

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 Ω | |
| | 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}) | 0,2% I_n | |
| 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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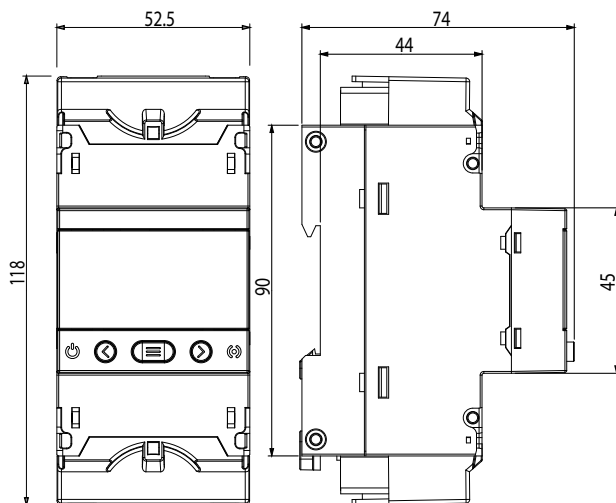
| | | | |
|-------------------------------|--|----------------------------------|-------------------|
| Communications | Fieldbus | Modbus RTU | BACnet |
| | | RS-485 | MS/TP |
| | Communications protocol | Modbus RTU | BACnet |
| | Speed | 9600 to 57600 | 9600 to 38400 bps |
| | Stop bits | 1 - 2 | 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

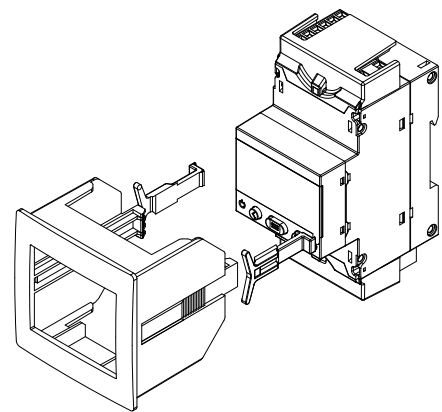
| Isolated input | Current input | Digital output | Digital input | Harmonics | Protocol | Communication RS-485 | Type | Code |
|--|------------------|----------------|---------------|-----------|------------|--------------------------------------|---------------------------|---------------|
| Yes | .../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



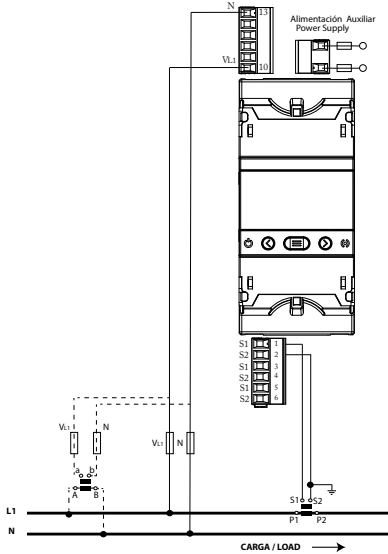
Mounting of CVM-E3-MINI adapter 72x72 mm

CVM-E3-MINI

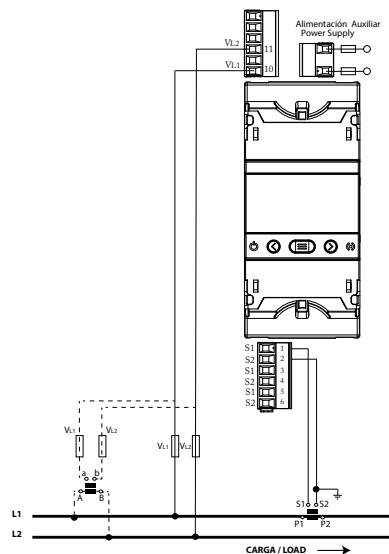
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Connections

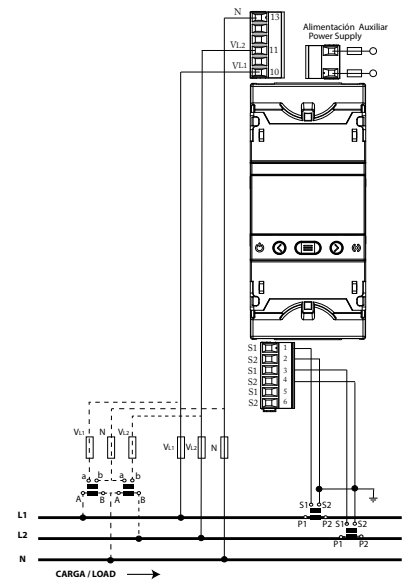
Phase-neutral network - 2-wire



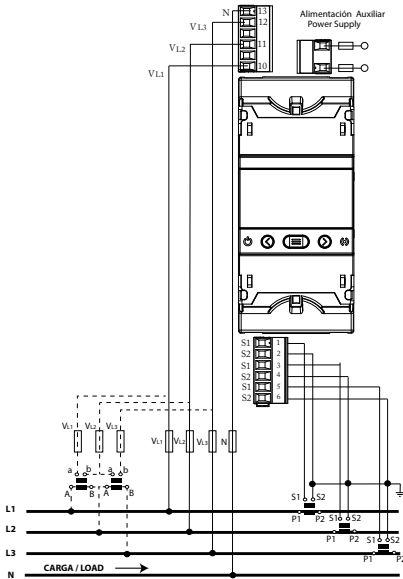
Phase-phase network - 2 wires



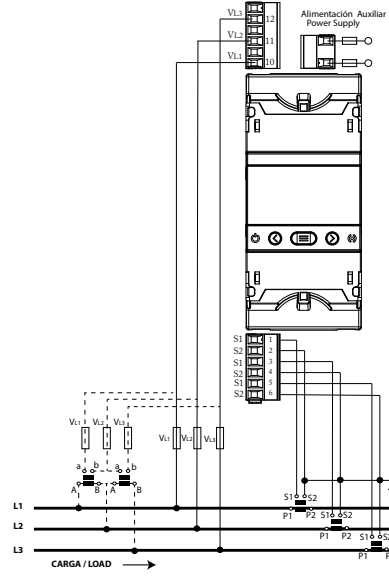
Two-phase network - 3 wires



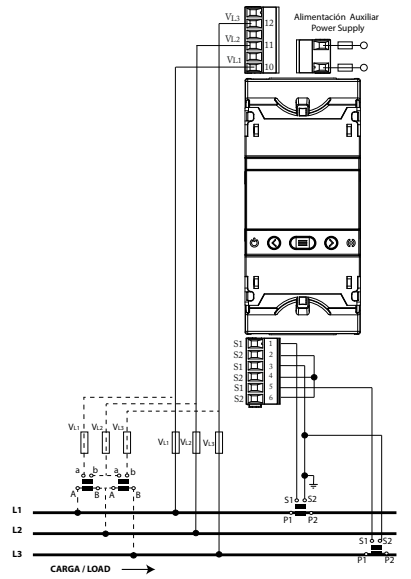
Three-phase network - 4-wire



Three-phase network - 3 wires



Three-phase network - 3-wire - ARON



RS-485 connection diagram

