

Product data sheet

Specifications



single phase relay, Harmony Solid State Modular Relays, 12A, DIN rail mount, zero voltage switching, input 4 to 32V DC, output 48 to 600V AC

SSM1A312BD

Main

Range Of Product	Harmony Solid State Relays
Product Or Component Type	Solid state relay up to 20 A
Device Short Name	SSM
Number Of Channels	1
Number Of Phases	1 phase
Output Switching Mode	Zero voltage switching

Complementary

Mounting Support	Symmetrical DIN rail
[In] Rated Current	12 A
Output Voltage	48...600 V AC
[Uc] Control Circuit Voltage	4...32 V DC
Tightening Torque	0.5...0.8 N.m for input 0.5...0.8 N.m for output
Connections - Terminals	Screw terminals: 1 x 0.3...1 x 1.5 mm², (AWG 22...AWG 16) for input Screw terminals: 1 x 0.3...1 x 2.5 mm², (AWG 22...AWG 14) for output
Maximum Capacitance	10 pF for input/output
Insulation Resistance	1000 MOhm at 500 V DC
Local Signalling	LED (green) for input status
Minimum Switching Voltage	4 V DC turn-on
Maximum Switching Voltage	1 V DC turn-off
Input Current	9...11 mA
Solid State Output Type	SCR output Zero voltage switching
Load Current	0.15...12 A
Transient Overvoltage	1200 V
Surge Current	715 A for 16.6 ms 750 A for 20 ms
Maximum Voltage Drop	<1.3 V on-state
Motor Power Hp	0.33 hp 40 °C 240 V AC
Maximum I²T For Fusing	2560 A².s for 10 ms at 50 Hz 2330 A².s for 8.33 ms at 60 Hz
Maximum Leakage Current	0.2 mA off-state
Dv/Dt	500 V/µs off-state at maximum voltage

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

Response Time	0.5 cycle (turn-on) 0.5 cycle (turn-off)
Power Factor	0.5 (with maximum load)
Overvoltage Category	III
Width	18 mm
Height	90.3 mm
Depth	83.7 mm
Net Weight	0.09 kg

Environment

Flame Retardance	V0 conforming to UL 94
Dielectric Strength	4 kV AC for input/output 4 kV AC for input or output to case
Pollution Degree	2
Standards	IEC 60950-1 IEC 61000 IEC 62314
Product Certifications	CSA UL
Marking	CE
Ip Degree Of Protection	IP20
Ambient Air Temperature For Operation	-30...80 °C
Ambient Air Temperature For Storage	-30...100 °C

Packing Units

Unit Type Of Package 1	PCE
Number Of Units In Package 1	1
Package 1 Height	2.0 cm
Package 1 Width	9.0 cm
Package 1 Length	9.0 cm
Package 1 Weight	94.0 g
Unit Type Of Package 2	S02
Number Of Units In Package 2	72
Package 2 Height	15.0 cm
Package 2 Width	30.0 cm
Package 2 Length	40.0 cm
Package 2 Weight	7.204 kg

Sustainability

Green Premium™ label is Schneider Electric's commitment to delivering products with best-in-class environmental performance. Green Premium promises compliance with the latest regulations, transparency on environmental impacts, as well as circular and low-CO₂ products.

Guide to assessing product sustainability is a white paper that clarifies global eco-label standards and how to interpret environmental declarations.

[Learn more about Green Premium >](#)

[Guide to assess a product's sustainability >](#)



Transparency RoHS/REACH

Well-being performance

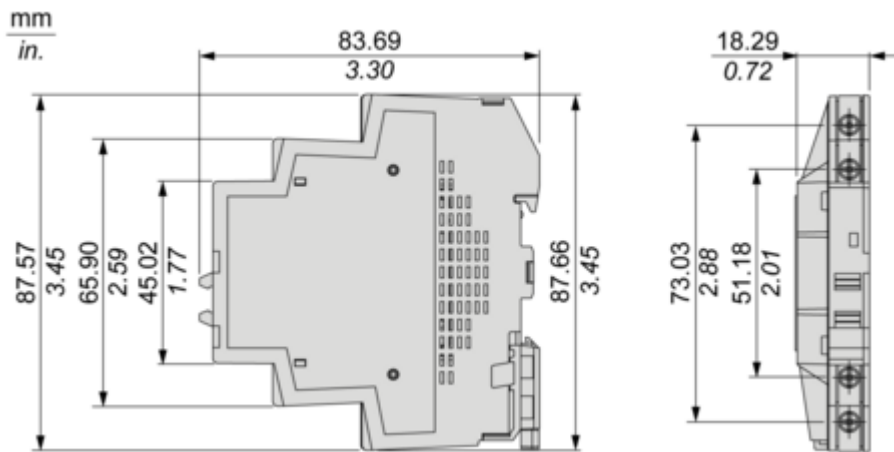
✓ Mercury Free

✓ Rohs Exemption Information [Yes](#)

Certifications & Standards

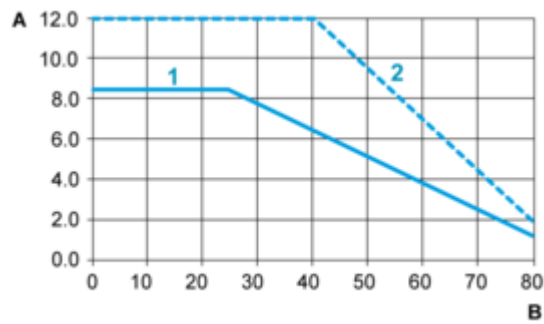
Reach Regulation	REACH Declaration
Eu Rohs Directive	Pro-active compliance (Product out of EU RoHS legal scope)
China Rohs Regulation	China RoHS declaration
Environmental Disclosure	Product Environmental Profile
Circularity Profile	End of Life Information
California Proposition 65	WARNING: This product 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



Performance Curves

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 18 mm