Type: M3PRC/S-4W (332, 346V*)

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

- 35mm DIN rail 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
- Specifically suited to high voltage supplies of 575V or 600V phase to phase
- Unit measures phase to neutral voltage
- Detects incorrect phase sequence, phase loss and neutral loss
- Adjustments for under and over voltage trip levels
- Adjustment for time delay (from an under or over voltage condition)
- 1 x SPDT relay output 8A
- Intelligent LED indication for supply and relay status

**Installation and Setting**

- 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 contactor is de-energised to prevent the 3-phase supply to the load. The contactor only re-energises after the fault has cleared.

Applying power:
- Set the "over %" adjustment to maximum and the "under %" adjustment to zero. 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 1S and 1B 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: the delay is only effective should the supply increase above or drop below the set trip levels. However, if during an untriggered 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.

**Connection Diagram**

**Technical Specification**

- Supply / monitoring voltage Un*:
  - L1, L2, L3, N: 332, 346V AC (phase to neutral)
- Frequency range: 48 - 63Hz
- Supply variation: 70 - 130% of Un
- Isolation: Over voltage cat. III
- Rated impulse withstand voltage: 6kV (1/2 / 50us) IEC 60664
- Power consumption:
  - red phase: 20VA
  - yellow phase: 0.1VA
  - blue phase: 0.1VA
- Trip levels:
  - Under [2]: 70% of Un (Fixed)
  - Under: 75 - 95% of Un
  - Over: 105 - 125% of Un
- Measuring range**:
  - Under: 332V: 249 - 315V
  - 346V: 259 - 329V
- **measured phase to neutral
- 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%) to actual delay (t) = adjustable delay +
- Delay from phase/neutr/loss [T]: 1sec. (worst case = t x 2)
- Power on delay (T0) = 1sec. (worst case = T0 x 2)
- Ambient temp: -20 to +60°C
- Relative humidity: <95%
- Output (1S, 1B, 16, 18): SPDT relay
- Output rating:
  - AC1: 250V 8A (2000VA)
  - DC1: 25V 8A (2000W)
- Electrical life: 150,000 ops at rated load
- Dielectric voltage: 2kV AC rms IEC 60947-1
- Rated impulse withstand voltage: 4kV (1/2 / 50us) IEC 60664
- Housing: Orange flame retardant UL94 VO
- Weight: <120g
- Mounting option: On to 35mm symmetric DIN rail to BS5584:1978 (EN50002, DIN 46277-3) Or wall 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
- Approvals: Conforms to UL/IEC/CE and Compliant.
- * Voltage must be stated when ordering. For other supply/monitoring voltages, please contact the sales office.

**Mounting Details**

- 89 (incl. clips) 45°
- 93 (+/- 1mm) 49 59
- Insert screwdriver to release clips
- Best fit when used

Z-TRAUQ INC. TEL.: (877) 798-7287 www.z-trauq.com z-trauq@qc.aira.com