

# CVM-E3-MINI

## Three-phase power analyzer for DIN rail



### Description

Three-phase power analyzer (balanced and unbalanced) for mounting on DIN rail, very compact, with measurements in 4 quadrants.

Other features:

- Current measurement .../5 or .../1 A or .../250 mA\*
- With ITF technology: ITF galvanic insulation protection
- DIN rail with only 3 modules
- High-contrast backlit display
- 72 x 72 mm panel mounting with front adapter
- RS-485 communication (Modbus/RTU up to 57.6 kbps) (Bacnet up to 38.4 kbps)
- One transistor output (programmable)
- One digital input for selecting tariff or logic states
- Sealable terminal cover
- Harmonic display (V, A) up to 31°

### Applications

- Control application in low- and medium-voltage distribution panels and switchboards where it is necessary to place an analyzer on the DIN rail due to problems of space.
- Alarm control. Maximum value, minimum value and programmable delay.
- Control of active or reactive energy by impulse output.
- Capture of maximum and minimum instantaneous data of electrical parameters measured.



CVM-E3-MINI with front adapter (72 x 72)

### Technical features

Power circuit	Rated voltage	207 ... 253 V~	
	Frequency	50 ... 60 Hz	
	Consumption	3.5 VA	
	Installation category	CAT III 300 V	
Voltage measurement circuit	Rated voltage ( $U_n$ )	300 Vac (p-N) / 520 Vac (p-p)	
	Voltage measurement margin	5 ... 120% $U_n$	
	Frequency measurement margin	45 ... 65 Hz	
	Input impedance	400 k $\Omega$	
	Minimum measurement voltage (Vstart)	11 V ac (p-N)	
Current measurement circuit	Installation category	CAT III 300 V	
	Nominal current ( $I_n$ )	...5 A or .../1 A (MC series: .../250mA)*	
	Current measurement margin	2 ... 120% $I_n$	
	Minimum measurement current ( $I_{start}$ )	10 mA	
Measurement accuracy	Consumption	0.9 VA	
	Installation category	CAT III 300 V	
	Voltage measurement	0.5 % $\pm$ 1 digit	
	Current measurement	0.5 % $\pm$ 1 digit	
	Frequency measurement	0.5%	
	Active power measurement	0.5% $\pm$ 2 digits	
	Reactive power measurement	1% $\pm$ 2 digits	
Active energy measurement	$I < 0.1 I_n$	Class 1	$I > 0.1 I_n$
	Reactive energy measurement	Class 2	
Pulse output	Quantity	1	
	Type	Output NPN	
	Maximum voltage	24 V dc	
	Maximum current	50 mA	
	Maximum frequency	16 imp/s	
	Pulse width	30 ms to 500 ms (programmable)	
Digital input	Quantity	1	
	Type	Potential-free contact NPN	
	Insulation	Optoisolated	

\*According to type

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## Three-phase power analyzer for DIN rail

Communications	Fieldbus	<b>Modbus RTU</b>	<b>BACnet</b>
		RS-485	MS/TP
	Communications protocol	Modbus RTU	BACnet
	Speed	9600 to 57600	9600 to 38400 bps
	Stop bits	1 - 2	1
User interface	Parity	none - even - odd	none
	Display	High-contrast backlit custom LCD	
	Keypad	3 keys	
	LED	2 LEDs	
Environmental features	Operating temperature	-5 ... + 45 °C	
	Storage temperature	-10...+50°C	
	Relative humidity (without condensation)	5 to 95%	
	Maximum altitude	2000 m	
	Protection degree	IP30 Front panel: IP40	
Mechanical features	Dimensions	52.5 x 118 x 74 mm	
	Weight	300 g	
	Enclosure	V0 self-extinguishing plastic	
	Attachment	DIN rail	
Standards	UNE-EN-61000-4-3, UNE-EN-61000-4-4, UNE-EN-61000-4-5, IEC 61010-1, IEC 61326-1, IEC 61557-12, IEC 61010-2-030 (UNE EN 61000-6-3, UNE EN 61000-6-1, UNE EN 61000-6-2, UNE EN 61000-6-4 ), UL9		

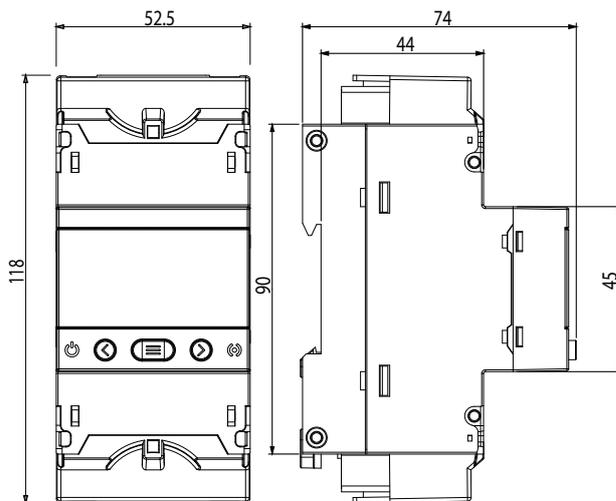
### References

Isolated input	Current input	Digital output	Digital input	Harmonics	Protocol	Communication RS-485	Type	Code
Yes	.../1 A, .../5 A	1	1		Modbus RTU		CVM-E3-Mini-ITF-485-IC	M56414
Yes	.../250 mA	1	1	31st	BACnet	9.6 to 57,6 kbps 9.6 to 34,8 kbps	CVM-E3-Mini-MC-485-IC*	M56424
Yes	Rogowski	1	1				CVM-E3-MINI-FLEX-485-IC**	M56454
Panel adapter for CVM-E3-MINI (72 x 72 mm)							Panel adapter	M5ZZF100000E3

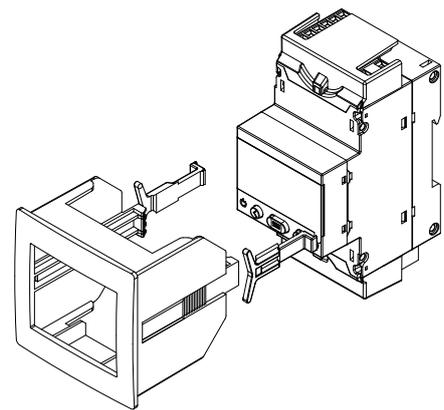
(\*) Needs MC series efficient transformers

(\*\*) Needs FLEX-MAG series flexible clamps

### Dimensions



### Accessories



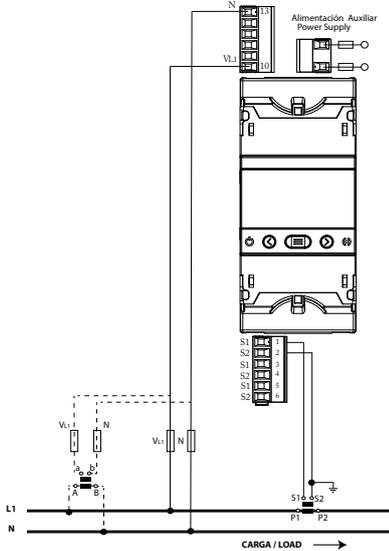
Mounting of CVM-E3-MINI adapter 72x72 mm

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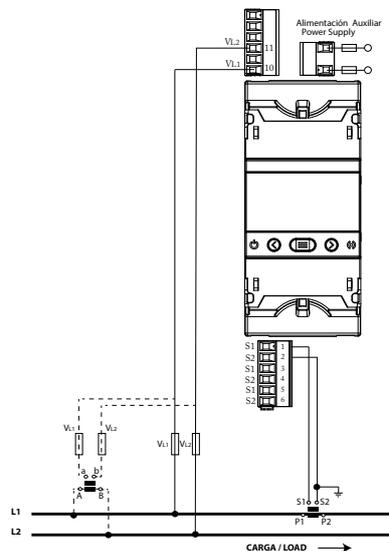
## Three-phase power analyzer for DIN rail

### Connections

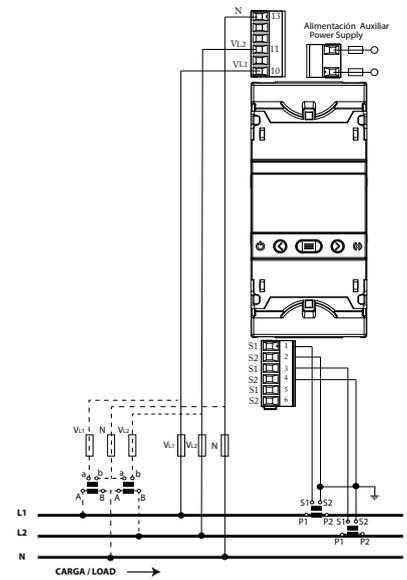
Phase-neutral network - 2-wire



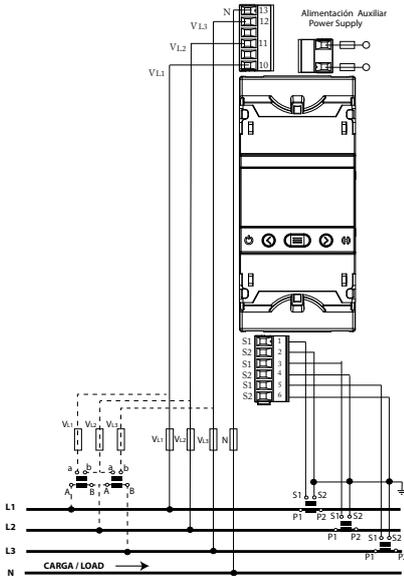
Phase-phase network - 2 wires



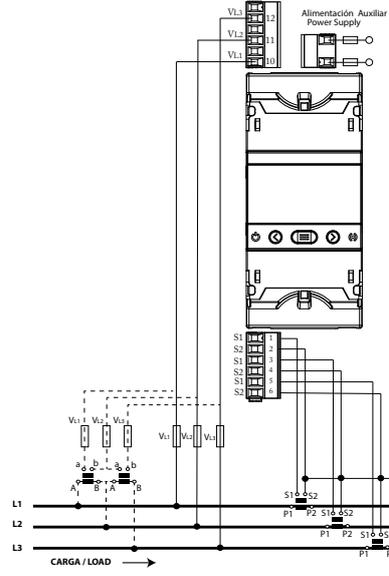
Two-phase network - 3 wires



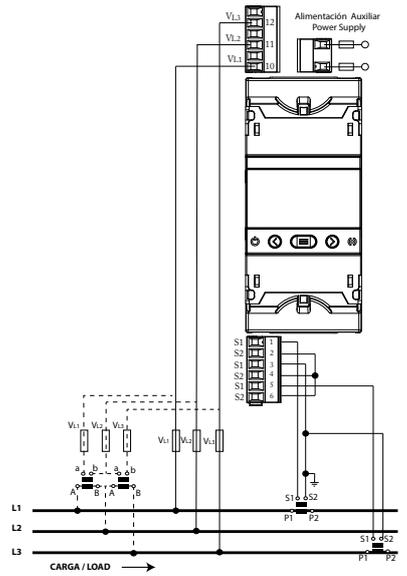
Three-phase network - 4-wire



Three-phase network - 3 wires



Three-phase network - 3-wire - ARON



RS-485 connection diagram

