

LEM-02 WATT-HOUR METER

SINGLE-PHASE - DIGITAL

INSTRUCTION MANUAL



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DESCRIPTION

LEM-02 is a watt-hour meter, which can be used as an electricity submeter of a single-phase alternating current circuit. LED diode gives a signal of reading the data, and its value is shown on the LCD display. The meter is equipped with impulse output which enables the connection of an additional counting device. In order to secure the device against illegal energy consumption LEM-02 has plastic covers connected to terminals with sealing possibility.

FEATURES

- Visual impulse counting signal,
- LCD display
- additional impulse output,
- covers connected to terminals with a sealing possibility,
- monomodular casing,
- TH 35 rail mounting.



The device is designed for one-phase installation and must be installed in accordance with standards valid in a particular country. The device should be connected according to the details included in this operating manual. Installation, connection and control should be carried out by a qualified electrician staff, who act in accordance with the service manual and the device functions. Disassembling of the device is equal with a loss of guarantee and can cause electric shock. Before installation make sure the connection cables are not under voltage. The cruciform head screwdriver 3,5 mm should be used to instal the device. Improper transport, storage, and use of the device influence its wrong functioning. It is not advisable to instal the device in the following cases: if any device part is missing or the device is damaged or deformed. In case of improper functioning of the device contact the producer.

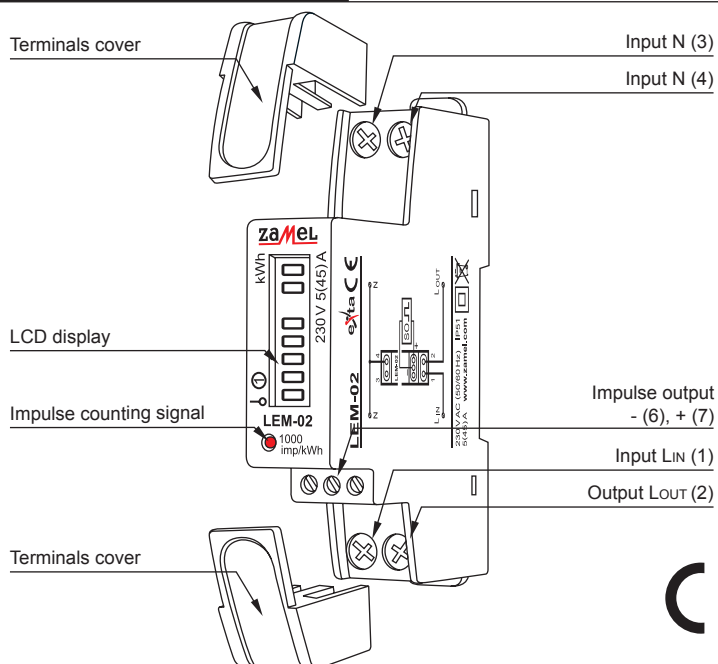


The symbol stands for selective collection of electrical and electronic devices. Placing used devices with other waste is not allowed

TECHNICAL DATA

LEM-02	
Measurement terminals:	IN L: 1 (LIN), OUT L: 2 (LOUT); IN N: 3, 4
Reference voltage:	230 V AC
Voltage tolerance:	-15 ÷ +10 %
Nominal frequency:	50 / 60 Hz
Basic current / maximum current:	5 A / 50 A
Rated power consumption:	8 VA / 0,4 W
Measurement accuracy (IEC61036):	class 1
LCD display:	counter 5+1 digits
Impulse counting signal:	LED red
Impulse output SO+ SO-:	type OC
Impulse output voltage SO+ SO-:	12 ÷ 27 V DC
Impulse output current SO+ SO-:	< 27 mA
Constant SO+ SO-:	1000 imp./kWh
Impulse duration SO+ SO-:	90 ms
Number of terminal clamps:	6
Section of connecting cables:	0,2 ÷ 6 mm ²
Working temperature:	-20 ÷ +45 °C
Mounting:	rail TH 35 (according to PN-EN 60715)
Protection degree:	IP20 (PN-EN 60529)
Protection level:	II
Overvoltage category:	II
Pollution degree:	2
Dimensions:	monomodular casing
Weight:	0,080 kg
Reference standards:	PN-EN 62094-1; PN-EN 61000-4-2,3,4,5,6,11

APPEARANCE



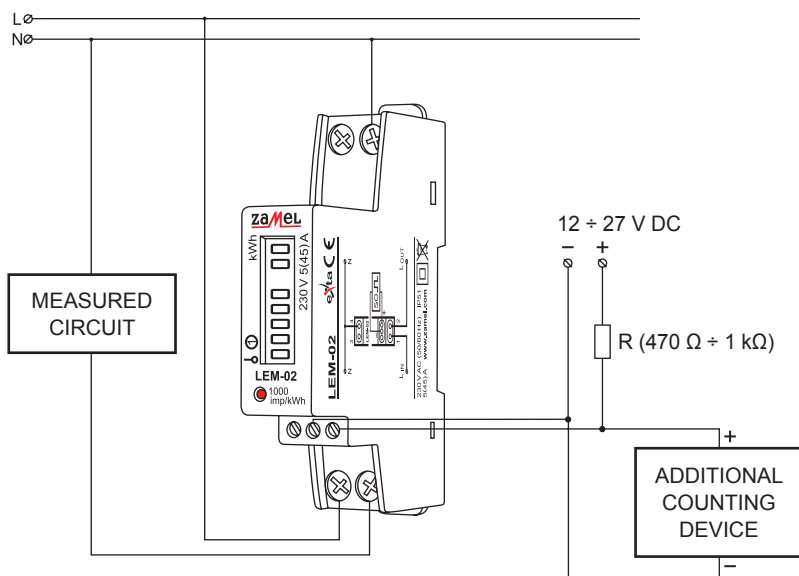
MOUNTING, FUNCTIONING

1. Disconnect the power supply from the mains by the phase fuse, the circuit-breaker (MCB) or the switch-disconnector that are joined to the proper circuit.
2. **Check if there is no voltage on connection cables by means of a special measure equipment.**
3. Install LEM-02 device in the switch-board on the TH 35 DIN rail.
4. Connect the cables with the terminals in accordance with the installing diagram.
5. Switch on the power supply from the mains.

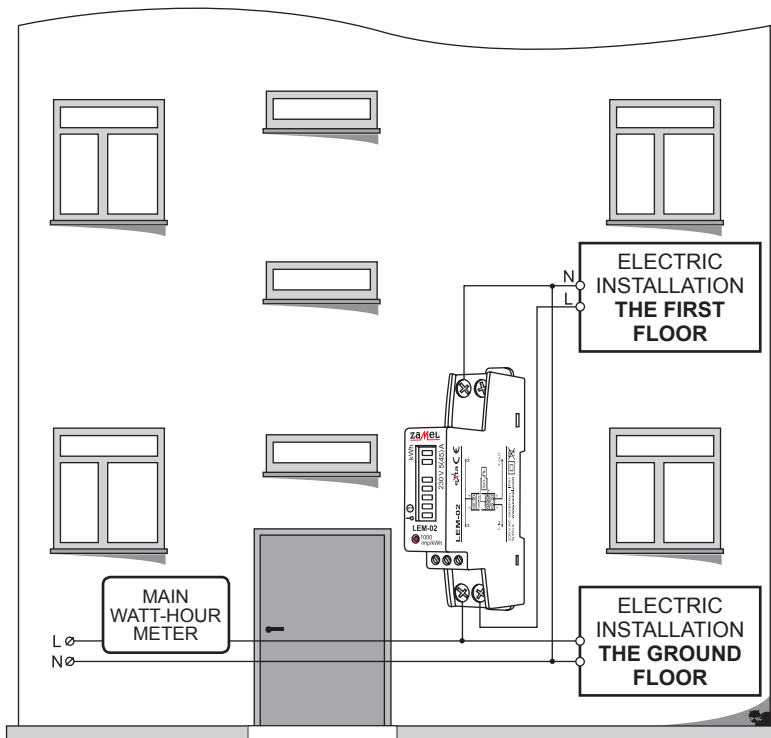
The current generates impulses, which are proportional to the amount of electric active energy consumption (1000 impulses per kWh). The blinking red LED informs about electric active energy consumption and about data reading by the device. The value can be read from the segment LCD display. The digits after the decimal part means hundredth 0,01 kWh (10 Wh).

WARNING: In case the impulse output is used (terminals 20, 21), an additional power supply voltage must be connected to the device from range of 12 ÷ 27 V DC through R (470 Ω ÷ 1 kΩ) resistor, which limits current value.

CONNECTION

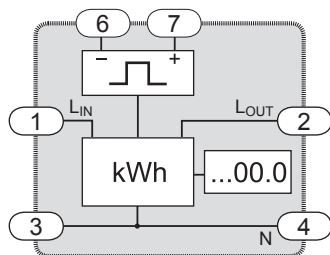


APPLICATION



LEM-02 device is used as an additional watt-hour meter in a building occupied by two families.

INNER DIAGRAM



PRODUCT FAMILY

The LEM-02 device belongs to LEM meter group.

LEM-XX

Device type:
 01 - 1-phase, analogue
 02 - 1-phase, digital
 10 - 3-phase, digital
 20 - 3-phase, digital with network interface and IR (infrared port)

Device symbol

GUARANTEE CARD

There is 24 months guarantee on the product

Salesman stamp and signature, date of sale

1. ZAMEL provides a two-year warranty for its products.
2. The ZAMEL warranty does not cover: a) mechanical defects resulting from transport, loading / unloading or other circumstances b) defects resulting from incorrect installation or operation of ZAMEL products; c) defects resulting from any changes made by CUSTOMERS or third parties, to products sold or equipment necessary for the correct operation of products sold; d) defects resulting from force majeure or other aleatory events for which ZAMEL is not liable; e) power supply (batteries) to be equipped with a device in the moment of sale (if they appear);
3. All complaints in relation to the warranty must be provided by the CUSTOMER in writing to the retailer after discovering a defect.;
4. ZAMEL will review complaints in accordance with existing regulations.;
5. The way a complaint is settled, e.g. replacement of the product, repair or refund, is left to the discretion of ZAMEL.
6. Guarantee does not exclude, does not limit, nor does it suspend the rights of the PURCHASER resulting from the discrepancy between the goods and the contract.