

Terminal Protection to IP20



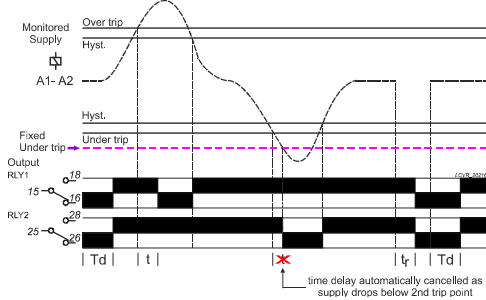
Dims: to DIN 43880
W. 17.5mm

- Compact 17.5mm DIN rail housing
- Microprocessor based
- True R.M.S. monitoring
- Selectable nominal voltages to suit most popular single phase supply voltages
- Monitors own supply and detects if the set Under or Over voltage trip levels are exceeded
- Adjustments for Under and Over voltage trip levels
- Adjustment for Time delay
- Independent relay outputs - Under voltage monitoring (RLY2) / Over voltage monitoring (RLY1)
- 2 x SPDT relay output 5A
- Green LED indication for supply status
- Individual Red LED indication for both relay statuses



FUNCTION DIAGRAM

Under and Over Voltage Monitoring



TECHNICAL SPECIFICATION

Supply/monitoring voltage Un (A1, A2):	LCVR/2 (LV)* 110, 115V AC LCVR/2 (HV)* 220, 230, 240V AC
Frequency range:	48 – 63Hz
Supply variation:	LV: 70 – 150V HV: 140 – 315V AC
Overvoltage category:	III (IEC 60664)
Rated impulse withstand voltage:	4kV (1.2/50µs) IEC 60664
Power consumption (max.):	2.5VA
Monitoring mode:	Under and Over voltage
Trip levels:	Under [2]: Fixed ±2% see below Under: 75 – 95% of Un Over: 105 – 125% of Un
Measuring ranges:	Nominal (Un) Under [2] Under Over
LCVR/2 (LV)	110V 70V 83 – 105V 116 – 138V
115V	74V 156 – 198V 218 – 260V
LCVR/2 (HV)	220V 140V 165 – 209V 231 – 275V
230V	147V 173 – 219V 242 – 288V
240V	153V 180 – 228V 252 – 300V
Hysteresis:	≈ 2% of trip level (factory set)
Setting accuracy:	± 3%
Repeat accuracy:	± 0.5% at constant conditions
Immunity from micro power cuts:	<50ms
Response time:	≈ 50ms
Time delay (t):	0.2 – 10s (± 5%) Note: actual delay (t) = adjustable delay + response time
Power on delay (Td):	≈ 1s (worst case = Td x 2)
Reset time:	50 – 100ms
Power on indication:	Green LED
Relay status indication:	Red LED x2
Ambient temperature:	-20 to +60°C
Relative humidity:	+95% max.
Output (15, 16, 18 / 25, 26, 28):	2 x SPDT relay
Output rating:	AC1 250V 5A (1250VA) AC15 250V 2A DC1 25V 5A (125W)
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
Weight:	90g
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	≤ 2.5mm ² solid or stranded
Terminal screw:	M2.5
Tightening torque:	0.4Nm (3.5Lb-In) Max.
Approvals:	Conforms to IEC. UL LISTED IND. CONT. EQ. E111187 CE, RoHS and RoHS Compliant. EMC: Immunity: EN 61000-6-2 Emissions: EN 61000-6-4

INSTALLATION AND SETTING

Warning: Installation work must be carried out by qualified personnel.

- BEFORE INSTALLATION, ISOLATE THE SUPPLY.
- Connect the unit as required. The Connection Diagram below shows a typical installation, whereby the supply to a load is being monitored by the Voltage monitoring relay. If a fault should occur (i.e. fuse blowing), the relay will de-energise and assuming control of the external Contactor, de-energise the Contactor as well.

Applying power.

- Set the "Nominal (Un)" voltage selector to match that of the voltage being monitored.
- Set the "Over %" adjustment to maximum and the "Under %" adjustment to minimum. Set the "Delay (t)" to minimum.
- Apply power and the green "Power supply" LED will illuminate. Both the red "RLY1" and "RLY2" LEDs will illuminate and corresponding RLY1 and RLY2 relays energise after the short Power on delay (Td).
- Refer to the Troubleshooting table if the unit fails to operate correctly.

Setting the unit (with power applied).

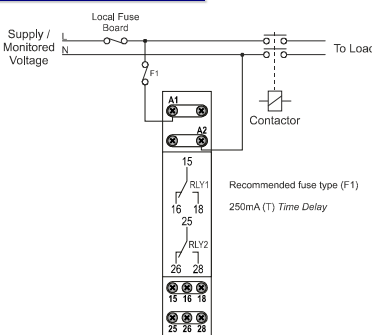
- Set the "Over %" and the "Under %" adjustments to give the required monitoring range.
- If large supply variations are anticipated, the adjustments should be set further from the nominal voltage.
- Set the "Delay (t)" adjustment as required. (Note that the delay is only effective should the supply increase above or drop below the set trip levels. However, if during an under voltage condition the supply drops below the 2nd under voltage trip level, any set time delay is automatically cancelled and both relays de-energise immediately).

Troubleshooting.

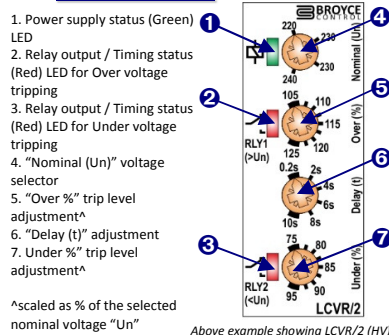
The table below shows the status of the unit during a particular fault condition.

Supply fault	Green LED	Red LED	Red LED	Relay RLY1	Relay RLY2
Under voltage condition (during timing)	On	On	Flashing	Energised	En for delay (t)
Under voltage condition (after timing)	On	Off	Off	Energised	De-energised
Over voltage condition (during timing)	On	Flashing	On	En for delay (t)	Energised
Over voltage condition (after timing)	On	Off	On	De-energised	Energised
Supply < fixed under trip level [2]	On	Off	Off	De-energised	De-energised

CONNECTION DIAGRAM



SETTING DETAILS



DIMENSIONS

