LE75S-CD

75W Single Output
LED Driver Series



Features

- High Efficiency (up to 91%)
- 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
- Compliant to ANSI/IEEE C62.41, Class A
- Minimum of 3 Year Warranty, Consult factory for 5 years

Description

The LE75S-CD Series are constant current mode LED Driver power supplies that operate from a wide range input of 90 to 305Vac. These models provide up to 2.8A of output current, at a maximum output voltage of 108Vdc, at up to 75W output power. The LE75S-CD series are highly efficient and highly reliable. Features include dimming control, overvoltage protection, short circuit protection, and overtemperature protection.

Model Selection

Model Number	Output Current	Output Voltage	Efficiency*		Ripple & Noise**	Regulation		Overvoltage Trip Level
			110Vac	220Vac		Line	Load	
LE75S28CD	2660mA-2940mA	13V – 27V	85%-87%	87%-89%	5% of Vo pk-pk	±1%	±3%	35V – 38V
LE75S140CD	1330mA-1470mA	27V – 54V	86%-88%	88%-90%	5% of Vo pk-pk	±1%	±3%	65V – 70V
LE75S70CD	665mA-735mA	54V – 108V	87%-89%	89%-91%	5% of Vo pk-pk	±1%	±3%	118V – 130V

Notes:
1. Efficiency measured at full load, at input voltage noted. Efficiency will be 2% lower if measured immediately after start-up.
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.
3. LE75S070CD: Non-Class 2 output (USR & CNR)
4. LE75S140CD: Class 2 output (USR), Non-Class 2 output (CNR)
5. LE75S280CD: Class 2 output (USR & CNR)

General Specifications

AC Input	90-305Vac, 47-63Hz, 1∅ 120–370Vdc	**Turn On Time**	110Vac: 0.8s – 1.2s 220Vac: 0.4s – 0.6s
Input Current	100Vac: 0.9A, 220Vac: 0.42A	**Dimming Function**	1-10Vdc source or External Resistor can be used for dimming control. See below.
Inrush Current	230Vac, cold start: will not exceed 50A		

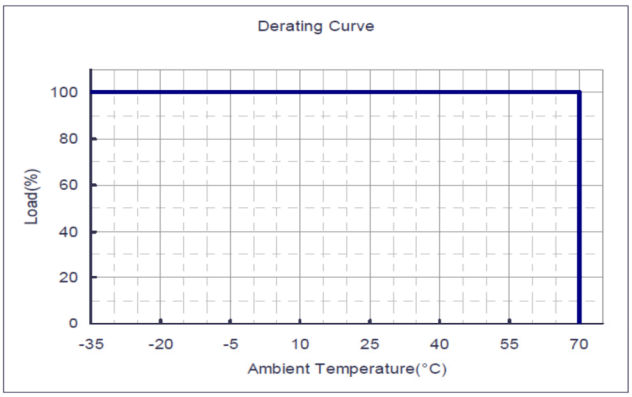
General Specifications (continued)

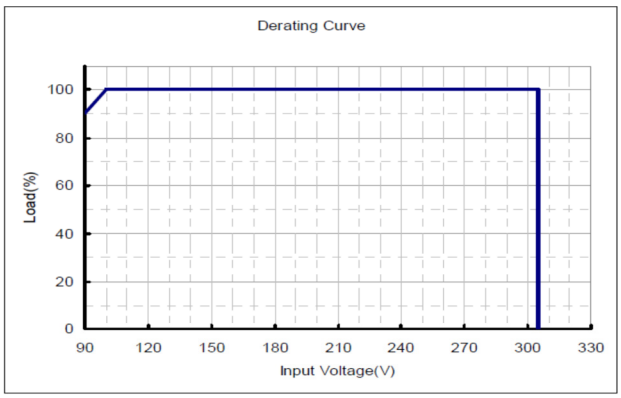
Input Fuses	XA, 250VAC fuses provided on all models	**Overload Protection**	Constant Current
Earth Leakage Current	<1mA@277Vac, 50Hz	**Short Circuit Protection**	Provided - no damage to unit, self-recovery.
Efficiency	See Models chart.	**Overvoltage Protection**	Latch mode. AC input will need to be reset to return to normal operation after an OVP condition. See chart for trip range.
Output Power	75W continuous	**Overtemperature Protection**	Latch mode. AC input will need to be reset to return to normal operation after an OTP condition. Trip Temperature = 110℃ typical.
Ripple and Noise	See chart	**Operating Temperature**	Operating: -35℃ to +70℃ Non-operating: -40℃ to +85℃
Output Voltage	See chart	**Relative Humidity**	10% to 95% operating 5% to 100%, non-operating
Total Regulation	+/- 3%. See chart	**Safety Standards**	UL8750, UL935, UL1012, UL1310 Class 2; CSA-C22.2 No. 107.1, CSA C22.2 No. 223-M91 Class 2; EN61347-1, EN61347-2-13
Dimensions	W: 2.66” x L: 5.91” x H: 1.46”	**MTBF**	450,000 hours (2800mA model, at 110Vac input, 80% load, 25℃ ambient, per MIL-HDBK-217F).
Weight	750g	**Lifetime**	65,000 hours (2800mA model, at 110Vac input, 80% load, 45℃ ambient temperature.

EMI/EMC Compliance

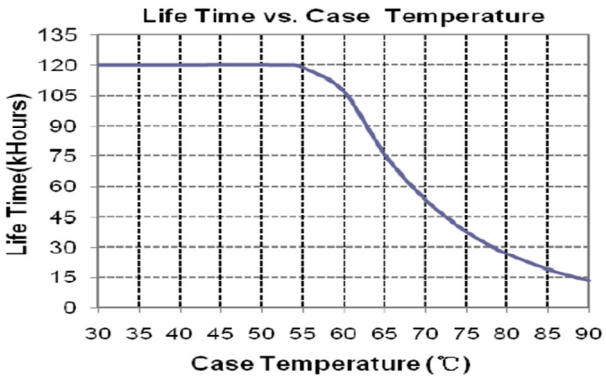
Emissions	EN55015, Radiated & Conducted with 6db of margin
EMI for Lighting Equipment	EN61547
Static Discharge Immunity	EN61000-4-2, 4kV Contact Discharge, 8kV air discharge
Radiated RF Immunity	EN61000-4-3
EFT/Burst Immunity	EN61000-4-4
Line Surge Immunity	EN61000-4-5, 2kV line-line, 4kV line-earth
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
Transient Protection	ANSI/IEEE C62.41-1991: Class A operation. Line transient of 7 strikes of a 100kHz ring wave, 2.5kV level, common and differential mode.

Derating Curves

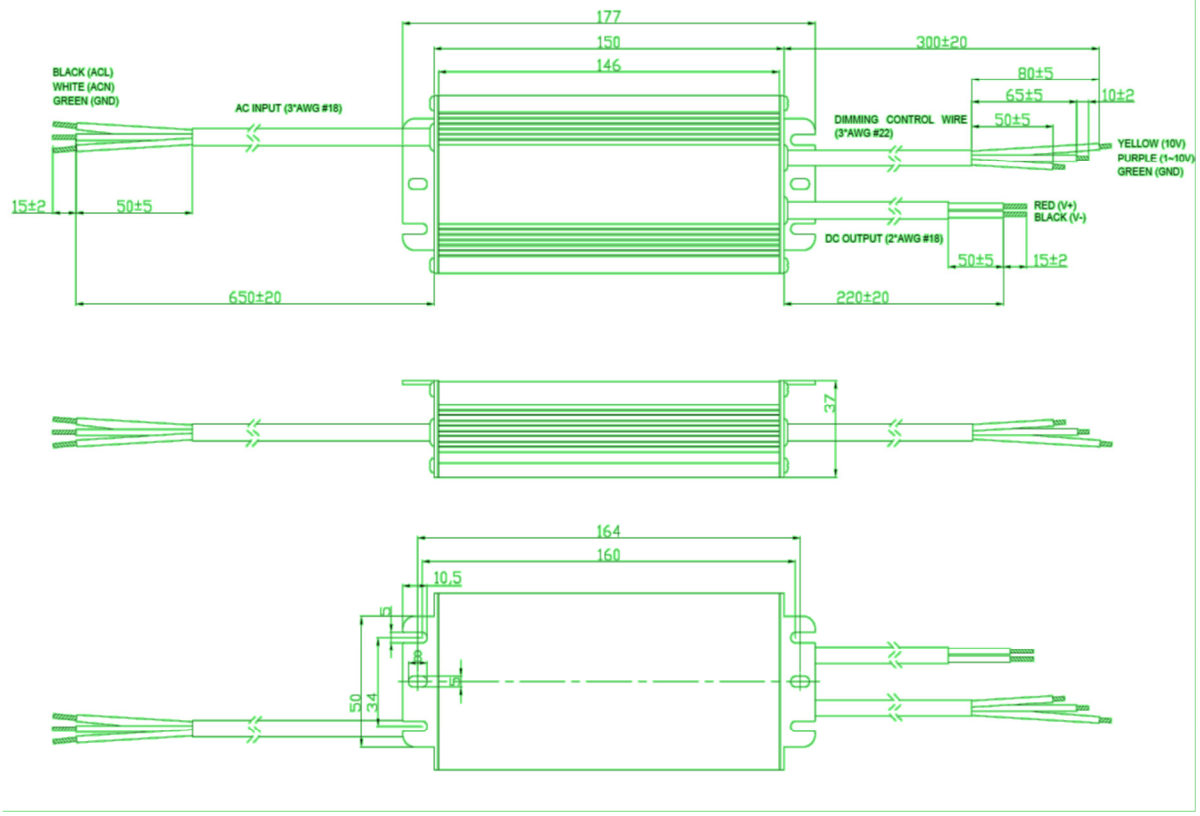




Life Time vs. Case Temperature Curve



Mechanical Drawing

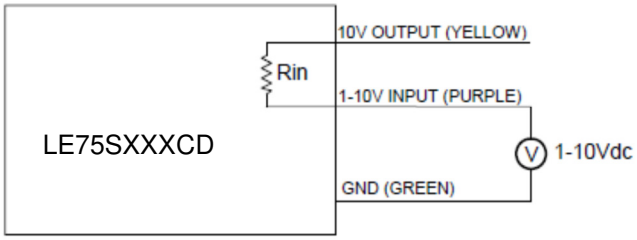


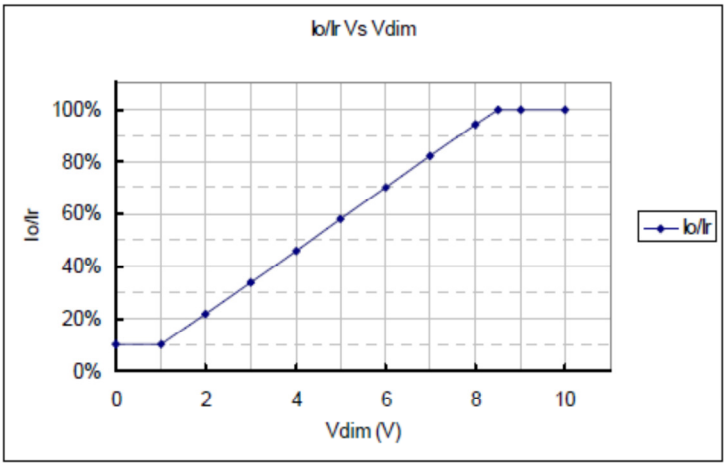
Dimming Control

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).

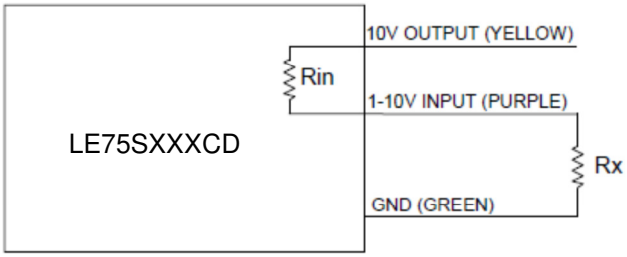
Parameters:

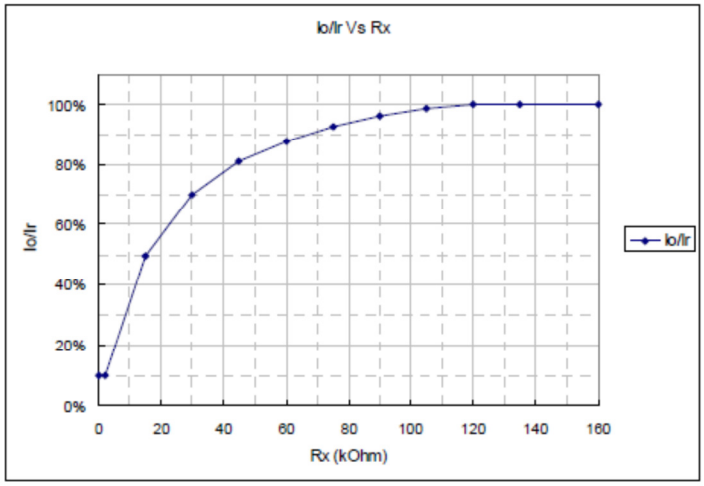
Parameter	Min.	Typ.	Max.	Notes
10V Output Voltage	9.8V	10V	10.2V	
10V Output Source Current	0mA	-	10mA	
Absolute Max. Voltage on the 1-10V input	-2V	-	12V	
Source Current on the 1-10V input	0mA	-	0.5mA	
Value of Rin (resistor inside the LED Driver, which is located between the 1-10V input and 10V output	19.8K	20K	20.2K	





Dimming Configuration using External Voltage





Dimming Configuration using External Resistance

Dimming Control Notes:

1. If the dimming function is not used, leave the dimming leads unconnected (floating).
2. Io is the actual output current and Ir is the rated current without dimming control.
3. For the driver to operate properly, the load voltage must be maintained above the minimum voltage threshold (~50% of the maximum output voltage for the specific model).
4. 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 the output current varying from 100% down to ~10% of nominal.
5. The dimming signal may be <1V, but if this voltage is <1V, the output current can only maintain ~10% Ir. When the signal voltage is ~8.5-10V, the output current can maintain ~100% Ir.
6. Do not connect the GND of the dimming leads to output. The driver will not function normally if it is.

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