ASN

THREE PHASE MONITOR

22.5 mm Design

- **Phase sequence change identification**
- **Phase disconnection identification**
- **3 phase voltage asymmetry identification**
- **Network voltage reduction identification**
- **Instant disconnection at the time of fault occurrence**
- **Connection Time selection capability, after error correction**
- **Signals that display various errors and normal status**
- **Protection of electro motors against network faults**
  - Phase disconnection
  - Phase displacement
  - Voltage decrease more than the allowed limit.
  - 3 phase voltage asymmetry more than allowed limits
  - The consecutive power connection and disconnection shock

↘ Principles of Operation

After connecting Null to MP terminal and phases to the T.S.R terminals, the device begins to operate.

After each error correction, the device begins timing. At the end of adjusted time (DELAY), OUT signal gets ON and device internal relay gets connected (internal contact of terminal 15 to 18 is made).

- **Attention:** If the status of the 3 phases is not normal, the timing does not begin.

  In case of an error (such as voltage decrease, phase disconnection and or phase displacement) in 3-phase network, the fault signal gets on, and the internal relay also gets disconnected simultaneously by the turn off of the output signal (internal contact of terminal 15 to 16 is made.
- **Attention:** in case of the existence of an error in 3-phase network at the beginning of the operation, the related signal will remain on and the internal relay will not get connected.

↘ Fault Signals

Error Signals are as below description:

- VOLT: It gets on once the three phase voltage decreases to lower than 300 V.
- SEQU: It gets on once the sequence of network phases changes.
- ASY.V: It gets on once the network gets 2 phase or the asymmetry between phase voltages exceed the adjusted limit (by ASY.V handle).

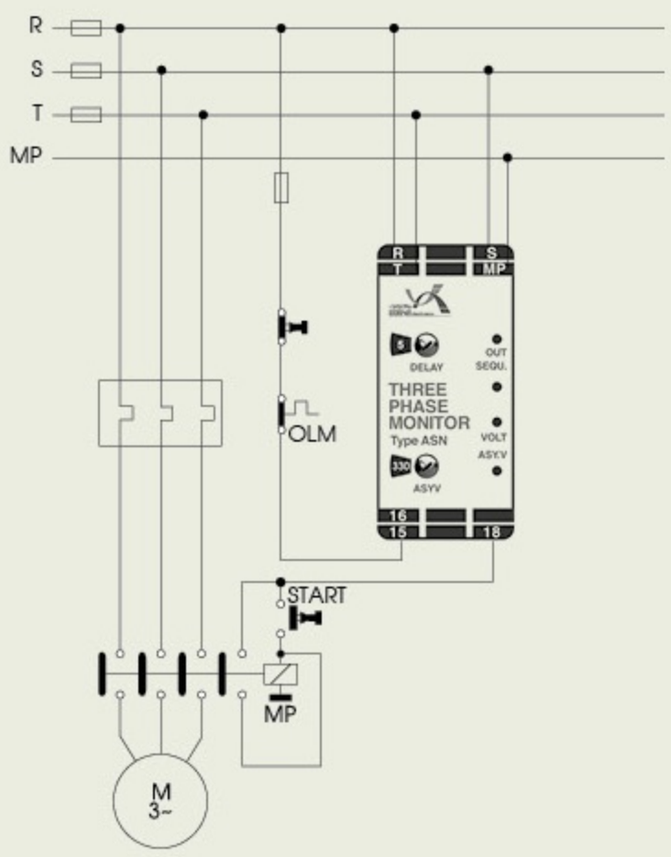
↘ Installation and Start-Up

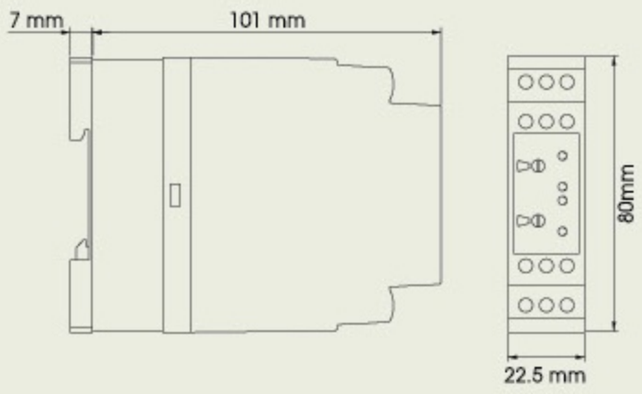
The 3 phases and Null will get connected to R,S,T and MP terminals of phase control Relay
The 15 and 18 terminals are being serried in the circuit same as stop push-button.

- **Attention:** Bimetal contact or Borna load control relay type OLM (in case of its existence) will be serried by stop push-button

In case after the installation of the device, SEQU signal (phase sequence) gets on, the two phases on the phase control terminals should be replaced (for example S should be replaced by R) so that the signal gets off.
By the occurrence of each of the above mentioned errors, the internal relay immediately gets disconnected and after resolving the error, the relay will get connected after being adjusted by the DELAY handle.
Asymmetry identification between 3 phase voltages will be adjusted by ASY.V handle.
Usually adjusting the sensitivity level on 330V is suitable.

- **Attention:** Note that the Phase Control Relay does not directly connect and disconnect the 3 phase, but it command the contactor to connect or disconnect.
- **Attention:** Make sure that cubicle Null is precisely connected to the Network Null





↘ Technical Specifications

- Supply Voltage: 380 VAC +10%, -20%
- Frequency: 50 Hz ±5Hz
- Internal Loss: 3 W
- ON Delay: 1 to 40 seconds, adjustable by DELAY handle
- Phase Asymmetry: 300-360 Volt, adjustable by ASY.V handle
- Relative Humidity: 15% to 85% (according to IEC 721-3-3 Class 3k3)
- Output Relay: Single-C/O contact

- Rated Current: 6 A / 250VAC continuous