Type: LMWVR

Multifunction, Window Voltage Relay

Terminal Protection to IP20



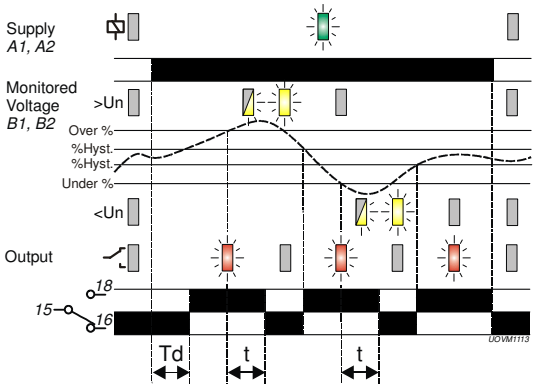
Dims: to DIN 43880
W. 17.5mm

- ❑ ***NEW*** **17.5mm DIN rail housing**
- ❑ **Microprocessor based**
- ❑ **True R.M.S. monitoring**
- ❑ **7 Selectable Nominal voltage ranges (12 – 240V AC/DC)**
- ❑ **Window operation Under and Over voltage monitoring**
- ❑ **Adjustable Under and Over voltage trip levels**
- ❑ **Adjustable time delay**
- ❑ **Isolated Auxiliary supply (24 – 230V AC/DC) [1]**
- ❑ **1 x SPDT relay output 8A**
- ❑ **Green LED indication for supply status**
- ❑ **Separate Yellow LED indication for Under or Over voltage condition**

ISO 9001:2015
Cert. No. 14125771

FUNCTION DIAGRAM

Under and Over Voltage Monitoring



TECHNICAL SPECIFICATION

Auxiliary supply voltage U **(A1, A2)**:	24 – 230V AC/DC [1](12 – 60V AC/ DC also available)			
Frequency range:	48 - 63Hz (AC supplies)			
Supply variation:	+15%/ - 10%			
Overvoltage category:	III (IEC 60664)			
Rated impulse withstand voltage:	4kV (1.2/50µS) IEC 60664			
Power consumption (max.):	24V	48V	115V	230V
AC:	0.84 VA	0.82 VA	1.1 VA	1.4 VA
DC:	0.6 W	0.47 W	0.46 W	0.53 W
Monitoring mode:	Under and Over voltage (Window)			
Hysteresis:	2% fixed			
Selectable nominal voltages (Un):	12, 24, 48, 110, 115, 230, 240V			
Under trip level adjustment:	70 – 95% of Un			
Over trip level adjustment:	105 – 130% of Un			
Time delay (t):	0.1 – 30S (from fault occurring to relay de-energising)			
Power up delay (Td):	1 second (fixed)			
Reset time:	100mS			
Accuracy:	± 1% of maximum full scale			
Adjustment accuracy:	< 5% of maximum full scale			
Repeat accuracy:	± 0.5% at constant conditions			
Drift with temperature:	± 0.05% / °C			
Drift with voltage:	± 0.2% / V			
Monitoring input **(B1, B2)**:	0.2 to 350V AC/DC			
Frequency:	DC, 48 – 500Hz			
Maximum input rating:	500V			
Overload:	1kV for 1s			
Overvoltage category:	III (IEC 60664)			
Rated impulse withstand voltage:	4kV (1.2/50µS) IEC 60664			
Power on indication:	Green LED			
Under voltage trip indication	Red LED			
Over voltage trip indication	Red LED			
Ambient temp:	-20 to +60°C			
Relative humidity:	+95%			
Output **(15, 16, 18)**:	SPDT relay			
Output rating:	AC1	250V 10A (2500VA)		
	AC15	250V 5A (no), 3A (nc)		
	DC1	25V 10A (250W)		
Electrical life:	≥ 150,000 ops at rated load			
Dielectric voltage:	2kV AC (rms) IEC 60947-1			
Rated impulse withstand voltage:	4kV (1.2/50µS) IEC 60664			
Housing:	Orange flame retardant UL94 V0			
Weight:	63g			
Mounting option:	On to 35mm symmetric DIN rail to BS EN 60715 or direct surface mounting via 2 x M3.5 or 4BA screws using the black clips provided on the rear of the unit			
Terminal conductor size	≤ 2 x 2.5mm² solid or stranded			
Approvals:	c UL us LISTED IND. CONT. EQ. E111187 CE and RoHS Compliant. EMC: Immunity: EN 61000-6-2 (EN 61000-4-3 10V/m 80MHz - 2.7GHz) Emissions: EN 61000-6-4			

INSTALLATION AND SETTING

Installation work must be carried out by qualified personnel.

- BEFORE INSTALLATION, ISOLATE THE SUPPLY.
- Connect the Auxiliary and Monitored Inputs as required.

Setting the unit.

- Set the "Nominal voltage" selector ❽ to the match that of the voltage being monitored on terminals B1 and B2.
- Set the "Under %" ❺ and "Over %" ❼ trip levels as required. These are scaled as a % of the selected nominal voltage.
- Set the "Delay" ❻ as required.

Applying power.

- Apply power and the green LED ❶ will illuminate. Both yellow LED's will remain extinguished and the relay will energise. The red LED ❷ will also illuminate.

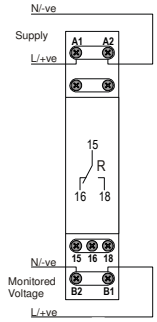
Under voltage condition:

- If the monitored voltage falls below the "Under %" trip level the yellow "<Un" LED ❸ will start flashing. The relay will de-energise and red LED extinguish after the delay period "t" has elapsed. The yellow LED will then remain illuminated to indicate an under voltage condition. The relay will re-energise/red LED illuminate (and yellow LED extinguish) when the voltage rises above the trip level plus the hysteresis.

Over voltage condition:

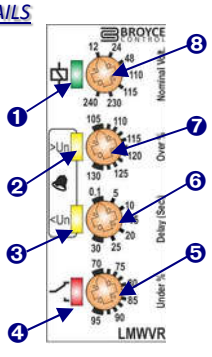
- If the monitored voltage rises above the "Over %" trip level the yellow ">Un" LED ❷ will start flashing. The relay will de-energise and red LED extinguish after the delay period "t" has elapsed. The yellow LED will then remain illuminated to indicate an over voltage condition. The relay will re-energise/red LED illuminate (and yellow LED extinguish) when the voltage falls below the trip level minus the hysteresis.

CONNECTION DIAGRAM

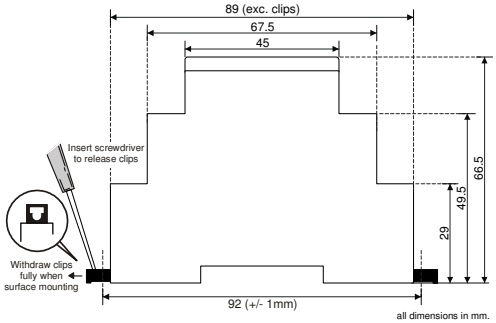


SETTING DETAILS

1. Power supply status (Green) LED
2. Over voltage trip indication (Yellow) LED
3. Under voltage trip indication (Yellow) LED
4. Relay energised (Red) LED
5. Under voltage trip level adjustment
6. Time delay adjustment
7. Over voltage trip level adjustment
8. Nominal voltage selector



DIMENSIONS



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