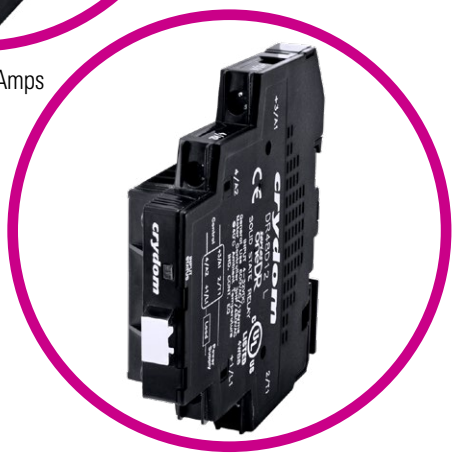
SERIESONE DR SERIES | DC OUTPUT

DIN RAIL MOUNT SOLID STATE RELAYS

Sensata | Crydom SeriesOne DR family of DIN Rail mount Solid State Relays incorporate proprietary thermal management technology to achieve exceptional output ratings of 3 up to 24 Amps at 1 to 100 VDC in compact 11mm and 18mm wide housings.
These compact SSRs are ideal for use in demanding applications where space may be limited, providing greater power density than other DIN Rail Solid State Relays.

3, 6 & 10 Amps



12 & 24 Amps

Features

- Ratings from 3 up to 24 Amps
- Load voltage ratings of 1-60 VDC and 1-100 VDC
- Fits standard 35mm DIN Rail
- LED input status indicator
- DC control
- UL and cUL Listed, CE & RoHS Compliant
- UL 508 Endurance Rating for Enhanced Reliability
- UL Class I and II, Division 2, for Hazardous Locations

Applications

- Battery Management Systems
- Backup Power Supplies
- Valve Control
- Lighting control
- Automation Equipment

PRODUCT SELECTION

Control Voltage	60V, 3 A	60V, 6 A	60V, 12 A	100V, 3 A	100V, 6 A	100V, 10A	100V, 12A	100V, 24 A
4-32 VDC	DR06D03	DR06D06	DR06D12	DR10D03	DR10D06	DR10D10	DR10D12	DR10D24

SPECIFICATIONS

Output [1]

Description	DR06D03	DR10D03	DR06D06	DR10D06	DR10D10	DR06D12	DR10D12	DR10D24
Operating Voltage [VDC]	1-60	1-100	1-60	1-60	1-100	1-60	1-60	1-100
Maximum Load Current [Adc] [2]	3	3	6	6	10	12	12	24
Minimum Load Current [mAdc]	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Maximum Off-State Leakage Current @ Rated Voltage [mA]	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Maximum On-State Voltage Drop @ Rated Current [Vpk]	0.6	0.6	0.6	0.6	0.2	0.6	0.6	0.2
Maximum Surge Current (10ms) [Apk]	60	60	60	60	80	100	100	160
On-State resistance at rated current [Ohms]	0.6	0.6	0.1	0.1	0.013	0.45	0.45	0.026
Min/Max stranded wire	22/14 AWG	22/14 AWG	22/14 AWG	22/14 AWG	22/14 AWG	22/14 AWG	22/14 AWG	22/14 AWG
Min/Max solid wire	22/14 AWG	22/14 AWG	22/14 AWG	22/14 AWG	22/14 AWG	22/14 AWG	22/14 AWG	22/14 AWG
Weight (Typical)	1.76 oz (50 g)	1.76 oz (50 g)	1.94 oz (55 g)	1.76 oz (50 g)	1.76 oz (50 g)	3.17 oz (90 g)	3.17 oz (90 g)	3.17 oz (90 g)

Input [1]

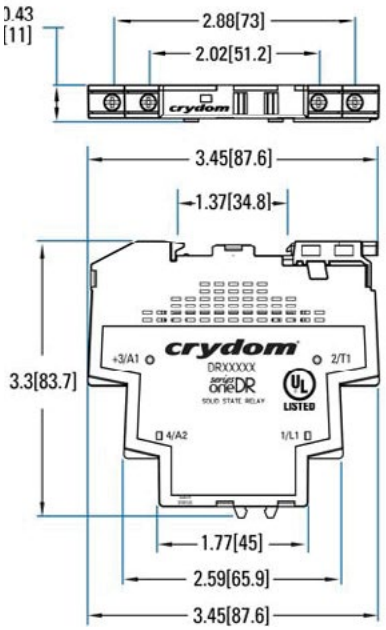
Description	Parameters
Control Voltage Range [3]	4-32 VDC
Minimum Turn-On Voltage	4.0 VDC
Must Turn-Off Voltage	1.0 VDC
Minimum Input Current for [mA] [4]	9
Maximum Input Current for [mA] [4]	11
Maximum Turn-on Time [msec] [5]	0.6
Maximum Turn-off Time [msec]	0.3
Min/Max stranded/solid wire	22/16 AWG

General [2]

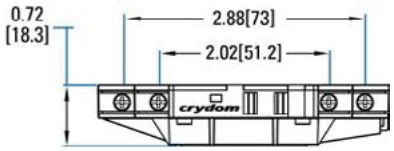
Description	Parameters
Dielectric Strength, Input/Output/Base (50/60Hz)	2500 Vrms
Minimum Insulation Resistance (@ 500 V DC)	10^9 Ohms
Maximum Capacitance, Input/Output	10 pF
Ambient Operating Temperature Range	-30 to 80 °C
Ambient Storage Temperature Range	-30 to 100 °C
Recommended Terminal Screw Torque Range	4.4-7.0 lb-in (0.5-0.8 Nm)

MECHANICAL SPECIFICATIONS (1)

3 A , 6 A & 10 A

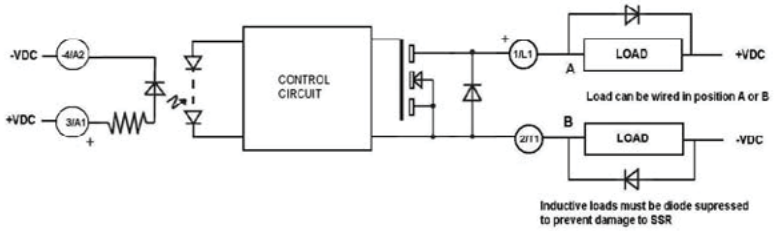


12 A & 24 A



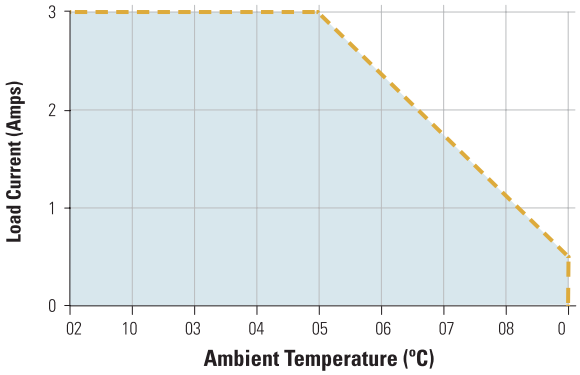
Tolerance: ± 0.02in / 0.5mm
Dimensions are in inches [millimeters]

EQUIVALENT CIRCUIT BLOCK DIAGRAMS/WIRING DIAGRAMS

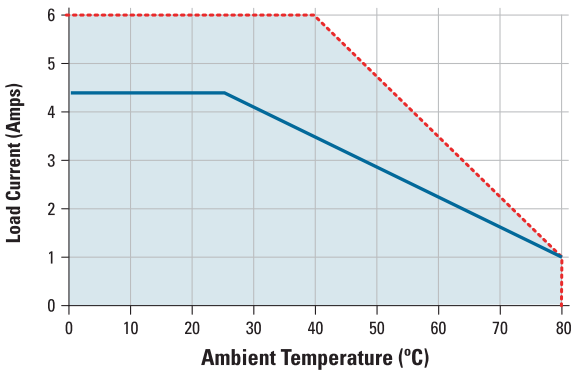


THERMAL DERATE INFORMATION

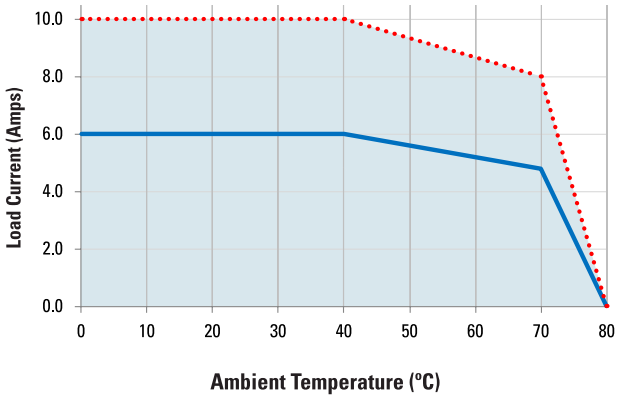
DRxxx03



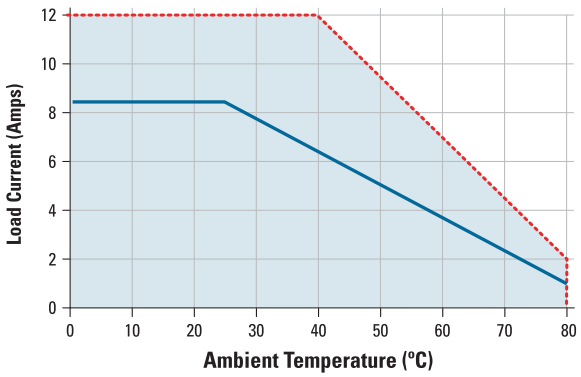
DRxxx06



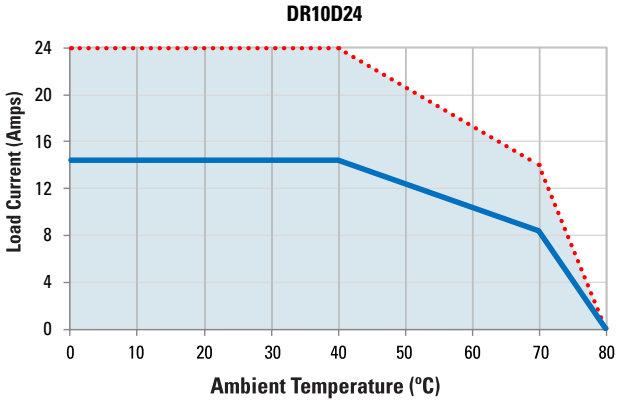
DR10D10



DRxxx12



DR10D24



- Single and multiple units (for DRxxx03)
- Single unit, distance to adjacent components ≥ 11 mm for DRxxx06, DR10D10 and ≥ 18 mm for DRxxx12, DR10D24
- Multiple units, no minimum spacing between components

STANDARDS OF COMPLIANCE

Shock and Vibration (Applies to all part numbers)
Vibration Resistance according to IEC 60068-2-6: **0.35mm and 0.75mm Amplitude over 10-55 Hz**
Shock Resistance according to IEC 60068-2-27: **15g/11ms**

EMC (Applies to all part numbers)
IEC 61000-4-2: Electrostatic Discharge- Level 3
IEC 61000-4-4: Electrically Fast Transients- Level 3
IEC 61000-4-5: Electrical Surges- Level 3

ANSI / ISA 12.12.01-2013
Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Division 1 and 2 Hazardous (classified) locations
This equipment is open-type device and is meant to be installed in an enclosure suitable for the enviroment such that the equipment is only accesible with the use of a tool suitable for use in Class 1, Division 2, Group A,B,C and Hazardous locations, or Nonhazardous locations only

WARNING-Explosion Hazard- Do not disconnect equipment while the circuit is live or unless the area is known to be free of ignitable concentrations
WARNING-Explosion Hazard- Substitution of any component may impair suitability for Class I, Division 2

ORDERING OPTIONS

Example : DR06D12

SSR Relay, DIN Rail Mount 18mm, 60VDC/12A,4-32VDC In, FET Output

DR	06	D	12	

Series

DR

Operating Voltage

06: 1-60 VDC
10: 1-100 VDC

Control Voltage

D: 4-32 VDC

Rated Load Current

03: 3 Amps
06: 6 Amps
10: 10 Amps (100 VDC only)
12: 12 Amps
24: 24 Amps (100 VDC only)

ATEX Approvals

Blank: Not ATEX approved
X: ATEX II 3G Ex nA IIC T4 Gc approved (3, 6 and 12 Amps only)

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

GENERAL NOTES

(1) All parameters at 25°C unless otherwise specified.
(2) See Derating curves
(3) DC control includes reverse polarity protection.
(4) Input circuitry incorporates active current limiter.
(5) Turn-on/off time for 10A is 0.5/0.3 msec & for 24A is 1/0.5 msec.

AGENCY APPROVALS & CERTIFICATIONS

c UL us LISTED IND. CONT. EQ. 4WB8 E116949

CE

RoHS

(3, 6 and 12 Amps only)

ACCESSORIES

ID Marker Strips		
CNLB, CNLN, CNL2		
		
Black Strips Part no.: CNLB	**Numbered 1 to 10 Strips** Part no.: CNLN	**Numbered 11 to 20 Strips** Part no.: CNL2
A package of 10 plastic strips comprising 10 individual unprinted markers which can be placed on sockets' terminal block for easy identification during the use of multiple units.	A package of 10 plastic strips comprising 10 markers printed individually from 1 to 10 which can be placed on sockets' terminal block for easy identification during the use of multiple units.	A package of 10 plastic strips comprising 10 markers printed individually from 11 to 20 which can be placed on sockets' terminal block for easy identification during the use of multiple units.

WARNINGS

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.

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.

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