



SSC SERIES

PANEL MOUNT SOLID STATE RELAYS



Features

- Ratings up to 25 A @ 1000 VDC
- IGBT output
- CE Compliant to EN60950-1
- Improved SEMS screw and washer
- Redesigned housing with anti-rotation barriers
- DC control
- Epoxy free design

PRODUCT SELECTION

Control Voltage	25A
8-16 VDC	SSC1000-25-12
20-28 VDC	SSC1000-25-24

SPECIFICATIONS

Output ⁽²⁾

Description	1000 VDC
Reccomended Operating Voltage [VDC]	1-1000
Absolute Maximum Rating [VDC]	1200
Macimum Off-State Leakage Current @ Rated Voltage [mA]	0.3
Maximum Load Current [A _{dc}] ⁽³⁾	25
Minimum Load Current [A _{dc}] ⁽⁴⁾	20
Maximum Surge Current (10 msec) [A _{dc}]	75
Maximum On-State Voltage Drop @ Rated Current VDC	1.55
Thermal Resistance Junction to Case (R _{jc}) [°C/W]	0.45
Minimum Heat Sink for Rated Current @ 40° [°C/W]	1
Maximum Pulse Width Modulation Frequency [Hz] ⁽⁵⁾	500

Input ⁽²⁾

Description	Suffix - 12	Suffix - 24
Nominal Control Voltage	12 VDC	24 VDC
Control Voltage Range	8-16 VDC	20-28 VDC
Maximum Reverse Voltage	-16 VDC	-28 VDC
Minimum Turn-On Voltage	8 VDC	20 VDC
Must Turn-Off Voltage	1 VDC	1 VDC
Minimum Input Current (for on-state)	12.5 mA	12.5 mA
Maximum Input Current	15 mA	15 mA
Nominal Input Impedance [Ohms]	Current Regulated	Current Regulated
Maximum Turn-On Time [µsec]	200	200
Maximum Turn-Off Time [µsec]	150	150

General ⁽²⁾

Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	3750 Vrms
Minimum Insulation Resistance (@500 VDC)	10 ⁹ Ohm
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range ⁽⁶⁾	-40 to 100°C
Ambient Storage Temperature Range	-40 to 125°C
Weight (typical)	2.88 oz. (81.53g)
Housing Material	UL94 V-0
Baseplate Material	Aluminum
Input Terminal Screw Torque Range (in-lb/Nm)	13-15/1.5-1.7
Load Terminal Screw Torque Range (in-lb/Nm)	18-20/2.0-2.2
SSR Mounting Screw Torque Range (in-lb/Nm)	18-20/2.0-2.2
Input/Load Terminal Screw Torque Range (in-lb/Nm) ⁽¹⁾	w"K" option 8-10/0.9-1.13
Input/Output Terminal Screw Thread Size	#6-32 UNC / #8-32 UNC
Humidity per IEC60068-2-78	93% non-condensing
MTBF (Mean Time Between Failures) at 40°C ambient temperature ⁽⁷⁾	21,395,130 hours (2,441 years)
MTBF (Mean Time Between Failures) at 60°C ambient temperature ⁽⁷⁾	11,545,504 hours (1,317 years)

GENERAL NOTES

⁽¹⁾ All parameters at Tc=25°C unless otherwise specified.

⁽²⁾ Heat sinking required, see derating curves.

⁽³⁾ Low current loads and high ambient temperature can affect turn-on time

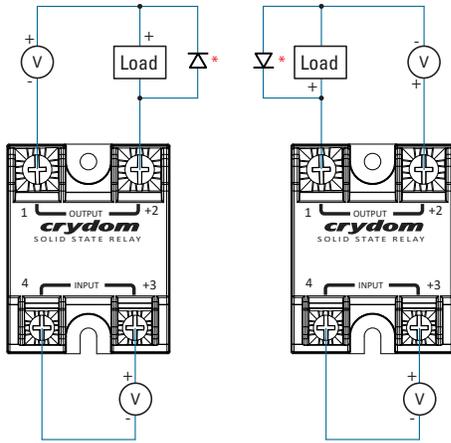
⁽⁴⁾ 8VDC minimum control voltage. Resistive loads only. Consider switching losses; at maximum frequency reduce to 75% output current

⁽⁵⁾ Decrease maximum control voltage 1.35 V/°C above 80°C ambient temperature

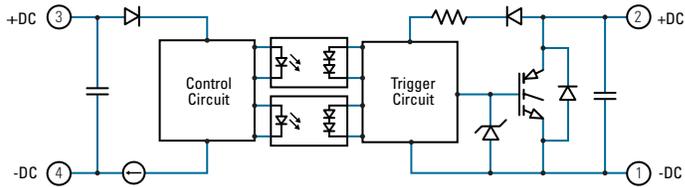
⁽⁶⁾ Option "K" is designed and tested for use with printed circuit boards or ring/fork terminals having a thickness between 0.031 and 0.093 inches (0.79 to 2.36 mm).

⁽⁷⁾ All parameters at 50% power rating and 100% duty cycle (contact Crydom tech support for detailed report).

EQUIVALENT CIRCUIT BLOCK AND WIRING DIAGRAMS



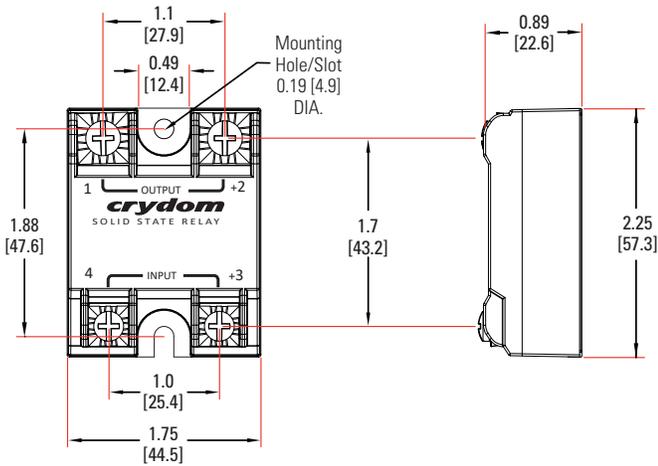
Recommended Wire Sizes		
Terminals	Wire Size (Solid / Stranded)	Wire Pull-Out Strength (lb)[N]
Input	24 AWG (0.2 mm ²) / 0.2 [minimum]	10 [44.5]
	2 x 12 AWG (3.3 mm ²) / 3.3 [maximum]	90 [400]
Output	20 AWG (0.5 mm ²) / 0.518 [minimum]	30 [133]
	2 x 10 AWG (5.3 mm ²) / 5.3	110 [490]
	2 x 8 AWG (8.4 mm ²) / 8.4 [maximum]	90 [400]



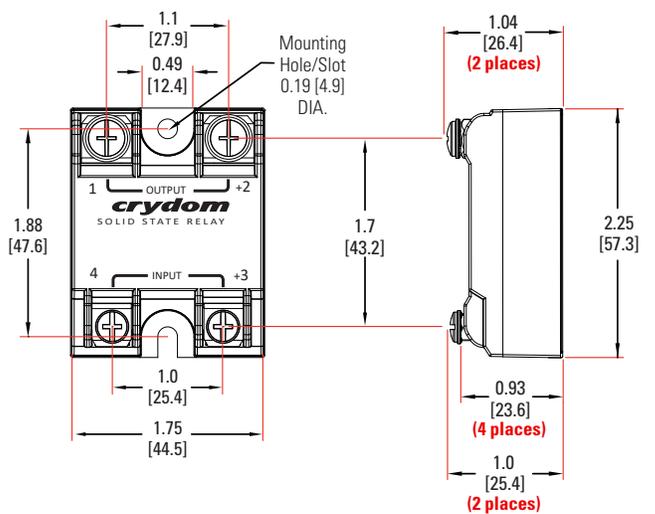
MECHANICAL SPECIFICATIONS

Tolerances: ±0.02 in / 0.5 mm
 All dimensions are in: inches [millimeters]

Screw Termination



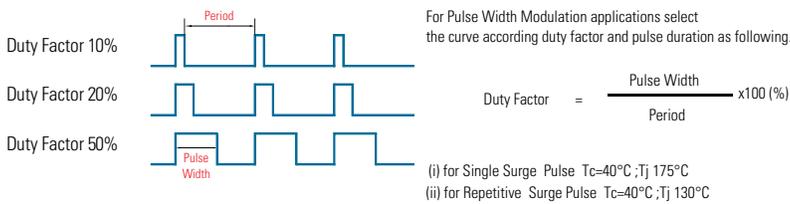
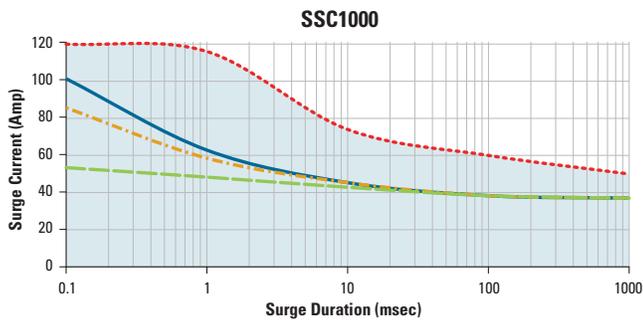
Hex Standoff Termination ("K" Option) (1)



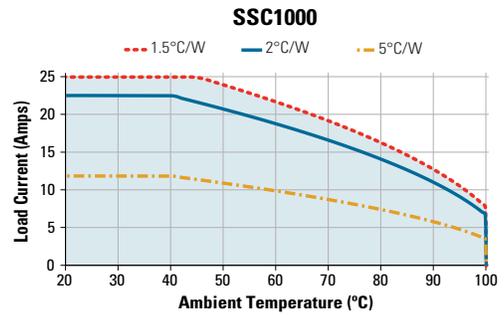
THERMAL DERATE INFORMATION

SURGE CURRENT INFORMATION

--- Single Pulse (i) --- Duty Factor (10%) (ii) --- Duty Factor (20%) (ii) --- Duty Factor (50%) (ii)



THERMAL DERATE INFORMATION



ORDERING OPTIONS

Example : SSC1000-25-24K

	SSC	1000	25	24	K
Family	SSC				
Operating Voltage		1000: 1-1000 VDC			
Related Load Current			25: 25 Amps		
Control Voltage				24: 20-28 VDC	
Termination					K: Installed standoffs with screws for PC Board mounting ⁽¹⁾

Blank: Screws and clamp

Required for valid part number (indicated by a solid line)
For options only and not required for valid part number (indicated by a dashed line)

AGENCY APPROVALS & CERTIFICATIONS

EN60950-1: Meets the requirements of sections 1.5: 1.7: 2.9: 2.10.5.3: 4.2: 4.5: 4.7



SSC Series has Environmental Product declarations type III conforming to ISO 14025.

ACCESSORIES

New Accessories! Protective Cover & Hardware Kits

Protective Cover

Part number: KS101



Clear plastic cover compatible with all new S1 designs. Safety covers provide added protection from electric shock when installing or checking equipment.

Hardware Kit

Part number: HK4



Bag with 2 square brass accessories and 2 screw 8-32 x 5/8 for output. Used to mount TMR1 lug terminals.

Recommended Accessories

Cover	Hardware Kit	Heat Sink Part No.	Thermal Resistance [°C/W]	Lug Terminal	Thermal Pad
KS101	HK1	HS501DR	5.0	TRM1	HSP-1
		HS301 / HS301DR	3.0	TRM6	HSP-2
	HS251	2.5			
	HS201 / HS201DR	2.0			
	HS202 / HS202DR	2.0			
	HS172	1.7			
	HS151 / HS151DR	1.5			
	HS122 / HS122DR	1.2			
	HS103 / HS103DR	1.0			
	HS101	1.0			
	HS073	0.7			
	HS072	0.7			
	HS053	0.5			
	HS033	0.36			
HS023	0.25				

WARNINGS



RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE

- The product's side panels may be hot, allow the product to cool before touching
- Follow proper mounting instructions including torque values
- Do not allow liquids or foreign objects to enter this product

Failure to follow these instructions can result in serious injury, or equipment damage.



HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Disconnect all power before installing or working with this equipment
- Verify all connections and replace all covers before turning on power

Failure to follow these instructions will result in death or serious injury.

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