PLM SERIES

Voltage Monitor





8-PIN

Description

The PLM Series is a 3-phase voltage monitor that continuously monitors each of the three phases. Monitors both delta and wye systems and no connection to neutral is required. The microcontroller circuit design protects against undervoltage, voltage unbalance, phase loss and phase reversal. Protection is assured when regenerated voltages are present.

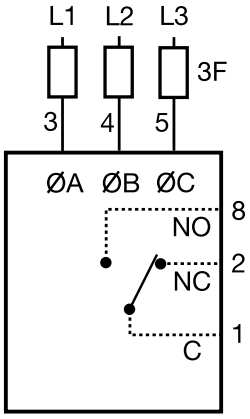
Operation

The output relay is energized and the LED glows green when all voltages are acceptable and the phase sequence is correct. Under and unbalanced voltages must be sensed for a continuous trip delay period before the relay de-energizes. Reset is automatic upon correction of the fault condition. The output relay will not energize if a fault condition is sensed as power is applied. The LED flashes red during the trip delay, then glows red when the output de-energizes. The LED flashes green/red if phase reversal is sensed.

Field Adjustment

Set voltage adjustment knob at the desired operating line voltage for the equipment. This adjustment automatically sets the undervoltage trip point. Apply power. If the PLM fails to energize, (LED glows red) check wiring of all three phases, voltage, and phase sequence. If phase sequence is incorrect, the LED flashes green/red. To correct this, swap any two line voltage connections at the mounting socket. No further adjustment should be required.

Wiring Diagram



F = Fuses
ØA = Phase A = L1
ØB = Phase B = L2
ØC = Phase C = L3
NO = Normally Open
NC = Normally Closed

2A fast acting fuses recommended for safety (not required).

Relay contacts are isolated

Features & Benefits

FEATURES	BENEFITS
Quick octal 8-pin mounting	Small footprint with universal mounting: ideal replacement for hundreds of competitive part numbers.
Proprietary microcontroller based circuitry	Constant monitoring of single-phase, low voltage, high voltage, voltage unbalance, phase reversal.
LED diagnostics	Quick visual indicator for trip versus normal operation.
Isolated, 10A, SPDT output contacts	Allows control of loads for AC voltages
Adjustable nominal voltage set point	Allows setting for specific application voltage to optimize protection
Simple 3-wire connection for delta or wye systems	Allows flexibility across wide range of systems
ASME A17.1 Rule 210.6	Complies with safety codes for elevators, escalators, moving walkways
NEMA MG1 14:30, 14:35	Complies with safety codes for motors and generators
IEEE C62.41-1991 Level B	Complies with safety codes for surge and voltage protection

Ordering Information

MODEL	LINE VOLTAGE	VOLTAGE UNBALANCE (FIXED)	TRIP DELAY (FIXED)
PLM6405	240VAC	4%	5 sec
PLM6502	240VAC	5%	2 sec
PLM6805	240VAC	8%	5 sec
PLM8405	380VAC	4%	5 sec
PLM9405	480VAC	4%	5 sec
PLM9502	480VAC	5%	2 sec
PLM9805	480VAC	8%	5 sec

If you don't find the part you need, call us for a custom product 800-843-8848

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Accessories



BZ1 Front Panel Mount Kit
Provides an easy method of through-the-panel mounting of 8- pin or 11-pin plug-in timers, flashers, and other controls.



OT08PC Octal 8-pin Socket
8-pin 35mm DIN rail or surface mount. Rated at 10A @ 600VAC. Surface mounted with two #6 screws or snaps onto a 35 mm DIN rail.



LPSM003ZXID (Indicating), LPSM003Z (Non-indicating) Fuse Holders
Littelfuse POWR-SAFE Dead Front holders provide optimum protection to personnel for Class CC and Midget-Style fuses. 600 VAC/DC



0KLK002.T Midget Fuse (2 Amp)
10 x 38 fast acting, high-interrupting capacity, current-limiting type fuse. 600 Vac/500 Vdc



C103PM (AL) DIN Rail
35 mm aluminum DIN rail available in a 36 in. (91.4 cm) length.

Specifications

Line Voltage

Type: 3-phase delta or wye with no connection to neutral

Operating Voltage

Model	Adj. Line Voltage Range	Line Voltage Max
240	200-240VAC	270VAC
380	360-430VAC	480VAC
480	400-480VAC	530VAC

AC Line Frequency: 50/100 Hz
Phase Sequence: ABC
Power Consumption: ≅ 2W for 240V units
≅ 3W for 380 - 480V units

Low Voltage & Voltage Unbalance

Type: Voltage detection with delayed trip & automatic reset

Low Voltage
Trip: 88 - 92% of adjusted line voltage
Reset Voltage: Plus 3% of trip voltage
Voltage Unbalance
Trip: Factory fixed from 4 - 8%
Reset on Balance: -0.7% unbalance typical
Trip Delay
Range: Factory fixed from 2 - 20s
Tolerance: ±15%

Phase Reversal & Phase Loss

Response Time: ≤ 200ms
Phase Loss: > 35% unbalance
Reset: Automatic

Output

Type: Electromechanical relay
Form: Isolated, SPDT
Rating: 10A resistive @ 240VAC, 277VAC max; 1/2 Hp @ 240VAC; 1/4 Hp @ 120VAC
Life: Mechanical - 1 x 10^7; Electrical - 1 x 10^5

Protection

Surge: IEEE C62.41-1991 Level B
Isolation Voltage: ≥ 2500V RMS input to output

Mechanical

Mounting*: 8-pin plug-in socket rated 600VAC
Dimensions: **H** 81.3 mm (3.2"); **W** 60.7 mm (2.39"); **D** 45.2 mm (1.78")

Environmental

Operating/Storage Temperature: -40° to 60°C / -40° to 85°C
Weight: ≅ 4.4 oz (125 g)

*CAUTION: Select an octal socket rated for 600VAC operation.

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