

# MR-GU3M2P

## monitoring relays



- **Multifunctions monitoring relays (AC voltage monitoring in 3-phase network)** • Monitoring of phase sequence and phase failure
- Detection of reverse voltage by means of asymmetry • Connection of neutral wire (optional)
- Supply voltage = monitoring voltage • Output: 2 CO (2 changeover contacts) • Industrial cover, width 22,5 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	2 CO
Rated voltage	250 V AC
Max. breaking capacity	AC1 750 VA (3 A / 250 V AC) ❶ 1 250 VA (5 A / 250 V AC) ❷
Max. operating frequency	3 600 cycles/hour
• at resistive load 100 VA	360 cycles/hour
• at resistive load 1 000 VA	
<b>Input circuit</b>	
Supply voltage	= monitoring voltage terminals (N)-L1-L2-L3
Must release voltage	AC: $\geq 0,2 U_n$
Operating range of supply voltage	3(N)~ 342...457 V
Rated power consumption	AC 9,0 VA
Range of supply frequency	AC 48...63 Hz
Duty cycle	100%
<b>Measuring circuit</b>	<ul style="list-style-type: none"> <li>• measured value</li> <li>• measuring inputs</li> <li>• overload capacity</li> <li>• input resistance</li> <li>• asymmetry</li> </ul>
	AC sinus, 48...63 Hz
	AC: 3(N)~ 400/230 V terminals (N)-L1-L2-L3
	3(N)~ 457/264 V
	3(N)~ 400/230 V: 15 k $\Omega$
	fixed: typical value 30%
<b>Insulation according to EN 60664-1</b>	
Rated surge voltage	4 000 V 1,2 / 50 $\mu$ s
Overvoltage category	III
Insulation pollution degree	3
<b>General data</b>	
Electrical life	• resistive AC1 > 2 x 10 <sup>5</sup> 1 000 VA
Mechanical life (cycles)	> 2 x 10 <sup>7</sup>
Dimensions (L x W x H)	90 x 22,5 x 108 mm
Weight	100 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
<b>Measuring circuit data</b>	
Functions	SEQ - monitoring of phase sequence and phase failure ASYM - detection of reverse voltage by means of asymmetry connection of neutral wire (optional)
Range of delay timing adjustment	start-up suppression: fixed, max. 0,5 s tripping delay: fixed, max. 0,35 s
Recovery time	100 ms
LED indicator	green LED U ON - indication of supply voltage U yellow LED R ON/OFF - output relay status

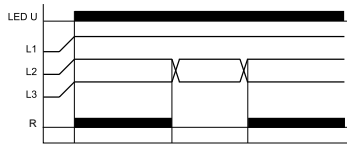
❶ If the distance between the relays mounted side by side is less than 5 mm. ❷ If the distance between the relays mounted side by side is greater than 5 mm.

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## monitoring relays

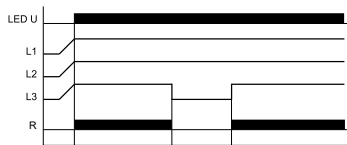
### Functions

**SEQ** - Phase sequence monitoring.



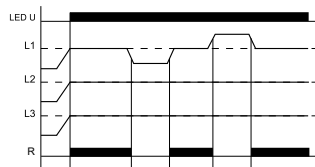
When all the phases are connected in the correct sequence and the measured asymmetry is less than the fixed value, the output relay R switches into on-position (yellow LED illuminated). When the phase sequence changes, the output relay R switches into off-position (yellow LED not illuminated).

**SEQ** - Phase failure monitoring.



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

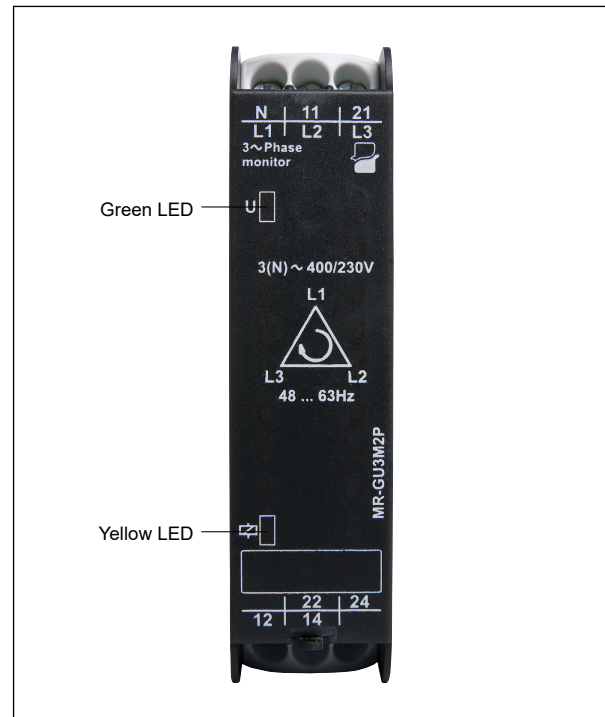
**ASYM** - Detection of reverse voltage by means of asymmetry.



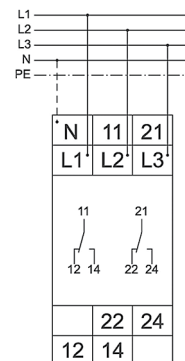
The output relay R switches into off-position (yellow LED not illuminated) when the asymmetry between the phase voltages exceeds the fixed value of the asymmetry. An asymmetry caused by the reverse voltage of a consumer (e.g. a motor which continues to run on two phases only) does not effect the disconnection.

**U** - supply voltage; **R** - output state of the relay; **L1, L2, L3** - phases

### Front panel description



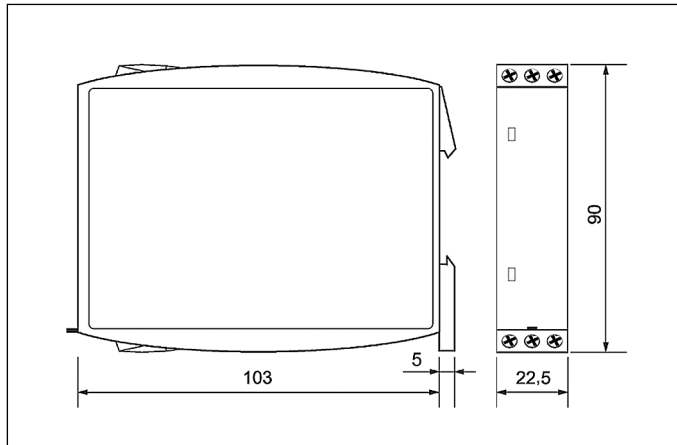
### Connection diagram



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## monitoring relays

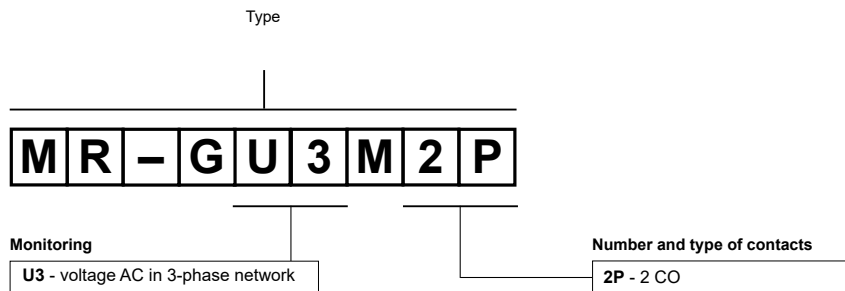
### Dimensions



### Mounting

Relays **MR-GU3M2P** 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<sup>2</sup> with/without multicore cable end, 1 x 4 mm<sup>2</sup> without multicore cable end, 2 x 0,5 ... 1,5 mm<sup>2</sup> with/without multicore cable end, 2 x 2,5 mm<sup>2</sup> flexible without multicore cable end.

### Ordering codes



Example of ordering code:

**MR-GU3M2P** monitoring relay **MR-GU3M2P**, multifunction (relay perform 2 functions), industrial cover, width 22,5 mm, two changeover contacts, rated input voltage (supply): AC - 3(N)~ 400/230 V

### 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.