

# Product datasheet

Specifications



DIN rail mount relay, Harmony Solid State Relays, 20A, DC switching, input 4 to 32V DC, output 1 to 150V DC

SSD1D520BDC1

## Main

|                            |                                                    |
|----------------------------|----------------------------------------------------|
| Range of product           | Harmony Solid State Relays                         |
| Product or component type  | Modular DIN rail relay                             |
| Device short name          | SSD1                                               |
| Number of channels         | 1                                                  |
| Number of phases           | 1 phase                                            |
| Product configuration type | Relay configuration                                |
| Mounting support           | 35 mm symmetrical DIN rail conforming to IEC 60715 |
| rated current              | 20 A                                               |
| Output switching mode      | DC switching                                       |

## Complementary

|                                 |                                                                                                                                                                           |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rated duty                      | Uninterrupted                                                                                                                                                             |
| Output voltage                  | 1...150 V DC                                                                                                                                                              |
| control circuit voltage         | 4...32 V DC                                                                                                                                                               |
| Tightening torque               | 1.5...1.7 N.m for control input<br>13...15 lb.in for control input<br>1.5...1.7 N.m for load output<br>13...15 lb.in for load output                                      |
| Connections - terminals         | Screw terminals, clamping connection capacity:1...4 mm², AWG 18...AWG 12 for input<br>Screw terminals, clamping connection capacity:1...6 mm², AWG 18...AWG 10 for output |
| Dielectric strength             | 3.75 kV AC for input/output circuit<br>3.75 kV AC for input or output to case                                                                                             |
| rated impulse withstand voltage | 6 kV for input/output circuit<br>6 kV for input or output to case                                                                                                         |
| Insulation resistance           | 1000 MOhm at 500 V DC                                                                                                                                                     |
| Local signalling                | LED (green) for control voltage                                                                                                                                           |
| pick-up voltage                 | 4 V DC turn-on                                                                                                                                                            |
| drop-out voltage                | 1 V DC turn-off                                                                                                                                                           |
| input current range             | 11...15 mA                                                                                                                                                                |
| solid state switching type      | DC switching                                                                                                                                                              |
| Load current                    | 0.005...20 A                                                                                                                                                              |
| Inrush current                  | 58 A for 10 ms                                                                                                                                                            |
| Maximum voltage drop            | <0.68 V on-state                                                                                                                                                          |

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               | 0.25 kW/0.33 hp at 120 V DC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Electromagnetic compatibility         | Electrostatic discharge 4 kV criteria A contact discharge conforming to IEC 61000-4-2<br>Electrostatic discharge 4 kV criteria A air discharge conforming to IEC 61000-4-2<br>Conducted RF disturbances 10 V, 0.15...80 MHz criteria A level 3 conforming to IEC 61000-4-6<br>Electrical fast transient/burst immunity test 2 kV, 5/100 kHz criteria A output ports conforming to IEC 61000-4-4<br>Electrical fast transient/burst immunity test 1 kV, 5/100 kHz criteria A input ports conforming to IEC 61000-4-4<br>Radiated radio-frequency electromagnetic field immunity test 10 V/m, 80 MHz...1 GHz criteria A conforming to IEC 61000-4-3<br>Radiated radio-frequency electromagnetic field immunity test 3 V/m, 1.4...2 GHz criteria A conforming to IEC 61000-4-3<br>Radiated radio-frequency electromagnetic field immunity test 1 V/m, 2...2.7 GHz criteria A conforming to IEC 61000-4-3<br>Surge immunity test 1 kV criteria B output ports line to line conforming to IEC 61000-4-5<br>Surge immunity test 2 kV criteria B output ports line to earth conforming to IEC 61000-4-5<br>Radiated emission environment B for DC input supply conforming to IEC 60947-4-3<br>Conducted emission environment B for DC input supply conforming to IEC 60947-4-3 |
| device form designation               | Form 5 semiconductor output DOL contactor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Resistance                            | 0.034 Ohm on-state                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Maximum leakage current               | 0.1 mA off-state                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Response time                         | 75 µs (turn-on)<br>100 µs (turn-off)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| short circuit protection coordination | Type 1<br>Type 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Overvoltage category                  | III                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Width                                 | 22.5 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Height                                | 95.4 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Depth                                 | 117.1 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| test button                           | Without test button                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Product weight                        | 0.3 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Device presentation                   | Complete product                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

## Environment

|                                       |                                                                                                                                                                                  |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flammability rating                   | V-0 conforming to UL 94                                                                                                                                                          |
| Vibration resistance                  | 0.75 mm (f = 10...150 Hz) conforming to IEC 60068-2-6                                                                                                                            |
| Shock resistance                      | 50 gn for 11 ms (peak acceleration) , longitudinal position conforming to IEC 60068-2-27<br>30 gn for 11 ms (peak acceleration) , vertical position conforming to IEC 60068-2-27 |
| Pollution degree                      | 2                                                                                                                                                                                |
| Standards                             | IEC 61373:class B: category 1<br>CSA C22.2 No 14-13<br>UL 508                                                                                                                    |
| IP degree of protection               | IP20                                                                                                                                                                             |
| Ambient air temperature for operation | -40...80 °C                                                                                                                                                                      |
| Ambient air temperature for storage   | -40...100 °C                                                                                                                                                                     |

## Packing Units

|                              |     |
|------------------------------|-----|
| Unit Type of Package 1       | PCE |
| Number of Units in Package 1 | 1   |

|                              |          |
|------------------------------|----------|
| Package 1 Height             | 2.8 cm   |
| Package 1 Width              | 9.8 cm   |
| Package 1 Length             | 14.0 cm  |
| Package 1 Weight             | 320.0 g  |
| Unit Type of Package 2       | S02      |
| Number of Units in Package 2 | 24       |
| Package 2 Height             | 15.0 cm  |
| Package 2 Width              | 30.0 cm  |
| Package 2 Length             | 40.0 cm  |
| Package 2 Weight             | 8.103 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                       | 124 kg CO2 eq. |
| Carbon footprint of the manufacturing phase [A1 to A3] | 4 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]     | 120 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                                                                                    |
| EU RoHS Directive                      | <a href="#">Compliant By Exemption</a>                                                 |
| REACH Regulation                       | <a href="#">Reference contains Substances of Very High Concern above the threshold</a> |

## Use Longer



### Lifetime extension

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

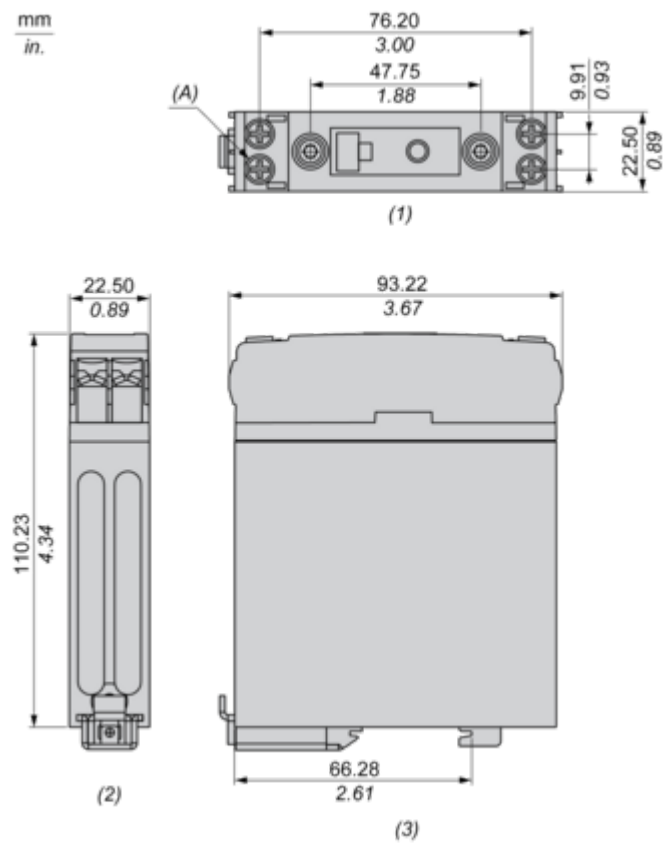
## Use Again



### Repack and remanufacture

|           |    |
|-----------|----|
| Take-back | No |
|-----------|----|

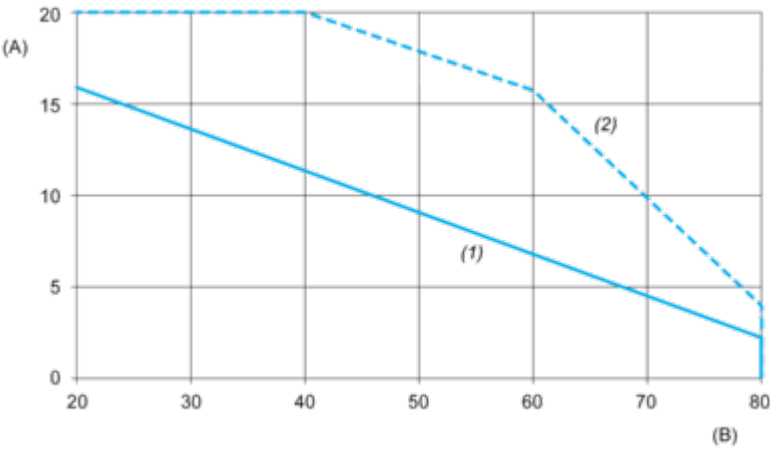
Dimensions



- (1) Front view
- (2) Top view
- (3) Side view
- (A) Screw M4 Stud (4 Places)

Performance Curves

Derating Curves

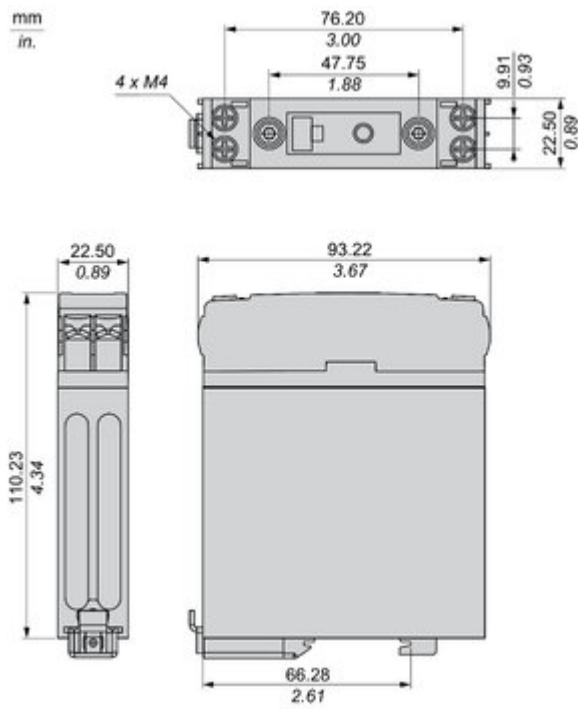


- A** : Load Current (Amperes)  
**B** : Ambient Temperature (°C)  
**1** : Multiple units, no minimum spacing between components  
**2** : Installed single unit, distance to adjacent components more than 22.5 mm

Technical Illustration

Dimensions

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### Alternative





