

# Product data sheet

Specifications



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

SSD1A320M7C1

## 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	Relay configuration
Mounting support	35 mm symmetrical DIN rail conforming to EN/IEC 60715
Rated current	20 A
Output switching mode	Zero 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	1.5...1.7 N.m for control input 13...15 lb.in for control input 1.5...1.7 N.m for load output 13...15 lb.in for load output
Connections - terminals	Screw terminals, clamping connection capacity:1...4 mm <sup>2</sup> , AWG 18...AWG 12 for input Screw terminals, clamping connection capacity:1...6 mm <sup>2</sup> , AWG 18...AWG 10 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	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	Zero voltage switching
Load current	0.1...20 A

<b>Transient overvoltage</b>	1200 V
<b>Inrush current</b>	300 A at 60 Hz
<b>Maximum voltage drop</b>	<1.3 V on-state
<b>Motor controller rating</b>	0.37 kW/0.5 hp at 120 V AC 1.12 kW/1.5 hp at 240 V AC 2.24 kW/3 hp at 480 V AC
<b>Electromagnetic compatibility</b>	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 A output ports line to line conforming to IEC 61000-4-5 Surge immunity test 2 kV criteria A output ports line to earth conforming to IEC 61000-4-5 Surge immunity test 1 kV criteria A input ports line to line conforming to IEC 61000-4-5 Surge immunity test 2 kV criteria A input ports line to earth conforming to IEC 61000-4-5 Radiated emission environment B for AC input supply conforming to IEC 60947-4-3 Conducted emission environment A for AC 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
<b>Device form designation</b>	Form 5 semiconductor output DOL contactor
<b>Maximum I<sup>2</sup>t for fusing</b>	409 A <sup>2</sup> .s for 10 ms 375 A <sup>2</sup> .s for 8.33 ms
<b>Maximum leakage current</b>	1 mA off-state
<b>DV/Dt</b>	500 V/μs off-state at maximum rated voltage
<b>Response time</b>	20 ms (turn-on) 30 ms (turn-off)
<b>Power factor</b>	0.5 with maximum load
<b>Short circuit protection coordination</b>	Type 1 Type 2
<b>Overvoltage category</b>	III
<b>Width</b>	22.5 mm
<b>Height</b>	93.2 mm
<b>Depth</b>	116.5 mm
<b>Net weight</b>	0.298 kg
<b>Device presentation</b>	Complete product
<b>Environment</b>	
<b>Flammability rating</b>	V-0 conforming to UL 94
<b>Vibration resistance</b>	0.75 mm (f = 10...150 Hz) conforming to EN/IEC 60068-2-6
<b>Shock resistance</b>	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
<b>Pollution degree</b>	2
<b>Standards</b>	IEC 61373:class B: category 1 IEC 60947-4-3 IEC 62314 IEC 60950-1 CSA C22.2 No 14-13 UL 508
<b>IP degree of protection</b>	IP20
<b>Ambient air temperature for operation</b>	-40...80 °C
<b>Ambient air temperature for storage</b>	-40...100 °C

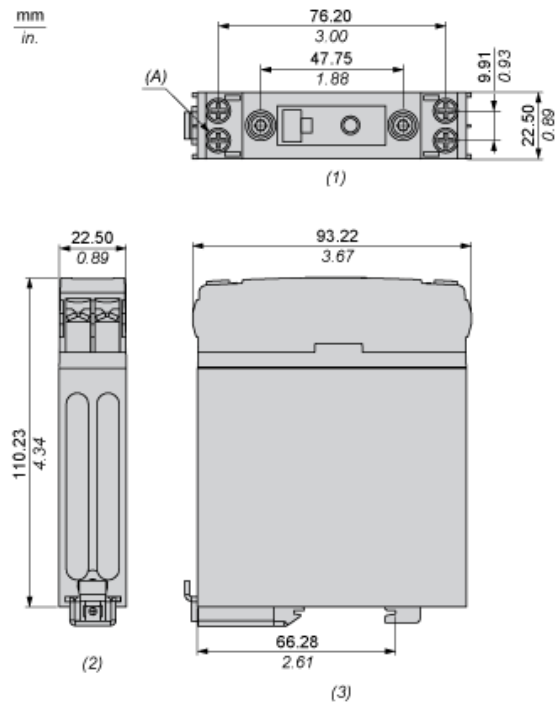
## Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	2.5 cm
Package 1 Width	9.3 cm
Package 1 Length	14.0 cm
Package 1 Weight	322.0 g
Unit Type of Package 2	S02
Number of Units in Package 2	24
Package 2 Height	15.0 cm
Package 2 Width	30.0 cm
Package 2 Length	40.0 cm
Package 2 Weight	8.186 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) <a href="#">EU RoHS Declaration</a>
Mercury free	Yes
China RoHS Regulation	<a href="#">China RoHS declaration</a>
RoHS exemption information	Yes
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
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>

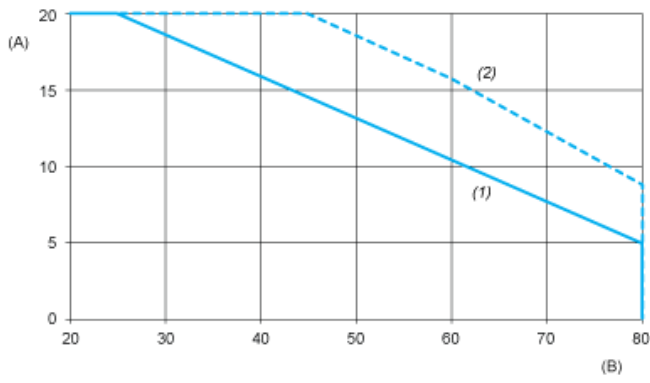
## Dimensions



- (1) Front view
- (2) Top view
- (3) Side view
- (A) Screw M4 Stud (4 Places)

**Derating Curves**

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- 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

**Recommended replacement(s)**