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# zamel

### DESCRIPTION

The LDM-10 device is used for graphic presentation of the one-phase voltage supply system level. Voltage value is shown by means of a diode line of 11 LED diodes. The range of measure is from 195 to 245 V ~.

### FEATURES

- ☞ Graphic presentation of the one-phase voltage supply system level,
- ☞ voltage indication wide range from 195 to 245 V~,
- ☞ voltage value proportional to graph height scale range 5 V,
- ☞ indication stability,
- ☞ indicated voltage value accuracy  $\pm 2,5$  V,
- ☞ voltage critical values are signalled by diodes marked „ $\leq 195$  V”, „ $\geq 245$  V”,
- ☞ TH-35 DIN rail installation.

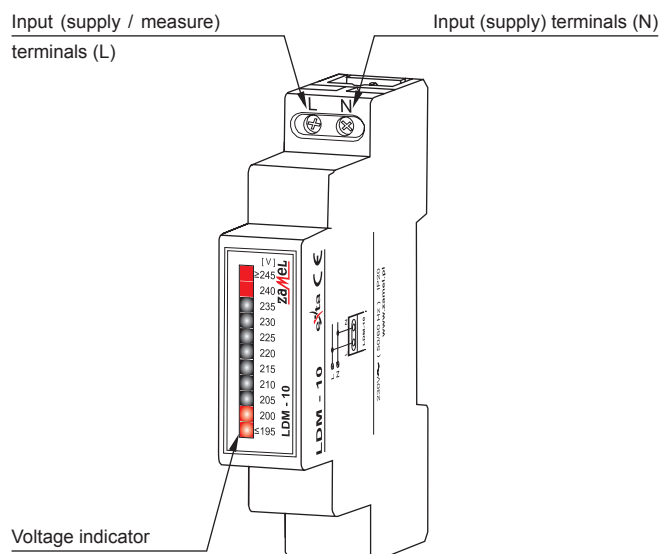
### TECHNICAL PARAMETERS

LDM - 10	
Input (supply) terminals:	L, N
Input rated voltage:	230 V~
Input voltage tolerance:	from -15 to +10 %
Rated frequency:	50 / 60 Hz
Rated power consumption:	24 mA
Voltage indicator:	11 LED diodes
Voltage indicator accuracy:	$\pm 2,5$ V
Number of terminal clamps:	2
Section of connecting cables:	from 0,2 to 2,5 mm <sup>2</sup>
Ambient temperature range:	from -20 to +45 °C
Operating position:	free
Mounting:	TH35 rail (PN-EN 60715)
Protection degree:	IP20 (PN-EN 60529)
Protection class:	II
Overvoltage category:	II
Pollution degree:	2
Impulse voltage:	1 kV (PN-EN 61000-4-5)
Dimensions (height / width / depth):	monomodular (17,5 mm) 90x17,5x66 mm
Weight:	56 g
Reference standards:	PN-EN 60947-5-1, PN-EN 60947-1 PN-EN 61000-4-2,3,4,5,6,11



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.

### APPEARANCE

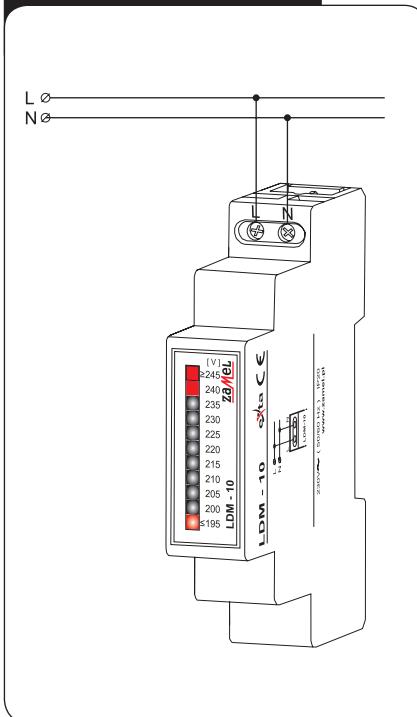


## MOUNTING, FUNCTIONING

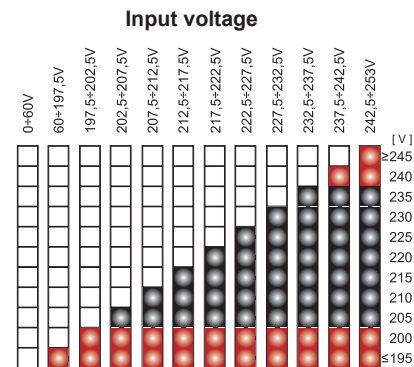
1. Disconnect the power supply from the mains by the phase fuse, the circuit-breaker or the switch-disconnector that are joined to the proper circuit,
2. Check if there is no voltage on connection cables by means of a special measure equipment,
3. Install LDM-10 device in the switchboard on TH-35 DIN rail,
4. Connect the cables with the terminals according to installing diagram,
5. Switch on the power supply from the mains.

The proper functioning of the device is shown by lighting of the LED diode line. Then its height is proportional to voltage value in the measured phase. If the voltage is higher or equal with 245 V – all diodes are switched on. When the voltage is lower or equal with 195 V only „≤195 V” diode is switched on. It is on till the input voltage value drops below 50 V~.

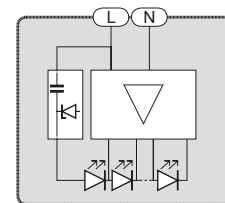
## CONNECTING



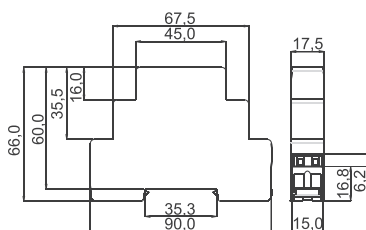
## INDICATION DESCRIPTION



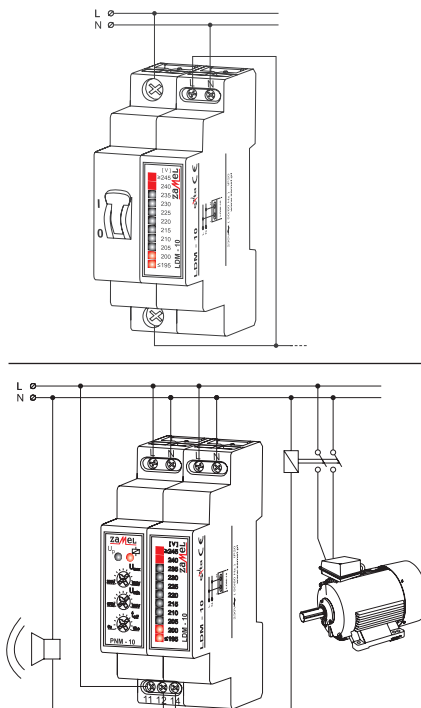
## INNER DIAGRAM



## DIMENSIONS



## EXAMPLE OF INSTALLATION



### TYPICAL USE:

LDM-10 voltage indicator cooperates with overcurrent safety device or one-phase switch disconnector. After the circuit has been applied the indicator shows voltage value in a one-phase power system. The indicator signals lack of voltage (it is off) if the circuit is disconnected.

### ALTERNATIVE USE:

Voltage indicator cooperates with PNM-10 voltage relay which protects the load against too high or too low voltage. The voltage value measured by a relay is constantly displayed. It lets the user to check its state all the time.

## PRODUCT FAMILY

Voltage indicator LDM-10 belongs to LDM voltage indicators family.

### LDM - xx

Device type:  
10 - one-phase  
30 - three-phase

Device symbol

## GUARANTEE CARD

There is 24 months guarantee on the product

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.
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.

Salesman stamp and signature, date of sale