



Harmony Solid State Relays

Slim interfaces, Modular DIN rail and
Panel mount solid state relays



Harmony

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Advanced operator interface and industrial relays

Harmony operator interface and industrial relays enhance operational efficiency and equipment availability across industrial and building applications. Harmony includes intelligent connected products and edge terminals that visualize, gather and process data, enabling informed operator decisions.

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- Harmony Signaling Devices
- Harmony Electrical Relays
- Harmony Safety

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References

Modicon TM3
I/O expansion modules for Modicon controllers
Analog I/O modules

References	Modicon analog input modules	Number of channels	Input range	Output range	Resolution	Input terminal	Reference	Weight (g)
TM3A0X	2 analog inputs	-10...+10VDC	-10...+10VDC	-10...+10VDC	16 bits or sign	1.0501.2	TM3A0X	0.190
TM3A0M	2 analog inputs	-2...+20mA	-2...+20mA	-2...+20mA	16 bits or sign	1.0501.2	TM3A0M	0.264
TM3A1X	4 analog inputs	-10...+10VDC	-10...+10VDC	-10...+10VDC	16 bits or sign	1.0501.15	TM3A1X	0.200
TM3A1M	4 analog inputs	-2...+20mA	-2...+20mA	-2...+20mA	16 bits or sign	1.0501.15	TM3A1M	0.245
TM3A2X	4 temperature inputs	(A, K, J, S, T, N, E, C)	(-20...+1000 °C)	(-20...+1000 °C)	16 bits or sign	1.0501.15	TM3A2X	0.200
TM3A2M	4 temperature inputs	(A, K, J, S, T, N, E, C)	(-20...+1000 °C)	(-20...+1000 °C)	16 bits or sign	1.0501.15	TM3A2M	0.200
TM3D1X	4 differential temperature inputs	(J, K, R, S, B, T, N, E, C)	(-20...+1000 °C)	(-20...+1000 °C)	16 bits or sign	1.0501.15	TM3D1X	0.240
TM3D1M	4 differential temperature inputs	(J, K, R, S, B, T, N, E, C)	(-20...+1000 °C)	(-20...+1000 °C)	16 bits or sign	1.0501.15	TM3D1M	0.240
TM3A3X	8 waveform inputs	-10...+10VDC	-10...+10VDC	-10...+10VDC	12 bits or 24 bits	TM3A3X	0.190	

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Characteristics Documents and Downloads Technical FAQs Additional Information Dimensions Drawings

Main

range of product Modicon TM3

product or component type Analog input module

range compatibility Modicon M251

Each commercial reference presented in a catalog contains a hyperlink. Click on it to obtain the technical information of the product:

- Characteristics, Dimensions and drawings, Mounting and clearance, Connections and schemas, Performance curves
- Product image, Instruction sheet, User guide, Product certifications, End of life manual

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Harmony Relays - Solid State Relays

Choose long life and silent operation with Harmony SSRs

Maintenance free

fully electronic,
unlimited life span

High switching frequency

allows precise and quick
control

Silent and reliable switching

no moving parts,
noiseless switching

Sustainability in harsh environment

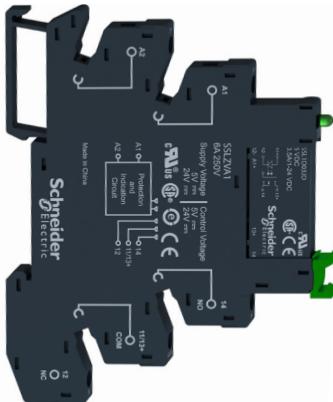
resistance to shock,
vibration, and
contamination

The Harmony SSR series offers slim interface (SSL), modular DIN rail (SSD, SSM) and panel mount (SSP) solid state relays that provide complete, compact, and innovative solutions for a wide variety of applications with interfacing control and load switching. They are the ideal solution for packaging, plastic molding, textile, and heating furnace applications.

Choose a slim interfacing solution with SSL relays

Slim relay-socket solution

- Complete range of control input and load output configurations for both AC and DC switching applications
- Compact solution with 6 mm/0.236 in. width, allows customers to choose the combination of relays and associated sockets from the wide range available



SSL slim interface relay mounted on SSLZ socket

Pre-assembled SSL relays*

Control input voltage	Load output voltage
... 4...12 V	... 1...24 V ... 1...48 V ~ 24...250 V
... 16...30 V	... 1...24 V ... 1...48 V ~ 24...250 V

* SSL relays + SSLZ sockets

Enhanced performance in any situation

- Socket with integrated reverse polarity protection circuit and control input/relay status LED indicator
- IP 67 protection and fully encapsulated



LED indicator for relay status

Simplified installation and mounting

- Locking/unlocking lever for replacing relay from the socket
- Simple mounting on DIN rail
- Choice of screw connector and spring terminal connection for sockets



Screw connector



Spring terminal

SSL/RSL relays + SSLZ/RSLZ sockets → Slim plug-in interface solution

**Choose reliability and flexibility with innovative
DIN rail mount SSD relays**

Performance

- High I²T (up to 8320 A²S) to facilitate the use of circuit breakers instead of fuses, allowing Type 1 coordination protection (as per IEC 60947-4-3)
- High current rating (up to 35A for 22.5mm models, and up to 60A for 45mm models) at a compact size, optimizing the size of your enclosure
- Surge protection from applications with Built-in transient overvoltage protection

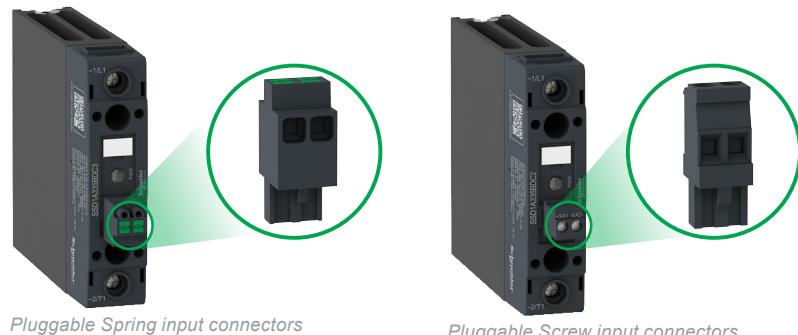
Flexibility

- Contactor configuration to suit your wiring preferences
- Telescopic screw terminal options available to facilitate the use of lug terminals



Simplified selection and installation

- Integrated heat sink to eliminate the need for thermal calculation
- Spring input connectors option is available for simplified wiring



Wide range of standards and certifications

- Complies with IEC 61373 for railway and rolling stock application
- Electromagnetic compatibility complying to IEC 60947-4-3 standard
- Conforms to a wide range of internationally recognized standards and certification

22.5mm/0.886 in.



SSD1: 20, 30 and
35 A single-phase SSR

45mm/1.772 in.



SSD1: 45 and 60 A
single-phase SSR

SSD relays	Control input voltage	Load output voltage
	—4...32V	—1...150 V ~48...600V
	≈ 90...280V	≈ 48...600V

Note: The SSD1 range references will be substituting the SSM1 range references for 22.5 mm/0.886 in. width (20 A, 30 A) and 45 mm/1.771 in. width (45 A, 55 A).

Harmony SSR → The new generation solid state relays

Choose modularity with DIN rail mount SSM relays

Ready to use “Plug and play”

- Modular design of IP 20 housing and built-in heat sink for optimized operating conditions
- Easy mounting on standard 35 mm/1.378 in. DIN rail with a secure mounting latch

Compact design

- Requires less panel space due to slim width and thus reduces the size of your enclosures
- Optimized modular design available in various sizes (11, 18, 22.5, 45 and 90 mm width) with load output current of 6, 12, 20, 30, 45, and 55 A

11 mm/0.433 in.



SSM1: 6 A
single-phase SSR

18 mm/0.709 in.



SSM2: 6 A dual channel,
single-phase SSR

SSM1 relays	
Control input voltage	Load output voltage
...4...32V	...1...48V ...1...100V
...4...32V	~24...280V ~48...600V
~18...36V ~90...140V ~200...265V	~24...280V ~48...600V

SSM2 relays	
Control input voltage	Load output voltage
...4...32V	~24...280V ~48...600V

22.5 mm/0.886 in.



SSM1: 20 and 30 A
single-phase SSR

45 mm/1.772 in.



SSM1: 45 and 55 A
single-phase SSR

SSM1 relays	
Control input voltage	Load output voltage
...4...32V	~24...280V ~48...660V
...3...32V	~24...280V
~90...140V ~90...280V	~24...280V ~48...660V

90 mm/3.543 in.



SSM3: 25 A
three-phase SSR

SSM3 relays	
Control input voltage	Load output voltage
...4...32V	~48...600V
~90...140V	~48...600V
~180...280V	~48...600V

Enhanced modular solution

- Wide choice of relays with single-phase and three-phase options and current ratings from 6 A to 55 A
- Zero voltage switching for resistive loads and random switching for inductive loads
- UL and cUL approved including the general purpose and motor controller rating standards

SSM1 (1-phase)/SSM2 (1-phase dual channel)/SSM3 (3-phase) → Plug & Play solution

Choose a complete panel mount solution with SSP relays

Complete solution

- > Single-phase and three-phase panel mount solid state relays with a range of heat sinks and accessories to meet application needs from 10 A to 125 A
- > Easy product selection with simplified product nomenclature and direct heat sink selection available in product data sheets
- > Wide choice of heat sinks with thermal resistance ratings of 0.2 °C/W to 2.5 °C/W



SSP1: Single-phase panel mount SSR

SSP1.relays	
Control input voltage	Load output voltage
—3.5...32 V	—1...150 V
—3...32 V	~24...300 V
—4...32 V	~48...660 V
~90...280 V	~24...300 V ~48...660 V



SSP1.S: Single-phase panel mount SSR with smart diagnostic features

SSP1.S.relays	
Control input voltage	Load output voltage
—3...32 V	~24...300 V
—4...32 V	~48...660 V



SSP3: Three-phase panel mount SSR

SSP3.relays	
Control input voltage	Load output voltage
—4-32 V	~48-530 V
~18-36 V	~48-530 V
~90-140 V	
~180-280 V	

Simple, safe, and robust screw terminals

- > Simple and easy wiring; accepts wires with different kinds of terminations (cable ends, fork lug, ring lug)
- > Safe and fool-proof design with IP 20 protection and integrated enclosure
- > Robust self-aligned screw terminals with proven effectiveness in helping to prevent screw jams

Innovative SSP1.S with smart diagnostics and test button

- > Smart diagnostic features with built-in visual indicator and alarm output enables quick response to unexpected results and correct monitoring of SSR operation
- > A test button for easy debugging, testing, and commissioning

Simplified installation and mounting

- > Product option with readily available factory-fit thermal pad
- > Heat sink offers panel and DIN rail mounting options

SSP1 (1-phase)/SSP3 (3-phase) + SSRH (Heat sinks) → Complete solution

Type of product	Slim interface SSR		Modular DIN rail SSR		Modular DIN rail SSR (continued)		Panel mount SSR	
	Customer assembly (Relay and socket)	Pre-assembled (Relay with socket)						
								
Number of phases	1	1	1	1	1	1 (dual SSR)	3	1
Type of mounting	Plug-in PCB pins with DIN rail mounted socket	DIN rail mounted	DIN rail mounted	DIN rail mounted	DIN rail mounted	DIN rail mounted	DIN rail mounted	Panel mounted
Control input voltage	~	–	90...280 V	18...36 V 90...140 V 200...265 V	90...140 V 90...280 V	–	90...140 V 90...280 V	90...280 V
	—	3...12 V 15...30 V 16...30 V 38...72 V	4...12 V 16...30 V	4...32 V 90...280 V	4...32 V	3...32 V 4...32 V	4...32 V	18...36 V 90...140 V 180...280 V
Output load voltage	~	24...280 V	24...250 V	48...600 V	24...280 V 48...600 V	24...280 V 48...660 V	24...280 V 48...600 V	24...300 V 48...660 V
	—	1...24 V 1...48 V	1...24 V 1...48 V	1...150 V	1...60 V 1...100 V	–	–	48...530 V
Output load current	~	2 A	20,35 A for 22.5 mm/0.886 in. 40, 60 A for 45 mm/1.772 in.	6 A for 12 mm/0.472 in. 12 A for 18 mm/0.709 in.	20, 30 A for 22.5 mm/0.886 in. 45, 55 A for 45 mm/1.772 in.	6 A	25 A	10, 25, 50, 75, 90, 125 A
	—	0.1, 3.5 A	20,30 A for 22.5 mm/0.886 in.	6 A for 12 mm/0.472 in. 12 A for 18 mm/0.709 in.	–	–	–	25, 50 A
Type of switching	Zero voltage	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Random	Yes	Yes	Yes	–	Yes	Yes	Yes
	DC	Yes	Yes	Yes	–	–	–	–
Cooling	–	Built-in heat sink	Built-in heat sink	Built-in heat sink	Built-in heat sink	Built-in heat sink	Built-in heat sink	Option with thermal pad
Degree of protection	IP 67 (encapsulation) IP 20 (socket)	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
LED indication	Yes (on socket)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Solid state relay type	SSL (1) (2)	SSD1 (3)	SSM1	SSM1 (3)	SSM2	SSM3	SSP1	SSP3
Pages	9	13	16 and 17	16 and 17	17	17	19	20

(1) SSL slim relays and SSLZ sockets.

(2) Pre-assembled SSL slim relays (relay + socket).

(3) The SSD1 range references will be substituting the SSM1 range references for 22.5 mm/0.886 in. width (20 A, 30 A) and 45 mm/1.771 in. width (45 A, 55 A).

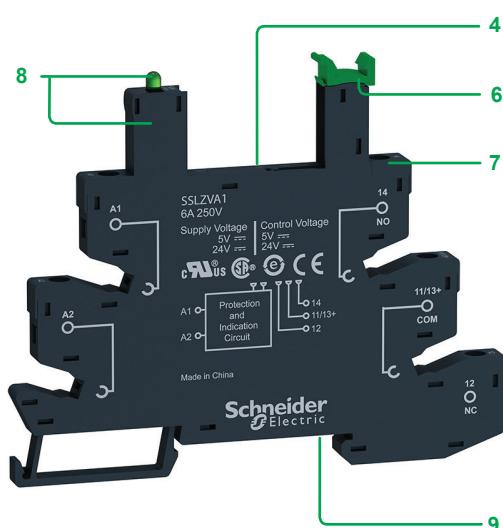




Pre-assembled solid state relay



SSL relay



Socket equipped with LED and protection circuit

Presentation of the range

SSL solid state relays offer the advantages of several input and output configurations for both AC and DC switching applications. Their compact size and modular design reduces space and allows easy mounting on the socket.

The plug-in type relays can be mounted directly on a PCB or with a socket on a standard 35 mm/1.378 in. DIN rail. The sockets are available in screw connector and spring terminal types.

SSL relays offer:

- A choice of relays and sockets to suit a range of operating voltages
- Zero voltage switching for resistive load and random switching for inductive load applications
- Simple maintenance as the relays can be held in place/released by locking/unlocking the lever without disconnecting the socket wiring
- Socket with reverse polarity protection circuit and LED indicator for easy identification of control status

These relays are available in both pre-assembled (single reference) and customer assembled offers.

Relay description

SSL slim solid state relays

1 Relay with 1 N/O contact and any one of the following ratings:

- 24 V $\perp\!\!\!\perp$, 3.5 A
- 48 V $\perp\!\!\!\perp$, 100 mA
- 280 V \sim , 2 A

2 4 flat, reinforced pins (PCB type)

3 5 mm/0.197 in. relay width for up to 3.5 A of load current

Socket description

Sockets for SSL slim solid state relays

4 5 female contacts for the relay pins

5 6.2 mm/0.244 in. socket width

6 Lever for locking or releasing the relay from its socket with clip-in marker legend

7 Wire connection by screw connectors or spring terminals

8 Built-in reverse polarity protection circuit and LED indicator

9 Locating slot for mounting on DIN rail



Pre-assembled solid state slim relays

Relays mounted on screw sockets (sold in lots of 30)

Switching	Voltage range		Load current range	Reference	Weight
	Control input	Load output			
DC Switching	... 4 to 12	... 1 to 24	3.5	SSL1D03JDPV (SSL1D03JD + SSLZVA1)	0.033/0.073
	... 4 to 12	... 1 to 48	0.1	SSL1D101JDPV (SSL1D101JD + SSLZVA1)	0.033/0.073
Zero voltage switching	... 4 to 12	~ 24 to 250	2	SSL1A12JDPV (SSL1A12JD + SSLZVA1)	0.033/0.073
Random switching	... 4 to 12	~ 24 to 250	2	SSL1A12JDRPV (SSL1A12JDR + SSLZVA1)	0.033/0.073
DC Switching	... 16 to 30	... 1 to 24	3.5	SSL1D03BDPV (SSL1D03BD + SSLZVA1)	0.033/0.073
	... 16 to 30	... 1 to 48	0.1	SSL1D101BDPV (SSL1D101BD + SSLZVA1)	0.033/0.073
Zero voltage switching	... 16 to 30	~ 24 to 250	2	SSL1A12BDPV (SSL1A12BD + SSLZVA1)	0.033/0.073
Random switching	... 16 to 30	~ 24 to 250	2	SSL1A12BDRPV (SSL1A12BDR + SSLZVA1)	0.033/0.073

Relays mounted on spring sockets (sold in lots of 30)

DC Switching	... 4 to 12	... 1 to 24	3.5	SSL1D03JDPR (SSL1D03JD + SSLZRA1)	0.033/0.073
	... 4 to 12	... 1 to 48	0.1	SSL1D101JDPR (SSL1D101JD + SSLZRA1)	0.033/0.073
Zero voltage switching	... 4 to 12	~ 24 to 250	2	SSL1A12JDPR (SSL1A12JD + SSLZRA1)	0.033/0.073
Random switching	... 4 to 12	~ 24 to 250	2	SSL1A12JDRPR (SSL1A12JDR + SSLZRA1)	0.033/0.073
DC Switching	... 16 to 30	... 1 to 24	3.5	SSL1D03BDPR (SSL1D03BD + SSLZRA1)	0.033/0.073
	... 16 to 30	... 1 to 48	0.1	SSL1D101BDPR (SSL1D101BD + SSLZRA1)	0.033/0.073
Zero voltage switching	... 16 to 30	~ 24 to 250	2	SSL1A12BDPR (SSL1A12BD + SSLZRA1)	0.033/0.073
Random switching	... 16 to 30	~ 24 to 250	2	SSL1A12BDRPR (SSL1A12BDR + SSLZRA1)	0.033/0.073

PF123409A



SSL1A12JD

PF123420B



SSLZVA1 + SSL1D03JD

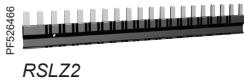
Relays and sockets for customer assembly

SSL single-phase solid state relays (sold in lots of 12)

Switching	Voltage range Control input	Voltage range Load output	Load current range	Reference	Weight kg/lb
DC switching	— 3 to 12	— 1 to 24	3.5	SSL1D03JD	0.004/0.009
		— 1 to 48	0.1	SSL1D101JD	0.004/0.009
	— 15 to 30	— 1 to 24	3.5	SSL1D03BD	0.004/0.009
	— 16 to 30	— 1 to 48	0.1	SSL1D101BD	0.004/0.009
	— 38 to 72	— 1 to 24	3.5	SSL1D03ND	0.004/0.009
		— 1 to 48	0.1	SSL1D101ND	0.004/0.009
Zero voltage switching	— 3 to 12	~ 24 to 280	2	SSL1A12JD	0.004/0.009
	— 15 to 30	~ 24 to 280	2	SSL1A12BD	0.004/0.009
	— 38 to 72	~ 24 to 280	2	SSL1A12ND	0.004/0.009
Random switching	— 3 to 12	~ 24 to 280	2	SSL1A12JDR	0.004/0.009
	— 15 to 30	~ 24 to 280	2	SSL1A12BDR	0.004/0.009
	— 38 to 72	~ 24 to 280	2	SSL1A12NDR	0.004/0.009

Sockets equipped with LED and protection circuit (sold in lots of 10)

Control voltage (Nominal) V	For use with relays	Socket type	Weight kg/lb	Spring terminals	
		Screw connector		Unit reference	Weight kg/lb
— 5	SSL1D03JD SSL1D101JD SSL1A12JD SSL1A12JDR	SSLZVA1	0.029/0.063	SSLZRA1	0.029/0.063
— 24	SSL1D03BD SSL1D101BD SSL1A12BD SSL1A12BDR	SSLZVA1	0.029/0.063	SSLZRA1	0.029/0.063
— 60	SSL1D03ND SSL1D101ND SSL1A12ND SSL1A12NDR	SSLZVA2	0.029/0.063	SSLZRA2	0.029/0.063
~ 110	SSL1D03ND SSL1D101ND SSL1A12ND SSL1A12NDR	SSLZVA3	0.029/0.063	SSLZRA3	0.029/0.063
~ 230	SSL1D03ND SSL1D101ND SSL1A12ND SSL1A12NDR	SSLZVA4	0.029/0.063	SSLZRA4	0.029/0.063



RSLZ2



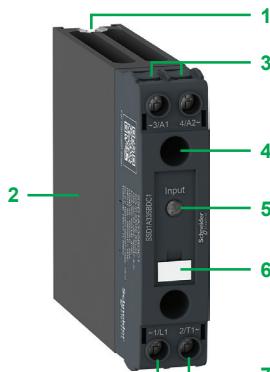
RSLZ3

Accessories for sockets			
Description	Compatibility	Reference	Weight kg/lb
Clip-in legends (2 sheets of 64 legends)	SSL sockets	RSLZ5	0.001/0.002
Bus jumper (10 x 20-pole jumper)	SSL sockets	RSLZ2	0.003/0.007
Partition plate (10 partition plates)	SSL sockets	RSLZ3	0.001/0.002

Presentation of the range

SSD1 solid state relays are single-phase DIN rail mounted relays with high-power density of up to 60 A and built-in heat sink. They are available in two configurations, namely the relay and contactor types.

The SSD1 family offers a unique range of terminal connections (input connectors: spring or screw plug-in, output terminals: telescopic, clamp cage or standard screw) providing options as per the wiring preference.

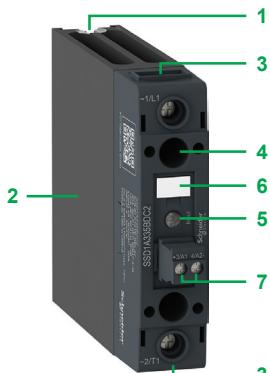


SSD1 single-phase solid state DIN rail relay, 22.5 mm

Relay description

SSD1 relay, 22.5 mm/0.886 in. – Relay configuration

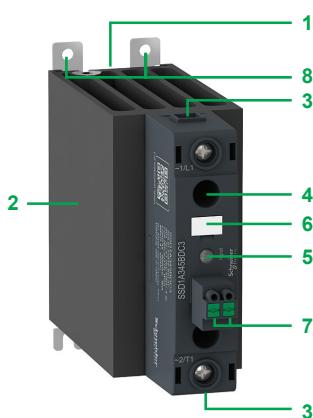
- 1 Locating slot for mounting on DIN rail
- 2 Built-in heat sink for heat dissipation
- 3 Control input connection terminals
- 4 Fixing hole for attaching relay to heat sink
- 5 LED input status indicator
- 6 Clip-in legend for easy identification
- 7 Load output connection terminals



SSD1 single-phase solid state DIN rail contactor with pluggable screw input, 22.5 mm

SSD1 relay, 22.5 mm/0.886 in. – Contactor configuration with pluggable (screw or spring) input connector

- 1 Locating slot for mounting on DIN rail
- 2 Built-in heat sink for heat dissipation
- 3 Load output connection terminals
- 4 Fixing hole for attaching relay to heat sink
- 5 LED input status indicator
- 6 Clip-in legend for easy identification
- 7 Pluggable input connector (spring or screw options available)



SSD1 single-phase solid state DIN rail contactor with pluggable spring input, 45 mm

SSD1 relay, 45 mm/1.771 in. – Contactor configuration with pluggable (screw or spring) input connector

- 1 Locating slot for mounting on DIN rail
- 2 Built-in heat sink for heat dissipation
- 3 Load output connection terminals
- 4 Fixing hole for attaching relay to heat sink
- 5 LED input status indicator
- 6 Clip-in legend for easy identification
- 7 Pluggable input connector (spring or screw options available)
- 8 Lugs for panel mounting

SSR_CPD9001		SSR_CPD9002		SSD1 single-phase solid state relays (22.5 and 45 mm) (1)						
				Switching	Voltage range	Load current range	Configuration	Reference	Weight	
					V Control input	V Load output	A		kg/lb	
SSD1D530BDC1		SSD1A335BDC2		DC switching	--- 4...32		--- 1...150		0.298/0.657	
							20	Relay	SSD1D520BDC1	
							30	Relay	SSD1D530BDC1	
SSD1A335M7C3				Zero voltage switching	--- 4...32		~ 48...600		0.298/0.657	
							20	Relay	SSD1A320BDC1	
							20	Contactor, Screw input connector	SSD1A320BDC2	
							20	Contactor, Spring input connector	SSD1A320BDC3	
							35	Relay	SSD1A335BDC1	
							35	Contactor, Screw input connector	SSD1A335BDC2	
							35	Contactor, Spring input connector	SSD1A335BDC3	
							45	Contactor, Screw input connector	SSD1A345BDC2	
							45	Contactor, Spring input connector	SSD1A345BDC3	
							60	Contactor, Screw input connector	SSD1A360BDC2	
							60	Contactor, Spring input connector	SSD1A360BDC3	
							~ 90...280	~ 48...600	0.298/0.657	
							20	Relay	SSD1A320M7C1	
							20	Contactor, Screw input connector	SSD1A320M7C2	
							20	Contactor, Spring input connector	SSD1A320M7C3	
							35	Relay	SSD1A335M7C1	
							35	Contactor, Screw input connector	SSD1A335M7C2	
							35	Contactor, Spring input connector	SSD1A335M7C3	
SSD1A345BDRC3				Random switching	--- 4...32		~ 48...600		0.298/0.657	
							20	Relay	SSD1A320BDRC1	
							20	Contactor, Screw input connector	SSD1A320BDRC2	
							20	Contactor, Spring input connector	SSD1A320BDRC3	
							35	Relay	SSD1A335BDRC1	
							35	Contactor, Screw input connector	SSD1A335BDRC2	
							35	Contactor, Spring input connector	SSD1A335BDRC3	
							45	Contactor, Screw input connector	SSD1A345BDRC2	
							45	Contactor, Spring input connector	SSD1A345BDRC3	
							60	Contactor, Screw input connector	SSD1A360BDRC2	
							60	Contactor, Spring input connector	SSD1A360BDRC3	
SSD1A360M7RC2							~ 90...280	~ 48...600	0.298/0.657	
							20	Relay	SSD1A320M7RC1	
							20	Contactor, Screw input connector	SSD1A320M7RC2	
							20	Contactor, Spring input connector	SSD1A320M7RC3	
							35	Relay	SSD1A335M7RC1	
							35	Contactor, Screw input connector	SSD1A335M7RC2	
							35	Contactor, Spring input connector	SSD1A335M7RC3	
							45	Contactor, Screw input connector	SSD1A345M7RC2	
							45	Contactor, Spring input connector	SSD1A345M7RC3	
							60	Contactor, Screw input connector	SSD1A360M7RC2	
							60	Contactor, Spring input connector	SSD1A360M7RC3	
SSR_CPD9006		Accessories								
Description	For use with	Sold in lots of			Unit reference	Weight kg/lb				
Clip-in Legends, Blank strip	All SSD1 solid state relays	10			SSDZLB	0.002/0.004				
Clip-in Legends, Numbered strip (1 to 10)	All SSD1 solid state relays	10			SSDZLN1	0.002/0.004				
Clip-in Legends, Numbered strip (11 to 20)	All SSD1 solid state relays	10			SSDZLN2	0.002/0.004				

(1) The SSD1 range references will be substituting the SSM1 range references for 22.5 mm/0.886 in. width (20 A, 30 A) and 45 mm/1.771 in. width (45 A, 55 A).

Presentation of the range

SSM solid state relays are compact relays offering greater power density. The modular IP 20 housing design and built-in heat sink offer optimized operating solutions.

The SSM relay range comprises:

- **SSM1**: Single-phase SSR relays with 6, 12, 20, 30, 45, and 55 A ratings
- **SSM2**: Single-phase dual SSR relays with 6 A rating
- **SSM3**: Three-phase SSR relays with 25 A rating



Relay description

SSM1 relays, 12 mm/0.472 in. width and 18 mm/0.709 in. width

- 1 Built-in heat sink for heat dissipation
- 2 Control input connection terminals
- 3 Control input voltage LED indicator in green
- 4 Bracket for mounting on 35 mm/1.378 in. DIN rail
- 5 Load output connection terminals
- 6 Mounting latch



SSM1 relays, 22.5 mm/0.886 in. (20 A, 30 A) width and 45 mm/1.771 in. (45 A, 55 A) width

- 1 Lugs for panel mounting
- 2 Built-in heat sink for heat dissipation
- 3 Control input connection terminals
- 4 Control input voltage LED indicator in green
- 5 Bracket for mounting on 35 mm/1.378 in. DIN rail
- 6 Load output connection terminals



SSM2 single-phase dual channel modular relays, 18 mm

Relay description

SSM2 relays, 18 mm/0.709 in. width

- 1 Built-in heat sink for heat dissipation
- 2 Load output connection terminals for Channel A
- 3 Separate input voltage LED indicator in green
- 4 Separate control input connection terminals
- 5 Load output connection terminals for Channel B
- 6 Mounting latch
- 7 Bracket for mounting on 35 mm/1.378 in. DIN rail



SSM3 single-phase modular relays, 90 mm

SSM3 relays, 90 mm/0.354 in. width

- 1 Lugs for panel mounting
- 2 Built-in heat sink for heat dissipation
- 3 Control input connection terminals
- 4 Control input voltage LED indicator in green
- 5 Bracket for mounting on 35 mm/1.378 in. DIN rail
- 6 Load output connection terminals

Harmony Solid State Relays

SSM solid state modular DIN rail relays



SSM1A36BD



SSM1A312BD

SSM1 single-phase solid state relays (6 A, 12 mm and 12 A, 18 mm)

Switching	Voltage range		Load current range	Reference	Weight
	Control input	Load output			
DC switching	— 4...32	— 1...60	6	SSM1D26BD	0.050/0.110
		— 1...100	6	SSM1D36BD	0.050/0.110
		— 1...100	12	SSM1D312BD	0.090/0.198
		— 1...100	12	SSM1D312BD	0.090/0.198
Zero voltage switching	— 4...32	~ 24...280	6	SSM1A16BD	0.050/0.110
		~ 48...600	6	SSM1A36BD	0.050/0.110
		~ 48...600	12	SSM1A312BD	0.090/0.198
		~ 18...36	6	SSM1A16B7	0.050/0.110
		~ 18...36	12	SSM1A112B7	0.090/0.198
		~ 48...600	12	SSM1A312B7	0.090/0.198
		~ 90...140	~ 24...280	SSM1A16F7	0.050/0.110
		~ 90...140	12	SSM1A112F7	0.090/0.198
Random switching	— 4...32	~ 24...280	6	SSM1A16P7	0.050/0.110
		~ 24...280	12	SSM1A112P7	0.090/0.198
		~ 48...600	12	SSM1A312P7	0.090/0.198
		~ 200...265	~ 24...280	SSM1A16P7	0.050/0.110
		~ 200...265	12	SSM1A112P7	0.090/0.198
		~ 48...600	12	SSM1A312P7	0.090/0.198
		~ 18...36	6	SSM1A16B7R	0.050/0.110
		~ 18...36	12	SSM1A112B7R	0.090/0.198
Random switching	— 4...32	~ 24...280	6	SSM1A16B7R	0.050/0.110
		~ 24...280	12	SSM1A112B7R	0.090/0.198
		~ 48...600	12	SSM1A312B7R	0.090/0.198
		~ 90...140	~ 24...280	SSM1A16F7R	0.050/0.110
		~ 90...140	12	SSM1A112F7R	0.090/0.198
		~ 48...600	12	SSM1A312F7R	0.090/0.198
		~ 200...265	~ 24...280	SSM1A16P7R	0.050/0.110
		~ 200...265	12	SSM1A112P7R	0.090/0.198
Random switching	— 4...32	~ 48...600	12	SSM1A312P7R	0.090/0.198

References (continued)

Harmony Solid State Relays

SSM solid state modular DIN rail relays

PF152200



SSM1A120M7

PF152208



SSM1A445BD

PF1234288



SSM2A36BD

PF152212



SSM3A325F7

SSM1 single-phase solid state relays (22.5 and 45 mm) (1)

Switching	Voltage range		Load current range	Reference	Weight
	Control input	Load output			
	V	V	A		kg/lb
Zero voltage switching	— 4...32	~ 24...280	20	SSM1A120BD	0.280/0.617
			30	SSM1A130BD	0.280/0.617
	— 3...32	~ 24...280	45	SSM1A145BD	0.476/1.049
	— 4...32	~ 48...660	30	SSM1A430BD	0.280/0.617
			45	SSM1A445BD	0.476/1.049
			55	SSM1A455BD	0.476/1.049
	~ 90...280	~ 24...280	20	SSM1A120M7	0.280/0.617
			30	SSM1A130M7	0.280/0.617
		~ 48...660	30	SSM1A430M7	0.280/0.617
	~ 90...140	~ 24...280	45	SSM1A145F7	0.476/1.049
		~ 48...660	45	SSM1A445F7	0.476/1.049
			55	SSM1A455F7	0.476/1.049

SSM2 single-phase solid state relays, dual channel (6 A, 18 mm)

Switching	Voltage range		Load current range	Reference	Weight
	Control input	Load output			
	V	V	A		kg/lb
Zero voltage switching	— 4...32	~ 24...280	6	SSM2A16BD	0.090/0.198
		~ 48...600	6	SSM2A36BD	0.090/0.198
Random switching	— 4...32	~ 24...280	6	SSM2A16BDR	0.090/0.198
		~ 48...600	6	SSM2A36BDR	0.090/0.198

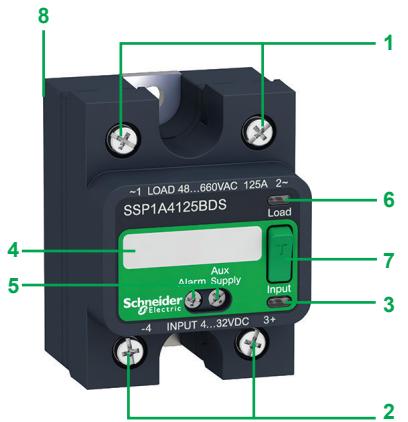
SSM3 three-phase solid state relays (25 A, 90 mm)

Switching	Voltage range		Load current range	Reference	Weight
	Control input	Load output			
	V	V	A		kg/lb
Zero voltage switching	— 4...32	~ 48...600	25	SSM3A325BD	0.740/1.631
	~ 90...140	~ 48...600	25	SSM3A325F7	0.740/1.631
	~ 180...280	~ 48...600	25	SSM3A325P7	0.740/1.631
Random switching	— 4...32	~ 48...600	25	SSM3A325BDR	0.740/1.631

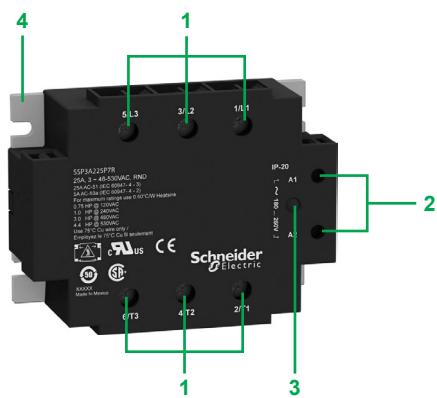
(1) The SSD1 range references will be substituting the SSM1 range references for 22.5 mm/0.886 in. width (20 A, 30 A) and 45 mm/1.771 in. width (45 A, 55 A).



SSP1 single-phase panel mount relays



SSP1 single-phase panel mount relays with smart diagnostic feature



SSP3 three-phase panel mount relays

Presentation of the range

SSP solid state relays are single-phase and three-phase panel mount relays that offer complete solid state control and switching solutions.

- Easy product selection with simplified product nomenclature and direct heat sink selection available in product data sheets.
- Wide choice of heat sinks with thermal resistance ratings of 2.5 °C/W to 0.2 °C/W.

The SSP relay range comprises:

- **SSP1:** Single-phase panel mount solid state relays available with/without embedded thermal pad and smart diagnostic features, extended load output voltage of up to 660 V ~ and load current rating of 10 A to 125 A.
- **SSP3:** Three-phase panel mount solid state relays integrated with R-C snubber circuit, TVS (Transient Voltage Suppression), and load current ratings of 25 A and 50 A.

Relay description

SSP1 single-phase panel mount relays

- 1 Load output connection screw terminals
- 2 Control input connection screw terminals
- 3 Control input voltage LED indicator
- 4 Indication area for product label or markings
- 5 Smart diagnostic auxiliary input and alarm output
- 6 Load output LED indicator
- 7 Test button
- 8 Optional factory-fit thermal pad that is glued on the rear of the product

SSP3 three-phase panel mount relays

- 1 Load output connection screw terminals
- 2 Control input connection screw terminals
- 3 Control input voltage LED indicator
- 4 Optional factory-fit thermal pad that is glued on the rear of the product

PF15980ID



SSP1D412BD

PF15980BD



SSP1A125BDS

SSP1 single-phase solid state relays

Relays with embedded thermal pad

Switching	Voltage range Control input	Voltage range Load output	Load current range	Reference	Weight	
	V	V	A		kg/lb	
DC switching	--- 3.5...32	--- 1...150	12	SSP1D412BDT	0.089/0.196	
			25	SSP1D425BDT	0.089/0.196	
			40	SSP1D440BDT	0.089/0.196	
	Zero voltage switching	--- 3...32	~ 24...300	10	SSP1A110BDT	0.089/0.196
			25	SSP1A125BDT	0.089/0.196	
			50	SSP1A150BDT	0.089/0.196	
			75	SSP1A175BDT	0.089/0.196	
		--- 4...32	~ 48...660	50	SSP1A450BDT	0.089/0.196
			75	SSP1A475BDT	0.089/0.196	
			90	SSP1A490BDT	0.089/0.196	
			125	SSP1A4125BDT	0.089/0.196	
	~ 90...280	~ 24...300	10	SSP1A110M7T	0.089/0.196	
			25	SSP1A125M7T	0.089/0.196	
			50	SSP1A150M7T	0.089/0.196	
			75	SSP1A175M7T	0.089/0.196	
		~ 48...660	50	SSP1A450M7T	0.089/0.196	
			75	SSP1A475M7T	0.089/0.196	
			90	SSP1A490M7T	0.089/0.196	
			125	SSP1A4125M7T	0.089/0.196	

Relays without embedded thermal pad

DC switching	--- 3.5...32	--- 1...150	12	SSP1D412BD	0.089/0.196
			25	SSP1D425BD	0.089/0.196
			40	SSP1D440BD	0.089/0.196
Zero voltage switching	--- 3...32	~ 24...300	10	SSP1A110BD	0.089/0.196
			25	SSP1A125BD	0.089/0.196
			50	SSP1A150BD	0.089/0.196
			75	SSP1A175BD	0.089/0.196
	--- 4...32	~ 48...660	50	SSP1A450BD	0.089/0.196
			75	SSP1A475BD	0.089/0.196
			90	SSP1A490BD	0.089/0.196
			125	SSP1A4125BD	0.089/0.196
	~ 90...280	~ 24...300	10	SSP1A110M7	0.089/0.196
			25	SSP1A125M7	0.089/0.196
			50	SSP1A150M7	0.089/0.196
			75	SSP1A175M7	0.089/0.196
	~ 48...660	~ 24...300	50	SSP1A450M7	0.089/0.196
			75	SSP1A475M7	0.089/0.196
			90	SSP1A490M7	0.089/0.196
			125	SSP1A4125M7	0.089/0.196

Relays with embedded thermal pad and smart diagnostic features

Zero voltage switching	--- 3...32	~ 24...300	25	SSP1A125BDS	0.097/0.214
			50	SSP1A150BDS	0.097/0.214
---	--- 4...32	~ 48...660	50	SSP1A450BDS	0.097/0.214
			75	SSP1A475BDS	0.097/0.214
			90	SSP1A490BDS	0.097/0.214
			125	SSP1A4125BDS	0.097/0.214

Harmony Solid State Relays

SSP solid state panel mount relays

PF123437B



SSP3A225P7

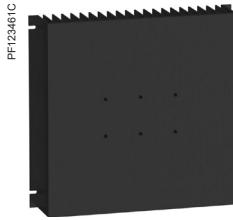
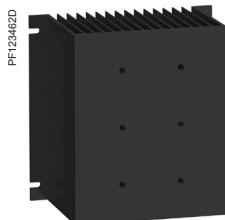
SSP3 three-phase solid state relays

Relays with embedded thermal pad

Switching	Voltage range		Load current range	Reference	Weight
	Control Input	Load Output			
Zero voltage switching	— 4...32	~ 48...530	25	SSP3A225BDT	0.240/0.529
			50	SSP3A250BDT	0.240/0.529
	~ 18...36	~ 48...530	25	SSP3A225B7T	0.240/0.529
			50	SSP3A250B7T	0.240/0.529
	~ 90...140	~ 48...530	25	SSP3A225F7T	0.240/0.529
			50	SSP3A250F7T	0.240/0.529
	~ 180...280	~ 48...530	25	SSP3A225P7T	0.240/0.529
			50	SSP3A250P7T	0.240/0.529
	— 4...32	~ 48...530	25	SSP3A225BDRT	0.240/0.529
			50	SSP3A250BDRT	0.240/0.529

Relays without embedded thermal pad

Zero voltage switching	— 4...32	~ 48...530	25	SSP3A225BD	0.240/0.529
			50	SSP3A250BD	0.240/0.529
	~ 18...36	~ 48...530	25	SSP3A225B7	0.240/0.529
			50	SSP3A250B7	0.240/0.529
	~ 90...140	~ 48...530	25	SSP3A225F7	0.240/0.529
			50	SSP3A250F7	0.240/0.529
	~ 180...280	~ 48...530	25	SSP3A225P7	0.240/0.529
			50	SSP3A250P7	0.240/0.529
	— 4...32	~ 48...530	25	SSP3A225BDR	0.240/0.529
			50	SSP3A250BDR	0.240/0.529
Random switching	~ 18...36	~ 48...530	25	SSP3A225B7R	0.240/0.529
			50	SSP3A250B7R	0.240/0.529
	~ 90...140	~ 48...530	25	SSP3A225F7R	0.240/0.529
			50	SSP3A250F7R	0.240/0.529
	~ 180...280	~ 48...530	25	SSP3A225P7R	0.240/0.529
			50	SSP3A250P7R	0.240/0.529
	— 4...32	~ 48...530	25	SSP3A225BDRT	0.240/0.529
			50	SSP3A250BDRT	0.240/0.529
	~ 18...36	~ 48...530	25	SSP3A225B7RT	0.240/0.529
			50	SSP3A250B7RT	0.240/0.529

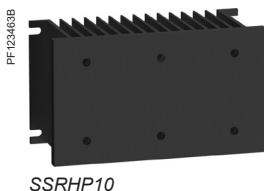


SSRHP05

SSRHP02



SSRHP07



SSRHP10



SSRHP17



SSRHP25



SSRAL1



SSRAL2

Heat sinks for customer assembly

Mounting	Number and type of relays supported	Surface area cm ² /in ²	Thermal resistance °C/W	Reference	Weight kg/lb
Panel mount	Up to 3 SSP1 units 1 SSP3 unit	6,823/1,058	0.2	SSRHP02	2.592/5.714
	Up to 3 SSP1 units 1 SSP3 unit	4,406/683	0.5	SSRHP05	1.440/3.174
	1 SSP1 unit	1,640/254	0.7	SSRHP07	0.526/1.159
	Up to 3 SSP1 units 1 SSP3 unit	1,425/221	1	SSRHP10	0.620/1.367
	Up to 2 SSP1 units	659/102	1.7	SSRHP17	0.195/0.430
	1 SSP1 unit	336/52.10	2.5	SSRHP25	0.100/0.220

Accessories

Description	Type of relays supported	Unit reference	Weight kg/lb
Copper terminal lug for AWG 6 (13.3 mm ²) to AWG 0 (53.5 mm ²) Sold in lots of 10	SSP1	SSRAL1	0.042/0.093
Copper terminal lug for AWG 14 (2.1 mm ²) to AWG 6 (13.3 mm ²) Sold in lots of 10	SSP1	SSRAL2	0.009/0.002

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www.schneider-electric.com/relays

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Schneider Electric Industries SAS

Head Office
35, rue Joseph Monier - CS 30323
F-92500 Rueil-Malmaison Cedex
France

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