

Type: MXPRF-4W

Phase Failure, Phase Sequence and Under Voltage

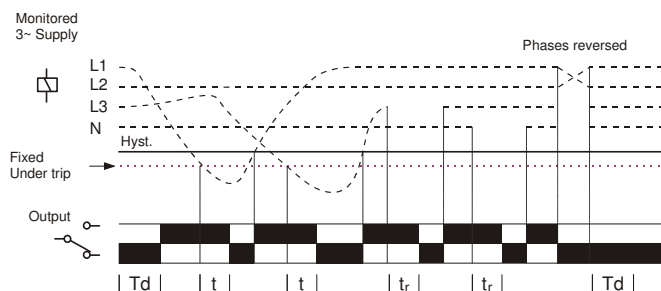
- 17.5mm DIN rail housing
- True R.M.S.
- Microprocessor based (self checking)
- Monitors own supply and detects an Under voltage condition on one or more phases
- Measures phase to neutral voltages
- Detects incorrect phase sequence, phase loss and neutral loss
- Fixed under voltage trip level
- Fixed time delay
- 1 x SPDT relay output 8A
- Intelligent LED indication for supply and relay status



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.

Applying power.

- Apply power and the green "Power supply" ① and red "Relay" ② LED's will illuminate, the relay will energise and contacts 15 and 18 will close. Refer to troubleshooting table if the unit fails to operate correctly.

Note:

If the supply voltage increases above the maximum supply/monitoring voltage range by approx. 10% or more, the relay will de-energise immediately.

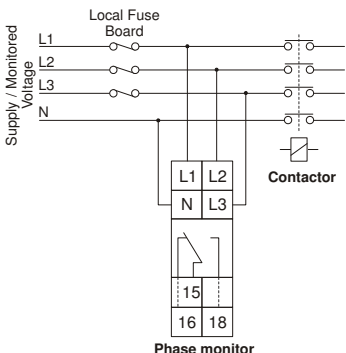
This device is not suitable for applications where there could be a percentage of re-generative voltage present during a fault condition, i.e. fuse failure. During these conditions a monitor that includes an adjustable under voltage trip level is necessary which allows this type of fault to be detected. It is therefore recommended that the Mxprt or Mxprt-4w phase monitors be considered.

Troubleshooting.

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

Supply fault	Green LED	Red LED	Relay
Phase or neutral missing	On	Off	De-energised
Phases reversed (no delay)	Flashing	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 (Red) LED.

TECHNICAL SPECIFICATION

Supply / monitoring voltage U* (L1, L2, L3, N): 63.5 (110V) AC ±30%
133 (230V) AC ±30%
230 (400V) AC ±30%
48 - 63Hz
Over voltage cat. III

Frequency range:
Isolation:
Rated impulse withstand voltage:
Power consumption:

*Please state Supply / monitoring voltage when ordering

Trip level:
Supply voltage:
63.5V AC
133V AC
230V AC
Hysteresis:
Repeat accuracy:
Immunity from micro power cuts:
Response time:
Time delay (t):

Under fixed ±2%:
44.5V
93V
161V
≈ 2% of trip level (factory set)
± 0.5% @ constant conditions
< 50mS
≈ 50mS
≈ 100mS
Note: actual delay (t) = delay + response time

Delay from
Phase/neutral loss (tr):
Power on delay (Td):

≈ 150mS (worst case = tr x 2)
≈ 1sec. (worst case = Td x 2)

Ambient temp:
Relative humidity:
Output (15, 16, 18):
Output rating:
AC1
AC15
DC1
Electrical life:
Dielectric voltage:
Rated impulse withstand voltage:

-20 to +60°C
+95%
SPDT relay
250V 8A (2000VA)
250V 5A (no), 3A (nc)
25V 8A (200W)
≥ 150,000 ops at rated load
2kV AC (rms) IEC 60947-1
4kV (1.2 / 50µS) IEC 60664

Housing:
Weight:
Mounting option:
Terminal conductor size:

Orange flame retardant UL94 VO
≈ 70g
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.
≤ 2 x 2.5mm² 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

Note:
The "Supply / monitoring voltage U" refers to the phase to neutral voltage and in brackets, the equivalent phase to phase. To convert to phase to phase, multiply by approx. 1.732

MOUNTING DETAILS

