

Type: MXPRF-4W

Phase Failure, Phase Sequence and Under Voltage

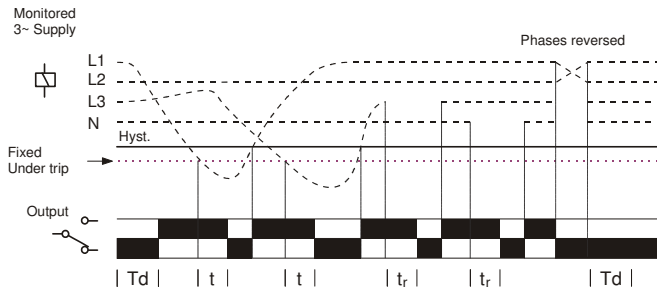
- 17.5mm DIN rail housing
- True R.M.S.
- Microprocessor based (self checking)
- Monitors own supply and detects an Under voltage condition on one or more phases
- Measures phase to neutral voltages
- Detects incorrect phase sequence, phase loss and neutral loss
- Fixed under voltage trip level
- Fixed 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



TECHNICAL SPECIFICATION

Supply / monitoring voltage U^* (L1, L2, L3, N): 63.5 (110V) AC $\pm 30\%$
133 (230V) AC $\pm 30\%$
230 (400V) AC $\pm 30\%$
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:
133V AC
230V AC
Hysteresis:
Repeat accuracy:
Immunity from micro power cuts:
Response time:
Time delay (t):

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

Delay from
Phase/neutral loss (tr): ≈ 150 mS (worst case = $tr \times 2$)
Power on delay (Td): ≈ 1 sec. (worst case = $Td \times 2$)

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: $\geq 150,000$ ops at rated load
Dielectric voltage: 2kV AC (rms) IEC 60947-1
Rated impulse withstand voltage: 4kV (1.2 / 50 μ S) IEC 60664

Housing: Orange flame retardant UL94 VO
Weight: ≈ 70 g
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: $\leq 2 \times 2.5$ mm² solid or stranded

Approvals: Conforms to IEC, CE and 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

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.

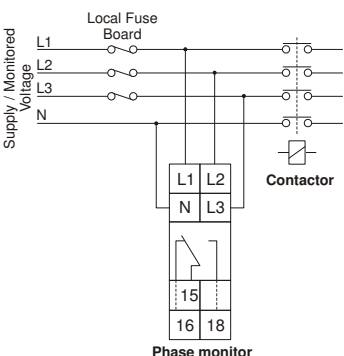
This device is not suitable for applications where there could be a percentage of re-generative voltage present during a fault condition, i.e. fuse failure. During these conditions a monitor that includes an adjustable under voltage trip level is necessary which allows this type of fault to be detected. 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 U_n (fixed under trip level [2])	On	Off	De-energised

CONNECTION DIAGRAM



SETTINGS



1. Power supply status (Green) LED.
2. Relay output (Red) LED.

MOUNTING DETAILS

