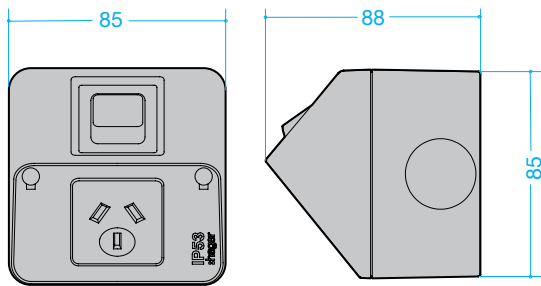
### WBMCAT6A

Cat 6A data jack

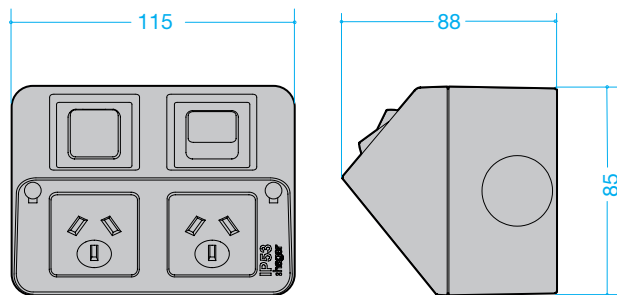




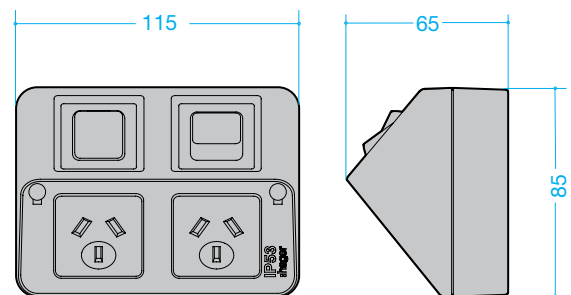
WBWP1S



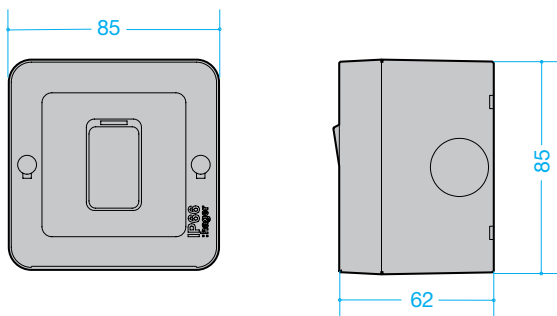
WBWP2S



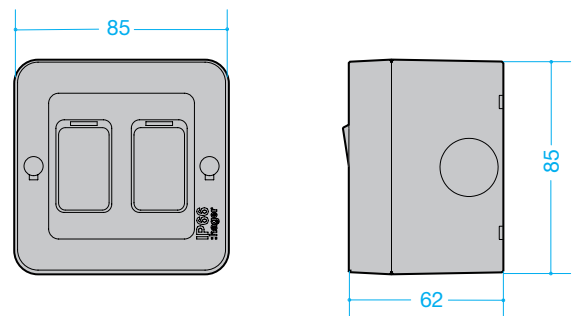
WBWP2SH



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:

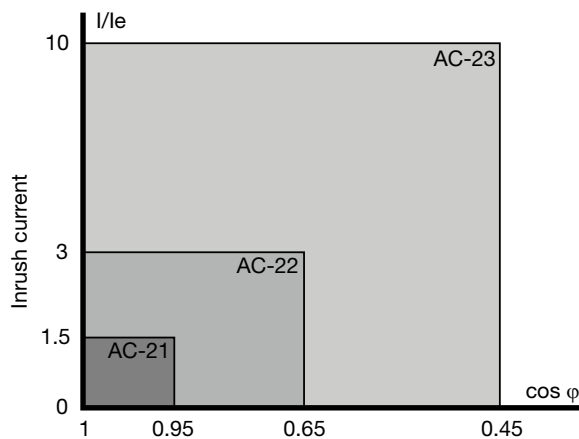
#### Utilization category

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 HEATING	2.0 2.7	kW kW
TOTAL INPUT	COOLING HEATING	0.44 0.62	kW kW
TOTAL CURRENT	COOLING HEATING	2.4/2.3 3.1/3.0	A 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

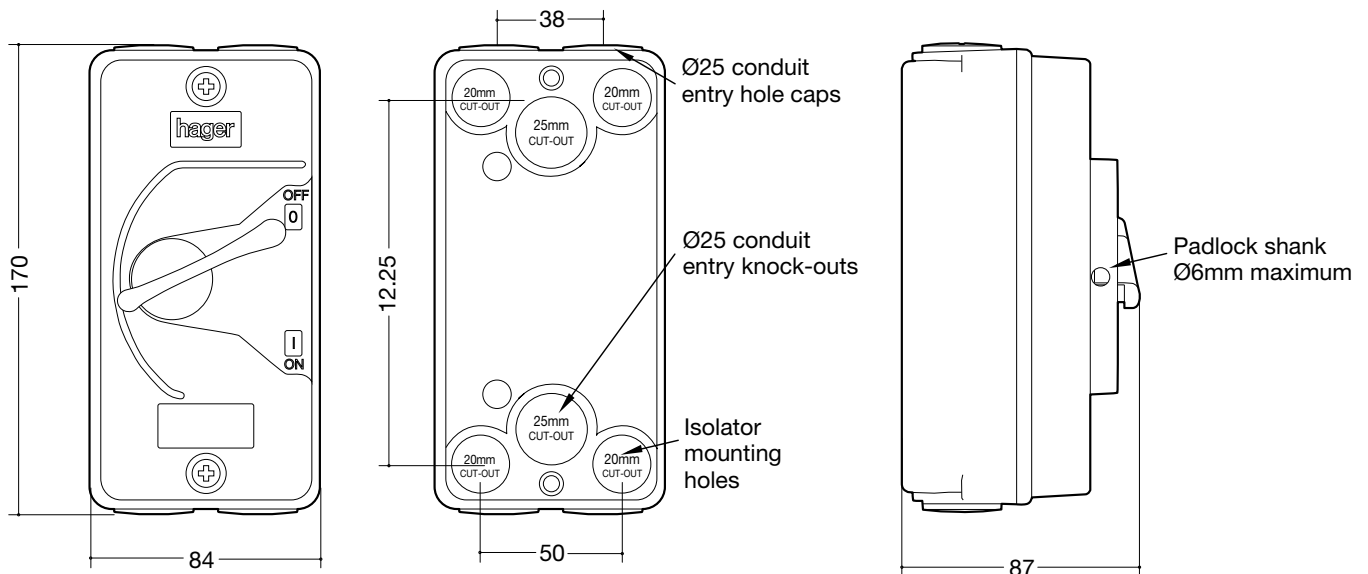
Rated operational current Ie	20A	32A	40A	63A	20A	32A	40A	20A	32A	40A	63A	
Rated operational power Pe	AC-21A	4.8kW	7.6kW	9.5kW	15kW	14.5kW	23.2kW	29kW	14.5kW	23.2kW	29kW	45.6kW
	AC-22A	4.0kW	6.4kW	8.0kW	12.6kW	12.2kW	19.5kW	24.4kW	12.2kW	19.5kW	24.4kW	38.4kW
	AC-23A	3.2kW	5.2kW	6.5kW	10.2kW	9.9kW	15.8kW	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

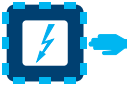

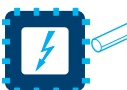
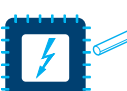
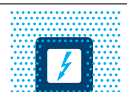

Conductor Rigid - stranded	Min. size & number	2.5mm <sup>2</sup>	6mm <sup>2</sup>	6mm <sup>2</sup>	10mm <sup>2</sup>	2.5mm <sup>2</sup>	6mm <sup>2</sup>	6mm <sup>2</sup>	2.5mm <sup>2</sup>	6mm <sup>2</sup>	6mm <sup>2</sup>	10mm <sup>2</sup>
	Max. size		4mm <sup>2</sup>	10mm <sup>2</sup>	10mm <sup>2</sup>	16mm <sup>2</sup>	4mm <sup>2</sup>	10mm <sup>2</sup>	10mm <sup>2</sup>	4mm <sup>2</sup>	10mm <sup>2</sup>	10mm <sup>2</sup>



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





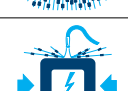
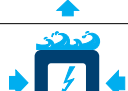

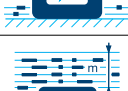
#### Additional letter (in option)

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

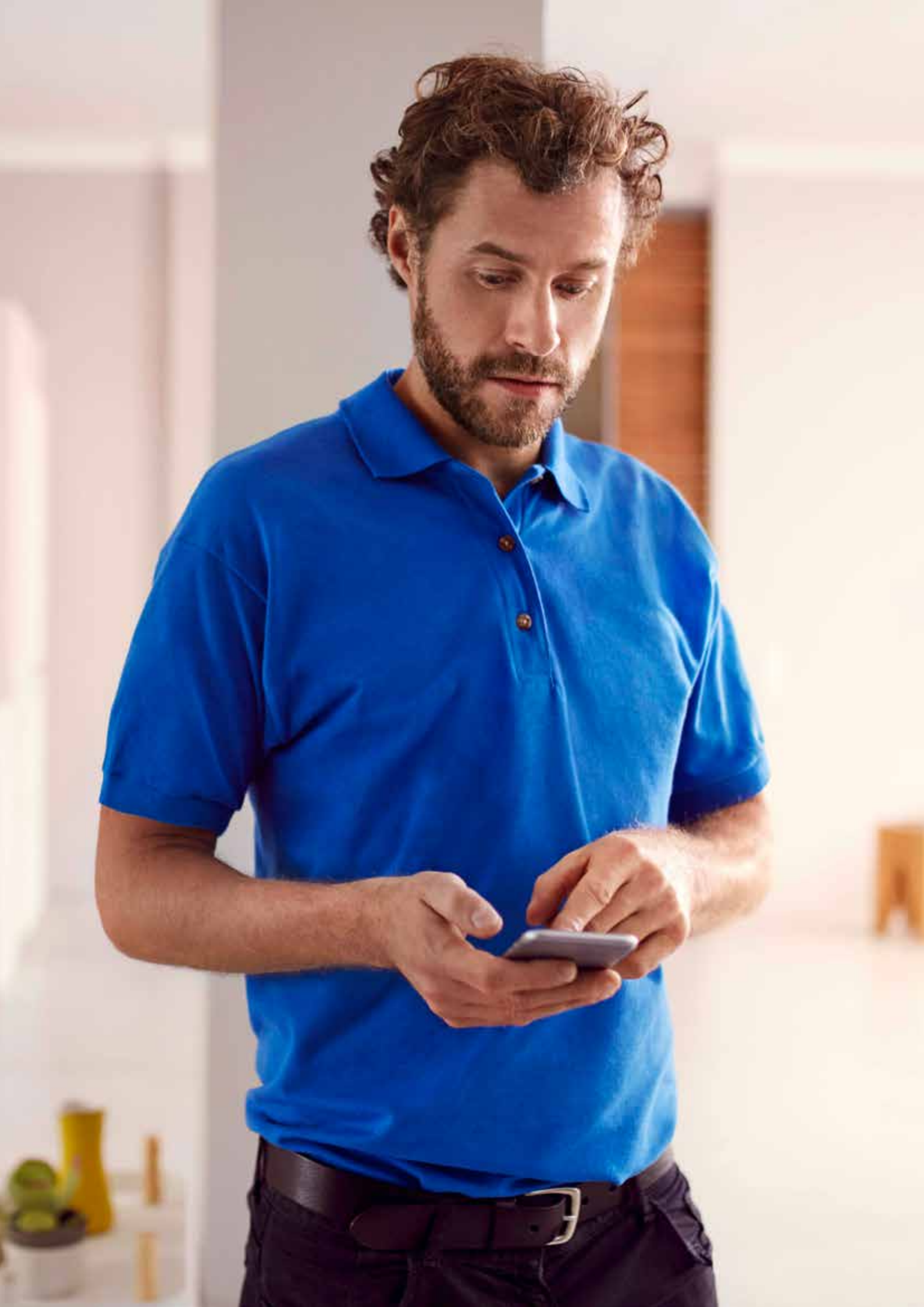
Our Building Automation provides an easy retrofit solution to automate your home simply, while also providing the ability to control your home remotely or for larger commercial projects. The offer is built around KNX, an open standard guaranteeing flexibility and scalability when installing a bus based 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

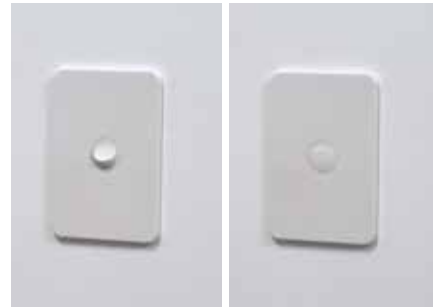
Press the connected switch or push button. (A signal is sent).

## 04

### Function LED colourmodule

LED colour	Switch module	Dimming module	Shutter / Blinds module
	<b>on/off</b> ON / OFF, Toggle switch	 ON / OFF, Variation +/-	 Up / stop TRM692AU only
	<b>on</b> ON	 ON, variation +	 Up, stop
	<b>off</b> 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)
	<b>on</b>  Force ON*		 Force Up
	<b>off</b>  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 $\Phi$ 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 $\Phi$ 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 $\Phi$ 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	



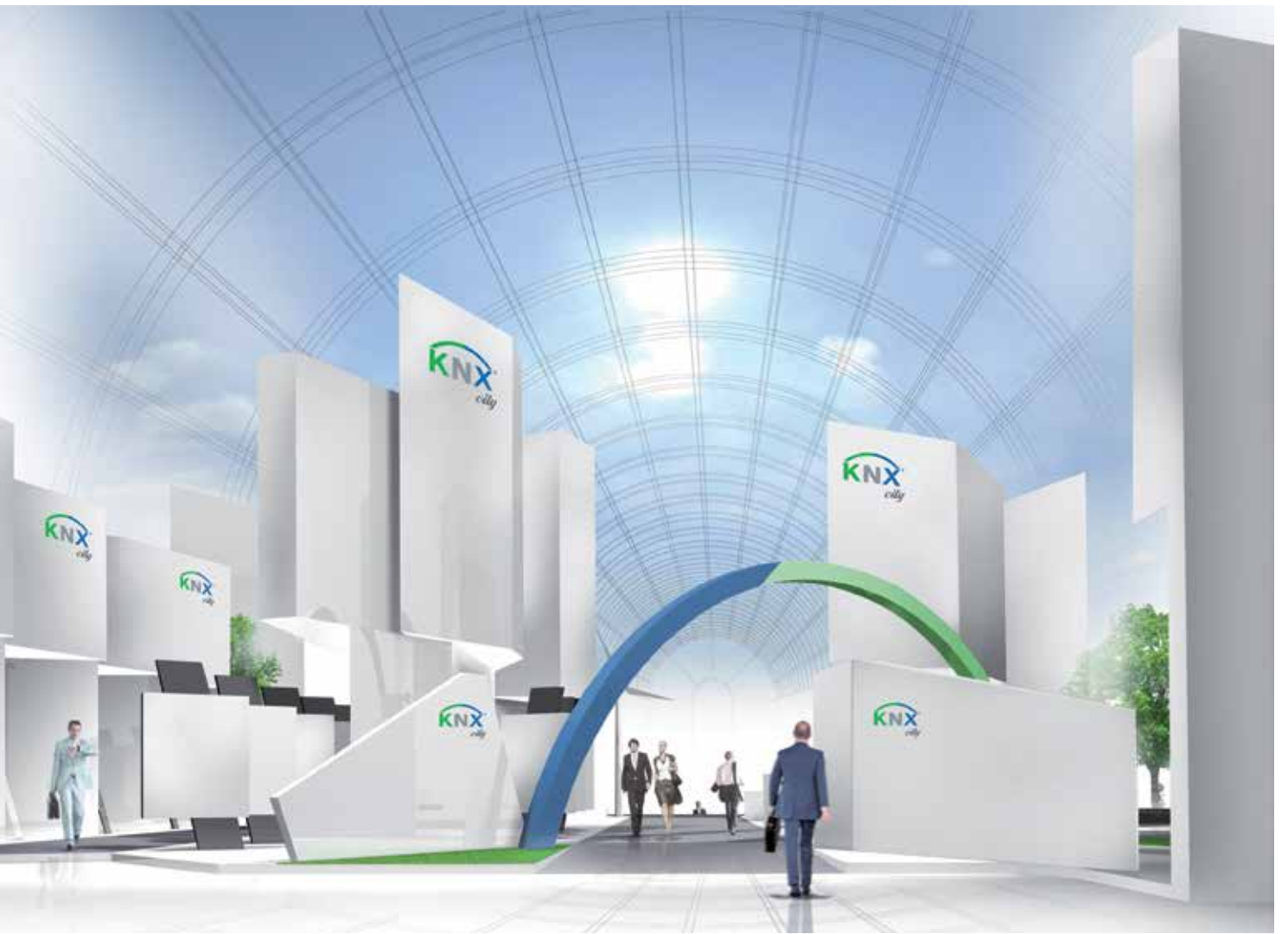
TRM694AU

## 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](#)





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**Relays, Dimmers, Shutter and Blind Devices**



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**KNX Power Supplies**



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**Presence Detectors**



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**Time Switches and Weather Sensors**



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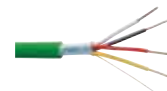
**Input / Output Devices**



**297**

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**Accessories**



**297**

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**Tactile Switches**



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## 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	<b>TXA606B</b>
KNX supply voltage	21 to 32 V DC	8	<b>TXA608B</b>
Frequency	50/60 Hz	10	<b>TXA610B</b>
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 <sup>2</sup>		

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	<b>TXA604D</b>
KNX supply voltage	21 to 32 V DC	6	<b>TXA606D</b>
Frequency	50/60 Hz	8	<b>TXA608D</b>
Switching current at cos = 0.8	max. 16 A	10	<b>TXA610D</b>
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 <sup>2</sup>		

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	<b>TXM616D</b>
Frequency	50/60 Hz	20	<b>TXM620D</b>
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 <sup>2</sup>		



TXB601B

### 10A Relays - 1 gang flush-mounted

Description		Cat ref.
KNX supply voltage	21 to 32 V DC	<b>TXB601B</b>
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 <sup>2</sup>	
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 mm<sup>2</sup> rigid 0.75 to 2.5 mm<sup>2</sup>



## 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	<b>TXA624D</b>
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 <sup>2</sup>		
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	<b>TXA624C</b>
Frequency	50/60 Hz		
Switching current at cos φ = 0.8	max. 6 A	8	<b>TXA628C</b>
Operating temperature	- 5 to + 45 °C		
Connections	0.75 to 2.5 mm <sup>2</sup>		
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	<b>TXM632C</b>
Frequency	50/60 Hz		
Operating temperature	- 5 to + 45 °C		
Connections	0.5 to 6mm <sup>2</sup>		
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	<b>TXB602F</b>
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 <sup>2</sup>	



TXB602F

**6A, 2 Input + 1 Shutter Output or 2 ON/OFF Output Devices**

Description		Cat ref.
KNX supply voltage	21 to 32 V DC	<b>TXB692F</b>
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 <sup>2</sup>	



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	<b>TXA112</b>
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 <sup>2</sup>		
Conductor cross-section (rigid)	0.75 to 2.5 mm <sup>2</sup>		
Width of rail mounted device	4 modules		



TXA111

### KNX BUS Power Supply

Description			Cat ref.
Operating voltage	230 V AC	320mA	<b>TXA111</b>
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 <sup>2</sup>		
Conductor cross-section (rigid)	0.75 to 2.5 mm <sup>2</sup>		
Width of rail mounted device	4 modules		



TGA200

### DC Power Supply 24V DC

Description		Cat ref.
Operating voltage	230 V AC	<b>TGA200</b>
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		Cat ref.
KNX supply voltage	21 to 32 V DC	<b>TXC511</b>
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	



TXC511

**IR Presence Detector**

Description		Cat ref.
KNX supply voltage	21 to 32 V DC	<b>TCC510S</b>
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	



TCC510S

**Surface Mount Housing for Presence Detectors**

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	<b>EE813</b>
	Housing for the installation of presence detector TCC510S.	75 x 65 mm	<b>EEK005</b>



EE813

EEK005

**Remote controls**

Description	Characteristics	Cat ref.
Battery service life [years]	2.5	<b>EE807</b>
Dimensions (L x W x H)	111 x 63 x 10 mm	
Infrared commissioning remote control for TCC510S		
Battery service life [years]	3.5	<b>EE808</b>
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	<b>TXA022</b>
Lithium cell power reserve [years]	5		
Operating temperature	+ 0 to + 45 °C		
Conductor cross-section (flexible)	1.5 to 10 mm <sup>2</sup>		
Conductor cross-section (rigid)	1 ... 6 mm <sup>2</sup>		
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		<b>EG004</b>

#### 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](http://www.hagerelectro.com.au)

Key storage module	1 mod	<b>EG006</b>
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Programming key adapter, USB computer interface for the computer programming of keys.		<b>EG003G</b>
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EG006



TXE531

### Weather Station with Simulation - surface mounted

Description		Cat ref.
KNX supply voltage	21 to 32 V DC	<b>TXE531</b>
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	<b>TXB322</b>
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	<b>TXB344</b>
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	

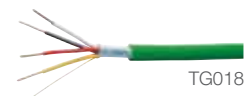


TXB344

- 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	<b>TG018</b>
- EIB - Y (ST)Y 2 x 2 x 0.8 (Voltage withstanding: 4kV)	500m roll	<b>TG019</b>
	100m roll halogen free	<b>TG060</b>
	500m roll halogen free	<b>TG061</b>
Connection terminals	-5 to +45 °C	<b>TG008</b>
- 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	<b>TG200B</b>
- 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	<b>WBSTS1N</b>
	● Matt black	1	<b>WBSTS1N-MB</b>
	○ Matt White	1	<b>WBSTS1N-MW</b>
2 gang	○ White	1	<b>WBSTS2N</b>
	● Matt black	1	<b>WBSTS2N-MB</b>
	○ Matt White	1	<b>WBSTS2N-MW</b>
4 gang	○ White	1	<b>WBSTS4N</b>
	● Matt black	1	<b>WBSTS4N-MB</b>
	○ Matt White	1	<b>WBSTS4N-MW</b>
6 gang	○ White	1	<b>WBSTS6N</b>
	● Matt black	1	<b>WBSTS6N-MB</b>
	○ Matt White	1	<b>WBSTS6N-MW</b>



WBHTS1N

### allure - Large Plate Switches with LED

Characteristics	Available colours	Box qty	Cat ref.
1 gang	○ White	1	★ <b>WBHTS1N</b>
	● Matt black	1	★ <b>WBHTS1N-MB</b>
	○ Matt White	1	★ <b>WBHTS1N-MW</b>
2 gang	○ White	1	★ <b>WBHTS2N</b>
	● Matt black	1	★ <b>WBHTS2N-MB</b>
	○ Matt White	1	★ <b>WBHTS2N-MW</b>
4 gang	○ White	1	★ <b>WBHTS4N</b>
	● Matt black	1	★ <b>WBHTS4N-MB</b>
	○ Matt White	1	★ <b>WBHTS4N-MW</b>
6 gang	○ White	1	★ <b>WBHTS6N</b>
	● Matt black	1	★ <b>WBHTS6N-MB</b>
	○ Matt White	1	★ <b>WBHTS6N-MW</b>

**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	★ <b>WBQTS1N</b>
	● Matt black	1	★ <b>WBQTS1N-MB</b>
	○ Matt White	1	★ <b>WBQTS1N-MW</b>
2 gang	○ White	1	★ <b>WBQTS2N</b>
	● Matt black	1	★ <b>WBQTS2N-MB</b>
	○ Matt White	1	★ <b>WBQTS2N-MW</b>
4 gang	○ White	1	★ <b>WBQTS4N</b>
	● Matt black	1	★ <b>WBQTS4N-MB</b>
	○ Matt White	1	★ <b>WBQTS4N-MW</b>
6 gang	○ White	1	★ <b>WBQTS6N</b>
	● Matt black	1	★ <b>WBQTS6N-MB</b>
	○ Matt White	1	★ <b>WBQTS6N-MW</b>



WBQTS1N

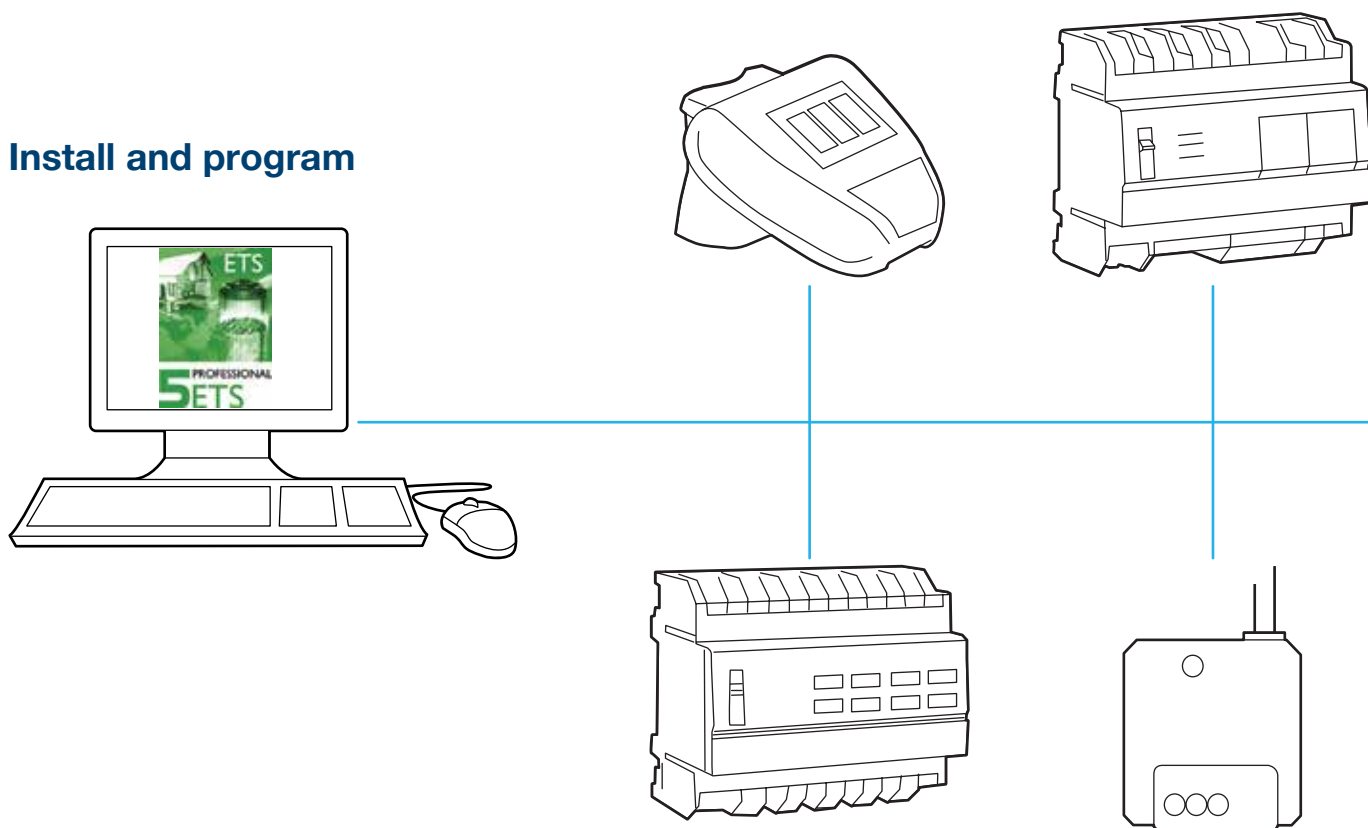
# A flexible and scalable system



## For commercial projects, the architecture of a Hager KNX System encompasses flexibility and scalability.

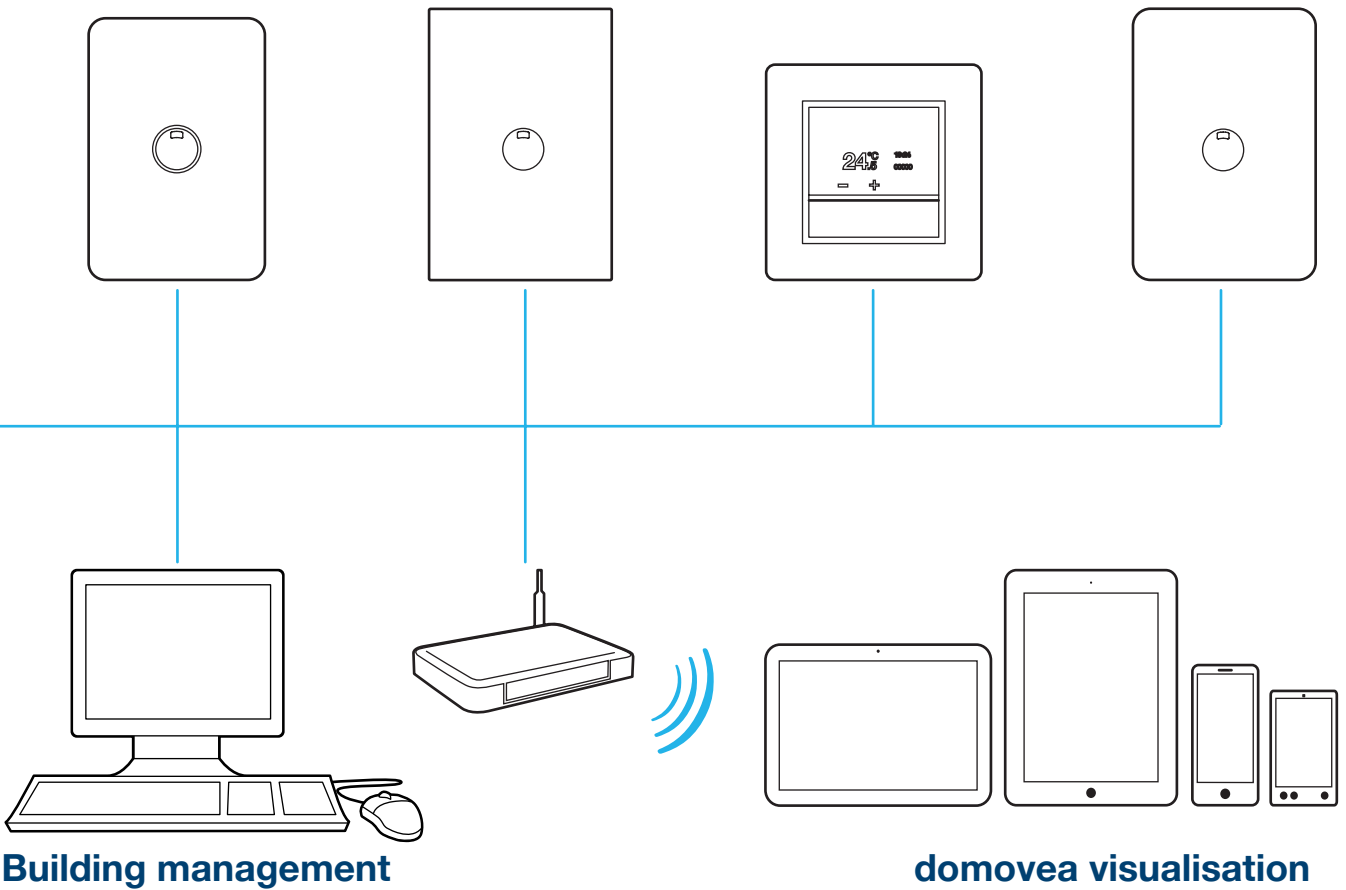
Hager KNX System uses ETS programming software which guarantees full interoperability with any other KNX member solutions from intrusion and technical alarms, video surveillance and videophones, all the way to multi-room function and maintenance systems. Gateways to create links with other control standards 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



305

Relays, Dimmers and Shutter Devices



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KNX Power Supplies, DALI Gateways and Couplers



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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](http://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	★ <b>TJA670</b>
Consumption on the bus line	10mA max - 30V DC	Expert	★ <b>TJA470</b>
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 <sup>2</sup>		
Power supply socket	0.75 - 2.5mm <sup>2</sup>		
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	<b>TGA200</b>
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 <b>TYA604A</b>
230 V LED lamps	6 x 23 W	6 channel <b>TYA606A</b>
Quantity LED lamps	per channel max. 6	8 channel <b>TYA608A</b>
Quantity energy-saving lamps	per channel max. 6	10 channel <b>TYA610A</b>
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 <sup>2</sup>	



TYA606B

### Relays 10A

Description	Characteristics	Cat ref.
KNX supply voltage	30 V DC	4 channel <b>TYA604B</b>
230 V LED lamps	12 x 23 W	6 channel <b>TYA606B</b>
Quantity LED lamps	per channel max. 12	8 channel <b>TYA608B</b>
Quantity energy-saving lamps	per channel max. 12	10 channel <b>TYA610B</b>
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 <sup>2</sup>	



TYA608C

### Relays 16A

Description	Characteristics	Cat ref.
Bus voltage	30 V DC	4 channel <b>TYA604C</b>
230 V LED lamps	12 x 23 W	6 channel <b>TYA606C</b>
Quantity LED lamps	per channel max. 12	8 channel <b>TYA608C</b>
Quantity energy-saving lamps	per channel max. 12	10 channel <b>TYA610C</b>
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 <sup>2</sup>	



## 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 <b>TYA604D</b>
230 V LED lamps	18 x 23 W	6 channel <b>TYA606D</b>
Quantity LED lamps	per channel max. 18	8 channel <b>TYA608D</b>
Quantity energy-saving lamps	per channel max. 18	10 channel <b>TYA610D</b>
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 <sup>2</sup>	



TYA610D

## Relays 16A for capacitive load

Description	Characteristics	Cat ref.
KNX supply voltage	30 V DC	16 channel <b>TYM616D</b>
230 V LED lamps	25 x 18 W	20 channel <b>TYM620D</b>
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 <sup>2</sup>	



TYM616D

## Relays 16A for current monitoring

Description	Characteristics	Cat ref.
Bus voltage	30 V DC	6 channel <b>TYA606E</b>
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 <sup>2</sup>	



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	<b>TYB602F</b>
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 <sup>2</sup>		
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	<b>TYB601B</b>
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 <sup>2</sup>		
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 <sup>2</sup>

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 <sup>2</sup>

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 <sup>2</sup>

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		Cat ref.
KNX supply voltage	30 V DC 230 V AC 50/60 Hz	<b>TYA664AN</b>
Busline max consumption	2.3 mA	
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 <sup>2</sup>	

- 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	Width	Cat ref.
<ul style="list-style-type: none"> <li>- Fluorescent and halogen lamps with 1/10V ballasts</li> <li>- Able to interface with 1/10V LED control equipment</li> <li>- Halogen lamps ELV supplied with variable or ferromagnetic electronic transformer</li> </ul>	4 mod	<b>TX211A</b>
Functions: <ul style="list-style-type: none"> <li>- ON/OFF</li> <li>- Dim control</li> </ul>		

**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 <b>TYA624A</b>
Power dissipation	2 W	4 shutters <b>TYA624C</b>
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 <sup>2</sup>	
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 <b>TYA624B</b>
Power dissipation	2 W	4 shutters <b>TYA624D</b>
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 <sup>2</sup>	
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	<b>TYA628A</b>
Power dissipation	2 W		
Typical consumption on KNX bus	15.8 mA	8 shutters	<b>TYA628C</b>
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 <sup>2</sup>		
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	<b>TYB692F</b>
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<sub>max</sub>" 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	<b>TXA111</b>
Output voltage	30V DC	640mA	<b>TXA112</b>
Absorbed power	15 VA		
Operating temperature	-5 to +45°C		
Connections	0.75 to 2.5 mm <sup>2</sup>		



TXA111

**DALI Gateway**

Description		Type	Cat ref.
KNX supply voltage	21 to 32 V DC SELV	DALI	<b>TYA670W</b>
External supply voltage	110 to 240 V AC +10%/-15% 50/60 Hz	DALI 2	<b>TYA670WD2</b>
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	<b>TYF130</b>
Width	2 modules	
Operating temperature	-5 to +45°C	



TYFS120

### KNX IP Secure Interface

Description		Cat ref.
KNX supply voltage	21 - 30 V DC	★ <b>TYFS120</b>
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	★ <b>TYFS121</b>
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	★ <b>TYFS122</b>
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	<b>TCC510S</b>
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	<b>TCC520E</b>
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	<b>TCC530E</b>
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	<b>TCC521E</b>



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	<b>EEK005</b>



EE807

### Remote Controls

Description	Cat ref.
Infrared commissioning remote control - For TCC510S, TCC520E and TCC521E presence detectors - For commissioning	<b>EE807</b>
Infrared user remote control - For TCC510S, TCC520E and TCC521E presence detectors - For the local adjustment of detector settings	<b>EE808</b>

**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	<b>TXA022</b>
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		<b>EG004</b>
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		<b>EG005</b>
Key storage module For storage of 3 programming locking keys	1 mod	<b>EG006</b>
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 <a href="http://www.hagerelectro.com.au">www.hagerelectro.com.au</a>		<b>EG003G</b>



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"> <li>- Universal input modules allow interfacing contacts free of potential or supplied with 24 - 230V AC/DC power by KNX bus</li> <li>- In this way, pushbuttons, switches or conventional automatic controls can become communicating devices</li> <li>- 6 independent channels with automatic recognition of the type of connected circuit (24 - 230V AC/DC or circuit free of potential).</li> <li>- It is possible to connect 5 illuminated pushbuttons per channel</li> </ul>	6 mod	<b>TXA306</b>

## 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 $\mu$ A U = 1.8V DC	<b>TXB322</b>
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 $\mu$ A U = 1.8V DC	<b>TXB344</b>
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.



### 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.



TXF121

### 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**



### 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

Operating voltage over bus	21 to 32 V DC
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

Cat ref.

**TXE531**

Mounting support for tebis weather station TXE530

**TG353**



EK088

### Temperature Sensors

#### Description

Outdoor sensor

Cat ref.

**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**

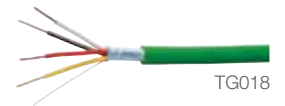
Description		Cat ref.
Nominal voltage	24 V	<b>TG029</b>
Nominal current (max.)	3 A	
Nominal discharge current	5 kA	
Limiting discharge	8 kA	
Protection level at 100 V / S	≤ 350 V	
Protection level at 1 kV / S	≤ 500 V	
Response time	≤ 100 ms	
Insulation resistance	> 10,000 MΩ	
Capacity	1 pF	
Operating temperature	-25 to +80°C	
Bus connection	line Ø 0.8 mm, length 200 m	
Ground connection conductor	0.75 mm <sup>2</sup> , length 200 m	



TG029

**Bus Cable**

Description	Characteristics	Cat ref.
EIB - Y (ST)Y 2 x 2 x 0.8 (Voltage withstanding: 4KV)	100m	<b>TG018</b>
	500m	<b>TG019</b>



TG018

**Connection Terminal**

Description		Cat ref.
Operating temperature	-5 to +45 °C	<b>TG008</b>
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	



TG008

**Connection Bridges**

Description	Cat ref.
For bridging between quick connect terminals on DIN relay devices Grey, 50 per pack	<b>TG200B</b>



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	<b>WBSTS1N</b>
	● Matt black	1	<b>WBSTS1N-MB</b>
	○ Matt White	1	<b>WBSTS1N-MW</b>
2 gang	○ White	1	<b>WBSTS2N</b>
	● Matt black	1	<b>WBSTS2N-MB</b>
	○ Matt White	1	<b>WBSTS2N-MW</b>
4 gang	○ White	1	<b>WBSTS4N</b>
	● Matt black	1	<b>WBSTS4N-MB</b>
	○ Matt White	1	<b>WBSTS4N-MW</b>
6 gang	○ White	1	<b>WBSTS6N</b>
	● Matt black	1	<b>WBSTS6N-MB</b>
	○ Matt White	1	<b>WBSTS6N-MW</b>



WBHTS1N

### allure - Large Plate Switches with LED

Characteristics	Available colours	Box qty	Cat ref.
1 gang	○ White	1	★ <b>WBHTS1N</b>
	● Matt black	1	★ <b>WBHTS1N-MB</b>
	○ Matt White	1	★ <b>WBHTS1N-MW</b>
2 gang	○ White	1	★ <b>WBHTS2N</b>
	● Matt black	1	★ <b>WBHTS2N-MB</b>
	○ Matt White	1	★ <b>WBHTS2N-MW</b>
4 gang	○ White	1	★ <b>WBHTS4N</b>
	● Matt black	1	★ <b>WBHTS4N-MB</b>
	○ Matt White	1	★ <b>WBHTS4N-MW</b>
6 gang	○ White	1	★ <b>WBHTS6N</b>
	● Matt black	1	★ <b>WBHTS6N-MB</b>
	○ Matt White	1	★ <b>WBHTS6N-MW</b>



WBQTS1N

### finesse - Large Plate Switches with LED

Characteristics	Available colours	Box qty	Cat ref.
1 gang	○ White	1	★ <b>WBQTS1N</b>
	● Matt black	1	★ <b>WBQTS1N-MB</b>
	○ Matt White	1	★ <b>WBQTS1N-MW</b>
2 gang	○ White	1	★ <b>WBQTS2N</b>
	● Matt black	1	★ <b>WBQTS2N-MB</b>
	○ Matt White	1	★ <b>WBQTS2N-MW</b>
4 gang	○ White	1	★ <b>WBQTS4N</b>
	● Matt black	1	★ <b>WBQTS4N-MB</b>
	○ Matt White	1	★ <b>WBQTS4N-MW</b>
6 gang	○ White	1	★ <b>WBQTS6N</b>
	● Matt black	1	★ <b>WBQTS6N-MB</b>
	○ Matt White	1	★ <b>WBQTS6N-MW</b>

## 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

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EK 'Chameleon' Corner Trunking	330
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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:

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\*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	<b>DNG2002007030B*</b>
25h x 25w slotted trunking	24	A	<b>DNG2502507030B*</b>
25h x 37w slotted trunking	32	A	<b>DNG2503707030B*</b>
37h x 20w slotted trunking	16	B	<b>DNG3702007030B*</b>
37h x 37w slotted trunking	16	A	<b>DNG3703707030B*</b>
50h x 25w slotted trunking	19	A	<b>DNG5002507030B*</b>
50h x 37w slotted trunking	20	A	<b>DNG5003707030B*</b>
50h x 50w slotted trunking	24	A	<b>DNG5005007030B*</b>
50h x 75w slotted trunking	10	A	<b>DNG5007507030B*</b>
50h x 100w slotted trunking	12	A	<b>DNG5010007030B*</b>
75h x 25w slotted trunking	16	A	<b>DNG7502507030B*</b>
75h x 37w slotted trunking	20	A	<b>DNG7503707030B*</b>
75h x 50w slotted trunking	10	A	<b>DNG7505007030B*</b>
75h x 75w slotted trunking	18	A	<b>DNG7507507030B*</b>
75h x 100w slotted trunking	18	A	<b>DNG7510007030B*</b>
100h x 50w slotted trunking	12	A	<b>DNG10005007030B*</b>
100h x 75w slotted trunking	18	A	<b>DNG10007507030B*</b>
100h x 100w slotted trunking	16	A	<b>DNG10010007030B*</b>



LK750503

### Cable Retainers

Description	Pack qty (lengths)	Cat ref.
Cable retainer for DNG75037	50	<b>DN750373*</b>
Cable retainer for DNG75050	50	<b>LK750503*</b>
Cable retainer for DNG75075	50	<b>LK750753*</b>
Cable retainer for DNG75100	50	<b>LK751003*</b>
Cable retainer for DNG100050	50	<b>DN1000503*</b>
Cable retainer for DNG100075	50	<b>DN1000753*</b>
Cable retainer for DNG100100	50	<b>DN1001003*</b>



DN3702027030

### Lids only

Description	Pack qty (lengths)	Cat ref.
To suit 20mm width	20	<b>DN3702027030*</b>
To suit 37mm width	20	<b>DN3703727030*</b>
To suit 50mm width	20	<b>DN5005027030*</b>
To suit 75mm width	20	<b>DN5007527030*</b>
To suit 100mm width	20	<b>DN5010027030*</b>

**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 331](#)

\*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	<b>SL1104007030*</b>
18 x 75 4 channel floor trunking	16	grey	<b>SL1807507030*</b>



SL1104007030



SL1807507030

**EK 'Chameleon' Corner Trunking**

Description	Pack qty (lengths)	Cat ref.
40h x 40w 2 channel trunking	20	<b>EK4004009010*</b>

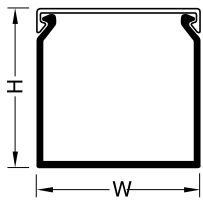


EK4004009010

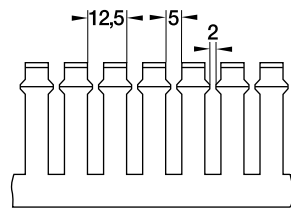


EK4004009010

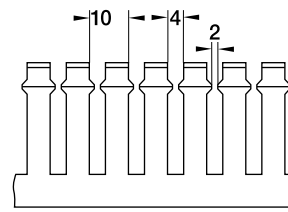
### DNG Slotted Trunking dimensions



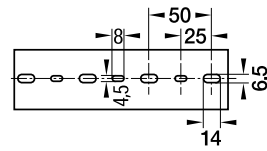
Cross section



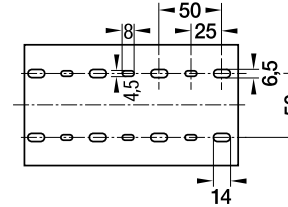
Slot configuration A



Slot configuration B

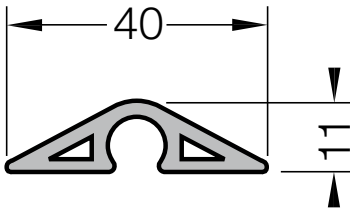


Base punching configuration for trunking widths 20, 25, 37 and 50mm to DIN 43659

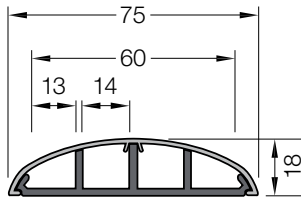


Base punching configuration for trunking widths 75, and 100mm to DIN 43659

SL Floor Trunking dimensions

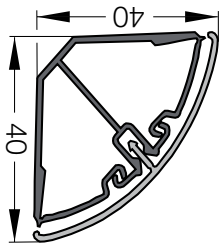


11 x 40 floor trunking  
cross section



4 channel floor trunking  
cross section

EK chameleon trunking dimensions



Cross section