GN3 Series

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

AVAILABLE OPTIONS

Series

GN3 **25** **A** **L** **Z**

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

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

Rated Load Current
25: 25 Amps
50: 50 Amps

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

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

OUTPUT SPECIFICATIONS (1)

Description	25A	50A
Operating Voltage (47-400Hz) [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 (50Hz)	275	710
1 Cycle surge current (60Hz)	300	750
1 Second surge current (Apk. Ta=25°C) 50/60 Hz	85	150
Forward Voltage Drop (Vpk @ Imax, Ta=25°C)	1.35	1.35
I^2T (50Hz, 1/2 cycle)	380	2520
I^2T (60Hz, 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 [in-lb/Nm]	18-20 / 2.03-2.26	18-20 / 2.03-2.26

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INPUT SPECIFICATIONS (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	10 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 SPECIFICATIONS

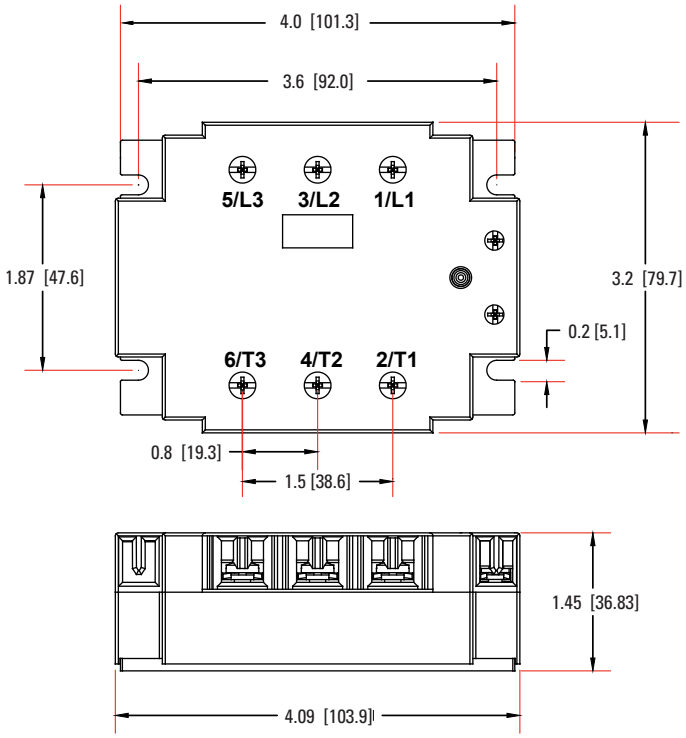
Description	Parameters
Ambient Operating Temperature Range (9)	-40°C to 80°C
Ambient Storage Temperature Range	-40°C to 125°C
Input to output isolation	4000 Vrms
Input/Output to ground isolation	2500 Vrms
Input to output capacitance	8 pF
Housing Material	UL 94V0 (self extinguishing)
Input Status Indicator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

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 µsec while for AC control is 20 msec
9) Operating temperature range for 180-280VAC is -20 to +60°C

MECHANICAL SPECIFICATIONS

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



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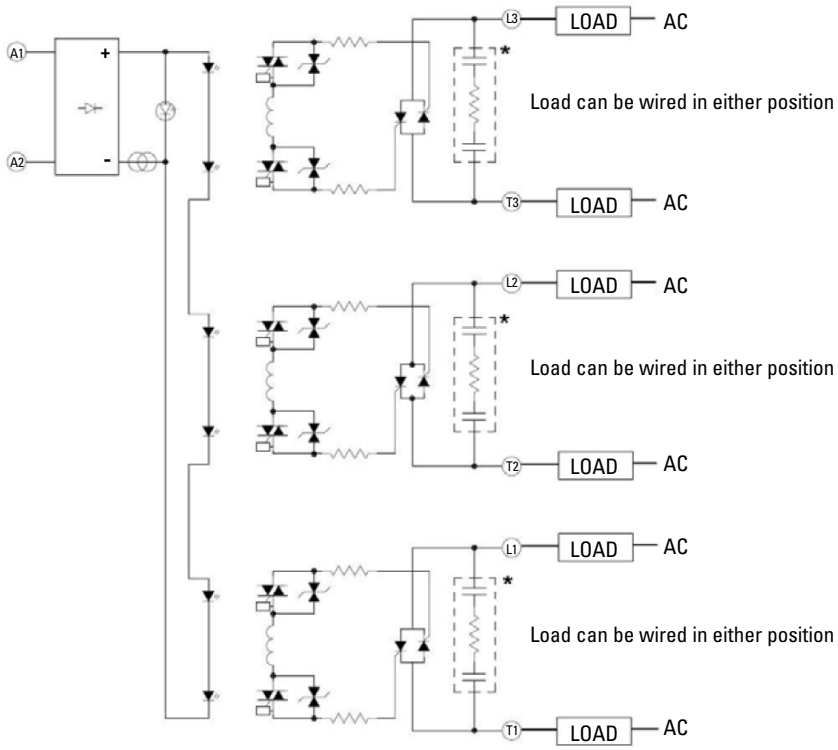
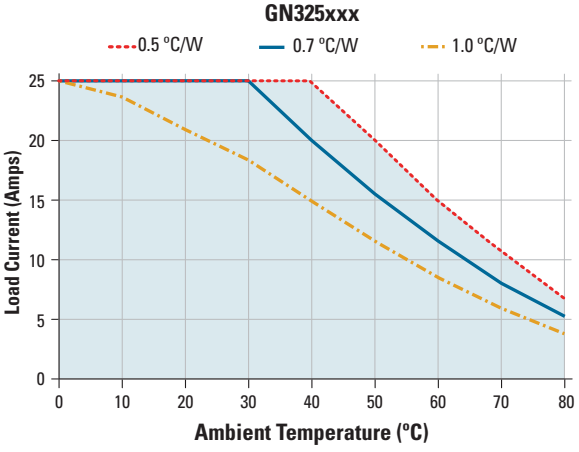
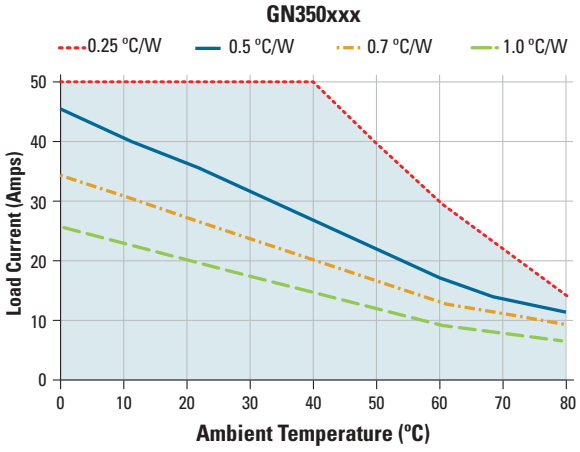
EQUIVALENT CIRCUIT BLOCK DIAGRAM



* Snubber not included in all models

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

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AGENCY APPROVALS

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

E79183 LR38595 RoHS

Rev. 052516

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⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / 危险

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.**	**RIESGO DE DESCARGA ELECTRICA O EXPLOSION.** • Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. • Verificar todas las conexiones y colocar todas las tapas antes de energizer el equipo. **El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.**	**RISQUE DE DESCHARGE ELECTRIQUE OU EXPLOSION** • Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil • Vérifier tous connections, et remettre tous couverts en olace avant de mettre sous **De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.**	**GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION.** • Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen • Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. **Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.**	**RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE.** • Spenga tutta l'alimentazione che fornisce questa apparecchiatura prima di lavorare a questa apparecchiatura • Verificare tutti i collegamenti e sostituire tutte le coperture prima dell'accensione **L'omissione di queste istruzioni provocherà la morte o lesioni serie**	**存在电击、爆炸或电弧闪烁危险** • 在操作此设备之前请先关闭电源。 **若不遵守这些说明，可能会导致严重的人身伤害甚至死亡。**

⚠ WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / 警告

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.**	**RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER** • Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. • Respecter les consignes de montage, et notamment les couples de serrage. • Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. **Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.**	**GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG** • Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. • Beachten Sie die Montageanweisungen, • Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. **Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.**
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD • Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. • Respetar las instrucciones de montaje, y en particular los pares de apretado. • No dejar que penetren líquidos o cuerpos extraños en el producto. **Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.**	**RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO** • I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. • Seguire le istruzioni di montaggio corrette. • Non far entrare liquidi o oggetti estranei in questo apparecchio. **La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.**	**材料损坏和高温外壳的危险性** • 产品的一侧面板可能很热，在其冷却前请不要触碰。 • 遵照正确的安装说明，包括扭矩值。 • 请勿让液体及其他异物进入本产品。 **如不能正确执行这些操作说明，极有可能造成严重人体伤害或者设备的损坏。**

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ANNEX - ENVIROMENTAL INFORMATION

The environmental information disclosed in this annex including the EIP Pollution logo are in compliance with People's Republic of China Electronic Industry Standard SJ/T11364 – 2006, Marking for Control of Pollution Caused by Electronic Information Products.

Part Name	Toxic or hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Semiconductor die	X	O	O	O	O	O
Solder	X	O	O	O	O	O

附件 – 环保信息

此附件所标示的包括电子信息产品污染图标的环保信息符合中华人民共和国电子行业标准 SJ/T11364 - 2006, 电子信息产品污染控制标识要求。

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片	X	O	O	O	O	O
焊接点	X	O	O	O	O	O

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