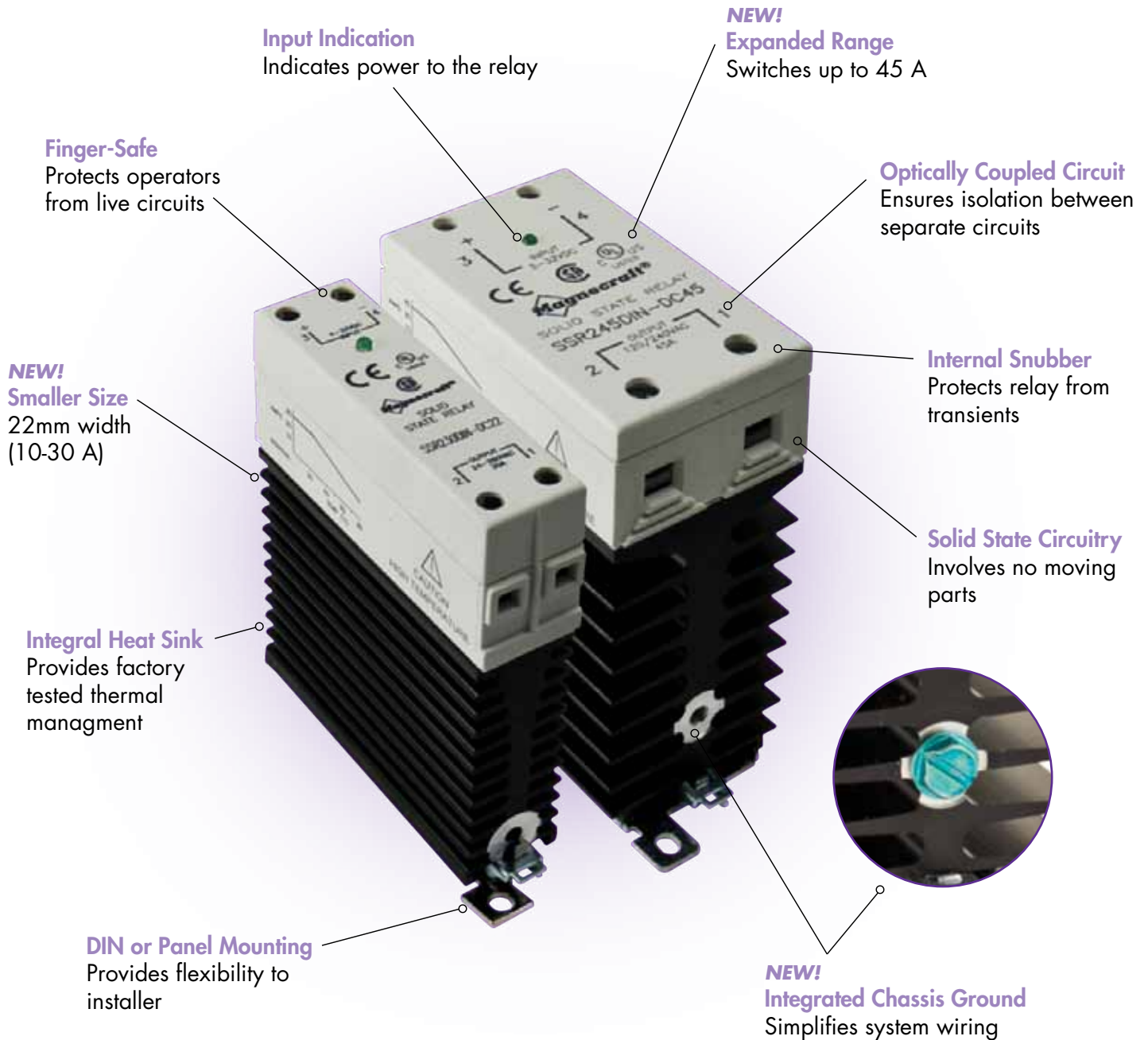


SSRDIN

Solid State Relays

PRODUCT UPDATE

Replaces pages 12 thru 17 of Section 4
in Magnecraft Solution Guide 105A



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.

SSRDIN Solid State Relays

GENERAL SPECIFICATIONS



22 mm
(10, 20 & 30 A)

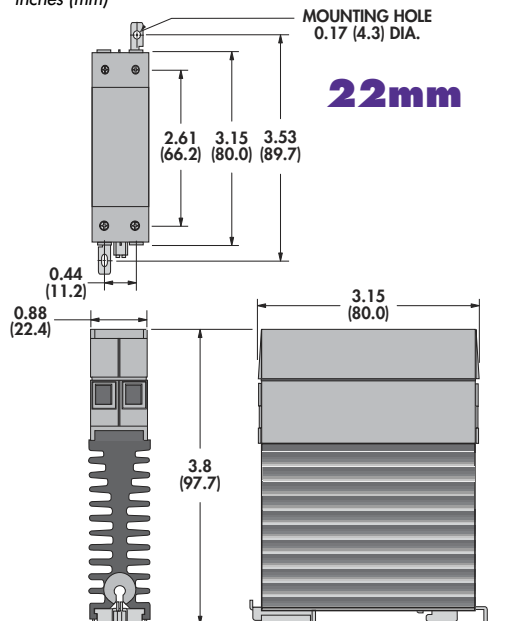


45 mm
(45 A)

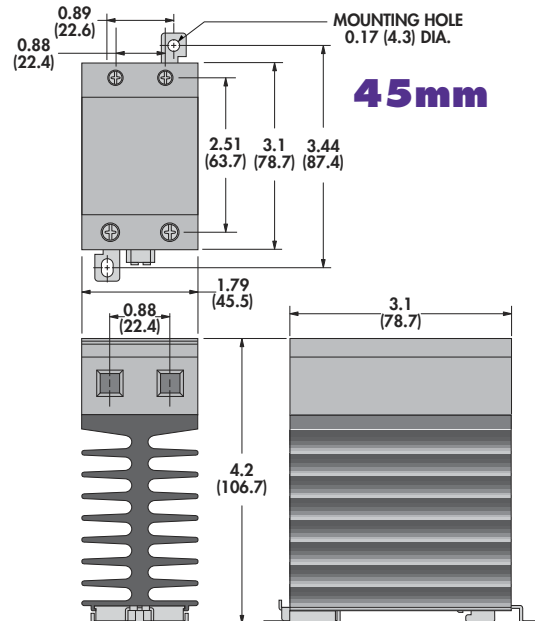
OUTPUT CHARACTERISTICS	SSR2**DIN-AC**	SSR2**DIN-DC**	
Output type	SCR output	SCR output	
Switching type	Zero voltage	Zero voltage	
Output voltage	24 to 280 VAC	24 to 280 VAC	
Switching current range	10, 20, 30 or 45 A	10, 20, 30 or 45 A	
Contact configuration	SPST-NO	SPST-NO	
Transient overvoltage	600 Vpk	600 Vpk	
Maximum surge current	120 (10 A); 250 (20 A); 625 (30 & 45 A) Apk at 16.6ms	120 (10 A); 250 (20 A); 625 (30 & 45 A) Apk at 16.6ms	
Maximum on-state voltage drop at rated current	1.6 Vpk	1.6 Vpk	
Maximum i^2t for fusing, (8.3 ms)	60 (10 A); 260 (20 A); 1620 (30 & 45 A) A ² sec	60 (10 A); 260 (20 A); 1620 (30 & 45 A) A ² sec	
Maximum off-state leakage current at rated voltage	10 mA	10 mA	
Minimum off-state dv/dt at maximum rated voltage	500 V/μsec	500 V/μsec	
Maximum response time (on and off)	1/2 cycle	1/2 cycle	
Maximum on state resistance	n/a	n/a	
INPUT CHARACTERISTICS			
Input voltage	90 to 280 VAC (10, 20 & 30 A); 90 to 140 VAC (45 A)	4 to 32 VDC (10, 20 & 30 A); 3 to 32 VDC (45 A)	
Maximum turn-on / turn-off voltage	90 Vrms (on) / 10 Vrms (off)	4 VDC (on) / 1 VDC (off)	
Typical input current	2 to 4 mA	8 to 12 mA	
GENERAL CHARACTERISTICS			
Ambient air temperature around the device	Storage: -40 to +125 °C Operation: -40 to +80 °C	Storage: -40 to +125 °C Operation: -40 to +80 °C	
Weight	9.6 oz / 272 g (10, 20 & 30 A) 17 oz / 482 g (45 A)	9.6 oz / 272 g (10, 20 & 30 A) 17 oz / 482 g (45 A)	
Terminal screw torque	Input: 5.0-6.0 lb-in / 0.6-0.7 Nm Output: 5.0-6.0 lb-in / 0.6-0.7 Nm (10, 20 & 30 A); 10.0-15.0 lb-in / 1.1-1.7 Nm (45 A)	Input: 5.0-6.0 lb-in / 0.6-0.7 Nm Output: 5.0-6.0 lb-in / 0.6-0.7 Nm (10, 20 & 30 A); 10.0-15.0 lb-in / 1.1-1.7 Nm (45 A)	
Degree of protection	IP 20	IP 20	
Agency approvals	UL E258297, CSA 168986, CE per IEC 60950	UL E258297, CSA 168986, CE per IEC 60950	

Dimensions

inches (mm)

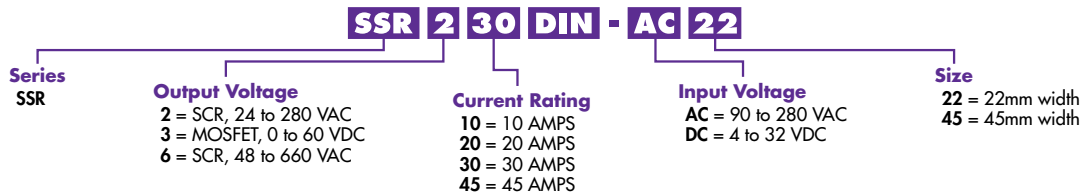


22mm



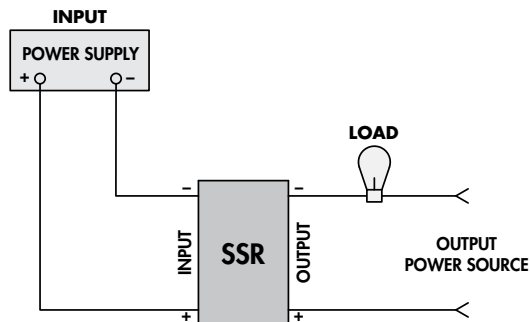
45mm

Part Number Explanation

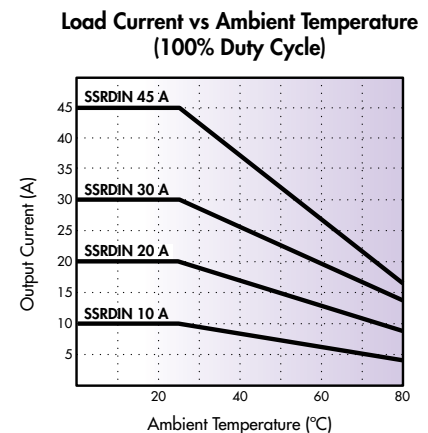


SSR6**DIN-AC22	SSR6**DIN-DC22	SSR3**DIN-DC22
SCR output	SCR output	MOSFET output
Zero voltage	Zero voltage	DC switch
48 to 660 VAC	48 to 660 VAC	0 to 60 VDC
10, 20 or 30 A	10, 20 or 30 A	10, 20 or 30 A
SPST-NO	SPST-NO	SPST-NO
1200 Vpk	1200 Vpk	n/a
625 Apk at 16.6ms	625 Apk at 16.6ms	30 (10 A); 60 (20 A); 90 (30 A) Apk at 10ms
1.6 Vpk	1.6 Vpk	0.2 (10 A); 0.4 (20 A); 0.5 (30 A) Vpk
1620 A²sec	1620 A²sec	n/a
1 mA	1 mA	0.1 mA
500 V/μsec	500 V/μsec	n/a
1/2 cycle	1/2 cycle	1.0 ms
n/a	n/a	0.02 ohms
90 to 280 VAC	4 to 32 VDC	4 to 32 VDC
90 Vrms (on) / 10 Vrms (off)	4 VDC (on) / 1 VDC (off)	4 VDC (on) / 1 VDC (off)
2 to 4 mA	8 to 12 mA	9 to 11 mA
Storage: -40 to +125 °C Operation: -40 to +80 °C 9.6 oz / 272 g	Storage: -40 to +125 °C Operation: -40 to +80 °C 9.6 oz / 272 g	Storage: -40 to +125 °C Operation: -40 to +80 °C 9.6 oz / 272 g
Input: 5.0-6.0 lb-in (0.6-0.7 Nm) Output: 5.0-6.0 lb-in (0.6-0.7 Nm)	Input: 5.0-6.0 lb-in (0.6-0.7 Nm) Output: 5.0-6.0 lb-in (0.6-0.7 Nm)	Input: 5.0-6.0 lb-in (0.6-0.7 Nm) Output: 5.0-6.0 lb-in (0.6-0.7 Nm)
IP 20 UL E258297, CSA 168986, CE per IEC 60950	IP 20 UL E258297, CSA 168986, CE per IEC 60950	IP 20 CE per IEC 60950

Wiring Diagram



Thermal Derating Curves





SSRDIN Solid State Relays

FEATURE	ADVANTAGE	BENEFIT
Solid state circuitry	Involves no moving parts	Extends product life, increases reliability and enables silent operation
Optically coupled circuit	Provides isolation between input and output circuits	Prevents damage to external equipment
Internal snubber	Protects relay's internal circuit from high voltage transients	Increases reliability of the relay
Integral heat sink	Provides factory tested thermal management	Eliminates the need to do complex heat sink calculations
Integrated chassis ground	Simplifies system wiring	Protects system components by eliminating electrostatic build-up
Finger-safe terminals	Prevents operator from touching live circuits	Increases safety in work environment
Din and panel mounting	Increases functionality and ease of use	Fits a variety of applications

Legacy Cross Reference

CURRENT OFFER			LEGACY OFFER		
PART NUMBER	CURRENT RATING	SIZE	PART NUMBER	CURRENT RATING	SIZE
SSR210DIN-AC22*	10 A	22 mm	SSR210DIN-AC	10 A	30 mm
SSR220DIN-AC22*	20 A	22 mm	SSR225DIN-AC	25 A	30 mm
SSR230DIN-AC22*	30 A	22 mm	SSR225DIN-AC	25 A	30 mm
SSR245DIN-AC45	45 A	45 mm	SSR240DIN-AC	40 A	30 mm
SSR210DIN-DC22*	10 A	22 mm	SSR210DIN-DC	10 A	30 mm
SSR220DIN-DC22*	20 A	22 mm	SSR225DIN-DC	25 A	30 mm
SSR230DIN-DC22*	30 A	22 mm	SSR225DIN-DC	25 A	30 mm
SSR245DIN-DC45	45 A	45 mm	SSR240DIN-DC	40 A	30 mm
SSR610DIN-AC22	10 A	22 mm	SSR610DIN-AC	10 A	30 mm
SSR620DIN-AC22	20 A	22 mm	SSR625DIN-AC	25 A	30 mm
SSR630DIN-AC22	30 A	22 mm	SSR625DIN-AC	25 A	30 mm
SSR610DIN-DC22	10 A	22 mm	SSR610DIN-DC	10 A	30 mm
SSR620DIN-DC22	20 A	22 mm	SSR625DIN-DC	25 A	30 mm
SSR630DIN-DC22	30 A	22 mm	SSR625DIN-DC	25 A	30 mm
SSR310DIN-DC22	10 A	22 mm	---	---	---
SSR320DIN-DC22*	20 A	22 mm	---	---	---
SSR330DIN-DC22	30 A	22 mm	---	---	---

*Standard (stocked) part number

Applications



HVAC & Refrigeration

Anti-Condensation Equipment
Compressor Control
Blower Control
Motorized Duct/Vent Control



Packaging Machinery

Conveyor Motors
Product/Shrink Wrap
Heaters
Solenoid Control



Industrial Heater Control

Plastics Industry -
(drying, extrusion/thermoforming)
Heat Tracing
Industrial Cleaning Equipment
Solder Wave/Reflow Systems
Commercial Coffee Machines
Commercial/Industrial Cooking
Equipment
Car Wash Pumps and Dryers



High Reliability

Medical Equipment
Lifts & Escalators
Low Switching Noise
Low Electromagnetic Interference
Automatic Door Operation



Lighting Control

Traffic Signal Systems
Motorway Information Systems
Theatrical Lighting