

# GN Series Solid State Relays

- ▶ Current ratings from 10 to 125 amps
- ▶ Output voltage from 24 to 660 Vac
- ▶ Back to back SCR's for severe inductive loads
- ▶ Direct bond copper substrate
- ▶ Improved power lead frame design
- ▶ LED input status indicator
- ▶ Transient protection built in
- ▶ 4000 Vac optical isolation
- ▶ Available with IP20 "touch-safe" cover
- ▶ UL E79183, CSA LR 38595, TUV Approved, CE Compliant



## Output Specifications

Voltage range (Vrms)	24 - 280Vac		48 - 660Vac			
Peak Voltage (Vpk, t = 1 min.)	600		1200			
Off-state leakage (@ max. line voltage & Ta = 25°C)	0.1mArms		0.25mArms			
Output Current (Mounted on proper heat sink, see deratings)	10	25	50	75	100	125
Minimum Current (mArms)	50	50	100	100	100	100
1 cycle surge current (50 Hz)	150	275	710	1050	1120	1600
1 cycle surge current (60 Hz)	175	300	750	1100	1200	1700
1 second surge current (Apk, Ta = 25°C) 50/60 Hz	50	85	150	225	300	375
Forward voltage drop (Vpk @ Imax, Ta = 25°C)	1.35	1.35	1.35	1.3	1.3	1.3
I <sup>2</sup> T (50Hz, ½ cycle)	110	380	2520	5500	6270	12800
I <sup>2</sup> T (60Hz, ½ cycle)	120	370	2320	5000	6000	12050
Rjb (thermal res. Junction to baseplate, °C/W)	0.5	0.4	0.25	0.155	0.155	0.15
Static off-state dv/dt (Vµs, Ta = 25°C)	500	500	500	500	500	500
Minimum heat sink @ ambient (for max current = °C/W & Ta)	3.0 @ 70°C	1.5 @ 50°C	1.0 @ 40°C	0.7 @ 40°C	0.5 @ 40°C	0.4 @ 40°C

## Input Specifications

Input voltage*	3-32Vdc	18-36Vac	90-280Vac***
Drop out voltage	1 Vdc	2 Vrms	10 Vrms
Max. input current	14mA	16mArms	10mArms
Min. input current (for on-state)	7mA		5mArms
Input Resistance	Current Regulated		
Turn-on time**	8.33ms	20ms	20ms
Turn-off time	8.33ms	30ms	30ms

\* 4-32Vdc for 48-660Vac models

\*\* 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)

## Safety and Noise Immunity Compliance

CE Compliant with the LVD 73/23/EEC

UL / cUL Recognized per UL 508 and CSA C22.2 no. 14-M91

TUV EN60950

IEC 1000-4-2: Electrostatic Discharge - Level 3

IEC 1000-4-3: Radiated Electromagnetic Noise - Level 3

IEC 1000-4-4: Electrically Fast Transients - Level 3

IEC 1000-4-5: Electrical Surges - Level 3

IEC 1000-4-6: Conducted Electromagnetic Noise - Level 3

CISPR 11 - Class A: Allowable Levels of Conducted and Radiated Noise for Industrial Environments

\*\*\* For ambient temperatures above 40°C the maximum control voltage must not exceed 250Vac

\*\*\*\* Increase minimum input voltage by 1 Vdc for operation from -20° to -40°C

## Part Numbers

### (Zero Crossing)

Rating	Output	Input	IP00	IP20
10 Amp	24-280Vac	90-280Vac	84 134 001	84 137 001
		3-32Vdc	84 134 000	84 137 000
	48-660Vac	90-280Vac	84 134 101	84 137 101
		4-32Vdc	84 134 100	84 137 100
25 Amp	24-280Vac	90-280Vac	84 134 011	84 137 011
		3-32Vdc	84 134 010	84 137 010
	48-660Vac	90-280Vac	84 134 111	84 137 111
		4-32Vdc	84 134 110	84 137 110
50 Amp	24-280Vac	90-280Vac	84 134 021	84 137 021
		3-32Vdc	84 134 020	84 137 020
	48-660Vac	90-280Vac	84 134 121	84 137 121
		4-32Vdc	84 134 120	84 137 120
75 Amp	24-280Vac	90-280Vac	84 134 031	84 137 031
		3-32Vdc	84 134 030	84 137 030
	48-660Vac	90-280Vac	84 134 131	84 137 131
		4-32Vdc	84 134 130	84 137 130
100 Amp	24-280Vac	90-280Vac	84 134 041	84 137 041
		3-32Vdc	84 134 040	84 137 040
	48-660Vac	90-280Vac	84 134 141	84 137 141
		4-32Vdc	84 134 140	84 137 140
125 Amp	24-280Vac	90-280Vac	84 134 081	84 137 081
		3-32Vdc	84 134 080	84 137 080
	48-660Vac	90-280Vac	84 134 181	84 137 181
		4-32Vdc	84 134 180	84 137 180

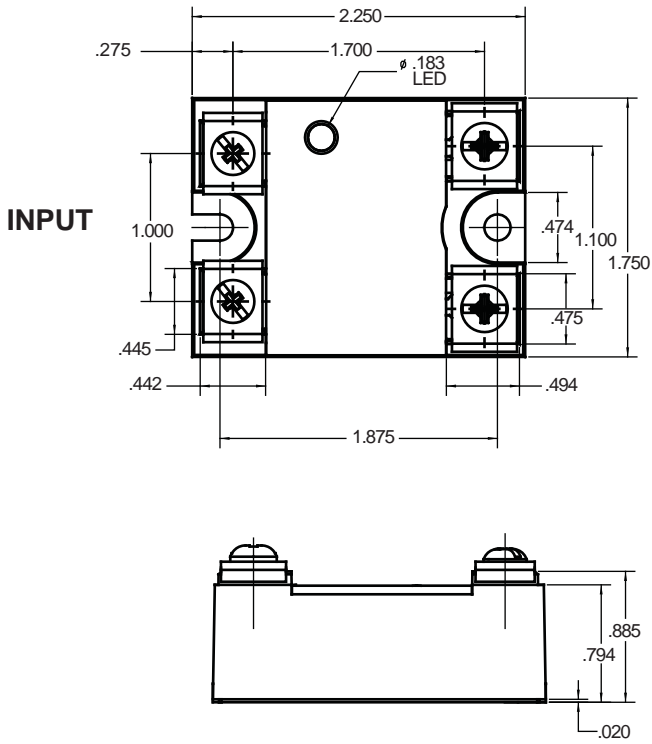
### Random SSR's

Rating	Output	Input	IP00	IP20
10 Amp	24-280Vac	3-32Vdc	84 134 200	84 137 200
	48-660Vac	4-32Vdc	84 134 300	84 137 300
25 Amp	24-280Vac	3-32Vdc	84 134 210	84 137 210
	48-660Vac	4-32Vdc	84 134 310	84 137 310
50 Amp	24-280Vac	3-32Vdc	84 134 220	84 137 220
	48-660Vac	4-32Vdc	84 134 320	84 137 320
75 Amp	24-280Vac	3-32Vdc	84 134 230	84 137 230
	48-660Vac	4-32Vdc	84 134 330	84 137 330
100 Amp	24-280Vac	3-32Vdc	84 134 240	84 137 240
	48-660Vac	4-32Vdc	84 134 340	84 137 340
125 Amp	24-280Vac	3-32Vdc	84 134 280	84 137 280
	48-660Vac	4-32Vdc	84 134 380	84 137 380

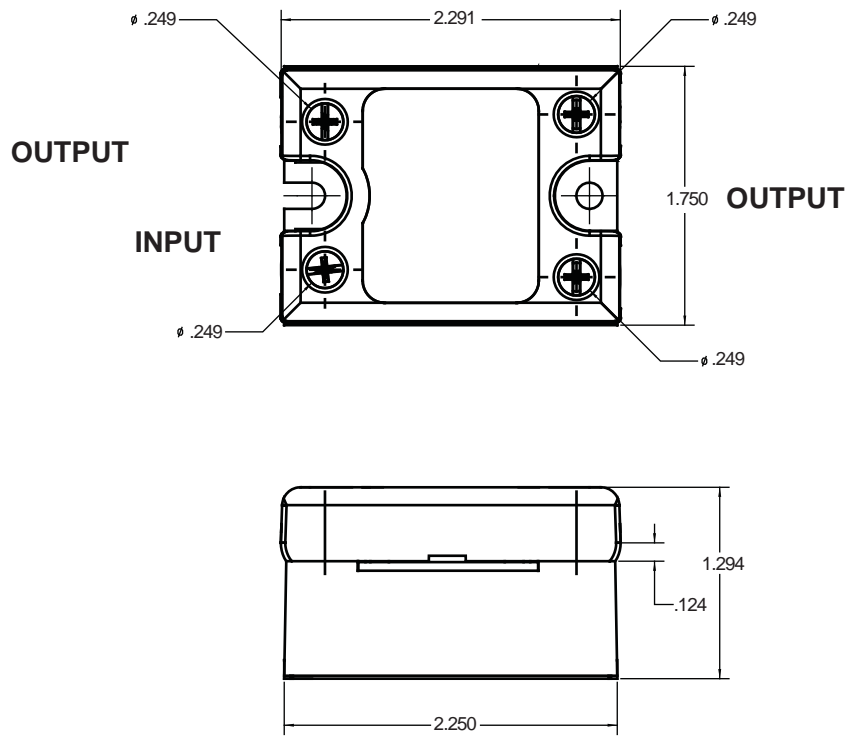
For 18-36Vac control replace the last digit in the part number with a 2. Example: 84134012

**DIMENSIONS IN INCHES**

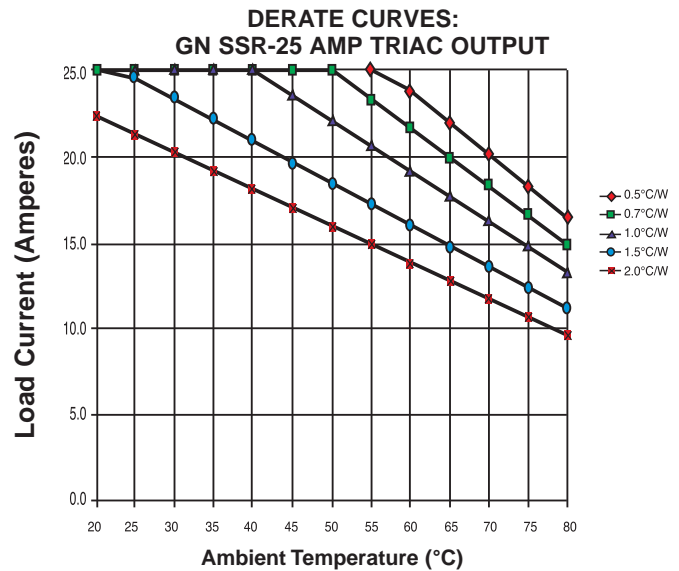
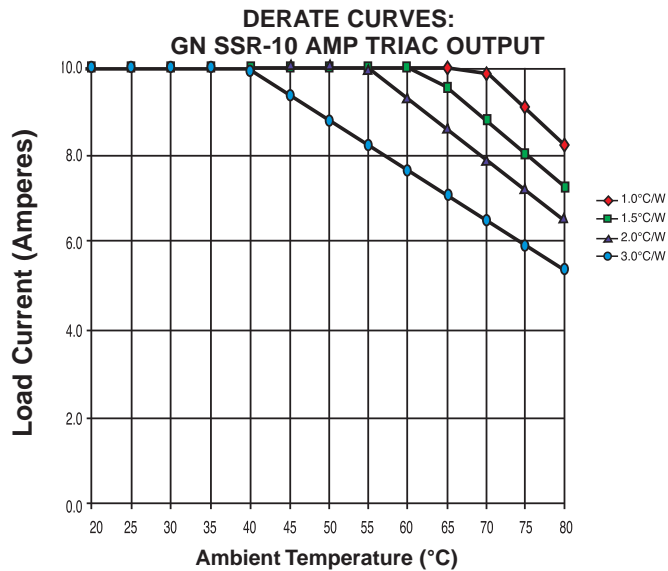
**IP00**



**IP20**

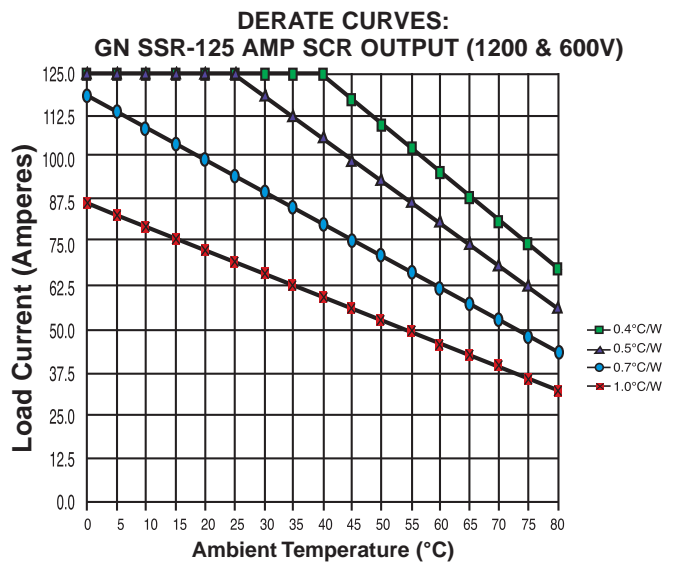
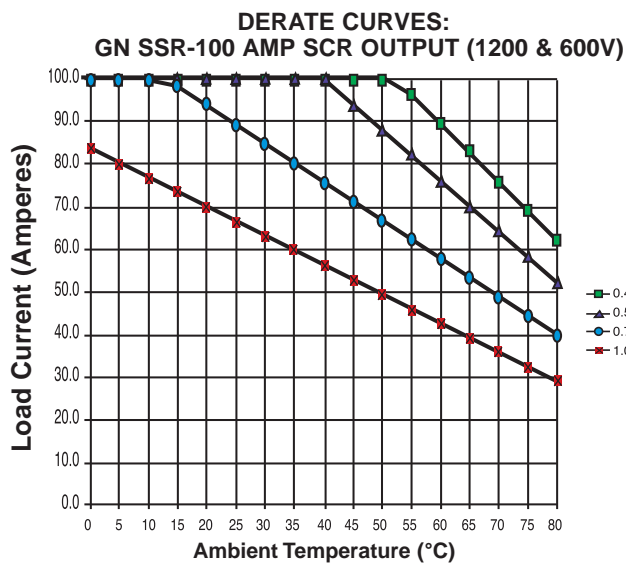
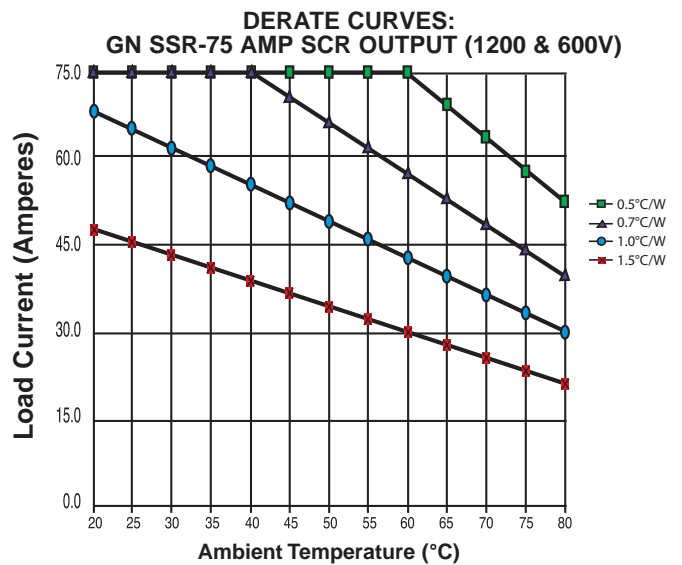
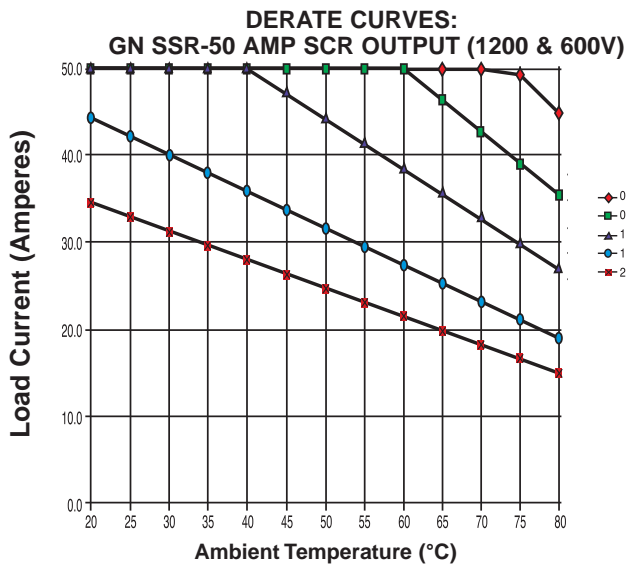
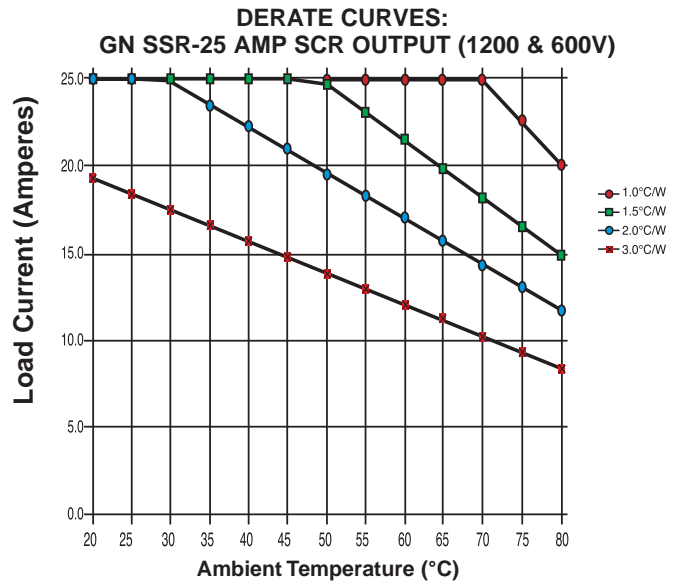
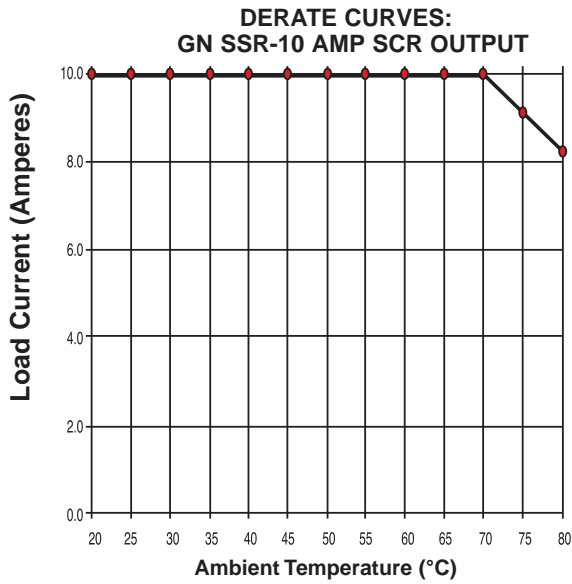


**DERATING CURVES**



Products and specifications subject to change without notice.

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