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SL Power Electronics - Manufacturer of Condor/Ault Brands
LE150S70CD

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LE150S-CD

150W Single Output
LED Driver Series

Features

- High Efficiency (up to 93%)
- Wide Range Universal Input 90-305 VAC
- Active Power Factor Correction (0.99 typical)
- Constant Current Output
- Dimming Function
- Lightning Protection
- Waterproof (IP67)
- Overcurrent, Overvoltage, Overtemperature Protection
- Meets UL8750 & EN61347 Safety
- Minimum of 3 Year Warranty, Consult factory for 5 Years

Description

The LE150S-CD Series operate from a 90 ~ 305Vac input range. These units will provide up to a 1.4 A of output current and a maximum output voltage of 214Vdc for 150 W maximum output power. They are designed to be highly efficient and highly reliable. The standard features include dimming control, lightning protection, over voltage protection, short circuit protection, and over temperature protection.

Model Selection

Model Number	Output Current	Output Voltage	Efficiency*		Ripple & Noise**	Regulation		Overvoltage Trip Level
			110Vac	220Vac		Line	Load	
LE150S140CD	1330mA-1470mA	53V – 107V	89%-90%	91%-92%	3.2V pk-pk max.	±1%	±3%	128V – 161V
LE150S70CD	665mA-735mA	107V – 214V	90%-91%	92%-93%	6.5V pk-pk max.	±1%	±3%	257V – 321V

Notes:
1. Efficiency measured at full load, at input voltage noted.
2. Measured at 20MHz bandwidth, with noise probe directly across output terminals, and load terminated with 0.1µF ceramic and 10µF low ESR electrolytic capacitors.

General Specifications

AC Input	90-305Vac, 47-63Hz, 1∅	**Turn On Time**	2.0 seconds, max.
Input Current	100Vac: 1.8A, 220Vac: 0.9A	**Dimming Function**	1-10Vdc source or External Resistor can be used for dimming control. See below.
Inrush Current	230Vac, cold start: will not exceed 65A	**Overload Protection**	Constant Current
Input Fuses	XA, 250VAC fuses provided on all models	**Short Circuit Protection**	Provided - no damage to unit, self-recovery.
Earth Leakage Current	<0.75mA@277Vac, 50Hz	**Overvoltage Protection**	Latch mode. AC input will need to be reset to return to normal operation after an OVP condition. See chart for trip range.
Efficiency	See Models chart.	**Overtemperature Protection**	Latch mode. AC input will need to be reset To return to normal operation after an OTP condition. Trip Temperature = 110℃ typical.
Output Power	150W continuous		

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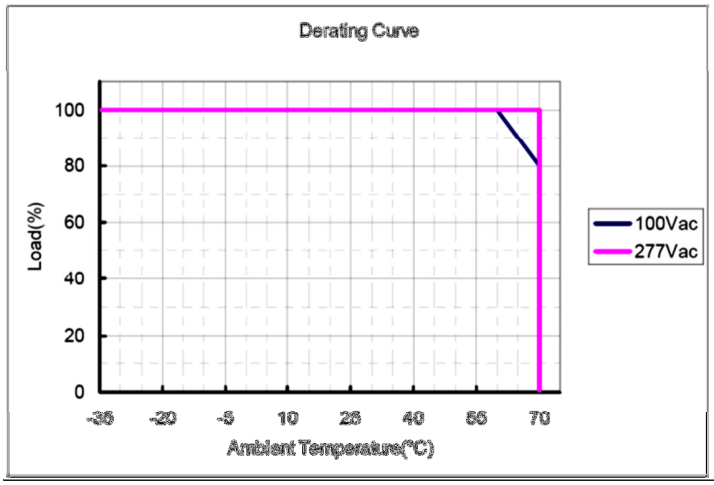
General Specifications (continued)

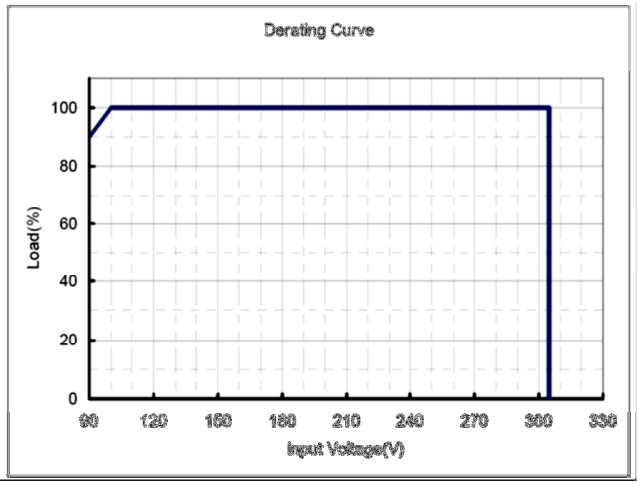
Ripple and Noise	See chart	**Operating Temperature**	Operating: -35℃ to +70℃ Non-operating: -40℃ to +85℃
Output Voltage	See chart	**Relative Humidity**	10% to 100% operating 5% to 100%, non-operating
Total Regulation	+/- 3%. See chart	**Safety Standards**	UL8750, UL935, UL1012, CSA-C22.2 No. 107.1, EN61347-1, EN61347-2-13
Dimensions	W: 3.13" x L: 9.37" x H: 1.81"	**MTBF**	340,000 hours (1400mA model, 110Vac input, 80% load, 25℃ ambient, per MIL-HDBK-217F).
Weight	1500g	**Lifetime**	58,000 hours (1400mA model, at 110Vac input, 80% load, 45℃ ambient temperature).

EMI/EMC Compliance

Emissions	EN55015, Radiated & Conducted with 6db of margin
EMI for Lighting Equipment	EN61547
Static Discharge Immunity	EN61000-4-2, 4kV Contact Discharge, 8kV air discharge
Radiated RF Immunity	EN61000-4-3
EFT/Burst Immunity	EN61000-4-4
Line Surge Immunity	EN61000-4-5, 2kV line-line, 4kV line-earth
Conducted RF Immunity	EN61000-4-6
Power Frequency Magnetic Field Immunity	EN61000-4-8
Voltage Dip Immunity	EN61000-4-11
Line Harmonic Emissions	EN61000-3-2
Flicker Test	EN61000-3-3

Derating Curves





Mechanical Drawing

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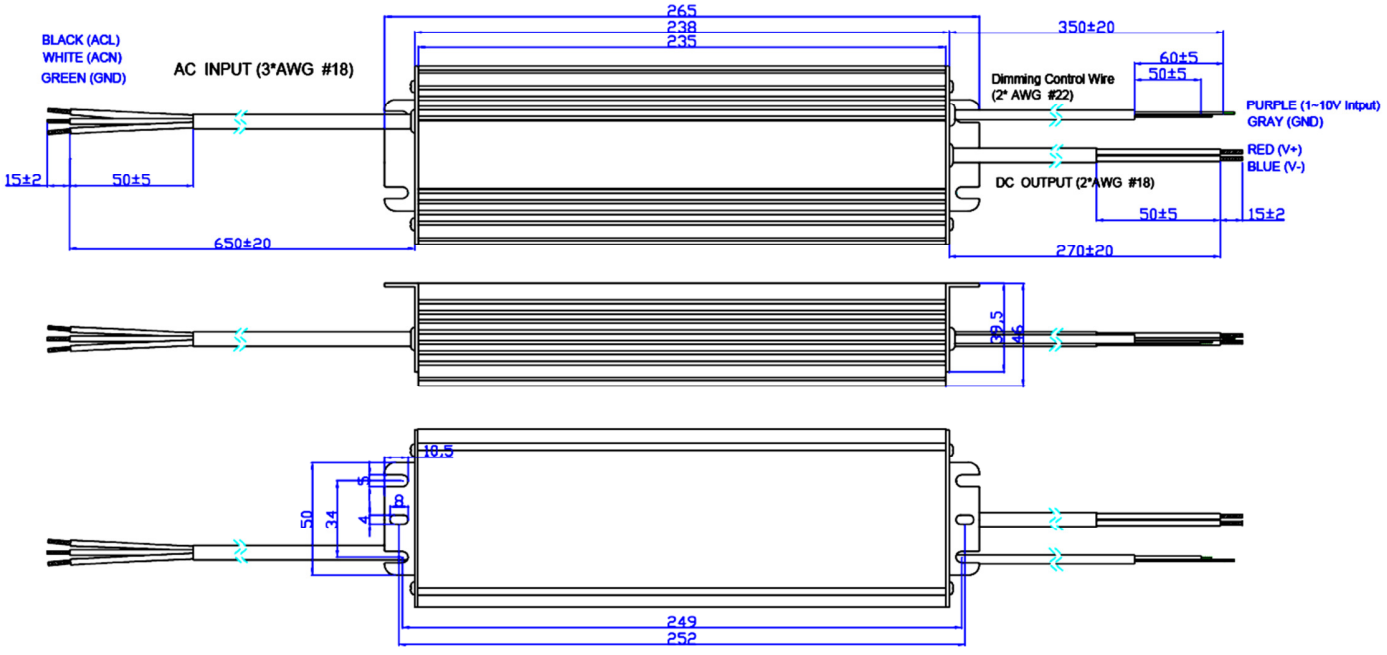
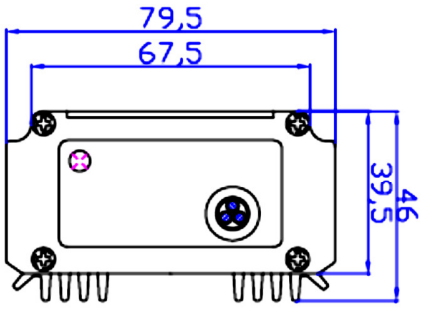


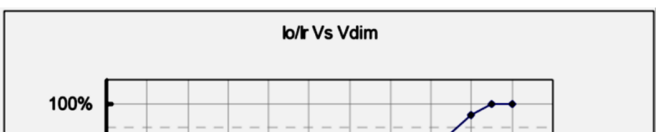


Dimming Control

The dimming function shown below uses an internal pull-up resistor, with the output at full load when the dimming leads are not connected (floated).

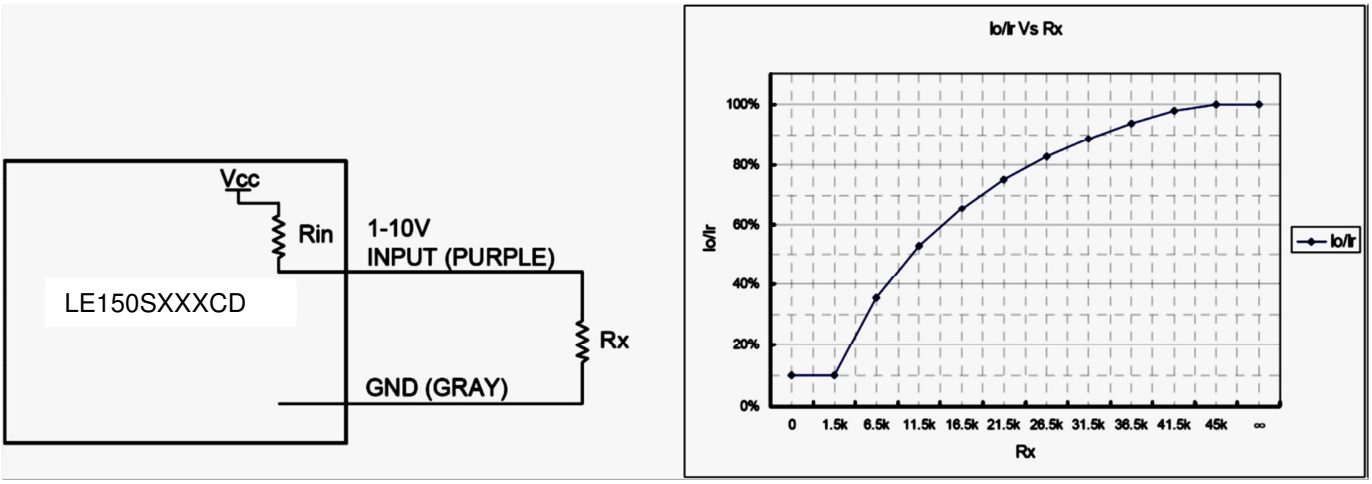
Parameters:

Parameter	Min.	Typ.	Max.	Notes
10V Output Voltage	9.8V	10V	10.2V	
10V Output Source Current	0mA	-	10mA	
Absolute Max. Voltage on the 1-10V input	-2V	-	12V	
Source Current on the 1-10V input	0mA	-	1mA	
Value of Rin (resistor inside the LED Driver, which is located between the 1-10V input and 10V output	19.8K	20K	20.2K	



LE150SXXXCD

Dimming Configuration using External Voltage



Dimming Configuration using External Resistance

Dimming Control Notes:

1. Io is actual output current and Ir is rated current without dimming control.
2. For the driver to operate properly, the load voltage must be maintained above the minimum voltage threshold (approx. 50% of the max. output voltage for any given model).
3. If the output voltage is maintained above 50% of the maximum output voltage, the dimming control may be operated over the entire 1-10V range with output current varying from 100% down to practically 10%.
4. The dimming signal is allowed to be less than 1V, however, when it for 0-1V, the output current is 10% Io.
5. The internal resistor Rin is 20K, and Vcc is about 15V.
6. Do not connect the GND of dimming to the output; otherwise, the LED driver cannot work normally.