

# SSD1A320M7RC2

Harmony, Solid state relay, 20 A, DIN rail mount, random switching, input 90...280 V AC/DC, output 48...600 V AC



## Main

|                            |                                                         |
|----------------------------|---------------------------------------------------------|
| Range of Product           | Harmony Solid State Relays                              |
| Product or Component Type  | Solid state relay up to 20 A                            |
| Device short name          | SSD1                                                    |
| Number of Channels         | 1                                                       |
| Number of phases           | 1 phase                                                 |
| Product configuration type | Contactor configuration with pluggable screw input type |
| Mounting support           | 35 mm symmetrical DIN rail conforming to EN/IEC 60715   |
| Rated current              | 20 A                                                    |
| Output switching mode      | Random voltage switching                                |

## Complementary

|                                 |                                                                                                                                                                                            |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating frequency             | 47...440 Hz                                                                                                                                                                                |
| Rated duty                      | Uninterrupted                                                                                                                                                                              |
| Output voltage                  | 48...600 V AC                                                                                                                                                                              |
| Control circuit voltage         | 90...280 V AC/DC                                                                                                                                                                           |
| Tightening torque               | 0.5 N.m for control input<br>5 lb.in for control input<br>2...2.2 N.m for load output<br>18...20 lb.in for load output                                                                     |
| Connections - terminals         | Plug-inscrew terminals, clamping connection capacity:0.08...3.30 mm², AWG 28...AWG 12 for input<br>Telescopic screw, clamping connection capacity:0.75...10 mm², AWG 20...AWG 8 for output |
| Dielectric strength             | 4 KV AC for input/output circuit<br>4 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                | For control voltage LED (green)                                                                                                                                                            |
| Pick-up voltage                 | 90 V AC/DC turn-on                                                                                                                                                                         |
| Drop-out voltage                | 5 V AC/DC turn-off                                                                                                                                                                         |
| Input current range             | 6...10 mA                                                                                                                                                                                  |
| Solid state switching type      | Random voltage switching                                                                                                                                                                   |
| Load current                    | 0.1...20 A                                                                                                                                                                                 |
| Transient overvoltage           | 1200 V                                                                                                                                                                                     |
| Inrush current                  | 300 A at 60 Hz                                                                                                                                                                             |
| Maximum voltage drop            | <1.3 V on-state                                                                                                                                                                            |
| Motor controller rating         | 0.37 KW/0.5 Hp at 120 V AC<br>1.12 KW/1.5 Hp at 240 V AC<br>2.24 kW/3 hp at 480 V AC                                                                                                       |

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. 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. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric Industries SAS nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein.

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|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Electromagnetic compatibility         | <p>Electrostatic discharge 6 kV criteria A contact discharge conforming to IEC 61000-4-2</p> <p>Electrostatic discharge 8 kV criteria A air discharge conforming to IEC 61000-4-2</p> <p>Conducted RF disturbances 10 V, 0.15...80 MHz criteria A level 3 conforming to IEC 61000-4-6</p> <p>Electrical fast transient/burst immunity test 2 kV, 5/100 kHz criteria B output ports conforming to IEC 61000-4-4</p> <p>Electrical fast transient/burst immunity test 1 kV, 5/100 kHz criteria B input ports conforming to IEC 61000-4-4</p> <p>Radiated radio-frequency electromagnetic field immunity test 10 V/m, 80 MHz...1 GHz criteria A conforming to IEC 61000-4-3</p> <p>Radiated radio-frequency electromagnetic field immunity test 3 V/m, 1.4...2 GHz criteria A conforming to IEC 61000-4-3</p> <p>Radiated radio-frequency electromagnetic field immunity test 1 V/m, 2...2.7 GHz criteria A conforming to IEC 61000-4-3</p> <p>Surge immunity test 1 kV criteria A output ports line to line conforming to IEC 61000-4-5</p> <p>Surge immunity test 2 kV criteria A output ports line to earth conforming to IEC 61000-4-5</p> <p>Surge immunity test 1 kV criteria A input ports line to line conforming to IEC 61000-4-5</p> <p>Surge immunity test 2 kV criteria A input ports line to earth conforming to IEC 61000-4-5</p> <p>Radiated emission environment B for AC input supply conforming to IEC 60947-4-3</p> <p>Conducted emission environment A for AC input supply conforming to IEC 60947-4-3</p> <p>Immunity to microbreaks and voltage drops 30 %, 500 ms criteria A conforming to IEC 61000-4-11</p> <p>Immunity to microbreaks and voltage drops 100 %, 20 ms criteria B conforming to IEC 61000-4-11</p> |
| Device form designation               | Form 5 semiconductor output DOL contactor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Maximum I <sup>2</sup> t for fusing   | 409 A <sup>2</sup> .S for 10 ms<br>375 A <sup>2</sup> .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                         | 20 ms (turn-on)<br>30 ms (turn-off)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Load Power Factor Range               | 0.5 with maximum load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Short circuit protection coordination | Type 1<br>Type 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Overvoltage category                  | III                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Width                                 | 0.89 in (22.5 mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Height                                | 3.62 in (91.9 mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Depth                                 | 5.27 in (133.8 mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Net Weight                            | 0.66 lb(US) (0.301 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 EN/IEC 60068-2-6                                                                                                                               |
| Shock resistance                      | 50 gn for 11 ms (peak acceleration) , longitudinal position conforming to EN/IEC 60068-2-27<br>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<br>IEC 60947-4-3<br>IEC 62314<br>IEC 60950-1<br>CSA C22.2 No 14-13<br>UL 508                                                                             |
| IP degree of protection               | IP20                                                                                                                                                                                   |
| Ambient Air Temperature for Operation | -40...176 °F (-40...80 °C)                                                                                                                                                             |
| Ambient Air Temperature for Storage   | -40...212 °F (-40...100 °C)                                                                                                                                                            |

## Ordering and shipping details

|                   |                                 |
|-------------------|---------------------------------|
| Category          | 22375-INTERFACE MODULE(ABA,R,S) |
| Discount Schedule | CP2                             |
| GTIN              | 3606489807863                   |
| Returnability     | No                              |

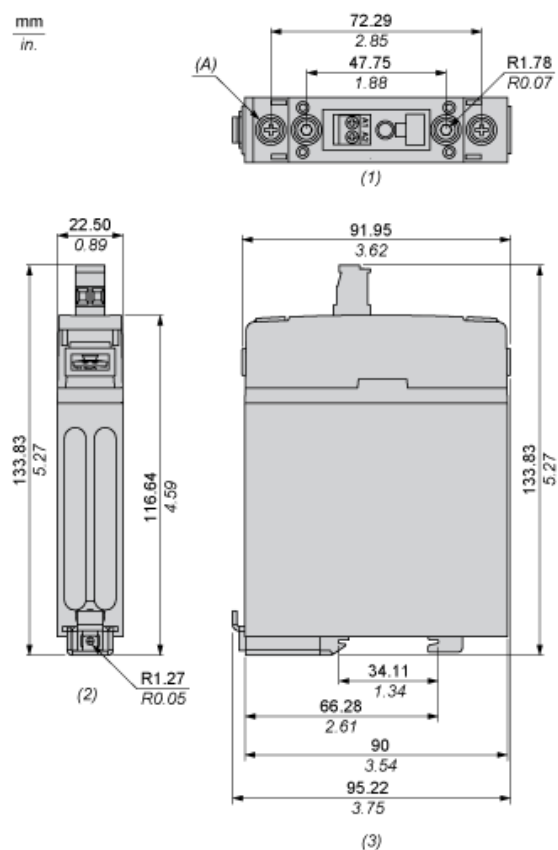
## Packing Units

|                              |                         |
|------------------------------|-------------------------|
| Unit Type of Package 1       | PCE                     |
| Number of Units in Package 1 | 1                       |
| Package 1 Height             | 1.02 in (2.6 cm)        |
| Package 1 Width              | 3.78 in (9.6 cm)        |
| Package 1 Length             | 5.51 in (14.0 cm)       |
| Package 1 Weight             | 11.43 oz (324.0 g)      |
| Unit Type of Package 2       | S02                     |
| Number of Units in Package 2 | 24                      |
| Package 2 Height             | 5.91 in (15.0 cm)       |
| Package 2 Width              | 11.81 in (30.0 cm)      |
| Package 2 Length             | 15.75 in (40.0 cm)      |
| Package 2 Weight             | 18.18 lb(US) (8.247 kg) |

## Offer Sustainability

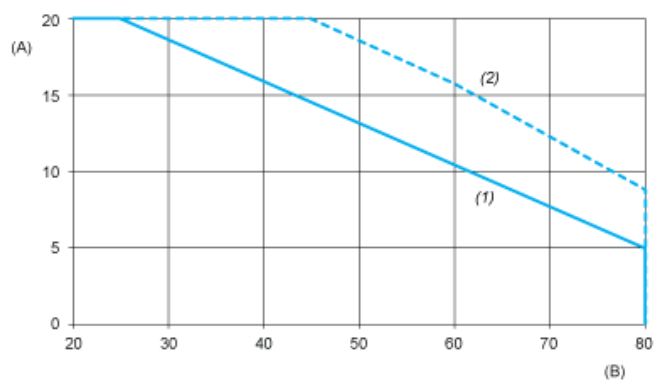
|                            |                                                                                                                                                                                                                                                                                             |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sustainable offer status   | Green Premium product                                                                                                                                                                                                                                                                       |
| 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> |
| REACH Regulation           | <a href="#">REACH Declaration</a>                                                                                                                                                                                                                                                           |
| EU RoHS Directive          | Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>                                                                                                                                                                                              |
| 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>                                                                                                                                                                                                                                                     |
| WEEE                       | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins.                                                                                                                                                                |

## Dimensions



- (1) Front view
- (2) Top view
- (3) Side view
- (A) Screw 8-32 Stud Elevator Profile 1/4 48 UNS (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