

BENSHAW
ADVANCED CONTROLS & DRIVES

SurProtex™ Electronic Protection Relay

Product Highlights:

- Adjustable Overload Class 1-30
- Wide Range Current Adjustment: (0.2 to 22A)
- Wide Range Control Voltage Volts: (100 - 260VAC, 50/60Hz)
- 1 NO and 1 NC Auxiliary Contact
- Current Imbalance Detection
- Phase Reversal Protection
- Phase Loss Detection
- "Trip Free" Design
- Test Function / Trip Indication
- Direct Mount to RSC 9 to 40 Contactors
- Din Rail Mountable
- Manual Reset is Standard (Automatic Reset is Optional)
- LED Diagnostics
- Trip Time Setting 0 to 30sec. at 600% of set current

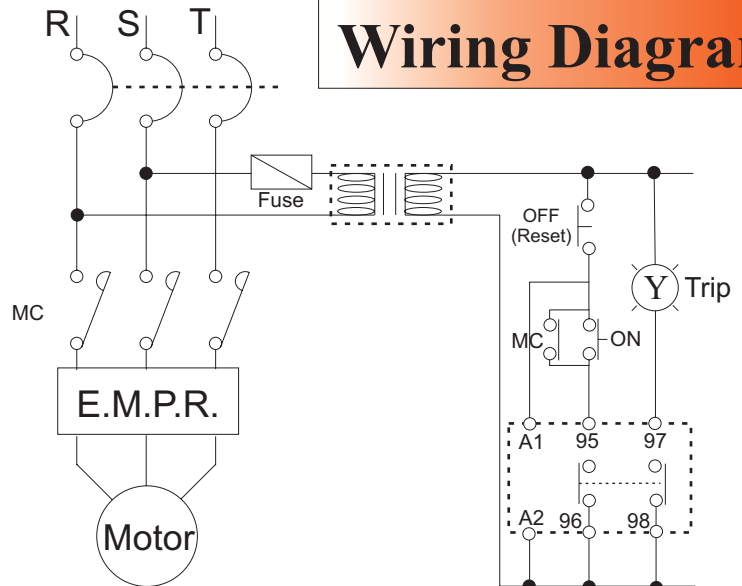
Fault Indications:

| Protection | | LED | |
|---------------|---------------|---------------|--|
| Over Current | RED (O.L) | | |
| | GREEN (FAULT) | | |
| Phase Fault | R | RED (O.L) | |
| | | GREEN (FAULT) | |
| | S | RED (O.L) | |
| | | GREEN (FAULT) | |
| | T | RED (O.L) | |
| | | GREEN (FAULT) | |
| Reverse Phase | RED (O.L) | | |
| | GREEN (FAULT) | | |



Above: SPE-22

Wiring Diagram:



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Scottsdale, AZ 85260
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550 Bright Street East
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INSTRUCTION MANUAL



SurProtex Electronic Protection Relay

Thank you for purchasing the Benshaw Inc. SPE Series Electronic Overload Relay. Benshaw products are designed and manufactured for the toughest industrial applications and are backed by a two year limited warranty. To ensure the best performance from your product, please review this manual before product installation and use.

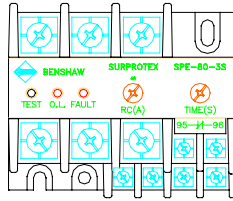
Pub#: 890012-03-00

BENSHAW Inc.
 ADVANCED CONTROLS & DRIVES
 1659 E. Sutter Rd
 Glenshaw, Pa
 USA 15116
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Introduction:

The Benshaw SurProtex Electronic Overload Relay provides extended motor protection for critical and high inertia applications.



Features:

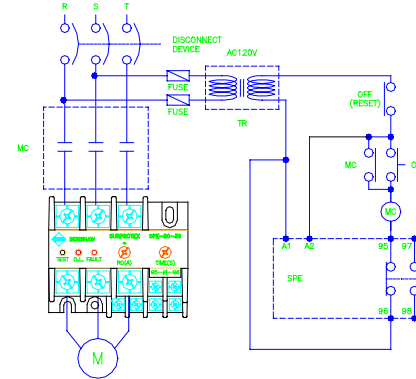
- ◆ Wide Current Range: .2~80A (without CTs)
- ◆ Wide range control power (100~260VAC)
- ◆ LED Diagnostics
- ◆ Adjustable O/L Class: 1~30
- ◆ Phase reversal/loss protection
- ◆ Trip output (1 NO/1 NC)

Installation:

SPE relays may be panel or DIN rail mounted. The SPE relay may be placed directly in line on loads that have a current equal to or less than the SPE device rating. For loads which are greater than the device rating, current transformers must be used to reduce the current through the SPE relay to below the device rating. Refer to wiring diagram for proper terminal connections.

Relay Settings:

1. Wire the trip contacts to the appropriate circuit protection device. (Refer to wiring diagram).
2. Select the O/L class by rotating the time dial to the desired setting.
3. Turn the current setting dial to the appropriate amperage setting. For service factors other than 1.00, increase the current setting by the S.F. percentage. SPE relays may set up to 25% greater than maximum motor amperage.
4. Refer to device rating label for fault indication.



Fault Indication:

Flashing red light:

Motor Current draw is greater than relay set Current.

Solid red light:

Relay has tripped on motor thermal overload.

Red with single repeating yellow flash:

Relay has detected a current imbalance or phase Loss on phase 1.

Red with double repeating yellow flash:

Relay has detected a current imbalance or phase Loss on phase 2.

Red with triple repeating yellow flash:

Relay has detected a current imbalance or phase Loss on phase 3.

Flashing red and yellow:

Incoming power phasing has been reversed.
Relay will only allow ABC phase sequence.

NOTE:

On some models of the SPE relay, the Yellow Indicator light is replaced with a second red light Labeled "Fault". Refer to unit rating label for Graphical representation of fault indication.