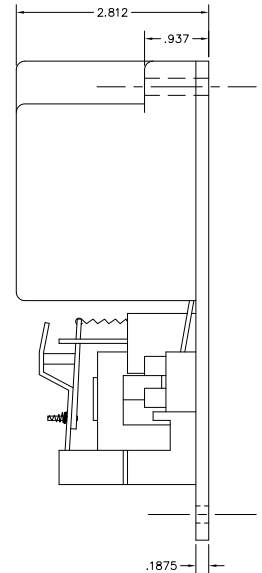
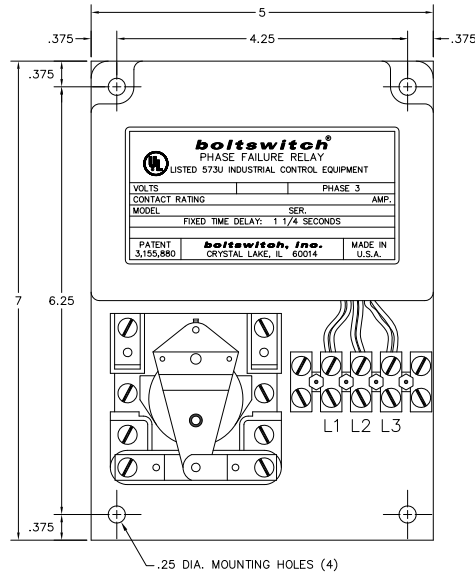


PHASE FAILURE RELAYS



FRONT VIEW

SIDE VIEW



APPLICATION:

Boltswitch Phase Failure Relays are designed to monitor any three phase supply line. They will detect loss of a phase or phase unbalance, and when used with a shunt trip operator can open circuits to prevent single phase operation of motors.

Boltswitch Phase Failure Relays are voltage monitoring devices. They are not thermal devices. They operate upon the basis of phase voltage unbalance which occurs in a three phase system operating under single phase conditions.

SPECIFICATIONS:

Relays are designed to detect any unbalance which exceeds 12%.

DPDT Relay contacts: 1.5HP, 120V; 2HP, 240VAC, 1PH
30A, 277VAC; 10A, 600VAC

Power Consumption: 5 watts

FLEXIBILITY:

Can be used with motors of any horsepower at a given voltage. Unit can be mounted in any position.

DEPENDABILITY:

Operation is not affected by variations from base voltage (within acceptable limits), provided phase voltages are balanced.

Incorporates an automatic reset feature that makes it ideal for protecting unattended motors actuated by sensory controls. When phase failure occurs, the motor is disconnected from the line, and when normal line conditions are restored, the relay resets. No adjustments are ever required.

CATALOG NUMBERS

VOLT	P	PLV	PR	PLVR	PND	PNDLV	PNDR	PNDLVR
208	P-208	PLV-208	PR-208	PLVR-208	PND-208	PNDLV-208	PNDR-208	PNDLVR-208
240	P-240	PLV-240	PR-240	PLVR-240	PND-240	PNDLV-240	PNDR-240	PNDLVR-240
480	P-480	PLV-480	PR-480	PLVR-480	PND-480	PNDLV-480	PNDR-480	PNDLVR-480
575	P-575	PLV-575	PR-575	PLVR-575	PND-575	PNDLV-575	PNDR-575	PNDLVR-575

For availability of units to be used at other voltages consult factory.

MODEL P (Dwg. O-1086)

Model P Units are designed so that the relay is energized during normal balanced conditions. Upon unbalance or loss of a phase, the relay will disengage. The relay also disengages upon total loss of power. Standard time delay is approximately 1 second. Longer time delay or adjustable time delay is available. See “Special Time Delay” below.

MODEL PND (Dwg. O-1251)

Model PND Units are designed so that the relay is normally not energized. The relay picks up only during loss of a phase or phase unbalance, thus will not detect total loss of power. When used with a fusible switch, the Model PND unit may be wired to the load side to detect single phasing caused by a blown fuse as well as utility loss of a leg. Standard time delay is approximately 1 second. Longer time delay or adjustable time delay is available. See “Special Time Delay” below.

“LV” & “R” FEATURES

“LV” indicates low voltage release feature. The master relay will actuate when the phase balanced line voltage drops to 70% of normal, protecting motors against low voltage operation. The master relay will restore when the line voltage reaches 90% of normal.

“R” indicates protection against phase reversal. Normal ABC phase sequence is monitored and protects against reversing. Units have a red indicator light indicating when phases are reversed.

SPECIAL TIME DELAY:

Extended fixed time delay can be set for up to 10 seconds. If extended time delay is desired, specify the desired time delay when ordering.

Adjustable time delay with four settings can be provided (10 seconds max). If adjustable time delay is desired, specify the desired settings when ordering.