

MR-EI1W1P

monitoring relays



- **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 - installation module, width 17,5 mm
- Direct mounting on 35 mm rail mount acc. to PN-EN 60715
- Recognitions, certifications, directives:

Output circuit - contact data

Number and type of contacts		1 CO
Rated load	AC1	5 A / 250 V AC
Max. breaking capacity	AC1	1 250 VA (5 A / 250 V AC)
Max. operating frequency		3 600 cycles/hour
• at resistive load 100 VA		360 cycles/hour
• at resistive load 1 000 VA		
Input circuit		
Supply voltage	AC	230 V terminals (N)-Li
Rated voltage	AC	230 V
Must release voltage		AC: $\geq 0,2 U_n$
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	<ul style="list-style-type: none"> • measuring variable • measuring inputs • overload capacity • starting current • input resistance • swiching threshold U_s • hysteresis H 	AC sinus, 48...63 Hz AC: 10 A / 230 V AC terminals (N)-Li-Lk 13 A 1 s: 100 A 3 s: 50 A 3 m Ω MIN: 0,05...0,95 I_n MAX: 0,1...1,0 I_n adjustable setting
Insulation according to PN-EN 60664-1		
Rated surge voltage		4 000 V 1,2 / 50 μ s
Overvoltage category		III
Insulation pollution degree		2 if built-in: 3
General data		
Electrical life	• resistive AC1	$> 2 \times 10^5$ 1 000 VA
Mechanical life (cycles)		$> 2 \times 10^7$
Dimensions (L x W x H)		87 x 17,5 x 65 mm
Weight		72 g
Ambient temperature	<ul style="list-style-type: none"> • storage • operating 	-25...+70 °C -25...+55 °C
Cover protection category		IP 20 PN-EN 60529
Relative humidity		15...85%
Shock resistance		15 g 11 ms
Vibration resistance		0,35 mm DA 10...55 Hz
Measuring 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		$\pm 5\%$ (calculated from the final range values)
Setting accuracy		$\pm 5\%$ (calculated from the final range values)
Repeatability		$\pm 2\%$
Temperature influence		$\pm 1\% / ^\circ\text{C}$
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 red LEDs MIN and MAX flashing - indication of tripping delay yellow LED R ON/OFF - output relay status

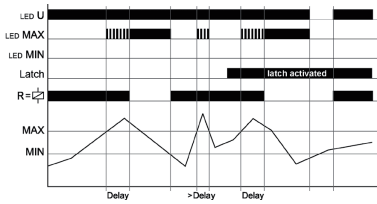
Indication of relay status - according to the set threshold.

MR-E1W1P

monitoring relays

Functions

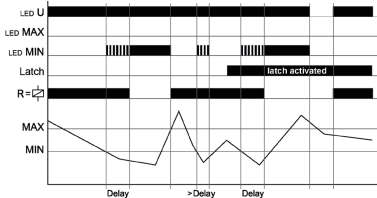
OVER, OVER+LATCH - Overcurrent monitoring, overcurrent monitoring with fault latch.



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 (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.

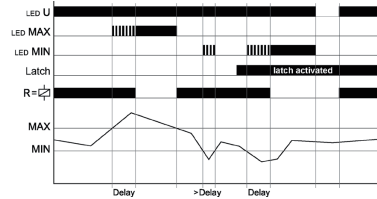


When the supply voltage U is applied, the output relay R switches into on-position, if the measured current is beyond the MIN-value. When the measured current falls below the MIN-value, the output relay R switches into off-position after the interval of the tripping delay (Delay) has expired. **UNDER**: 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; **SEQ** - phase sequence

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

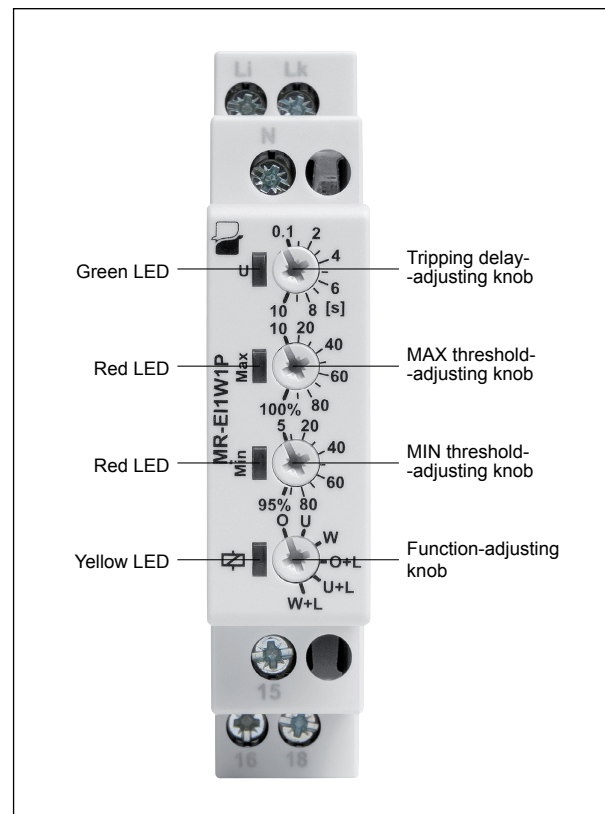


When the supply voltage U is applied, the output relay R switches into on-position, if the measured current is within the adjusted window. When the measured current leaves the window between MIN and MAX, the output relay R switches into off-position after the interval of the tripping delay (Delay) has 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.

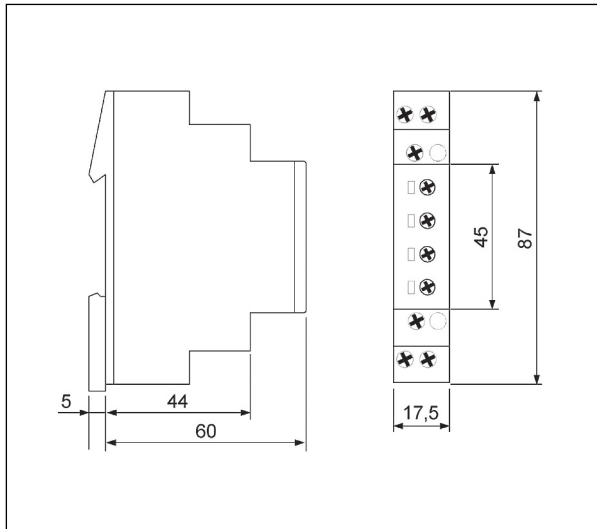
Front panel description



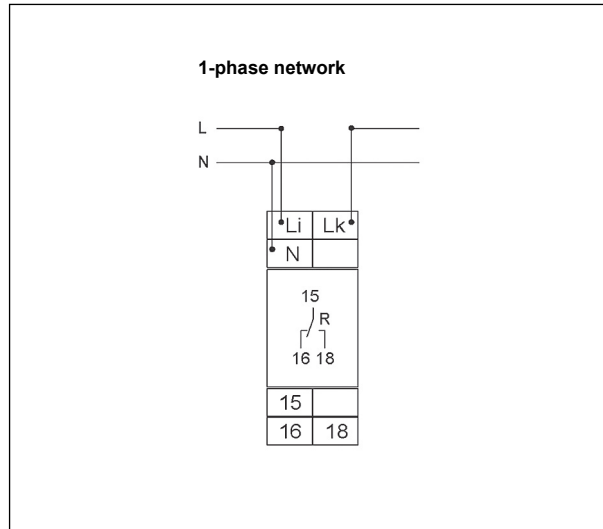
MR-EI1W1P

monitoring relays

Dimensions



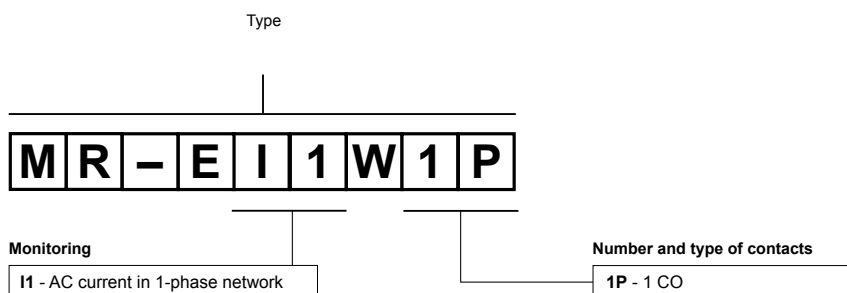
Connection diagram



Mounting

Relays **MR-EI1W1P** are designed for direct mounting on 35 mm rail mount acc. to PN-EN 60715. Operational position - any. **Terminals - cross section of the connection cables:** 1 x 0,5 ... 2,5 mm² with/without multicore cable end, 1 x 4 mm² without multicore cable end, 2 x 0,5 ... 1,5 mm² with/without multicore cable end, 2 x 2,5 mm² flexible without multicore cable end.

Ordering codes



Example of ordering code:

MR-EI1W1P monitoring relay **MR-EI1W1P**, multifunction (relay perform 6 functions), cover - installation module, width 17,5 mm, one changeover contact, rated input voltage (supply): AC - 230 V; monitoring current: 0,05 ... 10 A

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.