

Product data sheet

Specifications



single phase relay, Harmony Solid State Relays, 50A, panel mount, zero voltage switching, thermal pad, input 4 to 32V DC, output 48 to 660V AC

SSP1A450BDT

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	50 A
Solid state output type	SCR output Zero voltage switching
Output switching mode	Zero voltage switching

Complementary

test button	Without 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...50 A
Transient overvoltage	1200 V
Surge current	625 A for 16.6 ms
Maximum I^2t for fusing	1770 A ² .s for 10 ms at 50 Hz 1629 A ² .s for 8.33 ms at 60 Hz
Co-ordination type	Type 1 - 40 A miniature circuit breaker (MCB) - curve B Type 2 - 32 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)

Motor controller rating	0.75 hp 120 V AC 2 hp 240 V AC 5 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
[Uiimp] 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
Connections - terminals	Screw terminals: 0.2...3.3 mm ² , (AWG 24...AWG 12) with cable end for input Screw terminals: 0.5...5.26 mm ² , (AWG 20...AWG 10) with cable end for output Screw terminals: 0.2...3.3 mm ² , (AWG 24...AWG 12) without cable end for input Screw terminals: 0.5...8.26 mm ² , (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
Thermal resistance	0.45 °C/W junction to case
thermal pad impedance	0.48 °C-in ² /W at 25 psi
LED indicator	LED, green for input
IP degree of protection	IP20
Safety reliability data	B10d = 1731395 MTTFd = 1875.9 years
Product weight	89.2 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	UL CE EAC CSA
Marking	EAC UL CE CSA
Standards	CSA C22.2 No 14-13 UL 508 IEC 60950-1 IEC 62314

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	3.800 cm
Package 1 Width	4.800 cm
Package 1 Length	6.500 cm

Package 1 Weight	97.000 g
Unit Type of Package 2	S01
Number of Units in Package 2	30
Package 2 Height	15.000 cm
Package 2 Width	15.000 cm
Package 2 Length	40.000 cm
Package 2 Weight	3.250 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	5222
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

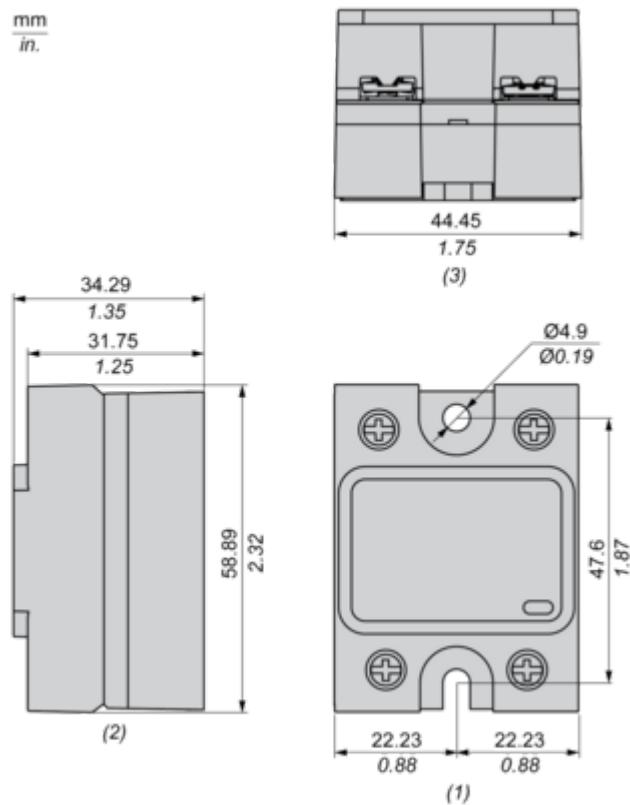
Use Again

Repack and remanufacture

End of life manual availability	End of Life Information
Take-back	No

Dimensions Drawings

Dimensions

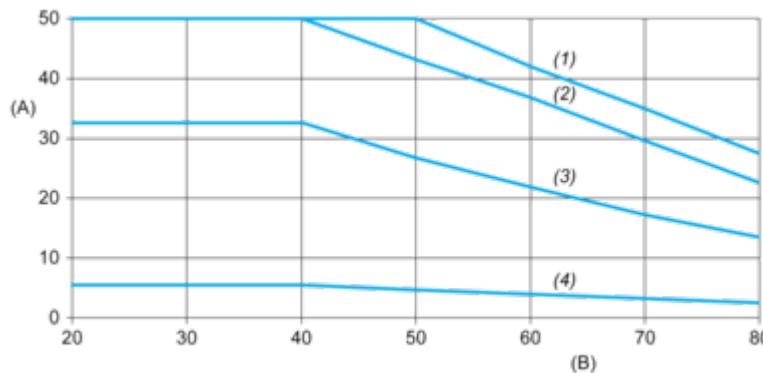


(1) Front view

(2) Side view

(3) Bottom view

Performance Curves

Derating Curves

A : Load Current (Amperes)

B : Ambient Temperature (°C)

(1) For Heatsink SSRHP07

(2) For Heatsink SSRHD10

(3) For Heatsink SSRHP17

(4) No Heatsink

Technical Illustration

Dimensions

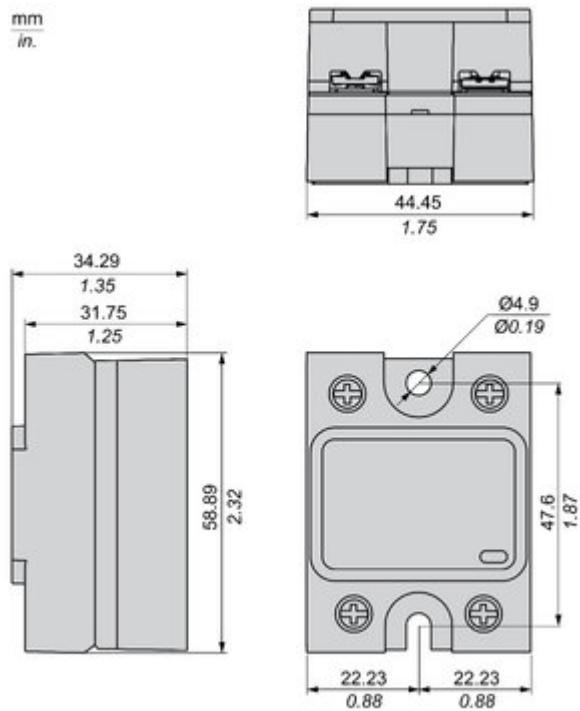
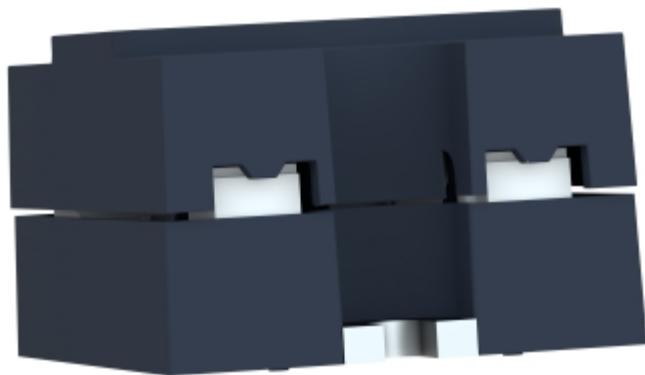
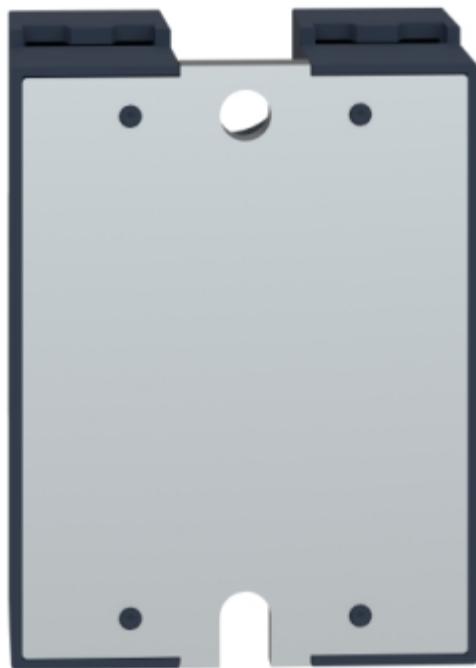


Image of product / Alternate images

Alternative





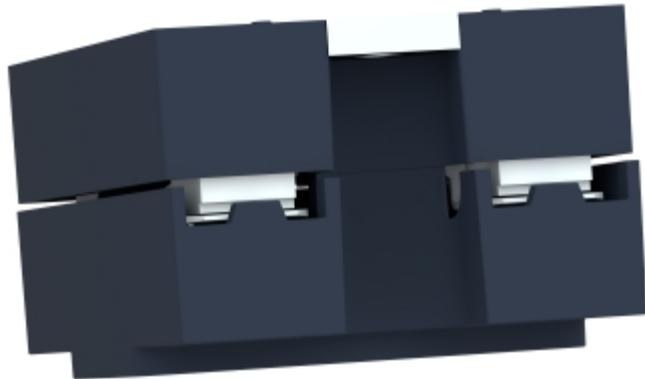


Image of product in real life situation

