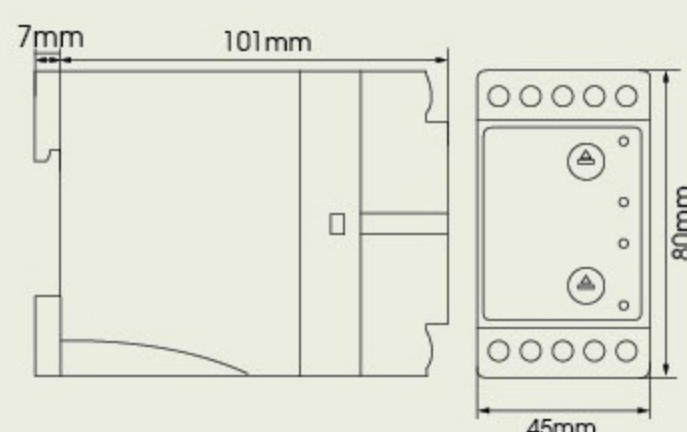
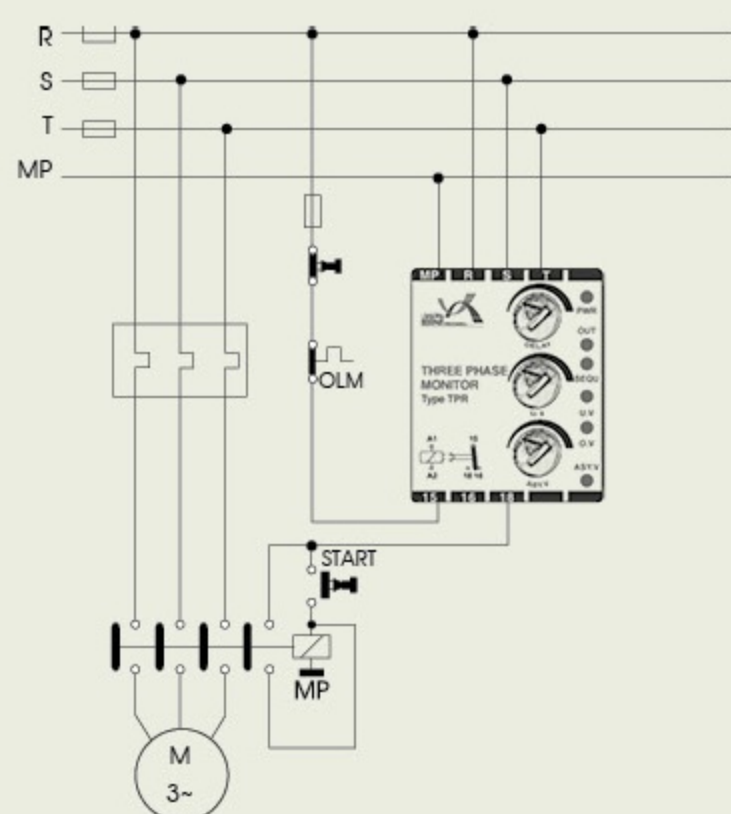




TPR

THREE PHASE MONITOR

6 LED



- Recognition of changes in phase sequence
- Recognition of network undervoltage
- Recognition of network overvoltage
- Recognition of a phase loss
- Capability of ON delay time adjustment after fault correction
- Capability of three phase undervoltage adjustment
- Capability of setting asymmetry in voltage of three phases
- Fast disconnection in case of fault
- Motor protector against network disorders

Principles of Operation:

The device starts working after connection of three phases to terminals R, S, T and 380V power supply to terminals A1 and A2.

PWR input supply signal gets ON in this situation and the device starts timing. At the end of adjusted time by DELAY potentiometer handle, OUT signal gets ON and the device internal relay opens (internal contact of terminal 15 to 18 is made).

- **Attention:** Timing does not start where any fault signal is on.

In the case of any fault like undervoltage, overvoltage, a phase loss or phases reversal in network, the related fault signal gets ON, OUT signal gets OFF and internal relay closes simultaneously (internal contact of terminal 15 to 16 is made).

Installation and Start-Up:

The network three phases have to be connected to terminals R, S, T and 380 V power supply to terminals A1 and A2.

- **Attention:** In the case of no separate 380 V voltage, terminals A1 and A2 can be connected to terminals T and R.

Terminals 15 and 18 have to be in series in circuit like a stop button.

If P.S (phase sequence) signal is on after device installation, the location of two phases on Three-Phase-Monitor should be reversed (e.g. R, S) for related signal to be off. Once any of the mentioned faults happen, internal relay closes and relay opens at the end of time (adjusted by DELAY potentiometer handle) and OUT signal gets ON right after fault correction. This time ranges from 0.5 to 30 seconds.

Recognition of asymmetry in voltage of three phases gets adjusted by ASY.V potentiometer handle. This value could be set in range of 5 to 15%.

Display signals:

- PWR: Input power supply connection
- OUT: Output energization (adjustable from 0.5 to 45 seconds)
- SEQU.: Phase sequence
- U.V: Undervoltage (adjustable from 5 to 20%)
- O.V: Overvoltage (over 440 V)
- ASY.V: Voltage asymmetry (adjustable from 5 to 20%)

Technical Specifications:

- Network Voltage: 4-wire three-phase 380 VAC $\pm 10\%$
- Network Frequency: 50 ± 5 Hz
- Internal Loss: About 3 W
- ON Delay: 0.5 to 45 seconds- adjustable by DELAY potentiometer handle
- Three Phase Undervoltage: 5 to 20%- adjustable by U.V potentiometer handle
- Phases Asymmetry: 5 to 20%- adjustable by ASY.V potentiometer handle
- Output Relay: A Single-C/O contact relay
- Contact Current: 6 A, 220 VAC
6 A, 28 VDC

