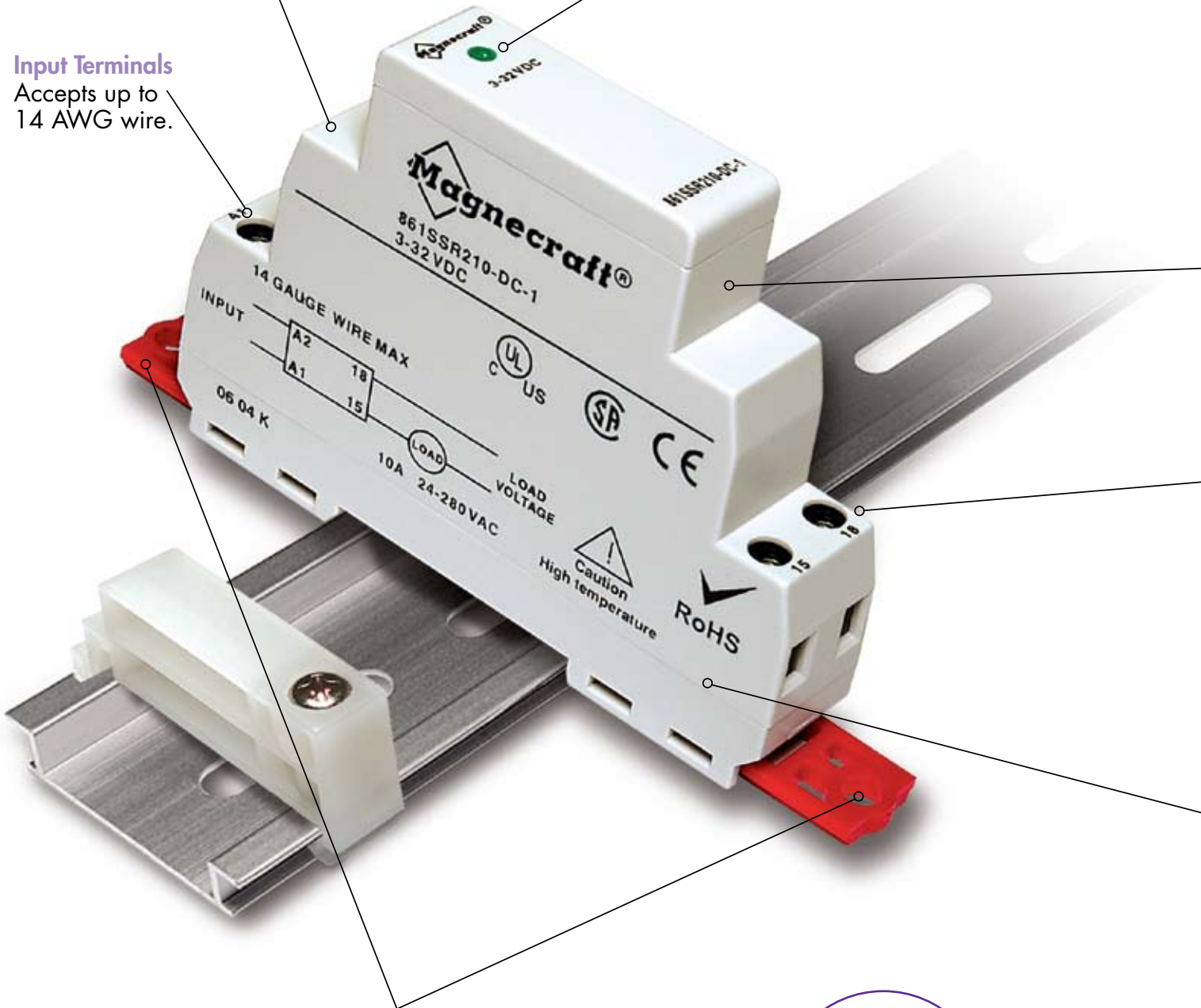


# Advantages of the 861 Solid State Relay

**Internal Snubber**  
Protects from Transients.

**Input Indication**  
Green LED.

**Input Terminals**  
Accepts up to  
14 AWG wire.



**Flexible Mounting**  
Mounts Directly On a DIN Rail or Extract  
the Bi-Stable Clips for Panel Mounting.



## The new DIN-Mountable **861 Solid State** relay with an internal heat sink is the first complete solid state relay with NO moving parts; in a modular package.

### Solid State Circuitry

No Moving Parts Involved.

### Output Terminals

Isolation of the Inputs from the Outputs. Accepts up to 14 AWG wire.



### Integral Heat Sink

Factory Tested Thermal Management.

- Offers a “one stop solution” for your power management system.
- Available in most popular SSR configurations.
- First fully-integrated, modular-style solid state relay on the market.
- Engineering availability allows for customized relay solutions.



Optional Panel Adapter  
(16-788C1)

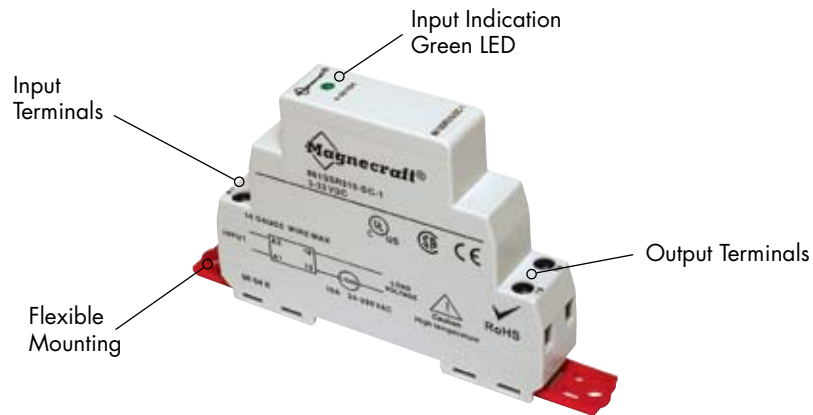
See Section 3 p.18

We at Magnecraft are excited at the breadth of products and solutions we are able to offer engineers and designers. And this is just the beginning. We will continue to develop high value products—with innovative features not offered anywhere else in the industry.

## 861 Solid State Relay/SPST-NO, 8-15 Amp Rating



**NEW**  
**NEW**  
**NEW**  
**NEW**  
**NEW**



### General Specifications (@ 25° C) (UL 508)

Output Characteristics		Units	861SSR210-DC-1
Number and type of Contacts			SPST-NO
Switching Device			SCR (2)
Current rating		A	10
Switching voltage		V	24...280 AC
Switching Type			Zero Cross
Maximum zero turn-on voltage (V <sub>pk</sub> )		V	35
Maximum Rate of Rise Off State Voltage (dv/dt)		V/us	500
Incandescent Lamp Ampere Rating (rms)		A	8
Motor Load Rating (rms)		A	4.5
Min. Load current to maintain on		mA	50
Non-Repetitive Surge Current (1 cycle)		A	500
Max. RMS overload current (1 second)		A	24
Max. Off state leakage current (rms)		mA	10
Typical On State Voltage Drop (rms)		V	1.25 AC
Max. On State Voltage Drop (rms)		V	1.6 AC
Maximum I <sup>2</sup> T for Fusing (A <sup>2</sup> )			1250
Input Characteristics			
Voltage Range		V	3...32 DC
Must Release Voltage		V	1 DC
Nominal Input Impedance		Ω	Current Regulator
Typical Input Current @ 5VDC or 240VAC		mA	16
Reverse Polarity Protection			Yes
Performance Characteristics			
Operating time (response time)	On	ms	8.3
	Off	ms	8.3
Rated insulation voltage	Input to Output	V	2500 AC
Dielectric strength	Terminals to Chassis	V	2500 AC
Environment			
Product certifications	Standard version		UL, CSA, CE
Ambient air temperature around the device	Storage	°C	-40...+100
	Operation	°C	-30...+80
Degree of protection			IP 20
Miscellaneous Characteristics			
Thermal Resistance (Junction to Case)		°C/W	0.66
Integral Heat sink		°C/W	4.0
Weight		g (oz)	127 (4.1)
LED	Input		Green
Terminal Wire Capacity		AWG (mm <sup>2</sup> )	14 (2.1)
Terminal Torque (maximum)		in lb (Nm)	7.1 (0.8)

SECTION 4

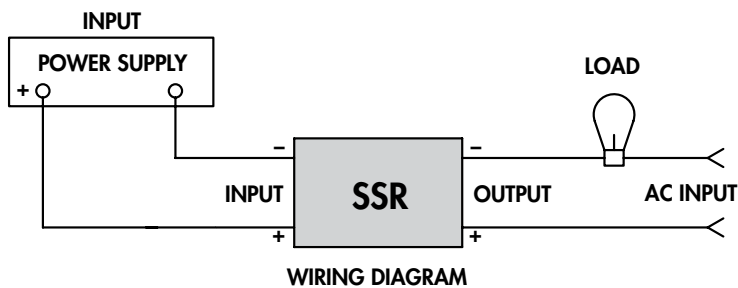
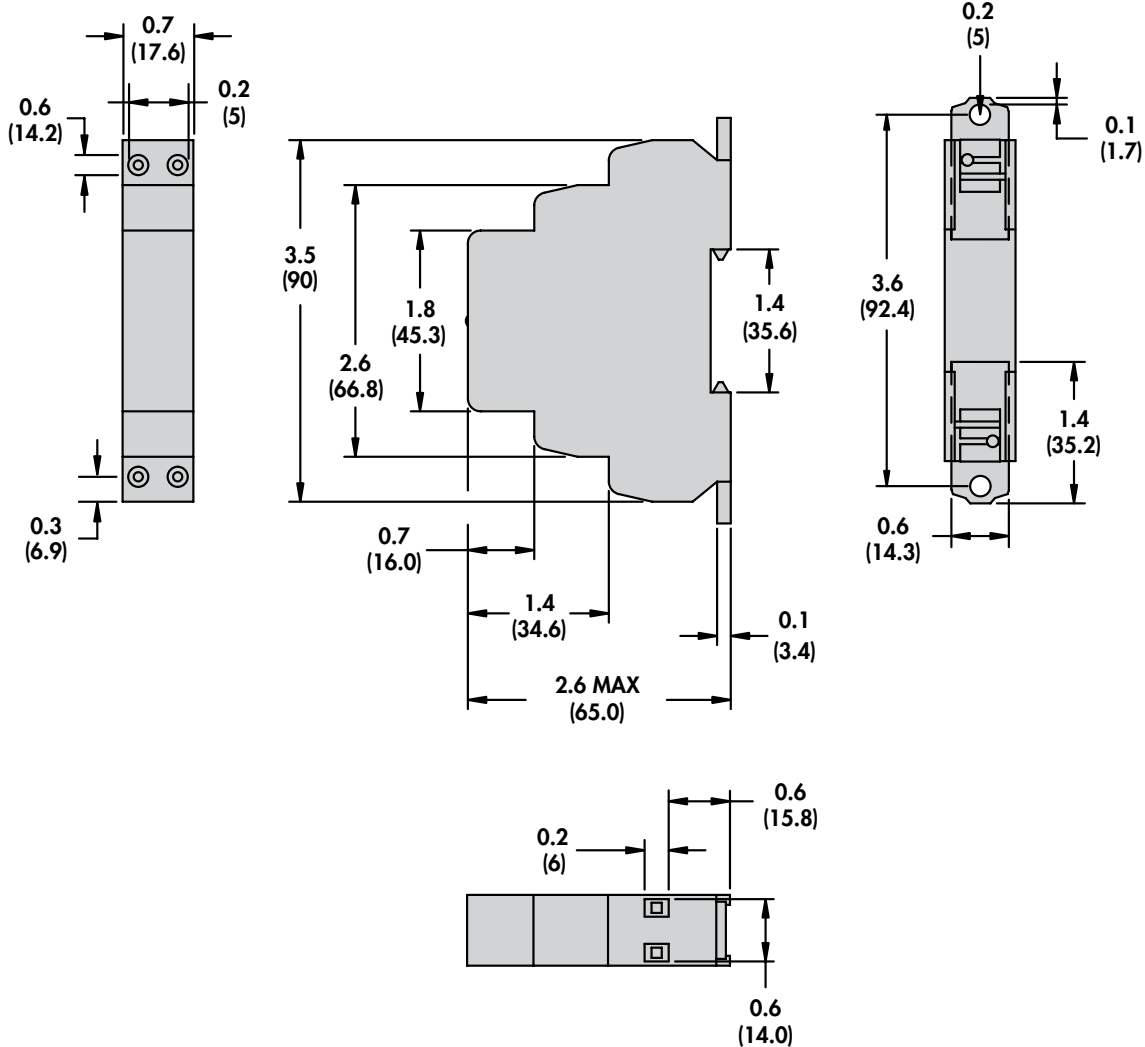
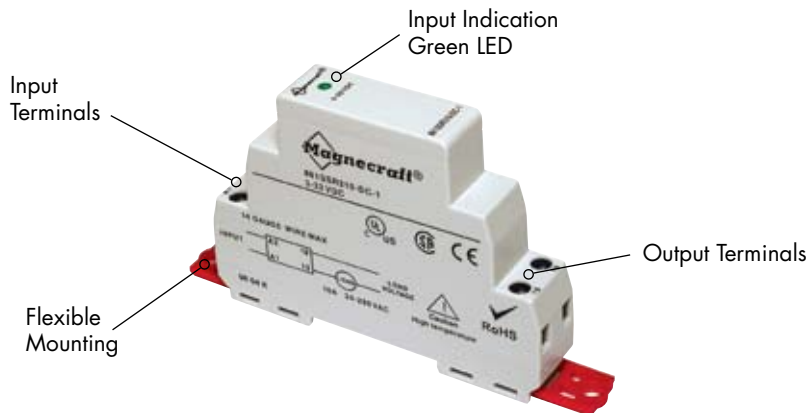


861SSR210-AC-1	861SSRA208-DC-1	861SSRA208-AC-1	861SSR115-DD	861SSR208-DD
SPST-NO	SPST-NO	SPST-NO	SPST-NO	SPST-NO
SCR (2)	Alternistor Triac	Alternistor Triac	MOSFET	MOSFET
10	8	8	15	8
24....280 AC	24....280 AC	24....280 AC	3....50 DC	3....150 DC
Zero Cross	Zero Cross	Zero Cross	DC Switching	DC Switching
35	35	35	N/A	N/A
500	475	350	N/A	N/A
8	5	5	N/A	N/A
4.5	3	3	N/A	N/A
50	150	150	20	20
500	200	200	50	35
24	24	24	24	17
10	10	10	10	10
1.25 AC	1.25 AC	1.25 AC	1.25 DC	1.25 DC
1.6 AC	1.6 AC	1.6 AC	1.6 DC	1.6 DC
1250	250	250	N/A	N/A
90....280 AC, 80....140 DC	3....32 DC	90....280 AC, 80....140 DC	3.5....32 DC	3.5....32 DC
10 AC	1 DC	10 AC	1 DC	1 DC
16....25K	Current Regulator	16....25K	Current Regulator	Current Regulator
12	12	12	12	12
N/A	Yes	N/A	Yes	Yes
40	8.3	40	5	5
80	8.3	80	5	5
2500 AC	2500 AC	2500 AC	2500 AC	2500 AC
2500 AC	2500 AC	2500 AC	2500 AC	2500 AC
UL, CSA, CE	UL, CSA, CE	UL, CSA, CE	UL, CSA, CE	UL, CSA, CE
-40...+100	-40...+100	-40...+100	-40...+100	-40...+100
-30...+80	-30...+80	-30...+80	-30...+80	-30...+80
IP 20	IP 20	IP 20	IP 20	IP 20
0.66	2.0	2.0	1.4	0.5
4.0	4.0	4.0	4.0	4.0
127 (4.1)	127 (4.1)	127 (4.1)	127 (4.1)	127 (4.1)
Green	Green	Green	Green	Green
14 (2.1)	14 (2.1)	14 (2.1)	14 (2.1)	14 (2.1)
7.1 (0.8)	7.1 (0.8)	7.1 (0.8)	7.1 (0.8)	7.1 (0.8)

# 861 Solid State Relay/SPST-NO, 8-15 Amp Rating *continued*



**NEW  
NEW  
NEW  
NEW  
NEW**



SECTION 4



Optional Panel Adapter  
(16-788C1)  
See Section 3 p.18

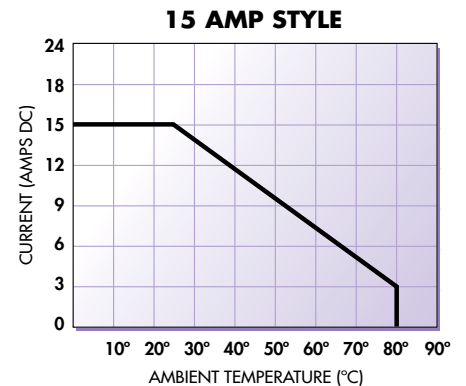
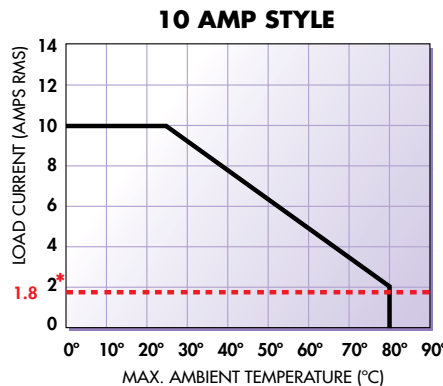
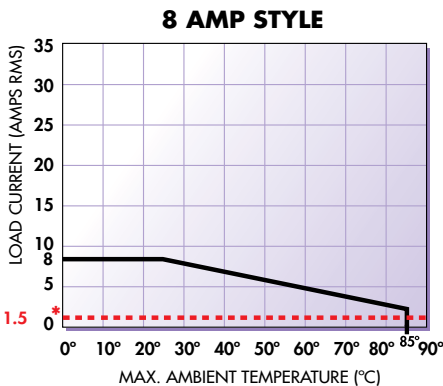
**Standard Part Numbers**

**BOLD-FACED PART NUMBERS ARE NORMALLY STOCKED**

AC Operated	Input Voltage Range	Output Voltage Range	Contact Configuration	Switching Type	Rated Current Load (Amps)
<b>861SSRA208-AC-1</b>	90...280 VAC	24...280 VAC	SPST-NO	Zero Cross	8
<b>861SSR210-AC-1</b>	90...280 VAC	24...280 VAC	SPST-NO	Zero Cross	10
861SSRA408-AC-1	90...280 VAC	48...480 VAC	SPST-NO	Zero Cross	8
<b>861SSR410-AC-1</b>	90...280 VAC	48...480 VAC	SPST-NO	Zero Cross	10
<b>861SSR610-AC-1</b>	90...280 VAC	48...600 VAC	SPST-NO	Zero Cross	10
<b>861SSRA208-AC-2</b>	90...280 VAC	24...280 VAC	SPST-NO	Random	8
<b>861SSR210-AC-2</b>	90...280 VAC	24...280 VAC	SPST-NO	Random	10
861SSRA408-AC-2	90...280 VAC	48...480 VAC	SPST-NO	Random	8
<b>861SSR410-AC-2</b>	90...280 VAC	48...480 VAC	SPST-NO	Random	10
<b>861SSR610-AC-2</b>	90...280 VAC	48...600 VAC	SPST-NO	Random	10
<b>DC Operated</b>					
<b>861SSRA208-DC-1</b>	3...32 VDC	24...280 VAC	SPST-NO	Zero Cross	8
<b>861SSR210-DC-1</b>	3...32 VDC	24...280 VAC	SPST-NO	Zero Cross	10
861SSRA408-DC-1	3...32 VDC	48...480 VAC	SPST-NO	Zero Cross	8
<b>861SSR410-DC-1</b>	3...32 VDC	48...480 VAC	SPST-NO	Zero Cross	10
<b>861SSR610-DC-1</b>	3...32 VDC	48...600 VAC	SPST-NO	Zero Cross	10
<b>861SSRA208-DC-2</b>	3...32 VDC	24...280 VAC	SPST-NO	Random	8
<b>861SSR210-DC-2</b>	3...32 VDC	24...280 VAC	SPST-NO	Random	10
<b>861SSRA208-DC-4</b>	3...32 VDC	24...280 VAC	SPST-NC	Random	8
<b>861SSR210-DC-4</b>	3...32 VDC	24...280 VAC	SPST-NC	Random	10
861SSRA408-DC-2	3...32 VDC	48...480 VAC	SPST-NO	Random	8
<b>861SSR410-DC-2</b>	3...32 VDC	48...480 VAC	SPST-NO	Random	10
861SSR610-DC-2	3...32 VDC	48...600 VAC	SPST-NO	Random	10
<b>861SSR115-DD</b>	3.5...32 VDC	3...50 VDC	SPST-NO	DC Switch	15
<b>861SSR208-DD†</b>	3.5...32 VDC	3...150 VDC	SPST-NO	DC Switch	8

**Part Number Builder**

Series	Output Type	Output Voltage	Output Current	Input Voltage	Contact Config. & Switching Type
861	SSR = SCR	1 = 3...50 VDC	08 = 8 AMPS	AC = 90...280 VAC	1 = SPST-NO, Zero Cross
	SSRA = ALTERNISTOR TRIAC	2 = 24...280 VAC	10 = 10 AMPS	DC = 3...32 VDC	2 = SPST-NO, Random
		2 = 3...150 VDC (DD Only)†	15 = 15 AMPS	DD = 3.5...32 VDC	4 = SPST-NC, Random
		4 = 48...480 VAC			
		6 = 48...600 VAC			



\* Indicates current cut-off.

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