



### 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
- 3 Year Warranty



### 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

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

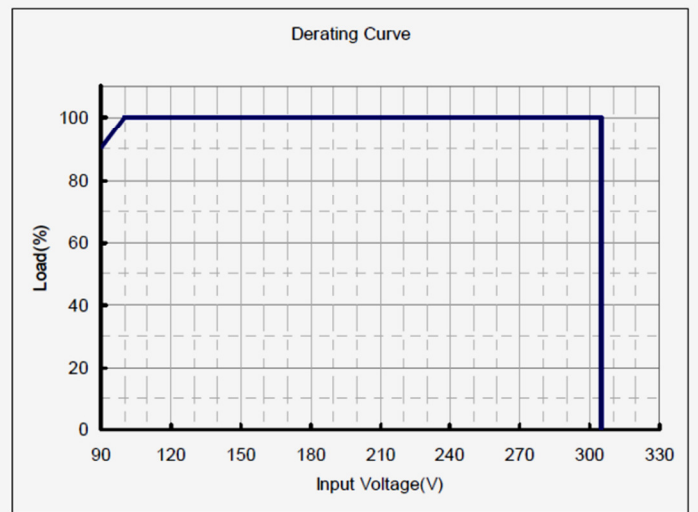
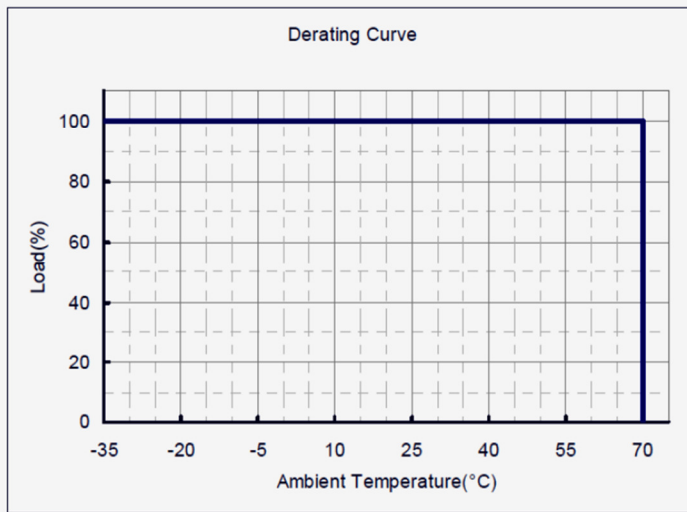
## General Specifications (continued)

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

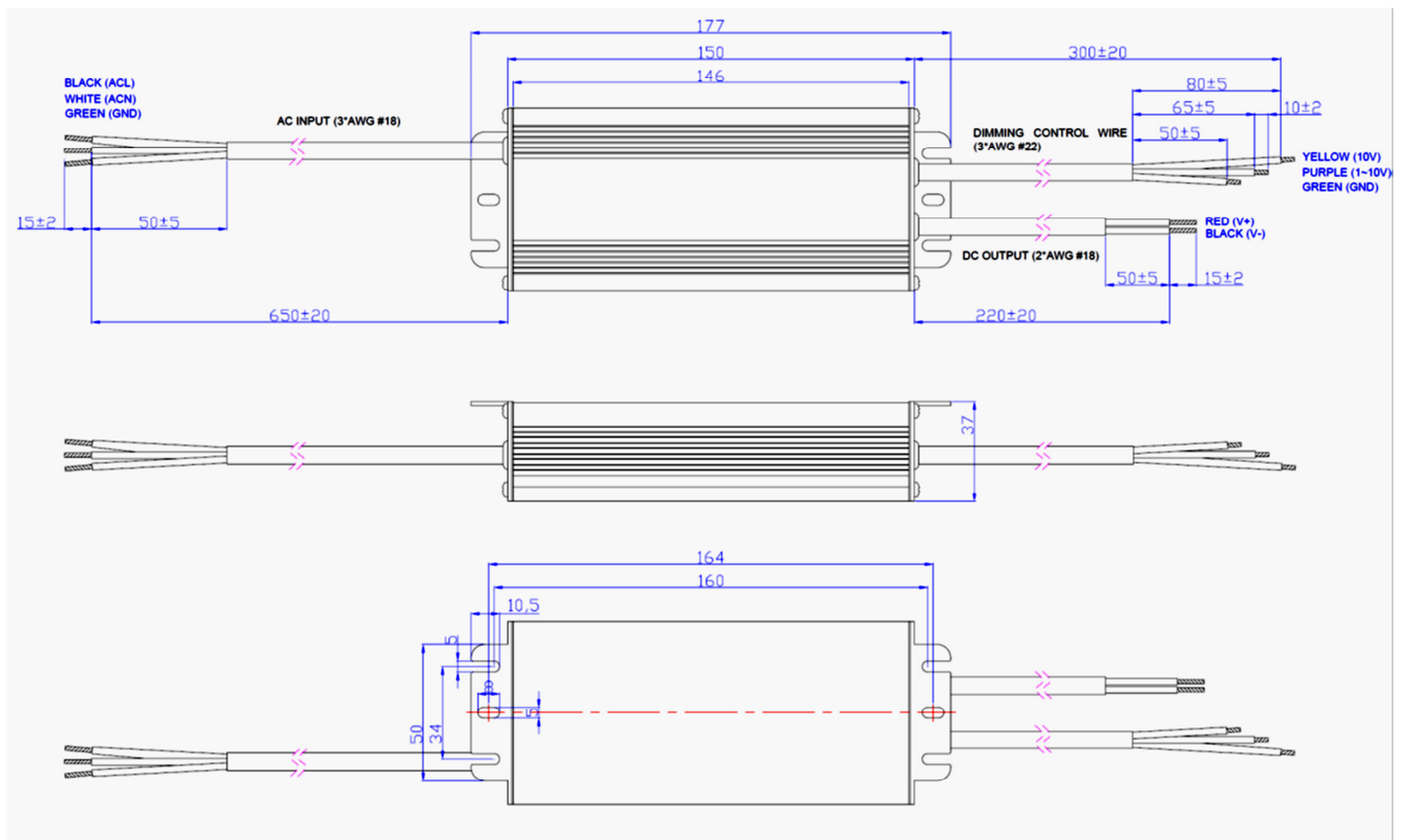
## EMI/EMC Compliance

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



## Mechanical Drawing

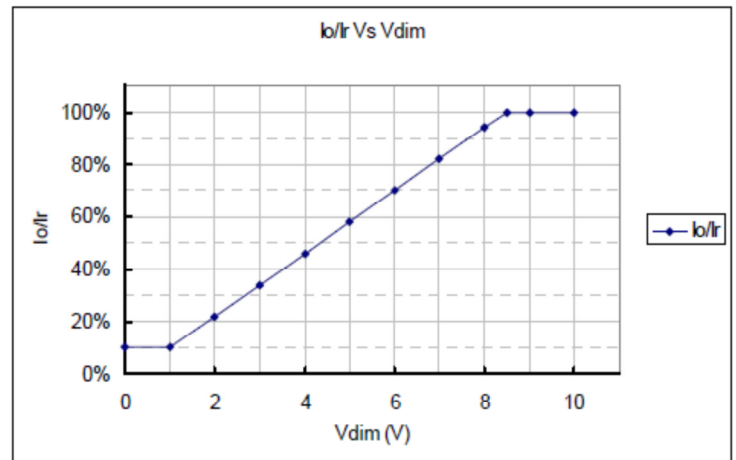
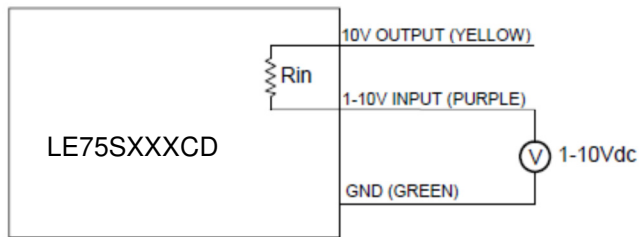


## Dimming Control

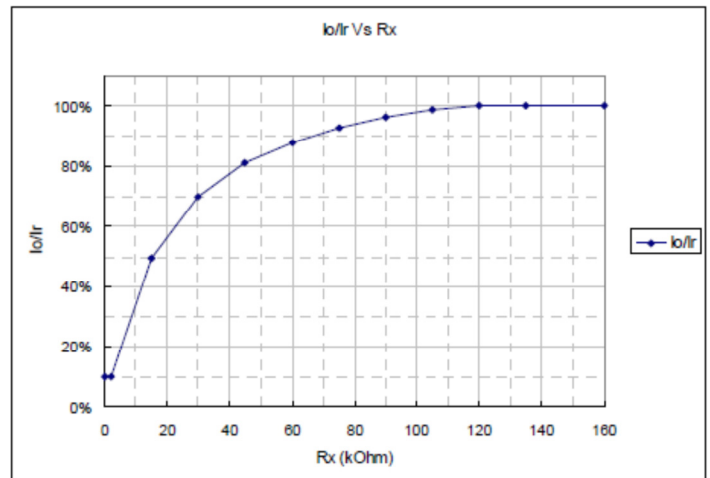
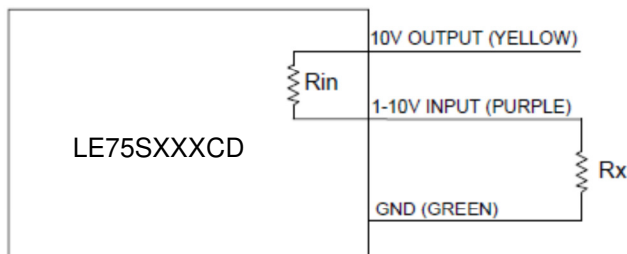
The dimming function shown below uses an internal pull-up resistor, with the output at full load when the dimming leads are not connected (floated).

**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.