

## → Ready to use SSR for General Purpose 45mm wide Single Phase

- GN Technology ready to use
- No heatsink calculation required
- Epoxy-free design
- Relay and contactor configuration
- Internal transient protection by TVS
- UL/cUL recognized, CSA and TUV approved
- CE certified
- EMC compliance level 3
- Non RC snubber filter
- Rated current at 40°C ambient temperature



### Part numbers

Type	Current (A)	Input voltage	Output voltage	Output	Switching	Code
45 mm	35	4-32 V DC	48-600 V AC	Relay	Zero	<b>GNR 35DHZ</b>
	35	4-32 V DC	48-600 V AC	Contactor	Zero	<b>GNR 35DCZ</b>
	35	4-32 V DC	48-600 V AC	Relay	Random	<b>GNR 35DHR</b>
	35	4-32 V DC	48-600 V AC	Contactor	Random	<b>GNR35DCR</b>
	35	90-140 V AC/DC	48-600 V AC	Relay	Zero	<b>GNR 35BHZ</b>
	35	90-140 V AC/DC	48-600 V AC	Contactor	Zero	<b>GNR 35BCZ</b>
	35	180-280 V AC	48-600 V AC	Relay	Random	<b>GNR 35AHZ</b>
	35	180-280 V AC	48-600 V AC	Contactor	Random	<b>GNR 35ACZ</b>
	45	4-32 V DC	48-600 V AC	Relay	Zero	<b>GNR 45DHZ</b>
	45	4-32 V DC	48-600 V AC	Contactor	Zero	<b>GNR 45DCZ</b>
	45	4-32 V DC	48-600 V AC	Relay	Random	<b>GNR 45DHR</b>
	45	4-32 V DC	48-600 V AC	Contactor	Random	<b>GNR45DCR</b>
	45	90-140 V AC/DC	48-600 V AC	Relay	Zero	<b>GNR 45BHZ</b>
	45	90-140 V AC/DC	48-600 V AC	Contactor	Zero	<b>GNR 45BCZ</b>
	45	180-280 V AC	48-600 V AC	Relay	Zero	<b>GNR 45AHZ</b>
	45	180-280 V AC	48-600 V AC	Contactor	Zero	<b>GNR 45ACZ</b>

### Output characteristics

Voltage range (Vrms max)	48-600	48-600
Non-rep. peak voltage (Vpeak)	1100	1100
Maximum off-state leakage at Vmax and T = 25 °C (µeff per phase)	120	120
Current max @ 25°C (A)	40	45
Current max @ 40°C (A)	35	45
Minimum current (mArms)	100	100
On-state voltage drop at I max (Vpeak)	1.35	1.35
I <sup>2</sup> t (t = 10 ms) (A <sup>2</sup> s) (50 - 60 Hz)	3000-2500	3200-2600
Static (off-state) dv/dt (V/µs)	500	500
HP ratings at 120 V	1.5	1.5
HP ratings at 240 V	2	3
HP ratings at 480 V	5	5
Utilisation category AC 51 (A)	35	45
Utilization Category AC-53 (A)	9	10
Max. non-rep. 1 s surge (T=25 °C) (A)	150	160
Max. non-rep. 1-cycle surge (T=25 °C) (A)	770	800
Rth junction / ambient air (°C/W)	2.4	1.7

### Inputs specifications

Input voltage	4-32 VDC	90-140 VAC	180-280 VAC
Turn-off voltage (V)	1	10	10
Max. controlled current (mA)	20	6	8
Min turn-on current (mA)	16	5	6
Turn-on time (ms) (zero voltage relay)	8.33 (60Hz) - 10 (50Hz)	20	20
Turn-on-time (ms) (instantaneous relay)	0.1	-	-
Response time (close) (ms)	8.33 (60Hz) - 10 (50Hz)	30	30

## General characteristics

### General characteristics

Operating temperature (°C)	-20 → +80 -20 → +60 (90-140 VAC)
Storage temperature (°C)	-40 → +100
Input to ground isolation (Vrms)	4200
Input/output to ground isolation (Vrms)	4000
Frequency (Hz)	47 → 63
Material housing	Polycarbonate UL 94VO
Heatsink material	Anodized Aluminium
Protection (IEC 60529) - Casing	IP 20
Weight (g)	400
Altitude for nominal performance (/sea level)	2000 m
Input terminal capacity (stranded and solid wire)	16 AWG → 24 AWG
Input terminal tightening torque (Nm)	0.5
Min. output terminal capacity (IEC 941-1)	16 AWG
Max. output terminal capacity (IEC 941-1) stranded wire	8 AWG
Max. output terminal capacity (IEC 941-1) solid wire	10 AWG
Output terminal tightening torque (Nm)	1.3
Maximum cross section for output wire (mm <sup>2</sup> )	10

### Safety standards

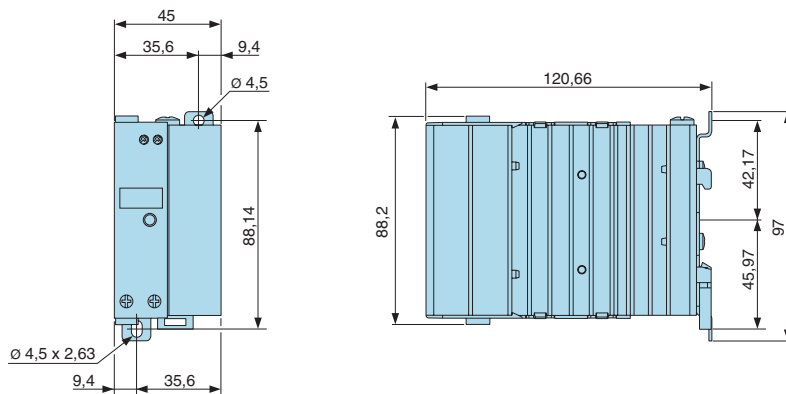
Conformity to standards	IEC 62314 CE compliant with LVD 73/23/EEC TUV certified per EN 60950 UL recognized per UL 508 CSA recognized per C22.2 no 14-95
Vibrations according to IEC/EN60068-2-6	35 mm / 10-55 Hz
Shock test IEC 60068-2-27	15 G / 11 ms
Immunity to electrostatic discharges acc. IEC/EN 61000-4-2	Level 3
Immunity to electrostatic fields acc. ENV 50140/204 (IEC 1000-4-3)	Level 3
Immunity to rapid transient bursts acc. to IEC 1000-4-4	Level 3
Immunity to shock waves according to IEC/EN 61000-4-5	Level 3
Immunity to radio frequency in common mode acc. to ENV (CEI 1000-4-6)	Level 3
Conducted and radiated noise for industrial environments per CISPR 11	Class A
Pollution	Degree 2
Overtoltage	Category III

### Comments

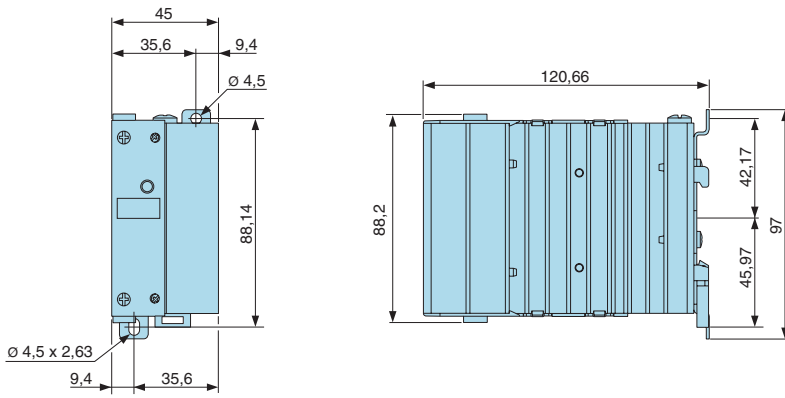
Relay style SSR's @280 V AC @60 C require #20 Control Wire  
For multiple unit configuration consult Technical Notes  
LED is not absolute indicator of power being present

## Dimensions

### GNR 45 mm relay termination



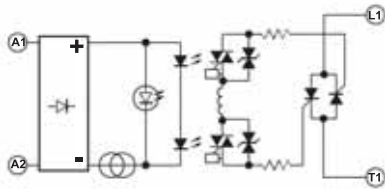
**GNR 45 mm contactor termination**



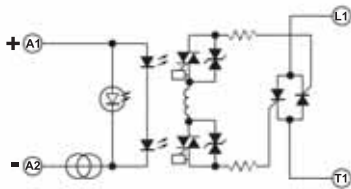
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**Connections**

**AC input circuits**

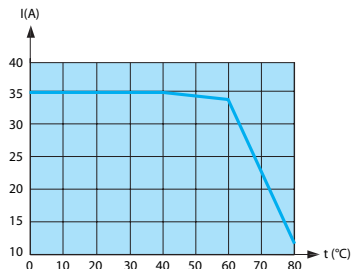


**DC input circuits**

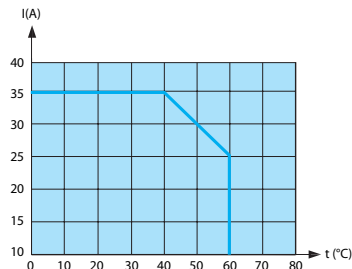


**Curves**

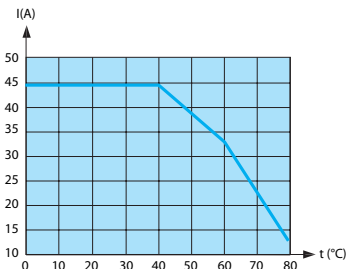
**GNR 35B - GNR35D**



**GNR 35A**



**GNR 45B - GNR 45D**



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# GNR 45A

