

ELECTRICITY METER LEM-04

DIGITAL - SINGLE-PHASE

USER'S MANUAL

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ZAMEL Sp. z o.o.

ul. Zielona 27, 43-200 Pszczyna, Poland
Tel. +48 (32) 210 46 65, Fax +48 (32) 210 80 04
www.zamel.com, e-mail: export@zamel.pl

zamel

DESCRIPTION

LEM-04 device is a single-phase electricity meter, which can be used as a electricity sub-meter for single-phase AC circuit. Measurement of electricity consumption is signalled by LED and its value is indicated on LCD. The meter is also equipped with pulse output allowing connecting an additional counting device. To protect the device against the illegal power consumption LEM-04 is protected with plastic enclosures on the terminals, which can be sealed.

FEATURES

- Optical indication for pulse counting,
- LCD display,
- additional pulse output,
- sealable terminal covers,
- single-module housing,
- Installation on TH 35 rail.



The device should be connected to a one-phase network in accordance with legally binding standards. The connection method is described in this manual. Any activities related to installation, connection, and adjustment should be performed by qualified electricians who have read this user's manual and familiarised themselves with device functions. Removing the enclosure voids the warranty and poses a risk of electric shock. Before installation, make sure that there is no voltage on connection cables. To install the device, use a cross-head screwdriver with a diameter of 3.5 mm. The proper operation of the device is affected by how the device is transported, stored, and used. It is not advisable to install the device in the following cases: lack of any components, damage to or deformation of the device. If the device operates improperly, please contact the manufacturer.

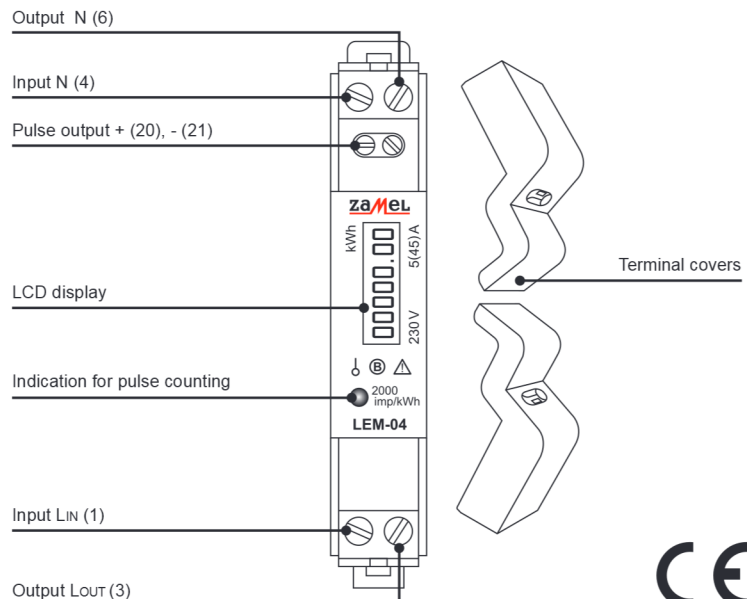


Do not dispose of this device together with other waste! To avoid harmful effects on the environment and human health, the worn-out device should be stored in designated areas. Electrical waste from households may be handed over to the waste collector established for this purpose free of charge and in any amount, as well as to the store when purchasing new equipment.

TECHNICAL DATA

LEM-04	
Power supply terminals:	line L: 1 (L _{IN}), 3 (L _{OUT}); line N: 4, 6
Reference voltage:	230 V AC
Voltage tolerance:	-15 ÷ +10 %
Rated frequency:	50 / 60 Hz
Base / maximum current:	5 A / 45 A
Minimum current:	0,4% of base current (25 mA)
Meter own consumption:	10 VA / 2 W
Accuracy of measurement (IEC61036):	class B
Display:	counter 5+2 digits
Indication for pulse counting:	red LED
Pulse output SO+ SO-:	type OC: 20(+), 21(-)
Connection voltage SO+ SO-:	5 ÷ 27 V DC
SO+ SO- connection current:	< 27 mA
SO+ SO- constant:	2000 pulses per kWh
Pulse time SO+ SO-:	90 ms
Number of connection terminals:	6
Cross-section of connection cables:	0,2 ÷ 6 mm ²
Operating temperature:	-10 ÷ +50 °C
Enclosure mounting:	TH 35 rail (according to EN 60715)
Enclosure IP rating:	IP51 (PN-EN 60529)
Overvoltage category:	II
Contamination degree:	2
Dimensions:	single-module enclosure
Weight:	0,100 kg
Compliance with standards:	PN-EN 62094-1; PN-EN 61000-4-2,3,4,5,6,11

APPEARANCE



ASSEMBLY, OPERATION

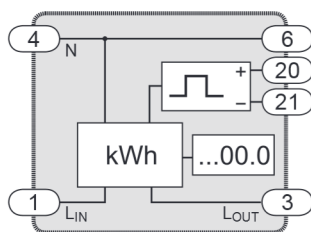
1. Disconnect the safety power supply circuit, the overcurrent circuit breaker or the isolating switch connected to the corresponding water circuit.
2. Check voltage-free condition on the supply cables with proper instrument.
3. Install LEM-04 in the switchboard on TH 35 (DIN) rail.
4. Connect the wires to the terminals in accordance with the wiring diagram.
5. Switch on the power supply.

Current flowing through the device causes that generated pulses are proportional to amount of drawn electric energy (2000 pulses per kWh). A flashing LED indicates current consumption and the fact that the device is measuring. The value can be read from segment LCD. The digits after the decimal point indicate the hundredths of 0.01 kWh (10 Wh).

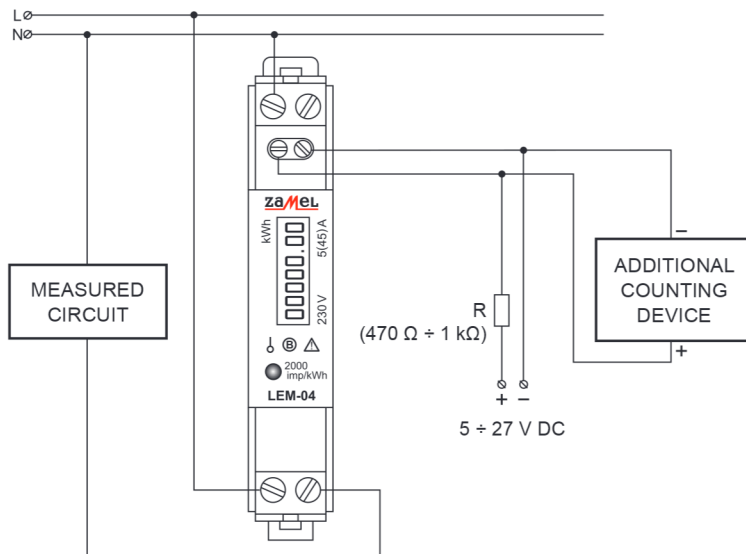
NOTES:

- When using pulse input (terminals 20, 21) it is necessary to apply additional supply voltage within a range $5 \div 27$ V DC.
- It is recommended to use an additional resistor R ($470 \Omega \div 1 \text{ k}\Omega$) to limit the value of current.
- Changing the power supply polarity may damage the indicator's pulse output.
- If there is no connection then the metering device should not be connected to pulse output of the supply system.

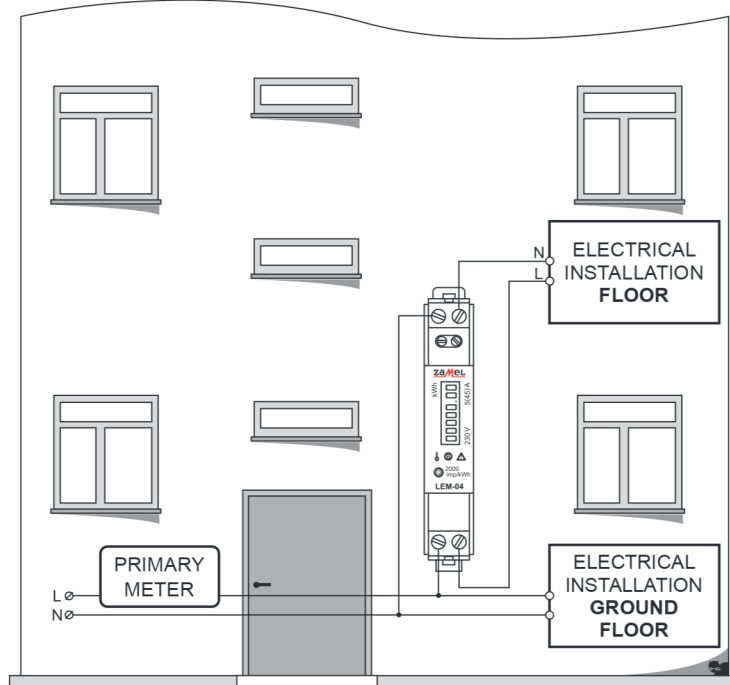
INTERNAL DIAGRAM



CONNECTION



V



LEM-04 device used as an additional electricity meter in a house inhabited by two families

WARRANTY CARD

Manufacturer provides a 24-month warranty

Seller's stamp and signature, date of sale

1. ZAMEL Sp. z o.o. shall offer a 24-month warranty on the products sold.
2. The warranty provided by ZAMEL Sp. z o.o. shall not cover:
 - a) mechanical damage caused during transport, loading/unloading or in other circumstances,
 - b) damage caused by incorrect installation or operation of products manufactured by ZAMEL Sp. z o.o.,
 - c) damage resulting from any changes made by the BUYER or third parties in the products sold or equipment necessary for the proper operation of the products sold,
 - d) damage resulting from force majeure or other fortuitous events for which ZAMEL Sp. z o.o. is not liable.
3. Any warranty claims shall be made by the BUYER at the point of sale or to ZAMEL z o.o. in writing after defects have been identified.
4. ZAMEL Sp. z o.o. undertakes to handle complaints in accordance with the applicable provisions of Polish law.
5. The choice of the form of complain resolution, e.g. replacement of a product with a product free from defects, repair, or reimbursement of money, shall lie with ZAMEL Sp. z o.o.
6. The warranty does not exclude, limit, or suspend BUYER's rights under the statutory warranty for defects in the item sold.