| GN3 SERIES

PANEL MOUNT SOLID STATE RELAYS

Features

- 3-phase solid state relay
- Current ratings of 25 and 50 Amps
- Output voltage rating: 48-600 VAC
- Direct bond copper substrate
- LED input status indicator
- IP20 “touch-safe” cover
- Transient protection built-in
- UL508 endurance rating for enhanced reliability
- UL/CSA/TUV Approved, CE Compliant to EN60950-1

PRODUCT SELECTION

Control Voltage	25 A	50 A
4-32 VDC	GN325DLZ	GN350DLZ
18-36 VAC	GN325ELZ	GN350ELZ
90-140 VAC	GN325BLZ	GN350BLZ
180-260 VAC	GN325ALZ	GN350ALZ

SPECIFICATIONS

Output [1]

Description	25 A	50 A
Operating Voltage (47-400 Hz) [Vrms] [2]	48-600	48-600
Transient Overvoltage [Vpk, t = 1 min] [3]	1200	1200
Static off-state dv/dt (V/µsec, Ta = 25°C) [4]	500	500
Maximum Load Current [Arms] [5]	25	50
Minimum Load Current [mArms]	100	100
Maximum Off-State Leakage Current [mArms] [6] [7]	0.06	0.06
1 Cycle surge current (50 Hz)	275	710
1 Cycle surge current (60 Hz)	300	750
1 Second surge current (Apk. Ta = 25°C) 50/60 Hz	85	150

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Forward Voltage Drop (Vpk @ Imax, Ta = 25°C)	1.35	1.35
I^2t (50 Hz, 1/2 cycle)	380	2520
I^2t (60 Hz, 1/2 cycle)	370	2320
Thermal Resistance Junction to baseplate (Rjb) [°C/W]	0.24	0.12
HP Ratings at 120V / FLC [Arms]	0.75 / 6.4	1.5 / 12
HP Ratings at 240V / FLC [Arms]	1 / 4.2	3 / 9.6
HP Ratings at 480V / FLC [Arms]	3 / 4.8	7.5 / 11
HP Ratings at 600V / FLC [Arms]	5 / 6.1	10 / 11
Min/Max wire size	16/8 AWG	16/8 AWG
Screw Torque Range [lb-in/Nm]	18-20 / 2.03-2.26	18-20 / 2.03-2.26

Input [(1)]

Description	**GN3xxDx**	**GN3xxEx**	**GN3xxBx**	**GN3xxAx**
Control Voltage Range	4.0-32 VDC	18-36 Vrms	90-140 Vrms	180-260 Vrms
Minimum Turn-On Voltage	4.0 VDC	18 Vrms	90 Vrms	180 Vrms
Must Turn-Off Voltage	1.0 VDC	2 Vrms	10 Vrms	10 Vrms
Maximum input current	39 mA	20 mArms	16 mArms	16 mArms
Minimum input current (for on-state)	24 mA	15 mArms	7 mArms	7 mArms
Input Resistance	Current Regulated			
Turn-On Time [msec] [(8)]	1/2 Cycle	20	20	20
Turn-Off Time [msec]	1/2 Cycle	30	30	30
Min/Max wire size	24/14 AWG			
Screw Torque Range [in-lb/Nm]	8-10 / 0.9-1.13			

General

Description	**Parameters**
Ambient Operating Temperature Range [(9)]	-40°C to 80°C
Ambient Storage Temperature Range	-40°C to 125°C
Input to output isolation	4000 Vrms
Input/Output to ground isolation	2500 Vrms
Input to output capacitance	8 pF
Housing Material	UL 94V0 (self extinguishing)
Input Status Indicator	Green LED
Weight (typical)	0.79 oz (360 g)

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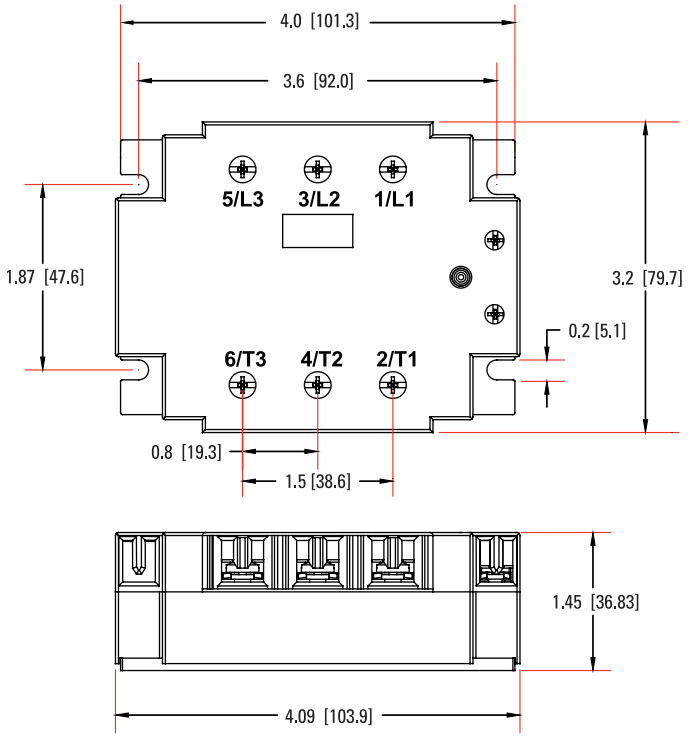
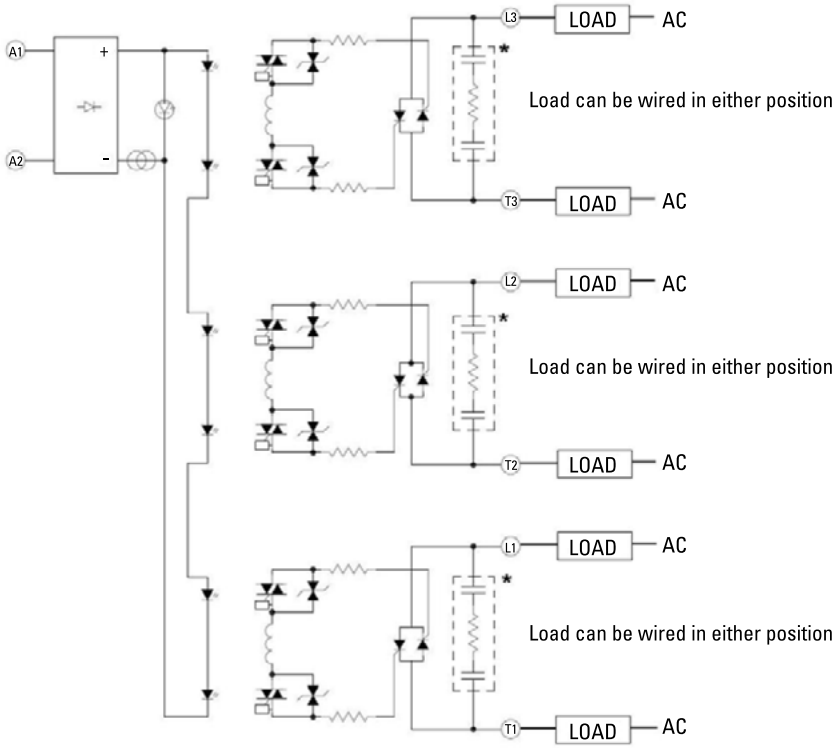
MECHANICAL SPECIFICATIONS

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



EQUIVALENT CIRCUIT BLOCK DIAGRAM



* Snubber not included in all models

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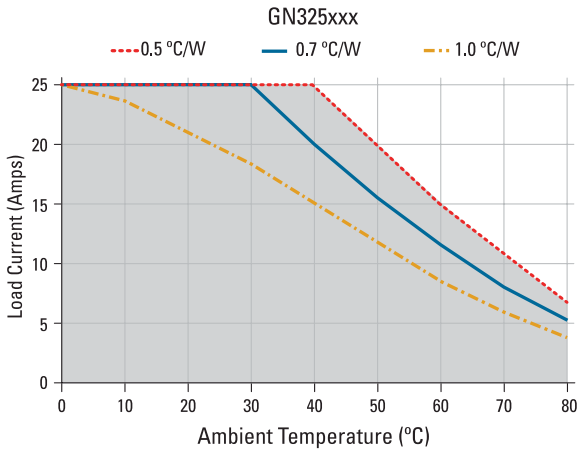
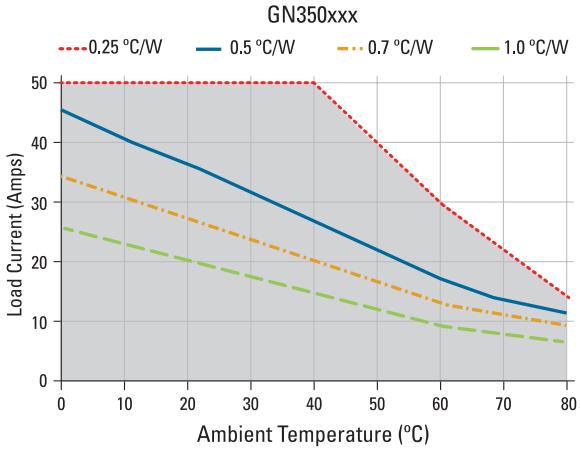
THERMAL DERATE INFORMATION





Heat Sink part numbers corresponding to °C/W ratings above: 1.0 °C/W = HS103, 0.5 °C/W = HS053. All others consult factory

ORDERING OPTIONS

Example : GN325ALZ

GN3 25 A L Z

Series

GN3

Rated Load Current

25 : 25 Amps
50 : 50 Amps

Control Voltage

A : 180-260 VAC
B : 90-140 VAC
D : 4-32 VDC
E : 18-36 VAC

Snubber Option

L : No Snubber (48-600 VAC)
S : Snubber Included (48-530 VAC)

Switching Type

R : Instantaneous Turn-on
Z : Zero voltage Turn-on

— Required for valid part number
☐ For options only and not required for valid part number

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GENERAL NOTES

(1) All parameters at 25°C unless otherwise specified.
(2) For part numbers with snubber Hz range is 47-63 and line voltage is 48-530VAC
(3) Output will self trigger between 900-1200Vpk.
(4) Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1
(5) When mounted to the proper size heat sink (see derating curves)
(6) For part numbers with snubber maximum leakage current is 5mA.
(7) Measured between 1/L1 and 2/T1 or 3/L2 and 4/T2 or 5/L3 and 6/T3
(8) For DC control Instantaneous turn-on is 100 sec while for AC control is 20 msec
(9) Operating temperature range for 180-280VAC is -20 to +60°C

AGENCY APPROVALS & CERTIFICATIONS

c UL us E79183 LR38595

Designed in accordance with the requirements of IEC 62314
EN60950-1: Meets the requirements of sections1.5: 1,7: 2.9: 2.10.5.3: 4.2: 4.5: 4.7:
IEC 62314
IEC 60068-2-6 35mm / 10-55Hz
IEC 60068-2-27 15G / 11ms
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

WARNINGS

RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE
- The product's side panels may be hot, allow the product to cool before touching
- Follow proper mounting instructions including torque values
- Do not allow liquids or foreign objects to enter this product

Failure to follow these instructions can result in serious injury, or equipment damage.

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH
- Disconnect all power before installing or working with this equipment
- Verify all connections and replace all covers before turning on power

Failure to follow these instructions will result in death or serious injury.

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