- **Multifunctions monitoring relays (AC current monitoring in 1-phase network, with adjustable thresholds and adjustable hysteresis)**
- Monitoring windowfunction and histeresis • Timing adjustment of tripping delay • Supply voltage = monitored phase voltage
- Output: 1 CO (1 changeover contact)
- Cover - modular, width 17,5 mm
- Direct mounting on 35 mm rail mount acc. to EN 60715
- Recognitions, certifications, directives: RoHS, CE

Output circuit - contact data

Number and type of contacts		1 CO
Rated voltage		250 V AC
Max. breaking capacity	AC1	1 250 VA (5 A / 250 V AC)
Max. operating frequency • at resistive load 100 VA • at resistive load 1 000 VA		 3 600 cycles/hour 360 cycles/hour

Input circuit

Supply voltage	AC	230 V terminals (N)-Li
Rated voltage	AC	230 V
Must release voltage		AC: ≥ 0,2 U_n
Operating range of supply voltage		0,85...1,15 U_n
Rated power consumption	AC	5,0 VA / 0,8 W
Range of supply frequency	AC	48...63 Hz
Duty cycle		100%
Measuring circuit • measured value		AC sinus, 48...63 Hz
• measuring inputs		AC: 10 A / 230 V AC terminals (N)-Li-Lk
• overload capacity		13 A
• starting current		1 s: 100 A 3 s: 50 A
• input resistance		3 mΩ
• switching thresholds		MIN: 0,05...0,95 I_n MAX: 0,1...1,0 I_n
• hysteresis H		adjustable setting

Insulation according to EN 60664-1

Rated surge voltage	4 000 V 1,2 / 50 µs
Overvoltage category	III
Insulation pollution degree	2 if built-in: 3

General data

Electrical life	• resistive AC1	> 2 x 10^5 1 000 VA
Mechanical life (cycles)		> 2 x 10^7
Dimensions (L x W x H)		87 x 17,5 x 65 mm
Weight		72 g
Ambient temperature	• storage	-25...+70 °C
(non-condensation and/or icing)	• operating	-25...+55 °C
Cover protection category		IP 20 EN 60529
Relative humidity		15...85%
Shock resistance		15 g 11 ms
Vibration resistance		0,35 mm DA 10...55 Hz

Meassuring circuit data

Functions	OVER, OVER+LATCH, UNDER, UNDER+LATCH, WIN, WIN+LATCH monitoring windowfunction and histeresis
Range of delay timing adjustment	tripping delay: 0,1...10 s
Base accuracy	± 5% (calculated from the final range values)
Setting accuracy	± 5% (calculated from the final range values)
Repeatability	± 2%
Temperature influence	± 1% / °C
Recovery time	500 ms
LED indicator	green LED U ON - indication of supply voltage U red LEDs MIN and MAX ON/OFF - indication of failure ❶ red LEDs MIN and MAX flashing - indication of tripping delay ❶ yellow LED R ON/OFF - output relay status

❶ Indication of relay status - according to the set threshold.

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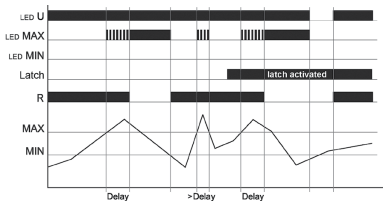
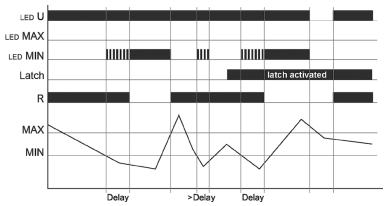
Functions

OVER, OVER+LATCH - Overcurrent monitoring, overcurrent monitoring with fault latch.



When the supply voltage U is applied, the output relay R switches into on-position, if the measured current is below the MAX-value. When the measured current exceeds the MAX-value, the output relay R switches into off-position after the interval of the tripping delay has expired.
OVER: the output relay R switches into on-position again, if the current falls below the MIN-value.
OVER+LATCH: the output relay R switches only into on-position again by interrupting and re-applying of the supply voltage, provided that the measured current is below the MAX-value.

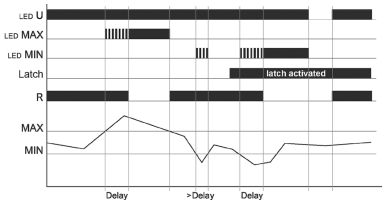
UNDER, UNDER+LATCH - Undercurrent monitoring, undercurrent monitoring with fault latch.



When the supply voltage U is applied, the output relay R switches into on-position, if the measured current is beyond the MIN-value. When the measured current falls below the MIN-value, the output relay R switches into off-position after the interval of the tripping delay has expired.
UNDER: the output relay R switches into on-position again, if the current exceeds the MIN-value.
UNDER+LATCH: the output relay R switches only into on-position again by interrupting and re-applying of the supply voltage, provided that the measured current is beyond the MIN-value.

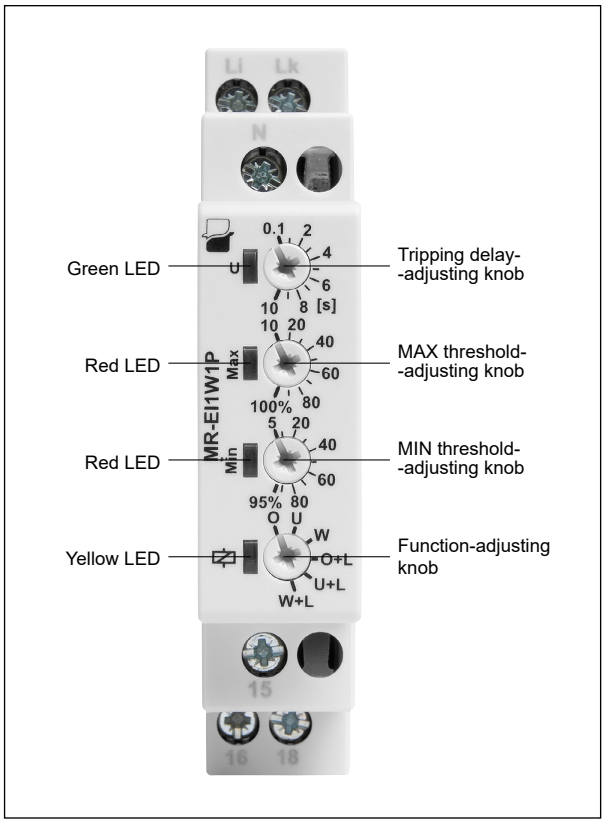
U - supply voltage; **R** - output state of the relay; **MIN, MAX** - relay status; **Latch** - fault latch; **Delay** - delay time

WIN, WIN+LATCH - Current monitoring in windowfunction between MIN and MAX values, current monitoring in windowfunction between MIN and MAX values with fault latch.



When the supply voltage U is applied, the output relay R switches into on-position, if the measured current is within the adjusted window. When the measured current leaves the window between MIN and MAX, the output relay R switches into off-position after the interval of the tripping delay has expired.
WIN: the output relay R switches into on-position again, if the current re-enter the adjusted window.
WIN+LATCH: the output relay R switches only into on-position again by interrupting and re-applying of the supply voltage, provided that the measured current is within the threshold values.

Front panel description



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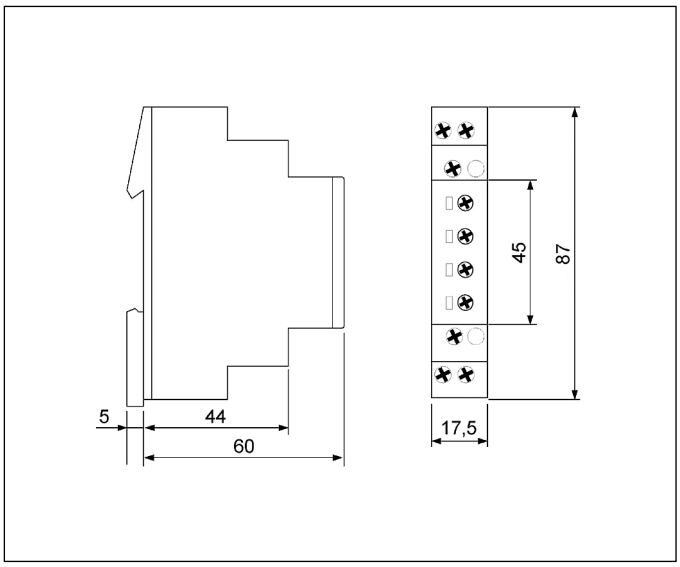
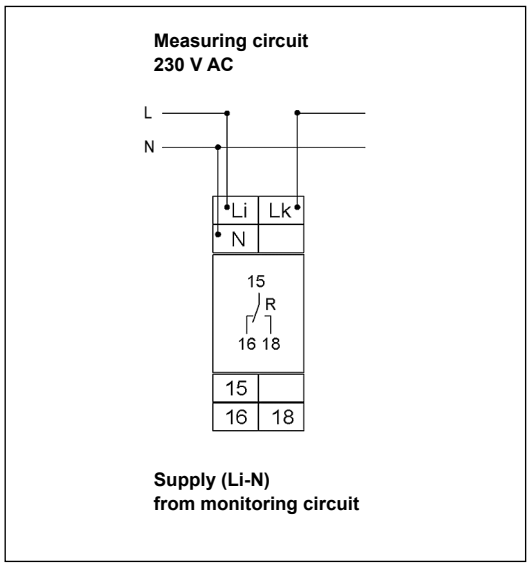
Wymiary



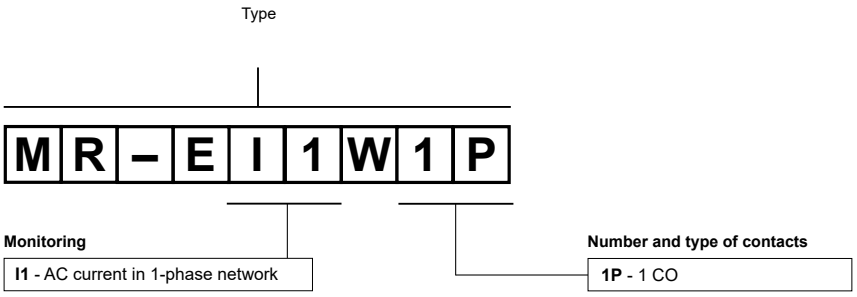
Schematy połączeń



Mounting

Relays **MR-EI1W1P** are designed for direct mounting on 35 mm rail mount acc. to EN 60715. Operational position - any. **Terminals - cross section of the connection cables:** 1 x 0,5 ... 2,5 mm^2 with/without multicore cable end, 1 x 4 mm^2 without multicore cable end, 2 x 0,5 ... 1,5 mm^2 with/without multicore cable end, 2 x 2,5 mm^2 flexible without multicore cable end.

Ordering codes



Example of ordering code:

MR-EI1W1P monitoring relay **MR-EI1W1P**, multifunction (relay perform 6 functions), cover - modular, width 17,5 mm, one changeover contact, rated input voltage (supply): AC - 230 V; monitoring current: max. 10 A / 230 V AC

PRECAUTIONS:
1. Ensure that the parameters of the product described in its specification provide a safety margin for the appropriate operation of the device or system and never use the product in circumstances which exceed the parameters of the product. **2.** Never touch any live parts of the device. **3.** Ensure that the product has been connected correctly. An incorrect connection may cause malfunction, excessive heating or risk of fire. **4.** In case of any risk of any serious material loss or death or injuries of humans or animals, the devices or systems shall be designed so to equip them with double safety system to guarantee their reliable operation.