AC/DC Input Solid State Relay — PCS15

c UL us E93379

FEATURES

- 10 A to 40 A Output
- DC Input: 3-32 VDC, or AC Input: 24, 110 or 220 VAC
- Panel Mount
- Built in Snubber
- 4,000 VAC Opto-Isolation Between Input and Output
- Encapsulated, Thermally Conductive Epoxy
- RoHS Compliant

INPUT PARAMETERS (Ta = 35°C)

Control Voltage Range (DC Input)	3 - 32 VDC (Without LED)
	4 - 32 VDC (With LED)
Control Voltage Range (AC Input)	85 - 132 VAC (110 VAC Input)
	175 - 264 VAC (220 VAC Input)
	19.2 VAC (24 VAC Input)
Must Turn-On Voltage (DC Input)	3 VDC (Without LED)
	4 VDC (With LED)
Must Turn-On Voltage (AC Input)	85 VAC (110 VAV Input)
	175 VAC (220 VAC Input)
	19.2 VAC (24 VAC Input)
Must Turn-Off Voltage (DC Input)	1 VDC
Must Turn-Off Voltage (AC Input)	10 VAC (110 V, 220 V Input)
	2 VAC (24 V Input)
Max. Input Current	25 mA (DC)
	15 mA (AC)
Max Reverse Protection Voltage (DC Input)	- 32 VDC

OUTPUT PARAMETERS (Ta = 35°C)

Load Voltage Range	240 A		48 - 280 VAC		
	380 A		48 - 440 VAC		
Max. Transient Voltage	240 A		600 Vpk		
	380 A		800 Vpk		
Load Current	10	15	20	25	40
Load Current Range	0.1 - 10	0.1 - 15	0.1 - 20	0.1 - 25	0.1 - 40
Max. I^2t (10 ms, A^2s)	78	144	312	312	880
Max. Surge Current (10 ms)	100 Apk	150 Apk	200 Apk	250 Apk	400 Apk
Max. Off-State Leakage Current	10 mA				
Max. On-State Voltage Drop	1.5 VRMS				
Max. Turn-On Time (DC Input)	Zero –Cross: 1/2 Cycles + 1 ms; Random: 1 ms				
Max. Turn-On Time (AC Input)	30 ms				
Max. Turn-Off Time	AC Input: 40 ms				
	DC Input: 1/2 Cycles + 1 ms				
Min. Off-State dv/dt	200 V/us				
Min. Power Factor	0.5				

CHARACTERISTICS

Dielectric Strength	2,500 VAC, 50 Hz/60 Hz, 1 min, Input, Output to Base
	4,000 VAC, 50 Hz/60 Hz, 1 min, Input to Output
Insulation Resistance	1,000 MΩ at 500 VDC

Operating Temperature	- 30°C to 80°C
Storage Temperature	- 30°C to 100°C
Weight	70 g

ORDERING INFORMATION

Example: PCS15 -D -24A -10 Z L

Model: PCS15

Control Voltage: D: 3-32 VDC (Without LED), 4-32 VDC (With LED); 24A: 24 VAC; 110A: 110 VAC; 220A: 220 VAC

Load Voltage: 240A: 48-280 VAC; 380A: 48-440 VAC

Load Current: 10: 10 A; 15: 15 A; 20: 20 A; 25: 25 A; 40: 40 A

Switching Type: Z: Zero Crossing; R: Random Turn-On

Status LED: Nil: Not Included; L: Indicaor LED

Terminal Type: Nil: Screw Terminal; Q: Quick Connect (1/4" Control, 3/8" Power)

Box Quantity: 100; Inner Box: 2

For Accessories and Heat Sink see page 3

3220 Commander Drive, Suite 102 Carrollton, TX 75006
Sales: (972) 713-6272 (888) 997-3933 Fax: (972)735-0964
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Dimensions are listed for reference purposes only.

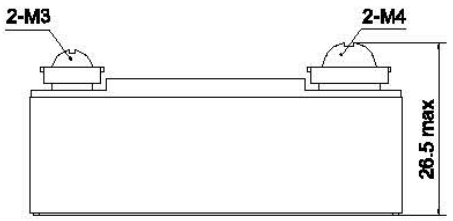
Specifications and Availability subject to change without notice.

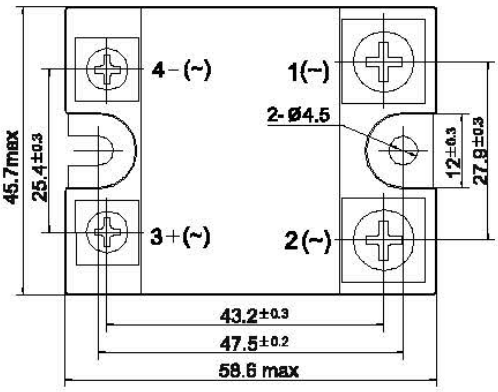
PRECAUTIONS

1) When choosing a Solid State Relay (SSR), note the actual load current and ambient temperature and reference the Characteristic Curves below.
2) SSRs require a adequate heat sinking or other effective cooling measures.
3) With ambient temperature above 25°C refer to the curve of Max. Load Current vs Ambient Temperature for load current derating.
4) Apply heat-conducting silicon grease or a thermal transfer pad on the space between SSR and heat sink and screw the SCR firmly in to the heat sink to avoid damage from overheating.
5) Tighten the SSR terminal screws properly. We recommended screw installation torque as follows :
   M4 screw mounting torque range is (0.98-1.37)N • m,
   M3 screw mounting torque range is (0.56-0.98)N • m.
   Lose screws will damage the SSR with heat generated from connections. Also, excessive screw torque may damage relays internal components.
6) It is recommended to use a heat sink matched to the Current Load. With any heat sink test that the SSR base temperature does not exceed 65"C.
7) When using the PCS15 relay with an inductive load, it is suggested to select random tum-on (i.e., a model with "R" letter).
8) The PCS15 is not suitable for capacitive loads; if you must then do not choose products with varistor protection (i.e., a model with "Y" letter).
9) Listed parameters are based on resistive loads. Do not use the relay beyond the described current, temperature, load or voltage limits as described in this data sheet.

DIMENSIONS (mm)

SCREW TERMINAL

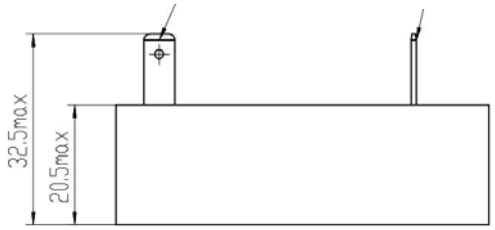


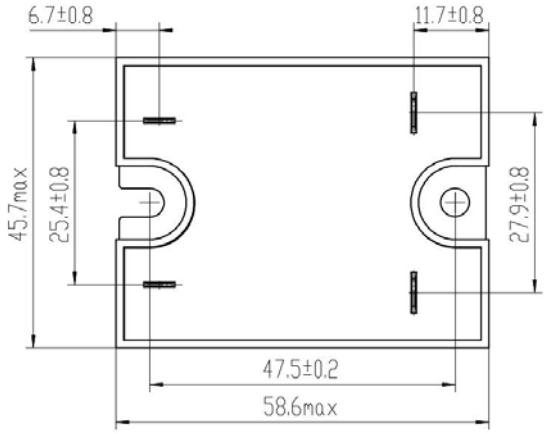


QUICK CONNECT

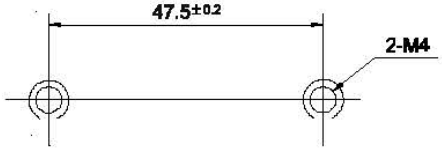
2 - 4.75 mm x 0.8 mm Faston Terminal

2 - 6.35 mm x 0.8 mm Faston Terminal

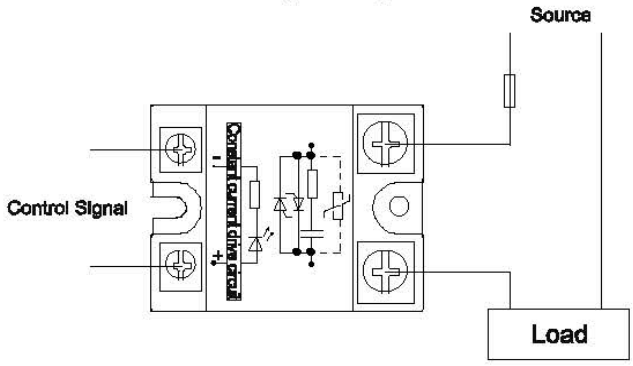




Mounting Holes



Wiring Diagram



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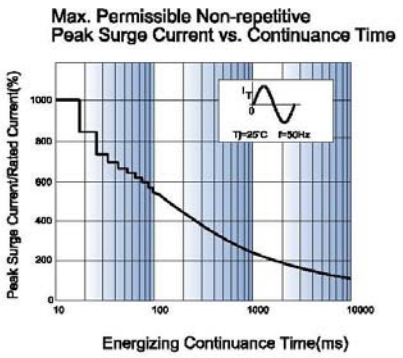
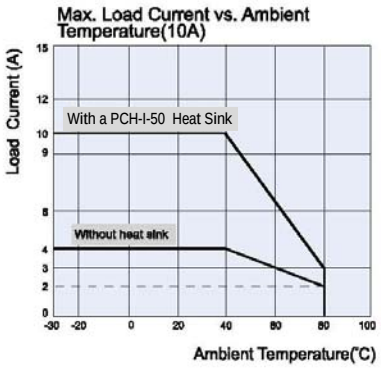
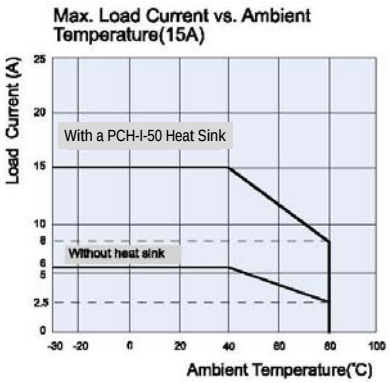
ACCESSORIES

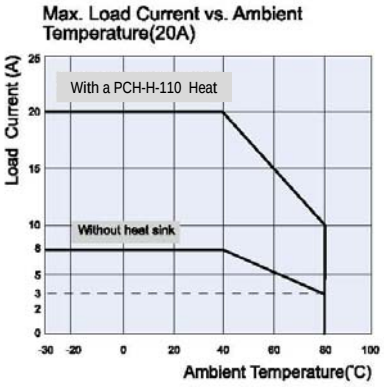
Heat Transfer Pad	- HTP SSR 33x57 or HTP SRR 46x62
Finger Guard / Protective Cover	- SSR100
Heat Sinks	-PCH-I-50 for the 30 VDC/50 Amp and 200 VDC/10 Amp Applications
	-PCH-H-110 for the 400 VDC/10 Amp, 150 VDC/50 Amp, 100 VDC/20 Amp, 50 VDC/40 Amp and 30 VDC/100 Amp Application
	-PCH-H-150 for the 50 VDC/80 Amp, 100 VDC/40 Amp, 200 VDC/40 Amp Application

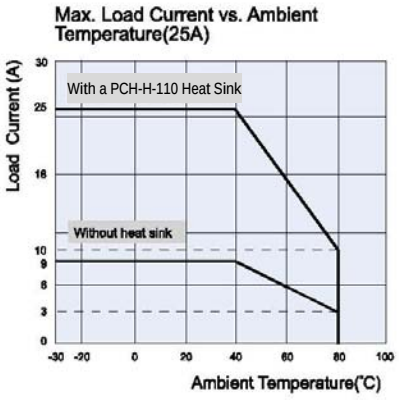
CHARACTERISTIC CURVES

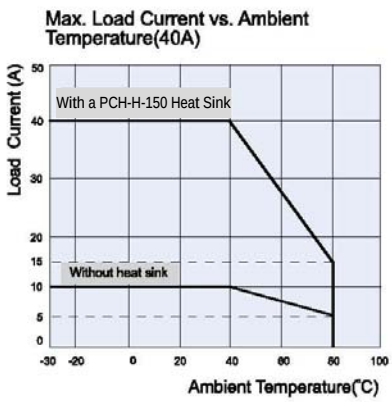












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