

Product data sheet

Specifications



Harmony, Solid state relay, 125 A, panel mount, zero voltage switching, thermal pad and smart diagnostic, input 4...32 V DC, output 48â€¦660 V AC

SSP1A4125BDS

Main

Range of product	Harmony Solid State Relays
Provided accessory	Thermal pad
Product or component type	Panel mount relay
Device short name	SSP1
Mounting support	Panel
Number of phases	1 phase
[In] rated current	125 A
Solid state output type	SCR output Zero voltage switching
Output switching mode	Zero voltage switching

Complementary

test button	With test button
[Uc] control circuit voltage	4...32 V DC
Minimum switching voltage	4 V DC turn-on
Maximum switching voltage	1 V DC turn-off
Response time	0.5 cycle (turn-on) 0.5 cycle (turn-off)
Input current	7...12 mA
Output voltage	48...660 V AC
Load current	0.15...125 A
Transient overvoltage	1200 V
Surge current	1750 A for 16.6 ms
Maximum I²t for fusing	12709 A².s for 8.33 ms at 60 Hz 13950 A².s for 10 ms at 50 Hz
Co-ordination type	Type 1 - 80 A miniature circuit breaker (MCB) - curve B Type 2 - 63 A miniature circuit breaker (MCB) - curve B
Maximum leakage current	1 mA off-state
Maximum voltage drop	<1.15 V on-state
DV/dt	500 V/µs off-state at maximum voltage
Power factor	0.5 (with maximum load)

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications

Motor controller rating	2 hp 120 V AC 5 hp 240 V AC 10 hp 480 V AC
Insulation resistance	1000 MOhm at 500 V DC
Maximum capacitance	8 pF for input/output
Dielectric strength	4 kV AC for input/output 4 kV AC for input or output to case
[Uimp] rated impulse withstand voltage	6 kV output to case 6 kV input to output
Tightening torque	1.5...1.7 N.m for input 2...2.2 N.m for output 17.7...19.47 lb.in for output 13.27...15.04 lb.in for input 0.5...0.6 N.m for auxillary terminal 4.4...5.3 lb.in for auxillary terminal
Connections - terminals	Screw terminals: 0.2...3.3 mm², (AWG 24...AWG 12) with cable end for input Screw terminals: 0.5...5.26 mm², (AWG 20...AWG 10) with cable end for output Screw terminals: 0.2...3.3 mm², (AWG 24...AWG 12) without cable end for input Screw terminals: 0.5...8.26 mm², (AWG 20...AWG 8) without cable end for output Forked type tag connectors: 9.2 x 4 mm for input Ring lugs: 9.2 x 4 mm for input Forked type tag connectors: 11.7 x 4.5 mm for output Ring lugs: 11.7 x 4.5 mm for output
Auxiliary/Alarm connection terminal	Screw-type connector, 0.5...1.5 mm² (AWG 20...AWG 16) with slotted Philips screwdriver
Thermal resistance	0.22 °C/W junction to case
LED indicator	LED, steady, green for ON status for control input/test button actuated LED, steady, amber for ON status for load LED, flashing, amber for control input to energise load LED, steady, red for open-circuit for control input LED, flashing, red for load cut-off/short-circuit
Maximum alarm output current	30 mA at 32 V DC
minimum load current	150 mA
IP degree of protection	IP20
Electromagnetic compatibility	Electrostatic discharge 6 kV criteria A contact discharge conforming to IEC 61000-4-2 Electrostatic discharge 8 kV criteria A air discharge conforming to IEC 61000-4-2 Radiated radio-frequency electromagnetic field immunity test criteria A output ports conforming to IEC 61000-4-3 Radiated radio-frequency electromagnetic field immunity test criteria B alarm port conforming to IEC 61000-4-3 Electrical fast transient/burst immunity test 1 kV, 5/100 kHz criteria B output ports conforming to IEC 61000-4-4 Surge immunity test 1 kV criteria A output ports line to line conforming to IEC 61000-4-5 Surge immunity test 2 kV criteria A output ports line to earth conforming to IEC 61000-4-5
Safety reliability data	MTTFd = 1875.9 years B10d = 1731395
Product weight	97.1 g
Device presentation	Complete product

Environment

Ambient air temperature for operation	-40...80 °C
Ambient air temperature for storage	-40...125 °C
Pollution degree	2
Overvoltage category	III

Product certifications	CE EAC UL CSA
Marking	CE EAC CSA UL
Standards	CSA C22.2 No 14-13 IEC 62314 UL 508 IEC 60950-1

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	4.8 cm
Package 1 Width	4.7 cm
Package 1 Length	6.6 cm
Package 1 Weight	114.0 g
Unit Type of Package 2	S01
Number of Units in Package 2	28
Package 2 Height	15.0 cm
Package 2 Width	15.0 cm
Package 2 Length	40.0 cm
Package 2 Weight	3.511 kg

Environmental Data

Schneider Electric aims to achieve Net Zero status by 2050 through supply chain partnerships, lower impact materials, and circularity via our ongoing “Use Better, Use Longer, Use Again” campaign to extend product lifetimes and recyclability.

[Environmental Data explained >](#)

[How we assess product sustainability >](#)

 Environmental footprint	
Total lifecycle Carbon footprint	11
Environmental Disclosure	Product Environmental Profile

Use Better

 Materials and Substances	
Packaging made with recycled cardboard	Yes
Packaging without single use plastic	Yes
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope)
SCIP Number	134201bc-d293-4667-9cca-10a7f11729e0
California proposition 65	WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

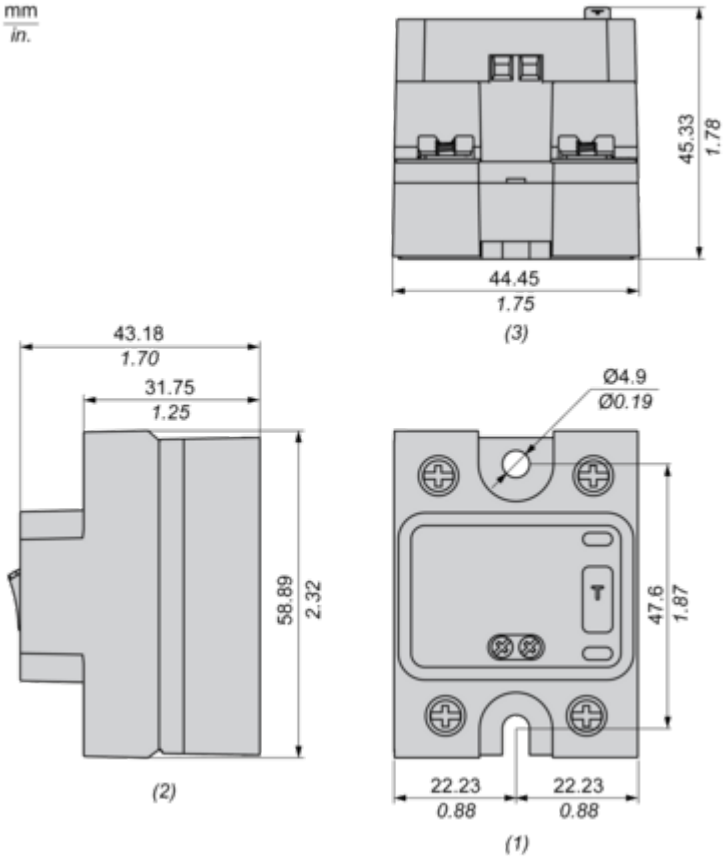
Use Again

 Repack and remanufacture	
End of life manual availability	End of Life Information
Take-back	No

Dimensions Drawings

Dimensions

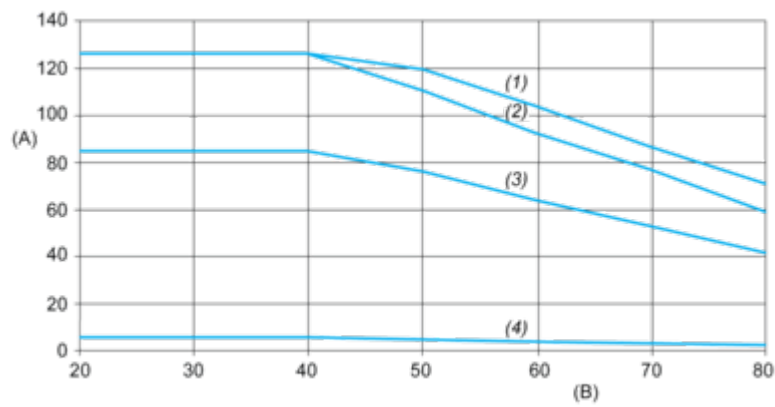
mm
in.



- (1) Front view
- (2) Side view
- (3) Bottom view

Performance Curves

Derating Curves

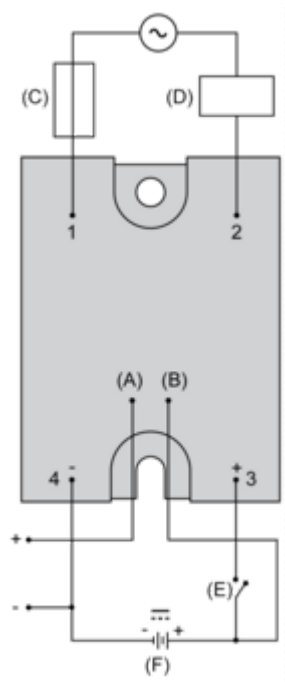


- A** : Load Current (Arms)
B : Ambient Temperature (°C)
(1) For Heatsink SSRHP02
(2) For Heatsink SSRHP05
(3) For Heatsink SSRHP07
(4) No Heatsink

Connections and Schema

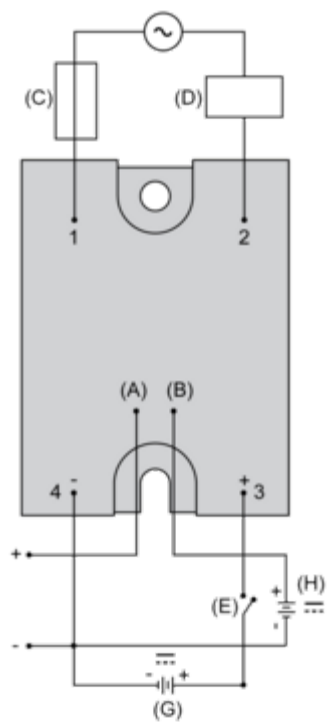
Wiring Diagram

Single Supply Connection



- (F) Control/Auxiliary supply (4...32 V DC)
- (A) Alarm output terminal (4...32 V DC)
- (B) Auxiliary supply terminal
- (C) Fuse or circuit-breaker
- (D) Load
- (E) Switch to energize load

Dual Supply Connection



- (G) Control supply (4...32 V DC)
- (H) Auxiliary supply (4...32 V DC)
- (A) Alarm output terminal (4...32 V DC)
- (B) Auxiliary supply terminal
- (C) Fuse or circuit-breaker
- (D) Load
- (E) Switch to energize load

Technical Illustration

Dimensions

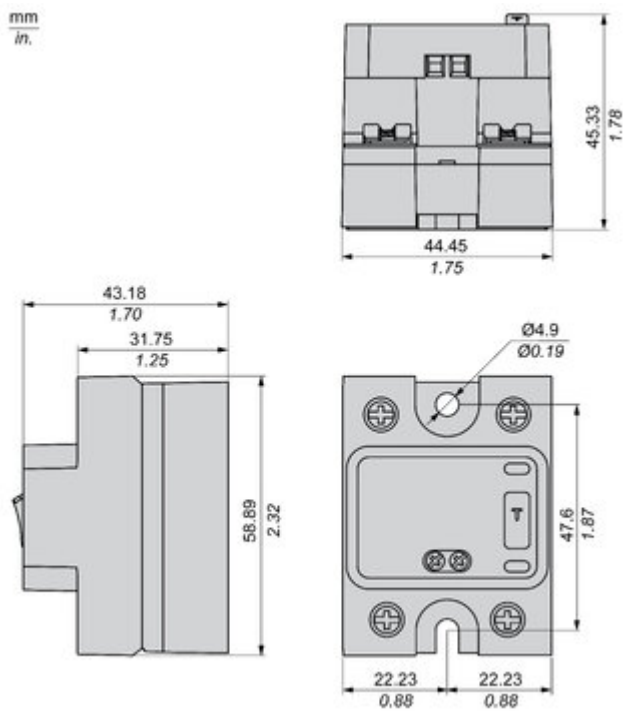


Image of product / Alternate images

Alternative







Image of product in real life situation

