



## Main

|                           |                                      |
|---------------------------|--------------------------------------|
| Range of product          | Harmony Solid State Relays           |
| Product or component type | Solid state relay up to 50 A         |
| Device short name         | SSP1                                 |
| Mounting support          | Panel                                |
| Number of phases          | 1 phase                              |
| [In] rated current        | 50 A                                 |
| Solid state output type   | SCR output<br>Zero voltage switching |
| Output switching mode     | Zero voltage switching               |

## Complementary

|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Minimum switching voltage              | 90 V AC turn-on                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Maximum switching voltage              | 10 V AC turn-off                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Response time                          | 30 ms (turn-off)<br>25 ms (turn-on)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Input current                          | 5...10 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Load current                           | 0.15...50 A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Transient overvoltage                  | 1200 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Surge current                          | 625 A for 16.6 ms                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Maximum I <sup>2</sup> t for fusing    | 1770 A <sup>2</sup> .S for 10 ms at 50 Hz<br>1629 A <sup>2</sup> .s for 8.33 ms at 60 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Co-ordination type                     | Type 1 - 40 A miniature circuit breaker (MCB) - curve B<br>Type 2 - 32 A miniature circuit breaker (MCB) - curve 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)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Motor controller rating                | 0.75 Hp 120 V AC<br>2 Hp 240 V AC<br>5 hp 480 V AC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Insulation resistance                  | 1000 MOhm at 500 V DC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Maximum capacitance                    | 8 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Connections - terminals                | Screw terminals: 0.2...3.3 mm <sup>2</sup> , (AWG 24...AWG 12) with cable end for input<br>Screw terminals: 0.5...5.26 mm <sup>2</sup> , (AWG 20...AWG 10) with cable end for output<br>Screw terminals: 0.2...3.3 mm <sup>2</sup> , (AWG 24...AWG 12) without cable end for input<br>Screw terminals: 0.5...8.26 mm <sup>2</sup> , (AWG 20...AWG 8) without cable end for output<br>Forked type tag connectors: 9.2 x 4 mm for input<br>Ring lugs: 9.2 x 4 mm for input<br>Forked type tag connectors: 11.7 x 4.5 mm for output<br>Ring lugs: 11.7 x 4.5 mm for output |
| Thermal resistance                     | 0.45 °C/W junction to case                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| LED indicator                          | LED, green for input                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| IP degree of protection                | IP20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

|                         |                                        |
|-------------------------|----------------------------------------|
| Safety reliability data | B10d = 1731395<br>MTTFd = 1875.9 years |
| Net weight              | 89.2 g                                 |
| Device presentation     | Complete product                       |

## Environment

|                                       |                                                          |
|---------------------------------------|----------------------------------------------------------|
| Ambient air temperature for operation | -40...80 °C                                              |
| Ambient air temperature for storage   | -40...125 °C                                             |
| Pollution degree                      | 2                                                        |
| Overvoltage category                  | III                                                      |
| Product certifications                | EAC[RETURN]CE[RETURN]CSA[RETURN]UL                       |
| Marking                               | EAC<br>CE<br>UL<br>CSA                                   |
| Standards                             | IEC 60950-1<br>CSA C22.2 No 14-13<br>IEC 62314<br>UL 508 |

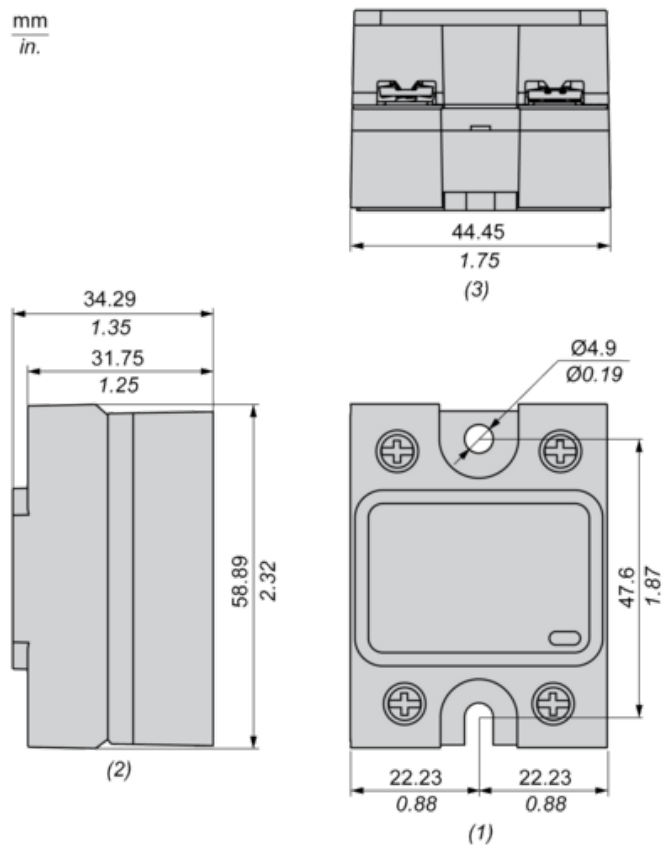
## Packing Units

|                              |          |
|------------------------------|----------|
| Unit Type of Package 1       | PCE      |
| Number of Units in Package 1 | 1        |
| Package 1 Height             | 3.9 cm   |
| Package 1 Width              | 4.7 cm   |
| Package 1 Length             | 6.6 cm   |
| Package 1 Weight             | 99.0 g   |
| Unit Type of Package 2       | S01      |
| Number of Units in Package 2 | 30       |
| Package 2 Height             | 15.0 cm  |
| Package 2 Width              | 15.0 cm  |
| Package 2 Length             | 40.0 cm  |
| Package 2 Weight             | 3.348 kg |

## Offer Sustainability

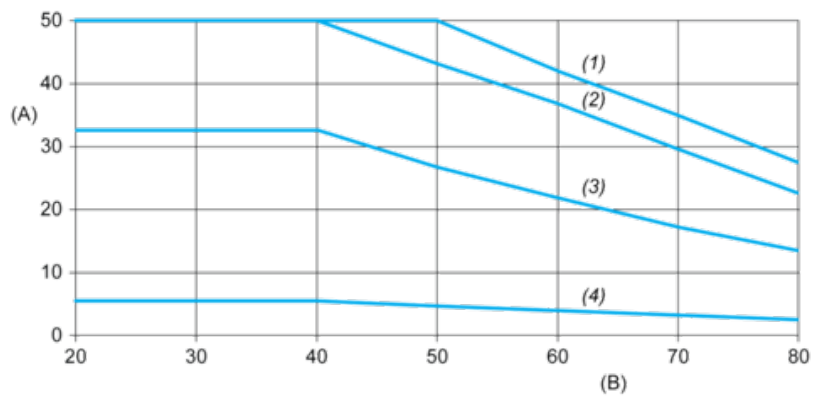
|                            |                                                                                                                                   |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------|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

Dimensions



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

## Derating Curves



A : Load Current (Arms)

B : Ambient Temperature (°C)

(1) For Heatsink SSRHP07

(2) For Heatsink SSRHD10

(3) For Heatsink SSRHP17

(4) No Heatsink