

# 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 I<sup>2</sup>T 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](http://www.P65Warnings.ca.gov).