

SAFETY RELAYS

CE machinery certification and marking

CROUZET direct safety components combine all the elements of the machinery directive 89/392/EEC and the safety standards set by the European Community. They are an effective and fail-safe way of meeting the regulatory requirements and of obtaining conformity with the directives as well as the CE marking for your machines.

All safety components shown on this page (CE conforming, UL and CUL recognized).



Performance and cost-effectiveness

The CROUZET range of safety components provides a simple solution to the problem of risk assessment of machine control systems.

The range of components relies on redundancy, self-checking and **positive opening** to ensure the availability and safety of machines without incurring excessive installation costs.

The safety relay range satisfies safety requirements up to Level 4 regarding EN 60204 (IEC 204) and EN 954.

7 RELAYS



SERIES	FUNCTION	FEATURES	OUTPUT
KNA3-XS Series Safety Relay	Multifunction: Emergency stop safety gate	1 input Safety Level 3 Operating voltage: 24 VAC/VDC, 40-260 VAC Width: 22.5 mm (0.90")	3 N/O safety contacts 1 auxiliary contact 6 A @ 250 VAC resistive
KNA3-RS Series Safety Relay	Multifunction: Emergency stop safety gate safety mats	Integrity of 2 inputs Safety Level 4 Operating voltages: 24 VDC, 24/115/230 VAC Width: 45mm (1.75")	3 N/O safety contacts 1 auxiliary contact 6 A @ 250 VAC resistive
KSW2-RS Series Safety Relay	Stand still (zero speed) condition of AC and DC, 1 or 3 phase motors up to 600 VAC for interlocking of safety gates.	Integrity of 2 inputs Safety Level 4 Operating voltage: 24 VAC/VDC Width: 45 mm (1.75")	6 A @ 250 VAC 1 N/O safety contact 1 N/C safety contact
KZH3-RS Series Electrical Safety Relay	Multifunction: 2 Hand control Emergency stop Safety gates Safety mats	Integrity of 2 inputs Safety Level 4 Operating voltage: 24 VDC, 24/48/115/230 VAC Width: 45 mm (1.75")	3 N/O safety contacts 1 auxiliary contact 6 A @ 250 VAC resistive
KZP3-RS Series Safety Relay	Multifunction: Emergency stop Safety gate Safety mats	Category 4-4 channels Operating voltage: 24 VAC/VDC Width: 45mm (1.75")	3 N/O safety contacts 1 N/C auxiliary contact 6 A @ 250 VAC resistive
KZR3-RS	Multifunction with timed safety contacts Emergency stop Safety gate Safety mats	Integrity of 2 inputs Safety Level 4 – instantane- ous Safety Level 3 – timed Width: 45 mm (1.75")	1 N/O safety – instantaneous 1 N/O safety – timed 1 N/C safety – timed 1 N/C – auxiliary – timed 6 A @ 250 VAC resistive
KZE3-X2	Safety Extension Unit	Operating voltage: 24 VAC/VDC, 40-260 VAC Width: 45 mm (1.75")	3 N/O safety contact 1 N/C for return loop 6 A @ 250 VAC resistive

SOLID STATE RELAYS

GN Series SSRs

SMT TECHNOLOGY, DIRECT BOND COPPER SUBSTRATE, LED STATUS INDICATOR

The GN Series offers a built in IP20 "Touch Safe" cover and the traditional style case and offers current ranges from 10 Amps to 125 Amps. It is UL and cUL Recognized, VDE Approved and CE compliant per LVD 73/23/EEC. EMC Compatibility to EN 50082-2 (Immunity), EN50081-2 (Emissions), C.I.S.P.R.22 (Radiated) Class B, (Conducted) Class A, EN60950 and IEC 947-4-2.

GN SERIES

IP20 COVER ZERO VOLTAGE TURN-ON

MODELS	CONTROL VOLTAGE	OUTPUT CURRENT	MAX-OUTPUT
84131001	90-280VAC	10A	24-280VAC
84131011	90-280VAC	25A	24-280VAC
84131021	90-280VAC	50A	24-280VAC
84131031	90-280VAC	75A	24-280VAC
84131041	90-280VAC	100A	24-280VAC
84131000	4-32VDC	10A	24-280VAC
84131010	4-32VDC	25A	24-280VAC
84131020	4-32VDC	50A	24-280VAC
84131030	4-32VDC	75A	24-280VAC
84131040	4-32VDC	100A	24-280VAC
84131101	90-280VAC	10A	36-575VAC
84131111	90-280VAC	25A	36-575VAC
84131121	90-280VAC	50A	36-575VAC
84131131	90-280VAC	75A	36-575VAC
84131141	90-280VAC	100A	36-575VAC
84131181	90-280VAC	125A	36-575VAC
84131100	4-32VDC	10A	36-575VAC
84131110	4-32VDC	25A	36-575VAC
84131120	4-32VDC	50A	36-575VAC
84131130	4-32VDC	75A	36-575VAC
84131140	4-32VDC	100A	36-575VAC
84131180	4-32VDC	125A	36-575VAC

NO IP20 COVER ZERO VOLTAGE TURN-ON

MODELS	CONTROL VOLTAGE	OUTPUT CURRENT	MAX-OUTPUT
84134001	90-280VAC	10A	24-280VAC
84134011	90-280VAC	25A	24-280VAC
84134021	90-280VAC	50A	24-280VAC
84134031	90-280VAC	75A	24-280VAC
84134041	90-280VAC	100A	24-280VAC
84134000	4-32VDC	10A	24-280VAC
84134010	4-32VDC	25A	24-280VAC
84134020	4-32VDC	50A	24-280VAC
84134030	4-32VDC	75A	24-280VAC
84134040	4-32VDC	100A	24-280VAC
84134101	90-280VAC	10A	36-575VAC
84134111	90-280VAC	25A	36-575VAC
84134121	90-280VAC	50A	36-575VAC
84134131	90-280VAC	75A	36-575VAC
84134141	90-280VAC	100A	36-575VAC
84134181	90-280VAC	125A	36-575VAC
84134100	4-32VDC	10A	36-575VAC
84134110	4-32VDC	25A	36-575VAC
84134120	4-32VDC	50A	36-575VAC
84134130	4-32VDC	75A	36-575VAC
84134140	4-32VDC	100A	36-575VAC
84134180	4-32VDC	125A	36-575VAC

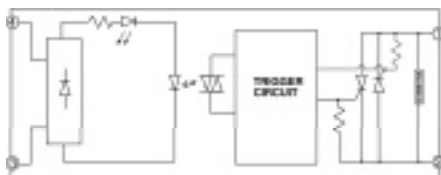
Random turn-on version

TYPE	CONTROL VOLTAGE	OUTPUT CURRENT	OUTPUT CURRENT
84131201	4-32VDC	10A	10A
84131210	4-32VDC	25A	25A
84131220	4-32VDC	50A	50A
84131230	4-32VDC	75A	75A
84131240	4-32VDC	100A	100A
84131300	4-32VDC	10A	10A
84131310	4-32VDC	25A	25A
84131320	4-32VDC	50A	50A
84131330	4-32VDC	75A	75A
84131340	4-32VDC	100A	100A
84131380	4-32VDC	125A	125A

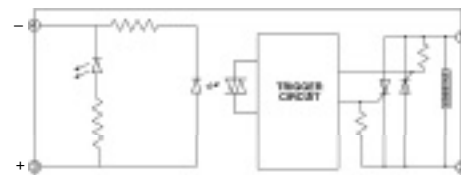
Random turn-on version

TYPE	CONTROL VOLTAGE	OUTPUT CURRENT	MAX-OUTPUT
84134200	4-32VDC	10A	24-280VAC
84134210	4-32VDC	25A	24-280VAC
84134220	4-32VDC	50A	24-280VAC
84134230	4-32VDC	75A	24-280VAC
84134240	4-32VDC	100A	24-280VAC
84134300	4-32VDC	10A	36-575VAC
84134310	4-32VDC	25A	36-575VAC
84134320	4-32VDC	50A	36-575VAC
84134330	4-32VDC	75A	36-575VAC
84134340	4-32VDC	100A	36-575VAC
84134380	4-32VDC	125A	36-575VAC

TYPE	CONTROL VOLTAGE	OUTPUT CURRENT	MAX-OUTPUT
84131901	90-250VAC	10A	24-280VAC
84131911	90-250VAC	25A	24-280VAC
84131900	4-32VDC	10A	24-280VAC
84131910	4-32VDC	25A	24-280VAC



AC INPUT EQUIVALENT CIRCUIT



DC INPUT EQUIVALENT CIRCUIT



The **New GNA5** series uses the same industry standard packaging but meets the strict EMC directive. The GNA5 comes in AC or DC control, 10 and 25 amp, 24-280VAC output.

SOLID STATE RELAYS GZ SSR'S & DUAL SSR'S

Heatsinks & Accessories

The GZ Series offers a low profile SSR with 1/4 inch Quick-connect terminals and outputs of 12 and 20 amp with DC (4-15V) control. They come with or without snubbers and handle load voltages from 24-280VAC and 4000 Vms opto-isolation. It is UL and cUL Recognized and bears the CE mark.

ZERO VOLTAGE TURN-ON

TYPE	CONTROL VOLTAGE	MAX-OUTPUT	OUTPUT CURRENT
84132200	4-15VDC	24-280VAC	12A
84132210	4-15VDC	24-280VAC	20A
84132600	4-15VDC	36-530VAC	12A
84132610	4-15VDC	36-530VAC	20A

RANDOM TURN-ON

TYPE	CONTROL VOLTAGE	MAX-OUTPUT	OUTPUT CURRENT
84132300	4-15VDC	24-280VAC	12A
84132310	4-15VDC	24-280VAC	20A
84132700	4-15VDC	36-530VAC	12A
84132710	4-15VDC	36-530VAC	20A

ZERO VOLTAGE TURN-ON NO SNUBBER

TYPE	CONTROL VOLTAGE	MAX-OUTPUT	OUTPUT CURRENT
84132000	4-15VDC	24-280VAC	12A
84132010	4-15VDC	24-280VAC	20A
84132400	4-15VDC	36-530VAC	12A
84132410	4-15VDC	36-530VAC	20A

RANDOM TURN-ON NOSNUBBER

TYPE	CONTROL VOLTAGE	MAX-OUTPUT	OUTPUT CURRENT
84132100	4-15VDC	24-280VAC	12A
84132110	4-15VDC	24-280VAC	20A
84132500	4-15VDC	36-530VAC	12A
84132510	4-15VDC	36-530VAC	20A

The "Smart Module" supplies electrical and visual feedback if an error occurs in the circuit or with the host SSR. Will mount on any standard puck style SSR. For use with any DC input AC output SSR.

TYPE	CONTROL VOLTAGE	ERROR OUTPUT CURRENT	LINE VOLTAGE
84060001	4-32VDC	100mA	24-660VAC

SMART MODULE FUNCTIONS (Module Energized 4-32 VDC)

CONDITION	GREEN LED	RED LED	ERROR OUTPUT
No circuit fault & SSR operating normally (Relay Off)	Off	Off	High
No circuit fault & SSR operating normally (Relay On)	On	Off	High
Input signal applied & voltage across output (Open Circuit)	On	Blink	Low
Input signal applied & external short occurs	On	Blink	Low
No input & external short occurs	Off	Blink	Low
Input signal applied & output circuit opened	On	Blink	Low
No input & output circuit opened	Off	Blink	Low
No input & relay output internally shorted	Off	On	Low

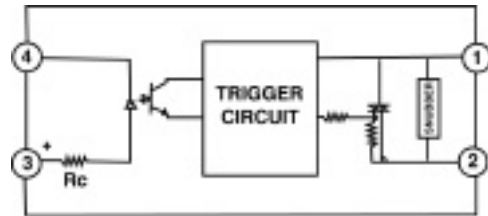
ssr covers and THERMAL PADS

TYPE	FOR SERIES
SSRC	1 Phase
SSRC/GA3	3 Phase
SSRC/GA0	3 Phase
HSP-1	1 Phase
HSP-3	3 Phase

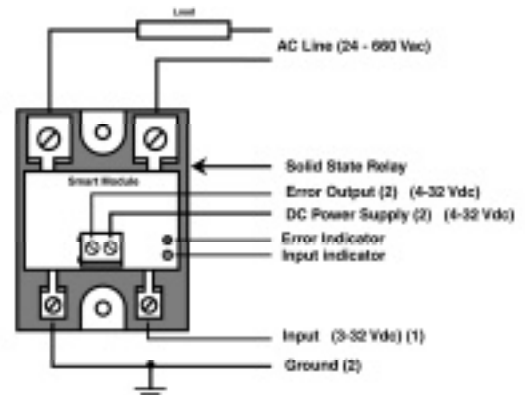
HEAT SINKS

TYPE	DEGREES C/W	FOR SERIES
HS-1	1.5	3 Phase
HS-2	2	1 Phase
HS-3	1.5	1 Phase
HS-4	1	1 Phase
HS-5	0.7	1 Phase
HS-6	0.5	1 Phase
HS-7	0.9	3 Phase
HS-8*	1.8	1 Phase
HS-9*	1.3	1 Phase

*DIN-RAIL OR PANEL MOUNT



GZ SERIES DC INPUT
EQUIVALENT CIRCUIT



Note:
1. G4800 and G5750 Series DC Input Range is 4-32 Vdc
2. Input/Outputs and DC Power Supply voltages are referred to the same common Ground

3 Phase Solid State Relays

GA3 Series: 3 Phase SSR

GA0 Series: 3 Phase Reversing SSR

The GA3 and GA0 Series feature industry standard packaging, output over voltage protection, and a 4 to 32VDC current regulated input. Enclosure measures 25 x 74 x 104mm. The GA0 Series are random turn-on. All series have 4 kv optical isolation and are UL and CSA approved, TUV Certified.

PART NUMBER	Control Voltage	Maximum Output Current (A)	Output Voltage
GA3-12D10R	4 - 32VDC	10	24 - 660VAC
GA3-12D10Z	4 - 32VDC	10	24 - 660VAC
GA3-12D25R	4 - 32VDC	25	24 - 660VAC
GA3-12D25Z	4 - 32VDC	25	24 - 660VAC
GA3-12D45R	4 - 32VDC	45	24 - 660VAC
GA3-12D45Z	4 - 32VDC	45	24 - 660VAC
GA3-12A25R	90 - 280VDC	25	24 - 660VAC
GA3-12A25Z	90 - 280VDC	25	24 - 660VAC
GA3-12A45R	90 - 280VDC	45	24 - 660VAC
GA3-12A45Z	90 - 280VDC	45	24 - 660VAC
GA0-12D25	3 - 32VDC	25	24 - 660VAC

("R" Suffix denotes Random Turn-On, "Z" Suffix denotes Zero Crossing)



Panel Mount DC Output Solid State Relays

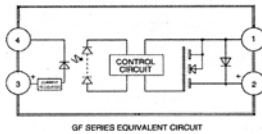
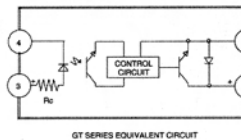
GF Models Utilize FET Output

- Low leakage of 10µA
- Milliohm On-State Resistance
- 1500 VAC Optical Isolation
- Long Life Switching of DC Loads to 30A

GT Models Utilize Transistor Output

- Cost Effective General Purpose DC SSR
- Long Life Switching DC Loads to 10A
- 4KV Optical Isolation
- Fast 25µSec Maximum Turn-on Time

MODEL	MAX. OUTPUT VOLTAGE RATING (VAC)	OUTPUT CURRENT RATING	CONTROL VOLTAGE
GF50D30	1-50	30A	3-32VDC
GF100D15	1-100	15A	3-32VDC
GF200D10	1-200	10A	3-32VDC
GT60D10	3-60	10A	3-32VDC



GT and GF Series

Printed Circuit Board Mountable AC Output Solid State Relays

GA1, GA8, Series SSR

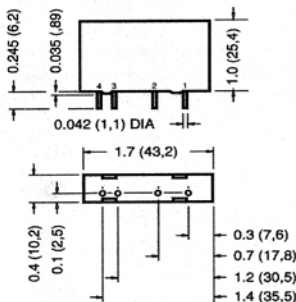
- Industry Standard Packaging, SIP or Flat Pack
- 4KV Optical Isolation
- 100A Surge Capability
- UL recognized, CSA Certified
- VDE Approval on Some Models
- DEMKO EN60950 Certified

MODEL	MAX. OUTPUT VOLTAGE RATING (VAC)	OUTPUT CURRENT RATING @ 25°C TA	CONTROL VOLTAGE
GA1-6B02	280	4A	3-24VDC
GA8-6B02	280	4A	3-24VDC
GA8-6D05	280	5A	3-24VDC
GA8-6D05R	280	5A	3-24VDC

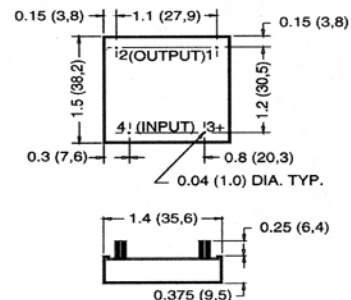
GA8 Series



G1 and GA8 Series



DIMENSIONS: INCHES (MILLIMETERS)
TOLERANCE: ±0.020 (±0.50)

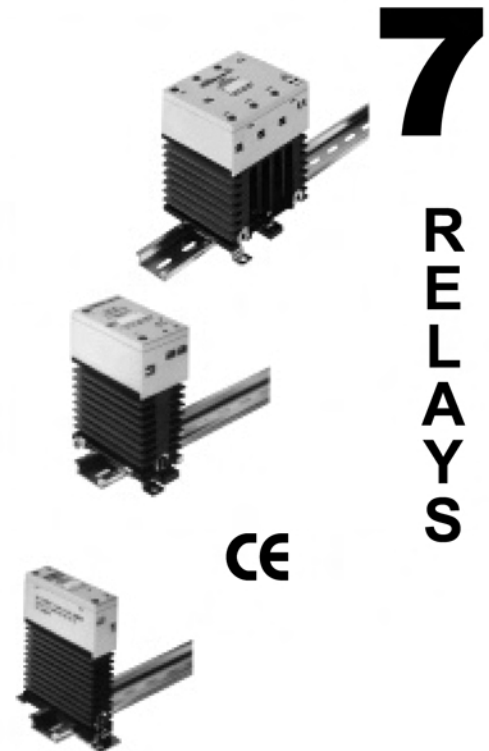


DIN-Rail Mount AC Output Solid State Relay

- Input LED
- Current Regulated Input
- Touch Safe (IP20) Enclosure
- EN60950 Compliant
- RC Snubber Network for Inductive Loads
- Zero Voltage Turn-on (Random Available)
- Complies with IEC 1004-4 and 1004-2 Level 3 Requirements

MODEL	OUTPUT VAC	OUTPUT CURRENT	CONTROL VOLTAGE
TRIAC OUTPUT (22.5MM)			
84130100	24-280	10A	180-280 VAC
84130101	24-280	10A	4-32 VDC
84130102	24-280	25A	180-280 VAC
84130103	24-280	25A	4-32 VDC
84130150	24-280 VAC	10A	90-140 VAC
84130152	24-280 VAC	25A	90-140 VAC
SCR OUTPUT (22.5MM)			
84130116	48-660	25A	4-32 VDC
84130117	48-660	25A	4-32 VDC (RANDOM)
84130118	48-660	25A	180-280 VAC
84130158	48-660 VAC	25A	90-140 VAC
SCR OUTPUT (45MM)			
84130110	48-660	35A*	90-280 VAC
84130111	48-660	35A*	4-32 VDC
84130112	48-660	35A*	4-32 VDC (RANDOM)
84130113	48-660	45A	4-32 VDC
84130114	48-660	45A	4-32 VDC (RANDOM)
84130115	48-660	45A	90-280 VAC
SCR OUTPUT (90MM)			
2 PHASE			
84130220	48-660	35A	4-32 VDC
84130221	48-660	35A	4-32 VDC (RANDOM)
84130222	48-660	35A	90-280 VAC
SCR OUTPUT (90MM)			
3 PHASE			
84130310	48-660	25A (1)	4-32 VDC
84130311	48-660	25A (1)	90-280 VAC
84130312	48-660	25A (1)	4-32 VDC (RANDOM)

*FREE AIR 25 C (1) Per Phase

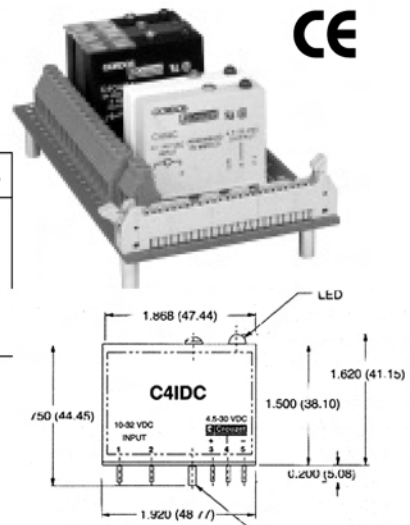


I/O MODULES

- Built-in LED Status Indicator
- Regulated Supply Voltage
- New Industry Standard Packaging
- 4000 VAC Optical Isolation
- Replaceable 2AG Type Fuse (output modules only)
- Universal Logic Voltage
- UL/cUL Recognized

C4 I/O MODULES

	MODELS	INPUT VOLTAGE RANGE	LOGIC VOLTAGE	MAXIMUM OUTPUT CURRENT
INPUT MODULES	C4IAC	90-140 VAC	4.5-30 VDC	50mA DC
	C4IACA	140-280 VAC	4.5-30 VDC	50mA DC
	C4IDC	10-32 VDC	4.5-30 VDC	50mA DC
	C4IDCB	4-16 VDC	4.5-30 VDC	50mA DC
	C4IDCG	35-60 VDC	4.5-30 VDC	50mA DC
	C4IDCK	2.5-16 VDC	4.5-30 VDC	50mA DC
	C4SWIN	N/A	4.5-30 VDC	50mA DC
OUTPUT MODULES	C40AC	4-32 VDC	OUTPUT VOLTAGE RANGE 12-140 VAC	3 amps
	C40ACA	4-32 VDC	24-280 VAC	3 amps
	C40DC	4-32 VDC	5-60 VDC	3 amps
	C40DCA	4-32 VDC	3-250 VDC	1 amp
	C4SWOUT	N/A	1-250 VAC	3 amps

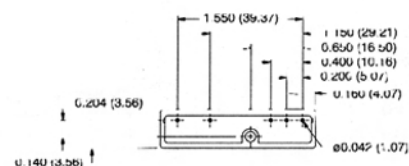


MODULE BOARDS

- Accept either Input or Output Modules
- Includes Spare Fuse and Fuse Tester

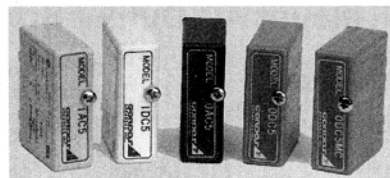
C4 MOUNTING BOARDS

MODEL	POSITION
PB-4C4	4
PB-8C4	8
PB-16C4	16
PB-16C4T	16
PB-24C4	24
PB-32C4	32



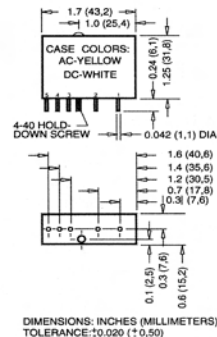
Standard Size I/O Modules

- Zero AC or Random Turn-on Output Modules
- Industry Standard Packaging
- Plug into Standard I/O Mounting Racks
- UL Recognized / CSA Certified
- DEMKO Certification Pending



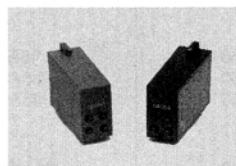
Standard Size I/O Modules

INPUT MODULES	MODEL	INPUT VOLTAGE RATING	LOGIC VOLTAGE	MAXIMUM OUTPUT CURRENT
	IAC5	90-140VAC/VDC	5	50MADC
	IAC15	90-140VAC/VDC	15	50MADC
	IAC24	90-140VAC/VDC	24	50MADC
	IAC5A	180-280VAC/VDC	5	50MADC
	IAC24A	180-280VAC/VDC	24	50MADC
	IDC5	3.3-32VDC	5	50MADC
	IDC15	3.3-32VDC	15	50MADC
	IDC24	3.3-32VDC	24	50MADC
OUTPUT MODULES	MODEL	INPUT VOLTAGE RATING	OUTPUT VOLTAGE RATING	MAXIMUM OUTPUT CURRENT
	OAC5	2.75-8VDC	12-140VAC	3.5Arms
	OAC15	9-18VDC	12-140VAC	3.5Arms
	OAC24	18-32VDC	12-140VAC	3.5Arms
	OAC5A	2.75-8VDC	24-280VAC	3.5Arms
	OAC24A	18-32VDC	24-280VAC	3.5Arms
	ODC5	2.75-8VDC	3-60VDC	3.0A
	ODC15	9-18VDC	3-60VDC	3.0A
	ODC24	18-32VDC	3-60VDC	3.0A
	ODC5A	2.75-8VDC	3-250VDC	3.0A

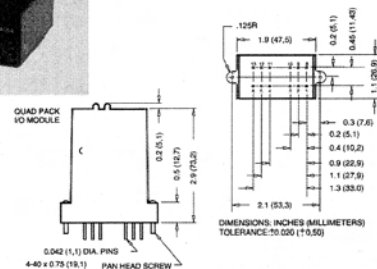


Standard Size I/O Modules

INPUT MODULES	MODEL	INPUT VOLTAGE RATING	LOGIC VOLTAGE	MAXIMUM OUTPUT CURRENT
	IAC5Q	90-140VAC/VDC	5	50MADC
	IAC5AQ	90-280VAC/VDC	5	50MADC
	IAC5EQ	18-36VAC/VDC	5	50MADC
	IDC5Q	10-60VDC	5	50MADC
	IDC5BQ	4-32VDC	5	50MADC
OUTPUT MODULES	MODEL	OUTPUT VOLTAGE RATING		
	OAC5Q	2.75-8VDC	12-140VAC	3.5Arms
	ODC5Q	2.75-8VDC	3-60VDC	3.0A



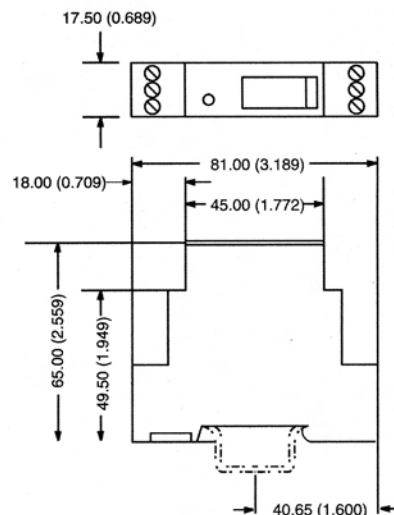
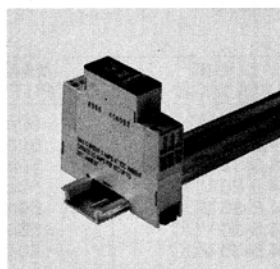
Quad Pack Modules



DIN Rail Mountable (17.5 mm wide)

Single Point Output Modules

- AC Output Rating 5 Amp at 12 to 280 VAC, with 350 Amp Single Cycle Surge Capability
- DC Output Rating 3 Amp at 5 to 60 VDC
- 4 to 32 VDC Input Current regulated
- Zero Voltage Turn-on for AC Module
- 4 KV Optical Isolation with LED Indicator
- Barrier Strips Accept 14 to 28 AWG Wire
- Configured for Panel Mounting
- UL / cUL Recognized



Input Modules

PART NUMBER	Input Voltage	Output Voltage	Maximum Current
84115501	90 - 140VAC/DC	4.5 - 30VDC	50mA
84115502	140 - 280VAC/DC	4.5 - 30VDC	50mA
84115503	4 - 32VAC/DC	4.5 - 30VDC	50mA

Output Modules

PART NUMBER	Input Voltage	Output Voltage	Maximum Current
84130104	4 - 32VDC	5 - 480VAC	3 Amps
84130105	4 - 32VDC	24 - 280VDC	5 Amps

I/O MODULES & MOUNTING BOARDS

MODULE BOARDS

Gordos I/O Mounting Boards are available for Standard, SM, Quad and Miniature I/O module sizes and everything you need to interface with any 5, 15, or 24 volt logic unit is included. Since the function is self-contained in each module, you determine the layout of your own system boards. The plug-in modules with single hold-down screw make later revisions easy; modules are replaceable without disconnecting the wires.

MODULE BOARDS FOR STANDARD MODULES

MODEL	POSITION
PB-4	4
PB-4R*	4
PB-8	8
PB-16	16
PB-24	24
PB-32D	32

FOR QUAD-PACK MODULES

PB-16Q	4
PB-24Q	6
PB-32Q	8

*Output I/O only

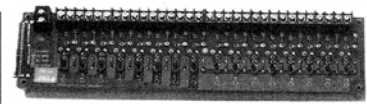
- Plug-compatible logic contacts on 8, 16, 24, and 32 position boards. Screw terminal logic connections on 4 position boards.
- Barrier strip with screw terminals for load connections
- Circuitry for pull-up resistors
- 5 amp field replaceable fuses
- LED status indicators
- All even pins logic GND
- UL Recognized

FOR MINIATURE MODULES

MODEL	POSITION
PB-8M	8
PB-16M	16
PB-24M	24
PB-32M	32
PB-24MD	24

FOR SM MODULES

PB-8SM	8
PB-16SM	16
PB-24SM	24
PB-32SM	32



Module Boards

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RELAYS

MINIATURE I/O MODULES (M AND SM)

Gordos I/O Modules get a minimum of 300% testing-multiple component and functional tests that made Gordos the reliability standard in SSRs. Across the line, Gordos' average field return rate is well below the industry average.

M and SM SERIES

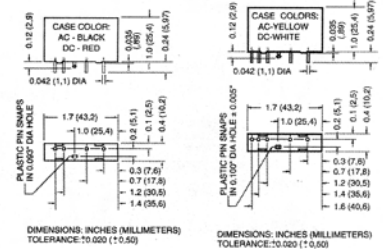
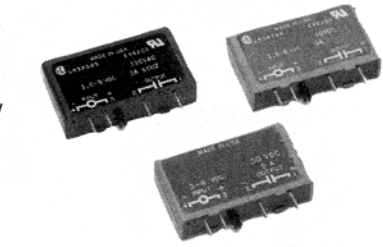
- Zero or Random Turn-on available in AC output

- SM plug into standard I/O Mounting Boards or SM Series Mounting Boards
- M plug into M Series Mounting Boards Only
- High Current Thyristor for 100A Surge Capability
- 4KV Optical Isolation
- 33% Thinner than Standard I/O Modules
- UL Recognized/CSA Certified
- DEMKO Certification Pending



SM SERIES

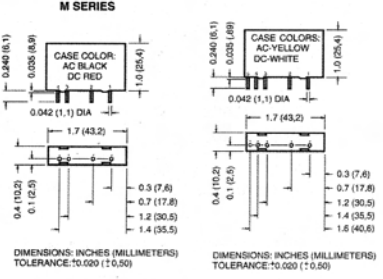
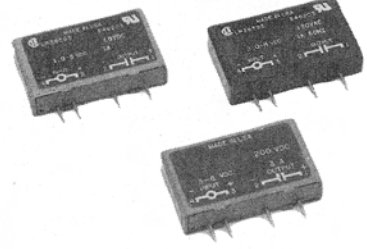
INPUT MODULES	MODEL	INPUT VOLTAGE RATING	LOGIC VOLTAGE	MAX. OUTPUT CURRENT
	SM-IAC5	90-140VAC/VDC	5	50MADC
	SM-IAC15	90-140VAC/VDC	15	50MADC
	SM-IAC24	90-140VAC/VDC	24	50MADC
	SM-IAC5A	180-280VAC/VDC	5	50MADC
	SM-IAC24A	180-280VAC/VDC	24	50MADC
	SM-IDC5	3.3-32VDC	5	50MADC
	SM-IDC15	3.3-32VDC	15	50MADC
	SM-IDC24	3.3-32VDC	24	50MADC
OUTPUT MODULES	MODEL	INPUT VOLTAGE RATING	OUTPUT VOLTAGE RATING	MAX. OUTPUT CURRENT
	SM-OAC5	2.75-8VDC	12-140VAC	3.5Arms
	SM-OAC15	9-18VDC	12-140VAC	3.5Arms
	SM-OAC24	18-32VDC	12-140VAC	3.5Arms
	SM-OAC5A	2.75-8VDC	24-280VAC	3.5Arms
	SM-OAC24A	18-32VDC	24-280VAC	3.5Arms
	SM-ODC5	2.75-8VDC	3-60VDC	3.0A
	SM-ODC15	9-18VDC	3-60VDC	3.0A
	SM-ODC24	18-32VDC	3-60VDC	3.0A
	SM-ODC5A	2.75-8VDC	3-250VDC	3.0A



SM Series I/O Module

M SERIES

INPUT MODULES	MODEL	INPUT VOLTAGE RATING	LOGIC VOLTAGE	MAX. OUTPUT CURRENT
	M-IAC5	90-140VAC/VDC	5	50MADC
	M-IAC15	90-140VAC/VDC	15	50MADC
	M-IAC24	90-140VAC/VDC	24	50MADC
	M-IAC5A	180-280VAC/VDC	5	50MADC
	M-IAC24A	180-280VAC/VDC	24	50MADC
	M-IDC5	3.3-32VDC	5	50MADC
	M-IDC15	3.3-32VDC	15	50MADC
	M-IDC24	3.3-32VDC	24	50MADC
OUTPUT MODULES	MODEL	INPUT VOLTAGE RATING	OUTPUT VOLTAGE RATING	MAX. OUTPUT CURRENT
	M-OAC5	2.75-8VDC	12-140VAC	3.5Arms
	M-OAC15	9-18VDC	12-140VAC	3.5Arms
	M-OAC24	18-32VDC	12-140VAC	3.5Arms
	M-OAC5A	2.75-8VDC	24-280VAC	3.5Arms
	M-OAC24A	18-32VDC	24-280VAC	3.5Arms
	M-ODC5	2.75-8VDC	3-60VDC	3.0A
	M-ODC15	9-18VDC	3-60VDC	3.0A
	M-ODC24	18-32VDC	3-60VDC	3.0A
	M-ODC5A	2.75-8VDC	3-250VDC	3.0A



M Series I/O Module

CONTROL RELAYS

Crouzet offers several variations of Syrelec control relays. Five models for liquid level controls, 3 phase 230V, 380V, 440V and 480V for phase loss or reversal protection, current and voltage detection and control, motion detection, and alternating relays are also available. If a standard control requires modification or a special product is needed to meet your exact needs, please call us or the Crouzet Sales Representative nearest you. Crouzet has controls to meet your CE, UL, and CSA requirements.

	SERIES	FUNCTION	FEATURES		SERIES	FUNCTION	FEATURES
	NNR Series Liquid Level Control	Liquid Level Control	PC Board liquid level control. Pump up/Pump down. 4.7 to 47K ohm sensitivity. SPDT 10A output relay 3.62" x 2.16"		CTD/CTH Series Temperature Controllers	P, PI, PID On/Off Auto Tuning Heat/Cool	Single and dual display models. Thermocouple and RTD inputs. Auto-tuning for PID mod. Soft start function.
	NR Series LLC Pump Down NRU Series LLC Pump Up	Liquid Level Control Pump Down Liquid Level Control Pump Up	Plug-in or Din-Rail mount. 4.7 to 100K ohm sensitivity. 1.89"H x 1.89"W x 3.9"L		WRL Series Phase Monitor	Phase Control Relay Monitors: - Phase Sequence - Loss of Phase - Under Voltage	Plug-in or Din-Rail mount. 3 x 230 VAC, 3 x 380 VAC, 3 x 480 VAC, 1.89"H x 1.89"W x 3.9"L
	EN Series END Series Liquid Level Control	Liquid Level Control	Din-Rail/surface mount. Pump up/Pump down. 5K to 100K ohm sensitivity. 80mmH x 22.5mmW x 100mmL		FW Series Phase Monitor	Monitors: - Phase Loss - Phase Reversal - Undervoltage	Din-Rail or surface mount. 3 x 230 VAC, 3 x 380 VAC, 3 x 480 VAC, 3 x 600 VAC. 45mm wide enclosure. Adjustable time inhibit. LED power on and relay status. 79mmH x 45mmW x 100mmL
	IR.T Series Current Control Relay	Monitors Current with Relay Output	Plug-in or Din-Rail mount. Adjustable inhibit time for start up. LED Relay output indicator. 3mA to 7Amps AC, 5mA to 10Amps DC. 1.89"H x 1.89"W x 3.9"L		HDU Series Voltage Control Relay	Monitors Voltage. With Relay Output. With LCD Display.	.2 to 600 Volt AC/DC voltage monitoring range. Over and under voltage functions. With LCD display. Shows actual and setpoints. Din-Rail mount. 81mmH x 36mmW x 81mmL
	EIL, EIH, EIT Series Current Control Relay	Monitors Current with Relay Output	Din-Rail/surface mount. Adjustable time inhibits. 2mA to 10Amps AC/DC. for EIL/EIH. .01 to 100Amps for EIT w/transformer. 80mmH x 22.5mmW x 100mmL		HDI Series Current Control Relay	Monitors Current. With Relay Output. With LCD Display.	2mA to 10Amps AC/DC current monitoring range. Over and under current functions. With LCD display. Shows actual and setpoints. Din-Rail mount. 81mmH x 36mmW x 66mmL
	UR Series Voltage Control Relay	Monitors Voltage with Relay Output	Plug-in or Din-Rail mount. .1 to 400 Volts AC/DC. With latching function selectable. LED output indication. 1.89"H x 1.89"W x 3.9"L		MCI Series Current Control Relay	Monitors Current. With Relay Output. With Built-in Transformer	1 to 20Amps AC/DC current monitoring range. Built-in transformer. Relay output-SPDT Over and under current functions. 81mmH x 17.5mmW x 83mmL
	EUL, EUH Series Voltage Control Relay	Monitors Voltage with Relay Output	Din-Rail/surface mount. Adjustable time inhibit. .2 to 600 Volts AC/DC. Selectable latching feature. 80mmH x 22.5mmW x 100mmL		F3I Series Motor Protection Relay	Motor Protection for Phase Loss Phase Unbalance Current Surge	8 to 630Amps current range. LED diagnostics. Adjustable trip timers. Phase loss test switch. Front panel reset. 79mmH x 45mmW x 95mmL
	JR Series Alternating Relay	Duplex Alternating Relay	Plug-in style. Designed for dual pump system. Selector switch versions available. 1.89"H x 1.89"W x 3.9"L		FWIT Series Motor Protection Relay	Motor Protection for Phase Loss Phase Unbalance Phase Reversal Current Surge Overheating	7 to 630Amps current range. LED diagnostics. Adjustable trip timers Phase loss test switch. Front panel reset. 80mmH x 78mmW x 99mmL