



- Voltage monitoring 1-phase mains
- Input voltage range of 12, 24, 230V AC/DC
- TrueRMS actual voltage measurement method has been used
- Function *window i undervoltage*
- 1 change over contact
- Width 17.5mm
- Installation design



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Technical data

Description

Output circuit		
Contact arrangement		1 CO
Rated voltage	V AC	250/400
Switching current range AC1	A/V AC	8/250
DC1	A/V DC	8/24
Switching load range AC1	VA	2 000
Contact resistance	mΩ	≤ 100
Max. rated current	A	8
Input circuit		
Supply voltage U_n DC/ AC (50-60Hz) = measured voltage	V	12, 24, 230 ①
Tolerance		0,8...1,2 U_n (9,6...276V)
Rated consumption AC	VA	≤ 2.5
DC	W	< 2
Rated frequency	Hz	47...63
Rated surge voltage	V	2500
Insulation		
Insulation rated voltage	V AC	250
Rated surge voltage	V	2500 1,2/50μs
Overvoltage category		III
Dielectric strength		
• Input – output	V AC	4 000
• Open contact		1 000
Measuring circuit		
Regulation range voltage min U_{min}	%	70...110%
Regulation range voltage max U_{max}	%	80...120%
Functions		MU, MW
Measurement accuracy	%	≤ 5
Setting accuracy	%	≤ 5
Repeatability	%	≤ 2
Temperature influence	%/°C	≤ 0,05
Sampling frequency of the input process resolution converters	Hz	2930
	bits	9
Time module data		
Setting range of time off delay		10s
Timing adjustment		smooth 0,05...1,0 x time range
Setting accuracy	%	5
Repeatability	%	0,5
Reset time	ms	≤ 500
General data		
Electrical life AC1 at 1000 VA resistive load	cycles	≥ 1,5 x 10 ⁵
Mechanical life	cycles	≥ 1 x 10 ⁷
Dimensions (L x W x H) / Weight	mm / g	90 x 17,5 x 66 / 50g
Ambient temperature / storage temperature	°C	-40...+70 / -20...+55
IP rating		IP20
Relative humidity	%	85
Shock resistance	g	15
Vibration resistance	mm	0,35 10...55Hz
LED indicator		2 LED

The supervisory relay is designed for application in automation and control systems, it controls single-phase AC/DC voltage systems, and protects the receivers from voltage drops and rushes beyond the set thresholds.

Use of the universal power supply allows correct operation of the measuring system in a wide range of voltages. In our relay the **TrueRMS** actual voltage measurement method has been used.

This method is innovative for such products group and provides the highest accuracy regardless of the AC input waveform, which is important in case of voltage deviation from the ideal sine wave. TrueRMS method also allows measurement of the constant DC voltage.

The relay has an adjustable off delay time in a range from 0.5s to 10 s. Seven-position switch allows selection of measurement functions *undervoltage* or *window* and rated input voltage range of 12, 24 or 230V.

Relay status is indicated by two LEDs.

Mounting

Mounted on DIN-rail TS 35 according to EN 60715

Mounting position: any

IP rating IP20

Tightening torque: max. 1 Nm

Terminal capacity: 1 x 0.5 to 2.5 mm² with/without multicore cable end 1 x 4 mm² without multicore cable end 2 x 0.5 to 1.5 mm² with/without multicore cable end 2 x 2.5 mm² flexible without multicore cable end

① Voltages can be adjusted to customer requirements

Danger!



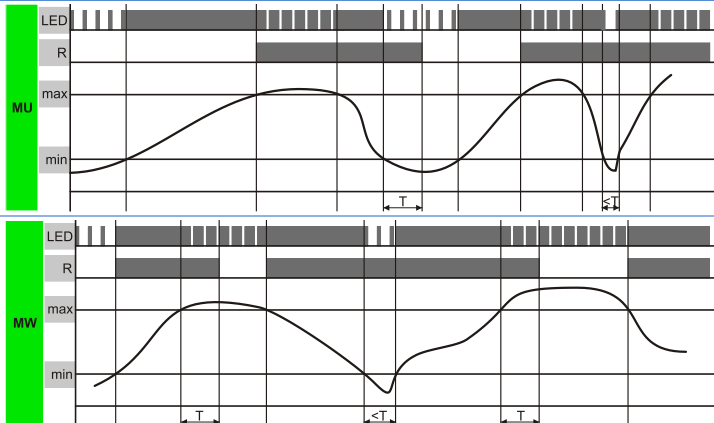
Read and understand these instructions before installing, operating or maintaining the equipment.

Never carry out work on live parts! Danger of fatal injury! The product must not be used in case of obvious damage. To be installed by an authorized person.

Ordering information

MMR17-V1A-U230-108

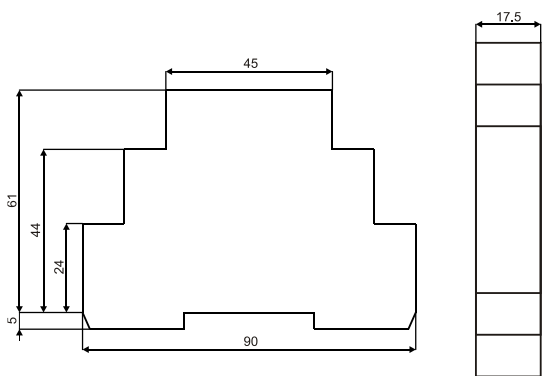
Functions



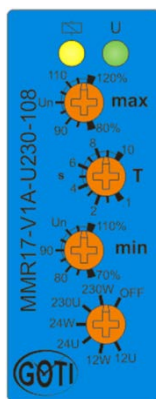
MU (undervoltage) – The output relay R switches into on-position again after the measured voltage exceed the Max-value.

MW (window) – The output relay R switches into on-position again after the measured voltage reenters the acceptance region

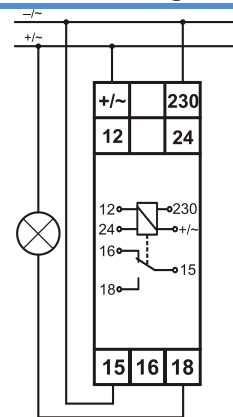
Dimensions



Front panel view



Connection diagram



Connect one of the power cords to desired full rated voltage range input, and the second one to the common input. For monitoring constant DC voltage connect the positive pole (+) to the +/~ terminal and the negative (-) to the -/~ .

Functions which are selected by the means of rotary switch

- 12U, 24U, 230U – Undervoltage monitoring
- 12W, 24W, 230W – Monitoring the window between Min and Max

LED indicator

- Yellow LED** indication of relay R output. Indicates the system status monitor.
- Green LED** The flashing green LED to fill out short pulses of about 10% of the mean value of the input voltage drop below the lower threshold U_{min} . Slow flashing green LED pulses to fill out about 90% mean increase in input voltage above the upper threshold U_{max} . Flashing green LED pulses to fill out about 50% means that U_{max} upper voltage threshold is set below the lower limit U_{min} .



Dobry Czas Sp. z o.o. 51-315 Wrocław ul. Miłostowska 7/6 ; Poland
 +48 71 729 95 90
 marketing@dobry-czas.pl

www.dobry-czas.pl