

# CVM-B50-FLEX

CVM-B50-FLEX, Power analyzer 96 x 96

Code: M569300020000

> Protocol: Modbus TCP/IP
> Memory: Yes
> Communications: Ethernet | Wi-Fi
> Transistor output: 2
> N° relays: 2
> Digital inputs: 4
> Measuring Channels: 4
> Harmonics: 31
> Input current: Rogowski
> Mounting: Pannel
> Modules: 96 x 96

## Description

The **CVM-B50** is a panel-mounted power analyzer (96 × 96 mm) with energy logging, downloadable memory, and **integrated web server**. It allows start-up via the app or web server without additional software and features an automatic wiring error correction system for simple installation.

Ideal for analysing electrical variables and consumption quality, including voltage and current **THD%**, as well as individual phase harmonics up to the 31st order. Neutral current measurement enables detection of imbalances and potential neutral conductor overloads.

Compact and versatile, it performs **four-quadrant** measurements (consumption and generation), suitable for both **Medium and Low Voltage installations.**
Characteristics of the device

- 40 days of built-in downloadable memory in CSV (mobile or PC)
- Configuration, display and start-up via app or web server
- Neutral current measurement
- THDU%, THDI%, and harmonics (up to 31st order)
- Automatic Autowiring system (wiring error correction)
- Wi-Fi and Ethernet communications (Modbus TCP/IP)
- 4 inputs, 2 relay outputs, and 2 digital outputs
- User-defined screen creation with selected variables
- Display of active quadrant and power usage percentage
- Current measurement via .../5 A, .../1 A, .../250 mA or flexible clamps (depending on model)
- On-screen indication of the status of outputs, inputs and/or active tariff
- Includes an operating-hours and working-hours counter for CAE

## Application

The **CVM-B50** is specially designed to analyse changes in electrical variables, detect network harmonics, and measure energy, facilitating energy audits in accordance with ISO 50001 or obtaining CAE certification in the Spanish market.

Neutral current measurement allows the detection of circulating currents that may cause issues in the installation. The device can be integrated into SCADA systems for remote management and monitoring via Wi-Fi or wired Ethernet connection.



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Panel-mounted power analyzers

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It features digital inputs for logging consumption from other meters via pulses, detecting the status of installation sensors, or distinguishing consumption by tariff. Additionally, the digital outputs allow automation of the installation through open/close commands based on any measured instantaneous value.



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## Specifications

### AC power supply

| | |
|---|---|
| Installation category | CAT III 300 V |
| Consumption | 5 ... 9,5 VA |
| Frequency | 50 ... 60 Hz |
| Nominal voltage | 85 ... 300 V ~ |

### DC power supply

| | |
|---|---|
| Installation category | CAT III 300 V |
| Consumption | 2.8 ... 3 W |
| Nominal voltage | 100 ... 300 VDC |

### Mechanical characteristics

| | |
|---|---|
| Size (mm) width x height x depth | 96 x 96 x 67 (mm) |
| Envelope | Self-extinguishing V0 plastic |
| Fastening | Panel |
| Weight (kg) | 0,363 |

### Environmental characteristics

| | |
|---|---|
| Protection class | IP 20, Front IP54 |
| Relative humidity (without condensation) | 5 ... 95% |
| Storage temperature | -25...+75 °C |
| Operating temperature | -10 ...+50 °C |

### Current measurement circuit

| | |
|---|---|
| Installation category | CAT III 300 V |
| Nominal current (In) | 100 mV/1kA (without/sin sensors MFC-FLEX) |
| Minimum current measurement | 2 mV |

### Voltage measurement circuit

| | |
|---|---|
| Installation category | CAT III 300 V |
| Input impedance | 400 kΩ |
| Frequency measuring range | 50 ... 60 Hz |
| Nominal voltage | 230V F-N, 400 V F-F |
| Minimum measurement voltage (Vstart) | 11,5 V F-N |
| Maximum value | 300 VF-N /520 VF-F |

### Standards

| | |
|---|---|
| Electrical safety, Installation category | CAT III 300 V |
| Standards | IEC/EN 61010-1; IEC/EN 61010-2-030; IEC 613626-1; UNE-EN 55016-2-1; UNE-EN |



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| | |
|---|---|
| | 61000-4-2; UNE-EN 61000-4-20; UNE-EN 61000-4-4; UNE-EN 61000-4-5; UNE-EN 61000-4-6; UNE-EN 61000-4-8; UNE-EN IEC 61000-4-11; UNE-EN 61000-4-3; UNE-EN 60068-2-1; UNE-EN 60068-2-2; UNE-EN 60068-2-78; ETSI-EN 301 489-1 Ver. 2.2.3; ETSI-EN 301 489-17 Ver. 3.3.1; EN-18031-1; IEC 61557-12 |

### User interface

| | |
|---|---|
| LED | 2 LED |
| Keyboard | 3 keys |
| Display type | LCD Custom COG |

### Digital inputs

| | |
|---|---|
| Input/output insulation | 2000 V |
| Quantity | 4 |
| Type | NPN |

### Digital relay outputs

| | |
|---|---|
| Electrical life (at maximum load) | $60x10^3$ cycles |
| Mechanical life | $10x10^6$ cycles |
| Maximum switching capacity | 625 VA / 75 W (AC1) |

### Digital transistor outputs

| | |
|---|---|
| Pulse width | 30 ms a 400 ms (Programmable) |
| Quantity | 2 |
| Type | NPN |
| Maximum frequency | 16 imp / s |
| Maximum current | 50 mA |
| Maximum voltage | 24 Vdc |

### Measurement accuracy

| | |
|---|---|
| Phase current measurement | 0.2% (10% In ≤ I ≤ 120%In) |
| Reactive power measurement (kvar) | 1% ± 2 digit |
| Apparent power measurement (kVA) | 0.5% ± 2 digit |
| Active power measurement (kW) | 0.5% ± 2 digit |
| Phase voltage measurement | 0.2% (20 ... 120% Un) |

**CVM-B50**
Panel Mounted power analyzer with memory

| CODE | TYPE | Input current | Transistor output | N° relays | Digital inputs | Communications | Protocol | Harmonics | Memory |
|---|---|---|---|---|---|---|---|---|---|
| M56910. | CVM-B50-ITF | .../5 A \| .../1 A | 2 | 2 | 4 | Ethernet \| Wi-Fi | Modbus TCP/IP | 31 | Yes |



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Panel-mounted power analyzers

Code: M569300020000

| CODE | TYPE | Input current | Transistor output | N° relays | Digital inputs | Communications | Protocol | Harmonics | Memory |
|---|---|---|---|---|---|---|---|---|---|
| M569100020000 | CVM-B50-ITF | .../5 A \| .../1 A | 2 | 2 | 4 | Ethernet \| Wi-Fi | Modbus TCP/IP | 31 | Yes |
| M56920. | CVM-B50-MC | .../250 mA | 2 | 2 | 4 | Ethernet \| Wi-Fi | Modbus TCP/IP | 31 | Yes |
| M569200020000 | CVM-B50-MC | .../250 mA | 2 | 2 | 4 | Ethernet \| Wi-Fi | Modbus TCP/IP | 31 | Yes |
| M56930. | CVM-B50-FLEX | Rogowski | 2 | 2 | 4 | Ethernet \| Wi-Fi | Modbus TCP/IP | 31 | Yes |
| M569300020000 | CVM-B50-FLEX | Rogowski | 2 | 2 | 4 | Ethernet \| Wi-Fi | Modbus TCP/IP | 31 | Yes |

Automatically resolves wiring errors via autowiring system



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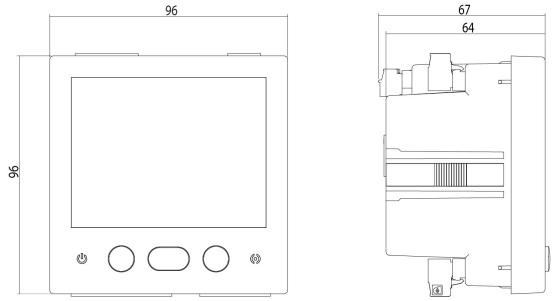


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Panel-mounted power analyzers

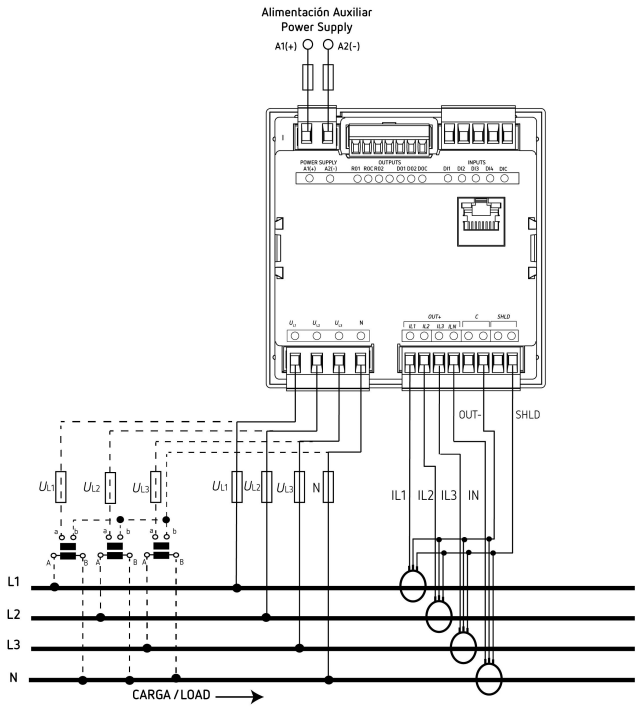
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## Dimensions




## Connections

Red trifásica 4 hilos
Three-phase 4-wire network






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