



**Zakład Mechaniki i Elektroniki  
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## DESCRIPTION

The PPM-05 priority relay is designed for current control in priority and / or non-priority load circuits. When the current measured on measure terminals (1, 2) exceeds the preset value, the device will switch-OFF a non-priority receiver with the preset delay time. The current threshold and delay time may be adjusted by the user. It is possible to protect the electrical network against overloads by means of the relay, but the device may not replace a current-limiting circuit-breaker.

## FEATURES

- ☞ Both priority and non-priority circuits control,
- ☞ **Three product versions, in dependence of the current level,**
- ☞ Power supply indicator,
- ☞ Current threshold indicator,
- ☞ Continuous delay time adjustment,
- ☞ Continuous current threshold adjustment,
- ☞ Measure circuit separated voltaic,
- ☞ Relay voltage output, changeover contact, maximum load 16 A,
- ☞ Mounted on TH 35 rail.



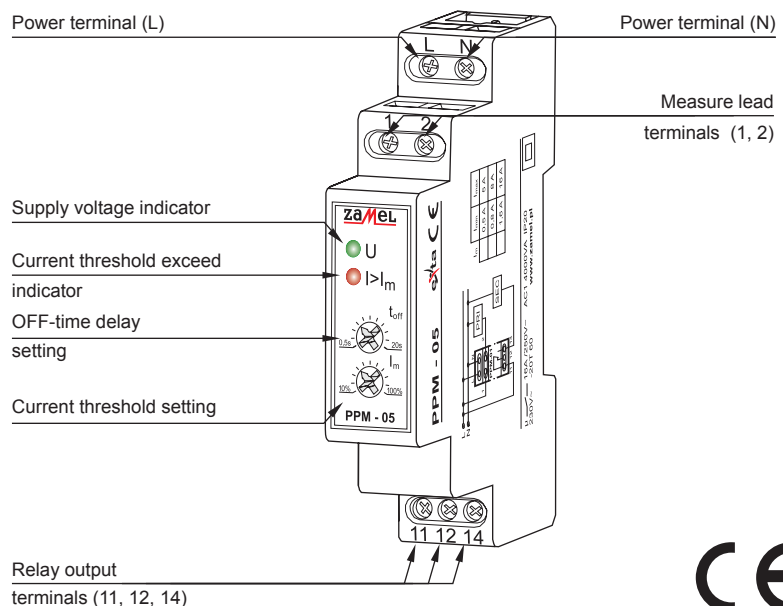
## CAUTION

The timer should be connected to a single-phase system accordingly to current standards. The device connections will be described in this manual. Only qualified electricians are allowed to assembly, connect and adjust the timer. It is necessary to read this manual before the timer mounting. Do not disassembly the timer casing or you will lose any warranty rights and expose yourself to the electric shock hazard. Before mounting operation make sure of disconnecting the connection wires from the electric network. The timer should be carried, stored and used in an appropriate way. Do not mount the timer in case of any device parts lack, damage or deformation. In case of malfunction please notify the manufacturer.

## TECHNICAL DATA

| PPM - 05                            |   |
|-------------------------------------|---|
| Power terminals:                    | L, N  |
| Rated voltage:                      | 230 V~  |
| Rated voltage tolerance:            | -15 + +10 %   |
| Rated frequency:                    | 50 / 60Hz   |
| Rated current:                      | 34 mA   |
| Measure terminals:                  | 1, 2  |
| Current threshold adjustment:       | 0,5 + 5 A (hysteresis ~5%) - for PPM-05/5<br>0,8 + 8 A (hysteresis ~5%) - for PPM-05/8<br>1,6 + 16 A (hysteresis ~5%) - for PPM-05/16 |
| Current measure tolerance:          | ≤ 20%   |
| OFF-time delay:                     | 0,5 + 20 s  |
| Supply voltage indicator:           | green LED   |
| Current threshold exceed indicator: | red LED   |
| Relay contacts parameters:          | 1NO/NC - 16 A / 250 V AC1 4000 VA   |
| Connection terminals quantity:      | 7   |
| Connection wire section:            | 0,2 + 2,5 mm <sup>2</sup>   |
| Operating temperature:              | -20 + +60 °C  |
| Operating position:                 | optional  |
| Casing fastening:                   | TH 35 rail (according to PN-EN 60715)   |
| Casing IP:                          | IP20 (PN-EN 60529)  |
| Protection class:                   | II  |
| Overvoltage category:               | II  |
| Pollution level:                    | 2   |
| Dimensions:                         | single-module (17,5 mm) 90x17,5x66 mm   |
| Weight:                             | 88 g  |
| Standard conformity:                | PN-EN 60730-1; PN-EN 60730-2-1<br>PN-EN 61000-4-2,3,4,5,6,11  |

## APPERANCE

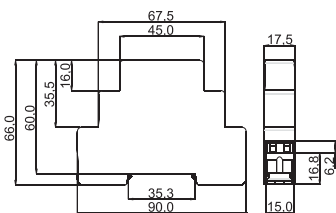


## ASSEMBLY, OPERATION

1. Disconnect the electric network by means of an appropriate cut-off, current-limiting circuit-breaker or separator.
2. Check if there is no any voltage between power leads.
3. Mount the PPM-05 device on TH 35 rail.
4. Connect the system leads according to the electrical diagram.
5. Connect power supply circuit.
6. Adjust the OFF-time required by means of  $t_{off}$  potentiometer.
7. Adjust the current threshold required by means  $I_m$  potentiometer.

When supplied, the device controls the measure lead current. If the current exceeds the preset value, the device will switch OFF the relay (11 – 14 contacts open) and, this way, cut OFF a non-priority receiver after the preset delay time has been over. If, during the delay time counting the current reaches value below the threshold, the output relay will not be switched OFF. This way short-time current peaks do not affect the device. It is recommended to connect the device two ways: with both priority and non-priority circuit direct current control or with priority circuit current direct control only. It is recommended to adjust the current threshold precisely after approximately 40 minutes of the device operation.

## CASING DIMENSIONS



## PRODUCT FAMILY

The PPM-05 is a member of the PPX product family.

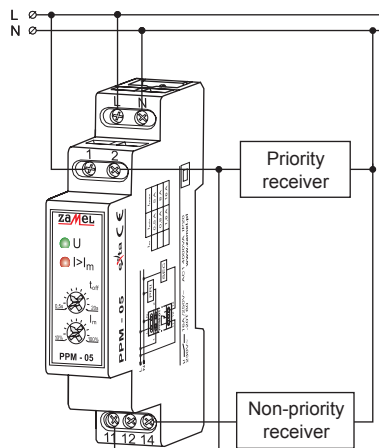
|                   |  |
|-------------------|--|
| <b>PPX - xx/x</b> | Maximum current only for PPM-05 available:<br>5 – 5 A (0.2 A hysteresis)<br>8 – 8 A (0.4 A hysteresis)<br>16 – 16 A (0.8 A hysteresis) |
|                   | Device version:<br>01 - basic<br>05 - processor  |
|                   | Casing type:<br>M – single-module  |
|                   | Device type<br>PP – current and priority relay   |

## WARRANTY

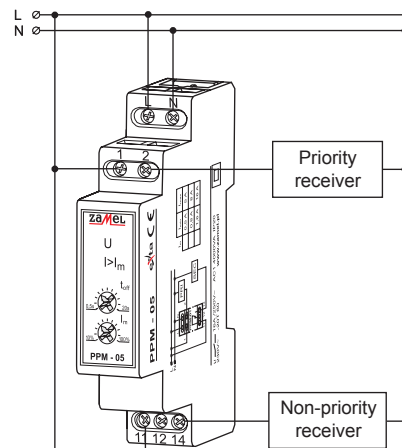
The product warranty is for a period of 24 months

Dealer signature & stamp, purchase date

## CONNECTIONS

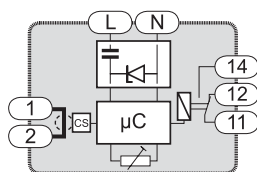


Unit with both priority and non-priority circuit current direct control.

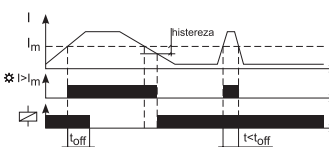


Priority circuit current direct control unit.

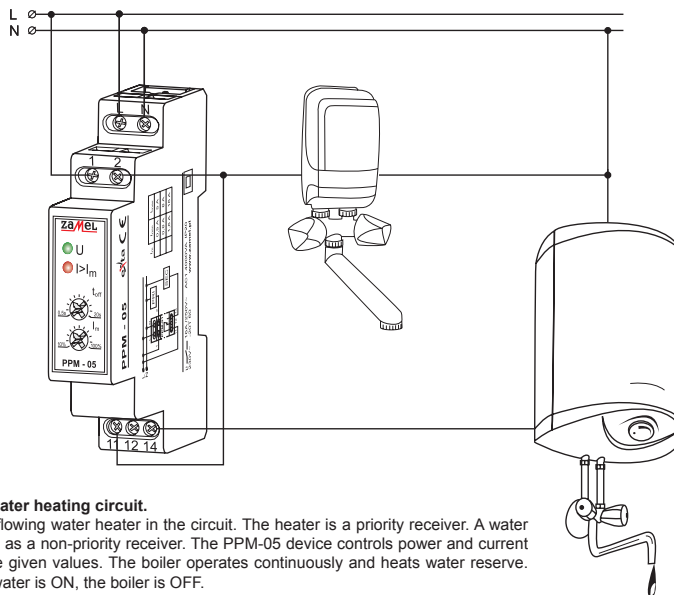
## UNIT DIAGRAM



## TIME DIAGRAMS



## APPLICATION



### Running water heating circuit.

There is a flowing water heater in the circuit. The heater is a priority receiver. A water boiler is set as a non-priority receiver. The PPM-05 device controls power and current level for the given values. The boiler operates continuously and heats water reserve. When the water is ON, the boiler is OFF.

1. ZMIE ZAMEL SP. J. assures 24 months guarantee for the product.
2. The manufacturer's guarantee does not cover any of the following actions:
  - a) mechanical damage during transport, loading / unloading or under other circumstances,
  - b) damage caused by incorrect product mounting or misuse,
  - c) damage caused by unauthorised modifications made by the PURCHASER or any third parties to the product or any other devices needed for the product functioning,
  - d) damage caused by Act of God or any other incidents independent of the manufacturer.
3. The PURCHASER shall lay any claims in writing to the dealer or ZMIE ZAMEL SP. J.
4. ZMIE ZAMEL SP. J. is liable for processing any claim according to current Polish legislation.
5. ZMIE ZAMEL SP. J. shall process the claim at its own discretion: product repair, replacement or money return.
6. The manufacturer's guarantee is valid in the Republic of Poland.
7. The PURCHASER's statutory rights in any applicable legislation whether against the retailer arising from the purchase contract or otherwise are not affected by this warranty.

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