

ED SERIES | DC OUTPUT

PLUG-IN SOLID STATE RELAYS

Sensata | Crydom ED Series DC Output Plug-in Solid State Relays are designed to replace industry standard 12 x 29 mm plug-in Electromechanical Relays, offering substantial performance advantages over traditional EMR switching solutions in many applications.

Available in SPST N.O. configuration, the ED Series offer output ratings of 5 or 10 Amps at 1 to 100 VDC, and they are UL 508 recognized, IEC rated and CE compliant.



Features

- DC output Solid State Relay in an Industry standard EMR plug in package
- Ratings of 5 & 10 Amps
- Load voltage range of 1-48, 1-80 and 1-100 VDC
- Fits standard DIN rail & PCB mountable sockets
- LED input status indicator
- AC or DC control
- cUL Recognized, IEC Rated, CE & RoHS Compliant
- Motor Controller Rated

Applications

- Battery Management Systems
- Backup Power Supplies
- Valves
- Vending Equipment
- Lighting control
- Medical Equipment
- Test Equipment



PRODUCT SELECTION

Control Voltage	5 A	5 A	10 A
5-15 VDC Control	ED06D5	ED10D5	ED10D10
18-32 VDC Control	ED06C5	ED10C5	ED10C10
48-72 VDC Control	ED06F5	ED10F5	
18-36 VAC Control	ED06E5	ED10E5	
90-140 VAC Control	ED06B5	ED10B5	



SPECIFICATIONS

DC Output ⁽¹⁾

Description	5 A	5 A	10 A
Operating Voltage [VDC]	1-48	1-80	1-100
Maximum Load Current @ 40°C [ADC] ⁽²⁾	5	5	10
Maximum Load Current UL 508 Motor Controller [FLA] ⁽³⁾	2.0	2.0	N/A
Minimum Load Current [mAdc]	2.5	2.5	2.5
Maximum Off-State Leakage Current @ Rated Voltage [μA]	20	20	20
Maximum On-State Voltage Drop @ Rated Current and 40°C [Vdc]	0.3	0.3	0.25
Maximum Surge Current (10ms) [Adc]	60	60	80
Maximum PWM [Hz] ⁽⁴⁾	500	500	25

Input ⁽¹⁾

Description	EDxxD5	ED10D10	EDxxC5	ED10C10	EDxxF5	EDxxE5	EDxxB5
Control Voltage Range	5-15 VDC	5-15 VDC	18-32 VDC	18-32 VDC	48-72 VDC	18-36 VAC	90-140 VAC
Minimum Turn-On Voltage	5 VDC	5 VDC	18 VDC	18 VDC	48 VDC	18 VAC	90 VAC
Minimum Turn-Off Voltage	1.3 VDC	1.3 VDC	2 VDC	2 VDC	4 VDC	4 VAC	11 VAC
Maximum Reverse Voltage	3 VDC	3 VDC	3 VDC	3 VDC	3 VDC	N/A	N/A
Minimum Input Current [mA]	11	12	10.7	8	10.8	12	7.3
Maximum Input Current [mA]	42.8	44	19.7	13	16.3	25.3	10.9
Nominal Input Impedance [ohms]	350	350	1.6K	3K	4.4K	1.5K	12.5K
Maximum Turn-On Time [msec] ⁽⁴⁾	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Maximum Turn-Off Time [msec]	0.3	0.2	0.3	0.2	0.3	0.3	0.3

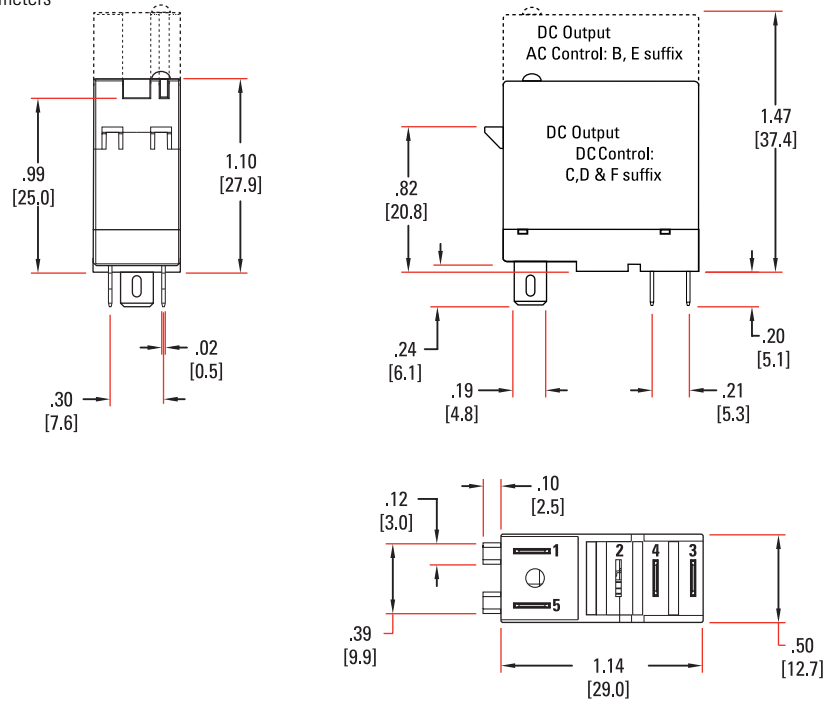
General ⁽¹⁾

Description	Parameters
Dielectric Strength, Input/Output (50/60Hz)	2500 Vrms
Minimum Insulation Resistance (@ 500 VDC)	10 ⁹ Ohms
Maximum Capacitance, Input/Output	10 pF
Ambient Operating Temperature Range	-30°C to 80°C
Ambient Storage Temperature Range	-40°C to 125°C
Weight (typical)	0.71 oz. (30 g)
Maximum Humidity	95% non-condensing
Housing Material	PBT 30% GF, UL94 V-0
Terminals Material	Copper w/Sulfamate Nickel finish

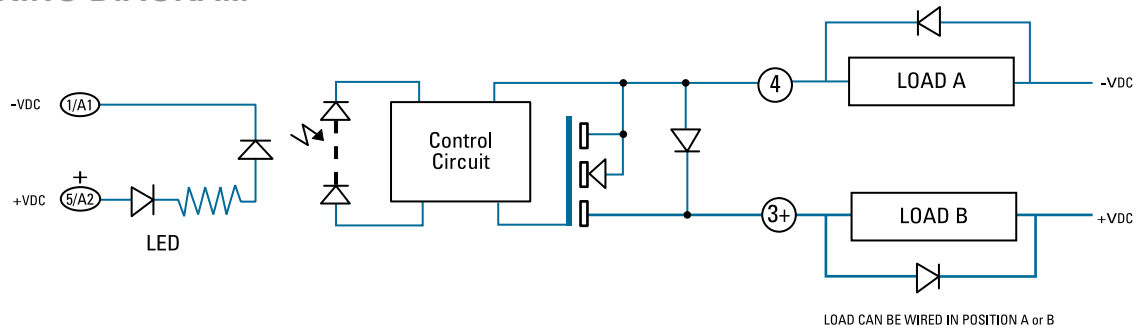


MECHANICAL SPECIFICATIONS

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

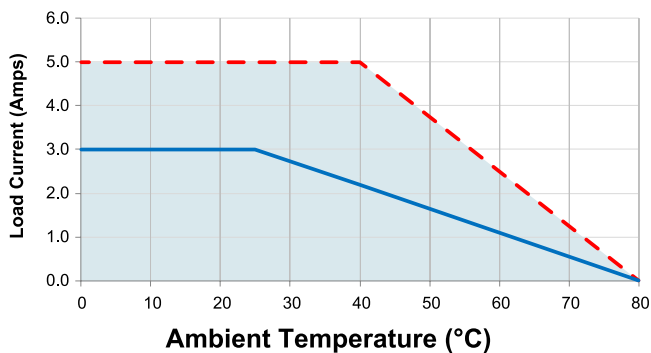


WIRING DIAGRAM

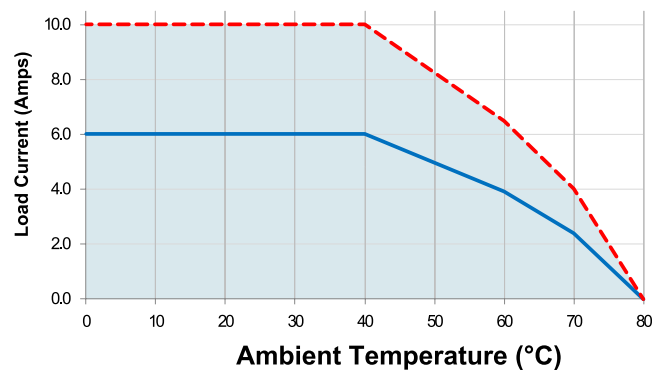


THERMAL DERATE INFORMATION

EDxxx5



ED10x10



--- Single unit, distance to adjacent components ≥ 16 mm
— Multiple units, no minimum spacing between components



ACCESSORIES

ED Series Accessories

DRSED



DIN Rail Mountable Socket

Part no.: DRSED
Fingersafe IP10 DIN rail mountable socket to mount ED series relays onto standard 35 mm DIN rail. Rated at 250 V AC/DC, 12 Amps. The DRSED includes M3 Combo screws.

PCBSED



PC Board Mountable Socket

Part no.: PCBSED
PC Board mountable socket for ED series relays. Rated at 250 V AC/DC, 12 Amps. Suggested Pin-out hole diameter: 1.0 mm



ORDERING OPTIONS

Example : ED06C5

	ED	06	C	5
Family				
ED				
Operating Voltage				
06 : 1-48 VDC				
10 : 1-80 VDC (for 5 Amps)				
1-100 VDC (for 10 Amps)				
Control Voltage				
B : 90-140 VAC (5 Amps only)				
C : 18-32 VDC				
D : 5-15 VDC				
E : 18-36 VAC (5 Amps only)				
F : 48-72 VDC (5 Amps only)				
Rated Load Current				
5 : 5 Amps				
10 : 10 Amps				

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) Maximum Motor Controller current is 1.5 FLA for EDxxB5 and EDxxE5
- (4) PWM does not apply to EDxxB5 and EDxxE5



AGENCY APPROVALS & CERTIFICATIONS



E116949

(5 Amps only)



Pilot Duty Rated C300

IEC 61000-4-2 : Electrostatic Discharge Level 3 – Criteria A

IEC 61000-4-4 : Electrically Fast Transients Level 3 – Criteria B

IEC 61000-4-5 : Electrical Surges Level 3 – Criteria A



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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