

Type: MXPRC/S/RD

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

- ☐ 17.5mm DIN rail housing
- ☐ True R.M.S.
- ☐ Selectable nominal voltages (Un)
- ☐ Fixed Under or Over Voltage trip levels ($\pm 10\%$ of Un)
- ☐ Adjustable Restart time delay
- ☐ Measures phase to phase voltages
- ☐ Detects incorrect phase sequence and phase loss
- ☐ Fixed trip delay (from fault occurring)
- ☐ 1 x SPDT relay output 8A
- ☐ Intelligent LED indication for supply and relay status

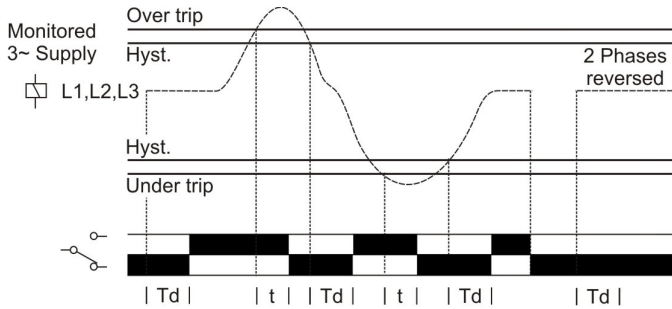
MX Series



Dims:
to DIN 43880
W. 17.5mm

Terminal Protection to IP20

FUNCTION DIAGRAM



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.

Setting the unit.

- Set the "Nominal Voltage (Un)" ④ to suit the voltage of the supply to be monitored.
- Set the "Restart Delay" ③ to the desired position.

Applying power.

- Apply power and the green "Power supply" ① LED will illuminate. The red LED ② will flash for the duration that is set on the "Restart Delay" adjustment.
- After the set delay has elapsed, the relay will energise and contacts 15 and 18 will close. The red LED will now remain on. Refer to the troubleshooting table if the unit fails to operate correctly.

Under / Overvoltage Fault Condition

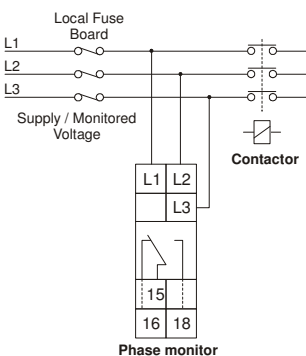
- If the monitored supply increases above the fixed over voltage trip level or below the fixed under voltage trip level, the relay will de-energise after delay "t". The red LED will extinguish when the relay de-energises.
- The relay will re-energise after the "Restart Delay (Td)" when the voltage either increases above the undervoltage trip level plus the hysteresis or decreases below the overvoltage trip level minus the hysteresis.

Troubleshooting.

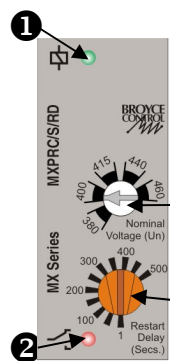
The table below shows the status of the unit during/after a fault condition.

Supply fault	Green LED	Red LED	Relay
After power applied / fault cleared	On	Flashing	De-energised for set delay (Td)
Phase missing	On	Off	De-energised
Phases reversed (no delay)	Flashing	Off	De-energised
Under or Over Voltage condition (during delay t)	On	On for delay (t)	Energised for delay (t)
Under or Over Voltage condition (after delay t)	On	Off	De-energised
Phase below 70% of Un (fixed under trip level [2])	On	Off	De-energised

CONNECTION DIAGRAM



SETTINGS



1. Power supply status (Green) LED.
2. Relay output / Timing status (Red) LED.
3. "Restart Delay" adjustment
4. "Nominal Voltage" selector

Label example on left shown for 380 > 460V version

TECHNICAL SPECIFICATION

Supply / monitoring voltage Un* (L1, L2, L3):	208, 220V AC	380', 400', 415', 440', 460V' AC
Frequency range:	48 - 63Hz	
Supply variation:	70 - 130% of Un	
Isolation:	Over voltage cat. III	
Rated impulse withstand voltage:	4kV ¹ (1.2 / 50μs) IEC 60664	
Power consumption:	8VA max.	
Nominal Voltage (Un) / Trip Level: (fixed)	Under (90%)	Over (110%)
208V:	187V	229V
220V:	198V	242V
380V:	342V	418V
400V:	360V	440V
415V:	374V	457V
440V:	396V	484V
460V:	414V	506V

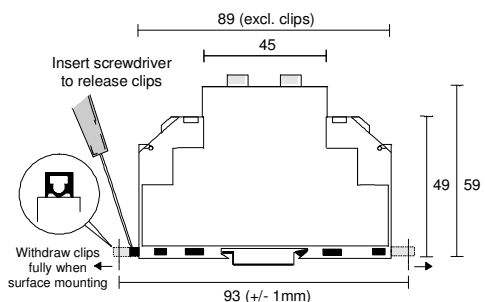
*Please state Supply / monitoring voltage range when ordering

Trip level accuracy:	±2%
Hysteresis:	≈ 2% of trip level (factory set)
Repeat accuracy:	± 0.5% @ constant conditions
Immunity from micro power cuts:	< 50mS
Response time:	≈ 50mS
Time delay (t):	4 sec (± 5%) Note: actual delay (t) = adjustable delay + response time
Setting accuracy:	± 3%
Delay from phase loss (tr):	≈ 1 sec. (worst case = tr x 2)
Restart delay (Td):	1 - 500 sec.

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 (200V)
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:	≈ 70g
Mounting option:	On to 35mm symmetric DIN rail to BS5584:1978 (EN50 002, DIN 46277-3) 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 2.5mm ² solid or stranded
Approvals:	Conforms to IEC, CE and RoHS Compliant. EMC: Immunity: EN/IEC 61000-6-2 (EN/IEC 61000-4-3 15V/m 80MHz - 2.7GHz) Emissions: EN/IEC 61000-6-4

MOUNTING DETAILS



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MXPRCS_RD-2-A

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.