DC Input Solid State Relay — PCS34 DC Input

FEATURES

- High Power Solid State Relay
- SCR Output
- Dielectric Strength of 4,000 VAC
- Panel Mount
- DC Input Control
- Optical Isolation Between Input and Output
- RoHS Compliant

INPUT PARAMETERS (Ta = 30°C)

c UL us E93379

Control Voltage Range	3 - 32 VDC Without LED
	4 - 32 VDC With LED
Must Turn-On Voltage	3 VDC Without LED
	4 VDC With LED
Must Turn-Off Voltage	1 VDC
Max. Input Current	25 mA
Max. Reverse Protection Voltage	-32 VDC

UL Life Testing — Model PCS34-Dxxx-60-xxx

Control Voltage	3 - 32 VDC Without LED 4 - 32 With LED	HP for 6,000 Cycles 3 HP (17 FLA) Single Phase

UL Life Testing — Model PCS34-D240A-50-xxx

Load Type	Load Voltage	Output Current
Resistive 100k Cycles	240 VAC 50/60 Hz	11.8 Amps at 65°C
Resistive 100k Cycles	280 VAC 50/60 Hz	50 Amps at 25°C

OUTPUT PARAMETERS (Ta = 30°C)

Load Current Range**	0.2 - 10 A*	0.2 - 20 A*	0.2 - 25 A*	0.2 - 40 A	0.2 - 50 A	0.2 - 60 A	0.2 - 70 A	0.2 - 80 A	0.2 - 100 A
Max. Surge Current (10 ms) (A_{pk})	100	200	250	400	500	600	700	800	1,000
Max. I^2t (10 ms, A^2s)	200	400	500	800	1,250	1,800	2,450	3,200	3,200

** Minimum current loading over range required to fully turn-on device

OUTPUT PARAMETERS Continued

	240 A	380 A	480 A	600 A
Load Voltage Range (VAC)	48 - 280	48 - 440	48 - 530	48 - 660
Max. Transient Voltage (V_{pk})	600	800	1,200	1,400
Max. Off-State Leakage Current	10 mA			
Max. On-State Voltage Drop	1.7 V_{RMS}			
Min. Power Factor	0.5			
Max. Turn-On Time	Random	1 ms		
	Zero Crossing	1/2 Cycle + 1ms		
Max. Turn-Off Time	1/2 Cycle + 1ms			
Frequency Range	47 Hz to 63 Hz			
Min. Off-State dv/dt	500 V/us			

CROSS REFERENCES

Carlo Gavazzi: RM
Example: RM1A40D25 Crosses to PCS34-D-380A-25ZYL
Crouzet: GN
Example 84134010 Crosses to PCS34-D-240A-25ZYL
Crydom: CSW, CW24, H1, Series 1
Example: CSW2450 Crosses to PCS34-D-240A-50Z
Example: CWD2450-10 Crosses to PCS34-D-240A-50RL
Example: H12WD4850PG-10 Crosses to OCS34-D-600A-50RYL
Example: D2425G Crosses to PCS34-D-240A-25ZL

ORDERING INFORMATION

Example: PCS34 -D -240A -25 Z L

Model:	**PCS34** (DC Input, AC Output)
Control Voltage:	**D**: 3 - 32 VDC Without LED, 4 - 32 VDC With LED
Load Voltage:	**240A**: 48 - 280 VAC; **380A**: 48 - 440 VAC; **480A**: 48 - 530 VAC; **600A****: 48 - 660 VAC
Load Current:	**10**: 10 A*; **20**: 20 A*; **25**: 25 A*; **40**: 40 A; **50**: 50 A; **60**: 60 A; **70**: 70 A; **80**: 80 A;**100**: 100 A
Switching Type:	**Z**: Zero Crossing; **R:** Random Turn-On
Over Voltage Protection:	**Nil**: None; **Y**: With Varistor
Status LED:	**Nil**: Not Included; **L**: Indicator LED
Terminal Type:	**Nil**: Screw Terminal; **Q**: Quick Connect (1/4" Control, 3/8" Power)

*Note: Available in 240 A and 380 A Load Voltages

**Note: Zero Crossing Only

For Accessories and Heat Sinks see page 3

Box Quantity: 100; Inner Box 2

3220 Commander Drive, Suite 102 Carrollton, TX 75006 www.PickerComponents.com
Sales: (972) 713-6272 (888) 997-3933 Fax: (972)735-0964 e-mail: sales@pickercomponents.com

CHARACTERISTICS

Dielectric Strength	2,500 VAC, 1 min. Input, Output to Base
	4,000 VAC, 1 min. Input to Output
Insulation Resistance	1000 MΩ at 500 VDC
Max. Capacitance	8pF (Input to Output)

Operating Temperture	- 30°C to 80°C
Storage Temperature	- 30°C to 100°C
Relative Humidity	45% - 85%
Weight	88 g

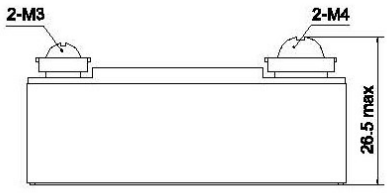
PRECAUTIONS

1) When choosing a SSR, note the actual load current and ambient temperature and reference the Characteristic Curves below.
2) SSR requires 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 onto, or a thermal transfer pad into, the space between SSR and heat sink and screw the SSR firmly 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.
   Loose screws will damage the SSR with heat generated from connections. Also, excessive screw torque may damage the relay's internal components.
6) It's 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 PCS34 relay with an inductive load, it is suggested to select random turn-on (i.e., a model with "R" letter).
8) The PCS34 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.

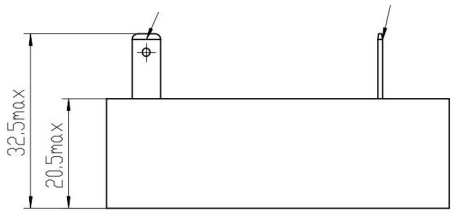
DIMENSIONS (mm)

2 - 4.75 mm x 0.8 mm Faston Terminal

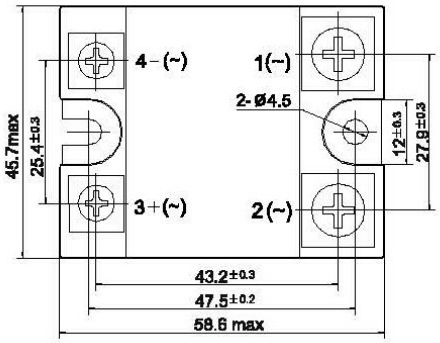
2 - 6.35 mm x 0.8 mm Faston Terminal



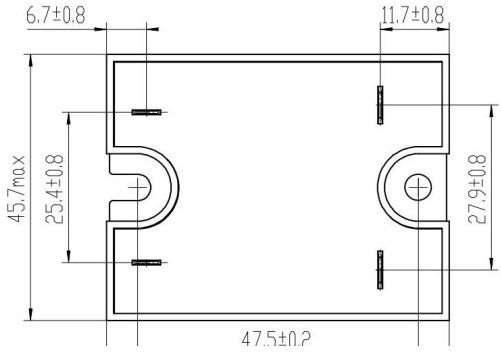
Screw Terminals



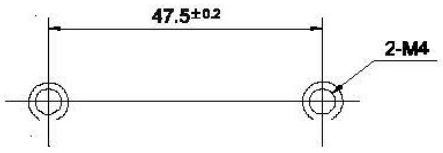
Quick Connects

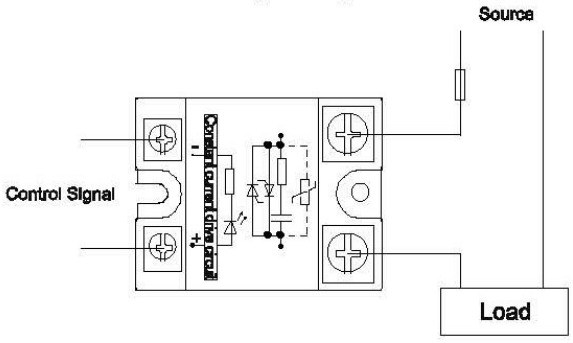


Mounting Holes



Wiring Diagram





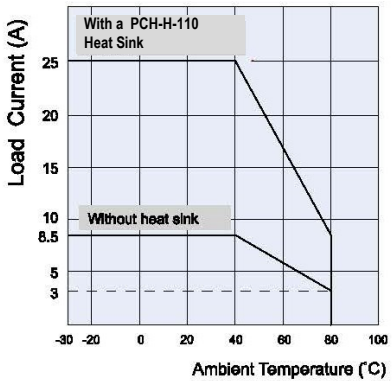
ACCESSORIES

Heat Transfer Pad	HTP100	https://www.pickercomponents.com/pdf/Relays/HTP.pdf
Protective Cover	SSR100	https://www.pickercomponents.com/pdf/Relays//SPC.pdf
Heat Sinks https://www.pickercomponents.com/pdf/Relays/PCH.pdf	PCH-I-50 for application up to 25 Amps @ 25°C	
	PCH-H-110 for application up to 35 Amps @ 25°C	
	PCH-H-150 for application up to 50 Amps @ 25°C	

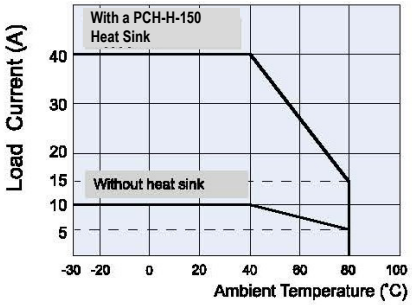
ACCESSORIES SOLD SEPERATELY

CHARACTERISTIC CURVES

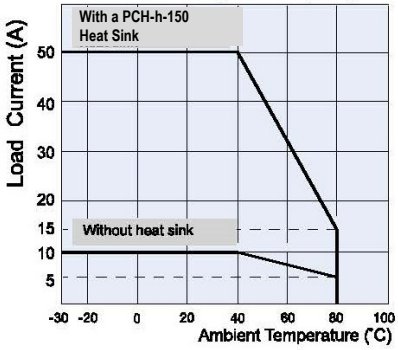
Max. Load Current
vs. Ambient Temperature (25A)



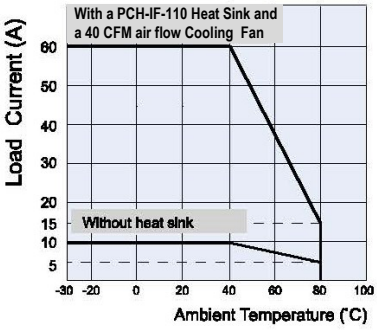
Max. Load Current
vs. Ambient Temperature (40A)



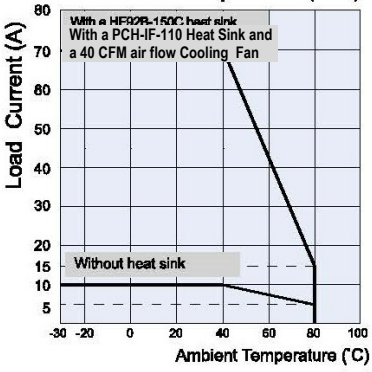
Max. Load Current
vs. Ambient Temperature (50A)



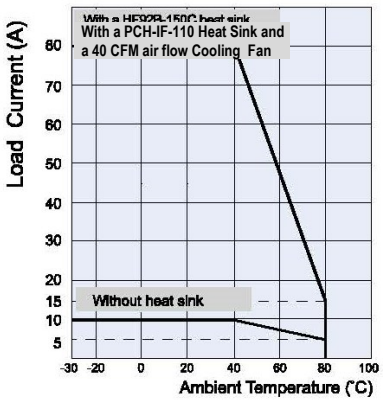
Max. Load Current
vs. Ambient Temperature (60A)



Max. Load Current
vs. Ambient Temperature (70A)



Max. Load Current
vs. Ambient Temperature (80A)



Max. Permissibe Non-repetitive
Peak Surge Current vs. Continuance Time