

Terminal Protection IP20

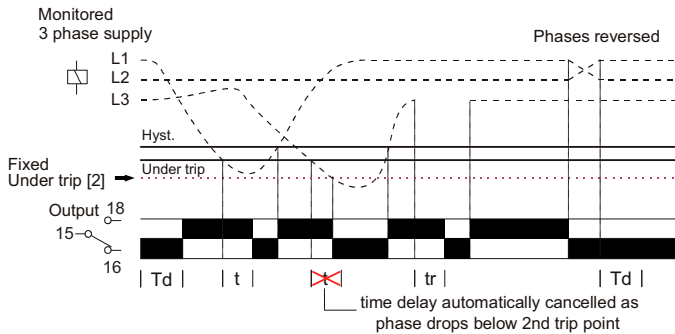


Dims: to DIN 43880 W: 17.5mm

- ✓ Monitors own supply
- ✓ True R.M.S. monitoring
- ✓ Detects an under voltage condition on one or more phases
- ✓ Measures phase to phase voltages
- ✓ Detects incorrect phase sequence and phase loss
- ✓ Adjustment for under voltage trip level
- ✓ Adjustment for time delay from an under voltage condition
- ✓ SPDT output
- ✓ Green LED indication for supply status
- ✓ Red LED indication for relay status

**Phase Failure,
Phase Sequence,
Under Voltage plus
Time Delay**

FUNCTION DIAGRAM



BEFORE INSTALLATION, ISOLATE THE SUPPLY.

Connect the unit as required. The connection diagram below shows a typical installation, where the supply to a load is being monitored by the phase 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 it as well.



Installation work must be carried out by qualified personnel.

Applying power.

Set the <U (volts) ④ and Delay (t) ③ adjustment to minimum.

Apply power and the green Power Supply ① and red Relay LED's ② will illuminate, relay energize and contacts 15 and 18 will make. Refer to the troubleshooting table if the unit fails to operate correctly.

TROUBLE SHOOTING

Type of Fault	Green LED	Red LED	Relay Status
Phase loss	On	Off	De-energized
Phase reversal	Flashing	Off	De-energized
Under voltage - during timing	On	Flashing	Energized for set delay
Under voltage - during timing	On	Off	De-energized
Under voltage trip level 2	On	Off	De-energized

Setting the unit with power applied.

Accurate setting can be achieved by adjusting the trip level <U (volts) until the unit trips (relay de-energises) then by decreasing this trip level <U (volts) until the relay re-energises. Close setting the trip level ensures the unit will detect a phase loss even with a large percentage of re-generative voltage.

In order to set the unit as previously described but without causing disruption to the equipment being controlled/monitored, set the Delay (t) to maximum. It will now be possible to establish the trip point when the red Relay LED starts to flash. Decrease the trip level setting to stop the LED flashing.

Note: If the time delay is allowed to expire, the output relay will de-energise.

If large supply variations are anticipated, the trip level should be set further from the nominal voltage.

Set the Delay (t) as required. Note that the delay is only effective should the supply drop below the set trip level. 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 the relay de-energises.

Note: If the supply voltage increases above the maximum <U trip setting by approx. 10% or more, the relay will de-energise immediately.

TECHNICAL SPECIFICATIONS

Supply/monitoring voltage:	77 - 143V, 161 - 300V, 280 - 520V AC	
Frequency range:	48-63Hz (AC supplies)	
Supply variation:	+/-30%	
Over voltage category:	III (IEC60664)	
Rated impulse withstand voltage:	4kV(1.2/50µs) IEC60664	
Power consumption (max.):	8VA	
Monitoring mode:	Under voltage	
Trip levels:	under 2 (fixed)	under (adjustable)
model w/ range: 77-143V	77	83-138
model w/ range: 161- 300V	161	173-288
model w/ range: 280-520V	280	300-500
Hysteresis:	≈2% of trip level (factory set)	
Setting accuracy:	±3%	
Repeat accuracy:	±0.5% at constant conditions	
Response time:	≈50mS	
Time delay from fault (t):	0.2 - 10s ±5% + response time	
Delay from phase loss (Tr):	150 mS (worst case = Tr x 2)	
Power on delay (Td):	≈1S (worst case = Td x 2)	
Power on indication:	Green LED	
Relay status:	Red LED	
Ambient temp:	-20 to +60°C	
Relative humidity:	+95%	
Output:	SPDT relay	
Output rating:	AC1	250V 8A (2000VA)
	AC15	250V 5A (no), 3A(nc)
	DC1	25V 8A (200W)
Electrical life:	≥150,000 ops at rated load	
Dielectric voltage:	2kVAC (rms) IEC60947-1	
Rated impulse withstand voltage:	4kV (1.2/50µs) IEC60664	
Housing:	Orange flame retardant UL94	
Weight:	≈75g	
Mounting option:	Onto 35mm symmetrical DIN rail or direct surface mounting via 2xM3.5/4 BA screws using the black clips on the unit's base.	
Terminal conductor size:	≤ 2 x 2.5mm ² solid / stranded	

Approvals:

Conforms to IEC61812.



IND. CONT. EQ. E111187

CE, C-tick and RoHS Compliant.

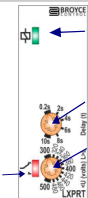
EMC: Immunity: EN61000-6-2/EN61000-4-310V/m 80MHz-2.7GHz

Emissions: EN61000-6-4

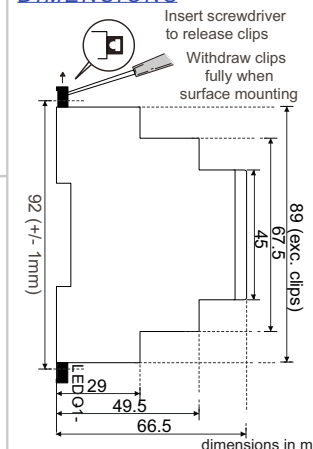
The Information provided in this literature is believed to be accurate (subject to change without prior notice); however, use of such information shall be entirely at the user's own risk.

SETTING DETAILS

1. Power supply status (Green) LED
2. Relay output status (Red) LED
3. Delay from fault adjustment
4. Voltage trip level



DIMENSIONS



CONNECTION DIAGRAM

