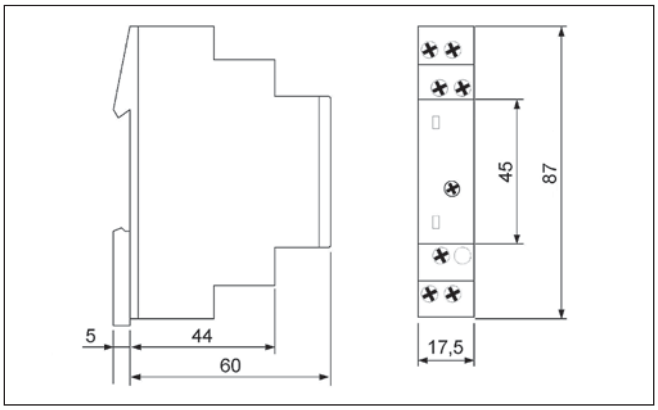
NEW product

- Voltage monitoring in 3-phase mains
- Monitoring of phase sequence and phase failure
- Monitoring of asymmetry ❶
- Connection of neutral wire optional
- Supply voltage = measuring voltage
- 1 changeover contact: 1 C/O
- Rated load: 5 A / 250 V AC at cat. AC1
- Installation design: width 17,5 mm
- Recognitions, certifications, directives: CE

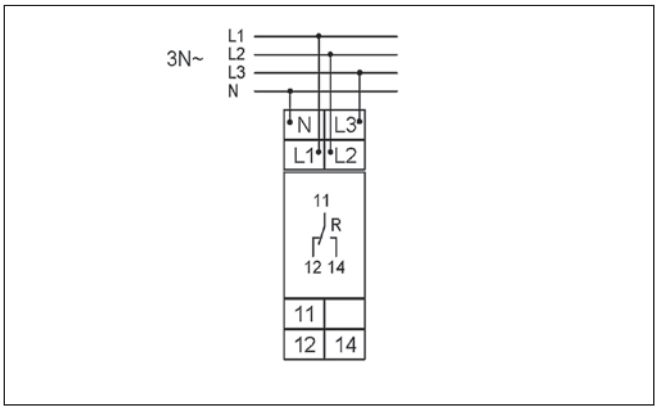
Type of relay			**MR-EU3M1P**
Output circuit			
Number and type of contacts			1 C/O - changeover
Rated load		AC1	5 A / 250 V AC
Max. breaking capacity		AC1	1 250 VA
Max. operating frequency • at 100 VA resistive load • at 1 000 VA resistive load			 3 600 cycles/hour PN-EN 60947-5-1 360 cycles/hour
Input circuit			
Supply voltage U			= measuring voltage; terminals (N)-L1-L2-L3
Rated voltage U_n			3(N)~400/230 V
Drop-out voltage			AC: ≥ 0,2 U_n
Operating range of supply voltage			0,7 < U_n < 1,3
Rated power consumption			8,0 VA / 0,8 W
Rated frequency			AC: 48...63 Hz
Duty cycle			100%
Measuring circuit	• terminals • measuring variable • measuring input • overload capacity • asymmetry		(N)-L1-L2-L3 3(N)~, sinus, 48...63 Hz = supply voltage determined by tolerance specified for supply voltage 5...25%
Insulation			
Rated surge voltage			4 000 V AC
Overvoltage category			III PN-EN 60664-1
Insulation pollution degree			2, if built-in 3 PN-EN 60664-1
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 60 mm
Weight			63 g
Ambient temperature	• storage, transport • operating		-25...+70 °C -25...+55 °C PN-EN 60068-1
Housing protection category			IP40
Relative humidity			15...85% PN-EN 60721-3-3 class 3K3
Shock resistance			15 g 11 ms PN-EN 60068-2-27
Vibration resistance			0,35 mm DA 10...55 Hz PN-EN 60068-2-6
Meassuring circuit data			
Functions			monitoring of phase sequence, phase failure and asymmetry with adjustable asymmetrie ❶, connection of neutral wire optional
Time intervals			tripping delay (fixed, approx. 0,1 s)
Base accuracy			± 5% (calculate from final range value)
Setting accuracy			± 5% (calculate from final range value)
Repeatability			± 2%
Temperature influence			± 0,05% / °C
Recovery time			500 ms
LED indicator			green LED U/T ON - indication of supply voltage yellow LED R ON/OFF - indication of output relay

❶ By means of evaluating the asymmetry.

Dimensions



Connections diagram

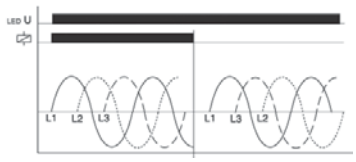


Mounting, mechanical design

Relays **MR-EU3M1P** are designed for direct mounting on 35 mm DIN rail mount, EN 50022. Mounting position: any. Self-extinguishing plastic housing, IP 40. Shockproof terminal connection according to VBG 4 (PZ1 required), IP 20. Maximum screw torgue: 1,0 Nm. Terminal capacity: 1 x 0,5 do 2,5 mm^2 with/without multicore cable end, 1 x 4 mm^2 without multicore cable end, 2 x 0,5 do 1,5 mm^2 with/without multicore cable end, 2 x 2,5 mm^2 flexible without multicore cable end.

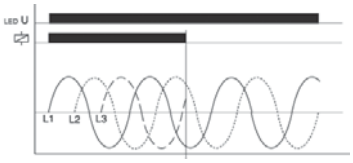
Functions

Phase sequence monitoring



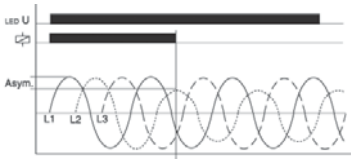
When all the phases are connected in the correct sequence and the measured asymmetry is less than the fixed value, the output relay R switches into on-position (yellow LED illuminated). When the phase sequence changes, the output relay R switches into off-position (yellow LED not illuminated).

Phase failure monitoring



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

Asymmetry monitoring



The output relay R switches into off-position (yellow LED not illuminated) when the asymmetrie exceeds the value set at the ASYM-regulator. Reverse voltages of a consumer (e.g. a motor which continues to run on two phases only) do not effect the disconnection.

U - supply voltage; **R** - output relay