# Product data sheet

Specifications




## 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

SSP1A125BDS

**Product availability: Stock - Normally stocked in distribution facility**

## 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 |
| **Line Rated Current** | 25 A |
| **Solid state output type** | SCR output<br>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)<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 I²t for fusing** | 259 A².s for 8.33 ms at 60 Hz<br>258 A².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) |

Price is “List Price” and may be subject to a trade discount – check with your local distributor or retailer for actual price.

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** | 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 auxillary terminal<br>4.4...5.3 lb.in for auxillary terminal |
| **Connections - terminals** | Screw terminals 0.2...3.3 mm², 24 AWG...12 AWG) with cable end input<br>Screw terminals 0.5...5.26 mm², 20 AWG...10 AWG) with cable end output<br>Screw terminals 0.2...3.3 mm², 24 AWG...12 AWG) without cable end input<br>Screw terminals 0.5...8.26 mm², 20 AWG...8 AWG) 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 mm² 20 AWG...16 AWG)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** | 3.4 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>IEC 62314<br>CSA C22.2 No 14-13<br>IEC 60950-1 |

## Ordering and shipping details

| | |
|---|---|
| **Category** | US10CP222375 |
| **Discount Schedule** | 0CP2 |
| **GTIN** | 3606485442228 |
| **Returnability** | Yes |
| **Country of origin** | US |

## Packing Units

| | |
|---|---|
| **Unit Type of Package 1** | PCE |
| **Nbr. of units in pkg.** | 1 |
| **Package 1 Height** | 1.9 in (4.8 cm) |
| **Package 1 Width** | 1.9 in (4.7 cm) |
| **Package 1 Length** | 2.6 in (6.5 cm) |
| **Package weight(Lbs)** | 3.8 oz (109.0 g) |
| **Unit Type of Package 2** | S01 |
| **Number of Units in Package 2** | 28 |
| **Package 2 Height** | 5.9 in (15 cm) |
| **Package 2 Width** | 5.9 in (15 cm) |
| **Package 2 Length** | 15.7 in (40 cm) |
| **Package 2 Weight** | 7.513 lb(US) (3.408 kg) |

## Contractual warranty

| | |
|---|---|
| **Warranty (in months)** | 18 |

## 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 | **2 617 kg CO2 eq.** |
| Carbon footprint of the manufacturing phase [A1 to A3] | **1 kg CO2 eq.** |
| Carbon footprint of the distribution phase [A4] | **0 kg CO2 eq.** |
| Carbon footprint of the installation phase [A5] | **0 kg CO2 eq.** |
| Carbon footprint of the use phase [B2, B3, B4, B6] | **2 616 kg CO2 eq.** |
| Carbon footprint of the end-of-life phase [C1 to C4] | **0 kg CO2 eq.** |
| Environmental Disclosure | **Product Environmental Profile** |

## Use Better

### Materials and Substances

| | |
|---|---|
| Packaging made with recycled cardboard | **Yes** |
| Packaging without single use plastic | **Yes** |
| SCIP Number | **134201bc-d293-4667-9cca-10a7f11729e0** |
| EU RoHS Directive | **Compliant By Exemption** |
| REACh Regulation | **Reference contains Substances of Very High Concern above the threshold** |
| 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** |

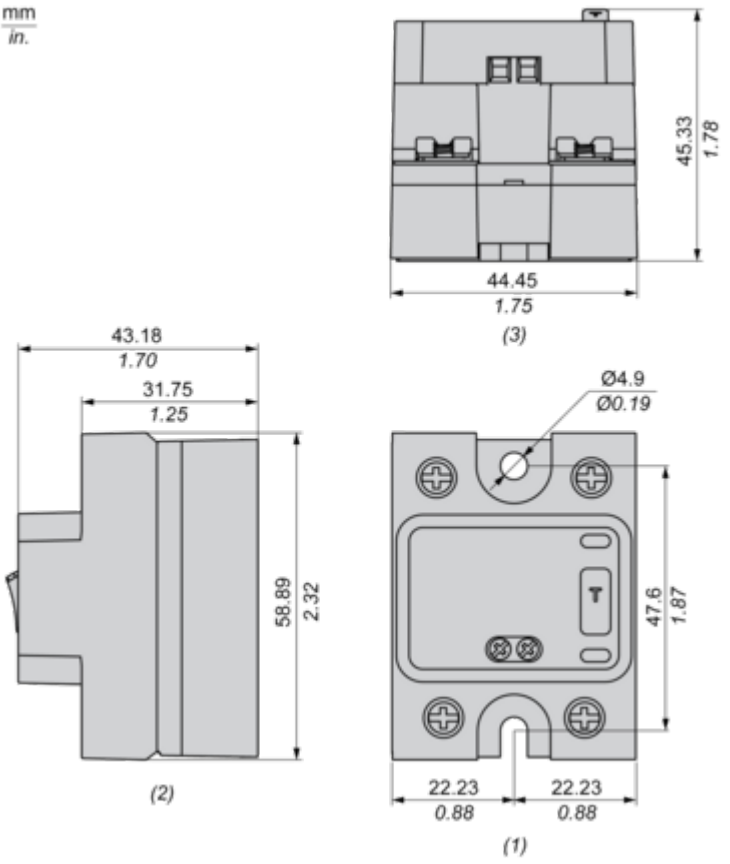
## Use Again

### Repack and remanufacture

| | |
|---|---|
| Recyclability potential, in % | **56** |
| Circularity Profile | **End of Life Information** |
| Take-back | **No** |

Dimensions Drawings

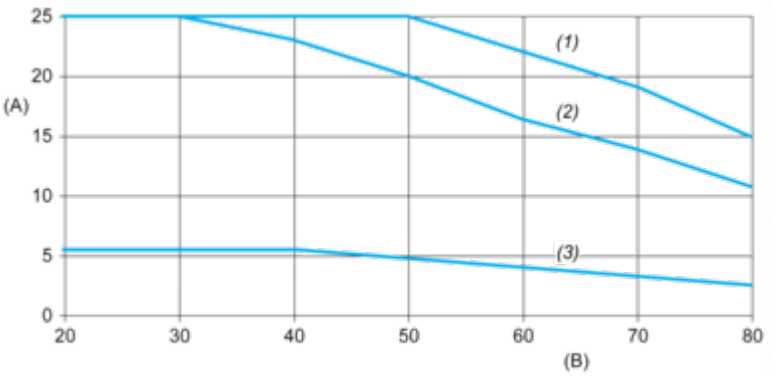
## Dimensions




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

Performance Curves

## Derating Curves

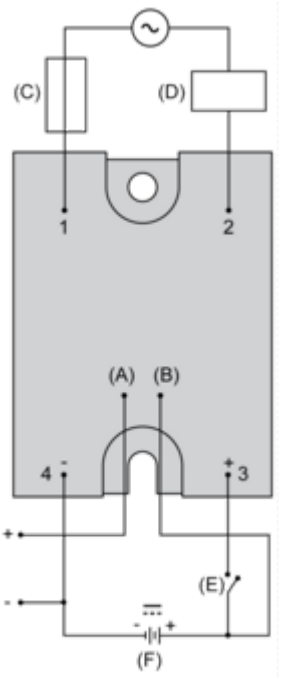



**A :** Load Current (Arms)
**B :** Ambient Temperature (°C)
**(1)** For Heatsink SSRHP17
**(2)** For Heatsink SSRHP25
**(3)** No Heatsink

Connections and Schema

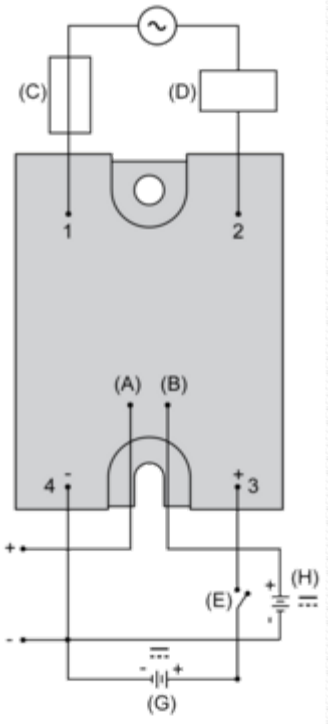
## Wiring Diagram

### 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

Image of product in real life situation

