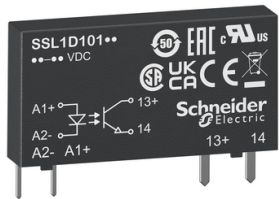


# Product data sheet

Specifications



Solid state slim relay, Harmony, 2A, zero voltage switching, input 15 to 30V DC, output 24 to 280V AC

SSL1A12BD

## Main

|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range of product                       | Harmony Solid State Relays                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Device short name                      | SSL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Network number of phases               | 1 phase                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| [Uc] control circuit voltage           | 15...30 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Output switching mode                  | Zero voltage switching                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Short-circuit current                  | 5000 A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Associated fuse rating                 | 2.5 A at 250 V coordination type 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Ui rated insulation voltage            | 280 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Insulation resistance                  | > 100 MOhm at 500 V DC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Electromagnetic compatibility          | Electrostatic discharge - test level: 4 kV criteria B (contact discharge) conforming to IEC 61000-4-2<br>Electrostatic discharge - test level: 8 kV criteria B (air discharge) conforming to IEC 61000-4-2<br>Conducted RF disturbances - test level: 10 V criteria A (0.15...80 MHz) conforming to IEC 61000-4-6<br>Electrical fast transient/burst immunity test - test level: 2 kV criteria B (5 kHz) conforming to IEC 61000-4-4<br>Electrical fast transient/burst immunity test - test level: 1 kV criteria B (5 kHz) conforming to IEC 61000-4-4<br>Surge immunity test - test level: 1 kV criteria B (line to line) conforming to IEC 61000-4-5<br>Surge immunity test - test level: 2 kV criteria B (line to earth) conforming to IEC 61000-4-5<br>Surge immunity test - test level: 1 kV criteria B (line to earth) conforming to IEC 61000-4-5<br>Radiated emission - test level: 30...1000 Mhz conforming to IEC 60947-1<br>Conducted emission - test level: 0.15...30 Mhz conforming to IEC 60947-1 |
| [Uimp] rated impulse withstand voltage | 4.0 kV for input to case conforming to IEC 62314<br>4.0 kV for input/output circuit conforming to UL 508<br>4.0 kV for input/output circuit conforming to IEC 62314<br>4.0 kV output to case conforming to IEC 62314<br>4.0 kV output to case<br>4.0 kV for input to case conforming to UL 508<br>4.0 kV output to case conforming to UL 508                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

## Complementary

|                              |                     |
|------------------------------|---------------------|
| Mounting support             | Socket              |
| [In] rated current           | 2 A                 |
| Output voltage               | 24...280 V AC       |
| [Uc] control circuit voltage | 15...30 V DC        |
| Capacitance unbalance        | 2.5 pF input/output |
| Minimum switching voltage    | 15 V DC turn-on     |
| Maximum switching voltage    | 10 V DC turn-off    |

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

|                         |                                                           |
|-------------------------|-----------------------------------------------------------|
| Input current           | 10 mA                                                     |
| Input impedance         | 2500 Ohm                                                  |
| Solid state output type | Zero voltage switching<br>SCR output                      |
| Load current            | 0.07...2 A                                                |
| Transient Overvoltage   | 600 V                                                     |
| Surge current           | 84 A for 16.6 ms<br>80 A for 20 ms                        |
| Maximum voltage drop    | <1.5 V on-state                                           |
| Maximum I²t for fusing  | 33 A².s for 10 ms at 50 Hz<br>29 A².s for 8.3 ms at 60 Hz |
| Maximum leakage current | 4 mA off-state                                            |
| DV/dt                   | 500 V/µs off-state at maximum voltage                     |
| Response time           | 0.5 cycle (turn-on)<br>0.5 cycle (turn-off)               |
| Overvoltage category    | III                                                       |
| Width                   | 5 mm                                                      |
| Height                  | 28 mm                                                     |
| Depth                   | 15 mm                                                     |
| Net weight              | 0.0041 kg                                                 |
| Device presentation     | Complete product                                          |

## Environment

|                                       |                                                            |
|---------------------------------------|------------------------------------------------------------|
| Flame retardance                      | V0 conforming to UL 94                                     |
| Dielectric strength                   | 2500 V for input/output                                    |
| Pollution degree                      | 2                                                          |
| Standards                             | IEC/EN 60947-4-3<br>IEC/EN 62314<br>UL 508<br>C22.2 No. 14 |
| Product certifications                | cURus<br>CSA<br>EAC<br>CE<br>UKCA                          |
| Marking                               | CE                                                         |
| IP degree of protection               | IP00                                                       |
| Ambient air temperature for operation | -20...80 °C                                                |
| Ambient air temperature for storage   | -20...85 °C                                                |

## Packing Units

|                              |          |
|------------------------------|----------|
| Unit Type of Package 1       | PCE      |
| Number of Units in Package 1 | 1        |
| Package 1 Height             | 1.500 cm |
| Package 1 Width              | 0.500 cm |
| Package 1 Length             | 2.800 cm |

|                              |           |
|------------------------------|-----------|
| Package 1 Weight             | 3.000 g   |
| Unit Type of Package 2       | BB1       |
| Number of Units in Package 2 | 10        |
| Package 2 Height             | 3.000 cm  |
| Package 2 Width              | 5.000 cm  |
| Package 2 Length             | 12.500 cm |
| Package 2 Weight             | 55.000 g  |
| Unit Type of Package 3       | S01       |
| Number of Units in Package 3 | 280       |
| Package 3 Height             | 15.000 cm |
| Package 3 Width              | 15.000 cm |
| Package 3 Length             | 40.000 cm |
| Package 3 Weight             | 1.802 kg  |

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 | 10                                            |
| Environmental Disclosure         | <a href="#">Product Environmental Profile</a> |

Use Better

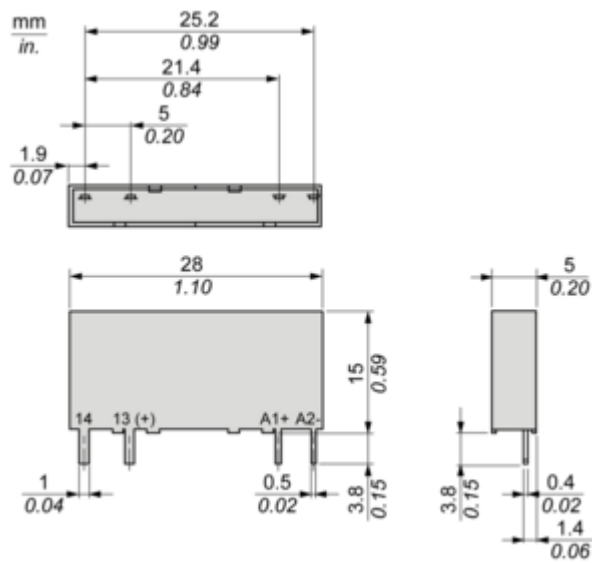
| Materials and Substances               |                                                                                                                                                                                                                                                                                             |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Packaging made with recycled cardboard | Yes                                                                                                                                                                                                                                                                                         |
| Packaging without single use plastic   | No                                                                                                                                                                                                                                                                                          |
| <a href="#">EU RoHS Directive</a>      | Pro-active compliance (Product out of EU RoHS legal scope)                                                                                                                                                                                                                                  |
| 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> |

Use Again

| Repack and remanufacture |    |
|--------------------------|----|
| Take-back                | No |

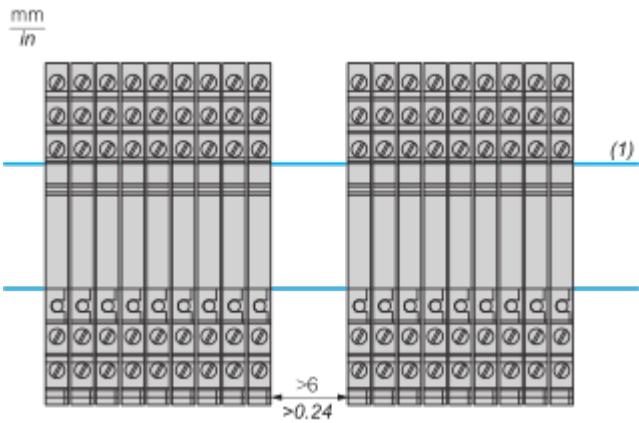
Dimensions Drawings

Dimensions



Mounting and Clearance

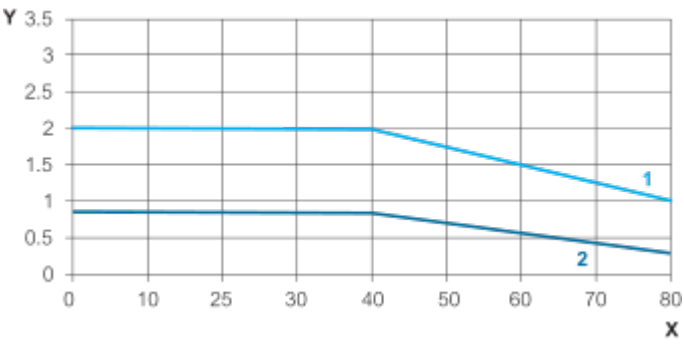
Mounting



(1) : DIN Rail Mount

Performance Curves

Derating Curves

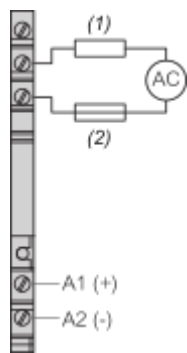


- X : Ambient Temperature (°C)  
Y : Load Current (Amperes)  
1 : Installed single unit, distance to adjacent components more than 6.2 mm  
2 : Multiple units, no minimum spacing between components

Connections and Schema

Wiring

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- (1) Load
- (2) Fuse (Recommended 021602.5MXP Littelfuse)

Technical Illustration

Dimensions

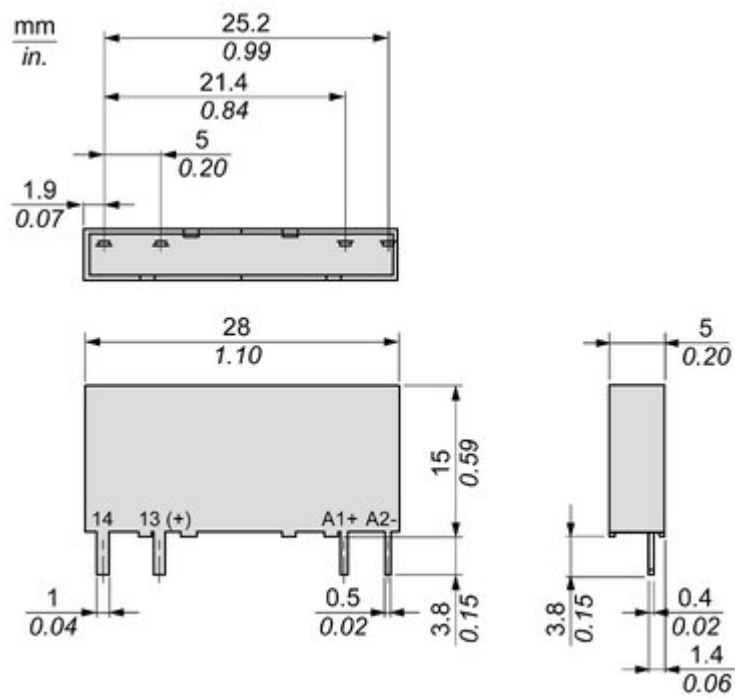


Image of product / Alternate images

Alternative

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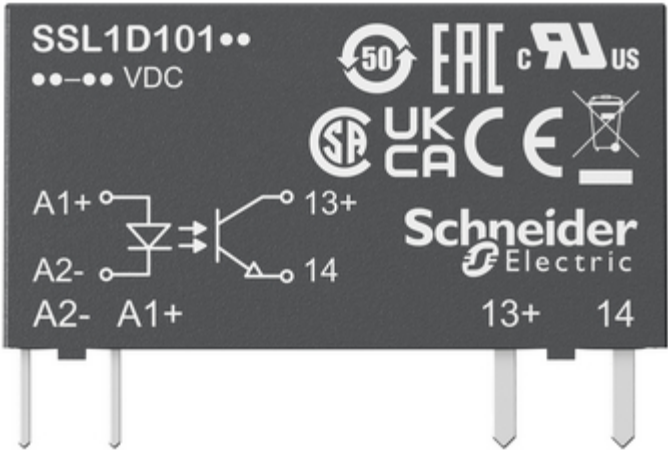


Image of product in real life situation

