

Product data sheet

Specifications



Harmony, Solid state relay, 45 A, DIN rail mount, random switching, input 4...32 V DC, output 48...600 V AC

SSD1A345BDRC2

Main

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| Range of product | Harmony Solid State Relays |
| Product or component type | Solid state relay up to 50 A |
| Device short name | SSD1 |
| Number of channels | 1 |
| Number of phases | 1 phase |
| Product configuration type | Contactors configuration with pluggable screw input |
| Mounting support | 35 mm symmetrical DIN rail conforming to EN/IEC 60715 |
| Rated current | 45 A |
| Output switching mode | Random voltage switching |

Complementary

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| Operating frequency | 47...440 Hz |
| Rated duty | Uninterrupted |
| Output voltage | 48...600 V AC |
| Control circuit voltage | 4...32 V DC |
| Tightening torque | 0.5 N.m for control input 5 lb.in for control input 2...2.2 N.m for load output 18...20 lb.in for load output |
| Connections - terminals | Plug-inscrew terminals, clamping connection capacity:0.08...3.30 mm ² , AWG 28...AWG 12 for input Clamp terminal, clamping connection capacity:10...26.67 mm ² , AWG 8...AWG 3 for output |
| Dielectric strength | 4 kV AC for input/output circuit 4 kV AC for input or output to case |
| Rated impulse withstand voltage | 6 kV for input/output circuit 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 | 10...15 mA |
| Solid state switching type | Random voltage switching |
| Load current | 0.1...45 A |

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| Transient overvoltage | 1200 V |
| Inrush current | 750 A at 60 Hz |
| Maximum voltage drop | <1.25 V on-state |
| Motor controller rating | 0.75 kW/1 hp at 120 V AC 2.24 kW/3 hp at 240 V AC 3.73 kW/5 hp at 480 V AC |
| Electromagnetic compatibility | Electrostatic discharge 6 kV criteria A contact discharge conforming to IEC 61000-4-2 Electrostatic discharge 8 kV criteria A air discharge conforming to IEC 61000-4-2 Conducted RF disturbances 10 V, 0.15...80 MHz criteria A level 3 conforming to IEC 61000-4-6 Electrical fast transient/burst immunity test 2 kV, 5/100 kHz criteria B output ports conforming to IEC 61000-4-4 Electrical fast transient/burst immunity test 1 kV, 5/100 kHz criteria B input ports conforming to IEC 61000-4-4 Radiated radio-frequency electromagnetic field immunity test 10 V/m, 80 MHz...1 GHz criteria A conforming to IEC 61000-4-3 Radiated radio-frequency electromagnetic field immunity test 3 V/m, 1.4...2 GHz criteria A conforming to IEC 61000-4-3 Radiated radio-frequency electromagnetic field immunity test 1 V/m, 2...2.7 GHz criteria A conforming to IEC 61000-4-3 Surge immunity test 1 kV criteria B output ports line to line conforming to IEC 61000-4-5 Surge immunity test 2 kV criteria B output ports line to earth conforming to IEC 61000-4-5 Radiated emission environment B for DC input supply conforming to IEC 60947-4-3 Conducted emission environment B for DC input supply conforming to IEC 60947-4-3 Immunity to microbreaks and voltage drops 30 %, 500 ms criteria A conforming to IEC 61000-4-11 Immunity to microbreaks and voltage drops 100 %, 20 ms criteria B conforming to IEC 61000-4-11 |
| Device form designation | Form 5 semiconductor output DOL contactor |
| Maximum I²t for fusing | 2563 A ² .s for 10 ms 2343 A ² .s for 8.33 ms |
| Maximum leakage current | 1 mA off-state |
| DV/Dt | 500 V/μs off-state at maximum rated voltage |
| Response time | 0.1 ms (turn-on) 0.5 cycle (turn-off) |
| Power factor | 0.5 with maximum load |
| Short circuit protection coordination | Type 1 Type 2 |
| Overvoltage category | III |
| Width | 45 mm |
| Height | 111.5 mm |
| Depth | 154.4 mm |
| Net weight | 0.507 kg |
| Device presentation | Complete product |

Environment

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| Flammability rating | V-0 conforming to UL 94 |
| Vibration resistance | 0.35 mm (f = 10...150 Hz) conforming to EN/IEC 60068-2-6 |
| Shock resistance | 50 gn for 11 ms (peak acceleration) , longitudinal position conforming to EN/IEC 60068-2-27 30 gn for 11 ms (peak acceleration) , vertical position conforming to EN/IEC 60068-2-27 |
| Pollution degree | 2 |
| Standards | IEC 61373:class B: category 1 IEC 60947-4-3 IEC 62314 IEC 60950-1 CSA C22.2 No 14-13 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

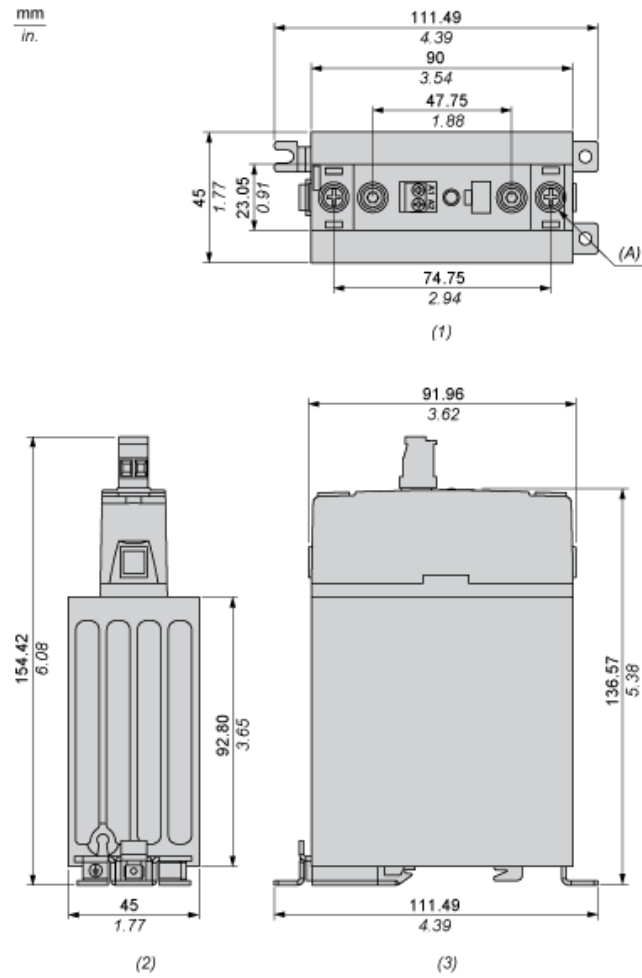
| | |
|------------------------------|----------|
| Unit Type of Package 1 | PCE |
| Number of Units in Package 1 | 1 |
| Package 1 Weight | 560 g |
| Package 1 Height | 11.15 cm |
| Package 1 width | 15.44 cm |
| Package 1 Length | 4.5 cm |
| Unit Type of Package 2 | S02 |
| Number of Units in Package 2 | 10 |
| Package 2 Weight | 6 kg |
| Package 2 Height | 15 cm |
| Package 2 width | 30 cm |
| Package 2 Length | 40 cm |

Offer Sustainability

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| Sustainable offer status | Green Premium product |
| REACH Regulation | REACH Declaration |
| EU RoHS Directive | Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration |
| Mercury free | Yes |
| RoHS exemption information | Yes |
| China RoHS Regulation | China RoHS declaration |
| Environmental Disclosure | Product Environmental Profile |
| Circularity Profile | End of Life Information |
| WEEE | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins |
| 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 www.P65Warnings.ca.gov |

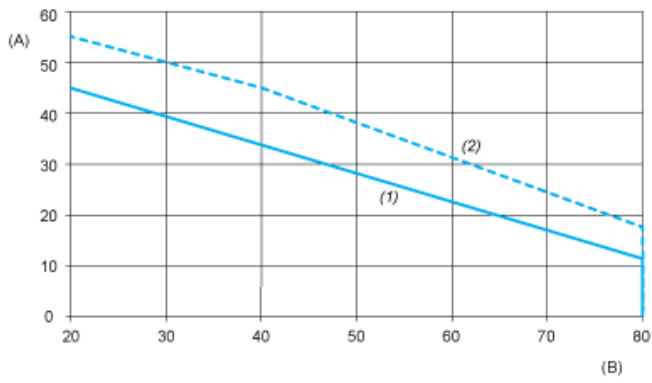
Dimensions

Dimensional Tolerances: ± 0.5 mm / 0.02 In.



- (1) Front view
- (2) Top view
- (3) Side view
- (A) Screw 8-32 Stud (2 Places)

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