

## GN three phase - Three phase solid state relay - GN3 serie

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### Selling points of the range

- + Ratings up to 50 amps per phase at 600 V AC
- + Epoxy-free design minimizes internal component stress
- + 100 k-cycle UL508 Endurance rating for enhanced reliability
- + No external transient protection required (Internal TVS)
- + Back-to-back SCR output for heavy industrial loads
- + Available with zero-crossing (resistive loads) or random-fire (inductive loads) outputs
- + UL, CSA, TUV Approved, CE compliant
- + EMC compliant for reliable operation in harsh environments
- + RoHS compliant



Part number characteristics	GN325ESZ
Current (A)	25
Input voltage (V)	18-36 V AC
Output voltage (V)	48-530 V AC
RC network	Yes
Switching	Zero

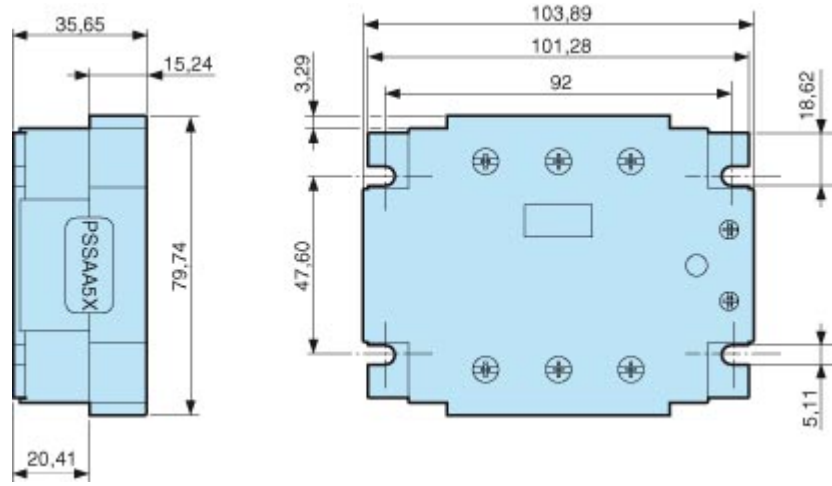
## **GN325ESZ : GN three phase - Three phase solid state relay - GN3 serie**

<b>General characteristics</b>		
Operating temperature (°C)	-40 → +80	
Storage temperature (°C)	-40 → +100	
Input-to-Output isolation voltage (Vrms)	4000	
Input/Output to ground isolation voltage (Vrms)	2500	
Operating frequency (Hz)	47-63	
Housing material	Polycarbonate UL-94V0	
Heatsink material	Copper	
Protection (IEC 60529) - Casing	IP20	
Weight (g)	360	
Altitude for nominal performance (/sea level)	2000 m	
Input terminal capacity (stranded and solid wire)	14-24 AWG	
Input terminal tightening torque (Nm)	1.9	
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	8 AWG	
Output terminal tightening torque (Nm)	2.4	
Maximum cross section for output wire (mm <sup>2</sup> )	8.5	
<b>Safety standards</b>		
Conformity to standards	IEC 62314 IEC 60947-4-2 (AC 53a) IEC 60947-4-3 (AC 51) CE compliant with LVD 73/23/EEC TUV certified per EN 60950-1 CSA recognized per C22.2.no.14-95 UL/cUL recognized per UL 508	
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 for Ac input part numbers Level 0 for DC input part numbers	
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 3	
<b>Relay output characteristics</b>		
Current (A)	25	50
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 (mAeff per phase)	0.06-3 (Without / With RC network)	0.06-3 (Without / With RC network)
Current max @ 40°C (A)	25	50
Minimum current (mArms)	100	100
On-state voltage drop at I max (Vpeak)	1.35 (40°C ambient)	1.35 (40°C ambient)
I <sup>2</sup> t (t = 10 ms) (A <sup>2</sup> s) (50 - 60 Hz)	1250-1040	3200-2600

Static (off-state) dv/dt (V/ $\mu$ s)	500	500		
HP ratings at 120 V	0.75	1.5		
HP ratings at 240 V	1	3		
HP ratings at 480 V	3	7.5		
HP ratings at 600 V	5	10		
Utilization category AC 51 (A)	25	50		
Utilization Category AC-53 (A)	5	10		
Max. non-rep. 1 s surge (T=25°C) (A)	100	160		
Max. non-rep. 1-cycle surge (T=25°C) (A)	500	800		
Thermal resistance junction to casing ( $^{\circ}$ C/W)	0.24	0.12		
<b>Inputs specifications</b>				
Input voltage (V)	4-32 V DC	18-36 V AC	90-140 V AC	180-260 V AC
Turn-off voltage (V)	1	2	10	10
Max. controlled current (mA)	35	20	16	9
Min. input current (mA)	24	15	10	20
Turn-on time (ms) (zero voltage relay)	8.33 (60Hz) - 10 (50Hz)	28	7	28
Turn-on-time (ms) (instantaneous relay)	0.1	20	20	20
Max. turn-off time (ms)	8.33 (60Hz) - 10 (50Hz)	30	30	30

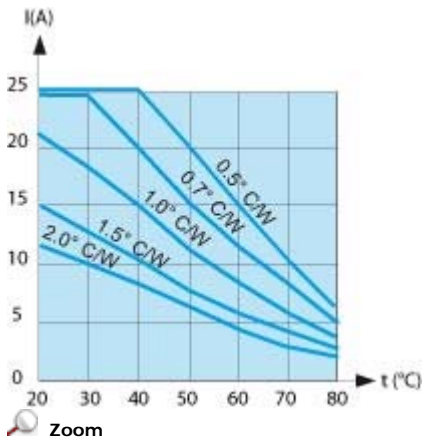
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GN3

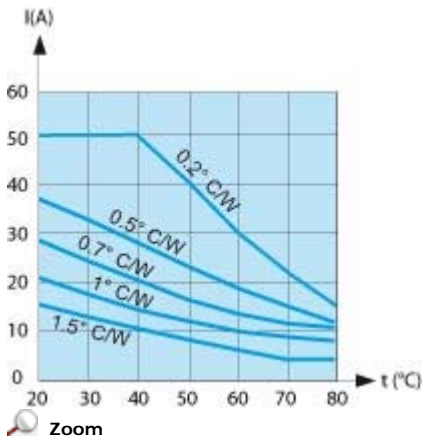


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**GN325ESZ : GN three phase - Three phase solid state relay - GN3 serie  
GN3 25 Amp.**

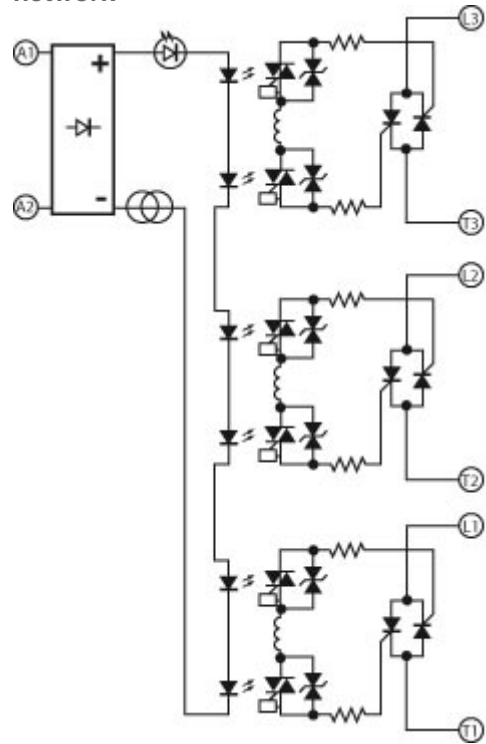


**GN3 50 Amp.**



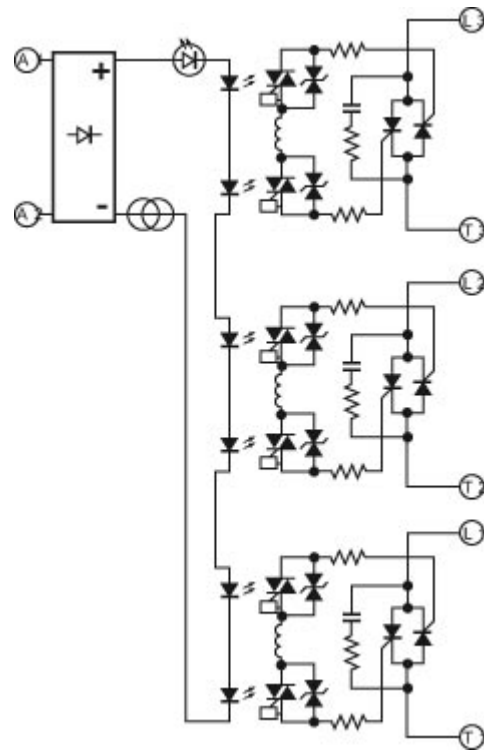
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Equivalent AC input circuit without RC network

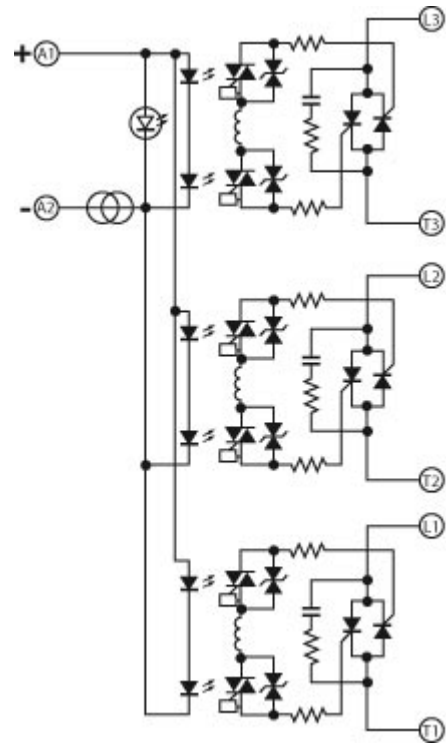


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Equivalent AC input circuit with RC network



Equivalent DC input circuit without RC network



Equivalent DC input circuit with RC network

