

# CVM MINI

## Three-phase power analyzer, assembly on DIN rail



### Description

Three-phase power analyzer (balanced and unbalanced), assembly on DIN rail, with a very compact size, and 4-quadrant measurement.

Other features include:

- Current measurement .../5 or .../1 A or .../250 mA, .../333 mV
- DIN rail format of only 3 modules
- Assembly on 72 x 72 mm panel with adapter front panel
- RS-485 Communications (Modbus-RTU) depending on model
- It features two transistor outputs (programmable)
- With ITF technology: galvanic insulation protection, depending on the type
- Selection of parameters to display
- Selection of the default page
- Universal power supply (optional)
- Sealable

### Applications

- Control application on switchboards and low and medium voltage connection points, where an analyzer must be installed on a DIN rail due to space restrictions.
- Alarm control. Maximum value, minimum value and programmable delay.
- Control of active or reactive energy using the impulse output.
- Instantaneous data capture, maximum and minimum values of the electrical parameters measured.

### Technical features

|   |  |   |
|---|--|---|
| <b>Power circuit</b>                                      | Standard   | 230 Vac (-15...+10%)  |
|   | Optional   | 85...265 Vac / 95...300 Vdc (optional)<br>20...120 Vdc (optional) |
|   | Consumption  | 3 V-A   |
|   | Frequency  | 50...60 Hz  |
| <b>Measurement circuit</b>                                | Rated voltage  | 300 Vac (p-n) / 520 Vac (p-p)                                     |
|   | Frequency  | 45...65 Hz  |
|   | Voltage circuit consumption  | 0.7 V-A   |
|   | Current circuit consumption  | ITF 0.9 VA/ Shunt 0.75 VA   |
|   | Transformers   | .../5 A or.../1 A or .../250 mA, .../333 mV                       |
|   | Minimum direct current   | 110 mA  |
|   | Maximum direct current   | 6 A   |
| <b>Accuracy class</b>                                     | Voltage, Current   | 0.5% + 1 digit  |
|   | Active power, Reactive power   | 1% + 2 digit  |
|   | Active energy Reactive energy  | 1% + 2 digit Class 1  |
| <b>Environmental conditions</b>                           | Operating temperature  | -10...+50 °C  |
|   | Relative humidity  | 5 ... 95%   |
|   | Maximum altitude   | 2000 m  |
| <b>Optocoupled output transistor (open collector) NPN</b> | Maximum operating voltage  | 24 Vdc  |
|   | Maximum operating current  | 50 mA   |
|   | Maximum frequency of impulses  | 5 imp/s   |
|   | Duration of the impulse  | 100 ms  |
| <b>Build features</b>                                     | Measurement module   | Assembly on <b>DIN 46277</b> rail ( <b>EN 50022</b> )             |
|   | Protection degree  | Embedded unit: IP 51<br>Terminals: IP 31                          |
|   | Dimensions   | 52.5 x 85 x 67.9 mm (3 modules)                                   |
| <b>Safety</b>   | Designed for CAT III 300/520 Vac installations, in accordance with <b>EN 61010</b> .<br>Double-insulated electric shock protection, class II |   |
| <b>Standards</b>  | <b>IEC 664, VDE 0110, UL 94, IEC 801, IEC 348, IEC 571-1, EN 61000-6-3, EN 61000-6-1, EN 61010-1</b>   |   |

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### 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 (*)       | 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 (*) | M52081      |
| Yes   | .../1 A, .../5 A | 2              | U e I (15°) | 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 (*)   | M520L1      |
| Yes   | .../1 A, .../5 A | 2              | -           | BACnet     | -              | CVM-MINI-ITF-BACnet-C2 (*)   | M520F1      |
| Yes   | .../250 mA       | 2              | -           | BACnet     | -              | CVM-MINI-MC-BACnet-C2 (*)    | M520H1      |
| Yes   | .../1 A, .../5 A | 2              | -           | LonWoks    | LonTalk        | CVM MINI-ITF-LonWorks-C2     | M52091      |
| <b>ISO/IEC 14908 – ANSI/EIA 7091</b>        |                  |                |             |            |                |                              |             |
| Yes   | .../333 mV       | 2              | -           | Modbus/RTU | RS-485         | CVM-MINI-mV-RS485-C2         | M520810000V |
| Panel adapter for <b>CVM-MINI</b> (72 x 72) |                  |                |             |            |                | Panel adapter                | M5ZZF1      |

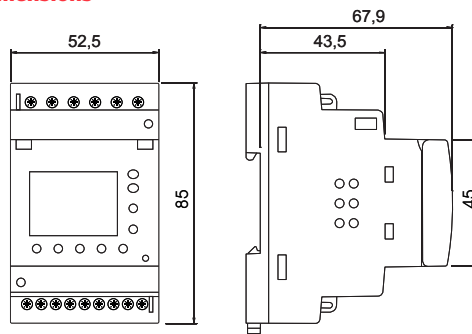
(\*) Requires the installation of MC series efficient transformers. – (\*\*) Only available with 230 V<sub>ac</sub> power supply

### Coding table

| M                    | 5 | X | X | X | X | 0 | 0 | X             |
|----------------------|---|---|---|---|---|---|---|---------------|
| Code                 |   |   |   |   |   |   |   | Internal code |
|                      |   |   |   |   |   |   |   | ↑             |
| Power supply voltage |   |   |   |   |   |   |   | 0             |
| Standard (230 Vac)   |   |   |   |   |   |   |   | 0             |
| 85...285 Vac         |   |   |   |   |   |   |   | C             |
| 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)

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