AC Input Solid State Relay — PCS34 AC Input

FEATURES

- High Power, Load Currents from 25 to 125 Amps
- Back to Back SCR Design Output
- Dielectric Strength of 4,000 VAC
- Zero Crossing
- Panel Mount
- AC Input Control
- Optical Isolation Between Input and Output
- RoHS Compliant

INPUT PARAMETERS (Ta = 30°C)

c UL us E93379

Control Voltage Range	90 VAC to 280 VAC
Must Turn-On Voltage	90 VAC
Must Turn-Off Voltage	10 VAC

CROSS REFERENCES

Crouzet: GN
Example 84134010 Crosses to PCS34-D-240A-25ZYL
Crydom: CSW, CW24, Series 1
Example: CSW2450 Crosses to PCS34-D-240A-50Z
Example: CWD2450-10 Crosses to PCS34-D-240A-50RL
Example: D2425G Crosses to PCS34-D-240A-25ZL
Opto 22: AC Series
Example: 480D45-12 Crosses to PCS34-D_480A-50ZY

UL Life Testing

Model: PCS34-A-240A-40-xxx

Load Type	Load Voltage	Output Current
Resistive 100k Cycles	280 VAC 50/60 HZ	50 Amps at 30°C

OUTPUT PARAMETERS (Ta = 30°C)

Load Current Range**	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	0.2 - 125 A
Max. Surge Current (10 ms) (A_{pk})	300 A	400 A	500 A	600 A	700 A	800 A	1000 A	1,200 A
Max. I^2t (10 ms, A^2s)	312 A	800 A	1,250 A	1,800 A	2,450 A	3,200 A	3,200 A	3,200 A

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

OUTPUT PARAMETERS Continued

	240A	480A
Load Voltage Range	48 - 280 VAC	48 - 530 VAC
Max. Transient Voltage	600 V_{pk}	1,200 V_{pk}
Max. Off-State Leakage	10 mA	
Max. On-State Voltage Drop	1.7 V_{RMS}	
Min. Power Factor	0.5	
Max. Turn-On Time	20 ms	
Max. Turn-Off Time	40 ms	
Frequency Range	47 Hz to 63 Hz	
Min. Off-State dv/dt	500 V/us	

CHARACTERISTICS

Dielectric Strength (50/60 Hz, 1 min)	4,000 VAC Input to Output
	2,500 VAC Input/Output to Base
Insulation Resistance	1,000 MΩ at 500 VDC
Max. Capacitance	8pF (Input to Output)
Operating Temperature	- 30°C to 80°C
Storage Temperature	- 30°C to 100°C
Relative Humidity	45% - 85%
Weight	88g

ORDERING INFORMATION

Example: PCS34 -A -240A -40 Z L

Model:	**PCS34** (AC Input, AC Output)
Control Voltage:	**A:** 90-280VAC **U:** 23-280 VDC, 21-280VAC
Load Voltage:	**240A:** 48-280VAC; **480A**: 48-530VAC
Load Current:	**25**: 25 Amp; **40**: 40 Amp; **50**: 50 Amps; **60**: 60 Amp; **70**: 70 Amp; **80**: 80 Amp; **100**: 100 Amp; **125**(1)**:** 125 Amp
Switching Type:	**Z**: Zero Crossing
Over Voltage Protection:	**Nil**: None; **Y**: With Varistor (MOV)
Status LED:	**Nil**: Not Included; **L**: Indicator 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 Sinks see page 3

(1) 125 Amp Version available only in 23-280 VDC, 21-280VAC Control Voltage

470V/φ10 is a 470 Volt Nominal, 20 mm Diameter MOV

14680 James Road, Rogers, MN 55374 USA
Sales: (763) 535-2339
www.PickerComponents.com
e-mail: sales@pickercomponents.com

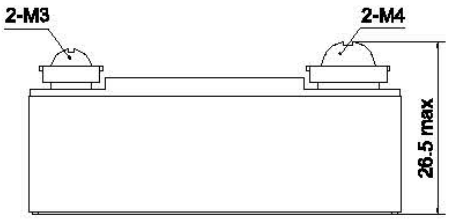
Dimensions are listed for reference purposes only.

Specifications and Availability subject to change without notice.

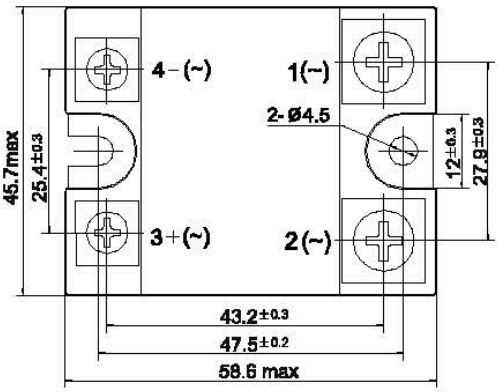
PRECAUTIONS

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.

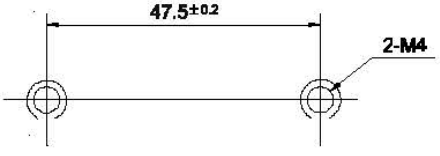
DIMENSIONS (mm)



Screw Terminals

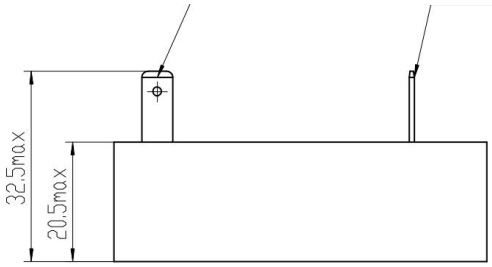


Mounting Holes

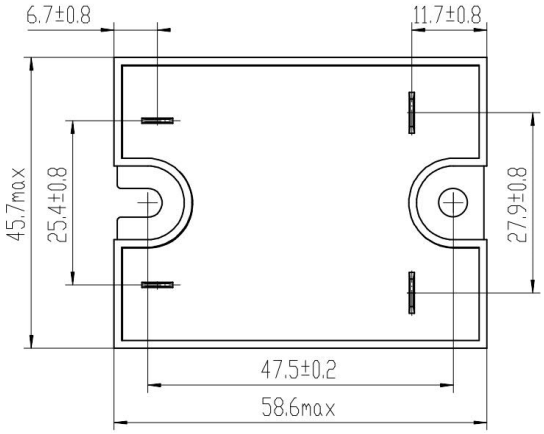


2 - 4.75 mm x 0.8 mm Faston Terminal

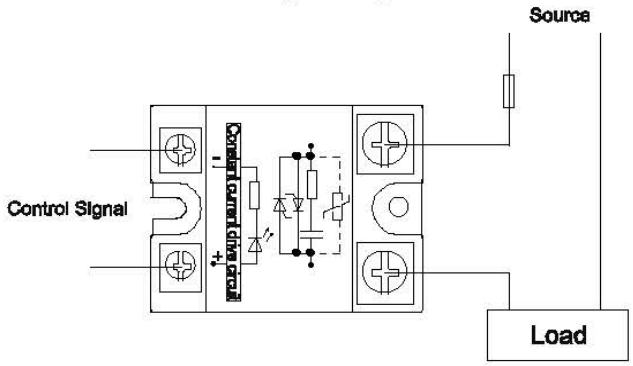
2 - 6.35 mm x 0.8 mm Faston Terminal



Quick Connects



Wiring Diagram



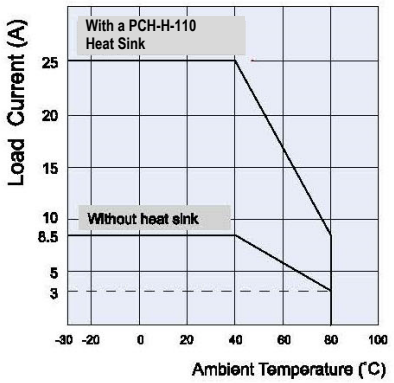
ACCESSORIES

Heat Transfer Pad	HTP100
Protective Cover	SSR100
Heat Sinks	PCH-I-50 for application up to 25 Amps @ 25°C Ambient Temperature
	PCH-H-110 for application up to 35 Amps @ 25°C Ambient Temperature
	PCH-H-150 for application up to 50 Amps @ 25°C Ambient Temperature

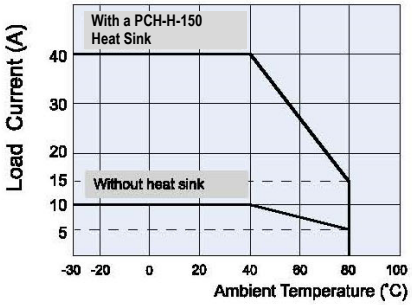
ACCESSORIES SOLD SEPERATELY

CHARACTERISTIC CURVES

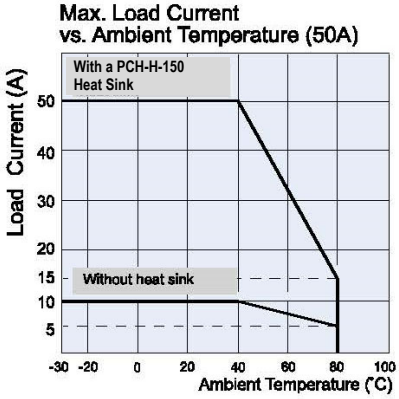
Max. Load Current
vs. Ambient Temperature (25A)



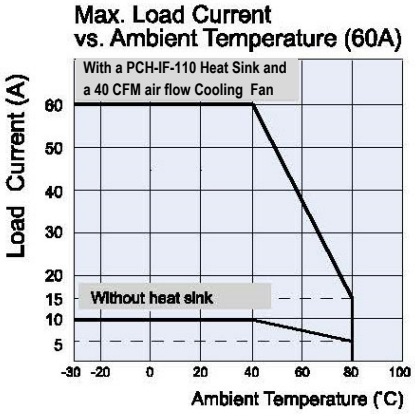
Max. Load Current
vs. Ambient Temperature (40A)



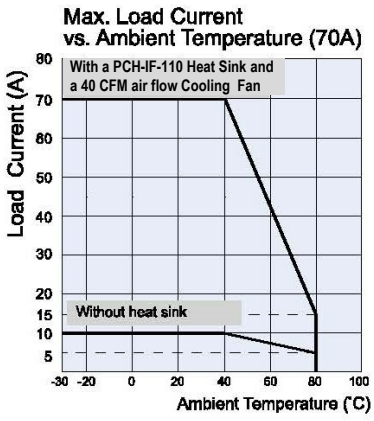
Max. Load Current
vs. Ambient Temperature (50A)



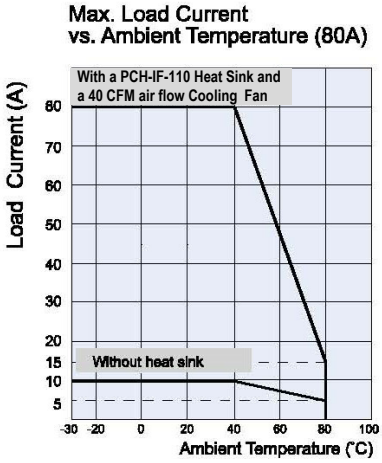
Max. Load Current
vs. Ambient Temperature (60A)



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



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



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