861H Class 1, Division 2 Certified Solid State Relay

GENERAL SPECIFICATIONS

c UL us
File No. E317746

CE
IEC 60947-1

RoHS Compliant

CERTIFIED
CLASS 1 DIVISION 2
Class 1, Division 2 certification for use in hazardous locations

Magnecraft
Your Contact for Industrial Relays
www.magnecraft.com

OUTPUT CHARACTERISTICS		861HSSR***-DD	861HSSR***-AC-1	861HSSR***-DC-1
Switching Device		MOSFET	SCR (2)	SCR (2)
Switching Type		DC switching	Zero cross	Zero cross
Switching Configuration		SPST-NO	SPST-NO	SPST-NO
Load Voltage Range		3 up to 150 VDC	24 up to 600 VAC	24 up to 600 VAC
Resistive Load Rating (Arms)		8 and 15 A	10 A	10 A
Maximum Zero Turn-On Voltage (Vpk)		N/A	35 Vpk	N/A
Maximum Rate of Rise Off State Voltage (dv/dt)		N/A	200 to 500 V/uS	350 to 500 V/uS
Incandescent Lamp Rating (Arms)		N/A	8 A	8 A
Motor Load Rating (Arms)		N/A	4.5 A	4.5 A
Minimum Load Current to Maintain On		20 mA	50 mA	50 mA
Non-Repetitive Surge Current (1 cycle)		35 to 50 A	500 A	500 A
Maximum Rms Overload Current (1 second)		17 to 24 A	24 A	24 A
Maximum Off State Leakage Current on Output (Rms)		10 mA	10 mA	10 mA
Typical On State Voltage Drop on Output (Rms)		1.25 VDC	1.25 VDC	1.25 VDC
Maximum On State Voltage Drop on output (Rms)		1.6 VDC	1.6 VDC	1.6 VDC
Maximum I^2t for Fusing (A^2 sec.)		N/A	600 to 1250	600 to 1250
INPUT CHARACTERISTICS				
Input Voltage		3.5 to 32 VDC	90 to 280 VAC	3 to 32 VDC
Must Release Voltage		1 VDC	10 VAC	1 VDC
Nominal Input Impedance		Current Regulator	16-25 Kohms	Current Regulator
Typical Input Current @ 5 VDC		12 mA	12 mA	16 mA
Reverse Polarity Protection on Input		Active Current Limiter	N/A	Active Current Limiter
Input Indication		Green LED	Green LED	Green LED
PERFORMANCE CHARACTERISTICS				
Maximum Turn-On/Turn-Off Time		5 ms	8.3 ms	5 ms
Dielectric Strength (Input to Output)		2500 Vrms	4000 Vrms	2500 Vrms
Dielectric Strength (Terminals to Chassis)		2500 Vrms	2500 Vrms	2500 Vrms
ENVIRONMENT				
Ambient Air Temperature Around the Device	Operation	-30 to 80 °C	-30 to 80 °C	-30 to 80 °C
	Storage	-40 to 100 °C	-40 to 100 °C	-40 to 100 °C
Safety Cover		IP20	IP20	IP20
MISCELLANEOUS CHARACTERISTICS				
Thermal Resistance J to C Tj=125°C °C/W		1.4 °C/W	0.66 °C/W	0.66 °C/W
Integral Heat Sink °C/W		4.0 °C/W	4.0 °C/W	4.0 °C/W
Maximum Terminal Wire Capacity		14 AWG (2.5 mm^2)	14 AWG (2.5 mm^2)	14 AWG (2.5 mm^2)
Maximum Terminal Screw Torque		7.1 lb-in (0.8 Nm)	7.1 lb-in (0.8 Nm)	7.1 lb-in (0.8 Nm)
Weight		4.1 oz (127.1 g)	4.1 oz (127.1 g)	4.1 oz (127.1 g)

PART NUMBER EXPLANATION

861H SSR 2 10 - AC - 1

Series:
861H

Output Type:
SSR = SCR
SSR = MOSFET (DD Only)
SSRA = Alternistor Triac

Output Voltage:
1 = 3 to 50 VDC
2 = 24 to 280 VAC
2 = 3 to 150 VDC (DD Only)
4 = 48 to 480 VAC
6 = 48 to 600 VAC

Output Current:
08 = 8 Amps
10 = 10 Amps
15 = 15 Amps

Input Voltage:
AC = 90 to 280 VAC
DC = 3 to 32 VDC
DD = 3.5 to 32 VDC

Contact Configuration & Switching Type:
1 = SPST-NO, Zero Cross
2 = SPST-NO, Random
4 = SPST-NC, Random
Null = SPST-NO, DC Switching

Solid State Relays

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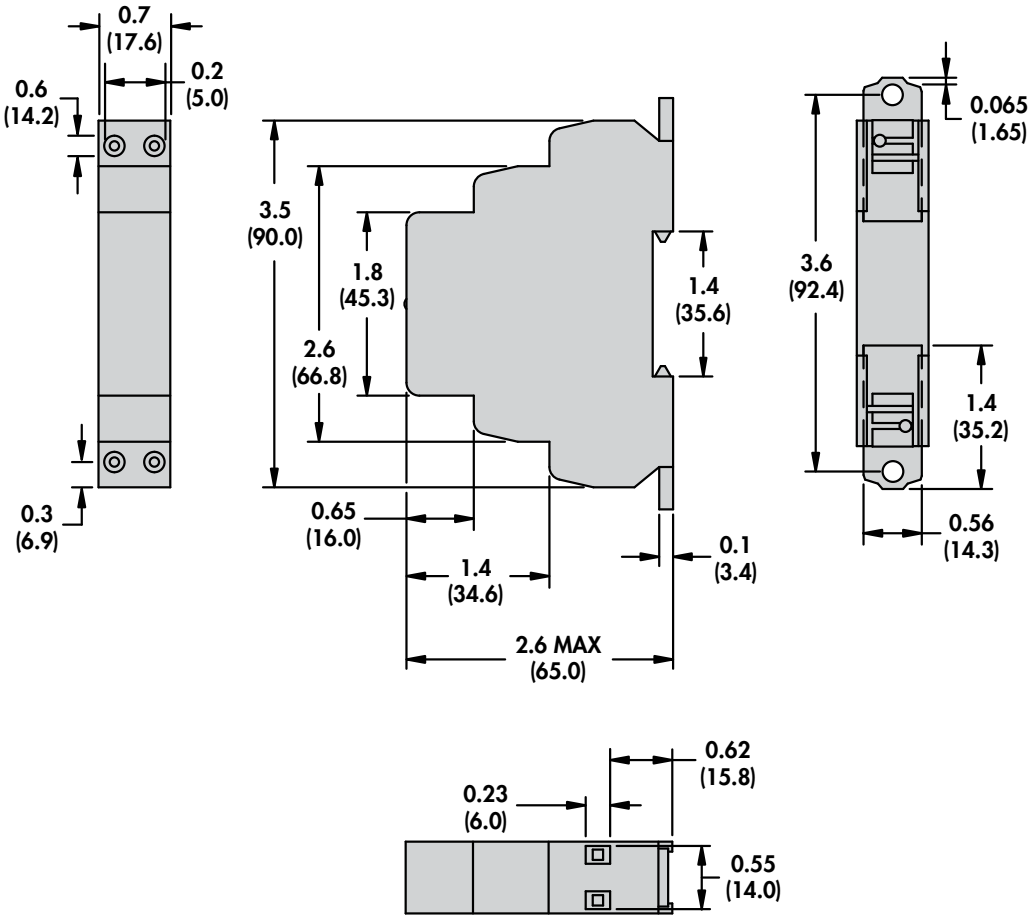
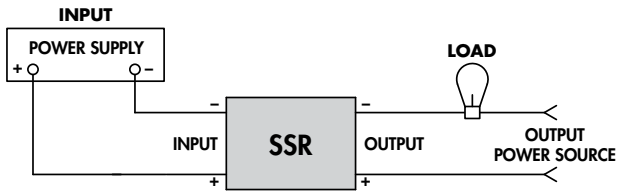
DIMENSIONS

shown in inches (millimeters)

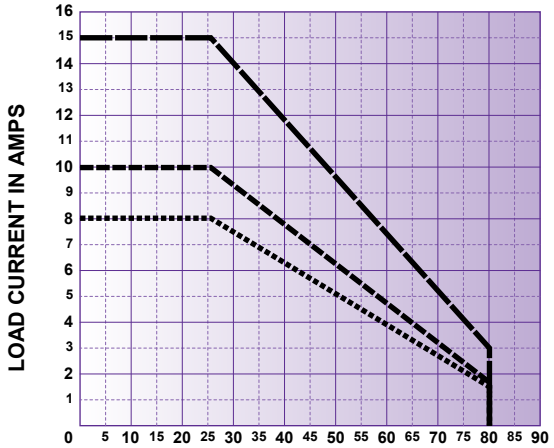


WIRING DIAGRAM



DERATING CURVES

A minimum spacing of 17.5 mm between relays is required in order to acheive the respective derating curves.



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