

GNR SERIES | 22.5MM

DIN RAIL MOUNT SOLID STATE RELAYS



- ### Features
- Current ratings of 10, 20 and 30 amps
 - Output voltage ratings: 24-280 and 48-600 VAC
 - Direct Bond Copper (DBC) Substrate
 - LED input status indicator
 - UL 508 Endurance Rating for Enhanced Reliability
 - UL/CSA/TUV Approved, CE Compliant
 - Built-in overvoltage protection
 - DIN Rail or Panel Mount
 - Zero voltage turn-on output

PRODUCT SELECTION

Control Voltage	10A	20A	30A
4-32 VDC	GNR10DHz	GNR20DHz	GNR30DHz

SPECIFICATIONS

Output ⁽¹⁾

Description	GNR10	GNR20	GNR30
Operating Voltage (47-400Hz) [Vrms]	24-280	48-600	48-600
Transient Overvoltage [Vpk, t=1 min.]	600	1100	1100
Maximum Off-State Leakage Current @ Rated Voltage [mArms]	0.1	0.1	0.1
Static Off-State dv/dt (V/μsec, Ta=25°C) ⁽²⁾	500	500	500
Maximum Load Current [Arms]	10	20	30
Minimum Load Current [Arms]	100	100	100
Maximum Surge Current (50/60 Hz, 1 cycle) [Apk]	190/200	286/300	716/750
1 Second Surge Current (Apk Ta=25°C) 50/60 Hz	65	85	150
Forward Voltage Drop (Vpk @ max, Ta=25°C)	1.5	1.35	1.35
Maximum I ² t for Fusing (50/60Hz, 1/2 cycle) [A ² sec]	182/166	410/374	2562/2334
HP Ratings at 120V / FLC [Arms]	-	1.2/9.8	3/4 / 13.8
HP Ratings at 240V / FLC [Arms]	-	1/8	2/12
Min/Max stranded wire	16/8 AWG	16/8 AWG	16/8 AWG
Min/Max solid wire	16/10 AWG	16/10 AWG	16/10 AWG

Input ⁽¹⁾

Description	GNRxxDx
Control Voltage Range ⁽³⁾	4.0-32 VDC
Minimum Turn-On Voltage	4.0 VDC
Must Turn-Off Voltage	1.0 VDC
Minimum Input Current (for on-state)	6 mA
Maximum Input Current	10 mA
Input Resistance	Current Regulated
Maximum Turn-Off Time [msec]	1/2 Cycle
Maximum Turn-On Time [msec] ⁽⁴⁾	1/2 Cycle
Min/Max stranded/solid wire	24/16 AWG

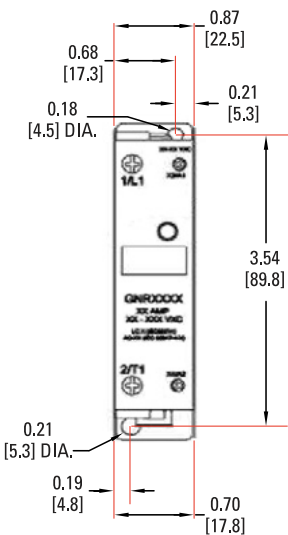
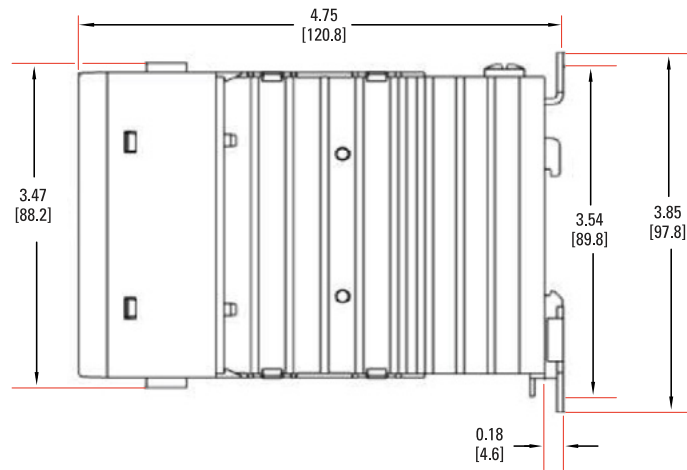
General ⁽¹⁾

Description	Parameters
Ambient Operating Temperature Range ⁽³⁾	-20 to 80°C
Ambient Storage Temperature Range	-40 to 100 °C
Dielectric Strength, Input to Output (50/60Hz)	4000 Vrms
Dielectric Strength, Input/Output to Ground (50/60Hz)	2500 Vrms
Maximum Capacitance, Input/Output	8 pF
Housing Material	UL 94V0 (self extinguishing)
Input Status Indicator	Green LED
Weight (typical)	7.94 oz (225g)

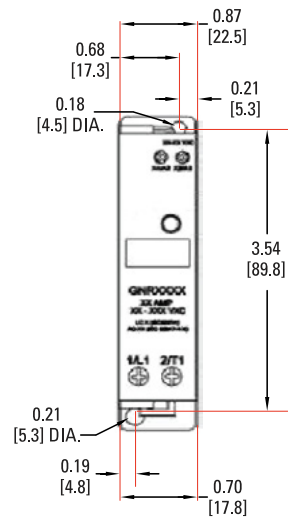
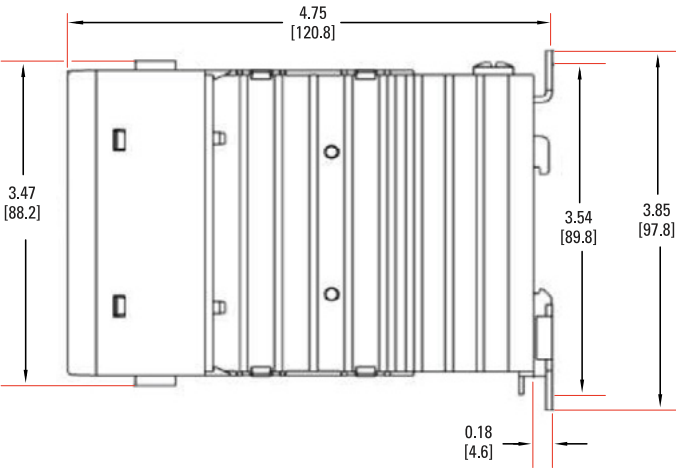
MECHANICAL SPECIFICATIONS (1)

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

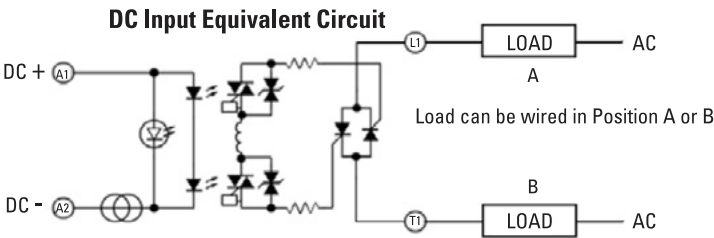
Contactors Configuration



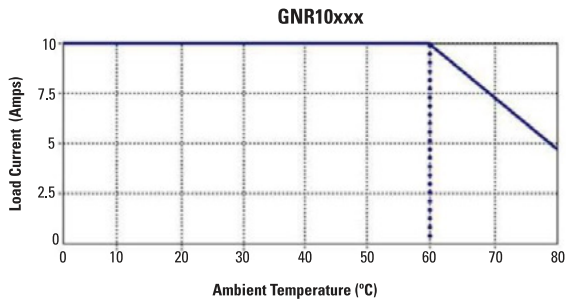
Relay Configuration



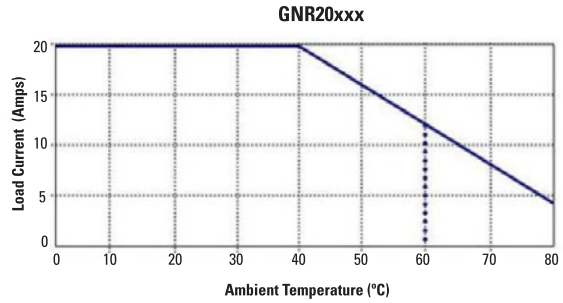
WIRING DIAGRAM



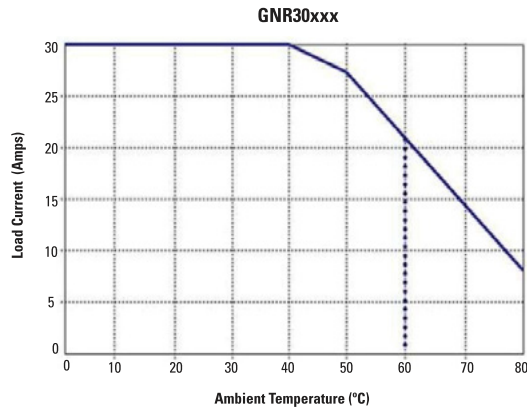
THERMAL DERATE INFORMATION



*GNR10A Series rated to 60°C max ambient



*GNR20A Series rated to 60°C max ambient



*GNR30A Series rated to 60°C max ambient

ORDERING OPTIONS

Example: GNR10DHZ

	GNR	10	D	H	Z
Family	_____	_____	_____	_____	_____
GNR	_____	_____	_____	_____	_____
Rated Load Current	_____	_____	_____	_____	_____
10 : 10 Amps 20 : 20 Amps 30 : 30 Amps	_____	_____	_____	_____	_____
Control Voltage	_____	_____	_____	_____	_____
D : 4-32 VDC	_____	_____	_____	_____	_____
Terminal Layout	_____	_____	_____	_____	_____
C : Contactor configuration H : Relay configuration	_____	_____	_____	_____	_____
Switching Type	_____	_____	_____	_____	_____
Z : Zero voltage Turn-on	_____	_____	_____	_____	_____

— Required for valid part number
□ For options only and not required for valid part number

GENERAL NOTES

- (1) All parameters at 25°C unless otherwise specified.
- (2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- (3) For 180-280 VAC Control. Maximum Ambient operating temperatures is 60°C.
- (4) TUV Certification according to EN 60950-1/A1:2010

For additional information or specific questions, contact Sensata Technical Support.

AGENCY APPROVALS & CERTIFICATIONS



EMC Compatibility

Designed in accordance with the requirements of IEC 62314

IEC 62314

IEC 60068-2-6 35mm/10-55Hz

IEC 60068-2-27 15G / 11ms

IEC 61000-4-2 Level 3 Electrostatic Discharge

IEC 61000-4-3 Level 3 Radiated Electromagnetic Noise

IEC 61000-4-4 Level 3 Immunity to Electrically Fast Transients

IEC 61000-4-5 Level 3 Immunity to Electrical Surges

IEC 61000-4-6 Level 3 Conducted Electromagnetic Noise

CISPR 11 Class A Conducted and Radiated Noise for Industrial Environments

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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