



NEW
product

- Voltage monitoring in 3-phase mains
- Monitoring of phase sequence and phase failure
- Detection of reverse voltage ❶
- Connection of neutral wire optional
- Supply voltage = measuring voltage
- 2 changeover contacts: 2 C/O
- Rated load: 5 A / 250 V AC at cat. AC1
- Installation design: width 22,5 mm
- Recognitions, certifications, directives: **CE**

Type of relay

MR-GU3M2P

Output circuit

Number and type of contacts		2 C/O - changeover	
Rated load	AC1	5 A / 250 V AC	
Max. breaking capacity	AC1	1 250 VA	
Max. operating frequency		3 600 cycles/hour	PN-EN 60947-5-1
• at 100 VA resistive load • at 1 000 VA resistive load		360 cycles/hour	

Input circuit

Supply voltage U		= measuring voltage; terminals (N)-L1-L2-L3 (galvanically separated)
Drop-out voltage		AC: $\geq 0,2 U_n$
Operating range of supply voltage		3(N)~ 342...457 V
Rated power consumption		2,0 VA / 1,5 W
Rated frequency		AC: 48...63 Hz
Duty cycle		100%
Measuring circuit	<ul style="list-style-type: none"> • terminals • measuring variable • measuring input • overload capacity • input resistance • asymmetry 	(N)-L1-L2-L3 AC sinus, 48...63 Hz = supply voltage 3(N)~ 457/264 V 3(N)~400/230 V: 15 k Ω fixed, typical value 30%

Insulation

Rated surge voltage		4 000 V AC
Overvoltage category		III PN-EN 60664-1
Insulation pollution degree		3 PN-EN 60664-1

General data

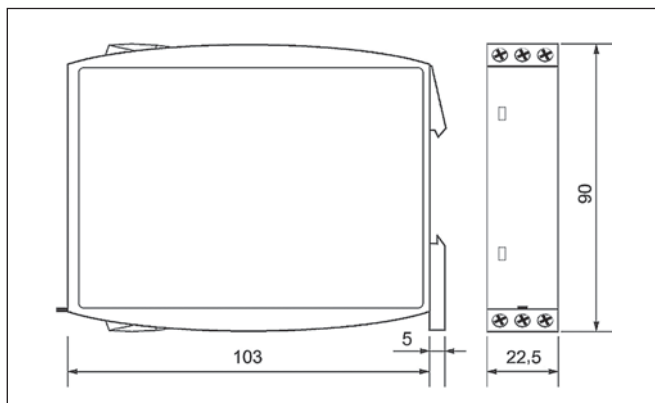
Electrical life	• resistive AC1	$\geq 2 \times 10^5$ 1 000 VA
Mechanical life (cycles)		$\geq 2 \times 10^7$
Dimensions (L x W x H)		90 x 22,5 x 103 mm
Weight		100 g
Ambient temperature	<ul style="list-style-type: none"> • storage, transport • operating 	-25...+70 °C -25...+55 °C PN-EN 60068-1 -25...+40 °C UL 508
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

Measuring circuit data

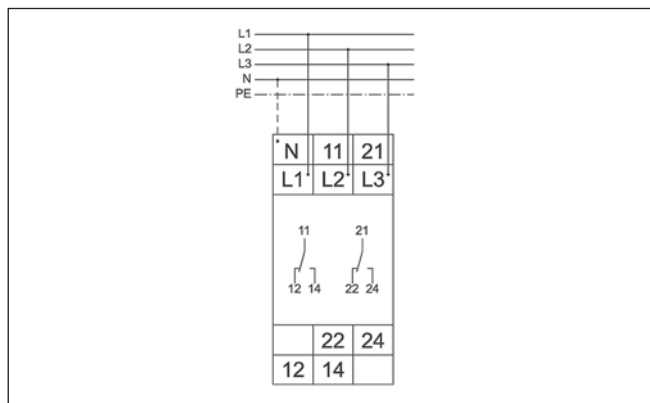
Functions		monitoring of phase sequence and phase failure detection of reverse voltage ❶
Time intervals		start-up suppression time (stała, max. 0,5 s) tripping delay (stała, max. 0,35 s)
Recovery time		100 ms
LED indicator		green LED ON - indication of supply voltage yellow LED ON/OFF - indication of output relay

❶ By means of evaluating the asymmetry.

Dimensions



Connections diagram

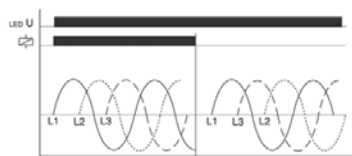


Mounting, mechanical design

Relays **MR-GU3M2P** 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 torque: 1,0 Nm. Terminal capacity: 1 x 0,5 do 2,5 mm² with/without multicore cable end, 1 x 4 mm² without multicore cable end, 2 x 0,5 do 1,5 mm² with/without multicore cable end, 2 x 2,5 mm² flexible without multicore cable end.

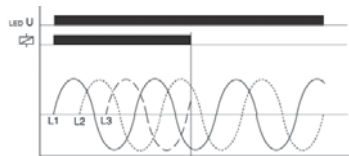
Functions

Phase sequence monitoring



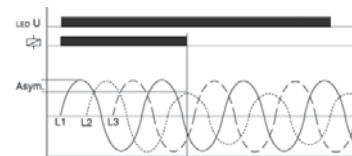
When all the phases are connected in the correct sequence and the measured asymmetry is less than the fixed value, the output relay R switches into on-position (yellow LED illuminated). When the phase sequence changes, the output relay R switches into off-position (yellow LED not illuminated).

Phase failure monitoring



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

Detection of reverse voltage (by means of evaluation of asymmetry)



The output relay R switches into off-position (yellow LED not illuminated) when the asymmetry between the phase voltages exceeds the fixed value of the asymmetry in monitoring relay. 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 relay