



### Main

|                                 |                                      |
|---------------------------------|--------------------------------------|
| Range of product                | Harmony Relay                        |
| Product or component type       | Solid state relay                    |
| Provided accessory              | Thermal pad                          |
| Device short name               | SSP1                                 |
| Mounting support                | Panel                                |
| Number of phases                | 1 phase                              |
| Contacts type and configuration | 1 NO                                 |
| [In] rated current              | 50 A                                 |
| Solid state output type         | Zero voltage switching<br>SCR output |

### 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...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   |

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

|  |  |
|--|--|
| Maximum voltage drop                   | <1.15 V on-state   |
| DV/Dt                                  | 500 V/ $\mu$ s 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<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  |
| 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  |
| Auxiliary/Alarm connection terminal    | Screw-type connector, 0.5...1.5 mm <sup>2</sup> (AWG 20...AWG 16) with slotted Philips screwdriver   |
| Thermal resistance                     | 0.45 °C/W junction to case   |
| LED indicator                          | LED, steady, green for ON status for control input/test button actuated<br>LED, steady, amber for ON status for load<br>LED, flashing, amber for control input to energise load<br>LED, steady, red for open-circuit for control input<br>LED, flashing, red for load cut-off/short-circuit  |
| Maximum alarm output current           | 30 mA at 32 V DC   |
| Minimum load current                   | 150 mA   |
| IP degree of protection                | IP20   |
| Electromagnetic compatibility          | 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 |
| Safety reliability data                | B10d = 1731395<br>MTTFd = 1875.9 years   |
| Net weight                             | 97.1 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                | REACH<br>CE<br>UL<br>EAC<br>RoHS<br>CSA |
| Marking                               | UL                                      |

CSA  
EAC  
CE

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

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|                  |          |
|------------------|----------|
| Package 1 Weight | 0.100 kg |
| Package 1 Height | 0.460 dm |
| Package 1 width  | 0.450 dm |
| Package 1 Length | 0.590 dm |

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### Offer Sustainability

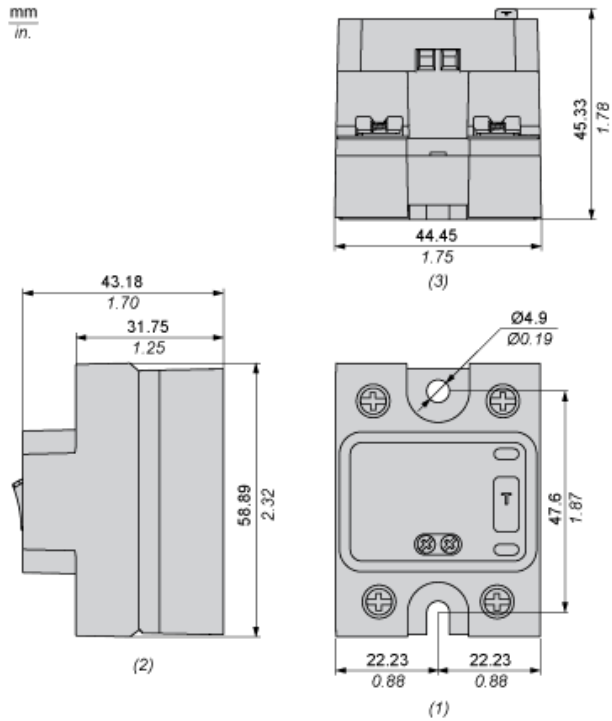
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|                            |   |
|----------------------------|---|
| Sustainable offer status   | Green Premium product   |
| REACH Regulation           | <a href="#">REACH Declaration</a>   |
| EU RoHS Directive          | Pro-active compliance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

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Dimensions

mm  
in.



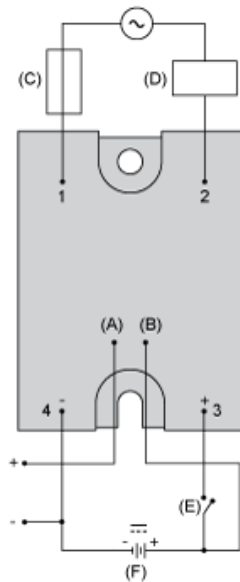
- (1) Front view
- (2) Side view
- (3) Bottom view

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Wiring Diagram

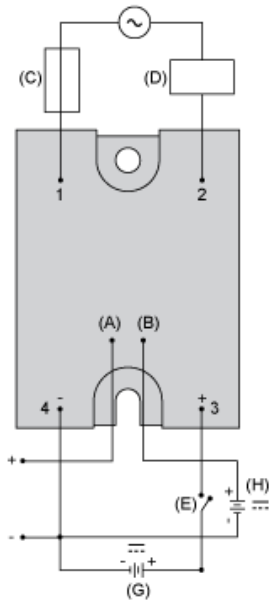
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Single Supply Connection



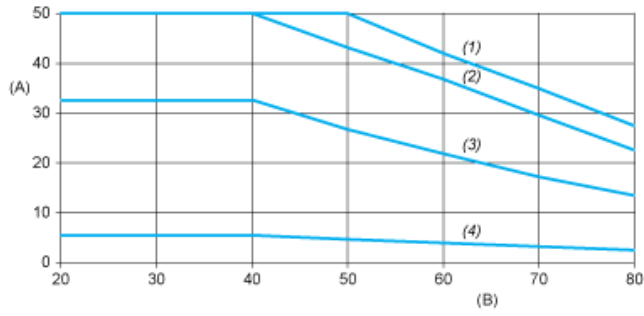
- (F) Control/Auxiliary supply (4...32 V DC)
- (A) Alarm output terminal (4...32 V DC)
- (B) Auxiliary supply terminal
- (C) Fuse or circuit-breaker
- (D) Load
- (E) Switch to energize load

## 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



- A : Load Current (Arms)
- B : Ambient Temperature (°C)
- (1) For Heatsink SSRHP07
- (2) For Heatsink SSRHD10
- (3) For Heatsink SSRHP17
- (4) No Heatsink