



MEASUREMENT AND CONTROL

# Selection guide for panel builders

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# Selection guide for panel builders

## INTRODUCTION

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We have created this product selection guide specifically to offer value-added solutions for designing your electrical panels. We understand that every installation presents unique challenges. That's why we offer a variety of solutions to help you quickly identify the most suitable products based on your customer's application. With this tool, you will be able to quickly locate the necessary devices to ensure your projects are equipped with systems tailored to the demands of each installation.

The products available include network analyzers that provide precise insights into the evolution of electrical variables and consumption in any installation. These tools help your customers improve energy efficiency, correct inefficiencies, and avoid penalties on their utility bills. These devices are also essential for automating systems and processes, allowing for more efficient energy use. In addition, they make it possible to assess the power quality of the installation, identifying issues caused by harmonics and helping your customers find the best solutions to mitigate potential problems.

To ensure the safety of your customers' installations and the personnel working on them, we offer a wide range of residual current protection solutions to meet this essential need. These include ultra-immunized Type A residual current devices, Type B protection for loads with AC and/or DC leaks, specific protection for electric vehicle chargers, and devices with automatic reclosing in the event of transient leaks. This ensures your customers experience uninterrupted service and maximizes the operational efficiency of their installations.

This catalog is an indispensable tool for designing and assembling specialized electrical panels.

01

# Measuring equipment and energy management





The installation of power analyzers enhances the value of your electrical panels by letting you identify when and how much energy is consumed by the loads connected to different electrical lines. This information helps your customers visualize consumption trends, detect areas for improvement and potential inefficient or anomalous consumption, and take the necessary corrective measures.

These devices provide your customers with useful data to analyze various electrical variables, such as trends in voltages, currents, power levels or harmonic distortion. This way, they can identify potential installation issues and get the information they need to apply the most suitable solution, mitigating harmonics and their effects on the loads and other system components.

In addition, if you need to integrate control or automation functions into your panel, you can utilize the outputs of the analyzers or additional input/output modules. These devices let you read and take action based on digital outputs, relays or analog signals, giving you complete and automated control to optimize your solution.

To provide you with a comprehensive solution, we offer a range of current measurement options along with media converters that enable communication between your panel and SCADA management and control systems, such as our PowerStudio SCADA.



# Panel-mount power analyzers

The CVM series of network analyzers has been designed to be panel mounted, with 96x96 mm and 144x144 mm sizes, easily adapting to the size of your electrical panel. These devices allow the display screen to be integrated directly into the front panel, ensuring your customers have quick and easy access to data on any electrical variable. Additionally, they make it easy to monitor the status of inputs and outputs associated with any alarm or automation system.

## Selection guide



		CVM-A1500 CVM-A1500A	CVM-B150	CVM-B100	CVM-C11	CVM-C4
<b>Assembly</b>	Panel	144x144 mm	144x144 mm	96x96 mm	96x96 mm	96x96 mm
<b>Power Supply</b>	AC/DC	●	●	●	●	●
<b>Voltage measurement</b>	Direct	600 V <sub>F-n</sub> 1000 V <sub>F-f</sub>	600 V <sub>F-n</sub> 1000 V <sub>F-f</sub>	600 V <sub>F-n</sub> 1000 V <sub>F-f</sub>	300 V <sub>F-n</sub> 520 V <sub>F-f</sub>	300 V <sub>F-n</sub> 520 V <sub>F-f</sub>
	Indirect	Configurable	Configurable	Configurable	Configurable	Configurable
<b>Current measurement</b>	.../5A;.../1A	● (ST)	●	●	● (ST)	●
	.../250mA	● (ST)	●	●	● (ST)	—
	Rogowski Flexible sensor	● (ST)	—	—	● (ST)	—
<b>Electrical parameters</b>	Power quality (overvoltages, gaps, interruptions and transients)	●	—	—	—	—
	Harmonic distortion (THDU%/THDI%)	●	●	●	●	●
	Harmonics	63	50	50	31	—
<b>Communications</b>	RS-485	●	●	●	● (ST)	●
	Ethernet (TCP/IP)	●	● (OP)	● (OP)	● (ST)	—
<b>Protocols</b>	Modbus RTU	●	●	●	● (ST)	●
	Modbus TCP	● (OP)	● (OP)	● (OP)	● (ST)	—
	BACnet	●	●	●	● (ST)	—
	XML	●	● (OP)	● (OP)	—	—
<b>Inputs/Outputs</b>	2 Inputs / 4 outputs integrated	●	●	●	●	●
<b>Expansion modules</b>	Inputs/Outputs	●	●	●	—	—
	MBUS/LonWorks	●	●	●	—	—
<b>Memory</b>	Integrated memory	●	● (OP)	● (OP)	—	—

BT - By Type / OP - Optional



## CVM-A. Panel-mounted electrical network and power quality analyzer

Power supply 100...240 VAC / 120...300 VDC, measurement 600 V<sub>ph-n</sub> / 1000 V<sub>ph-ph</sub>

Type	Code	Energy accuracy	Input current	TR Output	RL Output	Digital Inputs	Communi-cations	Protocol	THDU% THDI%	Armó-nicos	Certification	Memory
CVM-A1500A-ITF-485-ICT2	[2] M563110000A00	0,25 (.../5A)	.../5 A   .../1 A   250 mA	2	2	inputs	RS-485   Ethernet	Modbus RTU BACnet Webserver (HTTP) XML HTML5	●	63	IEC 61000-4-30 (Class A)	200 MB
CVM-A1500A-FLEX-485-ICT2	[2] M563510000A00	1	Rogowski	2	2	2	RS-485   Ethernet	Modbus RTU BACnet Webserver (HTTP) XML HTML5	●	63	IEC 61000-4-30 (Class A)	200 MB
CVM-A1500-ITF-485-ICT2	[*] M56311.	0,25 (.../5A)	.../5 A   .../1 A   250 mA	2	2	2	RS-485   Ethernet	Modbus RTU BACnet Webserver (HTTP) XML HTML5	●	63	—	200 MB
CVM-A1500-FLEX-485-ICT2	[*] M56351.	1	Rogowski	2	2	2	RS-485   Ethernet	Modbus RTU BACnet Webserver (HTTP) XML HTML5	●	63	—	200 MB



Key feature: **Supply quality / Class A edition 2 (IEC 61000-4-30)**



## CVM-B. Panel-mounted power analyser, colour display

Power supply 100...240 VAC / 120...300 VDC, measurement 600 V<sub>ph-n</sub> / 1000 V<sub>ph-ph</sub>

Type	Code	Size (mm)	Energy accuracy	Input current	TR Outputs	RL Outputs	Digital inputs	Harmonics	THDU% THDI%	Communications	Protocol
CVM-B150-ITF-485-ICT2	[*] M56111.	144x144 mm	0,5 S (.../5A)	.../5 A   .../1 A   250 mA	2	2	2	50	●	RS-485	Modbus RTU BACnet
CVM-B150-ITF-485-ICT2	[*] M56011.	96x96 mm	0,5 S (.../5A)	.../5 A   .../1 A   250 mA	2	2	2	50	●	RS-485	Modbus RTU BACnet



Key feature: **Expandable and customizable**



## M-CVM-AB. Expansion modules for CVM-A and CVM-B

Type	Code	TR Outputs	RL Outputs	Digital inputs	Analogue input	Analogue outputs	Communications	Protocol	Protocol
M-CVM-AB-8I-80TR	[*] M56E01.	8	—	8	—	—	—	—	—
M-CVM-AB-8I-80R	[*] M56E02.	—	8	8	—	—	—	—	—
M-CVM-AB-4AI-8AO	[*] M56E03.	—	—	—	4 (0/4 ... 20 mA)	8 (0/4 ... 20 mA)	—	—	—
M-CVM-AB-Modbus-TCP (bridge)	[*] M56E05.	—	—	—	—	—	Ethernet	Modbus TCP (gateway to RS485)	—
M-CVM-AB-Modbus-TCP (switch)	[*] M56E0A.	—	—	—	—	—	Ethernet	Modbus TCP (gateway to TCP)	—
M-CVM-B-DATALOGGER	[*] M56E06.	—	—	—	—	—	Ethernet	Webserver   HTML5   XML	200 MB

MBUS or Lonworks protocols on demand.



## CVM-C11. 96x96 panel-mounted power analyzer

Power supply 100... 270 VAC/DC, measurement 300 V<sub>ph-n</sub>/520 V<sub>ph-ph</sub>

Type	Code	Power Supply	Measurement channels	Input current	TR Outputs	RL Outputs	Digital inputs	Communications	Protocol	THDU% THDI%	Harmonics
CVM-C11-ITF-IN-ETH-ICT2	[*] M58531.	100...270 Vca/cc	4	.../5 A   .../1 A	2	2	2	Ethernet	Modbus TCP / BACnet	●	31
CVM-C11-ITF-IN-485-ICT2	[*] M58541.	100...270 Vca/cc	4	.../5 A   .../1 A	2	2	2	RS-485	Modbus RTU / BACnet	●	31
CVM-C11-FLEX-IN-485-ICT2	[*] M58561.	100...270 Vca/cc	4	Rogowski	2	2	2	RS-485	Modbus RTU / BACnet	●	31
CVM-C11-MC-IN-485-ICT2	[*] M58581.	100...270 Vca/cc	4	.../250 mA	2	2	2	RS-485	Modbus RTU / BACnet	●	31

✓ Key feature: **Consumption analysis and quality**



## CVM-C4. 96x96 panel-mounted multimeter analyzer

Panel 96x96 - Power supply 80...270 VAC / 80...270 VDC, measurement 300 V<sub>ph-n</sub> / 520 V<sub>ph-ph</sub>

Type	Code	Measurement channels	Input current	TR Outputs	RL Outputs	Digital inputs	THDU% THDI%	Communications	Protocol
CVM-C4-ITF-485-ICT2	[C] M52706.	3	.../5 A   .../1 A	2	2	2	●	RS-485	Modbus RTU

✓ Característica destacada: **Medidas esenciales y control**



# DIN rail power analyzers

The CVM series of network analyzers, designed for DIN rail mounting, allows for a compact and efficient installation inside your electrical panels. These devices monitor any electrical variable and display data on their screen or through SCADA systems. Their design ensures simple integration in small spaces, while the inputs and outputs provide complete control for automation functions. They are ideal for panels where space saving is prioritized without sacrificing functionality.

## Selection guide



		CVM-D32	CVM-E3-MINI	CVM-D50	CVM-D400	CEM-C21	CEM-C12c
<b>Assembly</b>	DIN rail modules	3	3	3	6	3	3
<b>Power Supply</b>	AC	1	1	1	Hasta 4 (III) Hasta 12 (II)	1	1
	DC	●	●	●	●	●	●
<b>Voltage measurement</b>	Direct	●	● (ST)	●	—	—	—
	Configurable	300 V <sub>r-n</sub> 520 V <sub>r-f</sub>	127/220.... 230/400 V	230 V <sub>r-n</sub>			
<b>Current measurement</b>	.../5A;.../1A	Configurable	Configurable	Configurable	Configurable	Direct	Direct
	.../250mA	●	● (ST)	● (ST)	—	—	—
	Rogowski Flexible sensor	●	● (ST)	● (ST)	● (ST)	—	—
	.../333mV	—	● (ST)	● (ST)	—	—	—
	Direct	—	—	—	● (ST)	—	—
<b>Electrical parameters</b>	Quality events	—	—	—	—	65 A	100 A
	Harmonic distortion (THDU%/THDI%)	●	—	●	—	—	—
	Harmonics	●	●	●	●	—	—
<b>Communications</b>	RS-485	40	31	31	15	—	—
	Ethernet (TCP/IP)	●	● (ST)	—	●	● (ST)	●
	Communications	—	● (ST)	●	●	—	—
<b>Protocols</b>	Modbus RTU	—	● (ST)	●	●	—	—
	Modbus TCP	●	● (ST)	—	●	● (ST)	●
	BACnet	—	● (ST)	●	●	—	—
<b>Integrated inputs/outputs</b>	Digital inputs	—	● (ST)	—	—	—	—
	Digital outputs	—	● (ST)	—	—	● (ST)	—
<b>Expansion modules</b>	Inputs/Outputs	●	● (ST)	—	●	● (ST)	—
<b>Memory</b>	Integrated memory	●	—	—	—	—	—
<b>Memoria</b>	Memoria integrada	—	—	40 days	15 days	—	—

BT - By Type / OP - Optional



## Line-CVM-D. Power analyzers, Line system

Power supply 80... 264 VAC/100---300 VDC, measurement 300 V<sub>ph-n</sub>/520 V<sub>ph-ph</sub>

Type	Code	Measurement Channels	Input current	TR outputs	Communications	Protocol	THDU% THDI%	Harmonics	Quality events
Line-CVM-D32	[*] M58100.	3	.../5 A   .../1 A   250 mA	2	RS-485 Bus-Line	Modbus RTU	●	40	●

Bus-Line: RS-485 communications system, with side connector between modules

✓ Key feature: **Expandable + quality events**



## CVM-E3-MINI. Three-phase power analyser, DIN rail

Type	Code	Power Supply	Input current	TR outputs	Digital inputs	Communications	Protocol	THDU% THDI%	Harmonics
CVM-E3-MINI-ITF-485-IC	[*] M56414.	207...253 Vca	.../5 A .../1 A	1	1	RS-485	Modbus RTU / BACnet	●	31
CVM-E3-MINI-MC-485-IC	[*] M56424.	207...253 Vca	.../250 mA	1	1	RS-485	Modbus RTU / BACnet	●	31
CVM-E3-MINI-FLEX-485-IC	[*] M56454.	207...253 Vca	Rogowski	1	1	RS-485	Modbus RTU / BACnet	●	31
CVM-E3-MINI-ITF-WiEth	[*] M56470.	90...264 Vca/Vcc	.../5 A .../1 A	—	—	Ethernet   Wi-Fi	Modbus TCP	●	31
CVM-E3-MINI-MC-WiEth	[*] M56480.	90...264 Vca/Vcc	.../250 mA	—	—	Ethernet   Wi-Fi	Modbus TCP	●	31
CVM-E3-MINI-FLEX-WiEth	[*] M56490.	90...264 Vca/Vcc	Rogowski	—	—	Ethernet   Wi-Fi	Modbus TCP	●	31

✓ Key feature: **Consumption analysis and quality**



## CVM-D50. DIN rail power analyzer with memory

Power supply 100... 240 VAC/DC, measurement 300 V<sub>ph-n</sub>/520 V<sub>ph-ph</sub>

Type	Code	Input current	Memory	Communications	Protocol	THDU% THDI%	Harmonics	Quality events
CVM-D50-ITF	M56570.	.../5 A   .../1 A	●	Wi-Fi / Ethernet	Modbus TCP	●	31	●
CVM-D50-MC	M56580.	.../250 mA	●	Wi-Fi / Ethernet	Modbus TCP	●	31	●
CVM-D50-FLEX	M56590.	Rogowski	●	Wi-Fi / Ethernet	Modbus TCP	●	31	●

✓ Key feature: **Memory and App/Webserver**



## CVM-D400. Multichannel DIN rail power analyzer

Self-powered, measurement 300 V<sub>ph-n</sub>/520 V<sub>ph-ph</sub>

Type	Code	Input current	Three-phase channels	Single-phase channels	TR Output	THDU% THDI%	Harmonics	Communications	Protocol	Memory
CVM-D440	M551A4.	.../250 mA	1...4	1...12	4	●	15	Wi-Fi / Ethernet / RS-485	Modbus TCP/RTU	●
CVM-D441	M55134.	.../330 mV	1...4	1...12	4	●	15	Wi-Fi / Ethernet / RS-485	Modbus TCP/RTU	●
CVM-D420	M551A2.	.../250 mA	1/2	1...6	2	●	15	Wi-Fi / Ethernet / RS-485	Modbus TCP/RTU	●
CVM-D421	M55132.	.../330 mV	1/2	1...6	2	●	15	Wi-Fi / Ethernet / RS-485	Modbus TCP/RTU	●

✓ Key feature: **Multi-circuit (Branch Circuit Monitoring)**



## CEM-C21. Direct three-phase analyzer and energy meter

Power supply 230 VAC, 50... 60 Hz

Type	Code	Quadrants	Measurement range (V)	Measurement range (A)	Max. output (A)	Tariff	TR Output	Digital inputs	Certification	Modules	Communications	Protocol
CEM-C21-T1	[*] Q22411.	Abs.	3 x 127/220...3 x 230/400	5 (65) A	65	1	1	—	IEC	4	—	Modbus RTU
CEM-C21-485-T1	[*] Q22421.	Abs.	3 x 127/220...3 x 230/400	5 (65) A	65	1	1	—	IEC	4	RS-485	Modbus RTU
CEM-C21-485-DS	[*] Q22431.	Abs.	3 x 127/220...3 x 230/400	5 (65) A	65	2	—	1	IEC	4	RS-485	Modbus RTU

Parameters: V, A, kW, kVA, kWh, cos phi

✓ Key feature: **Load/line analysis**



## CEM-C12c. Direct single-phase analyzer and energy meter

Self-powered

Type	Code	Quadrants	Measurement range (V)	Measurement range (A)	Tariff	Certification	Modules	Communications	Protocol
CEM-C12c	[*] Q27211.	4	1 x 230	5 (100) A	1	IEC	1	RS-485	Modbus RTU

Parameters: V, A, kW, kVA, kWh, cos phi

✓ Key feature: **Load/line analysis**

# Energy sub-metering for rebilling

The CEM series meters are the ideal solution for electrical panels to be installed in environments where individualized cost allocation is required, where the end user or tenant must pay for their energy consumption to the property owner. To carry out energy re-billing, the meters must have the European MID certification, which guarantees the accuracy, precision, and security of the measurement, especially in installations that need to pass on energy costs to third parties.

## Selection guide



		CEM-C12c-MID	CEM-C21-T1-MID	CEM-C21-DS-MID	CEM-C31-T1-MID	CEM-C31-DS-MID
<b>Installation</b>	DIN rail (modules)	1	4	4	4	4
	Sealable	●	●	●	●	●
<b>Power Supply</b>	Auxiliary power	—	●	●	●	●
<b>Type of network</b>	Three-phase 3/4 wires	—	●	●	●	●
	Single-phase	●	—	—	—	—
<b>Voltage measurement</b>	Direct	230 V <sub>F-n</sub>	127/220.... 230/400 V	127/220.... 230/400 V	57/100.... 230/400 V	57/100.... 230/400 V
	Indirect	Direct	Direct	Direct	Configurable	Configurable
<b>Current measurement</b>	Direct	● (100A)	● (65A)	● (65A)	—	—
	Indirect .../5A	—	—	—	●	●
<b>Electrical parameters</b>	Quadrants	4	4/ABS	4/ABS	4/ABS	4/ABS
	Active energy (kWh)	●	●	●	●	●
	Reactive energy (kvarh)	●	●	●	●	●
	V, A, W, Hz, PF	●	●	●	●	●
<b>Communications</b>	RS-485	●	● (ST)	● (ST)	● (ST)	● (ST)
<b>Protocols</b>	Modbus RTU	●	● (ST)	● (ST)	● (ST)	● (ST)
<b>Inputs/Outputs</b>	Digital inputs	—	—	● 1	—	● 1
	Digital outputs	—	● 1	—	● 1	—
<b>Standards</b>	MID certificate (EN 50470)	●	●	●	●	●

BT - By Type / OP - Optional



## CEM-C12c. Direct single-phase energy meter with MID certification

Self-powered, 50/60 Hz

Type	Code	Quadrants	Measurement range (V)	Measurement range (A)	Tariff	Certification	Modules	Communications	Protocol
CEM-C12c-MID	[*] Q27212.	4	1 x 230	0,25 ... 5 (100) A	1	MID	1	RS-485	Modbus/RTU

Parameters: V, A, kW, kVA, kWh, cos phi



## CEM-C21-MID. Direct three-phase energy meter with MID certification

Power supply 230 VAC, 50... 60 Hz

Type	Code	Quadrants	Measurement range (V)	Measurement range (A)	Max. output (A)	Tariff	TR Output	Digital inputs	Certification	Modules	Communications	Protocol
Direct three-phase												
CEM-C21-T1-MID	[*] Q22412.	Abs.	3 x 127/220...3 x 230/400	5 (65) A	65	1	1	—	MID	4	—	—
CEM-C21-485-T1-MID	[*] Q22422.	Abs.	3 x 127/220...3 x 230/400	5 (65) A	65	1	1	—	MID	4	RS-485	Modbus/RTU
CEM-C21-485-DS-MID	[*] Q22432.	Abs.	3 x 127/220...3 x 230/400	5 (65) A	65	2	—	1	MID	4	RS-485	Modbus/RTU

Parameters: V, A, kW, kVA, kWh, cos phi



## CEM-C31-MID. Direct three-phase energy meter with MID certification

Power supply 230 VAC, 50... 60 Hz

Type	Code	Quadrants	Measurement range (V)	Measurement range (A)	Max. output (A)	Tariff	TR Output	Digital inputs	Certification	Modules	Communications	Protocol
Trifásico directo												
CEM-C31-T1-MID	[*] Q23512.	Abs.	3 x 57/100...3 x 230/400	5 (10) A	10	1	1	—	MID	4	—	—
CEM-C31-485-T1-MID	[*] Q23522.	Abs.	3 x 57/100...3 x 230/400	5 (10) A	10	1	1	—	MID	4	RS-485	Modbus/RTU
CEM-C31-485-DS-MID	[*] Q23532.	Abs.	3 x 57/100...3 x 230/400	5 (10) A	10	2	—	1	MID	4	RS-485	Modbus/RTU

Parameters: V, A, kW, kVA, kWh, cos phi

# Current transformers

To ensure accurate reading of all electrical variables in your measuring equipment, it is essential to install current transformers. These devices allow for reliable monitoring of key variables such as power factor/cos  $\phi$ , power, and energy consumption, ensuring full control of the connected loads.

## TD. Narrow profile current transformers

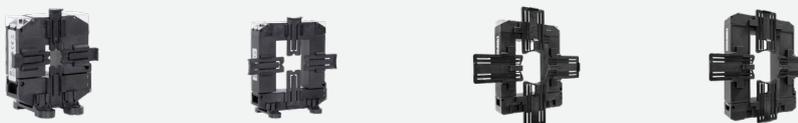


Type	TD4	TD5	TD5.2	TD6.2	TD6	TD8	TD10	TD12
Dimensions (width x height x depth) (mm)	50 x 80 x 48	58 x 84 x 53	58 x 84 x 53	66 x 91 x 53	66 x 91 x 53	85 x 109 x 59	108x131x69	134x151x69
Ø (mm)	20	20	22	25	28	43	63	50
Busbar (mm)	—	15 x 15 20 x 10 25 x 5	25 x 10 30 x 10 20 x 12	25 x 12 30 x 10 20 x 20	20 x 25 30 x 15 40 x 10	50 x 30 60 x 12 13 x 45	50 x 50 60 x 30 80 x305	100 x 50
40/5	M75011.							
50/5	M75012.	M75022.						
60/5	M75013.	M75023.						
75/5	M75014.	M75024.						
100/5	M75015.	M75025.	M750A5.	M75055.				
125/5	M75016.	M75026.	M750A6.	M75056.				
150/5	M75017.	M75027.	M750A7.	M75057.	M75047.			
200/5	M75018.	M75028.	M750A8.	M75058.	M75048.			
250/5		M75029.	M750A9.	M75059.	M75049.			
300/5			M750AA.	M7505A.	M7504A.	M7506A.		
400/5			M750AB.	M7505B.	M7504B.	M7506B.		
500/5			M750AC.	M7505C.	M7504C.	M7506C.		
600/5			M750AD.	M7505D.	M7504D.	M7506D.	M7507D.	
750/5					M7504E.	M7506E.	M7507E.	
800/5					M7504F.	M7506F.	M7507F.	M7508F.
1000/5						M7506G.	M7507G.	M7508G.
1200/5						M7506H.	M7507H.	M7508H.
1250/5						M7506J.	M7507J.	M7508J.
1500/5						M7506K.	M7507K.	M7508K.
1600/5						M7506L.	M7507L.	M7508L.
2000/5							M7507M.	M7508M.
2500/5							M7507N.	M7508N.
3000/5							M7507P.	M7508P.
4000/5								M7508Q.

We have a wide range of current transformers designed for easy integration into any electrical panel:

- **TD Transformers** → Closed core; .../5A,.../1A
- **TQ transformers** → Open core; .../5A,.../1A
- **MC1/MC3 transformers** → Single- or three-phase transformers; .../250mA
- **MFC-FLEX** → Rogowski flexible sensor

## TQ. Split-core current transformer, button opening



Type	TQ-6	TQ-8	TQ-10	TQ-12
Dimensions (width x height x depth) (mm)	80 x 98,5 x 28	120 x 148,54 x 28	151,95 x 192,5 x 50,2	179,55 x 235 x 77,77
Busbar (mm)	20 x 30	60 x 80	120 x 80	160 x 80
100/5	M74023.			
150/5	M74025.			
200/5	M74026.			
250/5	M74027.			
300/5	M74028.	M74035.		
400/5	M7402A.	M74037.		
500/5		M74039.	M74041.	
600/5		M7403B.	M74042.	
700/5		M7403D.		
750/5		M7403E.	M74043.	
800/5		M7403F.	M74044.	
1000/5		M7403I.	M74045.	M74051.
1200/5			M74046.	
1250/5			M74047.	
1500/5			M74048.	M74052.
2000/5			M7404A.	M74053.
2500/5				M74054.
3000/5				M74055.
4000/5				M74056.
5000/5				M74057.



## MC3. Three-phase transformers

Type	Code	Max A	Class 0.5 Power (VA)	System	Diameter (mm)
MC3 - 63 A	[*] M73121.	63	0.1	Three-phase	7,1
MC3 - 125 A	[*] M73122.	125	0.1	Three-phase	14,6
MC3 - 250 A	[*] M73123.	250	0.1	Three-phase	26

MC transformers with a 250 mA output are only compatible with MC power analyzers

✓ Key feature: **Installation in automatic switch**



## MC1. Efficient single-phase transformers with triple scale

Type	Code	Measurement range (A)	Max A	Class 0.5 Power (VA)	System	Diameter (mm)
MC1-15-75	[*] M73112.	75	75	0,25	Single-phase	15
MC1-20-50/100/150 A	[*] M73118.	50/100/150	150	0,25	Single-phase	20
MC1-35-50/100/150 A	[*] M73116.	50/100/150	150	0,25	Single-phase	35
MC1-20-150/200/250 A	[*] M73113.	150/200/250	250	0,25	Single-phase	20
MC1-30-250/400/500 A	[*] M73114.	250/400/500	500	0,25	Single-phase	30
MC1-55-500/1000/1500 A	[*] M73115.	500/1000/1500	1500	0,25	Single-phase	55
MC1-80 1000/1500/2000 A	[*] M73117.	1000/1500/2000	2000	0,25	Single-phase	80

MC transformers with a 250 mA output are only compatible with MC power analyzers

✓ Key feature: **Multi-range current**



## MFC-FLEX. Rogowski flexible sensors for FLEX equipment

Type	Code	Measurement range (A)	Max A	Diameter (mm)	Sensor length	Cable length (m)
MFC-FLEX-80	[*] M82111.	1000 A / 100 mV @ 50 Hz. (RMS values)   1000 A / 120 mV @ 60 Hz. (RMS values)	100000	80	250 mm	3
MFC-FLEX-125	[*] M82114.	1000 A / 100 mV @ 50 Hz. (RMS values)   1000 A / 120 mV @ 60 Hz. (RMS values)	100000	125	400 mm	3

Compatible only with FLEX type devices. A single clamp is supplied per code. The limit of the clamps is 2 kA for CVM-E3-MINI-FLEX is, 3 kA for CVM-C11-FLEX and 10 kA for CVM-A1500-FLEX.

✓ Key feature: **Installation without interruption**

## Communication converters

We offer communication conversion solutions that allow you to integrate the measurement equipment and sensors of your electrical panels with your customers' data acquisition systems. Our converters transform RS-232 or RS-485 communications into Ethernet or wireless connections via Wi-Fi, making it easier to communicate and integrate your solution into your customers' networks.

### Ethernet

Type	Code	Description
TCPRS1+	[*] M62422.	RS-485 to Ethernet/Wi-Fi converter (ModbusTCP/TCP/UDP) Integrated web server and mobile app (MyConfig Wifi) for configuration
Line-TCPRS1	[C] M62411.	RS-485/RS-232 to Ethernet/Wi-Fi converter (ModbusTCP/TCP/UDP) Integrated web server and mobile app (MyConfig) for configuration

Line-TCPRS1: Power supply 100... 264 VAC/100... 300 VDC

# Residual current protection and monitoring





The correct installation of residual current protection devices ensures both the protection of people and of the installation itself, ensuring service continuity and avoiding decreases in productivity rates and economic losses due to service outages.

The implementation of residual current protection systems is essential for several reasons. First, it significantly improves safety, protecting both equipment and people from potential electrical faults that could cause serious damage. It also ensures continuity of the electrical service, minimizing interruptions and guaranteeing a constant, high-quality supply. It also contributes to operational efficiency, allowing a fast response time to failures and reducing downtime.

As a result, residual current protection is not only a vital component for safety, but also for the efficiency and reliability of electrical installations. Its proper implementation and maintenance are essential to maintaining high quality standards in the grid, ensuring the optimal and safe operation of the facilities.

## Most common types of residual current protection

### Type-A Protection

Type-A residual current protection detects alternating and pulsating residual currents. It is the most widely used in industrial settings for protecting loads such as lighting, power outlets, single-phase drives and computer equipment

### Type-B protection

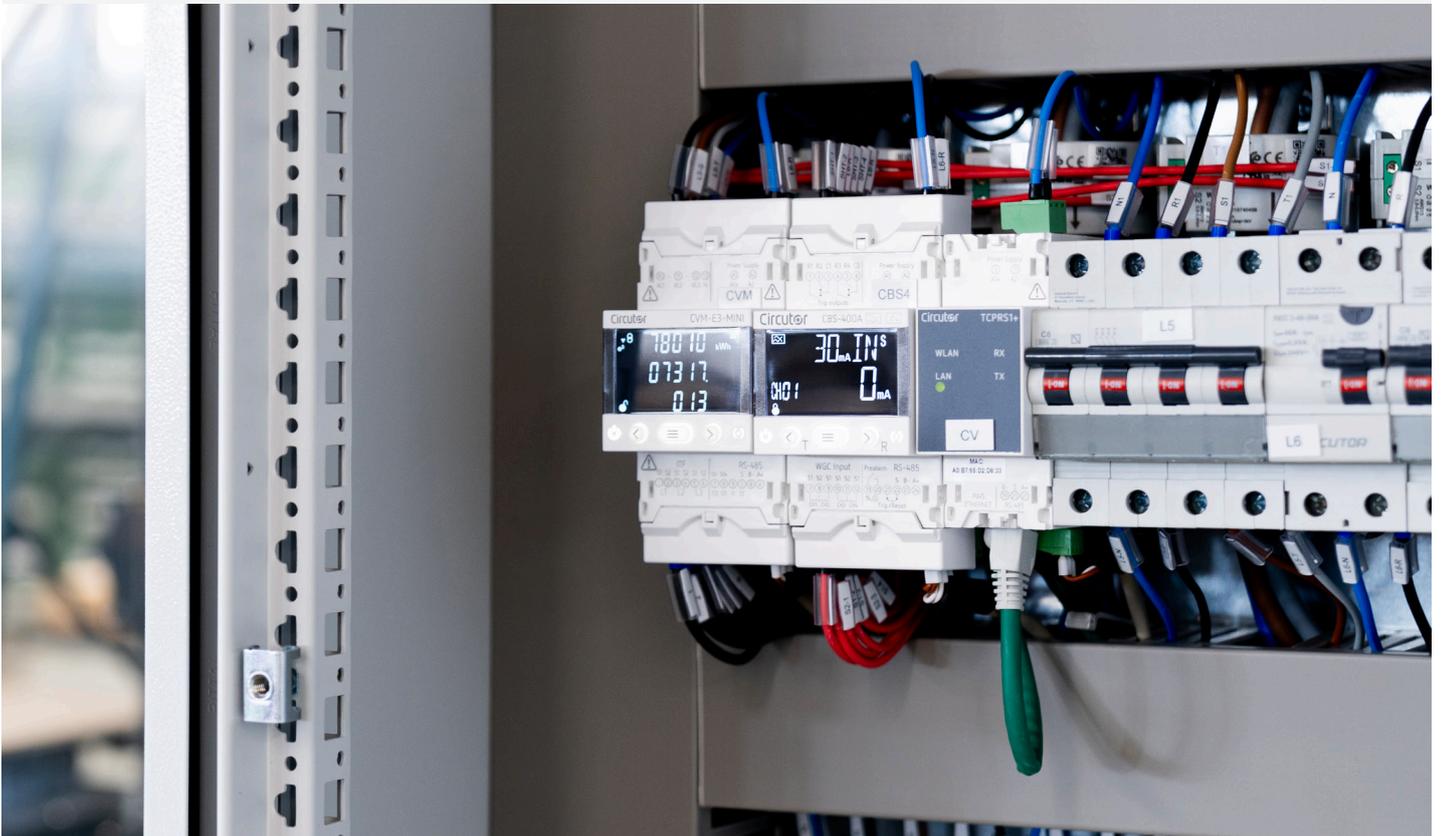
Type-B residual current protection is capable of detecting DC leak currents, as well as AC and pulsating currents.

It is essential for applications that can generate DC leakage currents due to the use of power electronics such as three-phase drives, frequency converters, UPS systems, inverters, active filters, or electric vehicle charging points

## Why install residual current protection with a reclosing system?

There are temporary phenomena or leaks that can trip electrical protections, compromising continuity of supply. Automatic reclosing devices, equipped with a system patented by Circutor, make several attempts to reconnect, checking if the leak has dissipated to safely restore the supply once the defect disappears, thus guaranteeing operational continuity.

This reclosing system is completely safe for personnel, since it first verifies that there is no human intervention before attempting to reclose. If it continues to detect the leak, the device will remain disconnected due to the existence of a real leak that requires an inspection. Remote reclosing devices allow remote re-connection without having to travel to the installation.



# Type-A residual current protection

Increase the value of your electrical panels by installing ultra-immunized type-A residual current protection and monitoring relays to ensure optimal protection. Its ultra-immunized system avoids unnecessary trips, actuating only when the differential current exceeds 85% of its sensitivity, and avoiding trips due to transient disturbances or harmonics to guarantee the continuity of your customers' supply.

The models with a display let the user view the instantaneous leakage or trip level, allowing for more efficient preventive maintenance. In addition, thanks to RS-485 communications, each line can be managed remotely, improving the control and supervision of the facilities.

## Selection guide



		RG1M	RGE-R	RGU-2	WRU-10	RGU-10A RGU-100A	CBS-40A CBS-400A
<b>Assembly</b>	DIN rail (modules)	1	2	2	3	3	3
<b>Type of network</b>	Single-phase	●	●	●	●	●	●
	Three-phase 3/4 wires	●	●	●	●	●	●
<b>Features / performance</b>	RCCB type	A	A	A	A	A	A
	Ultra-immunized system	●	●	●	●	●	●
	Number of channels	1	1	1	1	1	4
	Monitoring	—	—	●	●	●	●
	Pre-alarm	—	● (LED)	● (Display)	● (Display)	● (Display)	● (Display)
	Remote control	—	—	●	●	●	●
<b>Trip settings</b>	Constant current sensitivity	●	—	—	—	—	—
	Adjustable current sensitivity	—	●	●	●	●	●
	Fixed delay time (INS)	●	—	—	—	—	—
	Adjustable delay time (SEL)	—	●	●	●	●	●
<b>Type of protection transformer</b>	Built-in	—	—	—	● (28mmØ)	—	—
	External (WGC/ WGC-TP)	●	●	●	—	●	●
<b>Inputs/Outputs</b>	Trigger output	●	●	●	●	●	●
	Pre-alarm output	—	—	●	●	●	●
	Remote control input	—	—	●	●	●	●
<b>Communications</b>	RS-485	—	—	—	—	● (ST)	● (ST)
<b>Protocols</b>	Modbus RTU	—	—	—	—	● (ST)	● (ST)

BT - By Type / OP - Optional



## RGE-R. Residual current relay for an ultra-immunized type-A WGC transformer with 2 modules and pre-alarm display.

Type	Code	Sensitivity (A)	No. of relays	Modules	Attachment	Delay	Power Supply	Type of transformer
RGE-RL	[*] P12A32.	0,03 ... 5 A	1	2	DIN rail	0,02 ... 5 s	230 Vca	WGC
RGE-R	[*] P122320040000	0,03 ... 5 A	1	2	DIN rail	0,02 ... 5 s	24...48 Vca 24...125 Vcc	WGC

Requires a WGC residual current transformer to code other parameters such as auxiliary power supply voltages, see table with additional features

✓ Key feature: **Quick installation**



## RGU-2. Residual current relay for an ultra-immunized type-A WGC transformer with 2 modules, a display and fixed pre-alarm output

Type	Code	Sensitivity (A)	No. of relays	Pre-alarm relay	Modules	Attachment	Delay	Power Supply	Type of transformer
RGU2	[*] P11A61.	0,03 ... 5 A	1	●	2	DIN rail	0,1 ... 5 s, INS, SEL	120...230 Vca	WGC

Requires WGC residual current transformer

✓ Key feature: **Small space and display**



## WRU-10. Ultra-immunized type-A residual current relay with built-in transformer

Programmable residual current relay, 3 modules with display and two adjustable pre-alarm outputs.  
230 VAC auxiliary power

Type	Code	Useful cross-section (mm)	Sensitivity (A)	No. of relays	Pre-alarm relay	Modules	Attachment	Delay	Power Supply	Type of transformer
WRU-10	[*] P14035.	28	0,03 ...30 A	1	●	3	DIN rail	0,02 ... 10 s INS, SEL	230 Vca	Incorporado
WRU-10-HS	[C] P14036.	28	0,01 ... 0,5 A	1	●	3	DIN rail	0,02 ... 10 s INS, SEL	230 Vca	Incorporado

Power supply voltages different from 230 VAC, see

✓ Key feature: **Built-in transformer**

NEW



## RGU. Earth leakage relay for ultra-immunized type-A WGC transformer, 3 modules with display and programmable pre-alarm output

Type	Code	Sensitivity (A)	No. of relays	Pre-alarm relay	Modules	Attachment	Delay	Communications	Protocol	Power Supply	Type of transformer
Optional UL on-demand											
RGU-10A	[*] P11A70.	0,03 ...30 A	2	●	3	DIN rail	0,1 ... 5 s, INS, SEL	—	—	230 Vca	WGC
RGU-100A	[*] P11A71.	0,03 ...30 A	2	●	3	DIN rail	0,1 ... 5 s, INS, SEL	RS-485	Modbus RTU	110 ... 230 Vca	WGC

Power supply voltages different from 230 VAC, see

✓ Key feature: **Display and control**

NEW



## CBS. Ultra-immunized type-A residual current relay centre

Type	Code	Sensitivity (A)	No. of relays	Pre-alarm relay	Modules	Attachment	Delay	Communications	Protocol	Power Supply	Type of transformer
CBS-40A	[*] P12A70.	0,03 ...30 A	4	●	3	DIN rail	0,1 ... 10 s, INS, SEL	—	—	110 ... 230 V~	WGC
CBS-400A	[*] P12A71.	0,03 ...30 A	4	●	3	DIN rail	0,1 ... 10 s, INS, SEL	RS-485	Modbus RTU	110 ... 230 V~	WGC

Power supply voltages different from 230 VAC, see

✓ Key feature: **Less space / Shorter installation time**



## RGMD. Set of ultra-immunized, type-A residual current and circuit breaker protection

Type	Code	In (A)	Attachment	Poles	Sensitivity	Type of transformer
<b>RGMD Series A - 2 poles</b>						
RGMD-2-16-30	[1] P13231.	16 A	DIN rail	2	30 mA	WGC
RGMD-2-25-30	[1] P13251.	25 A	DIN rail	2	30 mA	WGC
RGMD-2-32-30	[1] P13261.	32 A	DIN rail	2	30 mA	WGC
RGMD-2-40-30	[1] P13271.	40 A	DIN rail	2	30 mA	WGC
RGMD-2-63-30	[1] P13291.	63 A	DIN rail	2	30 mA	WGC
RGMD-2-16-300	[1] P13233.	16 A	DIN rail	2	300 mA	WGC
RGMD-2-25-300	[1] P13253.	25 A	DIN rail	2	300 mA	WGC
RGMD-2-32-300	[1] P13263.	32 A	DIN rail	2	300 mA	WGC
RGMD-2-40-300	[1] P13273.	40 A	DIN rail	2	300 mA	WGC
RGMD-2-63-300	[1] P13293.	63 A	DIN rail	2	300 mA	WGC

**Includes RG1M protection relay**, with RG1M residual current relay, WGS/WGC residual current transformer and C curve, 6 kA (IEC 60898) circuit breaker with 230 VAC trip coil. Curve 10 kA (IEC 60947-2) check

Type	Code	In (A)	Attachment	Poles	Sensitivity	Type of transformer
<b>RGMD Series A - 4 poles</b>						
RGMD-4-16-30	[1] P13431.	16 A	DIN rail	4	30 mA	WGC
RGMD-4-25-30	[1] P13451.	25 A	DIN rail	4	30 mA	WGC
RGMD-4-32-30	[1] P13461.	32 A	DIN rail	4	30 mA	WGC
RGMD-4-40-30	[1] P13471.	40 A	DIN rail	4	30 mA	WGC
RGMD-4-63-30	[1] P13491.	63 A	DIN rail	4	30 mA	WGC
RGMD-4-16-300	[1] P13433.	16 A	DIN rail	4	300 mA	WGC
RGMD-4-25-300	[1] P13453.	25 A	DIN rail	4	300 mA	WGC
RGMD-4-32-300	[1] P13463.	32 A	DIN rail	4	300 mA	WGC
RGMD-4-40-300	[1] P13473.	40 A	DIN rail	4	300 mA	WGC
RGMD-4-63-300	[1] P13493.	63 A	DIN rail	4	300 mA	WGC

**Includes RG1M protection relay**, with RG1M residual current relay, WGS/WGC residual current transformer and C curve, 6 kA (IEC 60898) circuit breaker with 230 VAC trip coil. Curve 10 kA (IEC 60947-2) check

✓ Key feature: **Compact set**

# Residual current transformer for type-A relays

Choose the most suitable transformer for your Type A residual current protection relay. These transformers are designed to integrate seamlessly into electrical panels and, in addition to panel mountings, offer the option of DIN rail mounting for easier installation.



## WGC. Earth leakage transformer

Type	Code	Useful cross-section (mm)	In (A)	Cable (m)	Weight (Kg)
WGC-20-SC	[*] P10181.	20	63	0,5	0,08
WGC-30-SC	[*] P10182.	30	63	0,5	0,09
WGS-20	[*] P10131.	20	63	—	0,06
WGS-30	[*] P10132.	30	63	—	0,07
WGC-25	[*] P10151.	25	63	—	0,08
WGC-35	[*] P10152.	35	80	—	0,11
WGC-55	[1] P13253.	55	160	—	0,17
WGC-80	[*] P10154.	80	250	—	0,29
WGC-110	[*] P10155.	115	400	—	0,41
WGC-140	[*] P10156.	140	630	—	0,68
WGC-180	[*] P10157.	180	800	—	0,91
WGC-220x105	[C] P10158.	220 x 105	1250	—	3,90
WGC-350x150	[C] P10159.	350 x 150	2000	—	6,80
WGC-500x200	[C] P10160.	500 x 200	4000	—	11,0

Type	Code	Description
WGC-20-SC	[*] P10181.	Accessory for mounting on DIN rail for WGC-35 and WGC-55

# The most comprehensive protection

## Avoid spurious trips with the ultraimmunized system



Trip margin between **85%-100%** of the sensitivity range.

A residual current relay can trip above 50% of its rating (IEC 60947-2-M). Ultraimmunized devices trip at a minimum of 85%, **only actuating when necessary**.



**Frequency response** with filtering of high-frequency leaks.

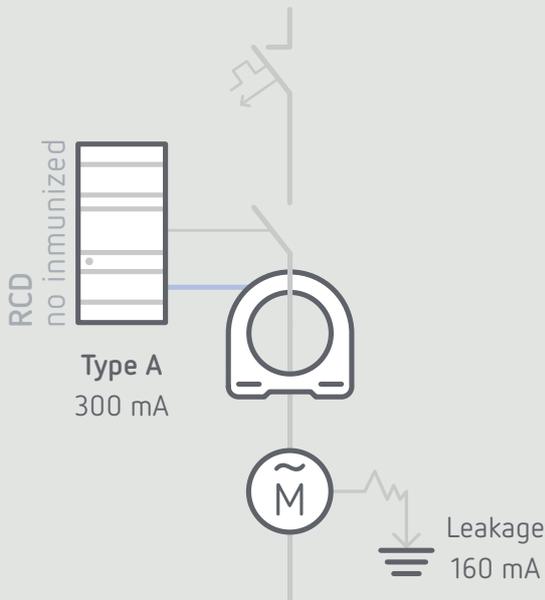
Filters the leakage current with frequencies above 50/60 Hz to **avoid trips caused by harmonics**.



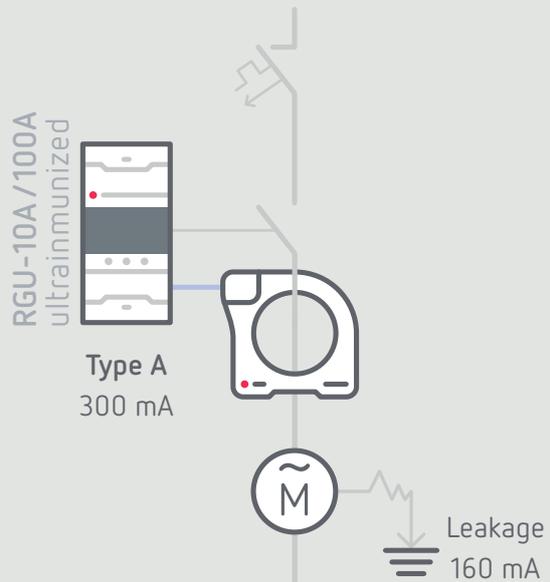
More **immunity to grid transients** up to 3 kA for 8/20  $\mu$ s pulses.

**Avoids unexpected trips** in the event of weather or transitory phenomena caused by the distribution grid.

### Example: Standard vs ultra-immunized protection



**It can trip!**



**Does not trip until 250 mA**  
(85% of its sensitivity)

# Type-B residual current protection

Guaranteed total protection for your electrical panels. Type B relays are the perfect solution for protecting loads that may cause leakage in both AC and DC. Type B is the protection required by manufacturers of power equipment with AC/DC conversion to ensure product warranty and proper functioning of the protection system, ensuring its correct trip in case of ground leakage.

Used as universal protection for loads such as speed or frequency drives, inverters, cold rooms, HVAC machinery, UPS and electric vehicle charging systems.

## Selection guide



		IDB-4	RGU-10B	RGU-100B	CBS-400B
<b>Assembly</b>	DIN rail (modules)	4	3	3	3
<b>Type of network</b>	Single-phase	●	●	●	●
	Three-phase 3/4 wires	●	●	●	●
<b>Features / performance</b>	RCCB type	B	B	B	B
	Number of channels	1	1	1	4
	Monitoring	—	●	●	●
	Pre-alarm	—	● (Display)	● (Display)	● (Display)
	Remote control	—	●	●	●
<b>Trip settings</b>	Constant current sensitivity	●	—	—	—
	Adjustable current sensitivity	—	●	●	●
	Fixed delay time (INS)	●	—	—	—
	Adjustable delay time (SEL)	—	●	●	●
<b>Type of protection transformer</b>	Built-in	●	—	—	—
	External	—	● (WGC-TB)	● (WGB)	● (WGB)
<b>Inputs/Outputs</b>	Trigger output	—	●	●	●
	Pre-alarm output	—	●	●	●
	Remote control input	—	●	●	●
<b>Communications</b>	RS-485	—	—	●	●
<b>Protocols</b>	Modbus RTU	—	—	●	●



## IDB-4. Type-B RCCB

Type	Code	In (A)	Attachment	Poles	Sensitivity	Type of transformer
IDB-4 4P-40A-30 mA	[*] P17221.	40 A	DIN rail	4	30 mA	Built-in
IDB-4 4P-40A-300 mA	[*] P17222.	40 A	DIN rail	4	300 mA	Built-in
IDB-4 4P-63A -30 mA	[*] P17231.	63 A	DIN rail	4	30 mA	Built-in
IDB-4 4P-63A -300mA	[*] P17232.	63 A	DIN rail	4	300 mA	Built-in

For three-phase and single-phase networks

✓ Key feature: **Direct connection**



## RGU-10B. Type-B earth leakage current intensity monitoring and protection relay

Programmable residual current relay, 3 modules, display with adjustable pre-alarm output.

Type	Code	Sensitivity (A)	No. of relays	Pre-alarm relay	Modules	Attachment	Delay	Power Supply	Type of transformer
RGU-10B	[*] P11951.	0,1...3 A	1	●	3	DIN rail	0,1 ... 10 s	230 Vca	WGC-TB

✓ Característica destacada: **Con transformador pasivo**



## RGU-100B. Type-B earth leakage current intensity monitoring and protection relay

Type	Code	Sensitivity (A)	No. of relays	Pre-alarm relay	Modules	Attachment	Delay	Communications	Protocol	Power Supply	Type of transformer
RGU-100B	[*] P11961..	0,03 ... 3 A	1	●	3	DIN rail	0,1 ... 10 s, INS, SEL	RS-485	Modbus/RTU	230 Vca	WGB

Associated with WGB-type earth leakage transformers

✓ Key feature: **Display and control**



## CBS-400B. Station for 4 type B earth leakage relays

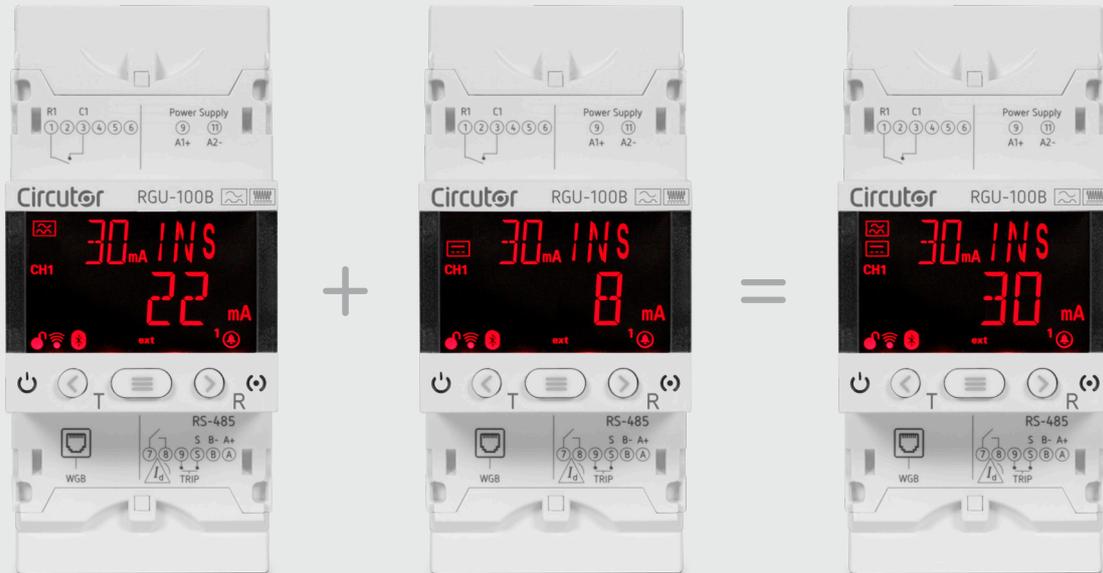
Tipo	Código	Sensibilidad (A)	Nº relés	Relé Prealarma	Módulos	Fijación	Retardo	Comunicaciones	Protocolo	Alimentación	Tipo de transformador
CBS-400B	[*] P12721..	0,03 ... 3 A	4	●	3	DIN rail	0,1 ... 5 s, INS, SEL	RS-485	Modbus/RTU	230 Vca	WGB

Asociado a transformador diferencial tipo WGB

✓ Key feature: **Less space / Shorter installation time**

## The most comprehensive protection

### Real-time display and monitoring



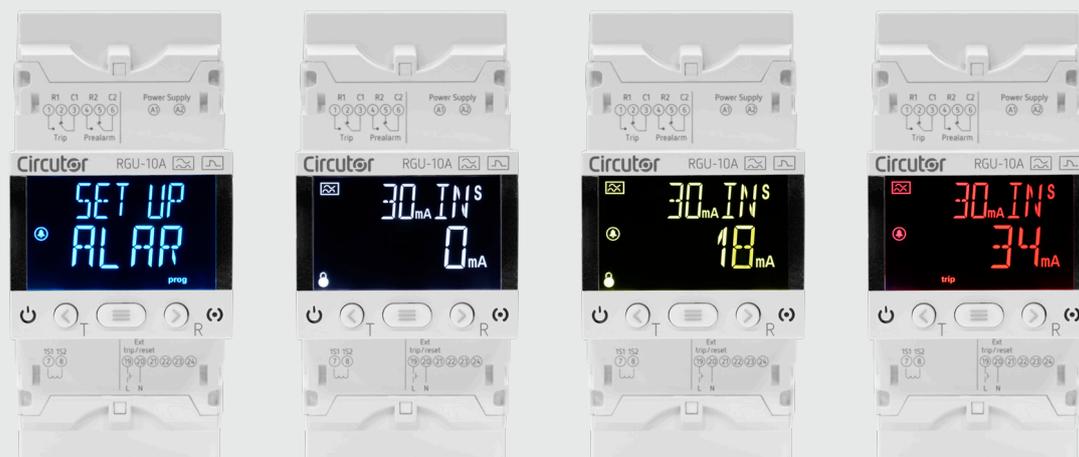
AC leakage

DC leakage

Total leakage

Its high-contrast display, together with its RS-485 communications (Modbus RTU), allows leakage to be monitored in real time. The display changes to red when it trips,

saving the value of the trip current and breaking it down into its AD and DC components. This makes it easier to detect the problem and its source.



Configuration

Standby

Pre-alarm

Tripped

# Residual current transformer for type-B relays

Choose the most suitable transformer for your Type B residual current protection relay. These transformers are specifically designed to detect leaks in both direct current (DC) and alternating current (AC). Additionally, they feature an Ethernet port that allows connection to the relay via a standard Ethernet cable, through which they transmit all measurements and other information about the protected or monitored line.



## WGB. Residual current transformer for type-B relay

Type	Code	Useful cross-section (mm)	I $\Delta$ n min. (a)	In (A)	Weight (Kg)
WGB-35	[C] P11B52..	35.5	0.03 ... 3 A	80	0,22
WGB-55	[C] P11B53.	55.5	0.03 ... 3 A	160	0,33
WGB-80	[C] P11B54.	80.5	0.03 ... 3 A	250	0,53
WGB-110	[C] P11B55..	110.5	0.03 ... 3 A	400	0,69

Only for type RGU-100B and CBS-400B relays.



## WGC-TB. Residual current transformer for RGU-10B relay

Type	Code	Useful cross-section (mm)	I $\Delta$ n min. (a)	In (A)	Weight (Kg)
WGS-20-TB	[*] P11731.	20	0.1	63	0,08
WGC-25-TB	[*] P11751.	25	0.1	63	0,12
WGC-35-TB	[*] P11752.	35	0.1	80	0,11
WGC-55-TB	[*] P11753..	55	0.3	160	0,18
WGC-80-TB	[*] P11755..	80	0.5	250	0,25
WGC-110 TB	[*] P11756..	110	0.5	400	0,38
WGC-140 TB	[*] P11757.	140	0.5	630	0,48
WGC-180 TB	[*] P11758..	180	0.5	800	0,20

Only for RGU-10B type relay.

# RCCBs

Add value to the design of your electrical panels in solutions where ensuring the continuity of the power supply is crucial. The REC4/REB series eliminates the need to visit the panel after a residual current protection trip. These devices reconnect automatically and securely to check whether the leak is permanent or transient. If after three attempts the leak persists, the device will remain disconnected so a specialist can check it. The version with auxiliary contacts can send a status-change signal to any control system so its status can be checked remotely.

Solutions designed for:

- Domestic sector
- Self-supply/photovoltaic installations
- Tertiary sector
- Offices

## Selection guide



		REC4	REC4-C	RECB
Assembly	DIN rail	●	●	●
	Size (No. of modules)	3 (2 Poles) 5 (4 Poles)	3 (2 Poles) 5 (4 Poles)	5 (4 Poles)
Type of network	Single-phase	●	●	●
	Three-phase 3/4 wires	●	●	●
Features / performance	RCCB type	A	A	B
	Self-reclosing	●	●	●
	LED status indicator	●	●	●
Circuit breaker	Built-in	●	●	●
Reclosure type	Insulation	● (ST)	—	—
	Time	● (ST)	●	●
Trip settings	Fixed current sensitivity (INS- 30 mA/300mA)	●	●	●
	Fixed delay time (INS)	●	●	●
Inputs/Outputs	Trigger output	—	●	—



## REC4. Type-A self-reclosing RCCB

Type	Code	No. of relays	Reclosing element	In (A)	Poles	Sensitivity	Reclosing mode
Protection for people:							
REC4-2P-40-30	[*] P26A21.	1	Built-in	40 A	2	30 mA	Insulation
REC4-2P-63-30	[C] P26A31.	1	Built-in	63 A	2	30 mA	Insulation
Load protection:							
REC4-2P-40-300	[C] P26A23.	1	Built-in	40 A	2	300 mA	Time
REC4-2P-63-300	[C] P26A33.	1	Built-in	63 A	2	300 mA	Time
REC4-4P-40-30	[C] P26F21.	1	Built-in	40 A	4	30 mA	Time
REC4-4P-40-300	[C] P26F23.	1	Built-in	40 A	4	300 mA	Time
REC4-4P-63-30	[C] P26F31.	1	Built-in	63 A	4	30 mA	Time
REC4-4P-63-300	[C] P26F33.	1	Built-in	63 A	4	300 mA	Time

3 reclosures: 3, 20, 180 s

✓ Key feature: **Ensures supply continuity**



## REC4-C. Type-A self-reclosing RCCB with status output

Type	Code	No. of relays	Reclosing element	In (A)	Poles	Sensitivity	Reclosing mode
REC4-C 2P 40 30	[C] P27A21.	1	Built-in	40 A	2	30 mA	Time
REC4-C 2P 40 300	[C] P27A31.	1	Built-in	40 A	2	300 mA	Time
REC4-C 2P 63 30	[C] P27A23.	1	Built-in	63 A	2	30 mA	Time
REC4-C 2P 63 300	[C] P27A33.	1	Built-in	63 A	2	300 mA	Time
REC4-C 4P 40 30	[C] P27F21.	1	Built-in	40 A	4	30 mA	Time
REC4-C 4P 40 300	[C] P27F31.	1	Built-in	40 A	4	300 mA	Time
REC4-C 4P 63 30	[C] P27F23.	1	Built-in	63 A	4	30 mA	Time
REC4-C 4P 63 300	[C] P27F33.	1	Built-in	63 A	4	300 mA	Time

3 reclosures: 3, 20, 180 s Check the reference for the different operating modes of the status output.

✓ Key feature: **Manage switch status**



## RECB. Type-B self-reclosing RCCB

Type	Code	No. of relays	Reclosing element	In (A)	Poles	Sensitivity	Reclosing mode
RECB-4P-40-30	[C] P26G21.	1	Built-in	40 A	4	30 mA	Time
RECB-4P-40-300	[C] P26G23.	1	Built-in	40 A	4	300 mA	Time
RECB-4P-63-30	[C] P26G31.	1	Built-in	63 A	4	30 mA	Time
RECB-4P-63-300	[C] P26G33.	1	Built-in	63 A	4	300 mA	Time

3 reclosures: 3, 20, 180 s

✓ Key feature: **For loads that convert AC to DC**

# Reclosing residual current relays for public lighting

We offer various solutions to protect your public lighting panels. These types of applications require systems that ensure service continuity by guaranteeing the reconnection of lighting lines in the event of transient ground faults. They also enable remote operation via telecontrol, simplifying panel management for maintenance or intervention tasks, which helps reduce operating costs and improve response times to any incidents.

Solutions designed for: **Public lighting**

✓ Key feature: **Ultra-immunized system**

## Selection guide



		WRU-10RAL	RGU-10 RAL	CBS4-RA
Assembly	DIN rail	●	●	●
	Size (no. of modules)	3	3	3
Type of network	Single-phase	●	●	●
	Three-phase 3/4 wires	●	●	●
Features / performance	RCCB type	●	●	●
	Number of channels	1	1	4
	Resettable	● (Contactor)	● (Contactor)	● (Contactor)
	Monitoring	●	●	●
	Pre-alarm	● (Display)	● (Display)	● (Display)
	Remote control	●	●	●
Circuit breaker	External (not included)	Contactor	Contactor	Contactor
Trip settings	Adjustable current sensitivity	●	●	●
	Adjustable delay time (INS/SEL)	●	●	●
Type of protection transformer	Built-in	● (28mmØ)	—	—
	External (WGC/WGC-TP)	—	●	●
Inputs/Outputs	Trigger output	●	●	●
	Pre-alarm output	●	●	—
	Remote control input (reset)	●	●	●
Communications	RS-485	—	● (ST)	● (ST)
Protocol	Modbus RTU	—	● (ST)	● (ST)



## WRU-10-RAL. Ultra-immunized type-A earth leakage reclosing and relay protection with built-in transformer

Programmable residual current relay, 3 modules, display with pre-alarm output and reconnection lock. 230 VAC auxiliary power

Type	Code	Useful cross-section (mm)	Sensitivity (A)	No. of relays	Reclosing element	Delay	No. of connections	Reclosure time	Type of transformer
WRU-10-RAL	[*] P24453.	28	0,03 ... 3 A 0,03 ... 30 A	1	Contactor	0,02...10 s, INS, SEL	Configurable	Configurable	Built-in
WRU-10-RAL0,3-1	[*] P24457.	28	0,3 ... 1 A	1	Contactor	0.02 INS	Configurable	Configurable	Built-in

Residual current transformer, type B, not included. The associated switching element must be a contactor, not included. To code other parameters, see table at end of section.

✓ Key feature: **Built-in transformer and remote control**



## RGU-10 RAL. Reclosing relay and earth leakage reclosing protection with external WGC transformer

Ultra-immunized type-A residual current relay, programmable, 3 modules with display and output reclosing lock status. 230 VAC auxiliary power

Type	Code	Sensitivity (A)	No. of relays	Reclosing element	Delay	Communications	No. of connections	Type of transformer
RGU-10 RAL	[*] P24622.	0,03 ... 30 A	1	Contactor	0,02...10 s, INS, SEL	—	Configurable	WGC
RGU-10C RAL	[*] P24662.	0,03 ... 30 A	1	Contactor	0,02...10 s, INS, SEL	RS-485 Modbus RTU	Configurable	WGC

Requires residual current transformer, type WGC, not included. The associated switching element must be a contactor, not included. To code other parameters, see table at end of section.

✓ Key feature: **Display and remote control**



## CBS4-RA. Central devices have protection and earth leakage reclosing system with an external WGC-type transformer

Central device with 4 ultra-immunized Type A residual current relays, programmable, 4 modules with display and reconnection lock status output. 230 VAC auxiliary power

Type	Code	Sensitivity (A)	No. of relays	Reclosing element	Delay	Communications	No. of connections	Type of transformer
CBS-4 RA	[*] P24911.	0,03 ... 30 A	4	Contactor	0,02...10 s, INS, SEL	—	Configurable	WGC
CBS-4C-RA	[*] P24912..	0,03 ... 30 A	4	Contactor	0,02...10 s, INS, SEL	RS-485 Modbus RTU	Configurable	WGC

Requires residual current transformer, type WGC, not included. The associated switching element must be a contactor, not included. To code other parameters, see table at end of section

✓ Key feature: **Remote control in less space**



# Reclosing residual current and circuit breaker protection

Get total protection for your electrical panels. These devices integrate thermal-magnetic and differential protection, and are capable of automatically resetting the installation without human intervention. To improve efficiency, we offer models with a powerful built-in network analyzer that, along with their communication capabilities, allow for a complete analysis of the installation and remote control actions, providing full control. Additionally, they facilitate data analysis from different SCADA systems and optimize space in the panel by combining protection and measurement in a single device.

Solutions designed for:

- Distribution panels
- Critical loads
- Remote loads
- Tertiary sector

## Selection guide



		RECmaxLPD	RECmax-CVM
Assembly	DIN rail	●	●
	Size (no. of modules)	4,5 (2 Poles) 6,5 (4 Poles)	5,5 (2 Poles) 7,5 (4 Poles)
Type of network	Single-phase	●	●
	Three-phase 3/4 wires	●	●
Features / performance	RCCB type	A	A
	Self-reclosing	●	●
	Monitoring	●	●
	Pre-alarm	● (Display)	● (Display)
	Remote control	●	●
	Built-in power analyzer	—	●
Circuit breaker	Measurement transformer (analyzer)	—	● (Built-in)
	Built-in	●	●
Reclosure type	Earth leakage	●	●
	Circuit breaker	●	●
	Adjustable reclosing time	●	●
RCD trip settings	Adjustable current sensitivity	●	●
	Adjustable delay time (INS/SEL)	●	●
Type of protection transformer	External (WGC/WGC-TP)	●	● (Included)
Inputs/Outputs	Digital output (alarm for power analyzer variables)	—	●
	Reclosing end output (lock)	●	●
	Switch status output	●	●
	Device fault alarm output	●	●
	Reclosing blocked output	—	●
	Remote control input	●	●
Communications	RS-485	—	●
Protocol	Modbus RTU	—	●



## RECmaxLPD. Earth leakage relay with circuit breaker reclosing system to work with external residual current transformer, not included

Type	Code	In (A)	Modules	Poles	Harmonics
<b>2 Poles, Curve C</b>					
RECmaxLPd-C2-6	[1] P2A110.	6 A	4.5	2	31
RECmaxLPd-C2-10	[1] P2A111.	10 A	4.5	2	31
RECmaxLPd-C2-16	[1] P2A112.	16 A	4.5	2	31
RECmaxLPd-C2-20	[1] P2A113.	20 A	4.5	2	31
RECmaxLPd-C2-25	[1] P2A114.	25 A	4.5	2	31
RECmaxLPd-C2-32	[1] P2A115.	32 A	4.5	2	31
RECmaxLPd-C2-40	[1] P2A116.	40 A	4.5	2	31
RECmaxLPd-C2-50	[1] P2A117.	50 A	4.5	2	31
RECmaxLPd-C2-63	[1] P2A118.	63 A	4.5	2	31
<b>4 Poles, Curve C</b>					
RECmaxLPd-C4-6	[1] P2A120.	6 A	6.5	4	31
RECmaxLPd-C4-10	[1] P2A121.	10 A	6.5	4	31
RECmaxLPd-C4-16	[1] P2A122.	16 A	6.5	4	31
RECmaxLPd-C4-20	[1] P2A123.	20 A	6.5	4	31
RECmaxLPd-C4-25	[1] P2A124.	25 A	6.5	4	31
RECmaxLPd-C4-32	[1] P2A125.	32 A	6.5	4	31
RECmaxLPd-C4-40	[1] P2A126.	40 A	6.5	4	31
RECmaxLPd-C4-50	[1] P2A127.	50 A	6.5	4	31
RECmaxLPd-C4-63	[1] P2A128.	63 A	6.5	4	31
<b>2 Poles, Curve D</b>					
RECmaxLPd-D2-6	[1] P2A130.	6 A	5.3	2	31
RECmaxLPd-D2-10	[1] P2A131.	10 A	4.5	2	31
RECmaxLPd-D2-16	[1] P2A132.	16 A	4.5	2	31
RECmaxLPd-D2-20	[1] P2A133.	20 A	4.5	2	31
RECmaxLPd-D2-25	[1] P2A134.	25 A	4.5	2	31
RECmaxLPd-D2-32	[1] P2A135.	32 A	4.5	2	31
RECmaxLPd-D2-40	[1] P2A136.	40 A	4.5	2	31
RECmaxLPd-D2-50	[1] P2A137.	50 A	4.5	2	31
RECmaxLPd-D2-63	[1] P2A138.	63 A	4.5	2	31
<b>4 Poles, Curve D</b>					
RECmaxLPd-D4-6	[1] P2A140.	6 A	6.5	4	31
RECmaxLPd-D4-10	[1] P2A141.	10 A	6.5	4	31
RECmaxLPd-D4-16	[1] P2A142.	16 A	6.5	4	31
RECmaxLPd-D4-20	[1] P2A143.	20 A	6.5	4	31
RECmaxLPd-D4-25	[1] P2A144.	25 A	6.5	4	31
RECmaxLPd-D4-32	[1] P2A145.	32 A	6.5	4	31
RECmaxLPd-D4-40	[1] P2A146.	40 A	6.5	4	31
RECmaxLPd-D4-50	[1] P2A147.	50 A	6.5	4	31
RECmaxLPd-D4-63	[1] P2A148.	63 A	6.5	4	31

Residual current transformer, type WGS-20/30, WGC-25/35. magnetothermic curve C/D with 6 kA breaking capacity (IEC 60898). Curve 10 kA (IEC 60947-2) check.



## RECmaxCVM. Reclosing residual current relay with circuit breaker and power analyzer, with transformers included

Type	Code	In (A)	Modules	Communications	Poles	Harmonics
<b>2 Poles, Curve C</b>						
RECmax-CVM 2P C2-10	[2] P2B111.	10 A	5.5	RS-485	2	31
RECmax-CVM 2P C2-16	[2] P2B112.	16 A	5.5	RS-485	2	31
RECmax-CVM 2P C2-20	[2] P2B113.	20 A	5.5	RS-485	2	31
RECmax-CVM 2P C2-25	[2] P2B114.	25 A	5.5	RS-485	2	31
RECmax-CVM 2P C2-32	[2] P2B115.	32 A	5.5	RS-485	2	31
RECmax-CVM 2P C2-40	[2] P2B116.	40 A	5.5	RS-485	2	31
RECmax-CVM 2P C2-50	[2] P2B117.	50 A	5.5	RS-485	2	31
RECmax-CVM 2P C2-63	[2] P2B118.	63 A	5.5	RS-485	2	31
<b>4 Poles, Curve C</b>						
RECmax-CVM 4P C4-10	[2] P2B121.	10 A	7.5	RS-485	4	31
RECmax-CVM 4P C4-16	[2] P2B122.	16 A	7.5	RS-485	4	31
RECmax-CVM 4P C4-20	[2] P2B123.	20 A	7.5	RS-485	4	31
RECmax-CVM 4P C4-25	[2] P2B124.	25 A	7.5	RS-485	4	31
RECmax-CVM 4P C4-32	[2] P2B125.	32 A	7.5	RS-485	4	31
RECmax-CVM 4P C4-40	[2] P2B126.	40 A	7.5	RS-485	4	31
RECmax-CVM 4P C4-50	[2] P2B127.	50 A	7.5	RS-485	4	31
RECmax-CVM 4P C4-63	[2] P2B128.	63 A	7.5	RS-485	4	31
<b>2 Poles, Curve D</b>						
RECmax-CVM 2P D2-10	[2] P2B131.	10 A	5.5	RS-485	2	31
RECmax-CVM 2P D2-16	[2] P2B132.	16 A	5.5	RS-485	2	31
RECmax-CVM 2P D2-20	[2] P2B133.	20 A	5.5	RS-485	2	31
RECmax-CVM 2P D2-25	[2] P2B134.	25 A	5.5	RS-485	2	31
RECmax-CVM 2P D2-32	[2] P2B135.	32 A	5.5	RS-485	2	31
RECmax-CVM 2P D2-40	[2] P2B136.	40 A	5.5	RS-485	2	31
RECmax-CVM 2P D2-50	[2] P2B137.	50 A	5.5	RS-485	2	31
RECmax-CVM 2P D2-63	[2] P2B138.	63 A	5.5	RS-485	2	31
<b>4 Poles, Curve D</b>						
RECmax-CVM 4P D4-10	[2] P2B141.	10 A	7.5	RS-485	4	31
RECmax-CVM 4P D4-16	[2] P2B142..	16 A	7.5	RS-485	4	31
RECmax-CVM 4P D4-20	[2] P2B143.	20 A	7.5	RS-485	4	31
RECmax-CVM 4P D4-25	[2] P2B144.	25 A	7.5	RS-485	4	31
RECmax-CVM 4P D4-32	[2] P2B145.	32 A	7.5	RS-485	4	31
RECmax-CVM 4P D4-40	[2] P2B146.	40 A	7.5	RS-485	4	31
RECmax-CVM 4P D4-50	[2] P2B147.	50 A	7.5	RS-485	4	31
RECmax-CVM 4P D4-63	[2] P2B148.	63 A	7.5	RS-485	4	31

All models include WGC20/30-SC residual current transformation and MC-3 or MC-1 measurement transformer with connected terminal. C/D curve circuit breaker with 6 kA cut-off power (IEC 60898). Curve 10 kA (IEC 60947-2) check.



# Residual current switches for electric vehicle charging points

This range includes type A+6 mA DC and type B residual current breakers, with and without reclosing systems to ensure continuity of supply. These solutions add value to your electrical panels, complying with the ITC-BT-52 (Spain) standard for electrical vehicle installations. We offer devices that trip upon detecting a DC leak of up to 6 mA, like type B devices, adapting the panel to international regulations. These devices integrate with the charging point, displaying its status and allowing remote management to ensure maximum operability of the charging system at all times.

Solutions designed for: **Protection for EV charging points**

✓ Key feature: **With and without automatic reclosing**

## Selection guide



		IDA-EV	REC4-EV	REC4-EV-C	IDB-4	RECB-EV-C
Assembly	DIN rail	•	•	•	•	•
	Size (no. of modules)	4	5 (4 Poles)	5 (4 Poles)	4	5 (4 Poles)
Type of network	Single-phase	•	•	•	•	•
	Three-phase 3/4 wires	•	•	•	•	•
Features / performance	RCCB type	A + 6 mAdc	A + 6 mAdc	A + 6 mAdc	B	B
	Self-reclosing	—	•	—	—	—
	LED status indicator	—	•	•	—	•
	Remote control	—	—	•	—	—
	Self-powered	•	•	—	•	—
	Auxiliary power	—	—	•	—	•
Circuit breaker	Built-in	•	•	•	•	•
Reclosure type	Time	—	•	—	—	—
	Digital input	—	—	•	—	•
Trip settings	Fixed current sensitivity (INS- 30 mA/300mA)	•	•	•	•	•
	Fixed delay time (INS)	•	•	•	•	•
Type of protection transformer	Built-in	•	•	•	•	•
Inputs/Outputs	Switch status output	—	—	•	—	•
	Remote trigger input	—	—	•	—	•
	Remote reclosing input	—	—	•	—	•



## IDA-EV. 6 mADC type A RCCB with monitoring

Type	Code	In (A)	Attachment	Poles	Sensitivity	Type of transformer
IDA-EV-40-30	[*] P17321.	40 A	DIN rail	4	30 MA + 6 mA DC	Built-in
IDA-EV-63-30	[*] P17322.	63 A	DIN rail	4	30 MA + 6 mA DC	Built-in



## REC4-EV. 6 mADC type A RCCB with monitoring

Type	Code	In (A)	Poles	Sensitivity	Reclosing mode	Type of transformer
REC4-EV-4P-40-30	[C] P26H00.	40 A	4	30 mA	Time	Built-in
REC4-EV-4P-63-30	[C] P26H01.	63 A	4	30 mA	Time	Built-in



## REC4-EV-C. 6mA DC reclosing type A RCCB with monitoring

12 VAC auxiliary power supply

Type	Code	In (A)	Poles	Sensitivity	Reclosing mode	Type of transformer
<b>Self-reclosing RCCB with status output</b>						
REC4-EV-C-4P-40-30	[*] P26L00.	40 A	4	30 mA	Remote control	Built-in
REC4-EV-C-4P-63-30	[*] P26L01.	63 A	4	30 mA	Remote control	Built-in



## IDB-4. Type-B RCCB

Tipo	Código	In (A)	Fijación	Polos	Sensibilidad	Tipo de transformador
IDB-4 4P-40A-30 mA	[*] P17221.	40 A	Carril DIN	4	30 mA	Incorporado
IDB-4 4P-63A -30 mA	[*] P17231.	63 A	Carril DIN	4	30 mA	Incorporado

For three-phase and single-phase networks



## RECB-EV-C. Reclosing type-B RCCB

12 VAC auxiliary power supply

Type	Code	In (A)	Poles	Sensitivity	Reclosing mode	Type of transformer
<b>Reclosing RCCB with status output</b>						
RECB-EV-C-4P-40-30	[C] P26M00.	40 A	4	30 mA	Remote control	Built-in
RECB-EV-C-4P-63-30	[C] P26M10.	63 A	4	30 mA	Remote control	Built-in



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