



Microcomputer Three Phase Voltage Relays

PVR/L

Specifications

Electrical

Line Voltage:

110VAC to 600VAC, Three Phase

Frequency: 60Hz \pm 7Hz

50Hz \pm 7Hz (300 Series)

Line Voltage Selector Switch:

100 Series - 110VAC to 120VAC, 3 ϕ

200 Series - 208VAC to 240VAC, 3 ϕ

300 Series - 380VAC to 415VAC, 3 ϕ

400 Series - 440VAC to 480VAC, 3 ϕ

600 Series - 575VAC to 600VAC, 3 ϕ

Differential Adj. (Over/Undervoltage

Adj.): \pm 5% to \pm 12% of Line Voltage

Phase Rotation: A - B - C

Phase Imbalance: 2% to 10%*

(With Freq. Shift of less than \pm 0.1Hz)

Phase Loss: 30 % to complete loss
(Phase Imbalance if less than 30%)

Accuracy:

Differential Setting: <1.5% Typical

Hysteresis: <1% Typical

Overvoltage Protection (Max.):

100 Series - 150VAC

200 Series - 300VAC

300 Series - 475VAC

400 Series - 550VAC

600 Series - 700VAC

Time Delays:

Pick-up: 5 Sec. Fixed

Drop-out: 0.2 to 15 Sec. Adj.*

Power Consumption: 15VA

Output Contacts:

PVR

3 Amps, 1/2 HP @ 480/600VAC

7.5 Amps, 1/2 HP @ 240VAC

10 Amps @ 120VAC

500,000 Full Load Cycles

1,000,000 Mechanical Cycles

PVRL

7.5 Amps, 1/3 HP @ 240VAC

10 Amps, 1/3 HP @ 120VAC

500,000 Full Load Electrical Cycles

10,000,000 Mechanical Cycles

Physical

Mounting: Surface

Termination: Screw Terminals

Packaging: Dust Cover

Weight: 2.5 Lbs. Approx.

Ambient Temperatures

Operating: 0°C to 60°C, U.L. 0°C to 40°C

Storage: -40°C to 85°C

* Adjustments are located inside case.



- Full Voltage Contacts
- Diagnostic LED's
- Overvoltage
- Undervoltage
- Phase Loss (Single Phase)
- Phase Rotation
- Phase Imbalance
- Frequency Shift
- First Fault Retention
- Auto or Manual Reset
- Pick-up & Drop-out Delays



Ordering Information

PVR L - 400 - AR

R-K Model

Output Contact Option

- 600VAC, DPDT

L - 240VAC, DPDT

Reset Option

AR - Automatic Reset

MR - Manual Reset

MRA - Manual with Auto Reset on Power Up

Line Voltage Series

100 - 110 to 120VAC

200 - 208 to 240VAC

300 - 380 to 415VAC

400 - 440 to 480VAC

600 - 575 to 600VAC

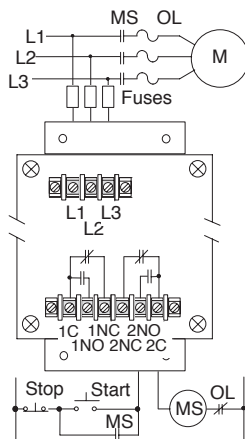
Connections

The PVRL should be connected to the line voltage on the load side on the last line fuse before the motor and on the line side of the starter. (MS)

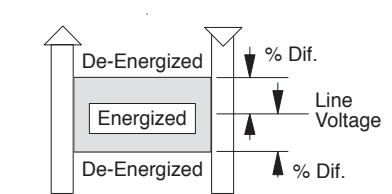
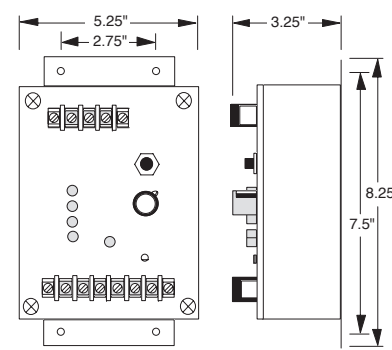
M = Motor

MS = Motor Starter

OL = Overloads Fuses = \leq 1 amp (optional)



Dimensions



Operation

The PVR/L's output contacts energize when:

1. All the phases are present;
2. The voltages are within the differential and imbalance percentages;
3. The phases are in the proper rotation.

Built into the PVR/L is a 5 second pick-up delay to allow the three phase line to stabilize. If any of these conditions shift beyond the setpoints, the output contact will de-energize after an adjustable time delay period to avoid nuisance tripping. Because of the Phase Imbalance feature of the PVR/L's, a single phase condition can be detected, even if the re-generated voltage from a rotating motor is in excess of 95% of the rated voltage. When a fault occurs, the fault that trips the PVR/L will be indicated by the Diagnostic LEDs. The LED will remain lit until power is removed or the reset button is pressed. On power up, all red LED's will flash in sequence. All AR units come with a fault LED reset push button.