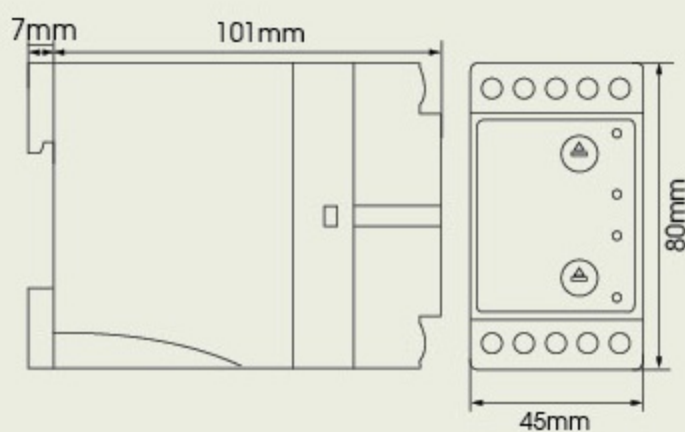
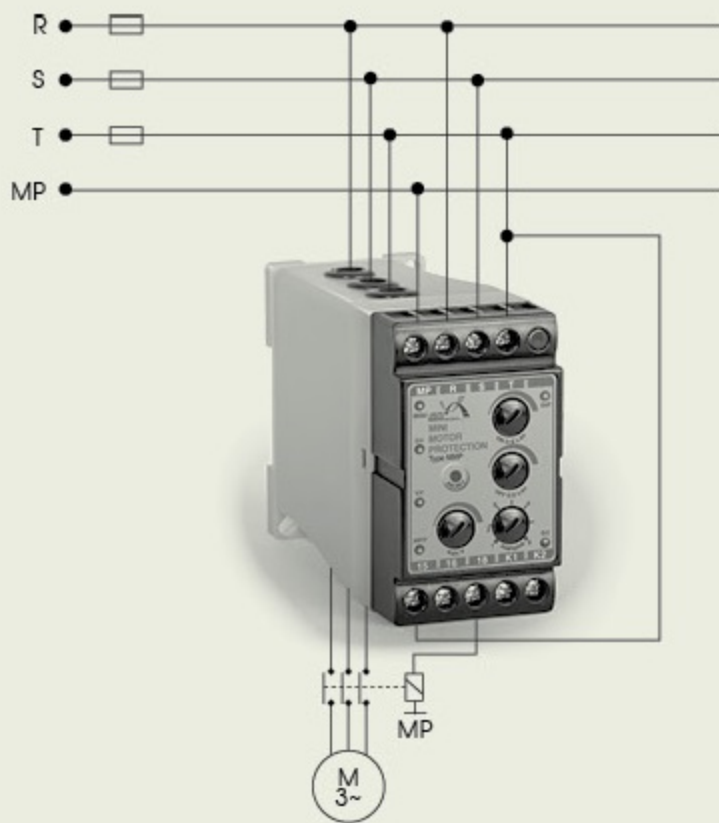




MINI MOTOR PROTECTION

Voltage & Current Protection



⤵ Voltage Protection:

- Recognition of changes in phase sequence
- Recognition of network overvoltage
- Recognition of network undervoltage
- Recognition of a phase loss
- Capability of setting asymmetry in voltage of three phases
- Fast disconnection in case of fault

⤵ Current Protection:

- Thermal-Relay Replacement
- Capability of current adjustment
- Capability of OFF time adjustment
- Having automatic and lockable operation modes

⤵ Specific Capabilities:

- Capability of ON time adjustment after fault correction
- Motor protector against network disorders

⤵ Display signals:

- ▣ SEQU.: Phase sequence
- ▣ O.V: Overvoltage (over 440 V)
- ▣ U.V: Undervoltage (under 300 V)
- ▣ ASY.V: Voltage asymmetry (adjustable from 5 to 20%)
- ▣ O.C : Overcurrent (in ranges 5, 16, 30 and 60 A)
- ▣ OUT: Output energization (adjustable from 0.5 to 45 seconds)

⤵ Installation and Start-Up:

Phases and null have to be connected to terminals T, S, R and MP respectively. Terminals 15 and 18 have to be in series with contactor Winding like a stop button. Electric wires should pass through device tubes. Device starts working upon energization. At the end of chosen delay time (ON DELAY); OUT signal gets ON and device internal relay opens (internal contact of terminal 15 to 18 is made). Attention: Every time after fault correction, device starts timing. Timing does not start where three phases status is not normal. In the case of fault in three-phase network such as phases reversal, overvoltage (over 440 V), undervoltage (under 300 V) or voltage asymmetry(5 to 20%) , the related fault signal gets ON and at the same time relay closes and out signal gets OFF (internal contact of terminal 15 to 16 is made). In the case of fault in three-phase network while device starts working, the related signal stays on and the internal relay does not open. In the case of motor starting current beyond the limit adjusted by AMPERS potentiometer handle, O.C signal gets ON. If current fault persists, OUT signal gets OFF and the device internal relay closes at the end of time adjusted by OFF DELAY potentiometer handle.

▣ **Attention:** It should be noticed that starting time duration is adjusted by OFF DELAY potentiometer handle for output not to be de-energized at starting time. In the case of fault correction during the adjusted time, O.C signal gets OFF and output relay does not close.

When K1 and K2 terminals are connected together, device should be restarted by RESET button after current fault correction. If K1 and K2 terminals are not connected together, device starts timing after current fault correction. Then, relay opens at the end of time adjusted by ON DELAY potentiometer handle.

⤵ Technical Specifications:

- ▣ Network Voltage: 4-wire three-phase 380 V \pm 10%
- ▣ Network Frequency: 50 \pm 5 Hz
- ▣ Internal Loss: About 3 W
- ▣ Amperage: 1 to 5, 4 to 16, 12 to 30 and 24 to 60 A
- ▣ Output Relay: A Single-C/O contact relay
- ▣ Contact Current: 6 A, 220 VAC-6 A, 28 VDC

