

Legacy Solid-State Relays

SSRDIN

SPST-NO, 10–45 A



SSRDIN Relay

Description

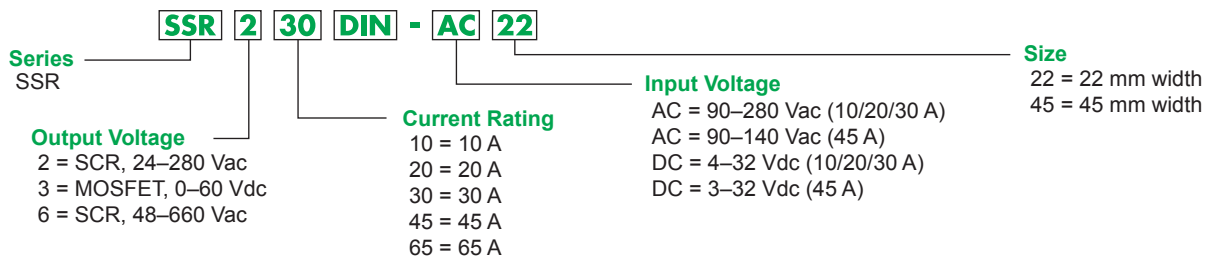
The SSRDIN relays offer a complete solid-state package that is an energy-efficient, current switching alternative to standard electromechanical relays. Advantages include longer life cycles, less energy consumption, and reduced maintenance costs.

Feature	Benefit
Solid-state circuitry	Involves no moving parts
Optically coupled circuit	Provides isolation between input and output circuits
Internal snubber	Helps protect the relay's internal circuit from high voltage transients
Internal heat sink	Provides factory tested thermal management
Integrated chassis ground	Simplifies system wiring
Finger protected terminals	Help prevent an operator from touching live circuits
DIN and panel mounting	Increases functionality and ease of use, and fits a variety of applications

Switching Type	Switching Device (1)	Input Voltage Range	Output Voltage Range	Contact Configuration	Rated Output Current (A)	Standard Part Number	
DC Switching	MOSFET	4–32 Vdc	0–60 Vdc	SPST-NO	10	SSR310DIN-DC22	
					20	SSR320DIN-DC22	
					30	SSR330DIN-DC22	
AC Zero Cross	SCR	4–32 Vdc	24–280 Vac	SPST-NO	10	SSR210DIN-DC22	
					20	SSR220DIN-DC22	
					30	SSR230DIN-DC22	
			3–32 Vdc	24–280 Vac	SPST-NO	45	SSR245DIN-DC45
						10	SSR610DIN-DC22
						20	SSR620DIN-DC22
		4–32 Vdc	48–660 Vac	SPST-NO	30	SSR630DIN-DC22	
					45	SSR645DIN-DC45	
					65	SSR665DIN-AC45	
			90–280 Vac	24–280 Vac	SPST-NO	10	SSR210DIN-AC22
						20	SSR220DIN-AC22
						30	SSR230DIN-AC22
90–140 Vac	24–280 Vac	SPST-NO		45	SSR245DIN-AC45		
				10	SSR610DIN-AC22		
				20	SSR620DIN-AC22		
90–280 Vac	48–660 Vac	SPST-NO	30	SSR630DIN-AC22			
			45	SSR645DIN-AC45			
			65	SSR665DIN-AC45			

(1) See page 28 for definitions of the different switching devices.

Part Number Explanation



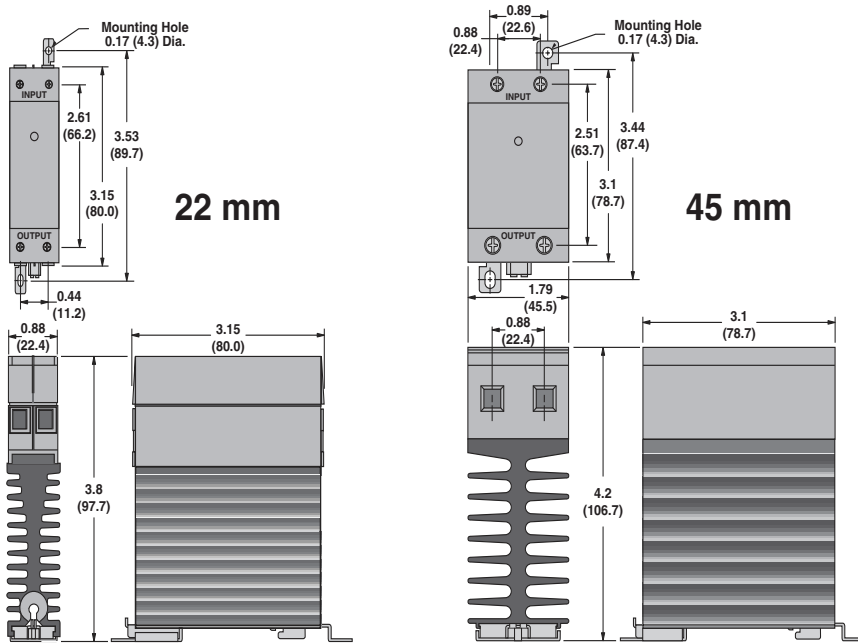
Specifications (UL 508)

Part Number	SSR2**DIN-DC**	SSR3**DIN-DC22	SSR6**DIN-DC**	SSR2**DIN-AC**	SSR6**DIN-AC**
Input Characteristics					
Input Voltage Range	10/20/30 A: 4–32 Vdc; 45/65 A: 3–32 Vdc			10/20/30 A: 90–280 Vac; 45/65 A: 90–140 Vac	
Maximum Turn-On Voltage	4 Vdc			90 Vrms	
Minimum Turn-Off Voltage	1 Vdc			10 Vrms	
Typical Input Current	8–12 mA	9–11 mA	8–12 mA	2–4 mA	
Output Characteristics					
Output Type	SCR	MOSFET	SCR		
Switching Type	AC Zero Cross	DC Switching	AC Zero Cross		
Output Voltage	24–280 Vac	0–60 Vdc	48–660 Vac	24–280 Vac	48–660 Vac
Load Current Range	10–45 A	10–30 A	10–45 A		
Transient Overvoltage	600 Vpk	N/A	1200 Vpk	600 Vpk	1200 Vpk
Maximum Surge Current	10 A: 120 Apk; 20 A: 250 Apk; 30/45 A: 625 Apk (at 16.6 ms)	10 A: 30 Apk; 20 A: 60 Apk; 30 A: 90 Apk (at 10 ms)	625 Apk (at 16.6 ms)	10 A: 120 Apk; 20 A: 250 Apk; 30/45 A: 625 Apk (at 16.6 ms)	625 Apk (at 16.6 ms)
Maximum On-State Voltage Drop at Rated Current	1.6 Vpk	10 A: 0.2 Vpk; 20 A: 0.4 Vpk; 30 A: 0.5 Vpk	1.6 Vpk	1.6 Vpk	1.6 Vpk
Maximum I ² t For Fusing, (8.3 ms)	10 A: 60 A ² sec; 20 A: 260 A ² sec; 30/45 A: 1620 A ² sec	N/A	1620 A ² sec	10 A: 60 A ² sec; 20 A: 260 A ² sec; 30/45 A: 1620 A ² sec	1620 A ² sec
Maximum Off-State Leakage Current at Rated Voltage	10 mA	0.1 mA	1 mA	10 mA	1 mA
Maximum Rate of Rise Off-State Voltage (dv/dt)	500 V/us	N/A	500 V/us		
Maximum Response Time (On and Off)	1/2 cycle	1.0 ms	1/2 cycle		
Maximum On-State Resistance	N/A	10 A: 20 mΩ; 20 A: 18 mΩ; 30 A: 16 mΩ	N/A		
General Characteristics					
Electrical Life	N/A for solid-state relays				
Operating Temperature Range	–40 to +80 °C (derating applies)				
Storage Temperature Range	–40 to +125 °C				
Weight	10/20/30 A: 272 g (9.6 oz); 45/65 A: 482 g (17 oz)				
Input Indication	Green LED				
Encapsulation	Thermally conductive epoxy				
Input Terminal Screw Torque	10/20/30 A: 5.0–6.0 lb-in (0.6–0.7 N-m); 45/65 A: 5.0–6.0 lb-in (0.6–0.7 N-m)				
Output Terminal Screw Torque	10/20/30 A: 5.0–6.0 lb-in (0.6–0.7 N-m); 45/65 A: 10.0–15.0 lb-in (1.1–1.7 N-m)				
Mount Type	DIN rail and panel mount				
Agency Approvals	cURus (File: E258297 CCN: NRNT2, NRNT8), CSA (168986 Class 3211 07), SCR output only; CE (per IEC 60950 and 61000); RoHS				

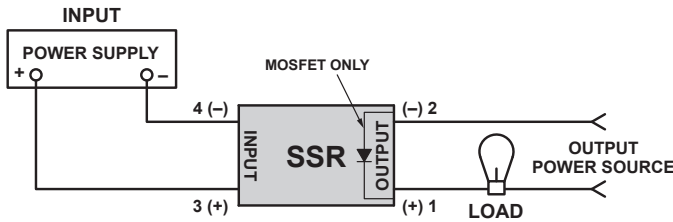
*Dimensions,
Wiring Diagram,
Derating Curves*

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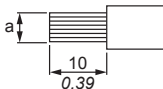
Dimensions: in. (mm)



Wiring Diagram



	22 mm		45 mm	
	input	output	input	output
a	6 mm ² AWG 10	4 mm ² AWG 12	10 mm ² AWG 8	



Derating Curves

