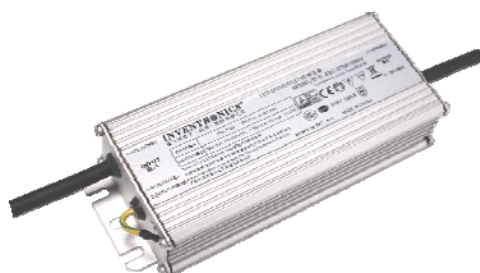


## Features

- High Efficiency (Up to 89.5%)
- Constant Current Output
- Compact Package Design
- Input surge protection: 6 kV line-line, 10 kV line-earth
- All-Around Protection: OVP, SCP, OTP
- Waterproof (IP67)
- SELV Output
- Suitable for Independent Use



TUV CE CB CCC UK

## Description

The EBC-075SxxxSV-000x series is a 75W, constant-current LED driver that operates from 176-305 Vac input with excellent power factor. It is created for low bay, tunnel and street lights. The high efficiency of these drivers and compact metal case enables them to run cooler, significantly improving reliability and extending product life. To ensure trouble-free operation, protection is provided against input surge, output over voltage, short circuit, and over temperature.

## Models

| Output Current | Input Voltage Range(1) | Output Voltage Range | Max. Output Power | Typical Efficiency (2) | Power Factor (2) | Model Number (3)   |
|----------------|------------------------|----------------------|-------------------|------------------------|------------------|--------------------|
| 700 mA         | 176~305 Vac            | 54-107Vdc            | 75 W              | 89.5%                  | 0.98             | EBC-075S105SV-0007 |
| 860 mA         | 176~305 Vac            | 44-87Vdc             | 75 W              | 89.5%                  | 0.98             | EBC-075S105SV-0004 |
| 1050 mA        | 176~305 Vac            | 43-71Vdc             | 75 W              | 89.5%                  | 0.98             | EBC-075S105SV-0000 |
| 1700 mA        | 176~305 Vac            | 22-44Vdc             | 75 W              | 89.5%                  | 0.98             | EBC-075S250SV-0008 |
| 2100 mA        | 176~305 Vac            | 18-35.5Vdc           | 75 W              | 89.5%                  | 0.98             | EBC-075S250SV-0004 |
| 2500 mA        | 176~305 Vac            | 18-30Vdc             | 75 W              | 89.0%                  | 0.98             | EBC-075S250SV-0000 |

**Notes:** (1) CCC certified input voltage range: 220/230/240 Vac; Other certified input voltage range except CCC: 200-240Vac

(2) Measured at full load and 220 Vac input.

(3) SELV output.

## Input Specifications

| Parameter                        | Min.    | Typ. | Max.                  | Notes                                                                                                                                    |
|----------------------------------|---------|------|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Input Voltage                    | 176 Vac | -    | 305 Vac               |                                                                                                                                          |
| Input Frequency                  | 47 Hz   | -    | 63 Hz                 |                                                                                                                                          |
| Leakage Current                  | -       | -    | 0.70 mA               | IEC60598-1; 240Vac/ 60Hz                                                                                                                 |
| Input AC Current                 | -       | -    | 0.46 A                | Measured at full load and 220 Vac input.                                                                                                 |
| Inrush Current(I <sup>2</sup> t) | -       | -    | 1.30 A <sup>2</sup> s | At 220Vac input, 25°C cold start, duration=568 us, 10%I <sub>pk</sub> -10%I <sub>pk</sub> . See Inrush Current Waveform for the details. |

## Input Specifications (Continued)

| Parameter | Min. | Typ. | Max. | Notes                                 |
|-----------|------|------|------|---------------------------------------|
| PF        | 0.9  | -    | -    | At 220-240Vac, 65%-100% Load (49-75W) |
| THD       | -    | -    | 20%  |                                       |

## Output Specifications

| Parameter                                                 | Min.     | Typ.    | Max.     | Notes                                                                                     |
|-----------------------------------------------------------|----------|---------|----------|-------------------------------------------------------------------------------------------|
| Output Current Tolerance                                  | -5%loset | -       | 5%loset  | At full load condition                                                                    |
| Total Output Current Ripple (pk-pk)                       | -        | 5%lomax | 10%lomax | At full load condition, 20 MHz BW                                                         |
| Output Current Ripple at < 200 Hz (pk-pk)                 | -        | 1%lomax | -        | At full load condition. Only this component of ripple is associated with visible flicker. |
| Startup Overshoot Current                                 | -        | -       | 10%loset | At full load condition                                                                    |
| No Load Output Voltage<br>EBC-075S105SV-000x<br>x = 7,4,0 | -        | -       | 117 V    |                                                                                           |
| EBC-075S250SV-000x<br>x = 8,4,0                           | -        | -       | 59 V     |                                                                                           |
| Line Regulation                                           | -        | -       | ±0.5%    | Measured at full load                                                                     |
| Load Regulation                                           | -        | -       | ±1.5%    |                                                                                           |
| Turn-on Delay Time                                        | -        | 0.5 s   | 1.5 s    | Measured at 220Vac input.                                                                 |
| Temperature Coefficient                                   | -        | -       | 0.03%/°C | Case temperature = 0°C ~Tc max                                                            |

**Note:** All specifications are typical at 25°C unless otherwise stated.

## General Specifications

| Parameter                                                                                                                                                              | Min.                                                        | Typ.                                                        | Max.                            | Notes                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Efficiency at 220 Vac input:<br>EBC-075S105SV-000x<br>x=7: 700 mA<br>x=4: 860 mA<br>x=0: 1050 mA<br>EBC-075S250SV-000x<br>x=8: 1700 mA<br>x=4: 2100 mA<br>x=0: 2500 mA | 87.5%<br>87.5%<br>87.5%<br>87.5%<br>87.5%<br>87.5%<br>87.0% | 89.5%<br>89.5%<br>89.5%<br>89.5%<br>89.5%<br>89.5%<br>89.0% | -<br>-<br>-<br>-<br>-<br>-<br>- | Measured at full load and steady-state temperature in 25°C ambient; (Efficiency will be about 2.0% lower if measured immediately after startup.) |
| MTBF                                                                                                                                                                   | -                                                           | 346,000 Hours                                               | -                               | Measured at 220Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F)                                                                   |
| Lifetime                                                                                                                                                               | -                                                           | 73,000 Hours                                                | -                               | Measured at 220Vac input, 80%Load and 70°C case temperature; See lifetime vs. Tc curve for the details                                           |
| Operating Case Temperature for Safety Tc_s                                                                                                                             | -40°C                                                       | -                                                           | +90 °C                          |                                                                                                                                                  |
| Operating Case Temperature for Warranty Tc_w                                                                                                                           | -40°C                                                       |                                                             | +75 °C                          |                                                                                                                                                  |

## General Specifications (Continued)

| Parameter               | Min.               | Typ.  | Max.  | Notes                    |
|-------------------------|--------------------|-------|-------|--------------------------|
| Storage Temperature     | -40°C              | -     | +85°C | Humidity: 5%RH to 100%RH |
| Dimensions              |                    |       |       | With mounting ear        |
| Inches (L × W × H)      | 5.91 × 2.66 × 1.44 |       |       | 6.97 × 2.66 × 1.44       |
| Millimeters (L × W × H) | 150 × 67.5 × 36.5  |       |       | 177 × 67.5 × 36.5        |
| Net Weight              | -                  | 785 g | -     |                          |

**Note:** All specifications are typical at 25°C unless otherwise stated.

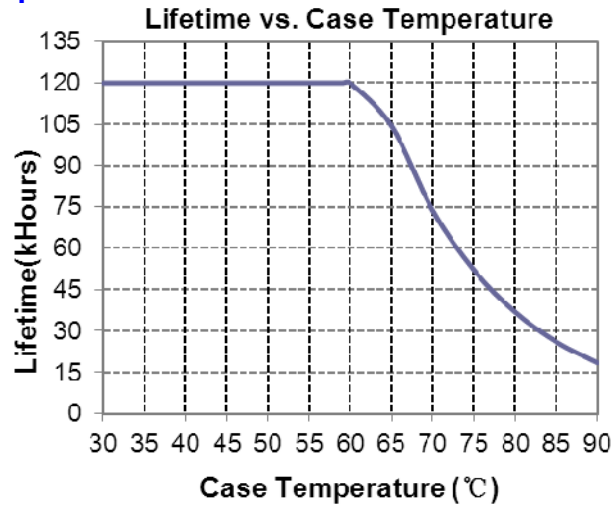
## Safety & EMC Compliance

| Safety Category                  | Standard                                                                                  |
|----------------------------------|-------------------------------------------------------------------------------------------|
| CE                               | EN 61347-1, EN61347-2-13                                                                  |
| CCC                              | GB 19510.1, GB 19510.14                                                                   |
| KS                               | KS C 7655                                                                                 |
| EMI Standards                    | Notes                                                                                     |
| EN 55015/GB 17743 <sup>(1)</sup> | Conducted emission Test & Radiated emission Test                                          |
| EN 61000-3-2/GB 17625.1          | 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: line to line 6 kV, line to earth 10 kV <sup>(2)</sup> |
| 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                       |

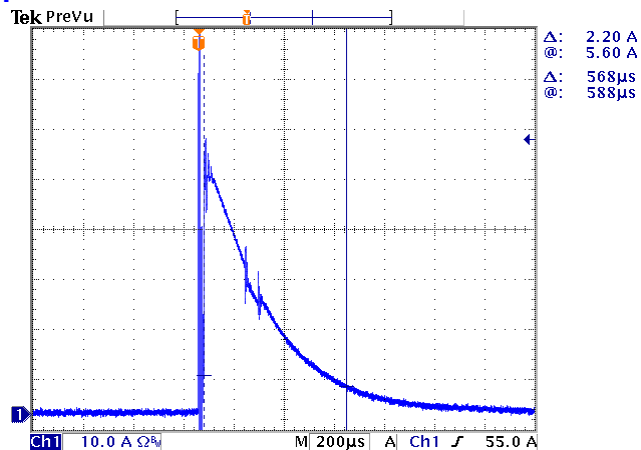
**Note:** (1) This LED driver meets the EMI specifications above, but EMI performance of a luminaire that contains it depends also on the other devices connected to the driver and on the fixture itself.

(2) To perform electric strength (hi-pot) testing, the "GDT ground disconnect" (screw and metal lock sheet) on the driver end-cap should be removed temporarily to prevent the internal gas discharge tube from conducting (as allowed by IEC 60598-1 Clause 10.2). After testing is completed, these items must be reinstalled to restore line-to-earth surge protection and secure the end cap.

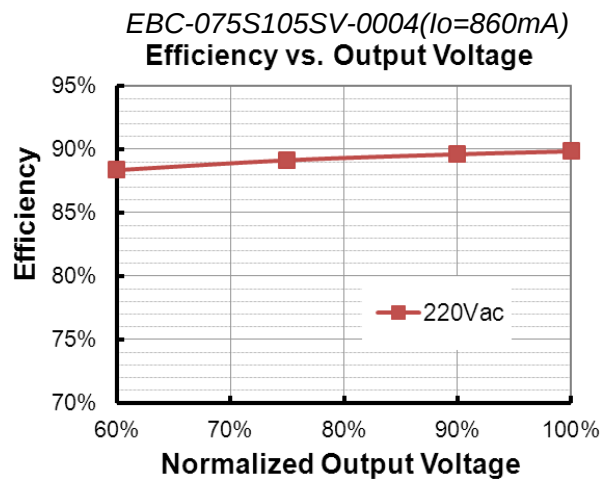
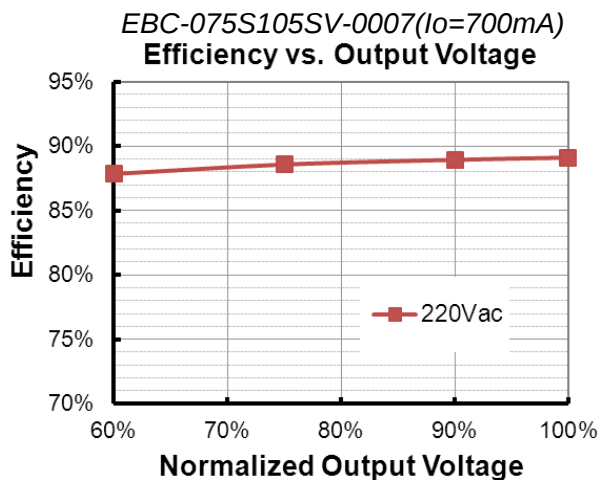
## Lifetime vs. Case Temperature

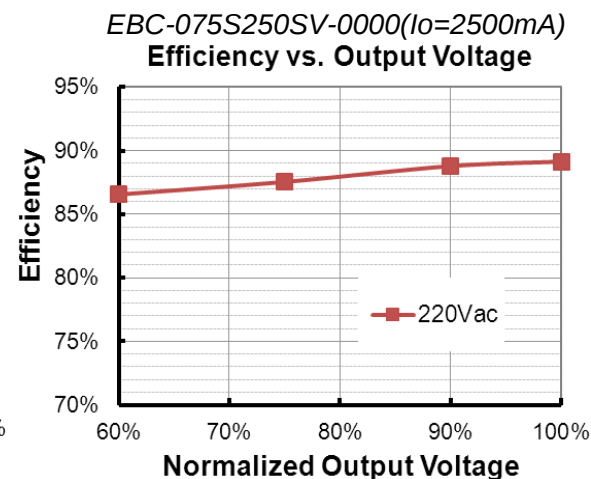
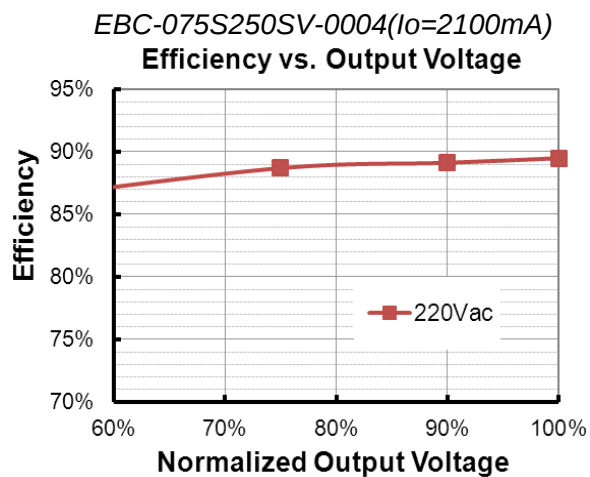
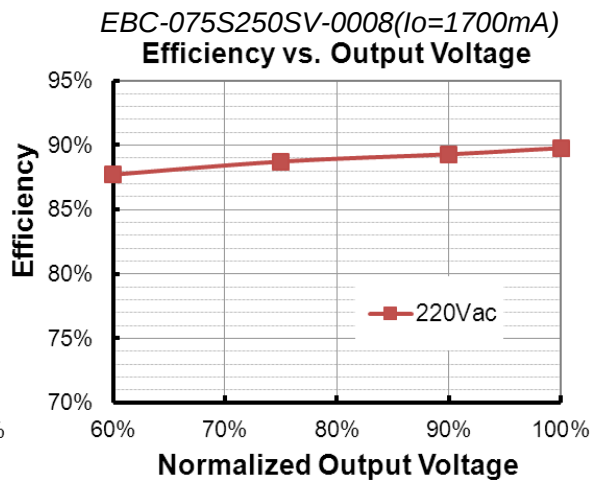
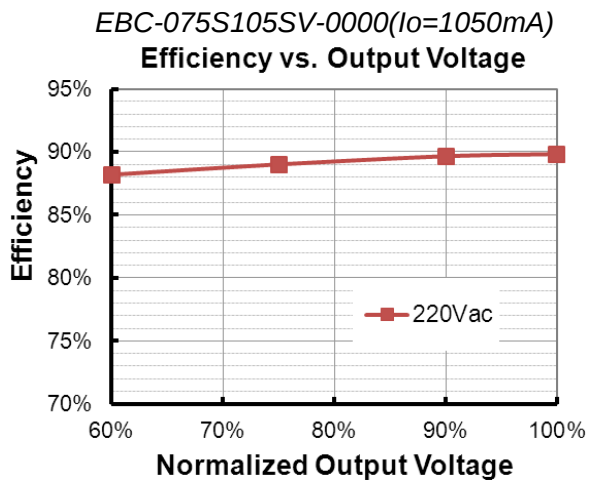


## Inrush Current Waveform

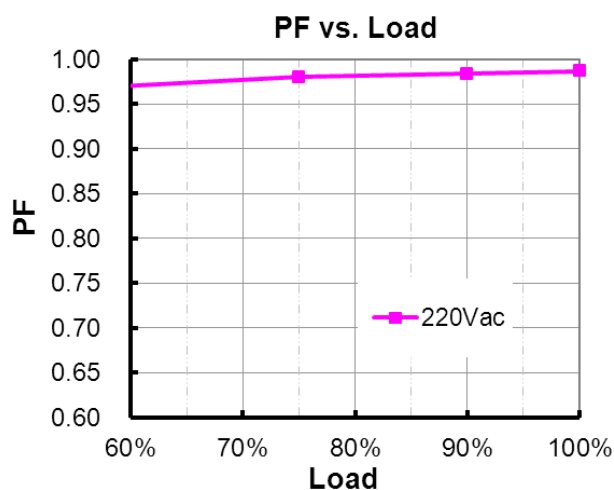


## Efficiency vs. Load

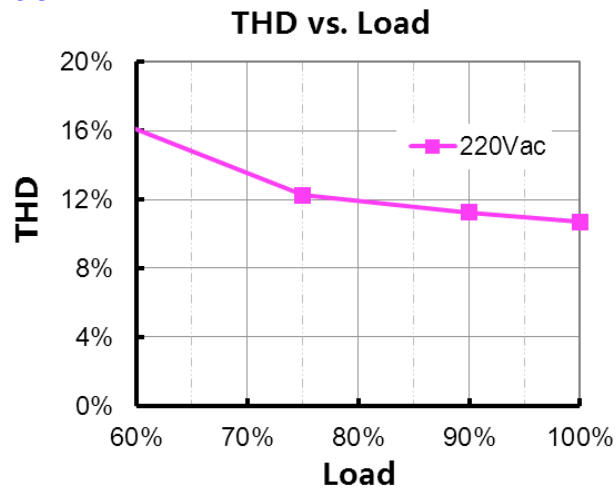




## Power Factor



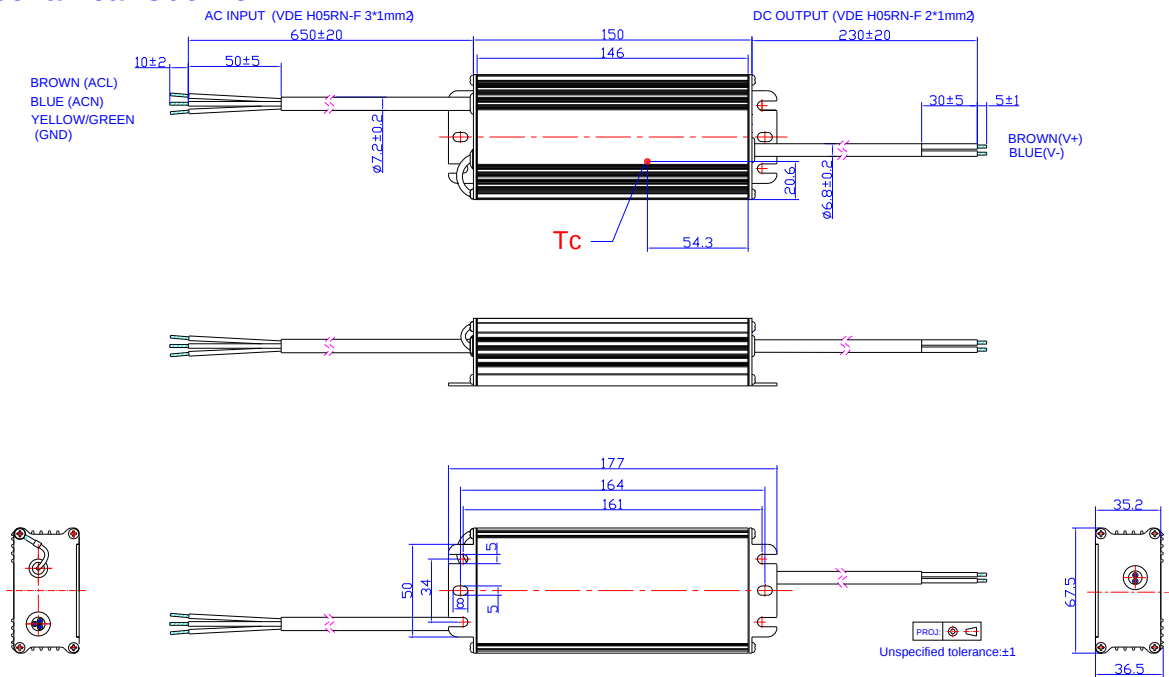
## Total Harmonic Distortion



## Protection Functions

| Parameter                   | Notes                                                                                                                                          |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Over Temperature Protection | Decreases output current, returning to normal after over temperature is removed.                                                               |
| 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 Voltage Protection     | Limits output voltage at no load and in case the normal voltage limit fails.                                                                   |

## Mechanical Outline



**Note:** Waterproof connectors certified to CCC & CE are also available for these drivers; please contact Inventronics Sales.

## **RoHS Compliance**

Our products comply with the European Directive 2011/65/EC, calling for the elimination of lead and other hazardous substances from electronic products.

## Revision History

| Change Date | Rev. | Description of Change   |                   |         |
|-------------|------|-------------------------|-------------------|---------|
|             |      | Item                    | From              | To      |
| 2015-04-13  | A    | Datasheets Release      | /                 | /       |
| 2015-12-08  | B    | KS                      | /                 | Added   |
|             |      | Input surge protection  | /                 | Updated |
| 2016-03-31  | C    | General Specifications  | Lifetime          | Updated |
|             |      | General Specifications  | With mounting ear | Added   |
|             |      | General Specifications  | Net Weight        | Updated |
|             |      | Safety & EMC Compliance | /                 | Updated |
|             |      | Mechanical Outline      | /                 | Updated |
| 2019-08-20  | D    | Safety & EMC Compliance | KS                | Updated |