

## Dual Solid State Relay

PCS28



### FEATURES

- Two Independently Controlled Relays
- SCR Output
- Screw Terminal Available
- Built In Snubber
- Optical Isolation between Input & Output

E93379



### INPUT PARAMETERS (Ta = 30°C)

Control Voltage Range	12	4 ~ 15 VDC*
	24	15 ~ 32 VDC*
Must Turn-On Voltage	12	4 VDC
	24	15 VDC
Control Current	12	8 ~ 50 mA
	24	6 ~ 30 mA
Must Turn-Off Voltage		1 VDC

\* with the SS1 package option, 12D input control range is 9.6~14.4 VDC; 24D input control range is 19.2~28.8 VDC

### OUTPUT CURRENT PARAMETERS (Ta = 30°C)

Load Current (100mA min)**	25A	40A
Max Surge Current (10 ms, A <sub>pk</sub> )	300	400
Max I <sup>2</sup> t (10 ms, A <sup>2</sup> s)	450	800
Thermal Resistance Junction to Case (R <sub>jc</sub> , °C/W)	1.15	0.25

\*\*Minimum current loading over range required to fully turn on device. Standard UL endurance ratings are 6,000 cycles.

### OUTPUT VOLTAGE PARAMETERS

Load Voltage	240A	380A
Load Voltage Range (VAC)	48~280	48~440
Max Transient Voltage (V <sub>pk</sub> )	600	800
Max Turn-On Time	1 ms	
Random	1/2 cycle + 1 ms	
Zero Crossing		
Max Off-State Leakage Current	10 mA	
Max On-State Voltage Drop	1.5 Vrms	
Min Power Factor	0.5	
Max Turn-Off Time	1/2 cycle + 1 ms	
Frequency Range	47 Hz to 63 Hz	
Min Off-State (dv/dt)	500 V/us	

### CHARACTERISTICS

Dielectric Strength	2500 VAC, 50Hz/60Hz, 1 min Input, Output to Output 4000 VAC, 50Hz/60Hz, 1 min Input to Output
Insulation Resistance	1000MΩ at 500 VDC
Operating Temperature	-30°C to 80°C
Storage Temperature	-30°C to 100°C
Relative Humidity	45% ~ 85%
Weight, approx.	~83g

### LOAD VOLTAGE / LOAD CURRENT AVAILABILITY

		Load Voltage	
		240	380
Load Current	25		X
	40		X

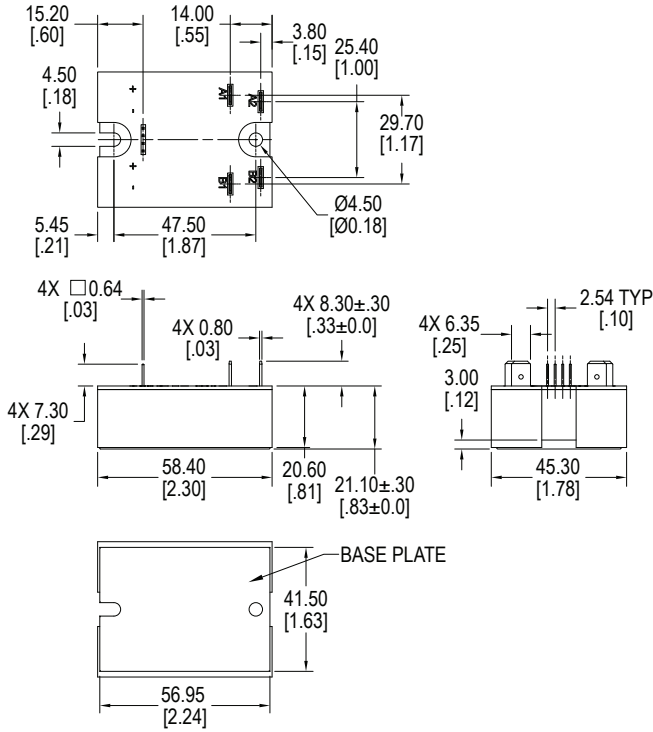
Standard Options denoted by "X"

Example	PCS28	-12D	-240A	-25	Z	-1SS
Model:	PCS28					
Control Voltage:	12D = 4~15 VDC 24D = 15~32VDC					
Load Voltage:	240A = 48~280VAC 380A = 48~440VAC					
Load Current:	25 = 25A 40 = 40A					
Switching Type:	Z = Zero Crossing R = Random Turn-On / Instantaneous Turn-On					
Package:	Nil = Quick Connect Output Pins, 4 Position Header Input Pins 1SS* = Single Input Control for Dual Output, Screw Terminal Input/Output, with LED Indicator DQ = Quick Connect, all 8 Terminals					

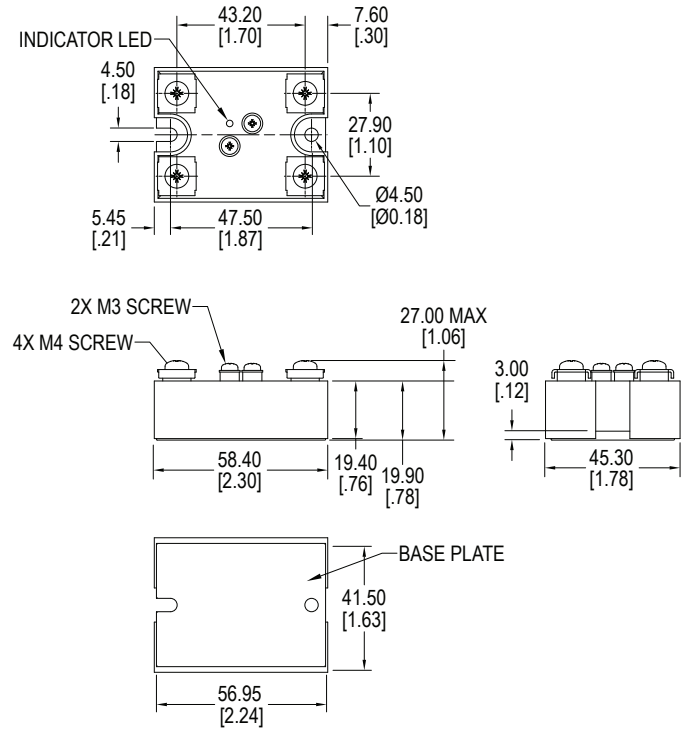
## PRECAUTIONS

- When choosing a Solid State Relay (SSR), note the actual load current and ambient temperature and reference the Characteristic Curves.
- SSRs require an adequate heat sinking or other effective cooling measure.
- With ambient temperature above 25°C, refer to the curve of Max Load Current vs. Ambient Temperature for load current derating.
- Apply heat-conducting silicon grease or a thermal transfer pad on the space between the SSR and heat sink and screw the SSR firmly to the heat sink to avoid damage from overheating.
- Tighten the SSR terminal screws properly. We recommend 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
 Loose screws will damage the SSR with heat generated from connections. Also, excessive screw torque may damage the relay's internal components.
- 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.
- When using the PCS28 relay with an inductive load, it is suggested to select Random Turn-On. (i.e. a model with "R" Switching Type)
- The PCS28 is not suitable for capacitive loads; if you must, then do not choose products with varistor protection. (i.e. a model with the "Y" Over Voltage Protection)
- 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 datasheet.

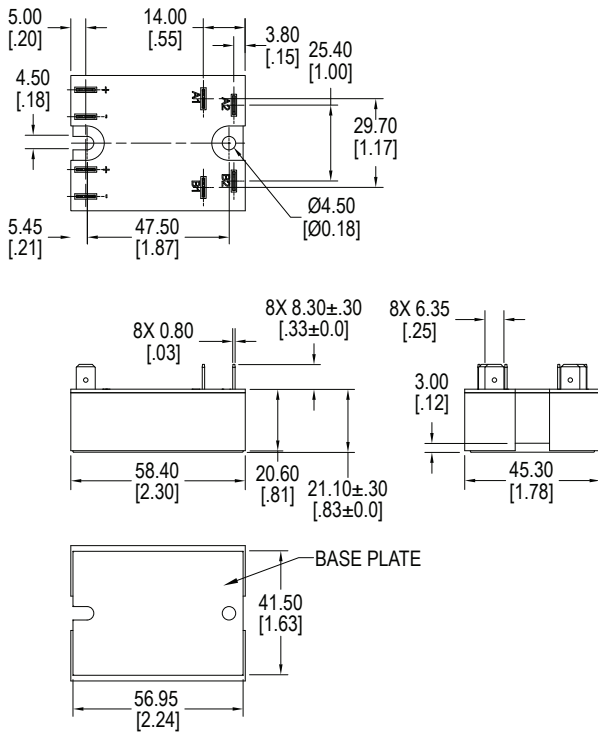
## DIMENSIONS



Standard Package, Quick Connect Output Pins, 4 Position Header Input Pins

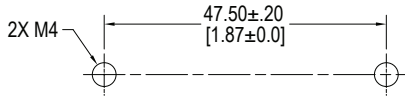


1SS, Input Control for Dual Output, Screw Terminal Input/Output, with LED Indicator

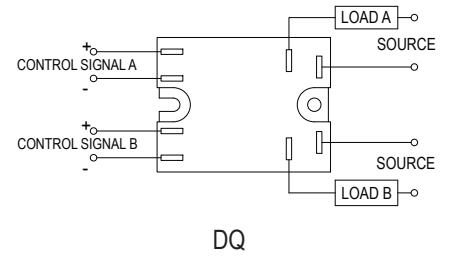
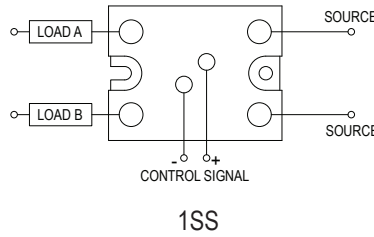
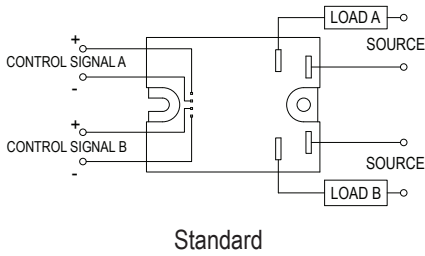


DQ Package, Quick Connect all 8 Pins

## Mounting Layouts

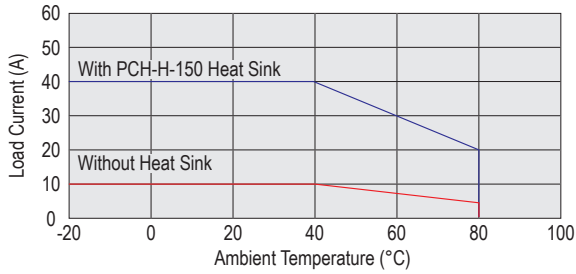


## Wiring Diagrams

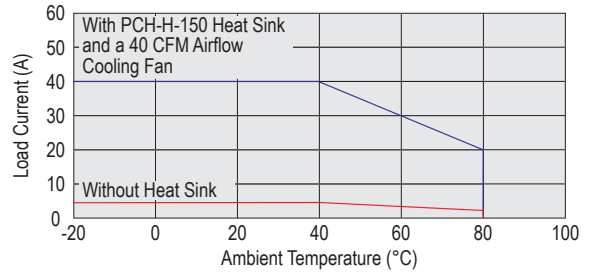


## CHARACTERISTIC CURVES

Max Load Current vs. Ambient Temperature (40A, one output conducting)



Max Load Current vs. Ambient Temperature (40A, both outputs conducting)

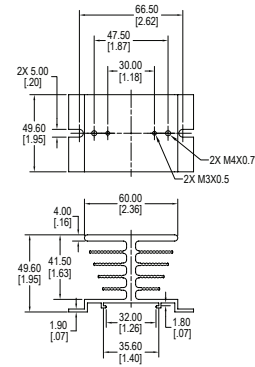


## ACCESSORIES — Sold Separately

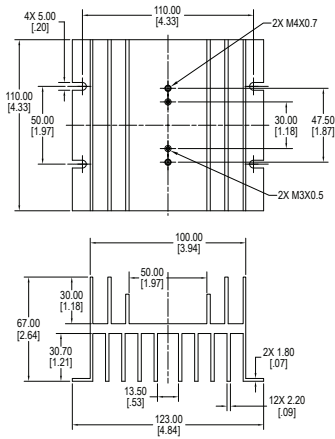
Heat Transfer Pad	HTP100
Heat Sinks	PCH-I-50 for application up to 20 Amps @ 25°C PCH-M-120 for application up to 35 Amps @ 25°C



HTP100 — Heat Transfer Pad



PCH-I-50 Heat Sink



PCH-M-120 Heat Sink