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CVM-MINI

Three-phase power analyzer, assembly on DIN rail

References

Isolated Inp.	Current Inp.	Digital output	Harmonics	Protocol	Communications	Type	Code
-	.../1 A, .../5 A	-	-	-	-	**CVM MINI**	**M52000**
Yes	.../1 A, .../5 A	2	-	-	-	**CVM MINI-ITF-C2**	**M52011**
Yes	.../250 mA	2	-	-	-	**CVM MINI-MC-ITF-C2** (*1)	**M52071**
Yes	.../1 A, .../5 A	2	-	Modbus/RTU	RS-485	**CVM MINI-ITF-RS485-C2**	**M52021**
Yes	.../250 mA	2	-	Modbus/RTU	RS-485	**CVM MINI-MC-ITF-RS485-C2** (*1)	**M52081**
Yes	.../1 A, .../5 A	2	*U* e *I* (15º)	Modbus/RTU	RS-485	**CVM MINI-ITF-HAR-RS485-C2**	**M52031**
Yes	.../1 A, .../5 A	2	-	Modbus/TCP	TCP/IP	**CVM-MINI-ITF-ETH-C2**	**M520J1**
Yes	.../250 mA	2	-	Modbus/TCP	TCP/IP	**CVM-MINI-MC-ITF-ETH-C2** (*1)	**M520L1**
Yes	.../1 A, .../5 A	2	-	BACnet	-	**CVM-MINI-ITF-BACnet-C2** (*2)	**M520F1**
Yes	.../250 mA	2	-	BACnet	-	**CVM-MINI-MC-BACnet-C2** (*1*2)	**M520H1**
Yes	.../1 A, .../5 A	2	-	LonWoks	LonTalk	**CVM MINI-ITF-LonWorks-C2**	**M52091**
				ISO/IEC 14908 – ANSI/EIA 7091			
Yes	.../333 mV	2	-	Modbus/RTU	RS-485	**CVM-MINI-mV-RS485-C2**	**M520810000V**
Panel adapter for **CVM-MINI** (72 x 72)						**Panel adapter**	**M5ZZF1**

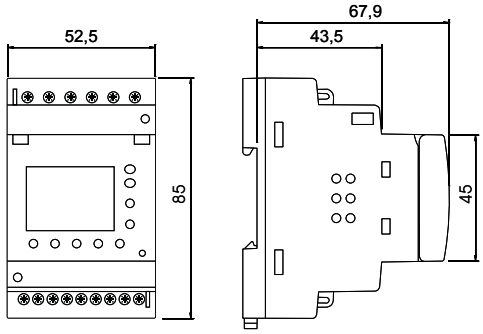
(*1) Requires the installation of **MC** series efficient transformers. – (*2) Only available with 230 V_{ac} power supply

Coding table

M	5	X	X	X	X	0	0	X
Code						Internal code		↑
			Standard (230 Vac)					0
Power supply voltage			85...285 Vac 95...300 Vdc					C
			20...120 Vdc					5*

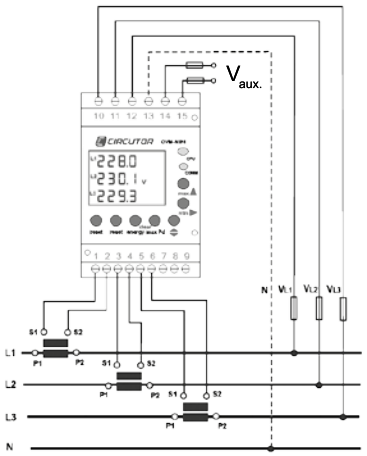
* Only **CVM MINI-ITF-RS485-C2**

Dimensions

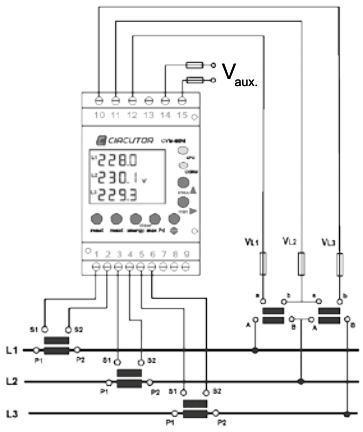


Connections

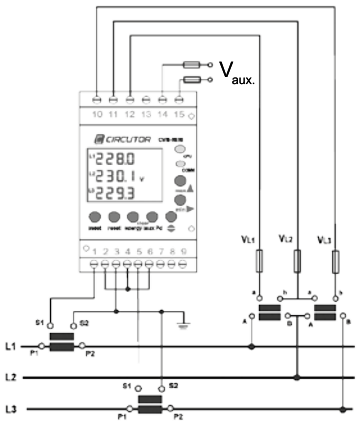
3 or 4 wires (low voltage)



3 wires (2 voltage transformers and 3 current transformers)



3 wires (2 voltage transformers and 3 current transformers)



CVM-NET4+

Multi-channel power analyzer for DIN rail - no display

Description

CVM-NET4+ is a multi-channel power analyzer designed to measure balanced or unbalanced three-phase networks and to measure single-phase networks. Its versatile configuration options enable you to take measurements in single-phase systems, three-phase systems or a combination of both. It has a single three-phase voltage input combined with 12 single-phase channels to measure the current from the **MC efficient current transformers**.

Its main features include:

- Assembly on DIN rail
- Compact size (6 DIN rail modules)
- Measurement of up to 12 single-phase channels or combined single-phase and three-phase current channels.
- Current measurement using efficient **MC** series transformers (.../250 mA)*
- RS-485 Communications (Modbus/RTU)
- 4 programmable digital outputs for alarms or impulses
- Compatible with **PowerStudio** /**PowerStudio SCADA** / **PowerStudio SCADA Deluxe** software.

Applications

- Measurement of electrical parameters in multi-channel installations, such as data processing centres and switchboards of single-phase loads.
- Simultaneous measurement at 4 different points in three-phase installations
- Its compact size is perfect for assembly on electric panels

Technical features

Power circuit	Rated voltage	85...265 Vac / 95...300 Vdc
	Power supply frequency	50...60 Hz
	Maximum consumption	2,9...6 V·A / 3...6 W
Measurement circuit	Rated voltage	300 Vac (Ph-N) / 520 Vdc (Ph-Ph)
	Frequency	45...65 Hz
	Nominal current	I_n .../250 mA
	Permanent overload	1,3 I_n
Accuracy class	Voltage, current	0,5 %
	Active Power	1 % (> 90 W)
	Active energy	1 % (class 1)
Communications	Network protocol	RS-485
	Communication protocol	Modbus/RTU
	Speed	9600 / 19200 / 38400 / 57600 bps
	Lenght	8
	Parity	No parity / odd / even
	Stop bits	1 / 2
Output transistors	Type: Isolated transistor	Open NPN collector
	Maximum operation voltage	24 Vdc
	Maximum operation current	50 mA
	Maximum frequency	5 imp/s
	Impulse duration	100 ms
Build features	Measurement module	Assembly on **DIN 46277** rail (**EN 50022**)
	Number of modules	6
	Protection Degree	IP 31, Front panel IP 51
Environmental conditions	Working temperature	-10 ... +50 °C
	Humidity (non-condensing)	5 ... 95% (non-condensing)
	Maximum altitude	2000 m
Safety	**IEC 61010** Double-insulated electric shock protection, class II	
Standards	**IEC 664, VDE 0110, UL 94, IEC 801, IEC 348, IEC 571-1, IEC 61000-6-3, IEC 61000-6-1, IEC 61010-1, IEC 61000-4-11, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC-61000-4-5, EN 55011, CE**	

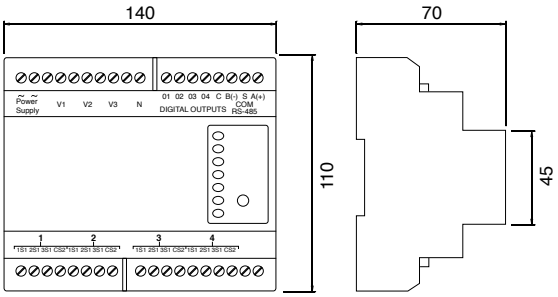
CVM-NET4+

Multi-channel power analyzer for DIN rail - no display

References

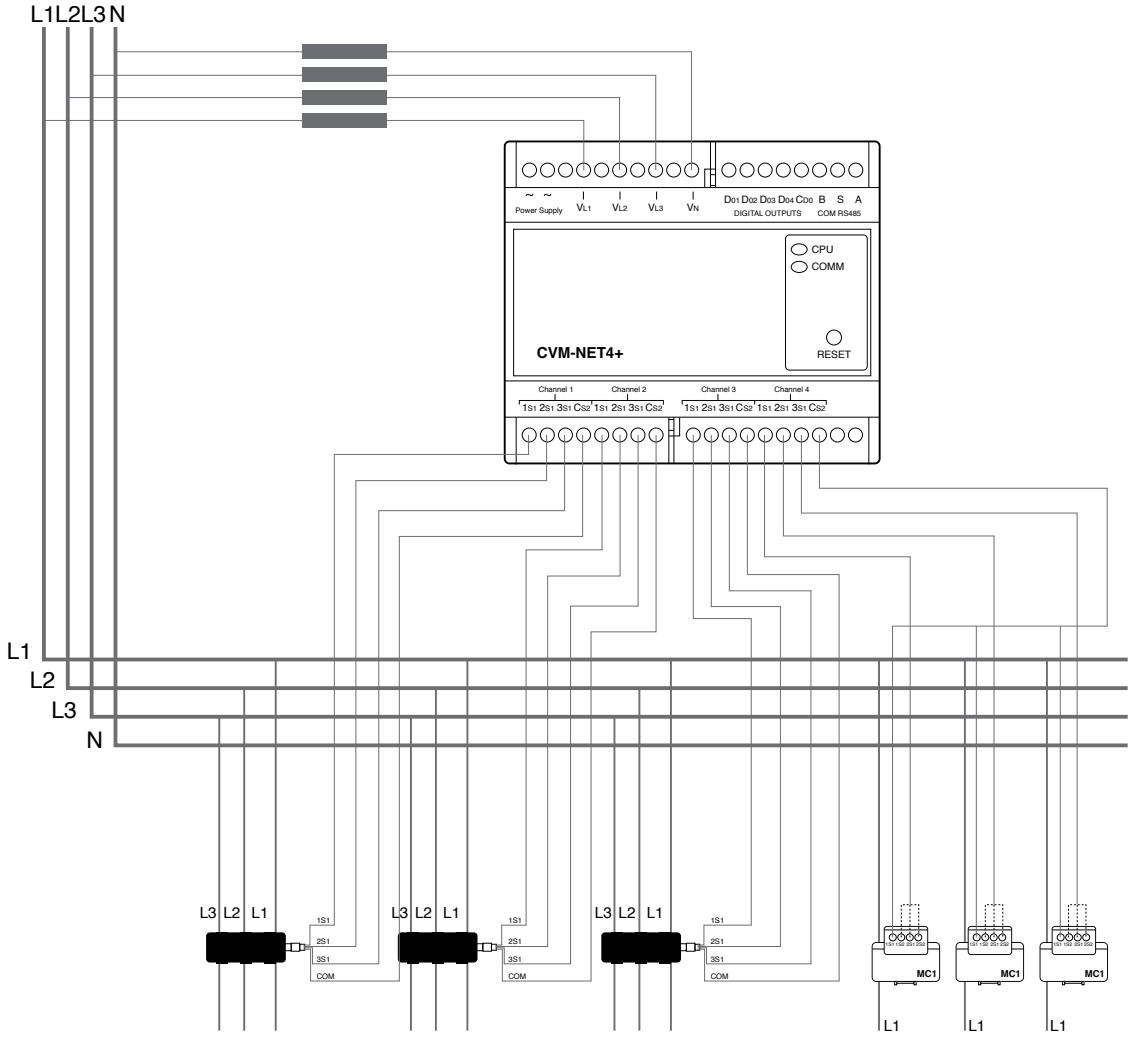
Type	Code	Communications	Transformer
CVM-NET4+-MC-RS485-C4	**M55782**	RS-485 Modbus/RTU	.../250 mA (type **MC**)
CVM-NET4+-mV-RS485-C4	**M557820000V00**	RS-485 Modbus/RTU	.../ 333 mV

Dimensions



Connections

Combined three-phase and single-phase channel connections



PowerStudio

Energy supervision and centralisation software

PowerStudio is a powerful, simple and user-friendly software tool that can be used for the integral supervision of energy of power analyzers, energy meters, earth leakages and offers complete control of a wide range of magnitudes.

PowerStudio, together with CIRCUTOR units and systems, adapts to the needs of the installation, offering the following efficient management measures:

Versions

PowerStudio is available in three versions with different features, to suit the needs of the particular management system.

PowerStudio

PowerStudio SCADA

PowerStudio SCADA Deluxe

Energy management

- Creation of historical logs
- Baseline determination
- Control of energy costs
- Energy balance
- Energy consumption ratios
- Consumption reports

Essential tool for UNE 16001 / ISO 50001 certification

Improved productivity

Maintenance
- Alarm tables
- Power quality control
- Variables analysis and management
- Technical reports

Production costs
- Correct allocation of energy costs
- Energy ratio / unit of production
- Cost reports / production ratios

Additional software

SQL DATA

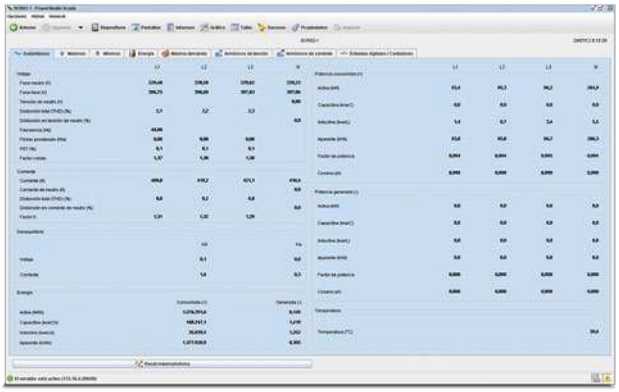
Modules for exporting historical logs to an SQL server

OPC-DA

Data connector for external systems with an OPC-DA client

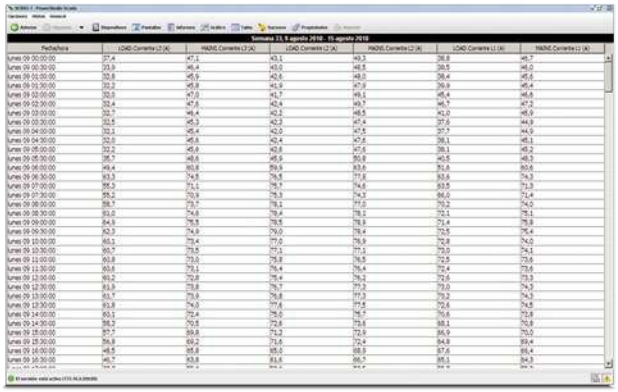
Real time variables

Displays all variables measured from all units in real time.



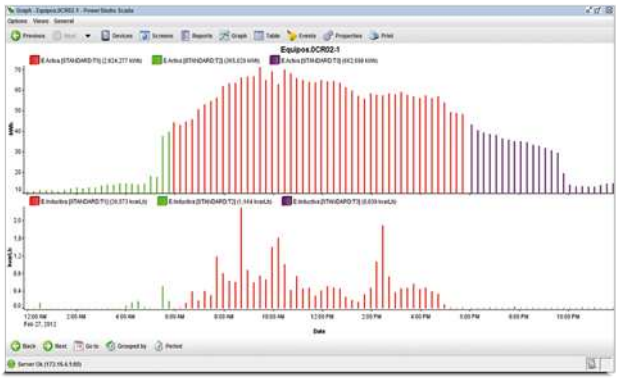
Tables

Displays data on tables; this information can be exported to .txt or .csv files.



Graphics

Graphical representation of the historical data recorded by software. Enables configuration of colours and layout individually. Displays multiple parameters simultaneously.

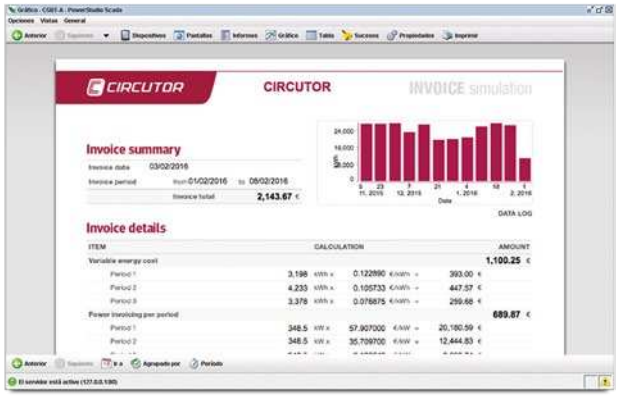


SCADA screens

With **SCADA** screens you can configure all kinds of interactive windows, create personalised screens and combine different parameters from different CIRCUTOR units easily, thus obtaining the maximum amount of information possible in an intuitive and user-friendly environment.

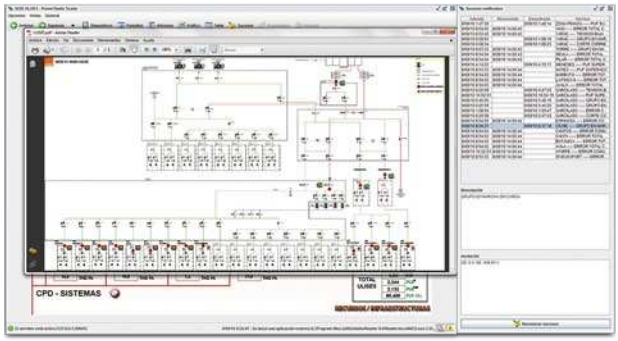
Reports

PowerStudio SCADA can generate reports for all types of bills, with the allocation of partial costs, production ratios, etc.



Events

With the events module, you can control and automate alarms and events, automatically controlling the installation's most critical and important conditions.



Accessories

TC, TCH y **TP** | **Transformers**
These units can be installed in installations with space restrictions. They are designed with a wide range of diameters and operating current values. They are easily installed, ideal for switch outputs and provide highly accurate measurement. They can be mounted on panels or assembled on DIN rails with accessories.

MC1 | **Transformers**
Very useful for installing in places where the exact nominal current range is not known. Each unit features 3 ratio ranges. Compliant with the **IEC 60044-1** Standard, featuring a 250 mA output for more efficient measurements.

RS2RS | **Converter**
Gateway that converts an RS-232 channel to RS-485. It can also operate as an amplifier-repeater of the signals of the RS-485 bus.

CMBUS-8/24 | **Converter**
Gateway designed to convert the M-Bus protocol to Modbus, with up to 24 slave units.

STP-24 | **Transformers**
Open-core current transformers with compact dimensions for easy installation. This type of transformer is very easy to install and uninstall on compact panels. In addition, these open-core transformers can measure current without the need to cut the power supply.

MC3 | **Transformers**
The new system comprises three efficient transformers in the same enclosure. This innovative design provides important advantages during installation. Compliant with the **IEC 60044-1** Standard, featuring a 250 mA output for more efficient measurements.

TCP1RS+ | **Converter**
Gateway designed to convert the Ethernet physical environment to RS-485.

TCP2RS+ | **Converter**
Gateway designed to convert the Ethernet physical environment to RS-485.

Wireless system

AirGATEWAY | **Converter**
AirGATEWAY converts the Modbus serial environment to Radio.

AirREPEATER | **Repeter**
AirREPEATER is a repeater unit that expands the range of the Radio signal.

AirHANZER | **Repeter**
AirHANZER is a handheld unit that measures radio signals, providing information about the available coverage and the need to install a repeater unit.

AirBRIDGE | **Converter**
AirBRIDGE converts Radio signals to Modbus RS-485 signals for slave units.

AirTHL | **Sensor**
AirTHL provides the infrastructure with wireless communications and can measure temperature, humidity and brightness.

Advanced system for absolute management

CVM
Power Analyzers

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