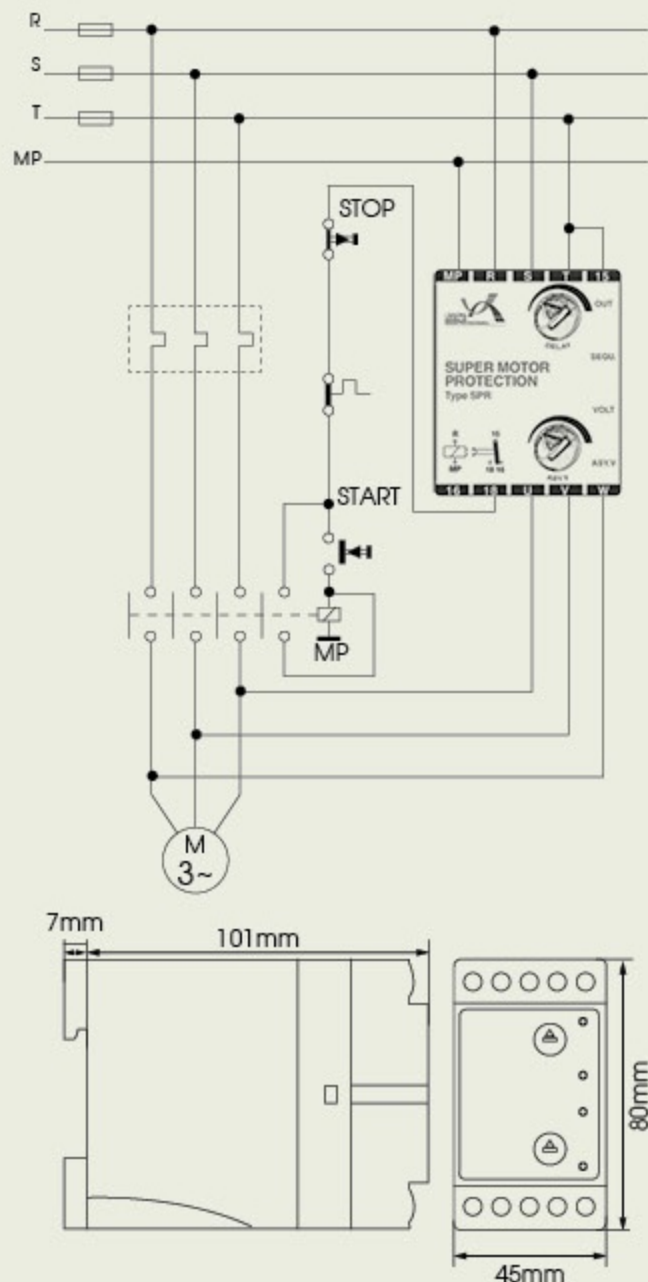




SPR

SUPER MOTOR PROTECTION



- Protection against network phase loss
- Protection against contactor's imperfect contact
- Protection against network undervoltage
- Protection against phase reversal
- Recognition of phase loss on the side of high-voltage network
- Fixed OFF delay time (0.5 second) in case of fault
- Protection against network voltage asymmetry of 5 to 15%
- Adjustable ON delay time from 0.5 to 30 seconds

Principles of Operation

This device is designed to protect three-phase motors against network inordinate undervoltage, phase reversal, phase loss and asymmetry in voltage of three phases.

In many cases, the reason of electromotor failures (damage) is imperfect connection of contactors' contacts. Such a fault is not recognizable in ordinary systems while this device provides such a capability. Contactor output or motor points have to be connected to terminals U, V, and W. So, disconnection command will be given when motor phase is lost by which it avoids two-phase motor working.

After connection of main three phases and null to terminals R,S,T and MP respectively, if network three phases are symmetric, voltage is in standard range and phase sequence is correct, relay acts after delay time adjusted by DELAY potentiometer handle (contact 15 to 18 is made) and OUT signal gets ON. After connection of power contactor provided that output three phases of contactor are connected to terminals U, V, W and all three phases are connected, system continues its normal operation.

But in the case of two-phase contactor output, network Phase Failure or asymmetry among network phases (when exceeding the adjustable limit by ASY.V potentiometer handle) output de-energizes right away and asymmetry signal (ASY.V) gets ON.

In the case of excessive network under voltage (around 25%) also output disconnects and VOLT signal gets ON.

In the case of phase reversal, phase sequence signal (SEQ.) gets ON.

After fault correction, device timer acts then at the end of time adjusted by DELAY potentiometer handle, output energizes.

- **Important Attention:** This device must certainly be used with start and stop circuit.

Display Signals

- OUT: Output contact connection display
- SEQ. : Incorrect phase sequence display
- VOLT. : Network undervoltage display
- ASY.V : Phases' voltage asymmetry display
- **Attention:** Notice that Three-Phase-Monitor relay does not directly connect or disconnect three phases but commands the contactor to do that.

Technical Specifications

- Supply Voltage: 3-phase 4-wire 380 V \pm 10%
- Network Frequency: 50 \pm 5 Hz
- Internal Loss: About 3.5 Watts
- Voltage Asymmetry Adjustment: 5 to 15 % adjustable by ASY.V potentiometer handle
- OFF Delay: 0.5 seconds
- ON Delay: 0.5 to 30 seconds- adjustable by DELAY potentiometer handle
- Output relay: Single-C/O contact
- Contact Current: 6 A, 220 VAC - 6 A, 28 VDC

