

Crouzet GNR Series 22.5mm DIN Rail Solid State Relays

Crouzet Products /Automation Controls /Solid State Relays /GNR Series Din Rail Solid State Relays /GNR Series 22.5mm DIN Rail Solid State Relays

PRODUCT FEATURES

- ✚ Integral heat sink eliminates the need for complex thermal calculations
- ✚ DBC substrate for superior thermal performance
- ✚ Epoxy-free design minimizes internal component stress
- ✚ Standard ratings up to 30 amps at 600Vac
- ✚ No external transient protection required (internal TVS)
- ✚ LED indicator clearly identifies the relay's input status
- ✚ IP20 touch-safe housing
- ✚ AC or DC inputs
- ✚ 4000Vac optical isolation
- ✚ UL Recognized, CSA Approved, TUV Approved, CE Certified
- ✚ EMC Compliant for reliable operation in harsh environments
- ✚ Relay or contactor configuration

[3D CAD File - 22.5mm Solid State Relay, Relay Version](#)

[3D CAD File - 22.5mm Solid State Relay, Contactor Version](#)

[Installation Instructions - PDF](#)

[DIN-Rail SSR Spacing Requirements - PDF](#)



**"Relay"
Configuration**



**"Contactor"
Configuration**

22.5MM (Relay Configuration)

Current	Output Voltage	Input Voltage	Output Type	Switching	Part number
10 A	24-280 V AC	180-280 V AC	Triac	Zero Voltage	GNR10AHZ
10 A	24-280 V AC	90-140 V AC	Triac	Zero Voltage	GNR10BHZ
10 A	24-280 V AC	4-32 V DC	Triac	Zero Voltage	GNR10DHZ
20 A	48-600 V AC	180-280 V AC	SCR	Zero Voltage	GNR20AHZ

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20 A	48-600 V AC	90-140 V AC	SCR	Zero Voltage	GNR20BHZ	Check Stock
20 A	48-600 V AC	4-32 V DC	SCR	Zero Voltage	GNR20DHZ	Check Stock
20 A	48-600 V AC	4-32 V DC	SCR	Instantaneous	GNR20DHR	Check Stock
30 A	48-600 V AC	180-280 V AC	SCR	Zero Voltage	GNR30AHZ	Check Stock
30 A	48-600 V AC	90-140 V AC	SCR	Zero Voltage	GNR30BHZ	Check Stock
30 A	48-600 V AC	4-32 V DC	SCR	Zero Voltage	GNR30DHZ	Check Stock
30 A	48-600 V AC	4-32 V DC	SCR	Instantaneous	GNR30DHR	Check Stock

22.5MM (Contactor Configuration)

<u>Current</u>	<u>Output Voltage</u>	<u>Input Voltage</u>	<u>Output Type</u>	<u>Switching</u>	<u>Part number</u>	
10 A	24-280 V AC	180-280 V AC	Triac	Zero Voltage	GNR10ACZ	Check Stock
10 A	24-280 V AC	90-140 V AC	Triac	Zero Voltage	GNR10BCZ	Check Stock
10 A	24-280 V AC	4-32 V DC	Triac	Zero Voltage	GNR10DCZ	Check Stock
20 A	48-600 V AC	180-280 V AC	SCR	Zero Voltage	GNR20ACZ	Check Stock
20 A	48-600 V AC	90-140 V AC	SCR	Zero Voltage	GNR20BCZ	Check Stock
20 A	48-600 V AC	4-32 V DC	SCR	Zero Voltage	GNR20DCZ	Check Stock
20 A	48-600 V AC	4-32 V DC	SCR	Instantaneous	GNR20DCR	Check Stock
30 A	48-600 V AC	180-280 V AC	SCR	Zero Voltage	GNR30ACZ	Check Stock
30 A	48-600 V AC	90-140 V AC	SCR	Zero Voltage	GNR30BCZ	Check Stock
30 A	48-600 V AC	4-32 V DC	SCR	Zero Voltage	GNR30DCZ	Check Stock
30 A	48-600 V AC	4-32 V DC	SCR	Instantaneous	GNR30DCR	Check Stock

22.5mm DIN-RAIL SSR



- ▶ Epoxy-Free Design Minimizes Internal Component Stress
- ▶ DIN-RAIL or Panel Mount
- ▶ Relay or Contactor Output Terminal Configuration
- ▶ DBC Substrate for Superior Thermal Performance
- ▶ 100k-cycle UL508 Endurance Rating for Enhanced Reliability
- ▶ Back-to-Back Dual SCR Output (600V models)
- ▶ No External Transient Protection Required (Internal TVS)
- ▶ Zero-Crossing or Random-Fire Output
- ▶ UL / CSA / TUV Approved, CE Compliant
- ▶ EMC Compliant for Reliable Operation in Harsh Environments



Output Specifications

Voltage range (Vrms)	24-240Vac	48-600Vac	48-600Vac
Output Current	10	20	30
Peak Voltage (Vpk , t = 1 min.)	550	1100	1100
Off-state leakage uArms (@ max. line voltage & Ta = 25°C)	100	250	250
Minimum Current (mArms)	100	100	100
Max. 1 cycle surge current (Apk, Ta = 25°C)	100	495	750
Max. 1 second surge current (Apk, Ta = 25°C)	30	100	150
Forward voltage drop (Vpk @ Imax, Ta = 25°C)	1.5	1.35	1.35
I ² T (60Hz, ½ cycle)	340	1020	2350
Static off-state dv/dt (Vµs, Ta = 25°C)	500	500	500
HP Ratings at 120V		1/2	3/4
HP Ratings at 240V		1	2
Output Type	Triac	SCR	SCR
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 Specifications

Input voltage	4-32Vdc	90-140VAC	180-280VAC
Drop out voltage	1Vdc	10VAC	10VAC
Min. input current (for on-state)	16mA	5mA	6mA
Maximum input current	19mA	6mA	8mA
Input Resistance (Ohms)	Current Regulated		
Turn-on time*	8.33msec	20mSec	20mSec
Turn-off time	8.33msec	30mSec	30mSec
Min/Max stranded/solid wire	24/16 AWG	24/16 AWG	24/16 AWG

* Random SSR's turn on in less than 100µs

General Characteristics

Operating Temperature (°C)**	-20 to + 80
Storage Temperature (°C)	-40 to + 100
Input to output isolation	4000Vrms
Input/output to ground isolation	2500Vrms
Input to output capacitance	8pF (typical)
Operating Frequency	47 to 63 Hz
Housing Material	UL 94V0 (self extinguishing)
Weight (grams)	200 225 225
Input/Output Torque	

** -20 to +60 for 180-280VAC input

Standards of Compliance

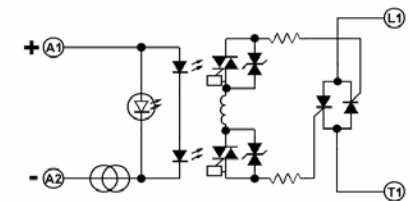
CE Compliant with the LVD 73/23/EEC	
UL Recognized per UL 508 and CSA C22.2 no. 14-95	
TUV Certified per EN 60950	
IEC 62314	
IEC 60068-2-6	35mm/10-55Hz
IEC 60068-2-27	15G / 11ms
IEC 61000-4-2 Level 3	Electrostatic Discharge
IEC 61000-4-3 Level 3	Radiated Electromagnetic Noise
IEC 61000-4-4 Level 3	Immunity 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 Calss A	Conducted and Radiated Noise for Industrial Enviroments
Pollution Degree 2	

Part Numbers

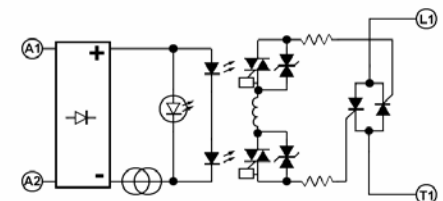
Relay Configuration	Zero Crossing Output			
	Rating	Output	Input	Part Number
	10 Amp	24-280 Vac	180-280VAC	GNR10AHZ
	10 Amp	24-280 Vac	90-140VAC	GNR10BHZ
	10 Amp	24-280 Vac	4-32Vdc	GNR10DHZ
	20 Amp	48-600Vac	180-280VAC	GNR20AHZ
	20 Amp	48-600Vac	90-140VAC	GNR20BHZ
	20 Amp	48-600Vac	4-32Vdc	GNR20DHZ
	30 Amp	48-600Vac	180-280VAC	GNR30AHZ
	30 Amp	48-600Vac	90-140VAC	GNR30BHZ
30 Amp	48-600Vac	4-32Vdc	GNR30DHZ	
Relay Configuration	Random Fire Output			
	Rating	Output	Input	Part Number
	20 Amp	48-600Vac	4-32Vdc	GNR20DHR
	30 Amp	48-600Vac	4-32Vdc	GNR30DHR

Part Numbers

Contactor Configuration	Zero Crossing Output			
	Rating	Output	Input	Part Number
	10 Amp	24-280 Vac	180-280VAC	GNR10ACZ
	10 Amp	24-280 Vac	90-140VAC	GNR10BCZ
	10 Amp	24-280 Vac	4-32Vdc	GNR10DCZ
	20 Amp	48-600Vac	180-280VAC	GNR20ACZ
	20 Amp	48-600Vac	90-140VAC	GNR20BCZ
	20 Amp	48-600Vac	4-32Vdc	GNR20DCZ
	30 Amp	48-600Vac	180-280VAC	GNR30ACZ
	30 Amp	48-600Vac	90-140VAC	GNR30BCZ
30 Amp	48-600Vac	4-32Vdc	GNR30DCZ	
Contactor Configuration	Random Fire Output			
	Rating	Output	Input	Part Number
	20 Amp	48-600Vac	4-32Vdc	GNR20DCR
	30 Amp	48-600Vac	4-32Vdc	GNR30DCR



DC Input Equivalent Circuit



AC Input Equivalent Circuit

DIN-Rail SSR Dimensional Drawings



Dimensions mm (inches)

