GNA5 SERIES

PANEL MOUNT SOLID STATE RELAYS



Features

- Current ratings of 10 and 25 Amps
- Output voltage 24-280 VAC
- TRIAC Output (Resistive Loads Only)
- Available with or without IP20 touch-safe cover
- LED Input Status Indicator
- UL Approved, CE Compliant to EN60950-1
- Improved SEMS screw and washer
- Screw or Quick Connect Terminals
- Redesigned housing with anti-rotation barriers
- EMC Compliant to level 3

PRODUCT SELECTION

Control Voltage	10 A	25 A
3-32 VDC	84134900	84134910
90-280 VAC	84134901	84134911

SPECIFICATIONS

Output [1]

Description	10 A	25 A
Operating Voltage (47-63 Hz) [Vrms]	24-280	24-280
Transient Overvoltage [Vpk] [2]	600	600
Maximum Off-State Leakage Current @ Rated Voltage [mArms]	0.1	0.1
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/µsec]	500	500
Maximum Load Current [Arms] [3]	10	25
Minimum Load Current [mArms]	100	100
Maximum 1 Cycle Surge Current (50/60 Hz) [Apk]	90/100	239/250

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1 Second surge current (Apk. Ta=25°C) 50/60 Hz	30	75
Maximum On-State Voltage Drop @ Rated Current [Vpk]	1.5	1.3
Thermal Resistance Junction to Case (Rjc) [°C/W]	2.2	0.8
Maximum 1/2 Cycle I^2t for Fusing (50/60 Hz) [A^2 sec]	41/42	285/259
Minimum Heat Sink for Rated Current @ 40°C [°C/W]	3	1.5

Input [1]

Description	DC Control	AC Control
Control Voltage Range	3-32 VDC [4]	90-280 VAC [5]
Maximum Reverse Voltage	-32 VDC	-
Minimum Turn-On Voltage	3 VDC	90 VAC
Must Turn-Off Voltage	1 VDC	10 VAC
Minimum Input Current (for on-state)	9.5 mA	5 mA
Maximum Input Current [mA]	14 mA	8.5 mA
Nominal Input Impedance [Ohm]	Current Regulated	
Maximum Turn-On Time [µsec]	1/2 Cycle [6]	20
Maximum Turn-Off Time [µsec]	1/2 Cycle	30

General [1]

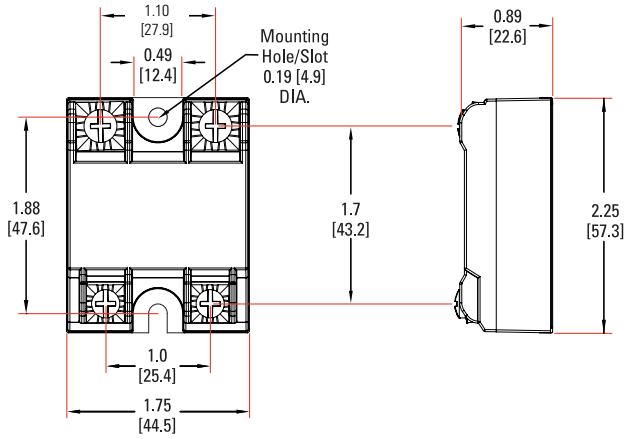
Description	Parameters
Dielectric Strength, Input to Output (50/60 Hz)	4000 Vrms
Dielectric Strength, Input/Output to Ground (50/60 Hz)	2500 Vrms
Minimum Insulation Resistance (@ 500 VDC)	10^9 Ohms
Maximum Capacitance, Input/Output	8 pF
Ambient Operating Temperature Range [7]	-40 to 100 °C
Ambient Storage Temperature Range	-40 to 100 °C
Weight (typical)	2.46 oz (70 g)
Housing Material	UL94 V-0
Baseplate Material	Aluminum
Input Terminal Screw Torque Range (lb-in/Nm)	13-15 /1.5-1.7
Load Terminal Screw Torque Range (lb-in/Nm)	18-20 / 2-2.2
SSR Mounting Screw Torque Range (lb-in/Nm)	18-20 / 2-2.2
Humidity per IEC60068-2-78	93% non-condensing
LED Input Status Indicator	Green
MTBF (Mean Time Between Failures) at 40°C ambient temperature [8]	11,641,553 hours (1,328 years)
MTBF (Mean Time Between Failures) at 60°C ambient temperature [8]	7,210,376 hours (823 years)

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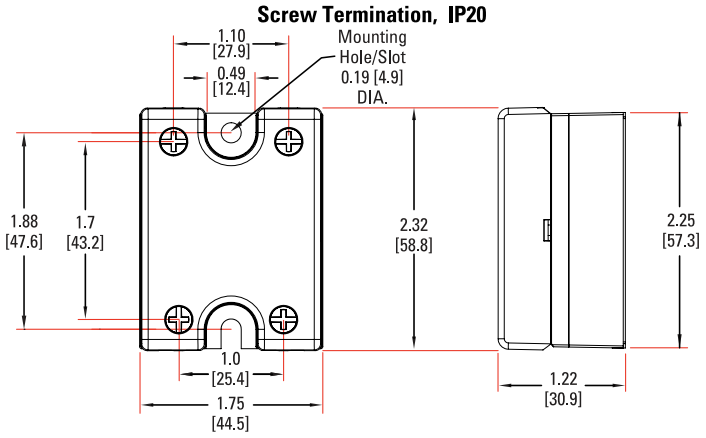
MECHANICAL SPECIFICATIONS (1)

Tolerance: ±0.02 in / 0.5 mm
All dimensions are in: inches [millimeters]

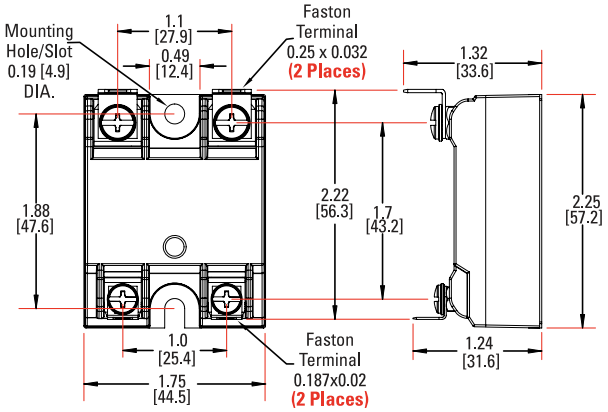
Screw Termination, IP00



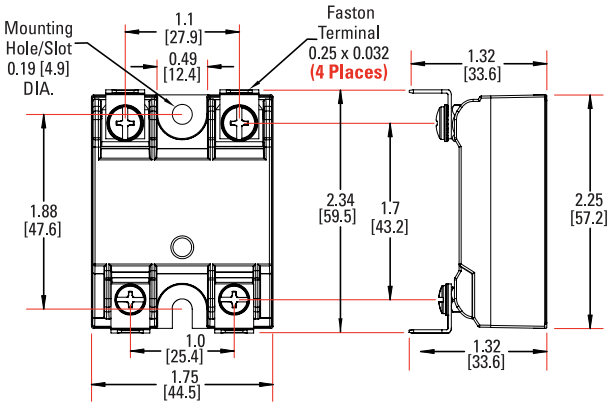
Screw Termination, IP20



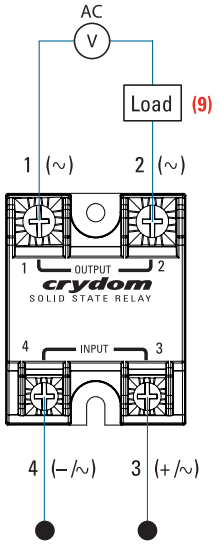
Quick Connect, Input 3/16", Output 1/4"



Quick Connect, Input 1/4", Output 1/4"



WIRING DIAGRAM



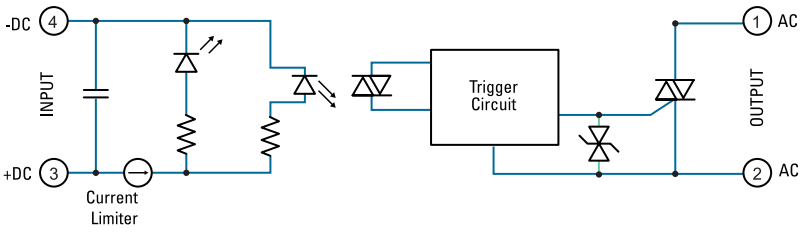
Recommended Wire Sizes

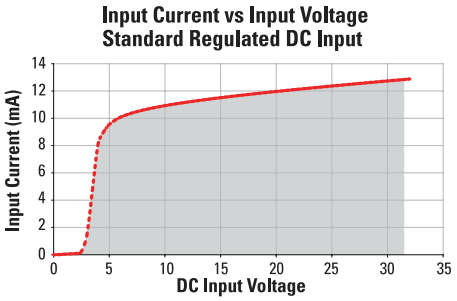
Terminals	Wire Size (Solid / Stranded)	Wire Pull-Out Strength (lb)[N]
Input	24 AWG (0.2 mm²) / 0.2 [minimum]	10 [44.5]
	2 x 12 AWG (3.3 mm²) / 3.3 [maximum]	90 [400]
Output	20 AWG (0.5 mm²) / 0.518 [minimum]	30 [133]
	2 x 10 AWG (5.3 mm²) / 5.3	110 [490]
	2 x 8 AWG (8.4 mm²) / 8.4 [maximum]	90 [400]

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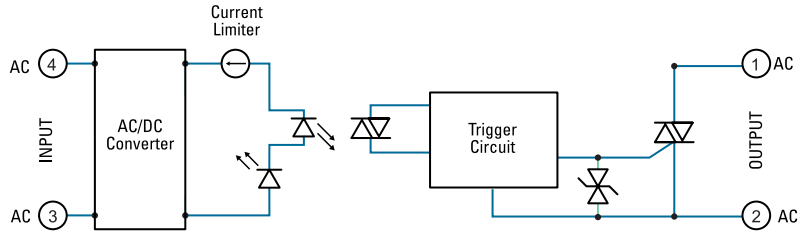
EQUIVALENT CIRCUIT BLOCK DIAGRAMS

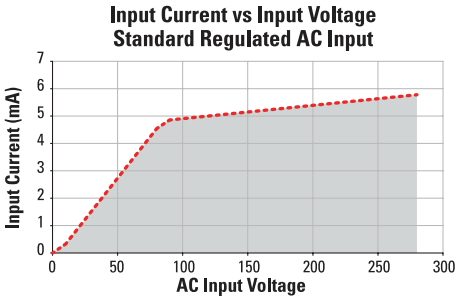
GNA5 Series DC Control





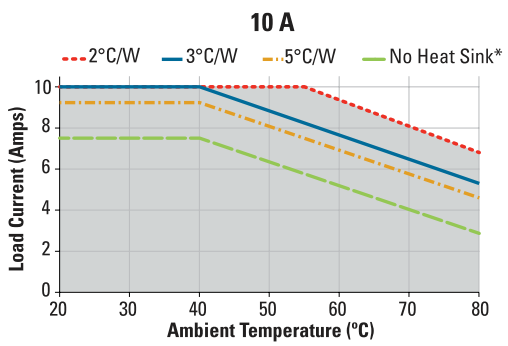
GNA5 Series AC Control

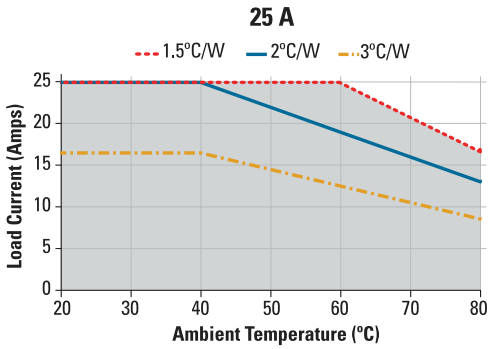




THERMAL DERATE INFORMATION

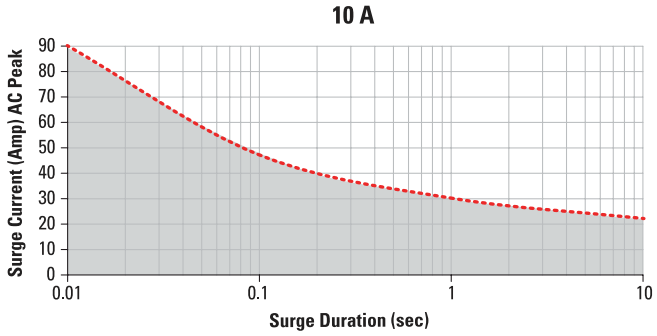
(i) SSR metal base plate acting as heat sink, it must be exposed to free ambient air.

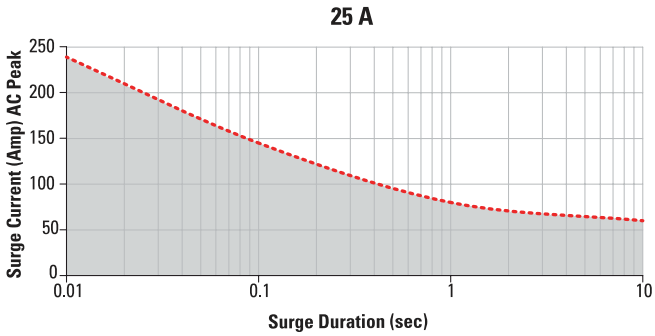




SURGE CURRENT INFORMATION

--- Single Pulse **(10)**





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ACCESSORIES

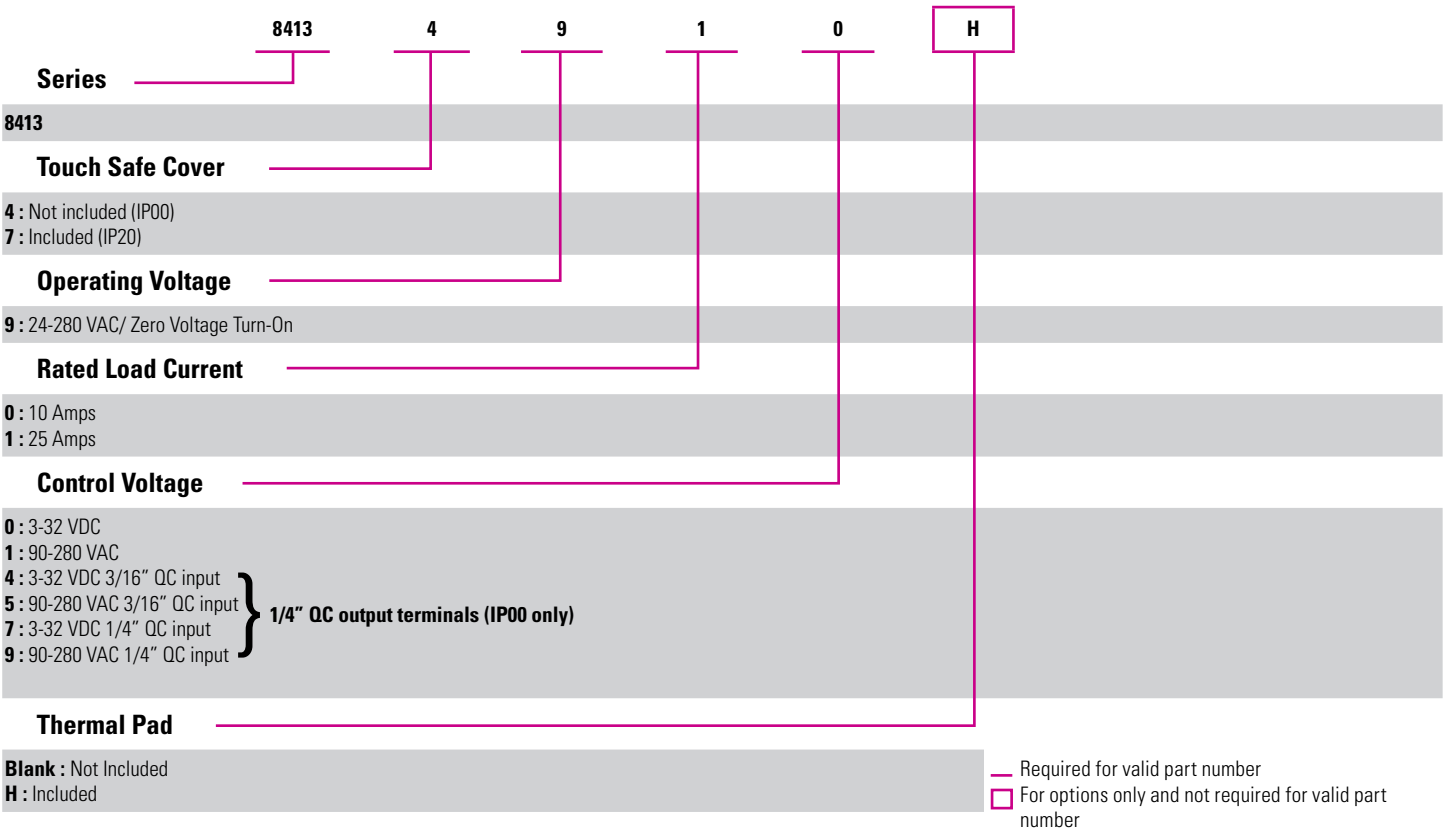
Recommended Accessories

 Cover	 Hardware Kit	 Heat Sink Part No.	Thermal Resistance [°C/W]	 Lug Terminal	 Thermal Pad
KS101	HK1	HS501DR	5.0	TRM1	HSP-1
	HK4	HS301 / HS301DR	3.0	TRM6	HSP-2
		HS251	2.5		
		HS201 / HS201DR	2.0		
		HS202 / HS202DR	2.0		
		HS172	1.7		
		HS151 / HS151DR	1.5		
		HS122 / HS122DR	1.2		
		HS103 / HS103DR	1.0		
		HS101	1.0		
		HS073	0.7		
		HS072	0.7		
		HS053	0.5		
		HS033	0.36		
		HS023	0.25		

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ORDERING OPTIONS

Example : 84134910H



GENERAL NOTES

(1) All parameters at 25°C unless otherwise specified.
(2) Output will self trigger between 450-600Vpk not suitable for capacitive loads.
(3) Heat sinking required, see derating curves.
(4) Increase minimum voltage by 1V for operations from -20 to -40°C.
(5) For ambient temperatures above 40°C the maximum control voltage must not exceed 250 VAC.
(6) Turn-on time for Instantaneous turn-on versions is 0.1 msec.
(7) AC models operating range is -20 to 80°C.
(8) All parameters at 50% power rating and 100% duty cycle.
(9) Load can be wired to either SSR output terminal 1 or 2.
(10) For single surge pulse Tc=25°C; Tj=125°C. For AC Output SSRs, AC Rms value of surge current equals the peak value divided by 2 (1.414).

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AGENCY APPROVALS & CERTIFICATIONS

c UL us E46203 LR 38595

EN60950-1: Meets the requirements of sections1.5: 1,7: 2.9: 2.10.5.3: 4.2: 4.5: 4.7:
IEC 61000-4-2 Electrostatic Discharge Level 3
IEC 61000-4-4 Electrically Fast Transients Level 3
IEC 61000-4-5 Electrical Surges Level 3

Vibration Resistance: IEC 60068-2-6 : Amplitude Range 10-55 Hz, Displacement 0.75 mm
Shock Resistance: IEC 60068-2-27 : Peak Acceleration 15g, Duration 11 msec

WARNINGS



RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE
- The product's side panels may be hot, allow the product to cool before touching
- Follow proper mounting instructions including torque values
- Do not allow liquids or foreign objects to enter this product

Failure to follow these instructions can result in serious injury, or equipment damage.



HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH
- Disconnect all power before installing or working with this equipment
- Verify all connections and replace all covers before turning on power

Failure to follow these instructions will result in death or serious injury.

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Rev:10/17/24 ECN 20395 FDE-07-01 Rev. B

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