CVM-E3-MINI

Power analyzer designed
for energy efficiency

Circutor

Check each parameter
of your electrical installation

By installing power analyzers, you can have real-time information on electrical parameters, such as voltage, current and harmonics, to analyze the quality of your installation; as well as usage data to find out how much energy you consume, when you consume it, where you consume it and how.

Measuring energy consumption lets you quantify the energy demanded by the different systems in your installation. This information is essential to assessing future energy improvement actions in order to optimize your consumption, avoid penalties, or quickly identify any abnormal or inefficient consumption.

The analysis of electrical parameters provides reliable information on how the loads in your installation behave, letting you identify where you need to install devices to improve the quality of your network, such as active or passive filters, or what type of capacitor bank you have to install to avoid penalties on your electric bill.
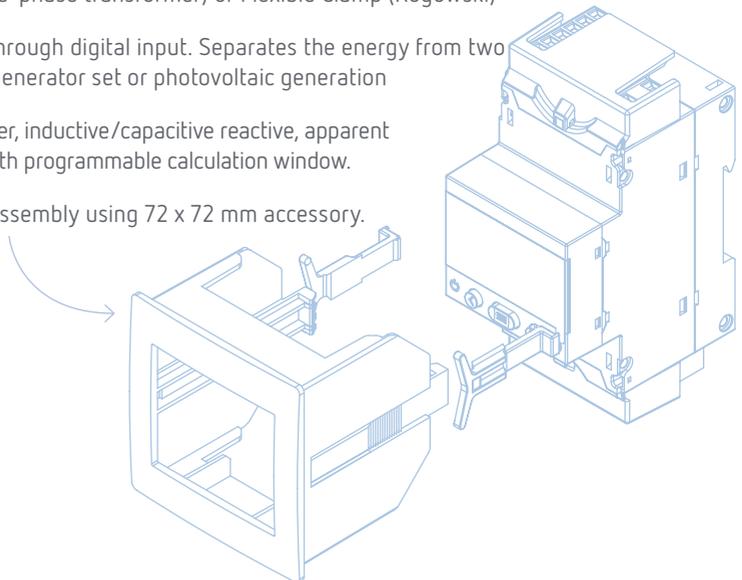
CVM-E3-MINI

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New needs in the sector

CVM-E3-MINI enables the control of electrical and energy variables in any type of installation adapting to new international regulations for the measurement and management of energy efficiency, adding the economic cost, CO_2 emissions and operating time for preventive maintenance in two energy logs for two different sources: distribution panel and self-consumption.

Its most notable features are:

- 4-quadrant power analyzer (consumption and generation)

- Measurement of active, inductive/capacitive reactive and apparent energy

- Measures the monetary cost of energy, CO_2 emissions and operating hours for preventive maintenance tasks

- .../5 A ; .../1 A (closed- or open-core transformer) or **MC** (efficient single-phase or three-phase transformer) or Flexible Clamp (Rogowski)

- Dual power source through digital input. Separates the energy from two sources: utility and generator set or photovoltaic generation

- Maximum active power, inductive/capacitive reactive, apparent or current demand with programmable calculation window.

- Possibility of panel assembly using 72 x 72 mm accessory.

Check each parameter of your electrical installation

## Measures and calculates any parameter in your electrical network

CVM-E3-MINI provides real time measurements of more than 250 electrical parameters. The unit shows the maximum and minimum RMS values of any instantaneous variable as well as the harmonic breakdown up to the 31st harmonic.

Separates the consumption of two sources of energy

The unit has a digital input for changing the tariff. In this way the unit is able to save the incremental values of two sources of energy, either from the electrical network or the auxiliary energy generation system.
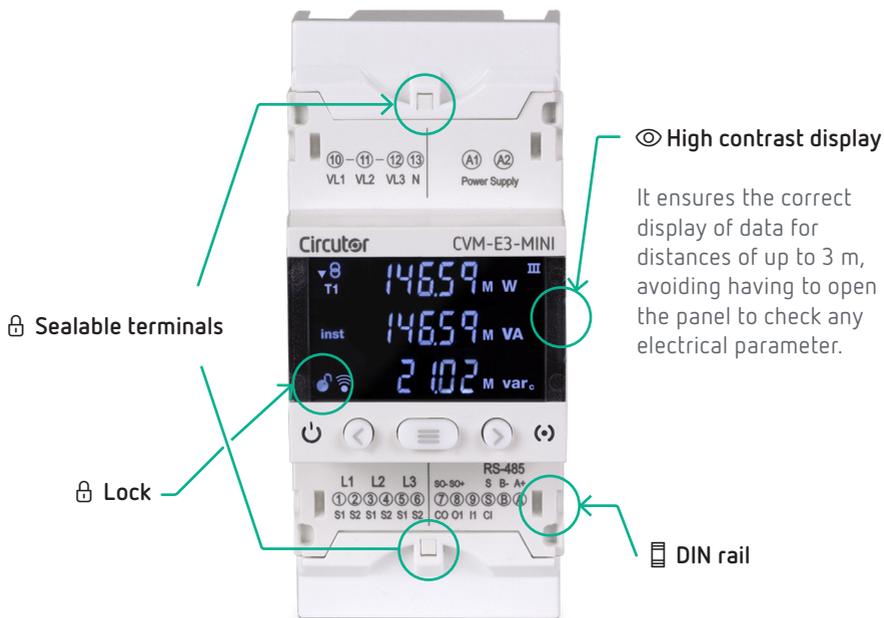
Remotely fixes any configuration error →

Reconfigure the unit, through **PowerStudio** software, to resolve any error in the programming or physical wiring of the unit. Save indirect costs in the start-up and configuration.
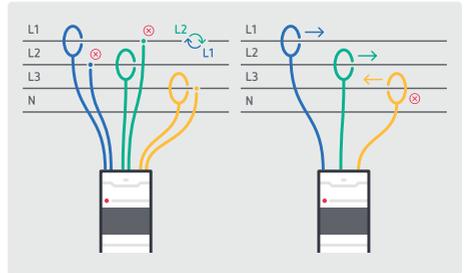
System with sealable Plug & ON terminals

It protects any user from direct contact with live parts and ensures the accuracy of the measurements, sealing the terminals and discouraging any tampering.

⊚ High contrast display

It ensures the correct display of data for distances of up to 3 m, avoiding having to open the panel to check any electrical parameter.

🔒 **Sealable terminals**

🔒 **Lock**

⊟ **DIN rail**

📟 RS-485 communications with Modbus RTU and BACnet protocol, which can be selected in the same unit.

⊡ 1 digital output for generation of energy consumption impulses or alarm of any instantaneous parameter.

⊡ 1 digital input for changing the tariff or status control (sensor management or skipping of protections).

🔧 Quick connection terminals.

🔒 Sealable.

New screens

The various measurement options include the possibility of measuring the monetary cost of energy, operating time, CO_2 emissions and harmonics.

Installation without interruption

The most flexible version

Install the FLEX version in all those installations where interrupting the power is not an option. The **CVM-E3-MINI-FLEX** power analyzer allows connecting flexible current clamps (FLEX-MAG) to read the current and any associated electrical parameters, such as energy and power. The flexible clamps are designed for installations of up to 2000 A with diameters of 70 or 120 mm, spanning distances up to 5 meters from the measuring point to the analyzer.

Applications

Photovoltaic installations

Production processes

Tertiary sector

Buildings

Technical features

Power circuit	Rated voltage	207...253 Vac
	Installation category	CAT III 300 V
Voltage measurement circuit	Rated voltage (Un)	300 V ac (p-n) / 520 V ac (p-p)
	Voltage measurement margin	5...120% Un
	Frequency measurement margin	45...65 Hz
	Installation category	CAT III 300 V
Current measurement circuit	Nominal current (In)	.../5A ó .../1A
	Current measurement margin	2...120% In
	Minimum measurement current (Istart)	0,2% In
	Installation category	CAT III 300 V
Measurement accuracy	Voltage measurement	0,5% ± 1 digit
	Current measurement	0,5% ± 1 digit
	Frequency measurement	0,5%
	Active power measurement	0,5% ± 2 digits
	Reactive power measurement	1% ± 2 digits
	Active energy measurement	I <0.1 In Class 1 - I >0.1 In Class 0,5
	Reactive energy measurement	Class 2
Impulse output	Quantity	1
	Type	Output NPN
	Maximum voltage	24 V cc
	Maximum frequency	16 imp / s
	Impulse width	30...500 ms (Programmable)
Digital input	Quantity	1
	Type	Potential-free contact NPN
	Communications protocol	Modbus RTU - BACnet
	Fieldbus	RS-485 - MS/TP
	Speed	9600 - 19200 - 38400 - [57600 - 115200 Modbus RTU]*
Environmental features	Operating temperature	-5 ... +45 °C
	Storage temperature	-10 ... +50 °C
	Relative humidity (without condensation)	5 ... 95 %
	Maximum altitude	2000 m
Mechanical features	Protection degree	IP31 - Frontal: IP40
	Dimensions	52,5 x 118 x 74 mm
	Weight	300 g
	Enclosure	V0 self-extinguishing plastic
	Panel attachment with 72x72 accessory	DIN rail
Standards	**EN 61010-1:2010, EN 61010-2-030:2011, EN 61326-1:2013, UL94**	

* Available on devices with software version v2.xx

References

Type	Code	Current input
CVM-E3-MINI-ITF-485-IC	M56414.	.../5 A | .../1 A
CVM-E3-MINI-MC-485-IC	M56424.	.../250 mA
CVM-E3-MINI-FLEX-485-IC	M56454.	Rogowski
Panel adapter CVM-E3-MINI 72x72	M5ZZF100000E3	-

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