

# SSP1A125BDS

Harmony, Solid state relay, 25 A, panel mount, zero voltage switching, thermal pad and smart diagnostic, input 3...32 V DC, output 24...300 V AC



## Main

|                           |                                      |
|---------------------------|--------------------------------------|
| Range of Product          | Harmony Solid State Relays           |
| Product or Component Type | Solid state relay up to 30 A         |
| Provided accessory        | Thermal pad                          |
| Device short name         | SSP1                                 |
| Mounting Support          | Panel                                |
| Number of phases          | 1 phase                              |
| Line Rated Current        | 25 A                                 |
| Solid state output type   | SCR output<br>Zero voltage switching |
| Output switching mode     | Zero voltage switching               |

## Complementary

|  |   |
|--|---|
| [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)<br>0.5 cycle (turn-off)   |
| Input current                          | 10 mA at 12 V DC  |
| Output voltage                         | 24...300 V AC   |
| Load current                           | 0.15...25 A   |
| Transient overvoltage                  | 600 V   |
| Surge current                          | 250 A 16.6 ms   |
| Maximum I <sup>2</sup> t for fusing    | 259 A <sup>2</sup> .S for 8.33 ms at 60 Hz<br>258 A <sup>2</sup> .s for 10 ms at 50 Hz  |
| Co-ordination type                     | Type 1 - 25 A miniature circuit breaker (MCB) B<br>Type 2 - 20 A miniature circuit breaker (MCB) 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                | 0.5 Hp 120 V AC<br>1 hp 240 V AC  |
| Insulation resistance                  | 1000 MOhm at 500 V DC   |
| Maximum capacitance                    | 10 pF for input/output  |
| Dielectric strength                    | 4 KV AC for input/output<br>4 kV AC for input or output to case   |
| [Uimp] rated impulse withstand voltage | 6 KV output to case<br>6 kV input to output   |
| Tightening torque                      | 1.5...1.7 N.m for input<br>2...2.2 N.m for output<br>17.7...19.47 lb.in for output<br>13.27...15.04 lb.in for input<br>0.5...0.6 N.m for auxiliary terminal<br>4.4...5.3 lb.in for auxiliary terminal |

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. 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. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric Industries SAS nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein.

|                                     |  |
|-------------------------------------|--|
| Connections - terminals             | Screw terminals 0.2...3.3 mm <sup>2</sup> , AWG 24...AWG 12) with cable end input<br>Screw terminals 0.5...5.26 mm <sup>2</sup> , AWG 20...AWG 10) with cable end output<br>Screw terminals 0.2...3.3 mm <sup>2</sup> , AWG 24...AWG 12) without cable end input<br>Screw terminals 0.5...8.26 mm <sup>2</sup> , AWG 20...AWG 8) without cable end output<br>Forked type tag connectors 9.2 x 4 mm input<br>Ring lugs 9.2 x 4 mm input<br>Forked type tag connectors 11.7 x 4.5 mm output<br>Ring lugs 11.7 x 4.5 mm output  |
| Auxiliary/Alarm connection terminal | Screw-type connector, 0.5...1.5 mm <sup>2</sup> AWG 20...AWG 16) slotted Philips   |
| Thermal resistance                  | 0.8 °C/W junction to case  |
| LED indicator                       | LED, steady, green ON status control input/test button actuated<br>LED, steady, amber ON status load<br>LED, flashing, amber control input to energise load<br>LED, steady, red open-circuit control input<br>LED, flashing, red load cut-off/short-circuit  |
| Maximum alarm output current        | 30 mA 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<br>Electrostatic discharge 8 kV criteria A air discharge conforming to IEC 61000-4-2<br>Radiated radio-frequency electromagnetic field immunity test criteria A output ports conforming to IEC 61000-4-3<br>Radiated radio-frequency electromagnetic field immunity test criteria B alarm port conforming to IEC 61000-4-3<br>Electrical fast transient/burst immunity test 1 kV, 5/100 kHz criteria B output ports conforming to IEC 61000-4-4<br>Surge immunity test 1 kV criteria A output ports line to line conforming to IEC 61000-4-5<br>Surge immunity test 2 kV criteria A output ports line to earth conforming to IEC 61000-4-5 |
| Safety reliability data             | B10d = 1731395<br>MTTFd = 1875.9 years   |
| Net Weight                          | 3.43 oz (97.1 g)   |
| Device presentation                 | Complete product   |

## Environment

|                                       |  |
|---------------------------------------|--|
| Ambient Air Temperature for Operation | -40...176 °F (-40...80 °C)                                     |
| Ambient Air Temperature for Storage   | -40...257 °F (-40...125 °C)                                    |
| Pollution degree                      | 2  |
| Overvoltage category                  | III  |
| Product Certifications                | EAC<br>CSA<br>UL<br>CE   |
| Marking                               | EAC<br>UL<br>CSA<br>CE   |
| Standards                             | UL 508<br>EN/IEC 62314<br>CSA C22.2 No 14-13<br>EN/IEC 60950-1 |

## Ordering and shipping details

|                   |                                 |
|-------------------|---------------------------------|
| Category          | 22375-INTERFACE MODULE(ABA,R,S) |
| Discount Schedule | CP2                             |
| GTIN              | 3606485442228                   |
| Returnability     | Yes                             |

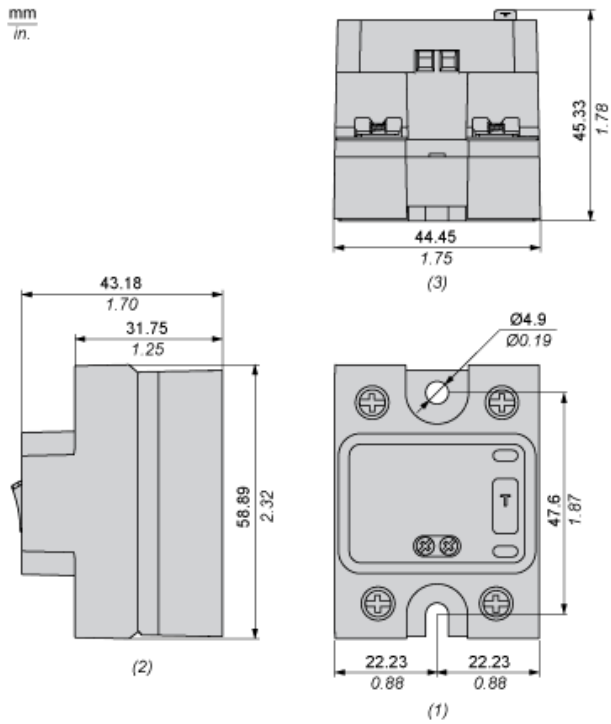
## Packing Units

|                              |                        |
|------------------------------|------------------------|
| Unit Type of Package 1       | PCE                    |
| Number of Units in Package 1 | 1                      |
| Package 1 Height             | 1.89 in (4.8 cm)       |
| Package 1 Width              | 1.85 in (4.7 cm)       |
| Package 1 Length             | 2.56 in (6.5 cm)       |
| Package 1 Weight             | 3.84 oz (109.0 g)      |
| Unit Type of Package 2       | S01                    |
| Number of Units in Package 2 | 28                     |
| Package 2 Height             | 5.91 in (15.0 cm)      |
| Package 2 Width              | 5.91 in (15.0 cm)      |
| Package 2 Length             | 15.75 in (40.0 cm)     |
| Package 2 Weight             | 7.51 lb(US) (3.408 kg) |

## Offer Sustainability

|                            |   |
|----------------------------|---|
| Sustainable offer status   | Green Premium product   |
| 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 <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a> |
| REACH Regulation           | <a href="#">REACH Declaration</a>   |
| EU RoHS Directive          | Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>  |
| Mercury free               | Yes   |
| China RoHS Regulation      | <a href="#">China RoHS Declaration</a>  |
| RoHS exemption information | <a href="#">Yes</a>   |
| Environmental Disclosure   | <a href="#">Product Environmental Profile</a>   |
| Circularity Profile        | <a href="#">End Of Life Information</a>   |

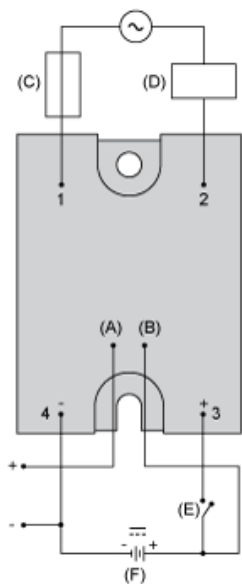
Dimensions



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

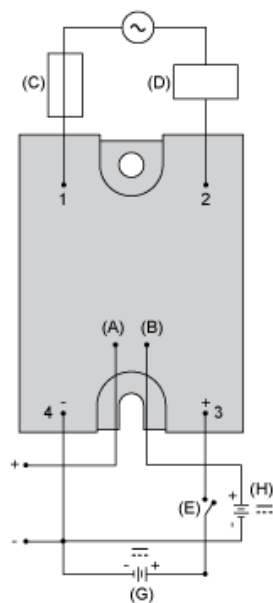
Wiring Diagram

Single Supply Connection



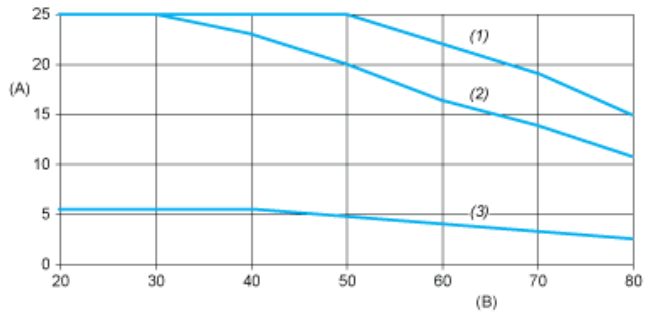
- (F) Control/Auxiliary supply (4...32 V DC)
- (A) Alarm output terminal (4...32 V DC)
- (B) Auxiliary supply terminal
- (C) Fuse or circuit-breaker
- (D) Load
- (E) Switch to energize load

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

Derating Curves



- A : Load Current (Arms)
- B : Ambient Temperature (°C)
- (1) For Heatsink SSRHP17
- (2) For Heatsink SSRHP25
- (3) No Heatsink