

DVW3N

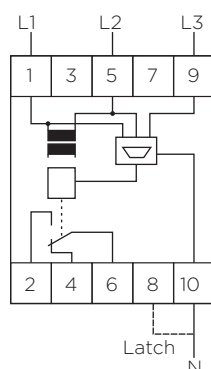
Three Phase + Neutral Voltage Window Comparator



Description

Three Phase + Neutral Voltage Window Comparator for monitoring supply voltage between two levels. The unit is ideal for all three phase voltage monitoring applications to protect valuable equipment. With the wide range of delays, the protection is extended to prevent immediate re-starts. Neutral loss is also detected. Over and under voltage can be set via front panel dials. The latch facility prevents unmonitored fault conditions. Hysteresis is fixed at 5%.

Wiring Diagram



FEATURES

- High resolution analogue microprocessor
- Front face adjustable over and under voltage levels
- Monitors own supply
- Detects phase reversal and neutral loss
- 4 Front face selectable delays
- Optional latch facility
- Modular 35.5mm DIN rail mountable
- 10A SPDT output relay
- LED indication for over and under voltage
- LED indication for power supply ON

Input Specifications

| | |
|-------------------------|---------------------------------|
| Input | Pin 1, 5, 9 & 10 L1, L2, L3 & N |
| Measuring Ranges (VAC) | |
| Power Supply | 400V |
| Range | 184 - 276V |
| Upper Limit | 241 - 276V |
| Lower Limit | 218 - 184V (30 sec) |
| Scale | $\leq \pm 5 - 15\%$ |
| Voltage Interruption | >500 ms |
| Dielectric Voltage | None (supply/electronics) |
| Rated Impulse Withstand | 4 kV (50 μ s line/line) |

Output Specifications

| | |
|-----------------------|--|
| Output Specifications | SPDT |
| Rated Isolation | 6000 VAC (contact / electric) |
| Voltage | 1000 VAC (contact / contact) |
| Nominal Rate in AC1 | 2500 VA (Ag-Ni) |
| Rated Current | 10A |
| Rated Voltage | 250V |
| Mechanical Life | 10×10^6 cycles |
| Electrical Life | 110×10^3 cycles (at max load) |
| Operation Frequency | ≤ 1800 cycles/h |

Supply Specifications

| | |
|-----------------------|-----------------------|
| Power Supply AC Type | 110, 230, 400V |
| (Galvanic) | $525V \pm 10\%$ |
| | 50 / 60 Hz ± 5 Hz |
| Isolation | 4kV |
| Consumption | $\pm 3VA$ |
| | $\pm 6VA$ 525 V |
| Power Supply DC Types | 12,24,48 V $\pm 10\%$ |
| (Non-galvanic) | |
| Isolation | None |
| Consumption | ± 100 mA |

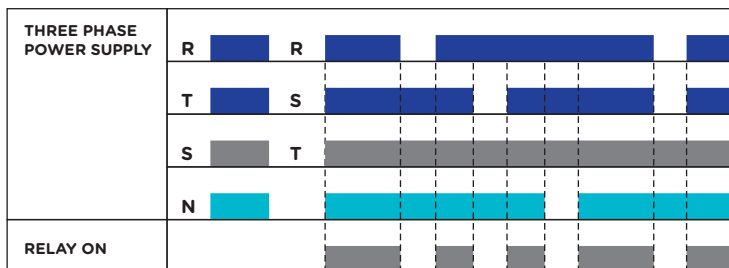
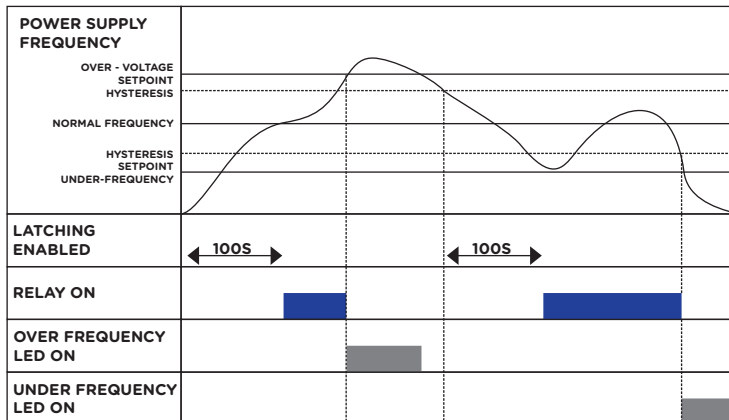
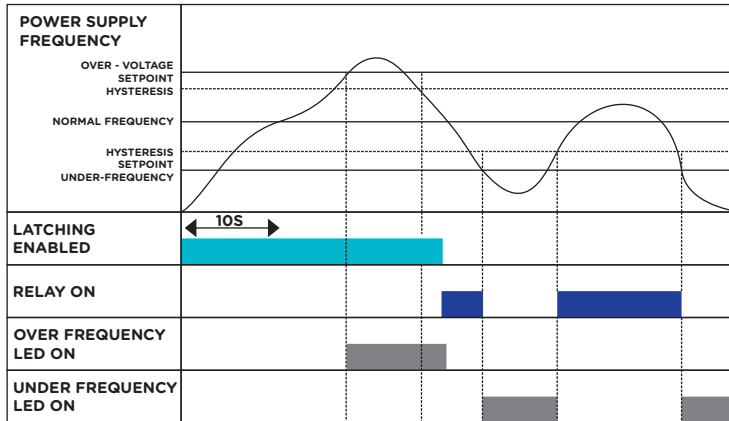
General Specifications

| | |
|-----------------------|---------------|
| Power ON Delay | ≤ 300 ms |
| Power OFF Delay | ≤ 200 ms |
| Indication for | |
| Power Supply ON | LED green |
| Output ON | LED red |
| Under Voltage | LED yellow |
| Environment | |
| Degree Of Protection | IP 20 |
| Operating Temperature | -10 to + 50°C |
| Storage Temperature | -50 to + 85°C |
| Weight | 200g |

Three Phase + Neutral Voltage Window Comparator Mode of Operations

The relay will release if the voltages between neutral and the three phases exceeds the set upper limit or fall below the set lower limit or if the phases are out of sequence. If the phase / neutral voltages returns to within the set values and the phases are in sequence the relay will operate. Both over and under LED's are on if phases are reversed. Refer to the delay settings for operation delays.

Operations Diagram



Delay Functions

1) No Delay

Measurement start immediately and relay responds directly normal acquisition delay apply)

2) 10s start up

Relay operates immediately and power LED flashes when power supply is applied. Measurement starts after 10 sec and power LED stops flashing.

3) 180s recovery delay

When power is applied relay does not operate and power LED flashes. After 180sec measurement starts and power LED stops flashing. If relay releases, time delay start, power LED flashes and relay will only operate again after 180sec.

4) 10s response delay

Relay operates immediately and power LED flashes when power supply is applied. Measurement starts after 10 sec and power LED stops flashing. The relay will only release after a fault condition has been present for 10 sec.