# Type: LMCVR-500V

## Multifunction, Combined 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 monitoring ranges (20 – 500V AC/DC)**
- **Selectable Under or Over Voltage monitoring**
- **Selectable hysteresis or latch option**
- **Adjustable trip level and time delay**
- **Isolated Auxiliary Supply (24 – 230V AC/DC)**
- **1 x SPDT relay output 8A**
- **Green LED indication for supply status**
- **Yellow LED indication for alarm status**
- **Red LED indication for relay status**

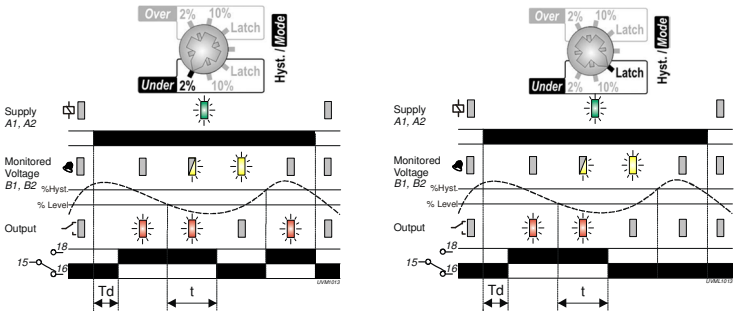
***Wiring Information*** *and* ***Product Demonstration***
*Videos can also be found on our YouTube channel*

https://www.youtube.com/user/BroyceControlLtd

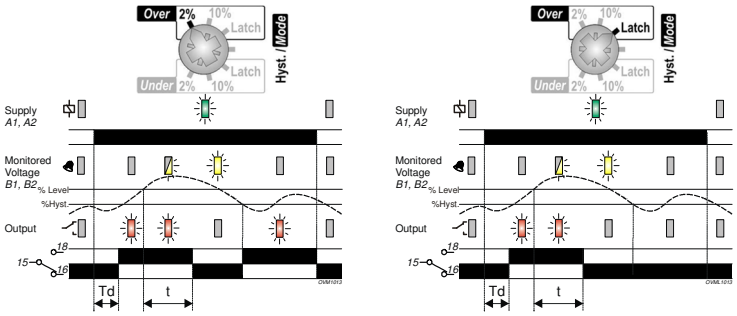

ISO 9001:2015
Cert. No. 14125771

## FUNCTION DIAGRAMS

Under Voltage Monitoring (with and without Latch enabled)




Over Voltage Monitoring (with and without Latch enabled)




## 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 "Hyst. / Mode" selector ❼ to the required position depending whether under or over monitoring is required. Select either a suitable hysteresis setting of 2% or 10% or choose Latch if required.
- Set the "Range" ❻ to the required position (depending on monitored input voltage to be monitored).
- Set the "Trip Level %" ❺ and "Delay" ❹ to suit the selected monitoring range and delay to tripping period.

*Applying power.*

- Apply power and the green LED ❶ will illuminate.

*If Under voltage mode is selected:*

- Relay energises / red LED ❸ illuminate if the voltage is above the set "Trip Level". If the voltage falls below the "Trip Level", yellow LED ❷ flashes for the set "Delay" then remains lit. Red LED extinguishes / relay de-energises.

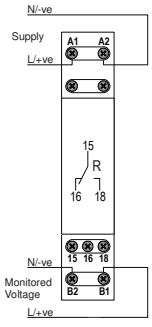
*If Over voltage mode is selected:*

- Relay energises / red LED ❸ illuminate if the voltage is below the set "Trip Level". If the voltage rises above the "Trip Level", yellow LED ❷ flashes for the set "Delay" then remains lit. Red LED extinguishes / relay de-energises.

## TECHNICAL SPECIFICATION

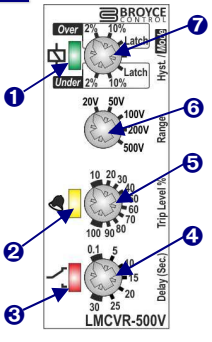
| | | | | |
|---|---|---|---|---|
| Auxiliary supply voltage U **(A1, A2)**: | 24 – 230V AC/DC | | | |
| Frequency range: | 48 - 63Hz (AC supplies) | | | |
| Supply variation: | +15%/-10% | | | |
| Overvoltage category: | III (IEC 60664) | | | |
| Rated impulse withstand voltage: | 4kV (1.2/50µS) IEC 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 or Over voltage (selectable) | | | |
| Hysteresis: | 2 or 10% (selectable) | | | |
| Latch: | Enabled using Mode selector switch | | | |
| Monitoring ranges: | 2 – 20V, 5 – 50V, 10 – 100V, 20 – 200V, 50 – 500V | | | |
| Trip level: | 10 – 100% of selected monitoring range | | | |
| 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 500V AC/DC | | | |
| Frequency: | DC, 48 – 500Hz | | | |
| Maximum input rating: | 1.2 x 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 | | | |
| Alarm status indication: | Yellow LED | | | |
| Relay status 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: | Grey flame retardant UL94 | | | |
| 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, UKCA and RoHS Compliant. | | | |
| | EMC: Immunity: EN 61000-6-2 (EN 61000-4-3 10V/m 80MHz - 2.7GHz) | | | |
| | Emissions: EN 61000-6-4 | | | |

## CONNECTION DIAGRAM

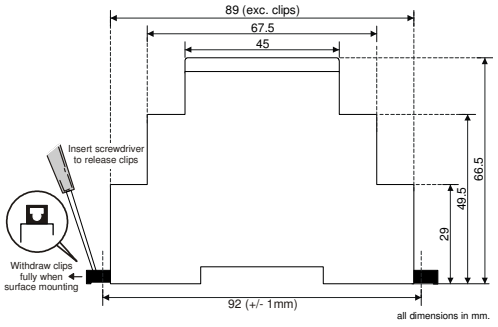



## SETTING DETAILS

1. Power supply status (Green) LED
2. Alarm status (Yellow) LED
3. Relay output status (Red) LED
4. Time delay adjustment
5. Trip level adjustment
6. Monitoring range selector
7. Hysteresis / Mode selector




## DIMENSIONS

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