



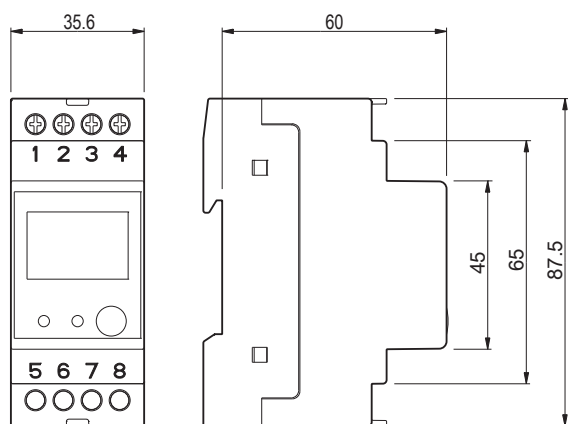
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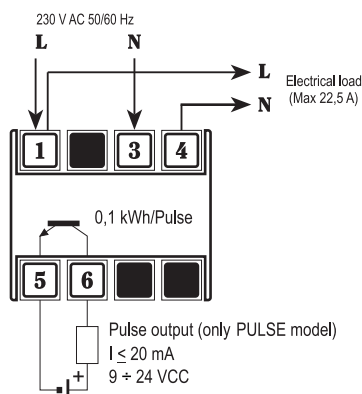
Mod. Energy-230 D22 Energy-230 D22 PULSE



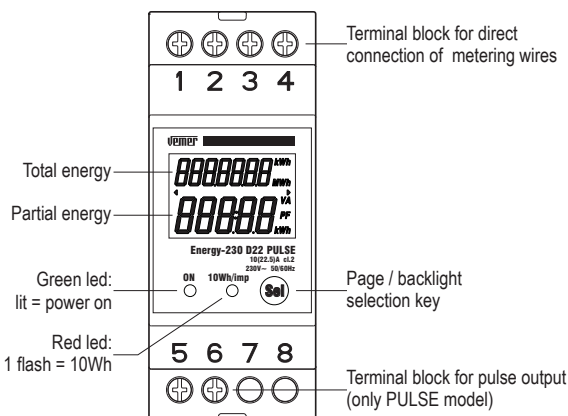
DIMENSIONS



CONNECTION DIAGRAM



DESCRIPTION



REFERENCE STANDARDS

Conformity to European Community directives:
2006/95/EC (Low Voltage Electrical Equipment)
2004/108/EC (E.M.C.)
is declared according to the following standards:
EN 61010-1, EN 61000-6-2 and EN 61000-6-3
EN 62053-21 and EN 62052-11

User Manual

SINGLE-PHASE ACTIVE ENERGY METER

Read all the instructions carefully

- The **Energy-230 D22** static energy meter is an appliance to read active energy in single-phase 230V systems. It is designed to operate in environments with category of measurement III and pollution level 2 according to EN 61010-1 standard.

SAFETY WARNINGS

To guarantee correct installation, proceed as follows:

- The appliance should be installed by a qualified operator
- The appliance should be installed in a panel in such a way as to guarantee that the terminals are inaccessible after fitting
- A protection device against over-currents should be installed in the electrical system, upstream of the energy meter
- Connect the instrument as shown in the alongside diagrams
- Before touching the connector terminals make sure that the wires to be connected or already connected to the instrument are not live
- Do not power or connect the instrument if any part of it is damaged
- The instrument must be installed and activated in compliance with current electric systems standards.

| Code | Model | Description |
|----------|----------------------|--|
| VE044400 | Energy-230 D22 | Single-phase active energy meter |
| VE055000 | Energy-230 D22 PULSE | Single-phase active energy meter with pulse output |

TECHNICAL SPECIFICATIONS

- Power supply: 230 V CA (-15%/+10%), 50/60 Hz
- Maximum power consumption: 4VA
- Basic current: $I_b = 10A$
- Maximum current: $I_{max} = 22.5 A$
- Starting current: $\leq 25 mA$
- Current circuit consumption: $< 2.5 VA$
- Connection type: direct for current conductors
- Signaling leds: green = power on
red = flashing at 10Wh
- Accuracy: class 2 (EN 62053-21)
- Display: LCD, 7 + 5 digit
- Partial reading resolution: 0.01kWh (full scale: 999.99 kWh) or
0.1kWh (full scale: 9999.9 kWh)
- Total reading resolution: 1 kWh (full scale: 9999999 kWh)
- Housing: 2 DIN
- Protection degree: IP20/IP51 on the front
- Optoisolated pulse output (only PULSE model) for energy consumption remote-monitoring (0.1 kWh/pulse)
- Pulse specifications: duration = $100 ms \pm 15\%$
voltage = $9 \div 24 V CC (\pm 10\%)$
switchable output current = 20 mA max
- Operating temperature: $-10 \div +45 ^\circ C$
- Storage temperature: $-20 \div +60 ^\circ C$
- Relative humidity: 10% ÷ 90% non-condensing

OPERATION

- When the energy meter is turned on the main page is displayed, representing the total energy count on the 7-digit upper block and the partial energy count on the 5-digit lower block. The resolution of partial counter is automatically updated as soon as the full scale is reached.
- To display the **total** energy reading only, press the "Sel" key: this meter **cannot** be set to zero
- To display the **partial** energy reading, press the "Sel" key again: this meter is zeroed automatically as soon as the full scale is reached (9999.9 kWh); it can also be set to zero manually anytime by holding the "Sel" key pressed for more than 4 seconds
- Pressing again the key "Sel" you move to the display of the **instantaneous power**. The resolution is fixed at 0.01 kW. For values higher than 6kW "----" is showed.
- To return to the main page reading both meters (total and partial), press the "Sel" key again

2306385 kWh
10796 kWh
Main page

2306385 kWh
Total reading

10796 kWh
Partial reading

523 kW
Instantaneous power

BACKLIGHTING

- Backlighting is enabled by default: it is switched on each time a key is pressed and stays on for 30 seconds after the last key was pressed. In order to enable/disable backlight while on the **main** page, hold "Sel" key pressed for at least 4 seconds: ON/OFF backlight status will be displayed for a couple of seconds, after which the main page will return.

LIGHT
OFF
Backlight status

PHASE ERROR

- When the energy meter is turned on, a connection check-up is automatically carried out to detect any connection errors: in case of improper connection the red led remains lit and the meter is locked. The message "Phase Error" is displayed.

Phase
Error

Warning: to restore correct meter operation after an error reading has been displayed, switch the meter off, invert connections of voltage or current and turn on again.