

Temperature Controllers



Single Phase SCR Power Controllers

SCR Power Controller "B" Series—Single Phase 60 through 1200 Amp

The "B" Series SCR Power Controllers are a compact and economical power control solution for industrial applications that require high reliability and long life. The fast solid state switching provides superior performance over relays, contactors and other slower cycling controllers by reducing temperature variations associated with the longer on-off cycles of those devices. The result is a more precise control of the heating process and extended heater life.

Design Features

- * Conservative Thermal Design
- * Compact Size
- * Voltage Squared Linearity
- * Line Voltage Protection
- * Includes Semiconductor I²T Fuses
- * Diagnostic Indicators
- * Multi-Turn Zero & Span Adjustments
- * UL, cUL Compliant



Specifications

Command Signals: 4-20mA; 0-5 VDC; 0-10 VDC; potentiometer

Control Mode: Distributive Zero Cross; Phase Angle Firing

Load current: Zero Cross or Phase Angle Fire Output

Amperage Ratings: 60, 90, 120, 180, 225, 350, 500, 650, 800, 1000, 1200

Line Voltage: 120, 240, 480, or 575 VAC; 10% to 20% 50/60 Hz

Zero and Span: Factory pre-set. User adjustable over a range of 20% of span.

Transient Voltage and dv/dt: 200 volts/microsecond minimum. Uses a dv/dt snubber and a metal oxide varistor (MOV).

Control Range

Zero Cross: 0 to 99.5% of line voltage

Phase Angle Firing: 0 to 97% of line voltage

Linearity

Zero Cross: Linear with respect to the command signal

Phase Angle Firing: RMS load voltage is linear within 2% of the command signal.

"B" Series SCR Power Controllers are offered with the options listed in the worksheet below. Fill in the boxes with the appropriate number and/or letter designation for your requirements and a part number will be assigned.

Temperature

Operating: 32 to 122°F (0 to 50°C)

Storage: 14 to 158°F (-10 to 70°C)

Cooling: 60 Amp convection; all others fan cooled

Mounting: Panel mount with heat sink fins vertical

Dimensions

60-225 Amp units—Overall: 9.5"W × 16.25"H × 9.25"D

Mounting Centers: 7.0"W × 15.69"H

350 and 500 Amp units—Overall: 14.75"W × 20.125"H × 8.5"D

Mounting Centers: 13.0"W × 18.375"H

650 Amp units—Overall: 16.75"W × 23.0"H × 11.5"D

Mounting Centers: 15.75"W × 22.0"H

800-1200 Amp units: Overall: 16.75"W × 29.0"H × 12.0"D

Mounting Centers: 15.75"W × 13.0" Top/15.0" Bottom

Weight

60-225 Amp units: 22 lbs

350-500 Amp units: 24 lbs

600 Amp units: 47 lbs

800-1200 Amp units: 71 lbs

Ordering Code: **SRSB** - 1 2 3 4 5 6 7

Control Mode BOX 1

Z: Distributive Zero Cross
P: Phase Angle Fire

Load Current BOX 2

xxxx: 60, 90, 120, 180, 225, 350, 500, 650, 800, 1000, 1200 Amps

Line Voltage BOX 3

1: 120 VAC
2: 240 VAC
3: 480 VAC
4: 575 VAC

Options (up to three) BOXES 5, 6, 7

(for zero cross models only)

E: Over Temperature Thermostat – Normally Open

F: Over Temperature Thermostat – Normally Closed

(for phase angle fire models only)

A: True Power Regulation / Current Limit

B: Over-Current Trip

C: RMS Current Regulation / Over-Current Trip

D: RMS Current Limit / Over-Current Trip

E: Over Temperature Thermostat – N.O. Contacts

F: Over Temperature Thermostat – N.C. Contacts

N: None

Control Input BOX 4

A: 4 to 20 mA
B: 0 to 5 VDC
C: 0 to 10 VDC
D: Potentiometer



Note: Over-temperature thermostat is standard on 90 Amp controls and over — Specify N.O or N.C. when ordering

Potentiometer Kit (ordered separately): 5KΩ potentiometer and knob – Part Number: **SRS99001**

COMMON CONFIGURATIONS — "B" SERIES

240 VAC; 1 phase; 4-20 mA control input; Includes Over Temperature Thermostat – N.O. for controls 90 Amp and over.

Part Number

Load Current:	Zero Cross	Phase Angle
60 Amp	SRS03101	SRS04101
90 Amp	SRS03102	SRS04102
120 Amp	SRS03103	SRS04103
180 Amp	SRS03104	SRS04104
225 Amp	SRS03105	SRS04105
350 Amp	SRS03106	SRS04106

Standard lead time is 3 to 4 weeks.

WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov.