Modular Circuit Protection



Safe and simple for all applications



ADC9 Onekombo: Single module RCBO for all applications

Our single module RCBOs, ADC9 fits perfectly into any installation.

It is compact in size for ease of installation. It also comes with a neutral-in one metre long fly lead, and two connection terminals (cage and busbar slot), to make sure it is the most versatile device in the market.

Our ADC9 onekombo offers the best solution for your renovations and new builds.

New range

ADC9xxT



Keep good habits



Bi-connect terminals enable supply from either cables in the cage or busbars in the slot; allowing full connection capacity.



Equipped with a Neutral-in 1 metre long fly lead, the 1 module RCBO has one less cable to connect, reducing installation time.



Fits in our DIN enclosures and Invicta panelboards.

Easier, safer, faster



Compact for more wiring space in the enclosure

02 Electrically Bi-directional

03 Switched Neutral



04 Insulation resistance test is fast to perform

05 Built in fault trip indicator

onekonekt system easier, faster, safer

With bi-connect terminals, bi-stable DIN clip, and neutral flying lead, our ADC9 fits perfectly into the onekonekt system. Its reduced size makes it the perfect replacement for an MCB.





All Hager Modular Protection Devices can be connected with either a single phase or a three phase busbar.



Single phase or 3 phase 80A

busbar simplifies the board

connection and drastically

decreases the number of

cables.



Bi-connect terminals enable supply from either cables in the cage or busbars in the slot; allowing full connection capacity.



Busbar is held in position prior to tightening terminals with our unique clip system, leaving one hand free.



Our RCCBs, 2 module and 4 module RCBOs, have a fully insulated neutral busbar slot so there is no need to cut the forks off the bar.



Unused forks can remain in-situ for future use. Busbar and endcaps ensure IP2x insulation - no direct contact with live parts, even with an open board. MAIN SWITCH HOT WATER OVEN



Identification of circuits reflects your professional touch. The label holders are a neat and durable protection for the labels.

The bi-stable DIN clip ensures easy removal of a single product on the fork busbar without disconnecting other devices or wiring.

Single module RCBO Specific Applications

Our Onekombo range has 10mA (Type I) and D curve products for a wider range of applications.



Switched Neutral Applications

Accommodate the requirement for switched neutral applications with a smaller footprint. Our extended range offers you full compatibility with our Onekonekt system. Examples include:

- Construction sites (temporary boards)
- Transportable structures (demountable, caravans, motorhomes etc)
- Patient areas
- Shows and carnivals
- EVCS
- Solar (PV) installations



10mA Applications (Type I)*

Suitable for medical applications, socket outlets in homecare scenarios and patient care environments are required to be protected by Type I RCDs. Examples include:

- Homecare applications (e.g. protecting the socket for home dialysis machines)
- Socket outlets of patient areas (e.g. medical centres, pathologies, optometries etc.)

D Curve Applications

Designed for loads with high inrush currents. The new D curve overcurrent protection is ideal for ensuring continuity of service while offering RCD protection. Examples include:

- Heavy machinery
- Large pumps and motors
- Some EVCS



Manufacturer's instructions of relevant equipment should be consulted prior to installation. *Use in body protected areas and cardiac protected areas is to be in accordance with the relevant Standards (AS/NZS 3003, AS/NZS 2500, AS/NZS 3000).

Wiring rules: RCD Selection What you need to know

Based on the waveform of the earth leakage currents they are sensitive to, the wiring rules AS/NZS 3000 references various types of RCDs.



General purpose use Type AC

RCD can detect and respond to AC sinusoidal waves only.



Equipment incorporating electronic components Type A

RCD can detect and respond as for type AC, PLUS pulsating DC components.



Equipment with frequency inverters **Type F**

RCD can detect and respond as for Type A, PLUS mixed frequency residual current.



Variable speed drives, induction motors Type B

RCD can detect and respond for Type F, PLUS smooth DC residual current.

Due to the style of circuits, the nature of loads connected to these circuits and their frequent use of electronic equipment and switched mode power supplies, Hager believe that the majority of electrical circuits in residential applications will require a Type A RCD solution, at least.

RCD	Examples of type of equipment / load				
	Resistive, Capacitive, Inductive loads generally without any electronic components, typically:				
Type AC	 Oven/Hob with resistive heating elements (no electronic clock/timer etc.) Class II t consumers: Hair dryer, etc. Lights: Incandescent, Tungsten & halogen lighting 				
	Leads with electronic components, typically:				
e A	 Class I pliances: IT and Multimedia equipment, washing machines Single phase Solar inverter where any smooth DC fault current is less than 6mA Electric vehicle (EV) charging where any smooth DC fault current is less than 6mA 				
Typ	 Patient areas: medical equipment of Class I permanently wired or plugged in socket-outlets Type A is also suitable for Type AC applications. Hager offers a comprehensive range of Type A products which includes single module RCBO (ADC9), 4P RCBO and RCCBs. 				
	Fraguenay controlled equipment / appliances including Single phase inverters, typically:				
Бе	 Some air conditioning systems featuring power inverter technology Some heat pump hot water systems where any smooth DC fault current is less than 10mA Some motor driven machinery 				
Typ	Type F is also suitable for Type AC and Type A applications. Hager offers 2P and 4P Type F RCCBs.				
	Electronic equipment including multi-phase inverters, typically:				
Type B	 Variable speed drive UPS Electric Vehicle charging where any smooth DC fault current is greater than 6mA Solar inverter where any smooth DC fault current is greater than 6mA Industrial machines Cranes and lifts 				
	Type B is also suitable for Type AC, Type A and Type F applications. Hager offers 2P and 4P Type B RCCBs.				

RCDs Applications

Address any specification with Hager's comprehensive range of RCDs.

Photovoltaic installations



Photovoltaic cells are becoming increasingly popular with end users. During connection of the solar inverter to the switchboard, the cable layout will dictate the protection requirement. When installed behind the building surface, Type A RCDs with switched neutral are suitable to substitute the mechanical protection of the cable.

Home care and medical applications



Due to the critical nature of medical installations, RCDs with high sensitivity and fast trip times are required (Type I). Home care medical installations now must also comply with the same installation rules as for patient areas (AS/ NZS 3003).

Guidance on the safe use of electricity in patient care is given in AS/NZS 2500.

Home Appliances



Type A RCDs are adequate for protecting circuits with whitegoods such as air conditioners. However, with newer inverter driven motors and compressors in appliances, there is a possibility of having mixed frequency leakage currents. In this scenario, a Type F RCD maybe used to increase the safety of the installation.

Electrical vehicle charging stations



With increased adoption of electric vehicles, choosing the right protection for charging systems is required. Each connecting point should be protected by its own switched neutral RCD of at least Type A (30mA).

Where the EVCS is equipped with a socket outlet or vehicle connector, protective measures against DC fault current should be taken. In some cases, a Type B RCD maybe required.

RCBOs mounted on DIN rail

Single phase Cat ref.	ACC9xxT	ADC9xxT	ADD9xxT	ADA9xxT	AEA9xxT
Earth fault wave form	Туре А	Туре А	Туре А	Туре А	Туре А
Overcurrent trip characteristic	C curve	C curve	D curve	C curve	C curve
Breaking capacity	6kA	6kA	6kA	6kA	6kA
Current rating	6A to 32A	6A to 32A	6A to 25A	6A to 40A	6A to 40A
Residual current (I∆n)	10mA Type I	30mA	30mA	30mA	100mA
Poles	1P+N	1P+N	1P+N	1P+N	1P+N
I.R. test facility*	Yes	Yes	Yes	Yes	Yes
Fork busbar	1P/3P	1P/3P	1P/3P	1P/3P	1P/3P

Three phase					
Cat ret.	ADA5xxT	ADM4xxT	AEM4xxT	ADX4xxT	AEX4xxT
Earth fault wave form	Туре А				
Overcurrent trip	C curve				
characteristic					
Breaking capacity	10kA	6kA	6kA	10kA	10kA
Current rating	6A to 32A	6A to 40A	6A to 40A	6A to 40A	6A to 40A
Residual	30mA	30mA	100mA	30mA	100mA
current (l∆n)					
Poles	1P+N	4P	4P	4P	4P
I.R. test facility*	Yes	Yes	Yes	Yes	Yes
Fork busbar	2P	3P	3P	3P	3P

*Insulation Resistance test can be carried out without disconnecting outgoing conductors.

RCCBs mounted on DIN rail

Single phase					
Cat ret.	CDA2XX1	CDA5XXI	CEA5XXI	CDF5XXI	CDB5XXI
Earth fault wave form	Туре А	Туре А	Туре А	Type F	Туре В
Current rating	25A to 63A	80A to 100A	25A to 100A	40A to 63A	25A to 63A
Residual current (I∆n)	30mA	30mA	100mA	30mA	30mA
Short circuit withstand (Inc)	6kA	10kA	10kA	10kA	10kA
Poles	2P	2P	2P	2P	2P
I.R. test facility*	Yes	Yes	Yes	Yes	No
Fork busbar	1P	1P	1P	1P	No

Three phase			CEAGYYT	CDE6xxT	CDB6xxI
Earth fault wave					
form	Туре А	Туре А	Туре А	турег	Туре в
Current rating	25A to 63A	80A to 100A	25A to 100A	40A to 63A	25A to 63A
Residual current (I△n)	30mA	30mA	100mA	30mA	30mA
Short circuit withstand (Inc)	6kA	10kA	10kA	10kA	10kA
Poles	4P	4P	4P	4P	4P
I.R. test facility*	Yes	Yes	Yes	Yes	No
Fork busbar	3P	3P	3P	3P	No

The use of RCCBs is not recognised as a safe means of protection and must always be used in conjunction with an overcurrent protection device such as a circuit breaker.

RCBOs for Invicta panelboards

Single phase Cat ref.	ACC9xxT	ADC9xxT	ADD9xxT	
Earth fault wave form	Туре А	Туре А	Туре А	
Overcurrent trip characteristic	C curve	C curve	D curve	
Breaking capacity	6kA	6kA	6kA	
Current rating	6A to 32A	6A to 32A	6A to 25A	
Residual	10mA	30mA	30mA	
current (I△n)	Туре I			
Poles	1P+N	1P+N	1P+N	
I.R. test facility*	Yes	Yes	Yes	
Features	 invicta panelboards reduced height 			



Invicta Panelboard



Performa Panelboard

*Insulation Resistance test can be carried out without disconnecting outgoing conductors.

RCBOs, Add-on Block for Invicta and Performa panelboards

Single phase	ADA1xxT	AD1xxB	ACA1xxT	AC1xxB
Earth fault wave	Type A	Type A	Type A	Type A
form	.) 0071	.) 0071	.) 0,1,1	.) 0011
Overcurrent trip	C curve	C curve	C curve	C curve
characteristic				
Breaking capacity	6kA	10kA	6kA	10kA
Current rating	6A to 45A	6A to 32A	6A to 32A	6A to 32A
Residual	30mA	30mA	10mA	10mA
current (l∆n)			General Purpose	General Purpose
Poles	1P	1P	1P	1P
I.R. test facility*	No	No	No	No
Features	- performa panelbo	oards		
	- unswitched neutr	al and earth lead		

Three phase Cat ref.	BD163T	BE163T	BF163T
Earth fault wave form	Туре А	Туре А	Туре А
Current rating	63A	63A	63A
Residual current (l∆n)	30mA	100mA	300mA
Short circuit withstand (Inc)	6kA	6kA	6kA
Poles	3P	3P	3P
I.R. test facility*	No	No	No
Features	- invicta panelboards - performa panelboards - unswitched neutral		



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