

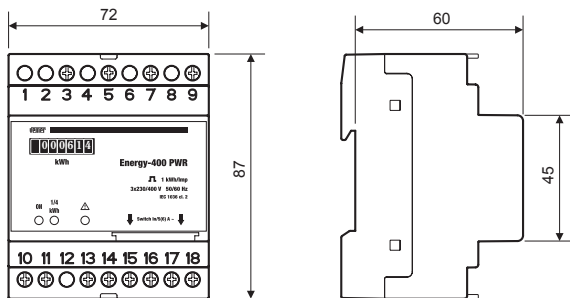
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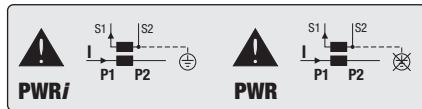
Mod. **ENERGY-400 PWR**  
**ENERGY-3x130 PWR**  
**ENERGY-3x130 PWRi**



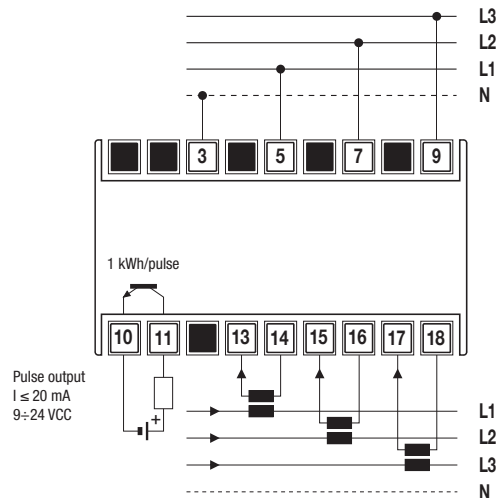
### Dimensions (A)



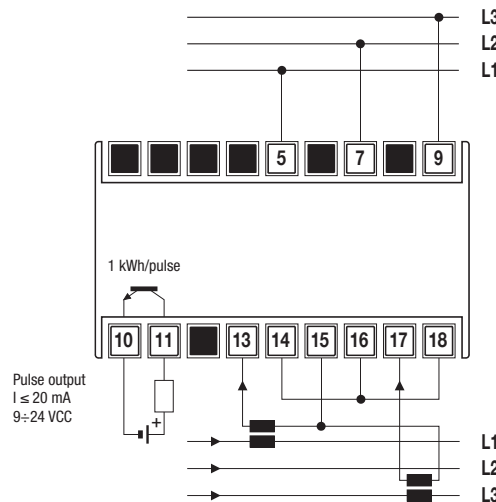
### Connection diagrams (B)



#### 3 CT connection WITH or WITHOUT neutral (3 or 4 wires)



#### 2 CT connection (PWRi only) WITHOUT neutral (3 wires)



## User Manual

### ACTIVE ENERGY METER

Read all the instructions carefully

The **ENERGY-400** and **ENERGY-3x130** are electronic static devices to read active energy in three-phase systems designed to operate in environments with measurement category III and pollution level 2 according to EN 61010-1 standard.

### SAFETY WARNINGS

To guarantee correct installation, proceed as follows:

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

Code	Model	Description
VN964300	ENERGY-400 PWR	Three-phase energy meter 400 V AC
VN966800	ENERGY-3x130 PWR	Three-phase energy meter 3x130 V AC
VN967600	ENERGY-3x130 PWRi	Three-phase energy meter 3x130 V AC

### TECHNICAL SPECIFICATIONS

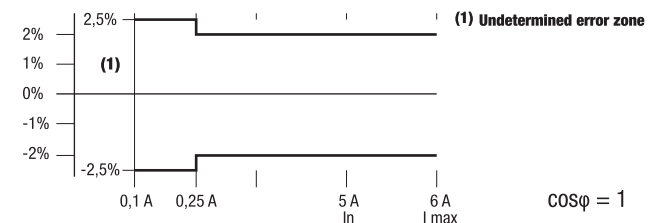
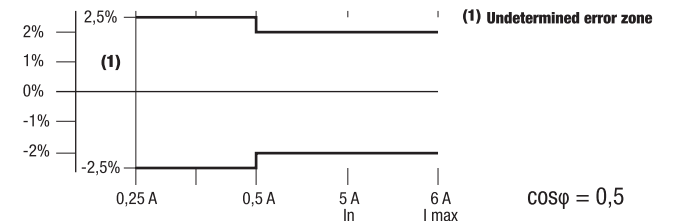
- Power supply:
  - 3x230 V AC phase-neutral (400VAC phase-phase) (-15% ÷ +10%) for Energy-400 model
  - 3x130 V AC phase-neutral (230VAC phase-phase) (-15% ÷ +10%) for Energy-3x130 models
- Frequency: 50/60 Hz
- Rated current: 5 A
- Maximum current: 6 A
- Minimum start-up current: 15 mA
- Maximum power consumption:
  - voltage circuits < 2,5 VA
  - current circuits < 2,5 VA
- Meter constant: 1 imp = ¼ kWh
- Voltage inputs: input impedance = 2 MΩ
- Current inputs:
  - shunt of 0.022Ω (+/-10%) for PWR models
  - coils with galvanic insulation between primary and secondary for Energy-3x130 PWRi model
- Two optic insulated impulse output:
  - impulse duration < 100 ms
  - voltage 9÷24 V DC
  - current < 20 mA
- Insulation:
  - reinforced between impulse output and other terminals
  - reinforced between terminals and parts accessible after installation
- CT available: 5-10-25-50-75-100-125-150-200-250-300-400-500-600-800 1000/5 A
- Operating temperature: -10 °C ÷ +45 °C
- Storage temperature: -25°C ÷ + 70 °C
- Relative humidity: 10÷90% non condensing
- Class index: class A (EN 50470)
- Container: 4 module DIN
- Protection level: IP20 / IP40 on the front

### INSTRUMENT DESCRIPTION

- ① Dip-switch for CT setting
- ② **Green warning light:** lights up to indicate power on
- ③ **Red warning light:** flashes to indicate that the instrument is metering energy (1 flash=¼ kWh)
- ④ **Yellow warning light:** when lit the instrument detects ¼ kWh negative (probable incorrect entry) and remains lit until ¼ kWh positive is detected  
Check the insertion of CT: connect L1, L2, L3 from power panel to P1 of CT and connect P2 of CT to the load.
- ⑤ Impulse output: Optically insulated
- ⑥ Electro-mechanical impulse counter: resolution 1 kWh

### GUIDE TO INSTALLATION

- 1) Before installing the instrument, select the required transformation ratio, as shown in panel C)
- 2) For Energy-3x130 PWRi model only, the CT secondaries may be connected to earth
- 3) The instrument should be connected as shown in the panel B), in accordance with the CT current directions
- 4) If the error is to fall within the class limits of the instrument, it is necessary to use the current transformer in its linear operating field.



- 5) If the instrument is active the power should be switched off to change the CT ratio.
- 6) In case of changes to the dip-switch with the instrument actived, these locks in fault condition with red and green lights always on. In this condition the instrument doesn't coun.  
To restore the correct operation, reposition the DIP switches in the initial condition or reset the instrument by removing and restoring power.

### REFERENCE STANDARDS

Conformity to EU directive:

**2004/22/EC (MID)**

**2006/95/EC (Low Voltage - LVD)**

is declared with reference to the following harmonised standards:

EN 61010-1

EN 50470-1 and EN 50470-3

### Instrument description (C)

