

# Class 300 Equipment PRP 320 & PRP 340 SYNCHRONOUS MOTOR PULLOUT RELAYS



DEVICE NUMBER 55

## FEATURES:

- Adjustable power factor trip level
- Adjustable time delay
- Operates on 120, 208, 240 or 480 volts
- 3 reset modes: local manual, remote manual and automatic
- Resets with input voltage interruption
- N.O. and N.C. relay switching contacts available
- Low input burden
- Reliable solid state design
- Ruggedly constructed
- Available from stock

## APPLICATION:

Increased loading or decreased excitation can cause a synchronous motor to pull out of synchronization with its rotating field, resulting in high line current and possible physical damage to the motor. To protect synchronous motors against such conditions, Basler Electric Company has developed the Model PRP 320 Synchronous Motor Pullout Relay for 60 Hz applications, and the Model PRP 340 Synchronous Motor Pullout Relay for 50 Hz applications. A typical application is pictorially represented in Figure 1.

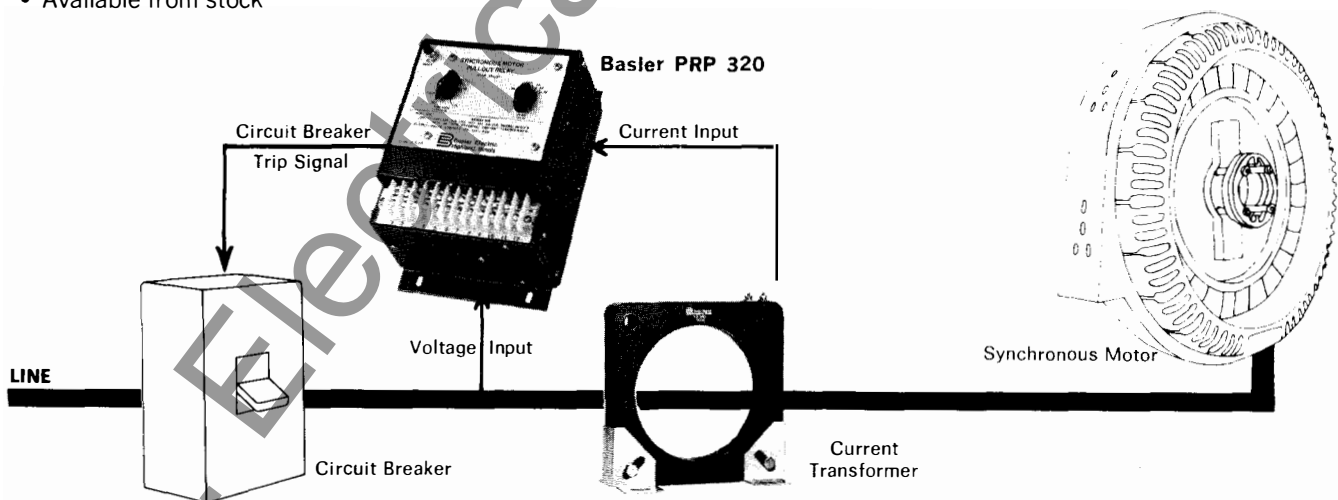


FIGURE 1 - APPLICATION DIAGRAM

**Basler Electric**

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## DESCRIPTION:

The PRP 320's output relay actuates when the power factor decreases and remains below a preset value for a pre-selected period of time. The relay actuation can be used to remove a synchronous motor from the line or to operate an alarm. The trip point of this relay can be set from 0.95 to 0.80 lagging power factor and the time delay can be set from 0.25 to 1.5 seconds. Both controls are front panel mounted for convenient access. Once the relay has tripped, it can be locally reset using a pushbutton switch or it can be manually reset from a remote location if a pushbutton switch employing normally closed contacts is installed. The device can also be connected to automatically reset when normal operating conditions are restored. An external jumper controls selection of the reset mode. Regardless of the reset mode selected, the PRP 320 will always reset with an interruption of input voltage. The solid state circuit employs quality components selected through conservative derating to assure long-term trouble-free performance. The unit is assembled in a rugged, flanged steel case and is easily installed.

## SAMPLE SPECIFICATION:

Protection for the synchronous motor shall be provided by a solid state relay with a power factor adjustment range of 0.95 to 0.80 lagging and a time delay range of 0.25 to 1.5 seconds. The device shall operate on 120 (or 208, 240, 480) volts, 60 Hertz input power. It shall contain a SPDT output relay contact to operate a circuit breaker trip coil or an alarm circuit when the power factor of the synchronous motor load remains less than the preset value for the selected time delay period. The unit shall contain a manual reset switch, provisions for remote reset, and shall be designed for back-of-panel mounting.

The protective device shall be a Basler Electric Company PRP 320 Synchronous Motor Pullout Relay or equivalent.

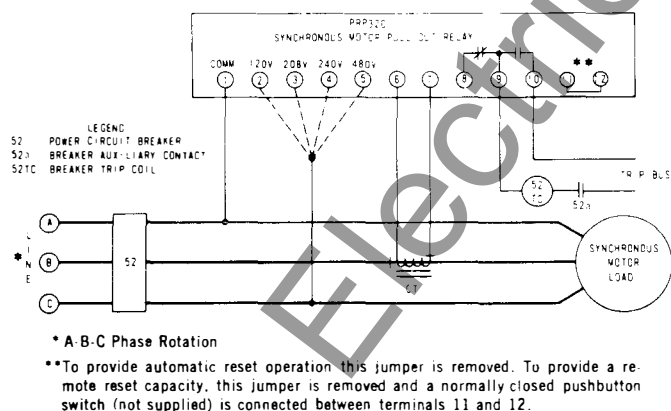


FIGURE 2 - TYPICAL INTERCONNECTION DIAGRAM

## SPECIFICATIONS:

### INPUT:

Voltage ..... 120, 208, 240 or 480 volts  
Frequency ..... 50 Hz (PRP 340)  
..... 60 Hz (PRP 320)  
Voltage Burden ..... 6 VA, 1 lags V by 40°  
Current (nominal) ..... 2 to 5 Amperes  
(Sensing CT must be ANSI 0.3 Accuracy Class)  
Current Burden ..... 7 VA, 1 lags V by 28°  
Overload Current Withstands currents up to 5 times nominal for short intervals of time.

**OUTPUT:** SPDT relay contact rated 10 amperes at 120 VAC; 10 amperes at 28 VDC, resistive; 0.75 amperes at 115 VDC, resistive.

**POWER FACTOR ADJUSTMENT RANGE:** 0.95 to 0.80 lagging.

**TIME DELAY ADJUSTMENT RANGE:** 0.25 to 1.5 seconds.

**SHOCK:** Withstands up to 15 G's.

**OPERATING TEMPERATURE:** -20°C to +50°C (-4°F to +122°F).

**FINISH:** Dark gray, lusterless, textured, baked enamel.

**DIMENSIONS:** 9.88" x 6.56" x 5.12".

**WEIGHT:** Net 7.5 pounds; shipping 9 pounds.

## HOW TO ORDER:

Specify by model number and description: Basler Model PRP 320 Synchronous Motor Pullout Relay for 60 Hz applications or Basler Model PRP 340 Synchronous Motor Pullout Relay for 50 Hz applications.

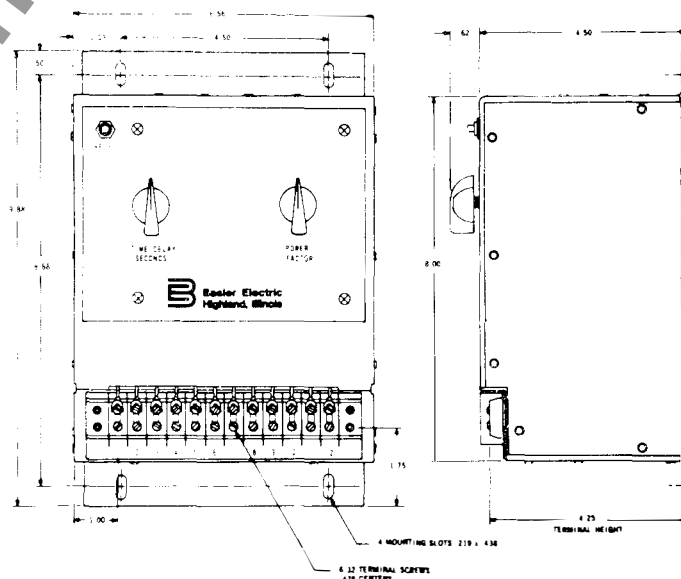


FIGURE 3 - OUTLINE DRAWING

All drawings and data subject to change without notice.

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