Type: LXPRC/S/F

Phase Failure, Phase Sequence, Under and Over Voltage plus Time Delay

Terminal Protection to IP20

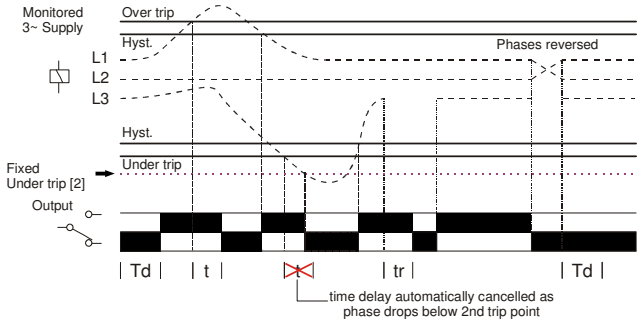
Dims: to DIN 43880
W. 17.5mm

- ***NEW*** **17.5mm DIN rail housing**
- **Microprocessor based**
- **True R.M.S. monitoring**
- **Monitors own supply and detects if one or more phases exceed the fixed Under or Over voltage trip levels**
- **Measures phase to phase voltages**
- **Detects incorrect phase sequence and phase loss**
- **Fixed Under and Over voltage trip levels (-10% 400V/+10% of 415V)**
- **Adjustment for Time delay (from an Under or Over voltage condition)**
- **1 x SPDT relay output 8A**
- **Green LED indication for supply status**
- **Red LED indication for relay status**

ISO 9001:2015
Cert. No. 14125771

FUNCTION DIAGRAM

Under and Over Voltage Monitoring



INSTALLATION AND SETTING

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 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 the Contactor as well.

Applying power.

- Set the "Delay (t)" ❸ to minimum.
- Apply power and the green "Power supply" ❶ and red "Relay" ❷ LED's will illuminate, the relay will energise and contacts 15 and 18 will close. Refer to the troubleshooting table if the unit fails to operate correctly.

Setting the unit (with power applied).

- Set the "Delay (t)" adjustment as required. (Note that the delay is only effective should the supply increase above or drop below the fixed 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 the relay de-energises).
  Note: If the supply voltage increases above the Over trip setting by approx. 20% or more, the relay will de-energise immediately.

Troubleshooting.

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

Supply fault	Green LED	Red LED	Relay
Phase missing	On	Off	De-energised
Phases reversed i.e. L1,L3, L2 (no delay)		Off	De-energised
Under Voltage condition (during timing)	On	Flashing	Energised for set delay (t)
Under Voltage condition (after timing)		Off	De-energised
Over Voltage condition (during timing)	On	Flashing	Energised for set delay (t)
Over Voltage condition (after timing)		Off	De-energised
Phase below 70% of Un (fixed under trip level [2])	On	Off	De-energised

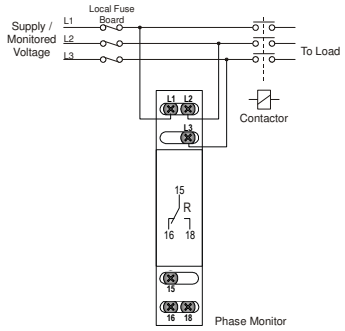
TECHNICAL SPECIFICATION

Supply/monitoring voltage		
Un* **(L1, L2, L3):**	415V AC	
Frequency range:	48 – 63Hz	
Supply variation:	70 – 130% Un	
Overvoltage category:	III (IEC 60664)	
Rated impulse withstand voltage:	4kV (1.2/50µS) IEC 60664	
Power consumption (max.):	8VA	
Monitoring mode:	Under and Over voltage	
Fixed Trip levels:		
Under [2]:	291V (fixed) ± 2%	
Under:	360V (-10% of 400V)	
Over:	457V (+10% of 415V)	
Trip accuracy:	± 1%	
Hysteresis:	≈ 1% 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 – 10 sec. (± 5%)	
	Note: actual delay (t) = adjustable delay + response time	
Delay from Phase loss (tr):	≈ 150mS (worst case = tr x 2)	
Power on delay (Td):	≈ 1 sec. (worst case = Td x 2)	
Power on indication:	Green 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 8A (2000VA)
	AC15	250V 5A (no), 3A (nc)
	DC1	25V 8A (200W)
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:	75g	
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	
Terminal screw:	M3 (Designed for use with **PZ1** "pozi" driver)	
Tightening torque:	0.6Nm Max.	

Approvals: UL LISTED IND. CONT. EQ. E111187

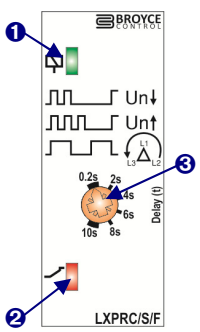
Conforms to IEC. CE, and RoHS Compliant.
EMC: Immunity: EN 61000-6-2 (EN 61000-4-3 15V/m 80MHz - 2.7GHz)
Emissions: EN 61000-6-4

CONNECTION DIAGRAM

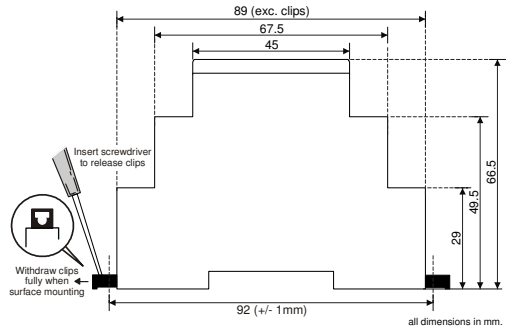


SETTING DETAILS

1. Power supply status (Green) LED
2. Relay output / Timing status (Red) LED
3. "Delay" adjustment



DIMENSIONS



Broyce Control Ltd., Pool Street, Wolverhampton, West Midlands WV2 4HN. England
Tel: +44 (0) 1902 773746 Fax: +44 (0) 1902 420639 Email: sales@broycecontrol.com Web: www.broycecontrol.com