# CVM-E3-MINI-MC-485-IC

CVM-E3-MINI-MC-485-IC, N rail power analyzer

Code: M56424.

> Protocol: Modbus/RTU | BACnet
> Communications: RS-485
> Transistor output: 1
> Digital inputs: 1
> Harmonics: 31
> Power supply (Vac): 207...253 Vac
> Input current: .../250 mA
> Mounting: 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 or Rogowski type sensors
- 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 19.2 kbps) (Bacnet up to 19.2 kbps)
- One transistor output (programmable)
- One digital input for selecting tariff or logic states
- Sealable terminal cover
- Harmonic display (V, A) up to 31°

## Application

- 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.

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Three-phase power analyzer for DIN rail

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## Specifications

### AC power supply

| | |
|---|---|
| Installation category | CAT III 300 V |
| Consumption | 4 VA |
| Frequency | 50...60 Hz |
| Nominal voltage | 207...253 Vc.a. |

### Mechanical characteristics

| | |
|---|---|
| Size (mm) width x height x depth | 52.5 x 118 x 74 (mm) |
| Envelope | Self-extinguishing V0 plastic |
| Differential current measurement | min. 2,5 mm2 |
| Fastening | DIN rail |
| Weight (kg) | 0,29 |

### Environmental characteristics

| | |
|---|---|
| Protection class | IP 30 / Front: IP 40 |
| Relative humidity (without condensation) | 5...95% |
| Storage temperature | -10 ... +50 °C |
| Working temperature | -5 ... +45 °C |

### Current measurement circuit

| | |
|---|---|
| Installation category | CAT III 300 V |
| Nominal current (In) | .../0,250 A |
| Phase current measuring range | 2...100% de In |
| Maximum input current consumption | 0,9 VA |
| Minimum current measurement | 0,2 % In |

### Voltage measurement circuit

| | |
|---|---|
| Installation category | CAT III 300 V |
| Input impedance | 400 kΩ |
| Frequency measuring range | 45...65 Hz |
| Nominal voltage | 300V Ph-N, 520V Ph-Ph |
| Minimum measurement voltage (Vstart) | 11 V Ph-N |

### Standards

| | |
|---|---|
| Electrical safety, Maximum height (m) | 2000 |
| Standards | IEC 61010-1, IEC 61010-2-030, IEC 61326-1, IEC 61557-12 , UL94 |

### User interface

| | |
|---|---|
| LED | 2 LED |

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| | |
|---|---|
| Keyboard | 3 keys |
| Display type | LCD Custom COG |

### Digital inputs

| | |
|---|---|
| Input/output insulation | Optoisolated |
| Quantity | 1 |
| Type | NPN Potential-free contact |

### Digital transistor outputs

| | |
|---|---|
| Pulse width | 30...500 ms (Programmable) |
| Type | NPN |
| Maximum frequency | 16 imp / s |
| Maximum current | 50 mA |
| Maximum voltage | 24 Vdc |

### Measurement accuracy

| | |
|---|---|
| Frequency measurement | 0,50% |
| Phase current measurement | 0,5 % ± 1 digit (10% ≤ I ≤ 100% In) |
| Reactive energy measurement (kvarh) | Class 2 (2 ... 100% In) |
| Reactive power measurement (kvar) | class 2 (2 ... 100% In) |
| Apparent power measurement (kVA) | 2 % ±2 digits (2 ... 100% In) |
| Active energy measurement (kWh) | Class 1 (2 ... 100% In) |
| Active power measurement (kW) | 2 % ±2 digits (2 ... 100% In) |
| Phase voltage measurement | 0.5% ± 1 digit |

### Serial communication

| | |
|---|---|
| Protocol | ModBus/RTU, BACnet |
| Technology / Type | RS-485 / BACnet |

**CVM-E3-MINI**
Power analyzer, three-phase DIN rail

| CODE | TYPE | Input current | Transistor output | Digital inputs | Communications | Protocol |
|---|---|---|---|---|---|---|
| M56414. | CVM-E3-MINI-ITF-485-IC | .../5 A \| .../1 A | 1 | 1 | RS-485 | Modbus/RTU \| BACnet |
| M56424. | CVM-E3-MINI-MC-485-IC | .../250 mA | 1 | 1 | RS-485 | Modbus/RTU \| BACnet |
| M56454. | CVM-E3-MINI-FLEX-485-IC | Rogowski | 1 | 1 | RS-485 | Modbus/RTU \| BACnet |

"Built-in wireless communication on all WiEth models for configuration via free app (MyConfig) RS-485 models, possibility of switching power supply Consult additional benefits"

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## Dimensions

## Connections