

Solaira SHP High Power Control



Description: Phase-Angle HIGH POWER Controls
Product Range: 110-240 VAC, Single-Phase, 30, 80, 150 and 350 amps for up to 84,000W systems
Application: Variable Resistance, High Inrush Loads for Infrared Heating Systems

Certifications: cULus approved (ANSI/UL 508, ANSI/UL60947-1, ANSI/UL 60947-4-1A, CSA-C22.2 #14)



TYPICAL APPLICATIONS

- * Infrared Heating Control
- * Infrared Paint Drying
- * Infrared Ink Drying
- * Heat Sealing
- * Silent Arcless Switching
- * Replace Variable Transformers
- * Open-Chassis or Enclosed
- * Packaging

FEATURES

- * All Solid State Construction
- * Exclusive "2 Millisecond" Fuses for Short-Circuit Protection
- * Exclusive "V_{bo} Clamping" Transient Voltage Protection
- * Exclusive Full Rated Operation In 50°C (122° F) without fans
- * Universal architecture for 110 - 120V / 208 - 240V application
- * 1/2 Second Soft-Start

SOLAIRA SHP CONTROLS are sold without VENTED enclosures. UL approved VENTED enclosures are sold separately or sourced locally. It is imperative that the enclosure be vented to allow for adequate air flow through the controller, inadequate airflow could cause the control fuses to not perform to their engineered specification.

SOLAIRA SHP HIGH POWER CONTROLS utilize phase-angle firing to provide variable control of single-phase A.C. voltages to variable resistance loads for quartz/tungsten emitter and tube systems. These units are solid state and when operated within their stated ratings for current, voltage, and temperature, have no known MTBF or life expectancy rating.

SOLAIRA SHP HIGH POWER CONTROL can be equipped with low voltage input card for integration with BMS controls. Optically isolated input, open or closed loop apps with 1-5ma, 2 – 10 ma, 4 – 20 ma, 12 – 20 ma, 10 – 50 ma options

APPLICATION FLEXIBILITY

Standard configuration of all SHP controls is manual control via a 270° turn potentiometer (included). A 1/2 second soft-start feature minimizes the current inrush to variable-resistance loads when first energized. Standard option allow for automatic open or closed loop control in response to analog control signal from a temperature controller, PLC I/O module or other external source. Other options allow controls to be configured for the specific requirements of each application including occupancy sensing, timer control and integration with automated system controls.

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Power Circuit: inverse-parallel semiconductors selected for V_{bo} Clamping transient protection, with parallel R-C circuit for dv/dt protection. Current-clamping 2 millisecond power fuses in series with the power semiconductors provide short-circuit protection.

Mains Frequency/Output Voltage: 50/60 Hz standard, 4% to nominal input voltage, infinitely variable

Overall Efficiency/Power Loss: 98.5 to 99.5%, approximately 1-2 watts/ampere/switched pole

Voltage Drop Across Power Circuit at 100% Output: 1-2 volts maximum per switched pole.

Proof Voltage: (isolation between power circuit, control circuit and ground) greater than 2 kV.

Control input: manual control via 75K Ohm potentiometer with Integral On/Off switch and calibrated dial plate standard.

Control Power: 5 watts minimum, derived from 12 VA isolation control transformer on all units.

SOLAIRA SHP HIGH POWER CONTROLS are supplied WITHOUT enclosures. Most electrical supply companies offer competitively priced options to enclose Solaira SHP controller. Should a contractor or wholesaler require enclosures, please contact Solaira directly for cost and availability.

SIZING CONSIDERATIONS

SOLAIRA SHP HIGH POWER CONTROLS Model are designed for use on variable resistance loads such as quartz/tungsten emitters and tubes. **Size units by actual load amps and not kW.**

1. Always use maximum possible load current for sizing purposes.
2. SHP Controls can operate at either 110-120V or 230-240V with electrician installation based on operating voltage.
3. The amp rating on all Solaira SHP power controls is stated on the nameplate. Steady-state current draw must not exceed that rating.
4. Rated voltage of the connected load should match the input voltage to the power control.

WHEN ORDERING, SPECIFY: MODEL NUMBER INPUT VOLTAGE (IN VOLTS) and LOAD SPECIFICATION (IN kW)

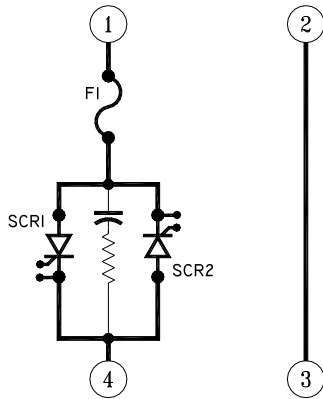
**SOLAIRA SHP HIGH POWER CONTROL (Enclosure not included)
Single-Phase, 110-120 VAC (0 – 118 VAC Output) or 208/220/240 VAC (0 – 206/218/238 VAC Output), 50/60 Hz**

Model Number	Max. Amp	KVA@ Max.		Fuse Number	Open Chassis Dimensions (Inches/Millimeters)			Enclosed Dimensions (Inches/Millimeters)			
		120v/240v	Rated Volts		Height	Width	Depth	Enclosure***	Height	Width	Depth
18D-2-30-SOL	30	3.6/7.2		49A50-80	7 (178)	5.5(140)	5.5(140)	SHE30ENC	14(356)	12(305)	8(204)
18D-2-80-SOL	80	9.6/19.2		49A50-150	12 (305)	6 (153)	7 (178)	SHE80ENC	14(356)	12(305)	8(204)
18D-2-150-SOL*	150	18.0/36.0		49A50-250	15 (381)	9.5 (242)	8 (204)	SHE150ENC	20(508)	16(407)	9(229)
18D-2-350-SOL**	350	42.0/84.0		49A50-600							

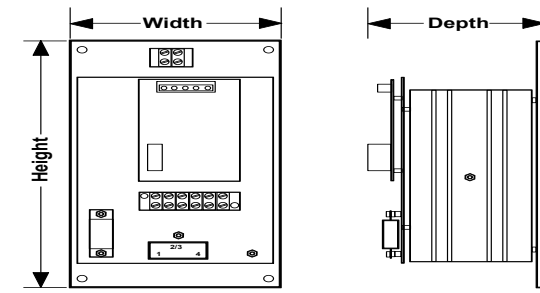
* SPECIAL ORDER ** SPECIAL ORDER, CALL FOR INFORMATION *** Sold Separately

Low Voltage Input Card for BMS Systems, add:

- 21 A for 1 - 5ma, <= 1000 Ω
 - 21 B for 2 - 10ma, <= 1000 Ω
 - 21 C for 4 - 20ma, <= 600 Ω
 - 21 D for 12 - 20ma, <= 600 Ω
 - 21 E for 10 - 50ma, <= 300 Ω
 - 21 D for 12 - 20ma, <= 600 Ω
- example: 18-2-80-SOL-21C..is a Solaira SHP 80A control with BMS input card rated at 4 – 20ma, <= 600 Ω, enclosure not include



POWER CIRCUIT SCHEMATIC



OPEN CHASSIS DIMENSIONS

JOB NAME _____ JOB LOCATION _____
 ARCHITECT _____ ENGINEER _____
 CONTRACTOR _____ SUBMITTED BY _____ DATE _____
 ITEM SPEC _____ add options _____ QTY _____

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