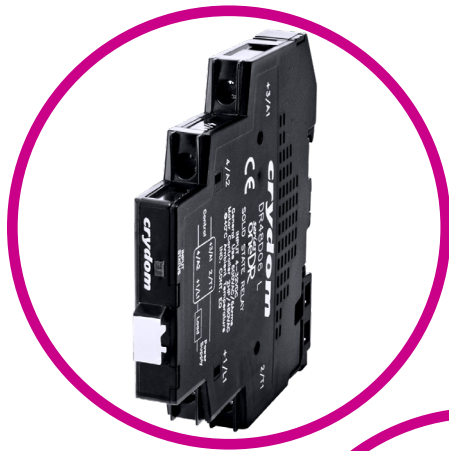


# SERIESONE DR SERIES | DC OUTPUT

## 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 <sup>(1)</sup>

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

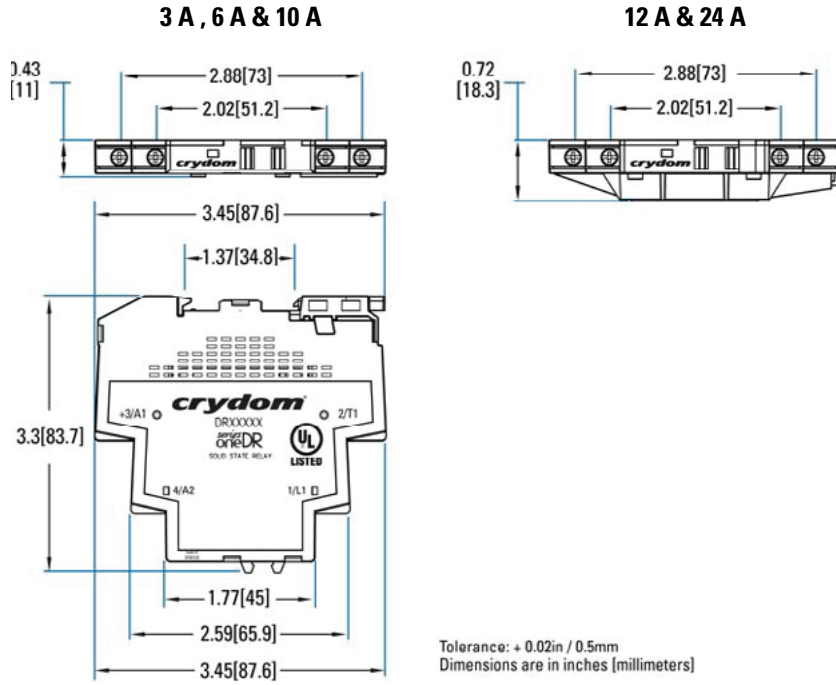
## Input <sup>(1)</sup>

Description	Parameters
<b>Control Voltage Range <sup>(3)</sup></b>	4-32 VDC
<b>Minimum Turn-On Voltage</b>	4.0 VDC
<b>Must Turn-Off Voltage</b>	1.0 VDC
<b>Minimum Input Current for [mA] <sup>(4)</sup></b>	8
<b>Maximum Input Current for [mA] <sup>(4)</sup></b>	11
<b>Maximum Turn-on Time [msec]</b>	1.7
<b>Maximum Turn-off Time [msec]</b>	0.3
<b>Min/Max stranded/solid wire</b>	22/16 AWG

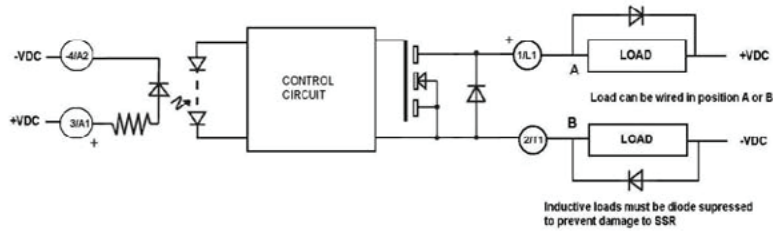
## General <sup>(2)</sup>

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

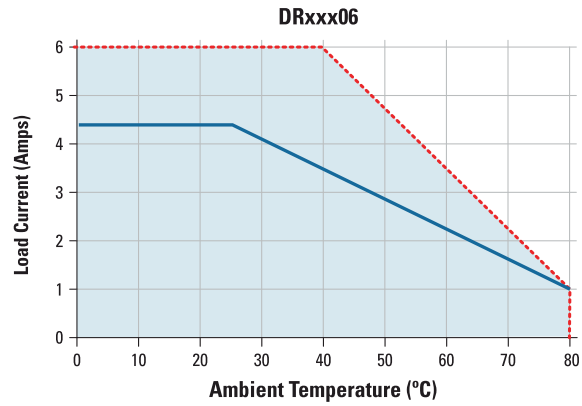
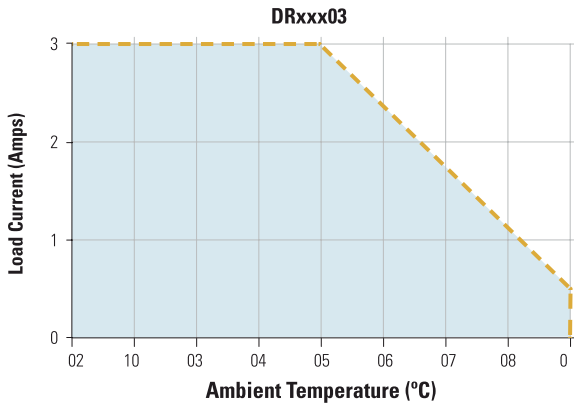
## MECHANICAL SPECIFICATIONS (1)

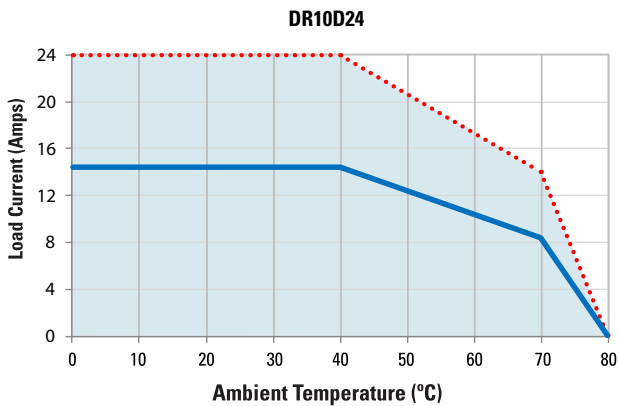
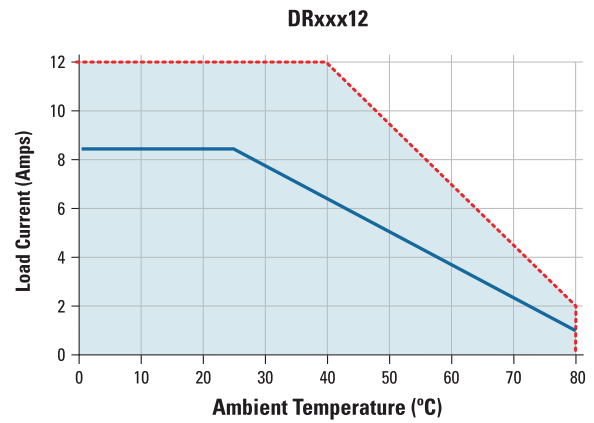
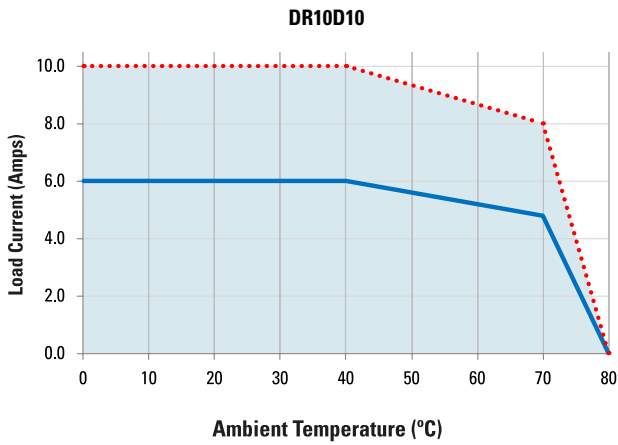


## EQUIVALENT CIRCUIT BLOCK DIAGRAMS/WIRING DIAGRAMS



## THERMAL DERATE INFORMATION





- Single and multiple units (for DRxxx03)
- ... Single unit, distance to adjacent components  $\geq 11$  mm for DRxxx06, DR10D10 and  $\geq 18$  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 environment such that the equipment is only accessible 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

<b>Series</b>	DR	06	D	12	X
<b>DR</b>					
<b>Operating Voltage</b>					
<b>06:</b> 1-60 VDC <b>10:</b> 1-100 VDC					
<b>Control Voltage</b>					
<b>D:</b> 4-32 VDC					
<b>Rated Load Current</b>					
<b>03:</b> 3 Amps <b>06:</b> 6 Amps <b>10:</b> 10 Amps (100 VDC only) <b>12:</b> 12 Amps <b>24:</b> 24 Amps (100 VDC only)					
<b>ATEX Approvals</b>					
<b>Blank:</b> Not ATEX approved <b>X:</b> 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.

## AGENCY APPROVALS & CERTIFICATIONS



## ACCESSORIES

ID Marker Strips		
CNLB, CNLN, CNL2		
<b>Black Strips</b> Part no.: CNLB	<b>Numbered 1 to 10 Strips</b> Part no.: CNLN	<b>Numbered 11 to 20 Strips</b> 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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