

# Product data sheet

Specifications



single phase relay, Harmony Solid State Relays, 40A, panel mount, DC switching, input 3.5 to 32V DC, output 1 to 150V DC

SSP1D440BD

## Main

|                           |                               |
|---------------------------|-------------------------------|
| Range of product          | Harmony Solid State Relays    |
| Product or component type | Panel mount relay             |
| Device short name         | SSP1                          |
| Mounting support          | Panel                         |
| Number of phases          | 1 phase                       |
| [In] rated current        | 40 A                          |
| Solid state output type   | DC switching<br>Mosfet output |
| Output switching mode     | DC switching                  |

## Complementary

|                                        |                                                                                                    |
|----------------------------------------|----------------------------------------------------------------------------------------------------|
| test button                            | Without test button                                                                                |
| [Uc] control circuit voltage           | 3.5...32 V DC                                                                                      |
| Minimum switching voltage              | 3.5 V DC turn-on                                                                                   |
| Maximum switching voltage              | 1 V DC turn-off                                                                                    |
| Response time                          | 0.1 ms turn-on)<br>0.1 ms turn-off)                                                                |
| Input current                          | 10...15 mA                                                                                         |
| Output voltage                         | 1...150 V DC                                                                                       |
| Load current                           | 0.001...40 A                                                                                       |
| Surge current                          | 106 A 10 ms                                                                                        |
| Co-ordination type                     | Type 2 - 20 A miniature circuit breaker (MCB) B<br>Type 1 - 40 A miniature circuit breaker (MCB) B |
| Maximum leakage current                | 0.3 mA off-state                                                                                   |
| Maximum voltage drop                   | <2.1 V on-state                                                                                    |
| Insulation resistance                  | 1000 MOhm 500 V DC                                                                                 |
| Maximum capacitance                    | 50 pF input/output                                                                                 |
| Dielectric strength                    | 2.5 kV AC input/output<br>2.5 kV AC input or output to case                                        |
| [Uimp] rated impulse withstand voltage | 2.5 kV output to case                                                                              |
| Tightening torque                      | 1.5...1.7 N.m input<br>2...2.2 N.m output                                                          |

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

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Connections - terminals | Screw terminals 0.2...3.3 mm², AWG 24...AWG 12) with cable end input<br>Screw terminals 0.5...5.26 mm², AWG 20...AWG 10) with cable end output<br>Screw terminals 0.2...3.3 mm², AWG 24...AWG 12) without cable end input<br>Screw terminals 0.5...8.26 mm², 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 |
| Thermal resistance      | 0.22 °C/W junction to case                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| LED indicator           | LED, green input                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| IP degree of protection | IP20                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Safety reliability data | MTTFd = 1875.9 years<br>B10d = 1731395                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Net weight              | 3.1 oz (89.2 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                | CSA<br>CE<br>UL<br>EAC                                   |
| Marking                               | CE<br>EAC<br>CSA<br>UL                                   |
| Standards                             | CSA C22.2 No 14-13<br>IEC 60950-1<br>UL 508<br>IEC 62314 |

## Packing Units

|                              |                         |
|------------------------------|-------------------------|
| Unit Type of Package 1       | PCE                     |
| Number of Units in Package 1 | 1                       |
| Package 1 Height             | 1.5 in (3.8 cm)         |
| Package 1 Width              | 1.9 in (4.8 cm)         |
| Package 1 Length             | 2.6 in (6.6 cm)         |
| Package 1 Weight             | 3.7 oz (104 g)          |
| Unit Type of Package 2       | S01                     |
| Number of Units in Package 2 | 30                      |
| 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             | 7.529 lb(US) (3.415 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                       | 7 624 kg CO2 eq.                              |
| Environmental Disclosure                               | <a href="#">Product Environmental Profile</a> |
| 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]     | 7 622 kg CO2 eq.                              |
| Carbon footprint of the end-of-life phase [C1 to C4]   | 0 kg CO2 eq.                                  |

## Use Better



### Materials and Substances

|                                        |                                                            |
|----------------------------------------|------------------------------------------------------------|
| Packaging made with recycled cardboard | Yes                                                        |
| Packaging without single use plastic   | Yes                                                        |
| <a href="#">EU RoHS Directive</a>      | Pro-active compliance (Product out of EU RoHS legal scope) |
| REACH Regulation                       | <a href="#">REACH Declaration</a>                          |

## Use Longer



### Lifetime extension

|        |    |
|--------|----|
| Repair | No |
|--------|----|

## Use Again



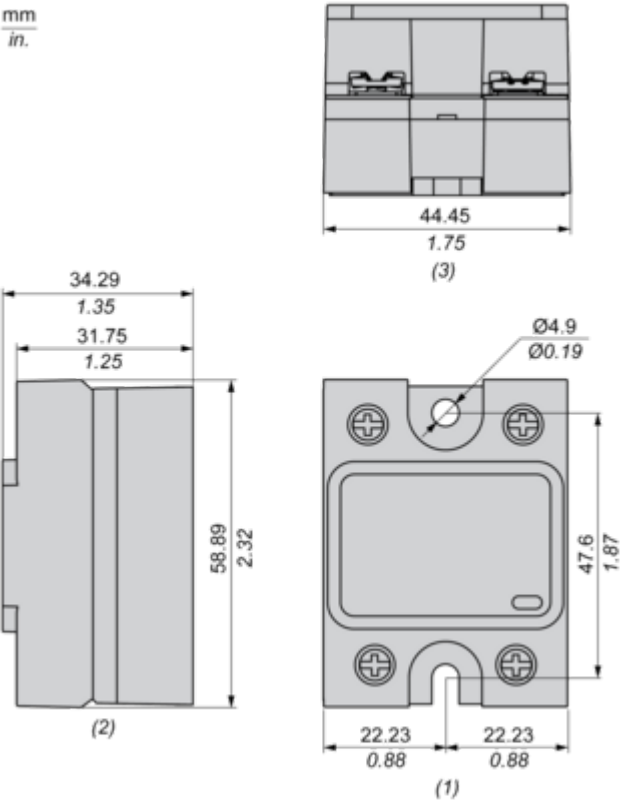
### Repack and remanufacture

|                     |                                         |
|---------------------|-----------------------------------------|
| Circularity Profile | <a href="#">End of Life Information</a> |
| Take-back           | No                                      |

Dimensions Drawings

Dimensions

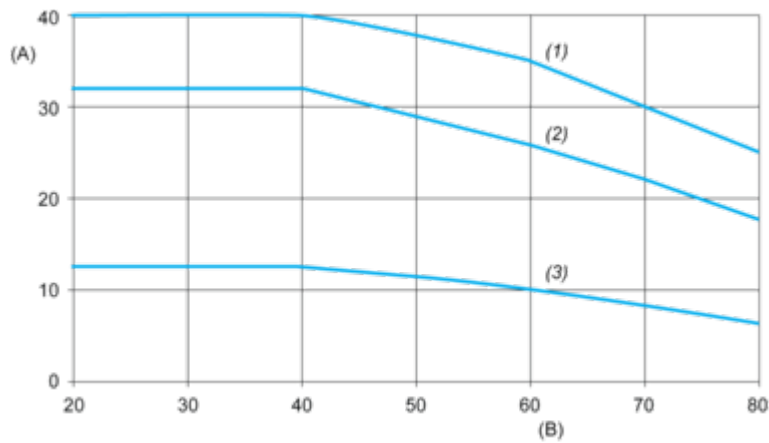
mm  
in.



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

Performance Curves

Derating Curves



**A** : Load Current (Arms)  
**B** : Ambient Temperature (°C)  
(1) For Heatsink SSRHD10  
(2) For Heatsink SSRHP17  
(3) No Heatsink

Technical Illustration

Dimensions

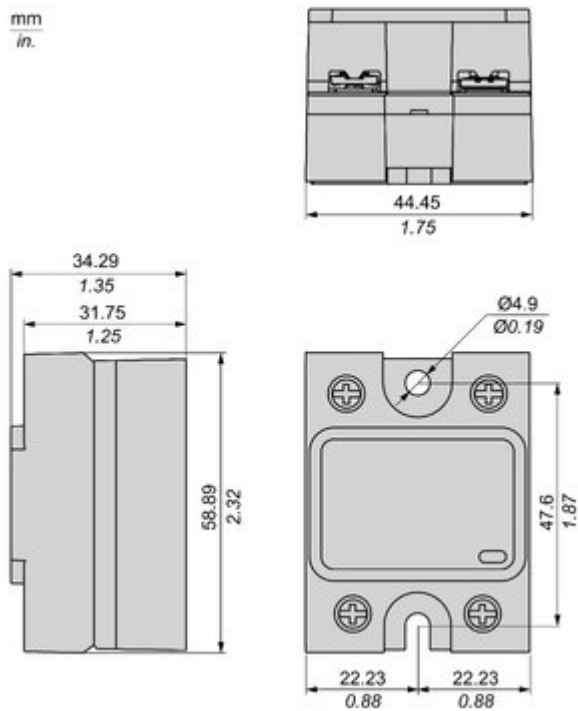


Image of product / Alternate images

Alternative

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