

## GNR SERIES 45MM RELAY

GNR35DCZ  
DIN Rail SSR 45mm 600V ac 35A, 4-32V dc In, ZC

- Load current 35A and 45A
- Operating Voltage 48-600 VAC
- Control Voltage 4-32 VDC, 90-140 VAC and 180-260 VAC
- Broad range of power ratings



### PRODUCT DESCRIPTION

These relays offer a broad range of power ratings which makes them suitable for diverse applications. Their high reliability and efficient design have made of them a market favorite for many years.

- Current ratings of 35 and 45 amps
- Output voltage rating: 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 or Instantaneous turn-on output

### TECHNICAL DATA

Output Specifications (1)

Description	GNR35	GNR45
Operating Voltage (47-440Hz) [Vrms]	48-600	48-600
Transient Overvoltage [Vpk, t=1 min.]	1100	1100
Maximum Load Current [Arms]	35	45
Minimum Load Current [Arms]	0.1	0.1
Maximum Off-State Leakage Current @ Rated Voltage [mAms]	0.25	0.25
Static Off-State dv/dt ( V/ $\mu$ sec, Ta=25°C) (2)	500	500
1 Second Surge Current (Apk Ta=25°C) 50/60 Hz	130	150
Forward Voltage Drop (Vpk @ max, Ta=25°C)	1.35	1.35
Maximum Surge Current (50/60 Hz, 1 cycle) [Apk]	668/700	716/750
Maximum I <sup>2</sup> t for Fusing (50/60Hz, 1/2 cycle) [A <sup>2</sup> sec]	2230/2020	2562/2334
HP Ratings at 120V/ FLC [Arms]	1.5/20	1.5/20
HP Ratings at 240V/ FLC [Arms]	3/17	3/17

HP Ratings at 480V/ FLC [Arms]	5/14	5/14
Min/Max stranded wire	16/8 AWG	16/8 AWG
Min/Max solid wire	16/10 AWG	16/10 AWG

Input Specifications (1)

Description	GNRxDx	GNRxBx	GNRxAx
Control Voltage Range (3)	4.0-32 VDC	90-140 Vrms	180-280 Vrms
Minimum Turn-On Voltage	4.0 VDC	90 Vrms	180 Vrms
Must Turn-Off Voltage	1.0 VDC	10 Vrms	10 Vrms
Minimum Input Current (for on-state)	16 mA	5 mArms	6 mA
Maximum Input Current	19 mA	6 mArms	8 mA
Input Resistance	Current Regulated	Current Regulated	Current Regulated
Maximum Turn-Off Time [msec]	1/2 Cycle	20	20
Maximum Turn-On Time [msec] (4)	1/2 Cycle	30	30
Min/Max stranded/solid wire	24/16 AWG	24/16 AWG	24/16 AWG

General Specifications (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)	14.1 oz (400g)

General Notes

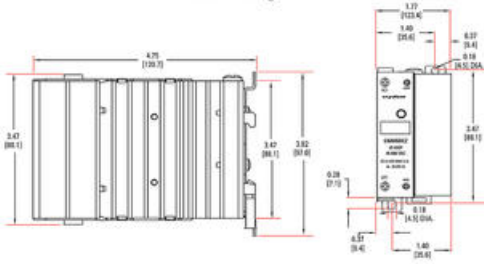
- (1) All parameters at 25°C unless otherwise specified.
- (2) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
- (3) For 180-280 VAC Control. Maximum Ambient operating temperatures is 60°C.
- (4) Turn-on time for Instantaneous version (R suffix) is 0.1 msec (for DC control only).
- (5) TUV Certification according to EN 60950-1/A1:2010

Mechanical Specifications (1)

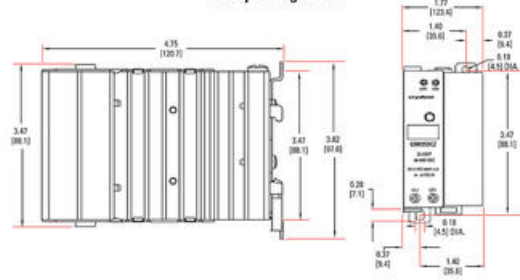
Tolerances: ±0.02 in / 0.5 mm  
All dimensions are in: inches [millimeters]

Contact Configuration	Relay Configuration

**Contactor Configuration**

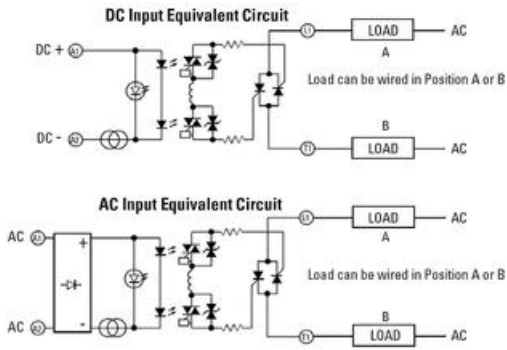


**Relay Configuration**



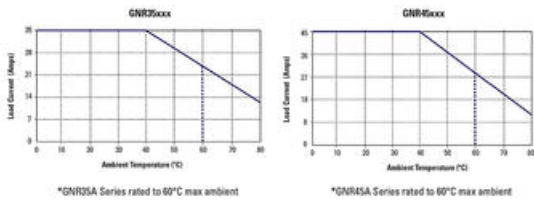
**Wiring Diagram**

**WIRING DIAGRAM**



**Thermal Derate Information**

**THERMAL DERATE INFORMATION**



**Agency Approvals**

Designed in accordance with the requirements of IEC 62314  
 cRU UK E79183 SALR 38595 TDV (5) CE RoSH

## EMC Compatibility

Designed in accordance with the requirements of IEC 62314

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

IEC 62314

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

## PART NUMBERS

### Product Selection

Control Voltage	35A	45A
4-32 VDC	GNR35DHZ	GNR45DHZ
90-140 VAC	GNR35BHZ	GNR45BHZ
180-280 VAC	GNR35AHZ	GNR45AHZ

Different options available on request.

## SPECIFICATIONS

<b>Activation</b>	0 V
<b>Approvals</b>	CE, CSA, EMC, UL
<b>Connection Thread</b>	Screw terminal
<b>Control voltage</b>	4-32V dc
<b>Depth</b>	120,7 mm
<b>Height</b>	88,1 mm
<b>I<sup>2</sup>t Value</b>	2230 A <sup>2</sup> s
<b>Insulation voltage in/out</b>	4000 V
<b>IP Class</b>	IP20
<b>Leakage Current At V Max, T = 25 ° C Max</b>	1 mA
<b>Load Voltage</b>	ac
<b>Number of poles</b>	1
<b>Output current</b>	35 A
<b>Output voltage (String)</b>	48-600V ac
<b>Peak Current</b>	130 A
<b>Peak Voltage</b>	1100 V
<b>Power Consumption max</b>	19 mA
<b>Power Consumption min</b>	16 mA

<b>Release Time</b>	10 ms
<b>Response Time</b>	10 ms
<b>Temperature Range From</b>	-20 °C
<b>Temperature Range From Stock</b>	-40 °C
<b>Temperature Range To</b>	80 °C
<b>Temperature Stocks To</b>	100 °C
<b>Tripping voltage</b>	1 V
<b>Weight</b>	400 g
<b>Width</b>	45 mm
<b>Voltage Drop Over The Semi-Conductor at I<sub>max</sub></b>	1,35 V

