



- **Multifunctions monitoring relays (DC and AC voltage monitoring in 1-phase network, with adjustable thresholds)**
- Minimum value monitoring with the hysteresis mode
- 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,

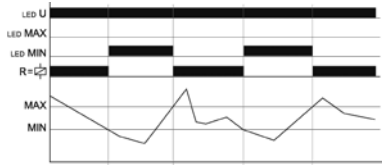
### Output circuit - contact data

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		
<b>Input circuit</b>		
Supply voltage		= monitoring voltage
Rated voltage	AC	24, 230 V
	DC	24 V
Must release voltage		determined by undervoltage detection (see measured circuit)
Operating range of supply voltage		0,75...1,2 U <sub>n</sub>
Rated power consumption	AC	230 V AC: 10,0 VA / 0,6 W
	DC	24 V AC: 1,3 VA / 0,8 W    24 V DC: 0,6 W
Range of supply frequency	AC	48...63 Hz
Duty cycle		100%
<b>Measuring circuit</b>	<ul style="list-style-type: none"> <li>• measuring variable</li> <li>• measuring inputs</li> </ul>	DC or AC sinus, 48...63 Hz = supply voltage AC: 230 V    terminals E-F3 AC: 24 V    terminals E-F2 DC: 24 V    terminals E-F1 ≥ 1,2 U <sub>n</sub> MIN: 0,75...1,15 U <sub>n</sub> MAX: 0,8...1,2 U <sub>n</sub> see printing on the unit
	<ul style="list-style-type: none"> <li>• overload capacity</li> <li>• swithing threshold</li> <li>• hysteresis H</li> </ul>	
<b>Insulation according to EN 60664-1</b>		
Rated surge voltage		4 000 V    1,2 / 50 μs
Overvoltage category		III
Insulation pollution degree		2                                    if built-in: 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)		87 x 17,5 x 65 mm
Weight		72 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		UNDER, WIN minimum value monitoring with the hysteresis mode
Base accuracy		± 5% (calculated from the final range values)
Setting accuracy		± 5% (calculated from the final range values)
Repeatability		± 2%
Temperature influence		± 1% / °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 yellow LED R ON/OFF - output relay status

Indication of relay status - according to the set threshold.

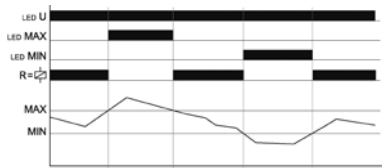
### Functions

**UNDER** - Undervoltage monitoring.



When the supply voltage **U** is applied, the output relay **R** switches into on-position, if the measured voltage is beyond the **MIN**-value. When the measured voltage falls below the **MIN**-value, the output relay **R** switches into off-position. The output relay **R** switches into on-position again, if the voltage exceeds the **MAX**-value.

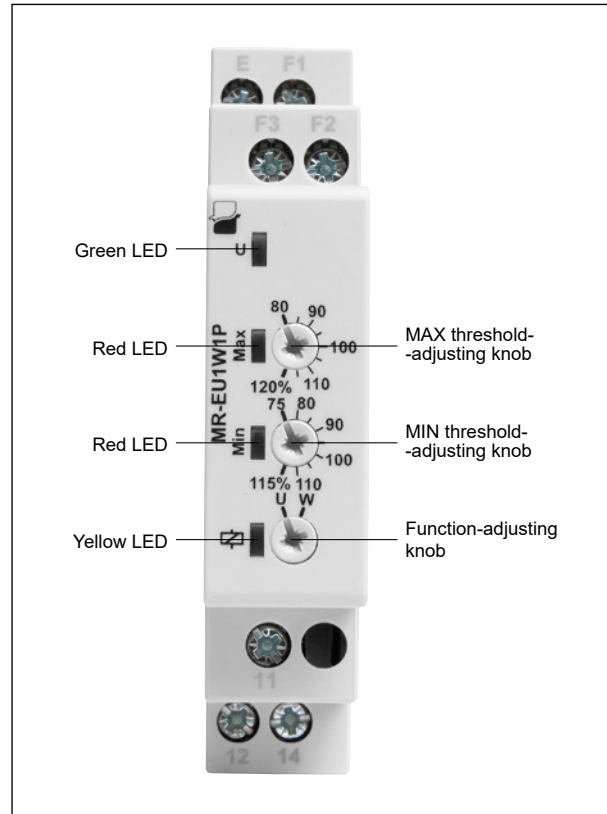
**WIN** - Voltage monitoring in windowfunction between **MIN** and **MAX** values.



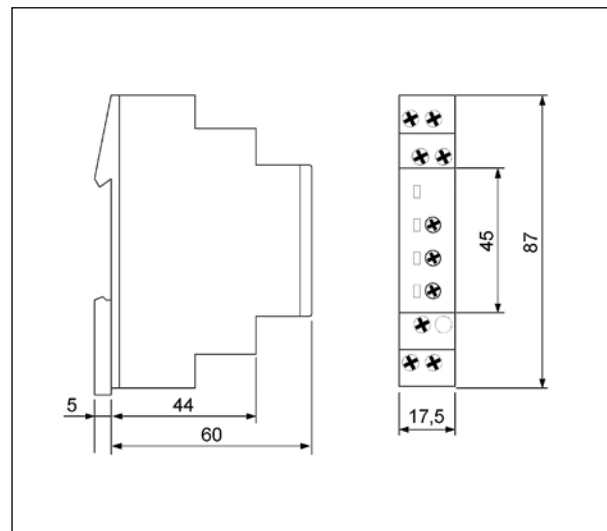
When the supply voltage **U** is applied, the output relay **R** switches into on-position, if the measured voltage is within the adjusted window. When the measured voltage left the window between **MIN** and **MAX**, the output relay **R** switches into off-position. The output relay **R** switches into on-position again, if the voltage re-enter the adjusted window.

**U** - supply voltage; **R** - output state of the relay; **MIN**, **MAX** - relay status

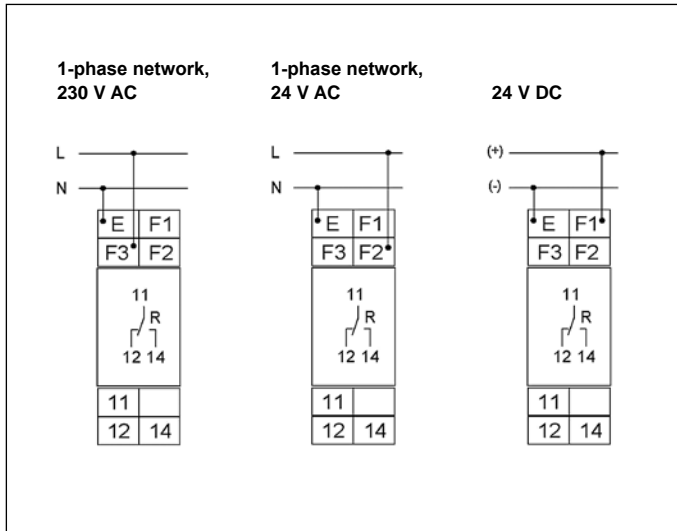
### Front panel description



### Dimensions



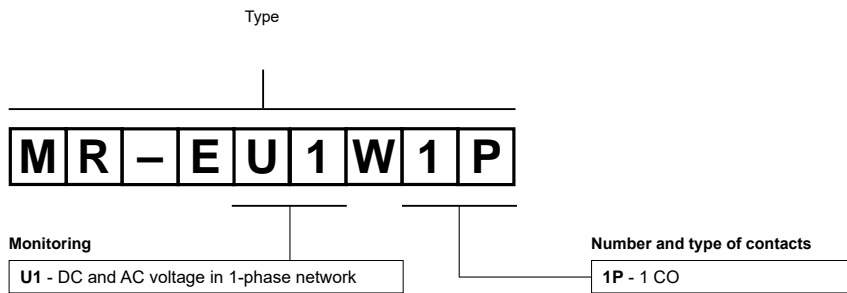
## Connection diagrams



## Mounting

Relays **MR-EU1W1P** 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-EU1W1P** monitoring relay **MR-EU1W1P**, multifunction (relay perform 2 functions), cover - modular, width 17,5 mm, one changeover contact, rated monitoring voltages: AC - 230 V, 24 V; DC - 24 V