

Description

Magnecraft® Solid State Relays

SSRDIN

SPST-NO, 10 A to 45 A



SSRDIN Relay

Description

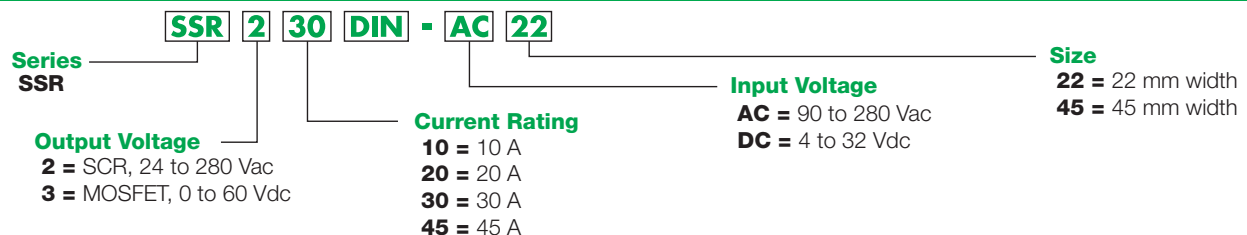
The SSRDIN relays offer a complete solid state package that is an energy-efficient, current switching alternative to standard electromechanical relays. Advantages include longer life cycles, less energy consumption, and reduced maintenance costs.

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
Fingersafe® terminals	Helps 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	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 (1)
					20	SSR320DIN-DC22 (1)
					30	SSR330DIN-DC22 (1)
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
					10	SSR210DIN-AC22
		90–280 Vac	24–280 Vac	SPST-NO	20	SSR220DIN-AC22
					30	SSR230DIN-AC22
					45	SSR245DIN-AC45
		90–140 Vac	24–280 Vac	SPST-NO	10	SSR610DIN-AC22
					20	SSR620DIN-AC22
					30	SSR630DIN-AC22
90–280 Vac	48–660 Vac	SPST-NO	45	SSR645DIN-AC45		
			10	SSR210DIN-AC22		
			20	SSR220DIN-AC22		
				SPST-NO	30	SSR630DIN-AC22
				SPST-NO	45	SSR645DIN-AC45

(1) No agency approvals on MOSFET versions

Part Number Explanation



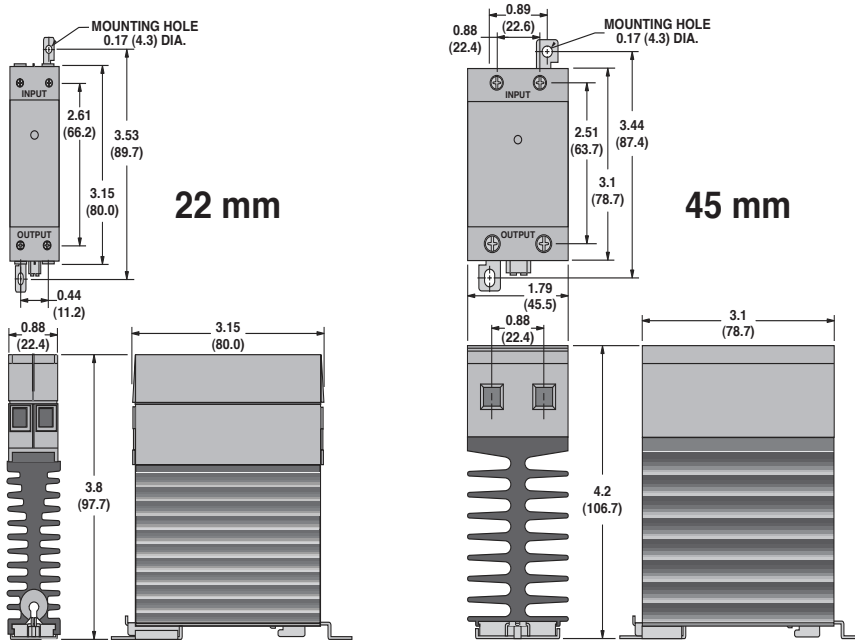
Specifications (UL 508)

Part Number	SSR2•DIN-DC••	SSR3•DIN-DC22	SSR6•DIN-DC••	SSR2•DIN-AC••	SSR6•DIN-AC••
Input Characteristics					
Input Voltage Range	4–32 Vdc			90–280 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	Zero voltage	DC switching	Zero voltage		
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 Over-Voltage	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–+80 °C (derating applies)				
Storage Temperature Range	-40–+125 °C				
Weight	10/20/30 A: 272 g (9.6 oz); 45 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 in lb (0.6-0.7 N·m); 45 A: 5.0-6.0 in lb (0.6-0.7 N·m)				
Output Terminal Screw Torque	10/20/30 A: 5.0-6.0 in lb (0.6-0.7 N·m); 45 A: 10.0-15.0 in lb (1.1-1.7 N·m)				
Mount Type	DIN rail and panel mount				
Agency Approvals	UL Recognized (E258297) SCR output only; CSA (168986) SCR output only; CE (per IEC 60950 and 61000); RoHS				

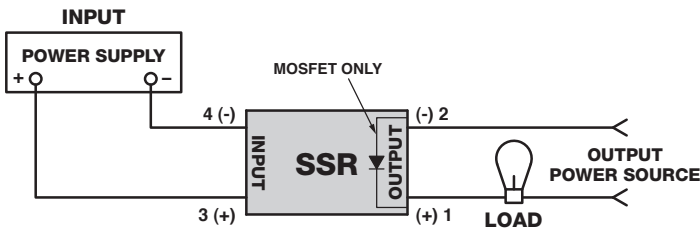
*Dimensions,
Wiring Diagram,
De-Rating Curves*

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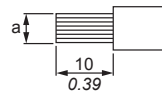
Dimensions: Inches (Millimeters)



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



De-Rating Curves

Load Current vs Ambient Temperature (100% Duty Cycle)

