

Solid-State Relays and I/O Modules

GN Series Solid-State Relays



- DBC substrate for superior I²T & thermal performance
- Extremely long life-expectancy, verified through UL 508 100,000 cycle endurance rating
- Epoxy-free design minimizes stress on internal components
- Internal transient protection eliminates the need for external MOV
- UL / CSA / TUV approved, CE compliant (LVD), RoHS

Crouzet's GN series Solid-State Relays are the next generation of hockey puck relays. Designed around the need for thermal efficiency, noise immunity, reliability, and upgrade flexibility, the GN series offers a range of features and benefits unparalleled by any competitor.

The GN series is epoxy-free, which minimizes stress on internal components due to the expansion and contraction of the encapsulant during normal operation.

Additional features include a Direct Bond Copper (DBC) substrate for superior thermal efficiency, EMC compliance for reliability in harsh environments, a "bussed" power lead-frame design that reduces the number of solder joints in the load-current path, a LED indicator for easy identification of input status, and more. Available with ratings from 10 amps to 125 amps @ 660Vac, with either a DC, AC, or low-voltage AC (18-36Vac) input.



- Temperature control in food professional equipment

DC Input, Zero-Crossing, IP00 (standard housing) Solid-State Relays

	Load Current (Arms)	Line Voltage (Vrms)	Control Voltage (Vdc)	Control Current @ 5Vdc (mA)	Surge Current 1-Cycle (Apk)	I ² T (60 Hz, 1/2 Cycle) A ² S
84134000	10	24-280	3-32	14	150	416
84134010	25	24-280	3-32	14	300	937
84134020	50	24-280	3-32	14	750	2.458
84134030	75	24-280	3-32	14	1.000	5.000
84134040	100	24-280	3-32	14	1.200	6.000
84134080	125	24-280	3-32	14	1.700	12.041
84134100	10	48-660	4-32	14	150	416
84134110	25	48-660	4-32	14	300	937
84134120	50	48-660	4-32	14	750	2.458
84134130	75	48-660	4-32	14	1.000	5.000
84134140	100	48-660	4-32	14	1.200	6.000
84134180	125	48-660	4-32	14	1.700	12.041

AC Input, Zero-Crossing, IP00 (standard housing) Solid-State Relays

	Load Current (Arms)	Line Voltage (Vrms)	Control Voltage (Vac)	Control Current @ 120Vac (mA)	Surge Current 1-Cycle (Apk)	I ² T (60 Hz, 1/2 Cycle) A ² S
84134001	10	24-280	90-280	10	150	416
84134011	25	24-280	90-280	10	300	937
84134021	50	24-280	90-280	10	750	2.458
84134031	75	24-280	90-280	10	1.000	5.000
84134041	100	24-280	90-280	10	1.200	6.000
84134081	125	24-280	90-280	10	1.700	12.041
84134101	10	48-660	90-280	10	150	416
84134111	25	48-660	90-280	10	300	937
84134121	50	48-660	90-280	10	750	2.458
84134131	75	48-660	90-280	10	1.000	5.000
84134141	100	48-660	90-280	10	1.200	6.000
84134181	125	48-660	90-280	10	1.700	12.041

- 1) Use "84137xxx" designator for IP20 touch-safe housing.
 - 2) Change the last digit in the part number to "2" for 18-36Vac control voltage range.
 - 3) Random turn-on models available for switching inductive loads. See website for additional information.
 - 4) For AC input models, the maximum rated input voltage is 250Vac at Tamb >40°C.
- NOTE: Contact factory for specific NEC 409 / UL508A Short-Circuit Current Ratings**

4 GN Panel Mount Solid-State Relays ■ GN



5 GNR Cooltech DIN-Rail Mount Solid-State Relays ■ GNR



6 GN3/GNO Three-Phase motor reversing Solid-State Relays ■ GN3



7 Dual Output Solid-State Relays ■ Dual



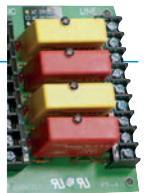
8 DR Solid-State Relays Assemblies ■ DR



9 GND DC Output Solid-State Relays ■ GND
RHP Hybrid Solid-State Relays ■ RHP



10 I/O Modules & Mounting Boards ■ I/O & Boards



11 PC Mount Solid-State Relays ■ PC Mount



GN single-phase

→ GN AC output

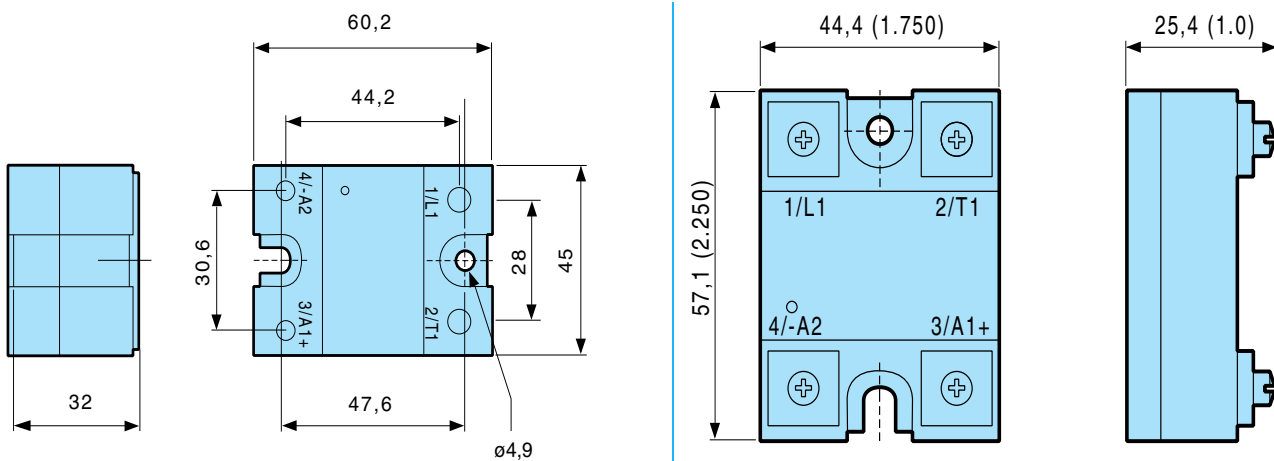
- EMC compatible for industrial environments
- built-in transient protections
- Optimum thermal response
- Regulated control input
- Control status LED
- Available with or without protective cover



Specifications

Current	Output voltage	Input voltage	Instantaneous		Zero voltage	
			with cover	without cover	with cover	without cover
125 A	48-660 V AC	90-280 V AC/DC	84 137 381	84 134 381	84 137 181	84 134 181
125 A	48-660 V AC	18-36 V AC/DC	84 137 382	84 134 382	84 137 182	84 134 182
125 A	48-660 V AC	4-32 V DC	84 137 380	84 134 380	84 137 180	84 134 180
125 A	24-280 V AC	90-280 V AC/DC	84 137 281	84 134 281	84 137 081	84 134 081
125 A	24-280 V AC	18-36 V AC/DC	84 137 282	84 134 282	84 137 082	84 134 082
125 A	24-280 V AC	4-32 V DC	84 137 280	84 134 280	84 137 080	84 134 080
100 A	48-660 V AC	90-280 V AC/DC	84 137 341	84 134 341	84 137 141	84 134 141
100 A	48-660 V AC	18-36 V AC/DC	84 137 342	84 134 342	84 137 142	84 134 142
100 A	48-660 V AC	4-32 V DC	84 137 340	84 134 340	84 137 140	84 134 140
100 A	24-280 V AC	90-280 V AC/DC	84 137 241	84 134 241	84 137 041	84 134 241
100 A	24-280 V AC	18-36 V AC/DC	84 137 242	84 134 242	84 137 042	84 134 042
100 A	24-280 V AC	4-32 V DC	84 137 240	84 134 240	84 137 040	84 134 040
75 A	48-660 V AC	90-280 V AC/DC	84 137 331	84 134 331	84 137 131	84 134 131
75 A	48-660 V AC	18-36 V AC/DC	84 137 332	84 134 332	84 137 132	84 134 132
75 A	48-660 V AC	4-32 V DC	84 137 330	84 134 330	84 137 130	84 134 130
75 A	24-280 V AC	90-280 V AC/DC	84 137 231	84 134 231	84 137 031	84 134 031
75 A	24-280 V AC	18-36 V AC/DC	84 137 232	84 134 232	84 137 032	84 134 032
75 A	24-280 V AC	4-32 V DC	84 137 230	84 134 230	84 137 030	84 134 030
50 A	48-660 V AC	18-36 V AC/DC	84 137 322	84 134 322	84 137 122	84 134 122
50 A	48-660 V AC	90-280 V AC/DC	84 137 321	84 134 321	84 137 121	84 134 121
50 A	48-660 V AC	4-32 V DC	84 137 320	84 134 320	84 137 120	84 134 120
50 A	24-280 V AC	18-36 V AC/DC	84 137 222	84 134 222	84 137 022	84 134 022
50 A	24-280 V AC	90-280 V AC/DC	84 137 221	84 134 221	84 137 021	84 134 021
50 A	24-280 V AC	4-32 V DC	84 137 220	84 134 220	84 137 020	84 134 020
25 A	48-660 V AC	18-36 V AC/DC	84 137 312	84 134 312	84 137 112	84 134 112
25 A	48-660 V AC	90-280 V AC/DC	84 137 311	84 134 311	84 137 111	84 134 111
25 A	48-660 V AC	4-32 V DC	84 137 310	84 134 310	84 137 110	84 134 110
25 A	24-280 V AC	18-36 V AC/DC	84 137 212	84 134 212	84 137 012	84 134 012
25 A	24-280 V AC	90-280 V AC/DC	84 137 211	84 134 211	84 137 011	84 134 011
25 A	24-280 V AC	4-32 V DC	84 137 210	84 134 210	84 137 010	84 134 010
10 A	48-660 V AC	90-280 V AC/DC	84 137 301	84 134 301	84 137 101	84 134 101
10 A	48-660 V AC	18-36 V AC/DC	84 137 302	84 134 302	84 137 102	84 134 102
10 A	48-660 V AC	4-32 V DC	84 137 300	84 134 300	84 137 100	84 134 100
10 A	24-280 V AC	90-280 V AC/DC	84 137 201	84 134 201	84 137 001	84 134 001
10 A	24-280 V AC	18-36 V AC/DC	84 137 202	84 134 202	84 137 002	84 134 002
10 A	24-280 V AC	4-32 V DC	84 137 200	84 134 200	84 137 000	84 134 000

Dimensions



To order, see page 6

For more information www.crouzet.com

General characteristics

General characteristics

Operating temperature (°C)	-20 → +80
Storage temperature (°C)	-40 → +100
Input to output insulation voltage V(rms)	4000
Dielectric strength V(rms)	2500
Input/output capacitance (pF)	8
Frequency (Hz)	47 → 80
Material housing	polycarbonate UL-94V
Material baseplate	Zamak
Weight (g)	IP20 : 114 IP00 : 97

Control specifications

Turn-off voltage (V)	4-32 VDC : 1V 18-36 VDC : 1V 90-280 VDC/AC : 10V
Max. controlled current (mA)	4-32 VDC : 14 18-36 VDC : 20 90-280 VDC/AC : 8.5
Turn-on time (ms) (zero voltage relay)	4-32 VDC : 8.33 (60Hz) - 10 (50Hz) 18-36 VDC : 20 90-280 VDC/AC : 20
Turn-on-time (ms) (instantaneous relay)	0.1
Response time on closing (ms)	4-32 VDC : 8.33 (60Hz) - 10 (50Hz) 18-36 VDC : 30 90-280 VDC/AC : 30

Output specifications

Non-rep. peak voltage (Vp)	24-280 VAC : 600 48-660 VAC : 1200
Max. non-rep. 1 s surge (T=25 °C) (A)	10A : 300 25A : 500 50A : 780 75A : 1000 100A : 1200 125A : 1700
Max. non-rep.1-cycle surge (T=25 °C) (A)	10A : 80 25A : 150 50A : 235 75A : 300 100A : 360 125A : 510
Maximum off-state leakage at Vmax and T =25°C mA(rms)	24-280 VAC : 2.5 - 4.25 48-660 VAC : 2.75 - 4.75
Minimum current (mA)	100
I ² t (50-60 Hz) (A ² s)	10A : 375-450 25A : 1041-1250 50A : 2535-3042 75A : 4166-5000 100A : 6000-7000 125A : 12041-14450
Voltage drop at I _{max} (T=25°C) (V)	10A : 1.4 25A : 1.4 50A : 1.35 75A : 1.3 100A : 1.3 125A : 1.25
Static dv/dt (V/μs)	500
Thermal resistance Junction to casing (°C/W)	10A : 0.4 25A : 0.4 50A : 0.25 75A : 0.155 100A : 0.155 125A : 0.15