

Features

- Low THD, 10% Max up to 240 Vac
- High Efficiency (Up to 92%)
- Input Surge Protection: DM 4kV, CM 6kV
- High Reliability & Long Lifetime: 97,000 Hrs. at 70°C Case Temperature
- Suitable for Class I Luminaires
- Input UVP and Input OVP
- IP67
- 5 Year Warranty



Description

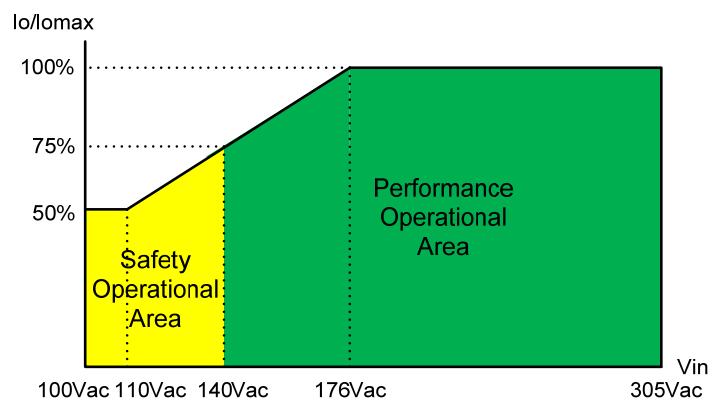
The EDC-150S105SV-000x is a 150W, constant-current, IP67 LED driver that operates from 140-305 Vac input with excellent power factor. Created for many lighting applications including high bay, tunnel, street, etc. The high efficiency of these drivers and compact metal case enable them to run cooler, significantly improving reliability and extending product life. To ensure trouble-free operation, protection is provided against input surge, input under voltage, input over voltage, output over voltage, short circuit, and over temperature.

Models

| Output Current Range | Input Voltage Range(1)(2) | Output Voltage Range | Max. Output Power | Typical Efficiency (3) | Power Factor (3) | Model Number(4) |
|----------------------|---------------------------|----------------------|-------------------|------------------------|------------------|--------------------|
| 700 mA | 140 ~ 305 Vac | 107 ~ 214 Vdc | 150 W | 92.0% | 0.96 | EDC-150S105SV-0007 |
| 860 mA | 140 ~ 305 Vac | 97 ~ 174 Vdc | 150 W | 92.0% | 0.96 | EDC-150S105SV-0004 |
| 1050 mA | 140 ~ 305 Vac | 97 ~ 143 Vdc | 150 W | 91.0% | 0.96 | EDC-150S105SV |

- Notes:** (1) Certified input voltage range: 220-240Vac.
 (2) Operating input voltage range: 100-305Vac, and 100-140Vac is for safety operation.
 (3) Measured at 100% load and 220Vac input.
 (4) For BIS models please click here see the: [BIS Models List](#).

Operating Area



Input Specifications

| Parameter | Min. | Typ. | Max. | Notes |
|----------------------------------|---------|------|-----------------------|--|
| Input Voltage | 140 Vac | - | 305 Vac | |
| Input Frequency | 47 Hz | - | 63 Hz | |
| Leakage Current | - | - | 0.70 mA | IEC60598-1; 240Vac/60Hz |
| Input AC Current | - | - | 1.0 A | Measured at 100% load and 220 Vac input. |
| Inrush Current(I ² t) | - | - | 0.54 A ² s | At 220Vac input, 25°C cold start, duration=200 us, 10%Ipk-10%Ipk. See Inrush Current Waveform for the details. |
| PF | 0.90 | - | - | At 200-277Vac, 50-60Hz, 75%-100%load (112.5~150W) |
| THD | - | - | 20% | |
| THD | - | - | 10% | At 220-240Vac, 50-60Hz, 75%-100%load (112.5~150W) |

Output Specifications

| Parameter | Min. | Typ. | Max. | Notes |
|---|-------------|-------------|-------------------------|---|
| Output Current Tolerance | -8%Io | - | 8%Io | At 100% load condition |
| Startup Overshoot Current | - | - | 10%Iomax | At 100% load condition |
| No Load Output Voltage EDC-150S105SV-0007 EDC-150S105SV-0004 EDC-150S105SV | - - - | - - - | 250 V 250 V 250 V | |
| Line Regulation | - | - | ± 5.0% | Measured at 100% load |
| Load Regulation | - | - | ± 5.0% | |
| Turn-on Delay Time | - | - | 0.5 s | Measured at 220Vac input, 75%-100% Load |
| Temperature Coefficient of Iomax | - | 0.04%/°C | - | Case temperature = 0°C~Tc max |

General Specifications

| Parameter | Min. | Typ. | Max. | Notes |
|---|-------------------------|-------------------------|-------------|--|
| Efficiency at 220 Vac input: EDC-150S105SV-0007 EDC-150S105SV-0004 EDC-150S105SV | 90.0% 90.0% 89.0% | 92.0% 92.0% 91.0% | - - - | Measured at 100% load and steady-state temperature in 25°C ambient; (Efficiency will be about 2.0% lower if measured immediately after startup.) |
| MTBF | - | 616,000 Hours | - | Measured at 220Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F) |
| Lifetime | - | 97,000 Hours | - | Measured at 220Vac input, 80%Load and 70°C case temperature; See lifetime vs. Tc curve for the details |

General Specifications (Continued)

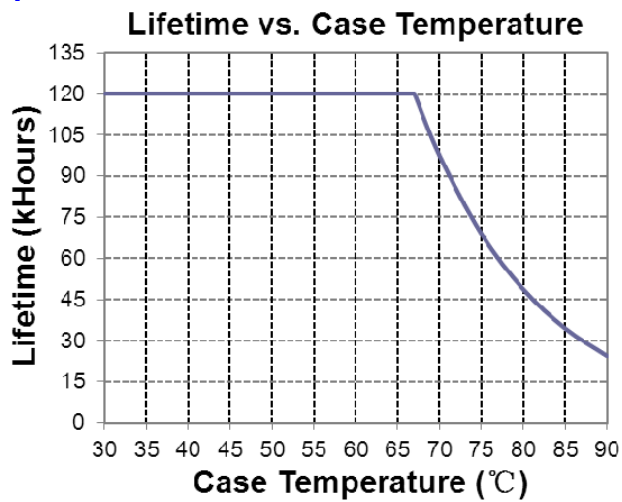
| Parameter | Min. | Typ. | Max. | Notes |
|---|---|-------|--------|---|
| Operating Case Temperature for Safety Tc_s | -40 °C | - | +90 °C | |
| Operating Case Temperature for Warranty Tc_w | -40 °C | - | +75 °C | Case temperature for 5 years warranty. Humidity: 10%RH to 95%RH |
| Storage Temperature | -40 °C | - | +85 °C | Humidity: 5%RH to 95%RH |
| Dimensions Inches (L x W x H) Millimeters (L x W x H) | 6.54 x 2.66 x 1.56 166 x 67.5 x 39.7 | | | With mounting ear 7.36 x 2.66 x 1.56 187 x 67.5 x 39.7 |
| Net Weight | - | 905 g | - | |

Safety & EMC Compliance

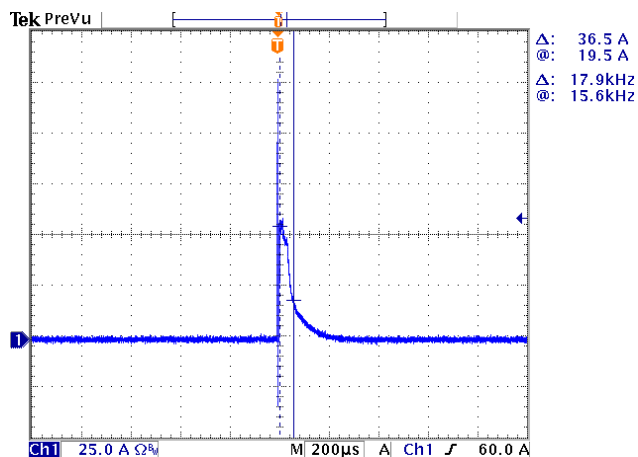
| Safety Category | Standard |
|-------------------------|--|
| BIS | IS 15885(PART2/SEC13) |
| CCC | GB 19510.1, GB 19510.14 |
| CE | EN 61347-1, EN61347-2-13 |
| KS | KS C 7655 |
| EMI Standards | Notes |
| EN 55015 ⁽¹⁾ | Conducted emission Test & Radiated emission Test |
| EN 61000-3-2 | Harmonic current emissions |
| EN 61000-3-3 | Voltage fluctuations & flicker |
| EMS Standards | Notes |
| EN 61000-4-2 | Electrostatic Discharge (ESD): 8 kV air discharge, 4 kV contact discharge |
| EN 61000-4-3 | Radio-Frequency Electromagnetic Field Susceptibility Test-RS |
| EN 61000-4-4 | Electrical Fast Transient / Burst-EFT |
| EN 61000-4-5 | Surge Immunity Test: AC Power Line: Differential Mode 4 kV, Common Mode 6 kV |
| EN 61000-4-6 | Conducted Radio Frequency Disturbances Test-CS |
| EN 61000-4-8 | Power Frequency Magnetic Field Test |
| EN 61000-4-11 | Voltage Dips |
| EN 61547 | Electromagnetic Immunity Requirements Applies To Lighting Equipment |

Note: (1) This LED driver meets the EMI specifications above, but EMI performance of a luminaire that contains it depends also on the other devices connected to the driver and on the fixture itself.

Lifetime vs. Case Temperature

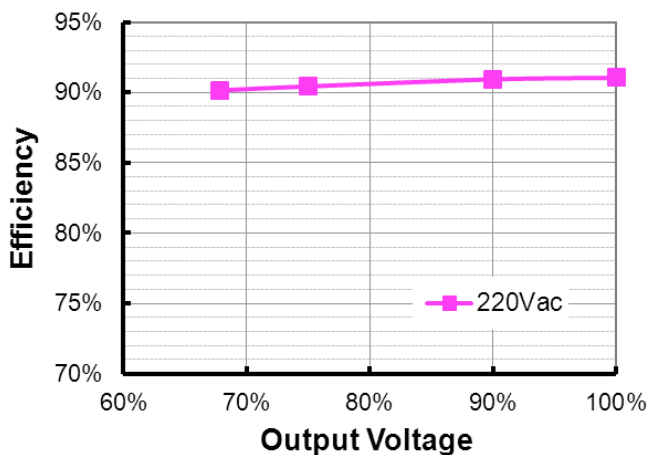


Inrush Current Waveform

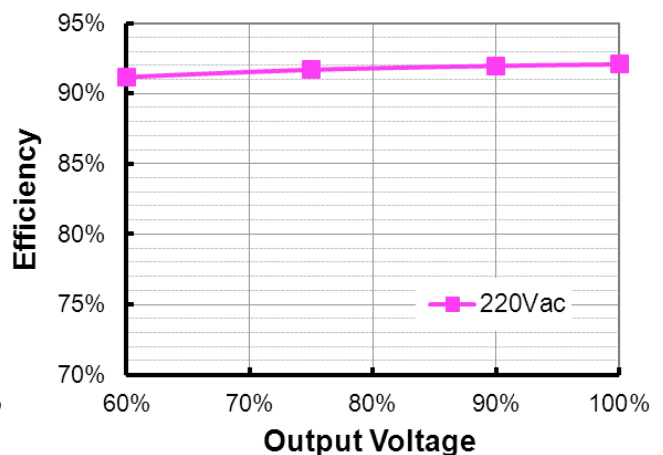


Efficiency vs. Load

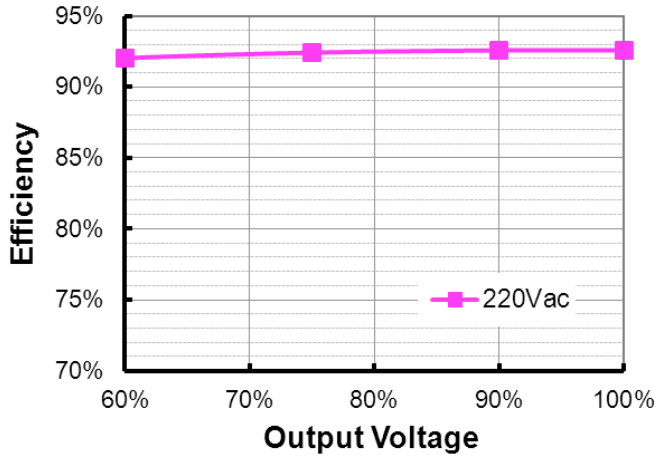
EDC-150S105SV(I_o=1050mA)
Efficiency vs. Output Voltage



EDC-150S105SV-0004(I_o=860mA)
Efficiency vs. Output Voltage

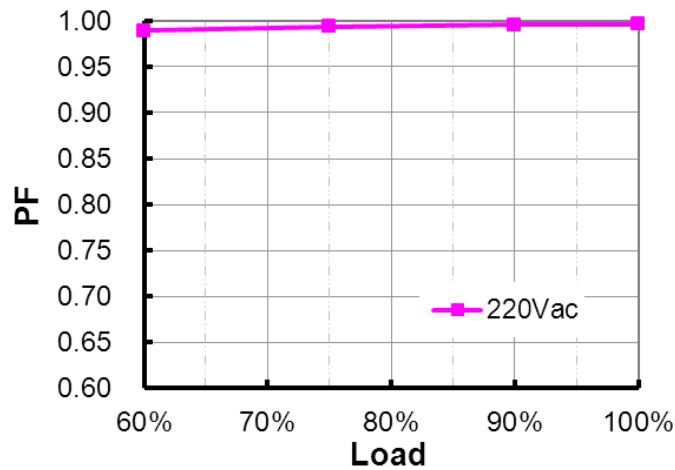


EDC-150S105SV-0007($I_o=700mA$)
Efficiency vs. Output Voltage



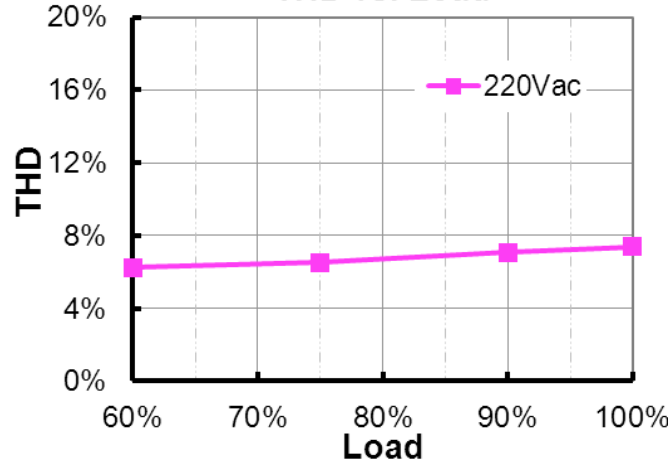
Power Factor

PF vs. Load



Total Harmonic Distortion

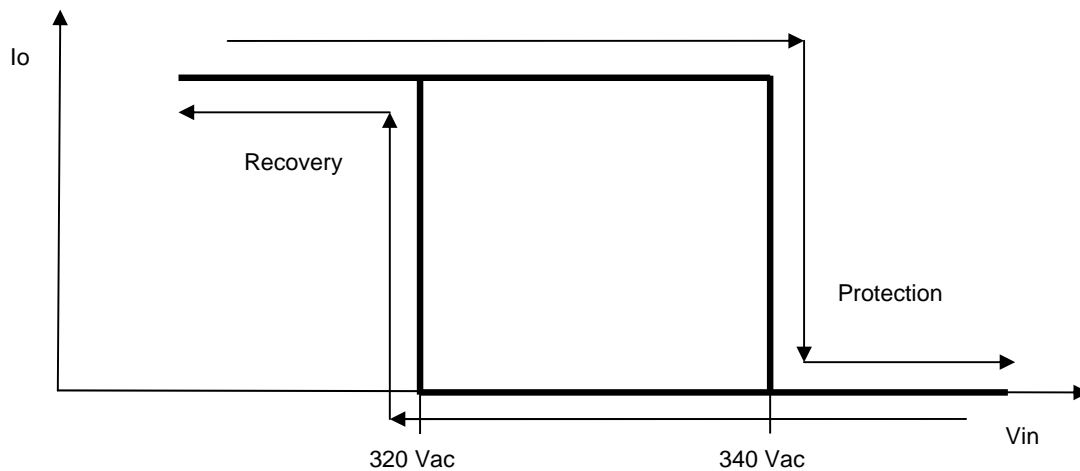
THD vs. Load



Protection Functions

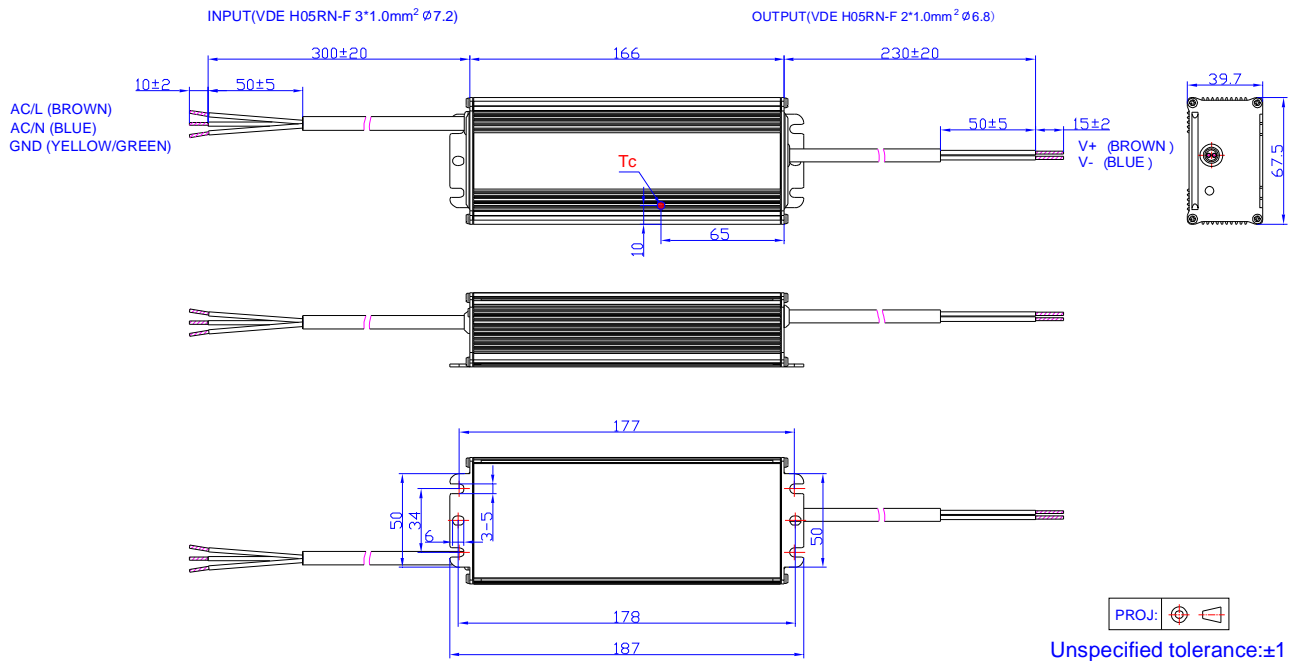
| Parameter | | Min. | Typ. | Max. | Notes |
|--------------------------------|-------------------------------|--|---------|---------|---|
| Over Voltage Protection | | Limits output voltage at no load and in case the normal voltage limit fails. | | | |
| Short Circuit Protection | | Auto Recovery. No damage will occur when any output is short circuited. The output shall return to normal when the fault condition is removed. | | | |
| Over Temperature Protection | | Decreases output current, returning to normal after over temperature is removed. | | | |
| Input Under Voltage Protection | | Auto Recovery. Turn off the output when the input voltage falls below 100V. And the driver will restart when the input voltage is in normal. | | | |
| Input Over Voltage Protection | Input Over Voltage Protection | 320 Vac | 340 Vac | 360 Vac | Turn off the output when the input voltage exceeds protection voltage. |
| | Input Over Voltage Recovery | 300 Vac | 320 Vac | 340 Vac | Auto Recovery. The driver will restart when the input voltage falls below recovery voltage. |
| | Max. of Input Over Voltage | - | - | 440 Vac | The driver can survive for 48 hours with input over-voltage of 440Vac. |

● Input Over Voltage Protection Diagram

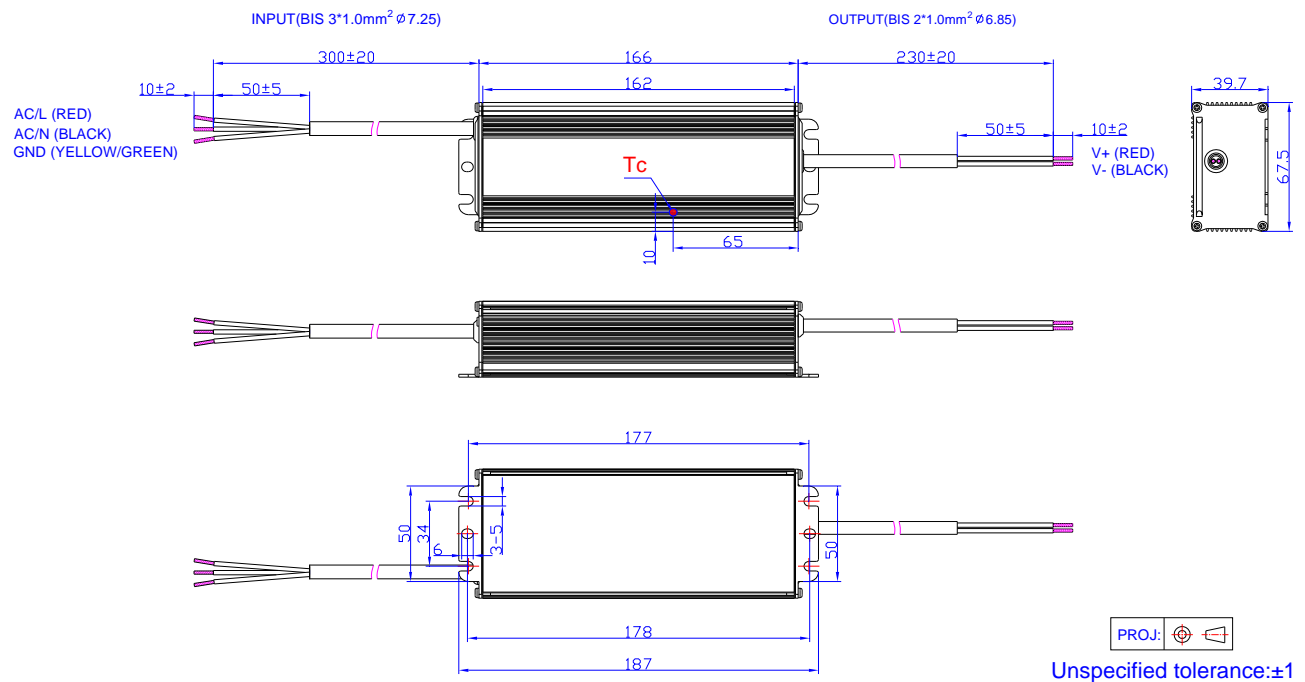


Mechanical Outline

EDC-150S105SV-000x



EDC-150S105SV-300x



RoHS Compliance

Our products comply with reference to RoHS Directive (EU) 2015/863 amending 2011/65/EU, calling for the elimination of lead and other hazardous substances from electronic products.

Revision History

| Change Date | Rev. | Description of Change | | |
|-----------------|------|---|--------------------------------------|-------------------------|
| | | Item | From | To |
| 2017-03-03 | A | Datasheet Release | / | / |
| 2021-01-05 | B | Format | / | Updated |
| | | Features | / | Updated |
| | | Product image | / | Updated |
| | | Independent logo | / | Added |
| | | Description | / | Updated |
| | | Notes of models - (4) For BIS models please click here see the: BIS Models List . | / | Added |
| | | Operating Area | / | Added |
| | | Note of Output Current Tolerance | Without power derating and 100% load | At 100% load condition. |
| | | General Specifications - Humidity | / | Updated |
| | | Derating | / | Deleted |
| | | Protection Functions - Input Under Voltage Protection | / | Updated |
| | | Mechanical Outline - EDC-150S105SV-300x | / | Added |
| RoHS Compliance | / | Updated | | |