

PHASE LOSS, PHASE REVERSAL, PHASE UNBALANCE, UNDERVOLTAGE & OVERVOLTAGE

PMP-FA8X/11/12 SERIES



- ◆ Universal voltage range of 208-480V (208 or 240V on 11 pin) provides the flexibility to cover a variety of applications with one unit
- ◆ Protects against phase loss, phase reversal, phase unbalance, undervoltage and overvoltage
- ◆ Choose between 11 Pin DPDT, 12 Pin DPDT, & 8 Pin SPDT/SPNO output configurations
- ◆ Automatic Reset
- ◆ Multi-Color LED indicates normal condition and defines fault to simplify troubleshooting
- ◆ Compact plug-in case utilizing industry-standard 8 or 11 pin octal or 12 pin square sockets



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The PMPU-FA8X/11/12 Series Phase Monitor Relays utilize a microprocessor-based design to provide protection against phase loss, phase reversal, phase unbalance, undervoltage and overvoltage, and are compatible with most Wye or Delta systems. They protect against unbalanced voltages or single phasing regardless of any regenerative voltages.

The relay is energized when the phase sequence and all voltages are correct. Any one of five fault conditions will de-energize the relay. Re-energization is automatic upon correction of the fault condition. A multi-color LED indicates normal condition and also provides specific fault indication to simplify troubleshooting.

These products offer a universal voltage design that works on any three-phase system voltage from 208-480V (208 or 240V only on the 11 pin DPDT version). The undervoltage drop-out is fixed at 90% & the overvoltage drop-out is fixed at 110% of operating voltage. The time delay drop-out on undervoltage is fixed at 4 seconds. The percent phase unbalance is fixed at 6%. The time delay on both power up and restart after a fault has been cleared is fixed at 2 seconds.

OUTPUT CONFIGURATION	LINE-LINE VOLTAGE▲ 50/60 Hz	CATALOG NUMBER*	WIRING/SOCKET
11 Pin DPDT	208V 240V	PMP208-FA11 PMP240-FA11	11 Pin Octal 70170-D DIAGRAM 173
12 Pin DPDT	208-480V	PMPU-FA12*	12 Pin Octal SD12-PC DIAGRAM 174
8 Pin SPDT/ SPNO	208-480V	PMPU-FA8X*	8 Pin Octal 70169-D DIAGRAM 175

▲ Phase-to-Phase (Line-to-Line).

* Requires a 600V-rated socket when used on system voltages above 300V.

Sockets & Accessories available

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APPLICATION DATA

Phase Loss:

Unit trips on loss of any Phase A, B or C.

Phase Reversal:

Unit trips if rotation (sequence) of the three phases is anything other than A-B-C.

Undervoltage:

Fixed at 90% of nominal voltage. Unit trips when the average of all three lines is less than the adjusted set point for longer than the fixed 4 second time delay.

Overvoltage:

Fixed at 110% of nominal voltage. Unit trips when the average of all three lines is greater than the fixed set point for a period longer than the time delay drop-out.

Phase Unbalance:

Fixed at 6% unbalance. Unit trips when any one of the three lines deviates from the average of all three lines by more than the adjusted set point for longer than the fixed 2 second time delay.

Output Contacts:

10A @ 240V AC/30V DC,
1/2HP @ 120/240V AC (N.O.), 1/3HP @ 120/240V AC (N.C.)
B300 & R300; AC15 & DC13

Life:

Mechanical: 10,000,000 operations
Full Load: 100,000 operations

Response Times:

Power Up & Restart After Fault:	Fixed at 2 seconds
Drop-out Due to Fault:	
Phase Loss & Reversal	100ms fixed
Phase Unbalance	2 seconds fixed
Undervoltage	Fixed at 4 seconds
Overvoltage	Fixed Time Based on Inverse Time Curve

Hysteresis: 2 - 3%

Load (Burden): Less than 3VA

Temperature: Operating: -28° to 65°C (-20° to 150°F)
Storage: -40° to 85°C (-40° to 185°F)

Mounting:

Use the appropriate socket as shown in the Product Selection Table on Page 14. Requires a 600V-rated socket when used on system voltages greater than 300V.

Indicator LED:

LED Status	Indicator
Green Steady	Normal / Relay ON
Green Flashing	Power Up / Restart Delay
Red Steady	Unbalance
Red Flashing	Undervoltage / Overvoltage
Amber Steady	Reversal
Amber Flashing	Loss
Green / Red Alternating	Undervoltage / Overvoltage Trip Pending
Red / Amber Alternating	Nominal Voltage Set Error

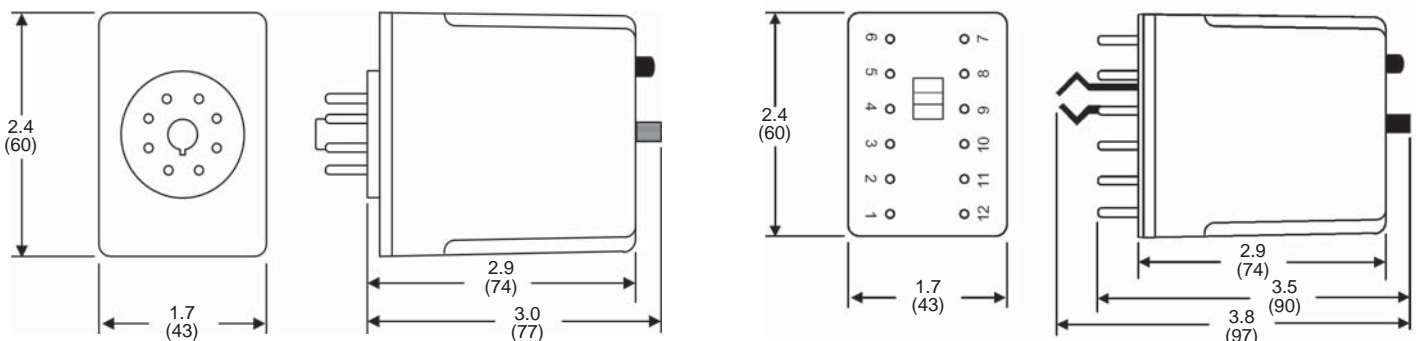
Reset:

Reset is automatic upon correction of fault.

Approvals:  File #E109466

 with appropriate socket
File #E109466

DIMENSIONS



All Dimensions in
Inches (Millimeters)