

The SSR P Series

Phase-Fired SCR Power Controllers

15-70 AMPS
80-600 VAC



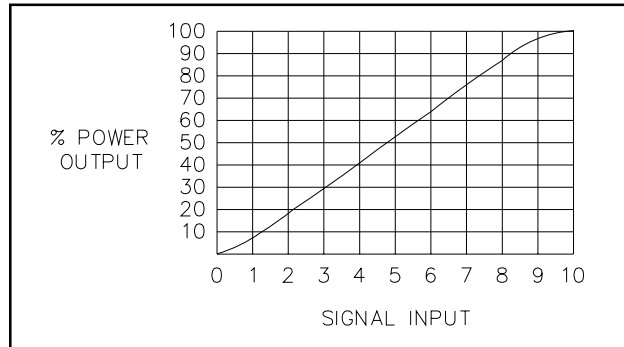
Phase-Fired SCR Power Controllers
for resistive heating loads.

Applications

The SSR P series models are economical solutions to temperature control problems in ovens and furnaces. They may also be used for many other resistive heating or transformer-coupled load applications that use mechanical contactors or other types of controls.

Output

Linearity Diagram



Reliability and Performance

Features

The SSR P series power control are reliable and economical alternatives to other methods of proportional voltage control. They are solid state devices with no mechanical or moving parts to fail.

The SSR P series units are controlled by either a variety of process control signals (i.e., 4-20 mA, 0-10 VDC, etc.) or optional manual potentiometer. Input signal isolation is 2500 VAC. For all units but the 50 Series, transient voltage protection is provided by an external metal oxide varistor (MOV) across the semiconductors, which also have dv/dt protection.



50 SSR P



100 SSR P



170 SSR P

Units operate at 80 to 480 VAC (600 VAC optional) at 50/60 Hz. The conservative design ensures continuous operation at full rated current in a 50°C ambient temperature (inside the enclosure).

- Conservative thermal design increases service life and minimizes maintenance.
- Current or voltage control signals.
- Phase-angle controlled.
- Isolated heat sinks.
- Power linear.
- Transient voltage protection (all but 50 Series).
- CSA Certified and UL Listed (50 Series pending).
- Soft Start.



Current Limit



Over Current Trip

Options

Current Limit

May be ordered with optional current limit (-CL). Current limit prevents output current from exceeding a preset maximum level.

Overcurrent Trip

May be ordered with optional overcurrent trip (-OC). Overcurrent trip provides circuit protection from current overloads by serving as a fast-gate shutdown.

Fuse Kits

May be ordered with I²t(-FK2) fuse kit.

Manual Potentiometer

May be ordered with optional 1-turn (-MP1) or 10-turn (-MP2) potentiometer.

Soft Start

May be ordered with optional soft start (-ER¹, -ER², -ER³ or -ER⁴).

24 VAC Control Transformer

Class 2 transformers are available. Up to seven units can be powered by one transformer if all seven units are controlling the same phase and the control signals are isolated from each other.

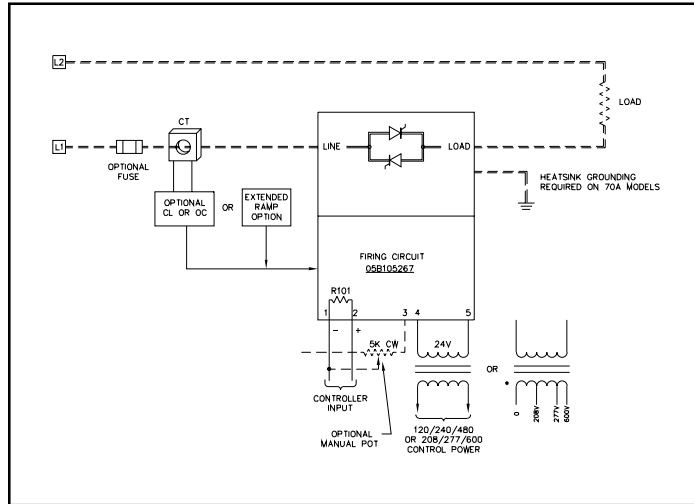
Technical Specifications

INPUT LINE VOLTAGE:	80-480 volt (600 VAC optional), 50/60 Hz.
CURRENT RATING:	15, 25, 40, 70 amperes resistive.
CONTROL METHODS:	4-20 mA process control (500 ohm), 0-10 VDC process control or optional manual control.
VOLTAGE SOURCE:*	The units require 24 VAC @ 3 VA.
CONTROL SIGNAL ISOLATION:	2500 VAC.
TRANSIENT VOLTAGE PROTECTION:	Metal Oxide Varistor (MOV) across semiconductors (all units but the 50 Series).
CONTROLS:	BIAS and GAIN potentiometers (1 turn).
STATUS INDICATOR:	Brilliance changes based on increasing control signal.
AMBIENT TEMPERATURE RANGE:	Operation — max. 122°F (50°C), Storage — 14°F to 158°F (-10°C to 70°C).
WARRANTY:	2 years.

**All models require a UL Listed/CSA Certified Class 2 voltage source for control power.*

SSR P SERIES DIMENSIONS (INCHES AND POUNDS)

Unit	Amps	Height	Width	Depth	Weight
50 P	15-25	4.13	2.13	3.25	0.6
50 P	40	4.13	2.13	4.69	0.8
100 P	15-40	6.00	4.75	3.35	1.1
100 P	70	9.00	9.25	7.50	6.0



Typical Input/Output Connections for the 1Ø SSR P

ORDERING INFORMATION

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— P —
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 Configuration
 Rating
600 VAC Option
Fuse Kits
Options
Soft Start Options

CONFIGURATION		600 VAC OPTION		OPTIONS	
5	1Ø DIN Rail Mounted	-600V	600 VAC Line Voltage	<i>Choose only one:</i>	
1	1Ø Panel Mounted			- CL	Current Limit
				-OC	Over-Current Trip
RATING		FUSE KIT		SOFT START OPTIONS	
15	15 amps	-FK2	1 st Fuse Kit	<i>Choose only one:</i>	
25	25 amps			-ER1	1 second ramp
40	40 amps			-ER2	2 second ramp
70*	70 amps			-ER3	3 second ramp
	<i>* configuration 1 only</i>			-ER4	4 second ramp

All Z-V Models Require 24 VAC Control Voltage

24 VAC TRANSFORMERS	
H022805	120/240 VAC Primary
H022804	240/480 VAC Primary
H028689	208/277/600 VAC Primary

The equation and tables above will assist you in ordering from the SSR P series.

For example, for a single-phase, panel-mounted power controller that was 480 volts, 25 amps, with current limit and a fuse kit, the order number is:

1—25—P—CL—FK2