



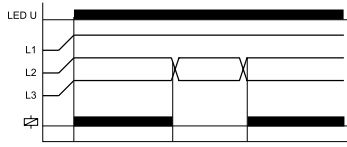
- **Multifunctions monitoring relays (AC voltage monitoring in 3-phase network - 3(N)~ 400/230 V)**
- Monitoring of phase sequence and phase failure • Asymmetry monitoring (adjustable) • Connection of neutral wire (optional)
- Supply voltage = monitoring voltage • Output: 1 CO (1 changeover contact)
- Cover - modular, width 17,5 mm
- Direct mounting on 35 mm rail mount acc. to EN 60715
- Recognitions, certifications, directives: RoHS,

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		3 600 cycles/hour
• at resistive load 100 VA		360 cycles/hour
• at resistive load 1 000 VA		
Input circuit		
Supply voltage		= monitoring voltage
Rated voltage	AC	3(N)~ 400/230 V
Must release voltage		AC: $\geq 0,2 U_n$
Operating range of supply voltage		0,7...1,3 U_n
Rated power consumption	AC	8,0 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 • asymmetry 	3(N)~, sinus, 48...63 Hz = supply voltage AC: 3(N)~ 400/230 V terminals (N)-L1-L2-L3 determined by tolerance specified for supply voltage adjustable: 5...25%
Insulation according to 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		63 g
Ambient temperature	<ul style="list-style-type: none"> • storage • operating (non-condensation and/or icing)	-25...+70 °C -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
Measuring circuit data		
Functions		SEQ - monitoring of phase sequence and phase failure ASYM - monitoring of asymmetry (adjustable) connection of neutral wire (optional)
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		$\pm 0,05\%$ / °C
Recovery time		500 ms
LED indicator		green LED U ON - indication of supply voltage U yellow LED R ON/OFF - output relay status

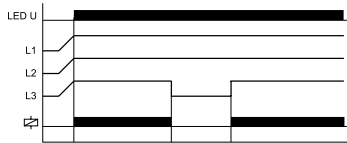
Functions

SEQ - Phase sequence monitoring.



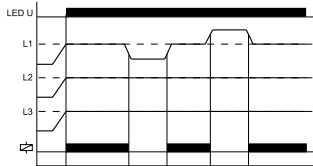
When all the phases are connected in the correct sequence and the measured asymmetry is less than the fixed value, the output relay R switches into on-position (yellow LED illuminated). When the phase sequence changes, the output relay R switches into off-position (yellow LED not illuminated).

SEQ - Phase failure monitoring.



The output relay R switches into off-position (yellow LED not illuminated), when one of the three phases fails.

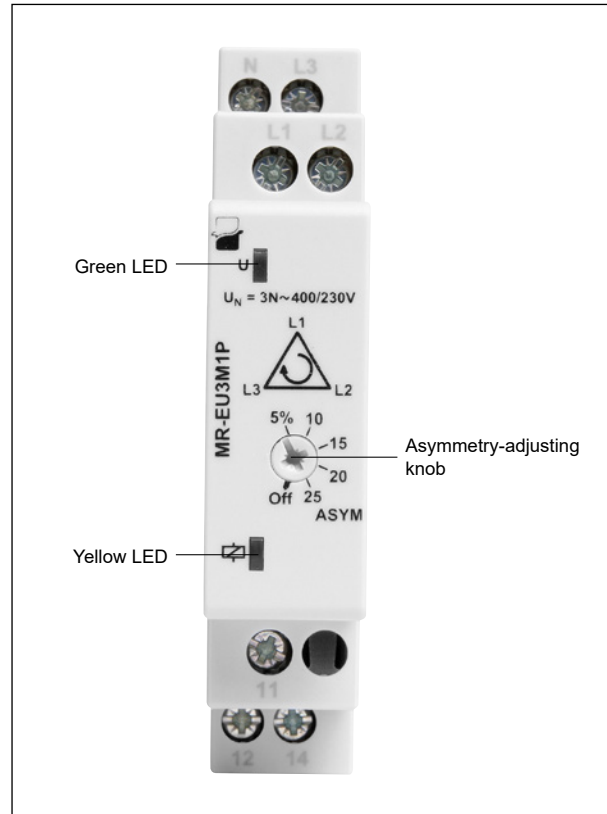
ASYM - Asymmetry monitoring.



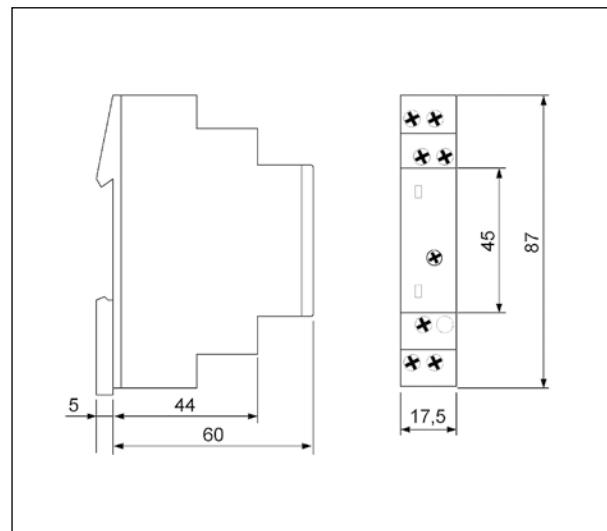
The output relay R switches into off-position (yellow LED not illuminated) when the asymmetry exceeds the value set at the ASYM-regulator. An asymmetry caused by the reverse voltage of a consumer (e.g. a motor which continues to run on two phases only) does not effect the disconnection.

U - supply voltage; **R** - output state of the relay

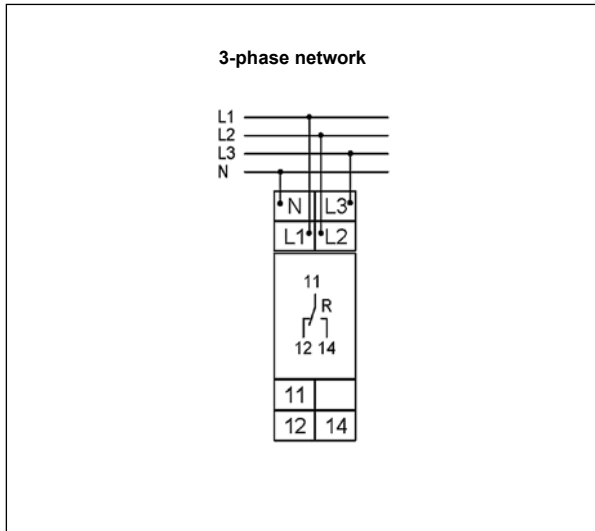
Front panel description



Dimensions



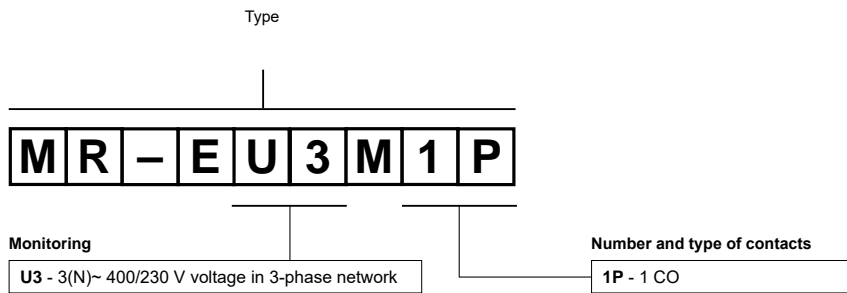
Connection diagram



Mounting

Relays **MR-EU3M1P** 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 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-EU3M1P monitoring relay **MR-EU3M1P**, multifunction (relay perform 2 functions), cover - modular, width 17,5 mm, one changeover contact, rated monitoring voltages: AC - 3(N)~ 400/230 V