

Dual Solid State Relay

PCS28



FEATURES

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

E93379 cULus



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 _{pk})	300	400
Max I ² t (10 ms, A ² s)	450	800
Thermal Resistance Junction to Case (R _{jc} , °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 _{pk})	600	800
Max Turn-On Time	1 ms	
Random Zero Crossing	1/2 cycle + 1 ms	
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

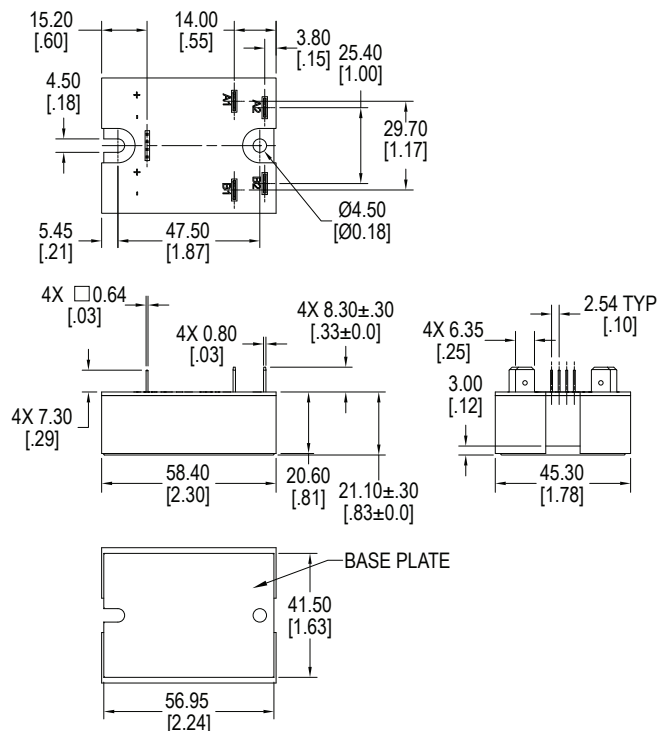
Standard Options denoted by "X", contact factory for other combinations

Example	PCS28	-12D	-240A	-25	Z	-1SS
Model:	PCS28					
Control Voltage:	12D = 4~15 VDC 24D = 15~32VDC					
Load Voltage: <i>Note Load Voltage / Load Current Availability Chart</i>	240A = 48~280VAC 380A = 48~440VAC					
Load Current: <i>Note Load Voltage / Load Current Availability Chart</i>	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					

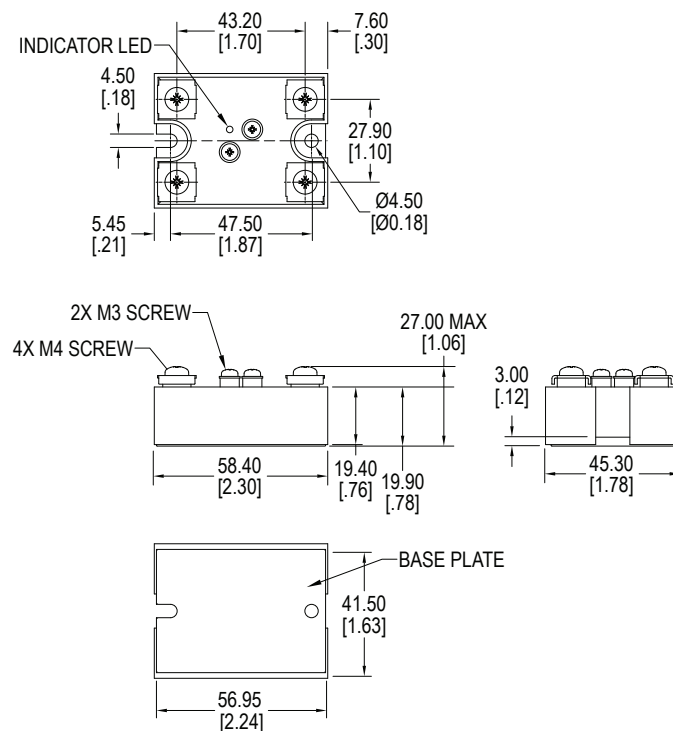
PRECAUTIONS

- 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.

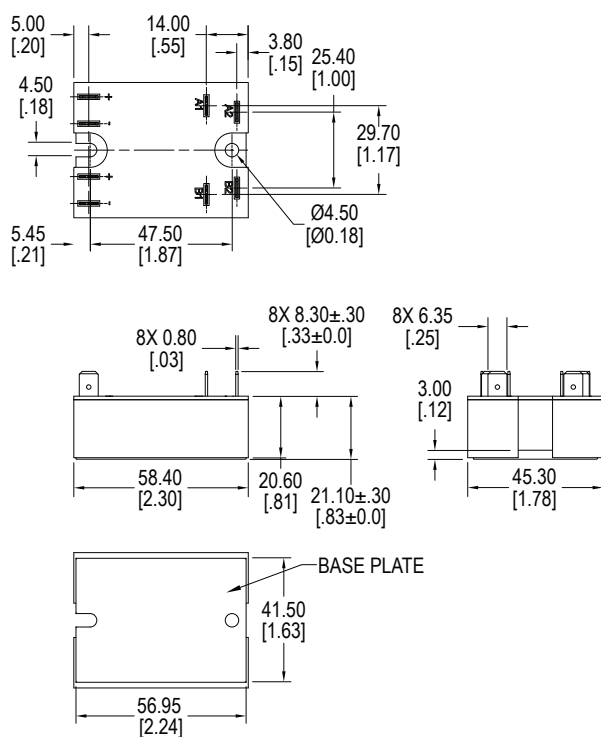
DIMENSIONS



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

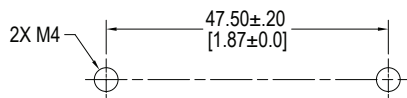


1SS, Input Control for Dual Output, Screw Terminal Input/Output, with LED Indicator

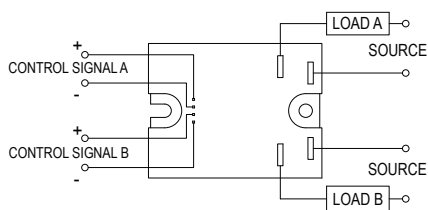


DQ Package, Quick Connect all 8 Pins

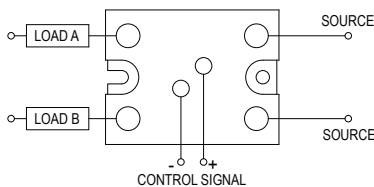
Mounting Layouts



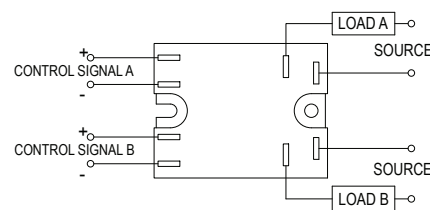
Wiring Diagrams



Standard



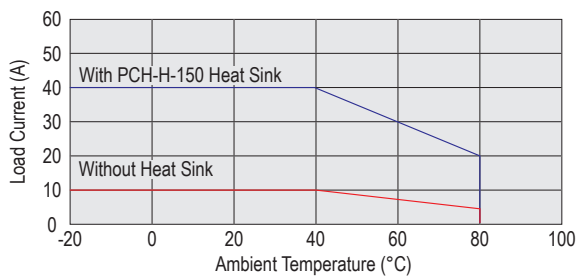
1SS



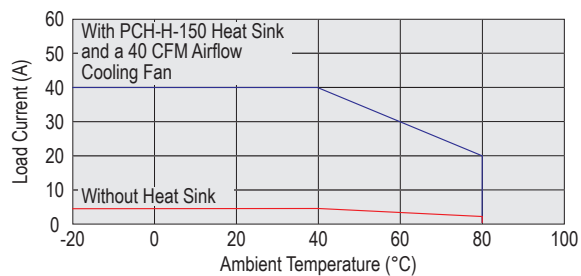
DQ

CHARACTERISTIC CURVES

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



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

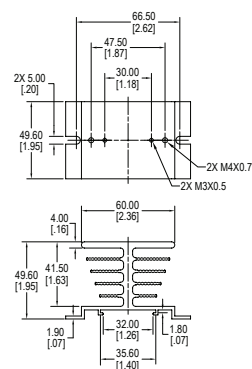


ACCESSORIES — Sold Separately

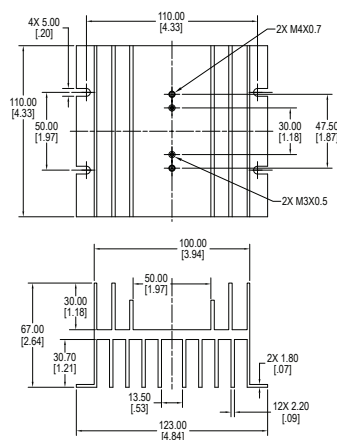
Heat Transfer Pad	HTP100
Heat Sinks	PCH-I-50 for application up to 20 Amps @ 25°C PCH-M-120 for application up to 35 Amps @ 25°C



HTP100 — Heat Transfer Pad



PCH-I-50 Heat Sink



PCH-M-120 Heat Sink