

Type: B8PMC Phase Monitor/Relay

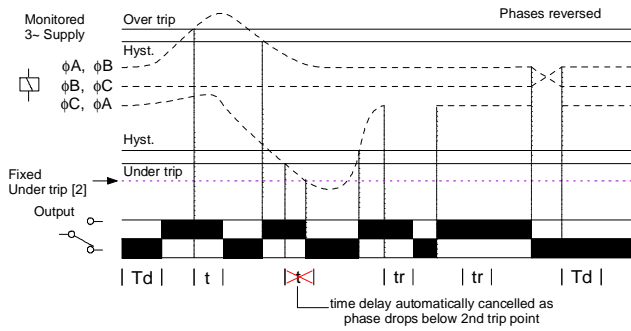
Phase Failure, Phase Sequence, Under and Over Voltage plus Time Delay

- 8-Pin Plug-In housing
- Microprocessor controlled with internal monitoring (self-checking)
- Monitors own supply and detects if one or more phases exceed the set Under or Over Voltage trip levels
- Measures phase to phase voltage
- Detects incorrect phase sequence and phase loss
- Adjustments for under and over voltage trip level
- Adjustment for time delay (from under or over voltage condition)
- 1 x SPDT relay output 10A*
- Intelligent LED indication for supply and relay status



Dims (mm):
H.80, W.40, L.92 mm
(excl pins)

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 diagram below shows a typical installation, whereby the supply to the load is being monitored by the relay. If a fault should occur (i.e. fuse blowing), the relay will de-energise. The relay will only re-energise after the fault has cleared.

Applying power.

- Set the "over %" adjustment to maximum and the "under %" adjustment to minimum. Set the "time delay" to minimum.
- Apply power and the green "supply on" and red "relay" LED's will illuminate, the relay will energise and contacts 1 and 8 will close. Refer to the troubleshooting table if the unit fails to operate correctly.

Setting the unit.

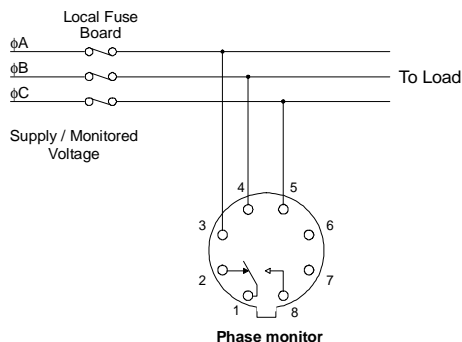
- Set the "over %" and the "under %" adjustments to give the required monitoring range.
- If large supply variations are anticipated, the adjustments should be set further from the nominal voltage.
- Set the "time delay" as required. (Note that the delay is only effective should the supply increase above or drop below the set 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).

Troubleshooting.

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

| Supply fault | Green LED | Red LED | Relay |
|--|-----------|----------|-----------------------------|
| Phase missing | Off | Off | De-energised |
| Phases reversed (no delay) | Flashing | Off | De-energised |
| Under or Over Voltage condition (during timing) | On | Flashing | Energised for set delay (t) |
| Under or Over Voltage condition (after timing) | On | Off | De-energised |
| Phase below 70% of Un (fixed under trip level [2]) | On | Off | De-energised |
| Phase below 50% of Un | Off | Off | De-energised |

CONNECTION DIAGRAM



TECHNICAL SPECIFICATION

| | | | |
|--|---|---|--|
| Supply / monitoring voltage Un (3, 4, 5): (phase to phase) | 120, 208, 240, 460, 480V AC ±30% | To comply with UL1283, the maximum supply/monitoring voltage on the 480V version must not exceed 600V phase to phase | |
| Frequency range: | 48 - 63Hz | Please state Supply / monitoring voltage when ordering. | |
| Supply variation: | 70 - 130% of Un | | |
| Isolation: | Over voltage cat. III | | |
| Rated impulse withstand voltage: | 6kV (1.2 / 50μs) IEC 60664 | | |
| Power consumption (max.): | 3.2W | | |
| Supply current (max.): | Pin 3 (φA): 125mA, Pin 4 (φB): 1mA, Pin 5 (φC): 125mA | | |
| Trip levels: | Under [2]: 70% of Un (fixed) ±2% | | |
| | Under: 75 - 95% of Un | | |
| | Over: 105 - 125% of Un | | |
| Measuring ranges: | Under [2] Under Over | | |
| 120V: | 84V 90 - 114V 126 - 150V | | |
| 208V: | 146V 156 - 198V 218 - 260V | | |
| 240V: | 168V 180 - 228V 252 - 300V | | |
| 460V: | 322V 345 - 437V 483 - 575V | | |
| 480V: | 336V 360 - 456V 504 - 600V | | |
| Repeat accuracy: | ± 0.5% @ constant conditions | | |
| Hysteresis: | ≈ 2% of trip level (factory set) | | |
| Response time: | ≈ 50 mS | | |
| Time delay (t): | 0.2 - 10 sec (± 5%) | Note: actual delay (t) = adjustable delay + response time | |
| Delay from phase loss (tr): | ≈ 100 mS (worst case = tr x 2) | | |
| Power on delay (Td): | ≈ 1sec. (worst case = Td x 2) | | |
| Ambient temp: | -20 to +60°C | | |
| Relative humidity: | +95% | | |
| Output (1, 2, 8): | SPDT relay | | |
| Output rating: | AC1 250V 10A* (2500VA) | | |
| | AC15 250V 6A | | |
| | DC1 25V 10A* (250W) | | |
| | * 12A permissible when ambient temperature derated to +40°C | | |
| 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 VO | | |
| Weight: | ≈ 130g | | |

Approvals: and pending. CE and Compliant.

Accessories:

1. DIN Rail mount, 8-pin base type PFB-S (suitable for up to 600V)

() Numbers above in brackets relate to pin numbers on plug base.

MOUNTING DETAILS

