Littelfuse®
Expertise Applied | Answers Delivered

PLR SERIES

8-PIN

Description

The PLR Series provides a cost effective means of preventing 3-phase motor startup during adverse voltage conditions. Proper A-B-C sequence must occur in order for the PLR's output contacts to energize. In addition, the relay will not energize when an undervoltage or phase loss condition is present. The PLR Series protects a motor against undervoltage operation. The adjustment knob sets the undervoltage trip point.

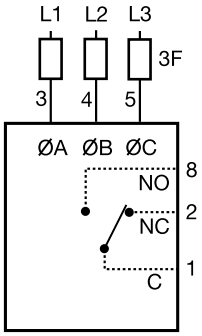
Operation

The output relay is energized and the LED glows when all voltages are acceptable and the phase sequence is correct. Undervoltage must be sensed for a continuous dropout 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.

Field Adjustment: Turn the adjustment knob fully counterclockwise and apply three-phase power. The LED should be ON. Increase adjustment until the LED goes OFF. Decrease adjustment until LED glows again. If nuisance tripping occurs, decrease the adjustment slightly.

NOTE: When properly adjusted and operating in an average system, a voltage unbalance of 10% or more is required for phase loss detection. When a phase is lost while the motor is running, a voltage will be induced into the open phase nearly equal in magnitude to the normal phase-to-phase voltage. This condition is known as regeneration. When regenerated voltages are present, the voltage unbalance during single phasing may not exceed 10% for some motors. The PLR Series may not provide protection under this condition. For systems that require superior phase loss protection, select the PLMU Series.

Wiring Diagram



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

Relay contacts are isolated

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

Features & Benefits

FEATURES	BENEFITS
Continuous monitoring	Prevents 3-phase motor startup when undervoltage or phase loss condition is present
Industry standard 8-pin octal plug connection	Eliminates need for special connectors
LED indication	Quick visual indication of output status and correct phase sequence

Ordering Information

MODEL	LINE VOLTAGE
PLR120A	95 to 140VAC
PLR240A	190 to 270VAC
PLR380A	340 to 450VAC
PLR480A	380 to 500VAC

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- 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	
Nominal Voltage	**Undervoltage Dropout Adj. Range**	**Line Voltage Max.**
120VAC	85 to 130VAC	143VAC
240VAC	170 to 240VAC	270VAC
380VAC	310 to 410VAC	480VAC
480VAC	350 to 480VAC	530VAC
AC Line Frequency	50/60Hz	
Phase Sequence	ABC	
Response Times		
Pull-in	≤ 400ms	
Drop-out	≤ 100ms	
Hysterisis		
Pull-in/Drop-out	≅ 2%	
Output		
Type	Electromechanical relay, energized when all voltages are acceptable	
Form	SPDT	
Rating	5A resistive @ 240VAC, 1/4 Hp @ 120VAC	
Maximum Voltage	250VAC	
Protection		
Phase Reversal/Failure	ASME A17.1 Rule 210.6	
Motors and Generators	NEMA MG1 14:30, 14:35	
Surge	IEEE C62.41-1991 Level B	
Isolation Voltage		
120 & 240VAC	≥ 1500V RMS input to output	
380 & 480VAC	≥ 2500V RMS input to output	
Mechanical		
Dimensions	**H** 81.3 mm (3.2"); **W** 60.7 mm (2.39"); **D** 45.2 mm (1.78")	
Mounting*	Plug-in socket	
Termination	Octal 8-pin, plug-in	
Environmental		
Operating/Storage Temperature	0° to 55°C / -40° to 85°C	
Weight	≅ 6 oz (170 g)	

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

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