



# Industry 4.0

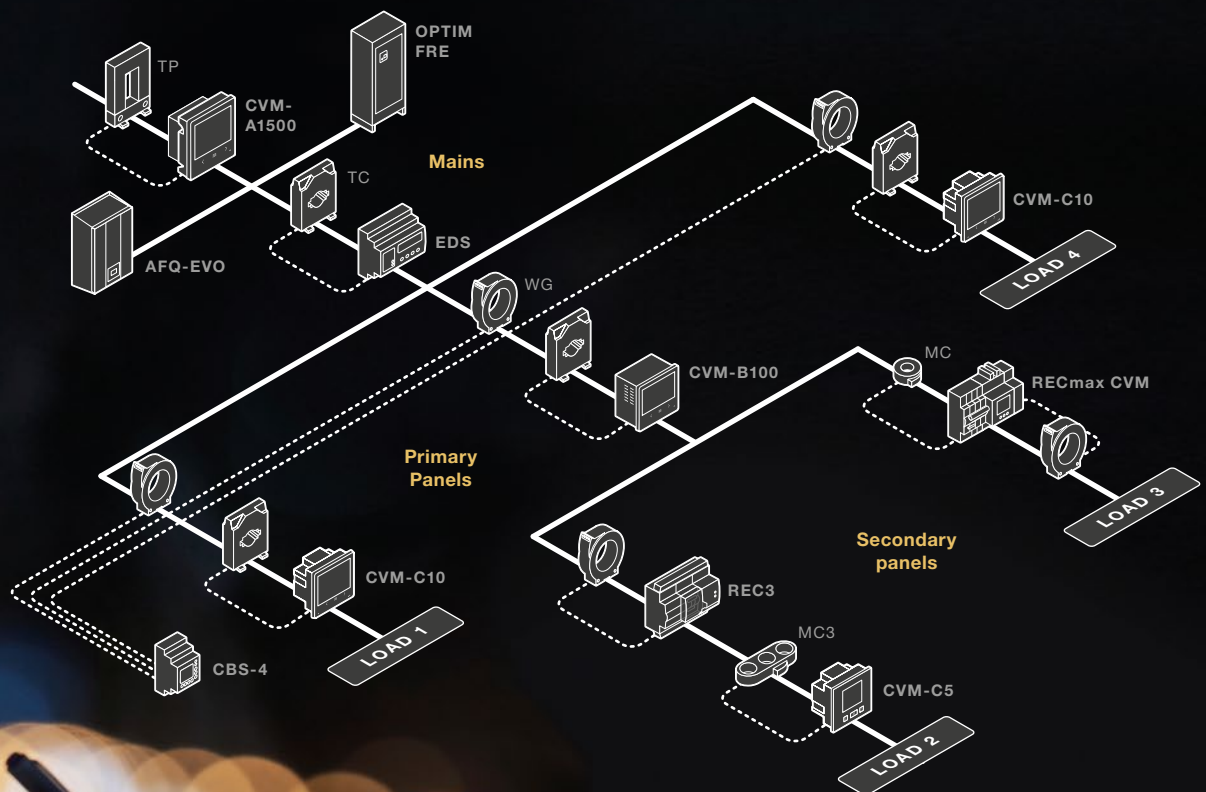
Competitiveness, Digitalisation and Efficiency

A range of essential products for INDUSTRY 4.0

Technology for energy efficiency



Energy efficiency is the key to improving competitiveness and boosting Spanish industry through innovation and the digitalisation of the electrical sector. The combination of these concepts; **innovation**, **energy efficiency** and **digitalisation** is what has led us to launch this range of essential products, designed to help maintenance directors and managers achieve their goals.



# Continuity

Guaranteeing service continuity has a direct impact on productivity rates.

## REC max CVM

*Reclosing circuit breaker and earth leakage protection with measurement included*



### FULL CONTROL OF YOUR FACILITY IN A SINGLE DEVICE

#### Reduces unwanted tripping

- Protection: ultra-immunised circuit breaker and earth leakage protection.
- Avoids unnecessary tripping due to harmonics.
- Avoids false tripping caused by network transients.
- Ensures service continuity until the level of leakage exceeds 80% of the programmed value.

#### Reduces production and/or service losses

Its self-reclosing system for circuit breakers and earth leakage relays ensures optimal service continuity.

#### Saves energy

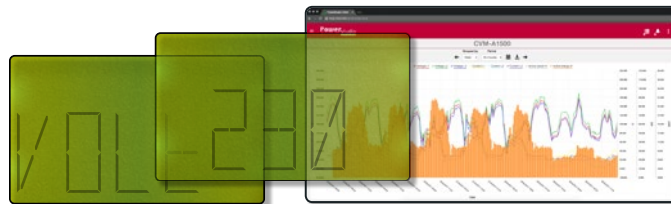
- Measures over 250 electrical variables.
- Thanks to the display or RS485 communication, we know how, when and where our energy costs are arising.

#### Saves time and space

- Plug&Play system that simplifies installation in an easy and intuitive way.
- Sensors with a cable outlet and connector; simply connect and start up.
- Power supply included (self-powered), simplifying installation.



Protects



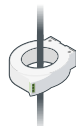
Measures



Reconnects

## RGU-10 / CBS-4

*Maximum safety and continuity in the electric supply*

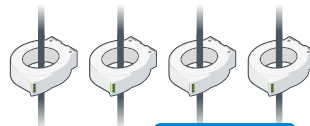


1 line

#### RGU-10

Leakage control system and earth leakage protection relay.

Saves space on the electric panel thanks to its compact size. Assembly on DIN Rail.



4 lines

#### CBS-4

Leakage control system and earth leakage protection relay.

## REC3

*Automatic self-reclosing RCCB*



Available in:  
30 mA or 300 mA

2-pole REC



-4-pole REC

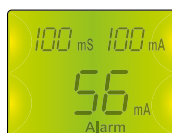


### Preventive maintenance

Alarm or pre-alarm relay to indicate events.



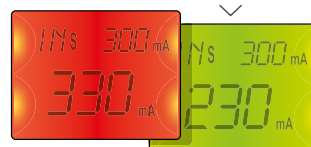
Correct



Pre-alarm



Trip



Displays and records the trip value

Leakage level control



# Analysis

## CVM-A1500

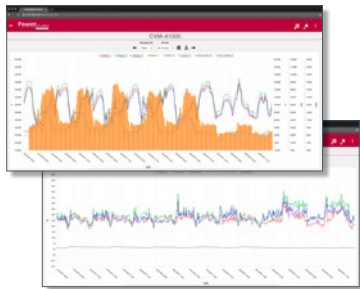
*Panel-mounted power analyser with power quality measurement*



144 x 144 mm

Class A, compliant with IEC 61000-4-30

Class 0.2S in energy



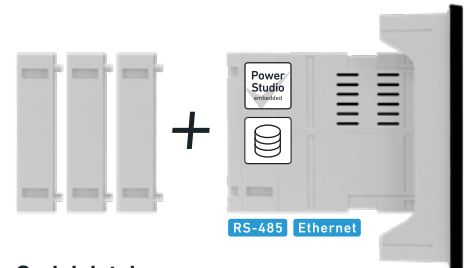
### Network quality monitored

**CVM-A1500** is designed to monitor, supervise electrical parameters and detect power quality problems. Perfect for installing at important measuring points such as head ends or problem areas. **CVM-A1500** displays a wide range of electrical parameters such as:

- | Voltages, currents, power, energy
- | Current and power demands, line and phase
- | Captures supply quality events every ½ cycle with: date, time, duration and associated wave shape
- | Supply quality variables: Unbalance, asymmetry, flicker, etc.
- | Decomposition up to the 63rd harmonic
- | Monitoring of voltage and current wave shapes in real time (oscilloscope)
- | Phase diagram
- | Comparisons of consumption data in charts
- | Datalogger with energy management software (SGE) included: Stores unlimited data on a server or PC.

### User-friendly, simple and accessible

Simple and intuitive interface. Access to data using any browser, displaying instantaneous values, charts and tables.



### Serial datalogger

The unit includes a datalogger module with embedded **PowerStudio** to access all of the information that is recorded by the analyser via Ethernet. It displays maximum and minimum values, energy increases, quality events, wave shapes, alarms, etc.



### Expandable in many ways

Modular and expandable thanks to its expansion modules. Various types of communications and protocols, and multiple combinations of digital, analogue or relay inputs/outputs.

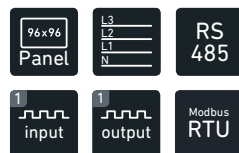
## CVM Range

*The most complete range of power analysers*

### CVM-C5



- | 230 variables
- | Class 1 in energy
- | 2 tariffs
- | Harmonic distortion (THD)



### CVM-C10



- | 400 variables
- | Class 0.5S in energy
- | 3 tariffs
- | Modbus / BACnet



Analysis is an essential element of the preventive actions, savings and decision-making achieved with Industry 4.0.

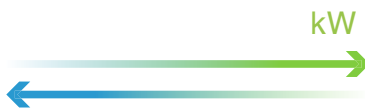
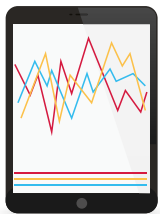


**MYeBOX®**

*Connected to efficiency*



The **MYeBOX®** is a portable power analyser that provides detailed information about all of the electrical parameters, network quality and transients of an electrical installation.



#### An app for everything

Wireless access and connection to the systems, to allow you to configure the **MYeBOX®** and remotely view data without having to travel to each installation.



Real-time display of measurements.



Sends alarms by e-mail.



Starts and stops data logging.



Accesses and displays the stored data.



Creates STD files compatible with **PowerVision**.



Sends stored data to **MYeBOX® Cloud**.



Easily share files.



#### Connectivity

**MYeBOX®** allows you to connect from anywhere. Configure it, download the log, send it to **MYeBOX® Cloud**, share it with other people and receive alarms. You choose where to do it.



#### Storage

Two storage systems: The device's internal memory and **MYeBOX® Cloud**, where you can send the parameters that have been recorded and access them whenever you need.

#### CVM-B100 / B150



Expandable

- 1000 variables
- Class 0.5S in energy
- 3 tariffs, total energy and by phases



#### EDS / EDS-3G

*Efficiency manager*

With integrated Datalogger and WebServer



# Quality

Quality of consumption,  
a vital factor for ensuring  
regulatory compliance  
and service continuity.

## AFQ-EVO

*Three-in-one active multi-  
function filter*

The **AFQevo** active filters are multi-function  
3-in-1 units, with cutting edge technology to  
perform 3 different functions with a single unit.

- ✓ MULTI-FUNCTION
- ✓ INTUITIVE
- ✓ EFFICIENT



Harmonic filtering

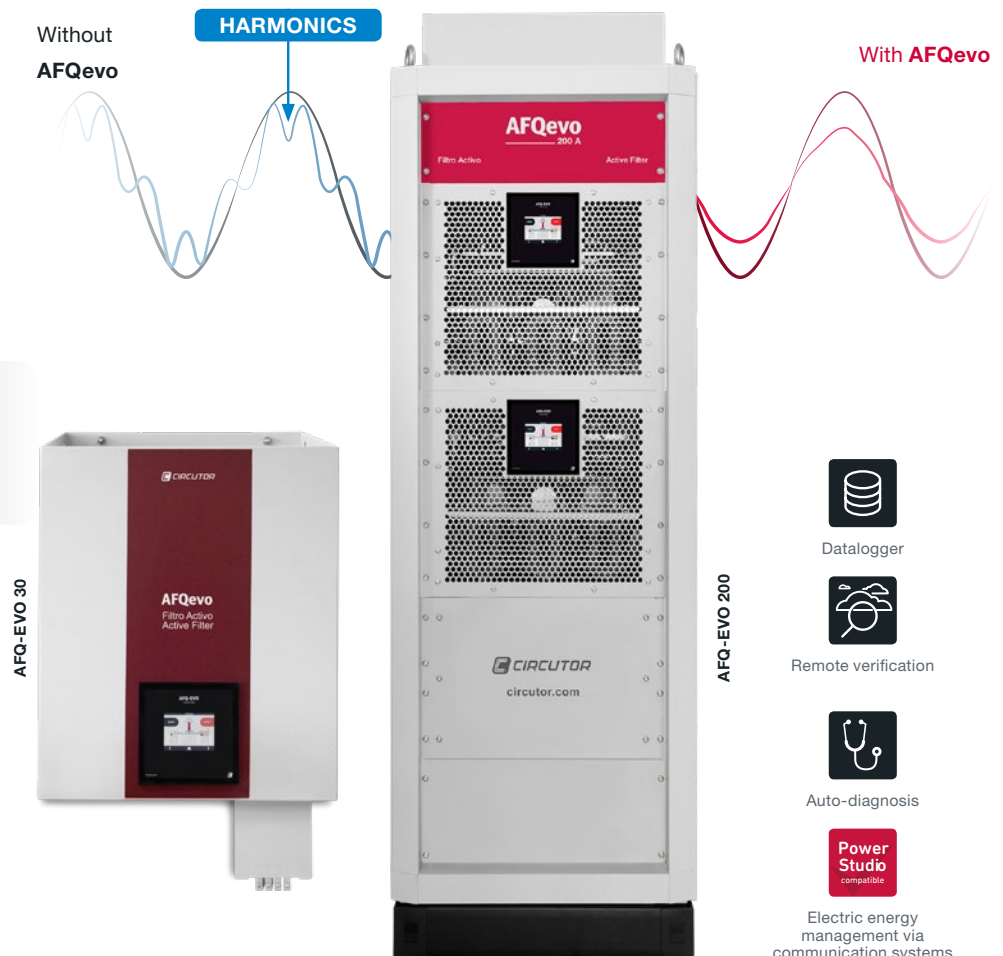


Power factor  
correction



Phase balancing

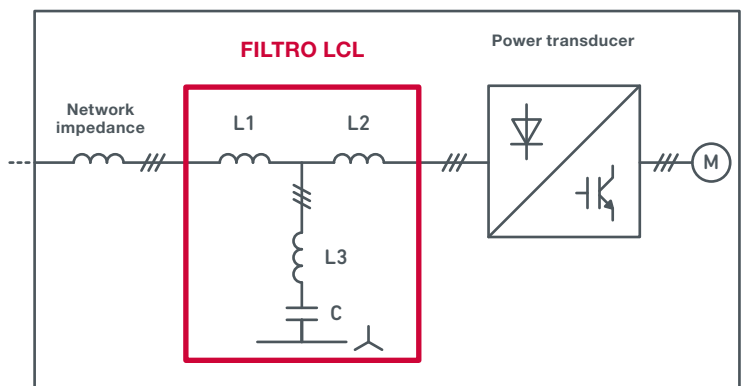
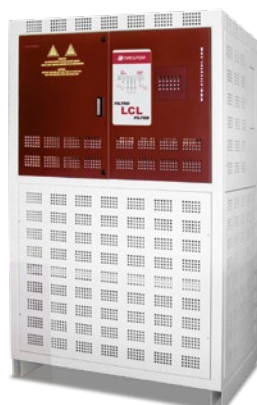
In addition, these functions can be prioritised  
in the required order.



## LCL

*Harmonic filter for  
power converters*

**LCL** filters are individual filters for  
transducers that allow you to reduce  
the level of harmonics produced by  
transducers on the network. Inserting  
**LCL** filters allows installations with  
transducers to comply with standards  
**EN-61000-4-3** and **IEEE-519**.





# Savings

Reducing energy consumption is essential for achieving savings in the production process.



## Optim FRE

### Static capacitor banks

#### New times, new needs.

Changes in the types of loads on facilities is making it necessary to change the traditional concept of power factor correction. CIRCUTOR, a pioneer in static capacitor banks, has developed the thyristor-based correction system, managing to bring the cost of static capacitor banks with filters in line with traditional contactor-based correction systems.

#### Immediate correction

Immediate response to correction requirements (40ms), ensuring that the cos phi is suitably corrected, regardless of any variation in the installation's loads.

#### Less maintenance

The capacitor bank has far fewer requirements, as there are no mechanical components such as contactors, the components most frequently in need of servicing and replacement.

#### Longer useful life

The CIRCUTOR system increases the useful life of capacitors, as they do not have to withstand current peaks, one of the main causes of wear.

#### Improved network quality

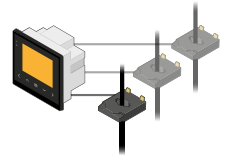
Connecting capacitors with no current peaks and no transients eliminates any problems with electronic loads that may be affected by power disturbances.

## Computer SMART III

### 3-in-1 complete reactive energy regulator

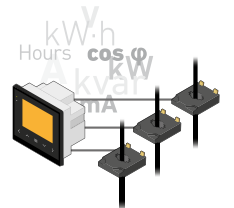
#### Power Factor

- Smart compensation
- Measurement in 1 or 3 phases
- 4 target cos phi values
- Configurable alarms
- Built-in communication system



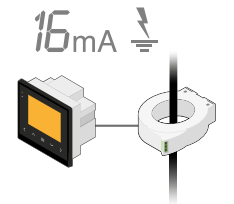
#### Analysis

In addition to being a state-of-the-art reactive energy regulator, the **SMART III** is also a powerful power analyser that measures the consumption and electrical parameters of the installation.



#### Protection

The **SMART III** offers **CIRCUTOR's** unique leakage measurement system, which allows the affected capacitor to be disconnected and guarantees service continuity for the rest of the capacitor bank.



## Optim P&P

### Plug&Play capacitor banks

#### We make it easy for you

Cabinets with cable outlets on every side, for ease of installation. The Plug&Play system also enables the start-up of systems in three quick and easy steps.

Warranty  
**CIRCUTOR**



Over 10 years of service life.

GET A RETURN ON YOUR INVESTMENT

# Industry 4.0

Competitiveness,  
Digitalisation and Efficiency.

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