

Crouzet GNR Series 45MM DIN Rail Solid State Relays

Crouzet Products /Automation Controls /Solid State Relays /GNR Series Din Rail Solid State Relays /GNR Series 45mm 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 45 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 - 45mm Solid State Relay, Relay Version](#)

[3D CAD File - 45mm Solid State Relay, Contactor Version](#)

[Installation Instructions - PDF](#)

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



**"Relay"
Configuration**

**"Contactor"
Configuration**

45MM (Relay Configuration)

45MM (Contactor Configuration)

Current	Output Voltage	Input Voltage	Output Type	Switching	Part number	
35 A	48-600 V AC	180-280 V AC	SCR	Zero Voltage	GNR35ACZ	Check Stock
35 A	48-600 V AC	90-140 V AC	SCR	Zero Voltage	GNR35BCZ	Check Stock
35 A	48-600 V AC	4-32 V DC	SCR	Zero Voltage	GNR35DCZ	Check Stock

35 A	48-600 V AC	4-32 V DC	SCR	Instantaneous	<u>GNR35DCR</u>	<u>Check Stock</u>
45 A	48-600 V AC	180-280 V AC	SCR	Zero Voltage	<u>GNR45ACZ</u>	<u>Check Stock</u>
45 A	48-600 V AC	90-140 V AC	SCR	Zero Voltage	<u>GNR45BCZ</u>	<u>Check Stock</u>
45 A	48-600 V AC	4-32 V DC	SCR	Zero Voltage	<u>GNR45DCZ</u>	<u>Check Stock</u>
45 A	48-600 V AC	4-32 V DC	SCR	Instantaneous	<u>GNR45DCR</u>	<u>Check Stock</u>

<u>Current</u>	<u>Output Voltage</u>	<u>Input Voltage</u>	<u>Output Type</u>	<u>Switching</u>	<u>Part number</u>	
35 A	48-600 V AC	180-280 V AC	SCR	Zero Voltage	<u>GNR35AHZ</u>	<u>Check Stock</u>
35 A	48-600 V AC	90-140 V AC	SCR	Zero Voltage	<u>GNR35BHZ</u>	<u>Check Stock</u>
35 A	48-600 V AC	4-32 V DC	SCR	Zero Voltage	<u>GNR35DHZ</u>	<u>Check Stock</u>
35 A	48-600 V AC	4-32 V DC	SCR	Instantaneous	<u>GNR35DHR</u>	<u>Check Stock</u>
45 A	48-600 V AC	180-280 V AC	SCR	Zero Voltage	<u>GNR45AHZ</u>	<u>Check Stock</u>
45 A	48-600 V AC	90-140 V AC	SCR	Zero Voltage	<u>GNR45BHZ</u>	<u>Check Stock</u>
45 A	48-600 V AC	4-32 V DC	SCR	Zero Voltage	<u>GNR45DHZ</u>	<u>Check Stock</u>
45 A	48-600 V AC	4-32 V DC	SCR	Instantaneous	<u>GNR45DHR</u>	<u>Check Stock</u>

45mm 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
- ▶ 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)	48-600Vac	48-600Vac
Output Current	35	45
Peak Voltage (Vpk, t = 1 min.)	1100	1100
Off-state leakage uArms (@ 480V & Ta = 25°C)	250	250
Minimum Current (mArms)	100	100
Max. 1 cycle surge current (Apk, Ta = 25°C)	770	800
Max. 1 second surge current (Apk, Ta = 25°C)	150	160
Forward voltage drop (Vpk @ Imax, Ta = 25°C)	1.35	1.35
I ² T (60Hz, ½ cycle)	2500	2600
Static off-state dv/dt (Vµs, Ta = 25°C)	500	500
HP Ratings at 240V	3	5
HP Ratings at 480V	3	5
Output Type	SCR	SCR
Min/Max stranded wire	16/8 AWG	16/8 AWG
Min/Max solid wire	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)	400
Input/Output Torque	

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

Standards of Compliance

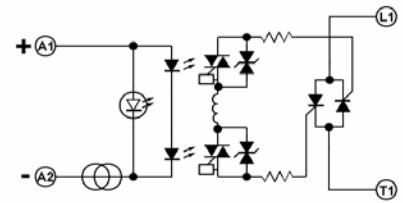
CE Compliant with the LVD 73/23/EEC	
UL Recognized per UL 508 and CSA C22.2 no. 14-95	
TUV Certified per EN 60950	
IEC 62314	
IEC 60068-2-6	35mm/10-55Hz
IEC 60068-2-27	15G / 11ms
IEC 61000-4-2 Level 3	Electrostatic Discharge
IEC 61000-4-3 Level 3	Radiated Electromagnetic Noise
IEC 61000-4-4 Level 3	Immunity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

Part Numbers

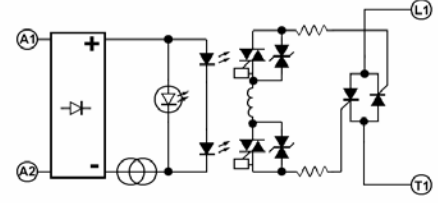
Relay Configuration	Zero Crossing Output			
	Rating	Output	Input	Part Number
	35 Amp	48-600Vac	180-280VAC	GNR35AHZ
	35 Amp	48-600Vac	90-140VAC	GNR35BHZ
	35 Amp	48-600Vac	4-32Vdc	GNR35DHZ
	45 Amp	48-600Vac	180-280VAC	GNR45AHZ
	45 Amp	48-600Vac	90-140VAC	GNR45BHZ
	45 Amp	48-600Vac	4-32Vdc	GNR45DHZ
	Random Fire Output			
	Rating	Output	Input	Part Number
35 Amp	48-600Vac	4-32Vdc	GNR35DHR	
45 Amp	48-600Vac	4-32Vdc	GNR45DHR	

Part Numbers

Contactor Configuration	Zero Crossing Output			
	Rating	Output	Input	Part Number
	35 Amp	48-600Vac	180-280VAC	GNR35ACZ
	35 Amp	48-600Vac	90-140VAC	GNR35BCZ
	35 Amp	48-600Vac	4-32Vdc	GNR35DCZ
	45 Amp	48-600Vac	180-280VAC	GNR45ACZ
	45 Amp	48-600Vac	90-140VAC	GNR45BCZ
	45 Amp	48-600Vac	4-32Vdc	GNR45DCZ
	Random Fire Output			
	Rating	Output	Input	Part Number
35 Amp	48-600Vac	4-32Vdc	GNR35DCR	
45 Amp	48-600Vac	4-32Vdc	GNR45DCR	



DC Input Equivalent Circuit



AC Input Equivalent Circuit

DIN-Rail SSR Dimensional Drawings



Dimensions mm (inches)

