

Selection guide

Solid-State Relays and I/O Modules



■ Panel mount
Solid-State Relays



■ Din-Rail mount
Solid-State Relays



■ I/O & PCB mount
Solid-State Relays

www.crouzet.com



CST
CUSTOM SENSORS & TECHNOLOGIES

 **Crouzet**

Solid-State Relays and I/O Modules

Why Crouzet?

Quality!

Utilizing proven manufacturing processes and technology, Crouzet products are providing the highest quality solid-state relays available on the market. Strict process controls ensure that high quality standards are applied to each and every product on the line. In addition, all products are 100% tested before they are shipped to our customers.

Technology & Reliability!

With more than 35 years' experience in solid-state design, each Solid-State Relay in our offering is designed with our customers' applications in mind. From thermal efficiency to noise immunity, our solid-state relays are built to provide our customers with the peace of mind they deserve.

Simply put, we understand the needs of today's market and continually strive to exceed our customers' expectations!

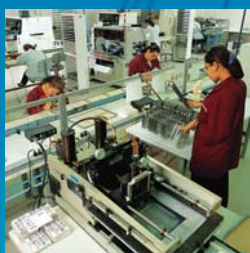
Service & Support!

We understand the technical aspects of our products and how our customers use them in their applications. That's why we have a full staff of sales and technical support engineers to assist our customers with everything from selection assistance to developing application-specific custom products.

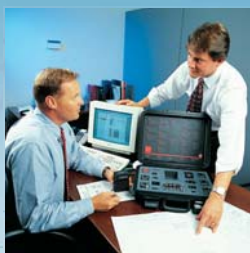
With Crouzet, the relationship with the customer does not end with the sale!



■ Test



■ Manufacturing



■ Service

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



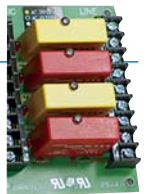
8 DR Solid-State Relays Assemblies ■ DR



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



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



11 PC Mount Solid-State Relays ■ PC Mount



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
- Shock and vibration resistant per EN61373, Category 1 Class A severity
- 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 (50 Hz, 1/2 Cycle) A ² S
84134000	10	24-280	3-32	14	150	102
84134010	25	24-280	3-32	14	300	410
84134020	50	24-280	3-32	14	750	2562
84134030	75	24-280	3-32	14	1000	4555
84134040	100	24-280	3-32	14	1200	6559
84134080	125	24-280	3-32	14	1700	13164
84134100	10	48-660	4-32	14	150	102
84134110	25	48-660	4-32	14	300	410
84134120	50	48-660	4-32	14	750	2562
84134130	75	48-660	4-32	14	1000	4555
84134140	100	48-660	4-32	14	1200	6559
84134180	125	48-660	4-32	14	1700	13164

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

	Load Current (Arms)	Line Voltage (Vrms)	Control Voltage (Vac)	Control Current @ 120/220 Vac (mA)	Surge Current 1-Cycle (Apk)	I ² T (50 Hz, 1/2 Cycle) A ² S
84134001	10	24-280	90-280	10	150	102
84134011	25	24-280	90-280	10	300	410
84134021	50	24-280	90-280	10	750	2562
84134031	75	24-280	90-280	10	1000	4555
84134041	100	24-280	90-280	10	1200	6559
84134081	125	24-280	90-280	10	1700	13164
84134101	10	48-660	90-280	10	150	102
84134111	25	48-660	90-280	10	300	410
84134121	50	48-660	90-280	10	750	2562
84134131	75	48-660	90-280	10	1000	4555
84134141	100	48-660	90-280	10	1200	6559
84134181	125	48-660	90-280	10	1700	13164

- 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**

Cooltech 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

Designed for superior thermal performance in harsh industrial environments, Crouzet's new Cooltech series is the most advanced DIN rail Solid-State Relays in its range on the market today. The GNR's integral heat sink eliminates the need to calculate extrusion requirements within your application, and its epoxy-free design minimizes stress placed on internal components.

External MOVs are not necessary, as internal transient protection is built into each Cooltech GNR Solid-State Relays. Furthermore, the GNR series is EMC compliant (level 3) and approved for 100,000 cycles at full-load current (UL 508) for unsurpassed endurance and reliability in harsh industrial environments.

These relays are perfectly suited for a wide array of commercial and industrial applications, including mercury relay replacement, professional food-service equipment, temperature control systems, plastic extrusion / thermoforming machinery, HVAC&R, packaging and sorting equipment, solder reflow systems, pump controls, motor-switching, and much more.



- Heat control in plastic mold machine

22.5 mm, Zero-Crossing, Single-Phase Solid-State Relays

	Load Current (Arms)	Line Voltage (Vrms)	Control Voltage	Control Current @ 5Vdc (mA)	Surge Current 1-Cycle (A _{pk})	I ² T (50 Hz, 1/2 Cycle) A ² S
GNR10DHZ	10	24-280	4-32 Vdc	10	100	340
GNR10BHZ	10	24-280	90-140 Vac	6	100	340
GNR20DHZ	20	48-600	4-32 Vdc	10	495	1200
GNR20BHZ	20	48-600	90-140 Vac	6	495	1200
GNR30DHZ	30	48-600	4-32 Vdc	10	750	3000
GNR30BHZ	30	48-600	90-140 Vac	6	750	3000

- 1) Replace "D" or "B" with the "A" designator for 180-280Vac control voltage.
- 2) Replace "H" with "C" for contactor terminal configuration (see website for more information).
- 3) Replace "Z" with "R" for random-fire output (only available on DC input models).

45 mm, Zero-Crossing, Single-Phase Solid-State Relays

	Load Current (Arms)	Line Voltage (Vrms)	Control Voltage	Control Current @ 5Vdc (mA)	Surge Current 1-Cycle (A _{pk})	I ² T (50 Hz, 1/2 Cycle) A ² S
GNR35DHZ	35	48-600	4-32 Vdc	10	770	2900
GNR35BHZ	35	48-600	90-140 Vac	6	770	2900
GNR45DHZ	45	48-600	4-32 Vdc	10	800	3000
GNR45BHZ	45	48-600	90-140 Vac	6	800	3000

- 1) Replace "D" or "B" with the "A" designator for 180-280Vac control voltage.
- 2) Replace "H" with "C" for contactor terminal configuration (see website for more information).
- 3) Replace "Z" with "R" for random-fire output (only available on DC input models).

90 mm, Zero-Crossing, Three-Phase Solid-State Relays

	Load Current (Arms)	Line Voltage (Vrms)	Control Voltage	Control Current @ 5Vdc (mA)	Surge Current 1-Cycle (A _{pk})	I ² T (50 Hz, 1/2 Cycle) A ² S
GNR25DCZ	25 (per phase)	48-600	4-32 Vdc	30	500	1250
GNR25BCZ	25 (per phase)	48-600	90-140 Vac	19	500	1250

- 1) Replace "D" or "B" with the "A" designator for 180-280Vac control voltage.
- 2) Replace "Z" with "R" for random-fire output (only available on DC input models).

NOTE: Contact factory for specific NEC 409 / UL508A Short-Circuit Current Ratings



The DBC substrate, along with the unique vertical placement of the substrate, allows the SCR die to efficiently transfer heat to the heat sink and into ambient air. As a result, the SCR die operate at a lower temperature than competitive relays, which allows for the true 40°C load-current rating. It also accounts for the Cooltech's higher I²T and surge-current ratings.



Solid-State Relays and I/O Modules

GN3/GN0 Series Three-phase & motor-reversing 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 reduces stress on internal components
- Internal transient protection eliminates the need for external MOV
- UL / CSA / TUV approved, CE compliant (LVD), RoHS

The GN3 three-phase & motor-reversing Solid-State Relays are the latest addition to the Crouzet offering. As with the GN and GNR range of products, the GN3 utilizes the latest proven technology for superior thermal efficiency, noise immunity, and reliability.

The epoxy-free design minimizes stress on internal components due to the expansion and contraction of encapsulant material during normal operation. Furthermore, the EMC compliant design (level 3) and built-in transient protection provide an additional level of reliability in harsh industrial environments.

These relays are perfectly suited for a wide array of three-phase motor and heating applications. They are also ideal for use in applications switching multiple outputs with a single control signal. Available with ratings up to 50A per phase @ 600Vac (530Vac with internal snubber), with either a DC, AC, or low-voltage AC (18-36Vac) input.



- Valve motor reversing drives

DC Input Three-Phase Solid-State Relays

	Load Current (Arms)	Line Voltage (Vrms)	Control Voltage (Vdc)	Control Current @ 5Vdc (mA)	Surge Current 1-Cycle (A _{pk})	I ² T (50 Hz, 1/2 Cycle) A ² S
GN325DLZ	25	48-600	4-32	35	500	1250
GN325DLR	25	48-600	4-32	35	500	1250
GN350DLZ	50	48-600	4-32	35	800	3200
GN350DLR	50	48-600	4-32	35	800	3200

AC Input Three-Phase Solid-State Relays

	Load Current (Arms)	Line Voltage (Vrms)	Control Voltage (Vac)	Control Current @ 120/220 Vac (mA)	Surge Current 1-Cycle (A _{pk})	I ² T (60 Hz, 1/2 Cycle) A ² S
GN325BLZ	25	48-600	90-140	16	500	1250
GN325BLR	25	48-600	90-140	16	500	1250
GN325ELZ	25	48-600	18-36	20	500	1250
GN325ELR	25	48-600	18-36	20	500	1250
GN350BLZ	50	48-600	90-140	16	800	3200
GN350BLR	50	48-600	90-140	16	800	3200
GN350ELZ	50	48-600	18-36	20	800	3200
GN350ELR	50	48-600	18-36	20	800	3200

- 1) "Z" denotes zero-cross output, "R" denotes random-fire output.
- 2) Replace the "L" in the part number with "S" for internal RC snubber network.
- 3) Replace the "B" or "E" in the part number with "A" for 180-260Vac control voltage.

Motor Reversing Relays

DC Input Three-Phase Motor-Reversing Solid-State Relays

	Load Current (Arms)	Line Voltage (Vrms)	Control Voltage (Vdc)	Control Current @ 5Vdc (mA)	Surge Current 1-Cycle (A _{pk})	I ² T (60 Hz, 1/2 Cycle) A ² S
GN025DSR	25	48-530	4-32	25	500	1250
GN050DSR	50	48-530	4-32	25	800	3 200

Dual Output Solid-State Relays



- True 25A or 40A per channel rating
- Dual input channels for independent output operation
- DBC substrate for superior I²T & thermal performance
- Internal transient protection eliminates the need for external MOV Available with 1/4" QC or saddle-clamp terminals
- UL / CSA / TUV approved, CE compliant (LVD), RoHS

Crouzet's dual Solid-State Relays perfectly complement the standard single-phase Solid-State Relays line (GN series). Each relay has two outputs controlled by two independent inputs. This allows engineers using multiple Solid-State Relays in a panel to save space in some applications, while maintaining the same number of poles for switching their loads.

As with the other range of products in the offering, the dual Solid-State Relays utilize a DBC substrate and a bussed power lead-frame, and come equipped with internal transient protection.

Available with either a 25A or 40A output (50A & 80A total package, respectively) @ 240Vac or 660Vac. Additional options include either QC or saddle-clamp output terminals, with either a standard four-pin input or keyed locking connector.



- Warehouse light dimming

Dual Solid-State Relays, Four-Pin Input / 1/4" QC Output Terminals

	Output Type	Load Current (Arms)	Line Voltage (Vrms)	Control Voltage (Vdc)	Control * Current (mA)	I ² T (50 Hz, 1/2 Cycle) A ² S
84140000	Zero-Cross	25	24-280	4-15	10	1250
84140100	Random	25	24-280	4-15	10	1250
84140010	Zero-Cross	25	24-280	17-32	24	1250
84140200	Zero-Cross	40	24-280	4-15	10	3042
84140300	Random	40	24-280	4-15	10	3042
84140210	Zero-Cross	40	24-280	17-32	24	3042
84140500	Zero-Cross	25	48-660	4-15	10	1250
84140501	Random	25	48-660	4-15	10	1250
84140510	Zero-Cross	25	48-660	17-32	24	1250
84140600	Zero-Cross	40	48-660	4-15	10	3042
84140601	Random	40	48-660	4-15	10	3042
84140610	Zero-Cross	40	48-660	17-32	24	3042

Dual Solid-State Relays, Keyed/Locking Input / 1/4" QC Output Terminals

	Output Type	Load Current (Arms)	Line Voltage (Vrms)	Control Voltage (Vdc)	Control * Current (mA)	I ² T (50 Hz, 1/2 Cycle) A ² S
84140800	Zero-Cross	25	24-280	4-15	10	1250
84140801	Random	25	24-280	4-15	10	1250
84140810	Zero-Cross	25	24-280	17-32	24	1250
84140900	Zero-Cross	40	24-280	4-15	10	3042
84140901	Random	40	24-280	4-15	10	3042
84140910	Zero-Cross	40	24-280	17-32	24	3042

Dual Solid-State Relays, Four-Pin Input / Saddle-Clamp Output Terminals

	Output Type	Load Current (Arms)	Line Voltage (Vrms)	Control Voltage (Vdc)	Control * Current (mA)	I ² T (50 Hz, 1/2 Cycle) A ² S
84140003	Zero-Cross	25	24-280	4-15	10	1250
84140103	Random	25	24-280	4-15	10	1250
84140013	Zero-Cross	25	24-280	17-32	24	1250
84140203	Zero-Cross	40	24-280	4-15	10	3042
84140303	Random	40	24-280	4-15	10	3042
84140213	Zero-Cross	40	24-280	17-32	24	3042
84140503	Zero-Cross	25	48-660	4-15	10	1250
84140530	Random	25	48-660	4-15	10	1250
84140513	Zero-Cross	25	48-660	17-32	24	1250
84140603	Zero-Cross	40	48-660	4-15	10	3042
84140630	Random	40	48-660	4-15	10	3042
84140613	Zero-Cross	40	48-660	17-32	24	3042

* @ nominal voltage (5Vdc or 24Vdc)

Solid-State Relays and I/O Modules

DR Series Solid-State Relays/ Heat Sink Assemblies



- DIN rail mount Solid-State Relays assemblies
- Derate curves eliminate the need for any additional heat sink calculations
- Epoxy-free design minimizes stress on internal components
- Internal transient protection (utilizes GN Solid-State Relays Technology)
- Custom assemblies available upon request

Crouzet's expertise in both Solid-State Relays design and thermal management enables us to provide customers with a pre-assembled solution to their solid-state relay requirements. Each assembly comes ready-to-use, eliminating in-house assembly, heat sink calculations, and the need to source extrusion profiles.

Furthermore, each standard assembly utilizes the reliability and technology only available in our GN series Solid-State Relays. These features, coupled with Crouzet's superior customer service and support team, provide our customers with a level of convenience not easily found in the market today!

DIN Clip Solid-State Relays Assemblies

	Output Type	Load Current @ 25°C (Arms)	Line Voltage (Vrms)	Control Voltage	Housing Type	Heat Sink Part # (DIN CLIP)
DR4110	Zero-Cross	16	48-660	4-32Vdc	IP00	26532764
DR4111	Zero-Cross	16	48-660	90-250Vac	IP00	26532764
DR7110	Zero-Cross	16	48-660	4-32Vdc	IP20	26532764
DR7111	Zero-Cross	16	48-660	90-250Vac	IP20	26532764

Low Profile 45mm Solid-State Relays Assembly

	Output Type	Load Current @ 25°C (Arms)	Line Voltage (Vrms)	Control Voltage	Housing Type	Heat Sink Part #
DR454120.3	Zero-Cross	26	48-660	4-32Vdc	IP00	HS8.3
DR454121.3	Zero-Cross	26	48-660	90-250Vac	IP00	HS8.3
DR457120.3	Zero-Cross	26	48-660	4-32Vdc	IP20	HS8.3
DR457121.3	Zero-Cross	26	48-660	90-250Vac	IP20	HS8.3

Two-Phase SSR Assembly (Independent Solid-State Relays)

	Output Type	Load Current @ 25°C (Arms)	Line Voltage (Vrms)	Control Voltage	Housing Type	Heat Sink Part #
DR24120	Zero-Cross	45*	48-660	4-32Vdc	IP00	HS13
DR24121	Zero-Cross	45*	48-660	90-250Vac	IP00	HS13
DR27120	Zero-Cross	45*	48-660	4-32Vdc	IP20	HS13
DR27121	Zero-Cross	45*	48-660	90-250Vac	IP20	HS13

Three-Phase SSR Assembly (Independent Solid-State Relays)

	Output Type	Load Current @ 25°C (Arms)	Line Voltage (Vrms)	Control Voltage	Housing Type	Heat Sink Part #
DR34120	Zero-Cross	30*	48-660	4-32Vdc	IP00	HS13
DR34121	Zero-Cross	30*	48-660	90-250Vac	IP00	HS13
DR37120	Zero-Cross	30*	48-660	4-32Vdc	IP20	HS13
DR37121	Zero-Cross	30*	48-660	90-250Vac	IP20	HS13

*Maximum load current per phase



- Solid-State Relays in panels and cabinets

DC output Solid-State Relays



- 10, 15, or 30 amp output for MOSFET output type
- Very low off-state leakage current (<10uA)
- Low on-state impedance minimizes power dissipation
- IP00 or IP20 “touch safe” housing
- LED input status indicator
- 1500 Vac optical isolation

Crouzet offers two styles of DC output Solid-State Relays: FET output relays for low on-state impedance, and an economical transistor output relay. Both relays are ideal for switching DC loads, such as motors, solenoid valves, indicator banks, etc. Each version is available with either an IP00 or IP20 “touch-safe” housing and is equipped with an LED input status indicator.

DC Output Solid-State Relays

	Output Type	Load Current (Adc)	Line Voltage (Vdc)	Control Voltage (Vdc)	Control Current (mA)	On-State Impedance (mOhms)
84134850	MOSFET	10	0-200	3-32	20	90
84134860	MOSFET	15	0-100	3-32	20	90
84134870	MOSFET	30	0-50	3-32	20	50
84134750	Bipolar Transistor	10	0-60	3-32	15	-

1) Use “84137xxx” designator for IP20 touch-safe housing.



- Power control in transportation

RHP Series “Hybrid” Solid-State Relays



- 20 amp output at 240Vac (resistive)
- No additional heat sink required
- Compact 17.5 mm housing
- >5 millions operations at full-load current
- Quiet operation
- 2000 Vac optical isolation
- UL Recognized

Crouzet’s patented RHP “Hybrid” Solid-State Relays combine all of the advantages of a Solid-State Relays and an electromechanical relay into one 17.5 mm package! The result is a relay without a heat sink capable of 5 millions operations when switching a 20 amp load; more than 50 times the life expectancy of a typical electromechanical relay!

RHP “Hybrid” Solid-State Relays

	Output Type	Load Current (Arms)	Line Voltage (Vrms)	Control Voltage	Response Time (mSec)	Maximum Duty-Cycle (Operations)
84138000	Zero-Cross	20	90-260	4-32 Vdc	50	12 / min
84138001	Zero-Cross	20	90-260	76-260 Vac	50	12 / min
84138101	Bistable	20	90-260	76-260 Vac	50	12 / min
84138201	Day / Night	20	90-260	76-260 Vac	50	12 / min



- Silent contactor for HVAC

Solid-State Relays and I/O Modules

Digital I/O Modules



- DIN rail or PC mount digital I/O modules
- PC mount modules available in either 0.6" or 0.4" width housings
- DIN rail modules include built-in fuse and LED indicator
- 4 to 32 position mounting boards available for PC mount I/O
- Custom modules / assemblies available upon request

Crouzet offers a broad line of Digital I/O modules and I/O accessories for interfacing and actuating loads within a wide variety of industrial control applications. In addition to their reliable switching and sensing of load conditions, they provide up to 4000Vrms isolation between the logic control system and the AC supply.

Moreover, their discrete design allows for quick and easy individual replacement in the field without sacrificing the entire I/O system. The modules are compatible with 5V, 15V, and 24V logic systems and can switch loads up to 5A AC or DC.



- Packaging

0.6 Inch Series I/O Modules

	Input Voltage Range	Max. Input Current	Logic Supply Voltage (Vdc)	Max. Logic Current (mA)
IAC24	90-140 Vac/dc	6 mArms	24	50
IAC5	90-140 Vac/dc	6 mArms	5	50
IAC5A	180-280 Vac/dc	5 mArms	5	50
IDC24	3.3-32 Vac/dc	34 mA	24	50
IDC5	3.3-32 Vac/dc	34 mA	5	50
IDC5F	4-32 Vdc	68 mA	5	50

	Output Voltage Range	Max. output Current	Input Voltage (Vdc)	Max. Input Current (mA)
OAC24	12-140 Vac	3.5 Arms	24	13
OAC5	12-140 Vac	3.5 Arms	5	20
OAC5A	24-280 Vac	3.5 Arms	5	20
OAC5AH	24-280 Vac	5 Arms	5	20
ODC24	3-60 Vdc	3 Amps	24	18
ODC5	3-60 Vdc	3 Amps	5	18
ODC5F	3-60 Vdc	3 Amps	5	18
ODC5ML	1-50 Vdc	5 Amps	5	18

M Series I/O Modules (0.4" Housing)

	Input Voltage Range	Max. Input Current	Logic Supply Voltage (Vdc)	Max. Logic Current (mA)
MIAC24	90-140 Vac/dc	6 mArms	24	50
MIAC5	90-140 Vac/dc	6 mArms	5	50
MIAC5A	180-280 Vac/dc	5 mArms	5	50
MIDC24	3.3-32 Vac/dc	34 mA	24	50
MIDC5	3.3-32 Vac/dc	34 mA	5	50
MIDC5F	4-32 Vdc	68 mA	5	50

	Output Voltage Range	Max. output Current	Input Voltage (Vdc)	Max. Input Current (mA)
MOAC24	12-140 Vac	3.5 Arms	24	13
MOAC5	12-140 Vac	3.5 Arms	5	20
MOAC5A	24-280 Vac	3.5 Arms	5	20
MOAC5AH	24-280 Vac	5 Arms	5	20
MODC24	3-60 Vdc	3 Amps	24	18
MODC5	3-60 Vdc	3 Amps	5	18
MODC5F	3-60 Vdc	3 Amps	5	18
MODC5ML	1-50 Vdc	5 Amps	5	18



SM Series I/O Modules (0.4" Housing)

	Input Voltage Range	Max. Input Current	Logic Supply Voltage (Vdc)	Max. Logic Current (mA)
SMIAC24	90-140 Vac/dc	6 mArms	24	50
SMIAC5	90-140 Vac/dc	6 mArms	5	50
SMIAC5A	180-280 Vac/dc	5 mArms	5	50
SMIDC24	3.3-32 Vac/dc	34 mA	24	50
SMIDC5	3.3-32 Vac/dc	34 mA	5	50
SMIDC5F	4-32 Vdc	68 mA	5	50

■ **Output Modules** - Switch power to and from AC or DC loads (up to 5 amps @ 280 Vac) when a logic signal is applied to the control terminals

■ **Input Modules** - Sense the presence of an AC or DC signal across a load (up to 280 Vac/dc) and provide a logic signal back to the control system

Ideal applications include HVAC & Refrigeration Systems, Elevators and Lift Systems, Solder Screen Printers, Solder Wave/Reflow Machines, Packaging Equipment, Mix Stations, and Medical Equipment.

	Output Voltage Range	Max. Output Current	Input Voltage (Vdc)	Max. Input Current (mA)
SMOAC24	12-140 Vac	3.5 Arms	24	13
SMOAC5	12-140 Vac	3.5 Arms	5	20
SMOAC5A	24-280 Vac	3.5 Arms	5	20
SMOAC5AH	24-280 Vac	5 Arms	5	20
SMODC24	3-60 Vdc	3 Amps	24	18
SMODC5	3-60 Vdc	3 Amps	5	18
SMODC5F	3-60 Vdc	3 Amps	5	18
SMODC5ML	1-50 Vdc	5 Amps	5	18

DIN Mount I/O Modules

	Input Voltage Range	Max. Input Current	Logic Supply Voltage (Vdc)	Max. Logic Current (mA)
DRIAC5	90-140 Vac	5 mArms	3-6	50
DRIAC5A	140-280 Vac	5 mArms	3-6	50
DRIDC5	4-32 Vac/dc	34 mA	3-6	50
84115501	90-140 Vac	14 mArms	4.5-30	50
84115503	4-32 Vac/dc	35 mA	4.5-30	50
MIDC5F	4-32 Vdc	68 mA	5	50

	Output Voltage Range	Max. Output Current	Input Voltage (Vdc)	Max. Input Current (mA)
DROAC	12-280 Vac	5 Arms	3.7-32	18
DRODC	3-60 Vdc	3 Amps	3.5-8	18
84130105	12-280 Vac	5 Arms	4-32	22
84130104	5-60 Vdc	3 Amps	4-32	22



■ Motion control in elevators

Solid-State Relays and I/O Modules

PC Mount Solid-State Relays



- Ratings up to 25A @ 480 Vac (CPF series, forced air)
- SCR output for heavy industrial loads
- Zero-crossing (resistive loads) or random-fire output (inductive / phase-control loads)
- No moving parts eliminates mechanical wear and acoustic noise
- Integrated heat sink (CPF series)
- Standard digital I/O pinout (CPF & CCX series)
- UL/CSA/VDE approved, CE compliant
- Compact design for high-density PCB mount circuits

Crouzet's new PCB mount Solid-State Relays are the latest addition to the Crouzet offering. Utilizing the same rugged SCR design as is used in their much larger "sister" SSRs, these relays provide a high-power switching solution in a compact package. They are perfectly suited for high-density PCB applications or in applications where panel space is at a minimum. Furthermore, the silent operation and extremely long life expectancy of these Solid-State Relays makes them ideal for replacing PCB electromechanical relays.

These new compact Solid-State Relays are ideal for use in numerous commercial & industrial applications, including: electromechanical relay replacement, pump control systems, gaming equipment, vending machines, security systems, medical equipment, solenoid control, packaging equipment, printing machines, and much more.

Available with ratings up to 25A @ 660Vac (CPF series with forced air) with either a zero-crossing (resistive loads) or random (inductive / phase control loads) output. All products are UL Recognized, CSA Certified, and CE Compliant. The CPF and CCX series are also VDE Approved.



- Medical Equipment

CPF Series SIP Solid-State Relays

	Load Current (Arms)	Line Voltage (Vrms)	Control Voltage (Vdc)	Control Current @ 5Vdc (mA)	Surge Current 1-cycle (A _{pk})	I ² T (50Hz, 1/2 cycle) A ² S
CPF240D25	25*	12-280	3-15	15	250	284
CPF240D25R	25*	12-280	3-15	15	250	284
CPF480D25	25*	48-660	4-15	15	250	284
CPF480D25R	25*	48-660	4-15	15	250	284

*Forced air current rating. The CPF series is rated for 10A with natural convection airflow. "R" suffix denotes random-fire output for use with inductive loads

CCX Series SIP Solid-State Relays

	Load Current (Arms)	Line Voltage (Vrms)	Control Voltage (Vdc)	Control Current @ 5Vdc (mA)	Surge Current 1-cycle (A _{pk})	I ² T (50Hz, 1/2 cycle) A ² S
CCX240D5	5	12-280	3-15	15	250	284
CCX240D5R	5	12-280	3-15	15	250	284
CCX480D5	5	48-660	4-15	15	250	284
CCX480D5R	5	48-660	4-15	15	250	284

"R" suffix denotes random-fire output for use with inductive loads

CASO Series Mini-SIP Solid-State Relays

	Load Current (Arms)	Line Voltage (Vrms)	Control Voltage (Vdc)	Control Current @ 5Vdc (mA)	Surge Current 1-cycle (A _{pk})	I ² T (50Hz, 1/2 cycle) A ² S
CASO242	2	12-280	4-10	15	120	65
CASO242R	2	12-280	4-10	15	120	65

"R" suffix denotes random-fire output for use with inductive loads

Solid-State Relay Accessories



■ Crouzet offers a range of standard DIN Rail or panel mount heat sinks with thermal impedances as low as 0.5 degrees C/W. In addition to our standard offering, we can also provide custom heat sinks and/or solid-state relay assemblies designed to fit your specific requirements. Simply contact our technical support team and we will help you find the right solution for your application.

Standard Heat Sinks

	Thermal Impedance	Mounting	Compatible Relays	# of Relays
HS3	1.5 C/W	Panel Mount	GN & Dual	1
HS5	0.7 C/W	Panel Mount	GN & Dual	1
HS6	0.5 C/W	Panel Mount	GN & Dual	1
HS8.1	2.0 C/W	DIN Rail	GN & Dual	1
HS8.2	2.2 C/W	DIN Rail	GN & Dual	1
HS8.3	3.5 C/W	DIN Rail	GN & Dual	1
HS10	1.1 C/W	DIN Rail	GN & Dual	1
HS12	0.55 C/W	DIN Rail	GN & Dual	1
HS13	0.8 C/W	DIN Rail	GN, Dual, & GN3/GN0	1-3

Solid State Relay Feedback Module ("Smart Module")

	Sense Voltage (line)	Input	Supply	Alarm Voltage	Alarm Current
84060001	24-660 Vac	3-32Vdc	4-32Vdc	4-32Vdc	30mA (max)

Solid State Relay "Touch Safe" Covers

	Description
84136500	"Touchsafe" cover for GN & GNA5 series solid state relays
84136501	84136500 with cutout for 84060001 "Smart Module"

Heat Sink Thermal Transfer Pads

	Description
HSP1	Non-adhesive thermal pad for GN, GNA5, and Dual solid state relays (25 pack)
HSP2	Adhesive thermal pad for GN, GNA5, and Dual solid state relays (roll of 100 pads)
HSP3	Non-adhesive thermal pad for GA3/GA0 series solid state relays (25 pack)



■ Baggage handling

Solid-State Relays and I/O Modules

- Selection guide
- FAQ
- Applications
- Download section

www.crouzet.com
www.catalogue.crouzet.com

Find more information
on our websites:



■ SSR dedicated page



■ Applications



■ E-catalogue

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Find more information on our Products websites:



www.crouzet.com/cooltech



■ Applications



■ Bullet points



■ Range overview

www.crouzet.com/gn+

For additional information about Solid-State Relays under Crouzet brand choose your closest Crouzet representative:

Crouzet SSRs Across the Globe



Crouzet Solid-State Relays are manufactured by Crydom Inc, sold by its subsidiaries, Crouzet affiliates depending on the country and authorized Crouzet distributors of SSR products.

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