

# 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 48...660 V AC

SSP1A4125BDS

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

**Price\* : 124.23 USD**

## Main

|                           |                                      |
|---------------------------|--------------------------------------|
| Range of Product          | Harmony Solid State Relays           |
| Product or Component Type | Solid state relay up to 125 A        |
| Provided accessory        | Thermal pad                          |
| Device short name         | SSP1                                 |
| Mounting Support          | Panel                                |
| Number of phases          | 1 phase                              |
| Line Rated Current        | 125 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                       | 7...12 mA  |
| Output voltage                      | 48...660 V AC  |
| Load current                        | 0.15...125 A   |
| Transient overvoltage               | 1200 V   |
| Surge current                       | 1750 A 16.6 ms   |
| Maximum I <sup>2</sup> t for fusing | 12709 A <sup>2</sup> .s for 8.33 ms at 60 Hz<br>13950 A <sup>2</sup> .s for 10 ms at 50 Hz         |
| Co-ordination type                  | Type 1 - 80 A miniature circuit breaker (MCB) B<br>Type 2 - 63 A miniature circuit breaker (MCB) B |
| Maximum leakage current             | 1 mA off-state   |
| Maximum voltage drop                | <1.15 V on-state   |

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

|   |  |
|---|--|
| <b>DV/Dt</b>                                  | 500 V/ $\mu$ s off-state at maximum voltage  |
| <b>Power factor</b>                           | 0.5 (with maximum load)  |
| <b>Motor controller rating</b>                | 2 hp 120 V AC<br>5 hp 240 V AC<br>10 hp 480 V AC   |
| <b>Insulation resistance</b>                  | 1000 MOhm at 500 V DC  |
| <b>Maximum capacitance</b>                    | 8 pF for input/output  |
| <b>Dielectric strength</b>                    | 4 kV AC for input/output<br>4 kV AC for input or output to case  |
| <b>[Uimp] rated impulse withstand voltage</b> | 6 kV output to case<br>6 kV input to output  |
| <b>Tightening torque</b>                      | 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  |
| <b>Connections - terminals</b>                | 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  |
| <b>Auxiliary/Alarm connection terminal</b>    | Screw-type connector, 0.5...1.5 mm <sup>2</sup> AWG 20...AWG 16) slotted Philips   |
| <b>Thermal resistance</b>                     | 0.22 °C/W junction to case   |
| <b>LED indicator</b>                          | 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  |
| <b>Maximum alarm output current</b>           | 30 mA 32 V DC  |
| <b>Minimum load current</b>                   | 150 mA   |
| <b>IP degree of protection</b>                | IP20   |
| <b>Electromagnetic compatibility</b>          | 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 |
| <b>Safety reliability data</b>                | MTTFd = 1875.9 years<br>B10d = 1731395   |
| <b>Net Weight</b>                             | 3.43 oz (97.1 g)   |
| <b>Device presentation</b>                    | Complete product   |
| <b>Environment</b>                            |  |
| <b>Ambient Air Temperature for Operation</b>  | -40...176 °F (-40...80 °C)   |
| <b>Ambient Air Temperature for Storage</b>    | -40...257 °F (-40...125 °C)  |
| <b>Pollution degree</b>                       | 2  |
| <b>Overvoltage category</b>                   | III  |
| <b>Product Certifications</b>                 | CE<br>EAC<br>UL<br>CSA   |
| <b>Marking</b>                                | CE   |

EAC  
CSA  
UL

|                  |  |
|------------------|--|
| <b>Standards</b> | CSA C22.2 No 14-13<br>EN/IEC 62314<br>UL 508<br>EN/IEC 60950-1 |
|------------------|--|

## Ordering and shipping details

|                          |                                 |
|--------------------------|---------------------------------|
| <b>Category</b>          | 22375-INTERFACE MODULE(ABA,R,S) |
| <b>Discount Schedule</b> | CP2                             |
| <b>GTIN</b>              | 3606485442273                   |
| <b>Returnability</b>     | Yes                             |

## Packing Units

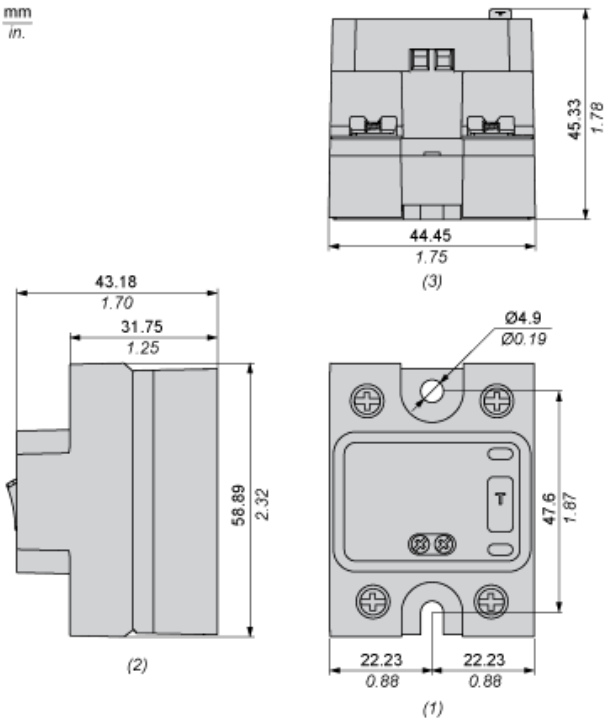
|                                     |                        |
|-------------------------------------|------------------------|
| <b>Unit Type of Package 1</b>       | PCE                    |
| <b>Number of Units in Package 1</b> | 1                      |
| <b>Package 1 Height</b>             | 1.89 in (4.8 cm)       |
| <b>Package 1 Width</b>              | 1.85 in (4.7 cm)       |
| <b>Package 1 Length</b>             | 2.60 in (6.6 cm)       |
| <b>Package 1 Weight</b>             | 4.02 oz (114.0 g)      |
| <b>Unit Type of Package 2</b>       | S01                    |
| <b>Number of Units in Package 2</b> | 28                     |
| <b>Package 2 Height</b>             | 5.91 in (15.0 cm)      |
| <b>Package 2 Width</b>              | 5.91 in (15.0 cm)      |
| <b>Package 2 Length</b>             | 15.75 in (40.0 cm)     |
| <b>Package 2 Weight</b>             | 7.74 lb(US) (3.511 kg) |

## Offer Sustainability

|                                   |   |
|-----------------------------------|---|
| <b>Sustainable offer status</b>   | Green Premium product   |
| <b>California proposition 65</b>  | 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> |
| <b>REACH Regulation</b>           | <a href="#">REACH Declaration</a>   |
| <b>EU RoHS Directive</b>          | Pro-active compliance (Product out of EU RoHS legal scope)<br><a href="#">EU RoHS Declaration</a>   |
| <b>Mercury free</b>               | Yes   |
| <b>China RoHS Regulation</b>      | <a href="#">China RoHS declaration</a>  |
| <b>RoHS exemption information</b> | <a href="#">Yes</a>   |
| <b>Environmental Disclosure</b>   | <a href="#">Product Environmental Profile</a>   |
| <b>Circularity Profile</b>        | <a href="#">End of Life Information</a>   |

Dimensions

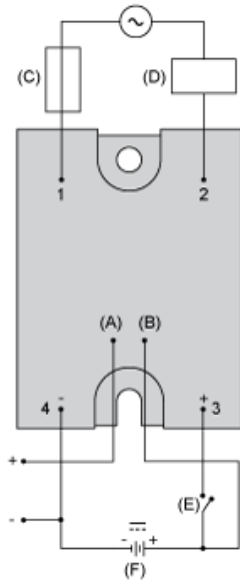
mm  
in.



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

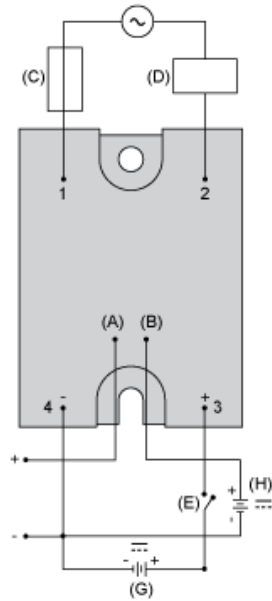
**Wiring Diagram**

**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

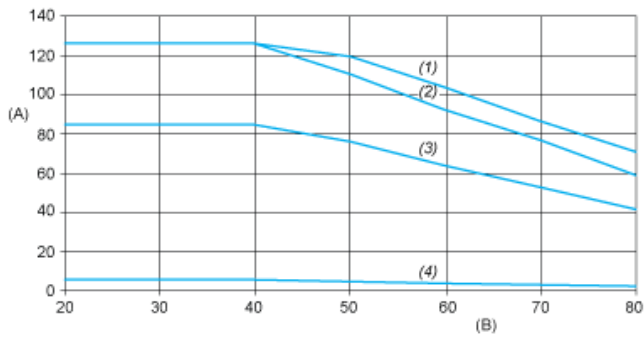
**Dual Supply Connection**



- (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**

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

**Recommended replacement(s)**