



Technological Solutions for **Electric Switchboards**

Measurement and protection solutions for the design and assembly of switchboards.

The objective: to facilitate the assembly, optimization of space on panels and improve assembly and building costs.

Intelligent earth leakage protection



Earth leakage transformers

Availability of a wide range of earth leakage transformers. Round toroidal transformers and rectangular transformers, both available in a wide measurement range.

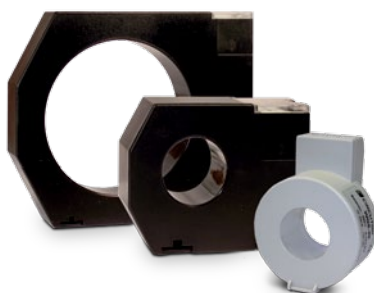
Series **WGC** toroidal



Available in:

○ Ø 25 mm, Ø 35 mm, Ø 55 mm, Ø 80 mm,
Ø 110 mm, Ø 140 mm.

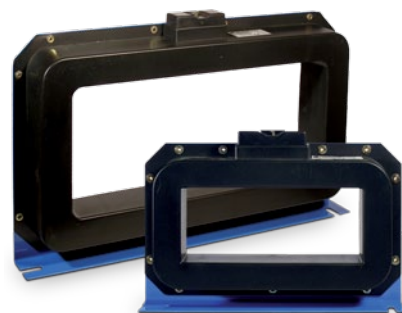
Series **WG** toroidal



Available in:

○ Ø 20 mm, Ø 30 mm, Ø 35 mm,
Ø 70 mm, Ø 105 mm, Ø 140 mm,
Ø 210 mm.

Series **WG** rectangular



Available in:

□ 70 x 175 mm, 115 x 305 mm,
150 x 350 mm, 200 x 500 mm.



Earth leakage relays

Available with fixed or adjustable earth leakage relays for series **WN** and **WG**. The relays with an LCD display to show leakage and reclosing data are ideal for preventive maintenance.

RG1M / RN1M



Compatible:
RG1M with **WG**
RN1M with **WN**



RGE-R / RN-R



Compatible:
RGE-R with **WG**
RN-R with **WN**



RGU-10 / RN-10



Compatible:
RGU-10 with **WG**
RN-10 with **WN**



WRU-10



○ Ø 28 mm

Toroidal
transformer
included



P

Protection

Earth leakage relays with automatic reclosing system

Earth leakage relays with automatic reclosing system are available for 2 and 4 poles, time and sensitivity adjustable according to relay, etc.

REC 2



Available in:
30 mA or 300 mA

REC 2 - 2 poles



Earth leakage protection and reclosing system

REC 2 - 4 poles



RGU-10 RAL



Reclosing
system by
contact



Earth leakage protection and
reclosing system

RGU-10 MV



Motorized circuit
breaker
series MV



Circuit breaker and earth leakage
protection and reclosing system

P

Protection

Earth leakage station

The **CBS-4** earth leakage station is equivalent to four independent relays in a single equipment unit. Ideal for saving space on small panels.

CBS-4



CBS-4



4



RGU-10



Compatible
with WG



Measuring with class



Measuring transformers

Availability of a wide range of measuring transformers. Large families of single-pole, three-phase, narrow profile, split-core, high precision, etc transformers. Wide range of amperages and diameters.

MC1 (.../250 mA)



MC1 -20	MC1 -30	MC1 -55
Ø 20 mm	Ø 30 mm	Ø 55
150/200/250 A	250/400/500 A	1500/1000/500 A

MC3 (.../250 mA)



MC3-63	MC3-125	MC3-250
Ø 7.1 mm	Ø 14.6 mm	Ø 26
63 A	125 A	250 A

TC / TCH / TP (.../5 A, .../1 A opt.)



TC	TCH	TP
Narrow profile	High precision	Split core

From 50 A to 4,000 A
For further information, see catalogue **M7**



Single-phase or three-phase meters

Single-phase and three-phase energy meters with direct or indirect connection available. Fitted with impulse output and communications depending on reference.

EMS-30



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EDMk



			Opt. RS 485
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MKD



			Opt. RS 485
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Meter centralizing units

Availability of impulse centralizing units, digital inputs/outputs for the control of logic (O/I) states and analogue inputs. RS-485 communication or Ethernet depending on type. See other options in catalogue **M3**.

LM 4A-2IO-M



LM50-TCP+



Efficiency Data Server

Intelligent centralizing unit



Built-in PowerStudio Scada and Web Server



Power analyzers

Wide range of power analyzers, both for the DIN rail as well as for panel. Possibility of measurement by means of efficient series MC transformers, ideal for small size panels.

CVM NET



CVM MINI



CVM NRG96





Power and power quality analyzer

CVMk2

Class 0.2 Class 0.5

Class 0.2 or 0.5 in power and energy



Power quality measurement



Expandable by using modules of:



Separate measurement module and display



Possibility of connecting up to 32 modules

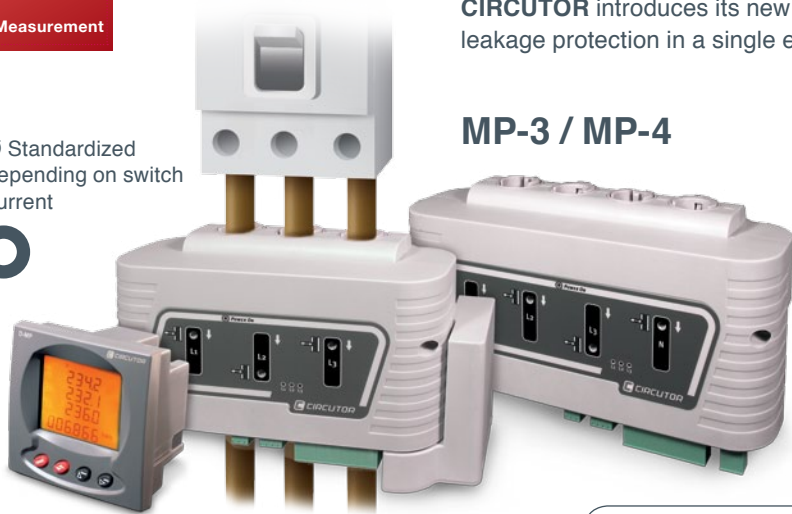


Measurement and protection for automatic switches

CIRCUTOR introduces its new range of compact measuring equipment and earth leakage protection in a single equipment unit for 3 and 4 pole, 250A and 400A switches.

MP-3 / MP-4

Ø Standardized depending on switch current



Power analyzer and earth leakage protection in a single unit.



Expandable by using modules of:



Available for:

MP-3: 250 A, 400 A and 630 A

MP-4: 250 A, 400 A and 630 A





Accessories for communications

Converter TCP2RS+

Converter from RS-232 or RS-485 to Ethernet.



Converter RS-232/485

Converter from RS-232 to RS-485 or vice versa.



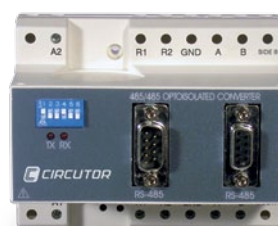
Converter USB

Converter from USB to RS-232 or RS-485.



Amplifier RS-485/485

RS-485 network amplifier.



Communications software

Powerstudio

.circutor.com

Energy supervision *software* for buildings and industrial installations. The main functions are the following:

- Remote parameterisation of the equipment
- Real-time display of parameters
- Recording and printout of logs in table or graphic format
- Multi-station Web Server and integrated XML Server
- Creation of access users and profiles for the application with user name and password
- Great versatility and very simple use
- Compatible with OPC software for PS/PSS

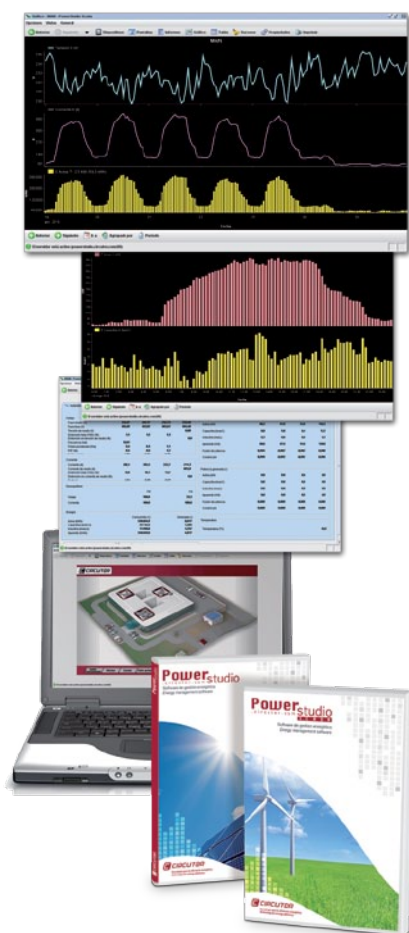
Powerstudio

.circutor.com

SCADA

Energy supervision *software* for buildings and industrial installations, with the possibility of viewing reports, layouts and single-line diagrams. The main functions are the following:

- All the features of Power Studio plus the following:
- Alarms (events) module
- Set-up of customised screens
- Possibility of performing control actions on the equipment
- Report generator module and energy billing simulator
- Possibility of emulating price lists or time bands



Other CIRCUTOR products for electric panels

R *i*

For further information, see the catalogue of **power factor correction and harmonic filtering**.

Power factor correction solutions

Power factor **regulators**



capacitors for **LV and MV**



Q *i*

For further information, see the catalogue of **Quality & Metering**.

Energy meters with communications

CIRWATT B single-phase



CIRWATT B three-phase



CPT cirprotec

i

For further information, see the catalogue on **cirprotec** or enter www.cirprotec.com

Grounding system monitor



Surge & Overvoltage protectors

Combined Protection
(Transient + Permanent TOV)



Surge Protection
(Pluggable Type 1+2, Type 2)



Technological Solutions for
Electrical Switchboards

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