



## Emergency driver for LED strips Class 2 output Separate Battery Configuration

Product order numbers:

BSL310SB (Polycarbonate case, includes standard 2W-ITS)

BSL310SBIP67 (Polycarbonate case, includes IP67 rated 2W-ITS)

Project:

Type:

Model No:

Qty:

Date:

Notes:

### Specifications

#### UL Classified

Field or Factory Installation  
(Indoor and Damp)

#### Illumination Time

90 Minutes

#### Full Warranty

5 Years (NOT pro-rata)

#### Universal Input Voltage

120-277 VAC, 50/60 Hz

#### AC Input Current

60 mA Maximum

#### AC Input Power Rating

4.0 W Maximum

#### Output Current and Voltage

Selectable (See Table 1)

Without Selector: minimum 200 mA, 30-50 VDC,

With Selector: minimum 400 mA, 10-29 VDC

#### Output Power

10.0 W (Maximum)

#### Test Switch/Charging Indicator Light

- 2W-ITS (2 wire Illuminated Test Switch)
- IP67 rated 2W-ITS (can be used in wet locations).  
See optional configurations.

#### Battery

High-Temperature, Maintenance-Free  
Nickel-Cadmium Battery  
7- to 10-Year Life Expectancy

#### Battery Charging Current

180 mA

#### Recharge Time

24 Hours

#### Temperature Rating (Ambient)

0°C to +55° (32°F to 131°F)

#### Dimensions (Enclosure Excluding Battery)

6.57" x 2.25" x 1.18" (167 mm x 57 mm x 30 mm)  
Mounting Center 6.0" (152.4 mm)

#### Weight

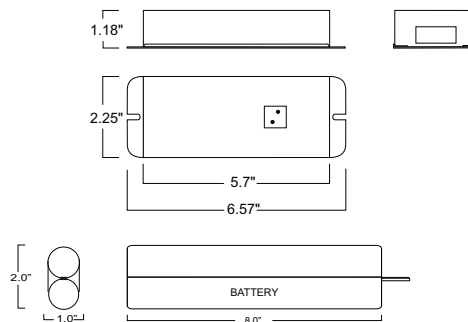
2.25 lbs. (1.0 kg) - polycarbonate

### Benefits:

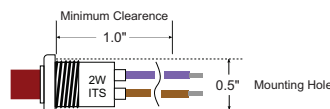
- Enables LED Linear strip fixtures to meet Emergency Code requirements
- Compatible with AC drivers and LED loads rated for Class 2 (UL 1310 Certified)
- Emergency mode lumen output of up to 1300 lumens
- Universal input (120 through 277 VAC)
- 2 wire input reduces wiring errors
- Compatible with a variety of LED strip manufacturers
- Selectable Output
- RoHS compliant

### Dimensions

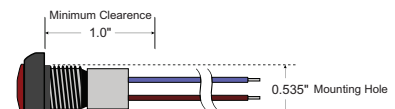
6.57" x 2.25" x 1.18" (mounting center - 6.0")



#### Optional configurations: Call factory for additional information



BSL310SB (includes 2W-ITS)



BSL310SBIP67 (includes IP67 rated 2W-ITS)

# BSL310SB

## Emergency LED Driver for Linear LED Strips, Class 2 Output

### Application

The BSL310SB universal input (120-277 V) emergency LED driver works in conjunction with an AC LED driver that has an output current not to exceed 3.0 A. The emergency driver consists of a high-temperature nickel-cadmium battery, charger and electronic circuitry in one case. The BSL310SB can deliver up to 10 watts to an LED load (measured at nominal battery voltage) for 90 minutes. If used in an emergency-only fixture, no AC driver is necessary. The BSL310SB is suitable for indoor and damp locations. For more information about specific LED and AC driver compatibility, please call the factory.

### Operation

When AC power fails, the BSL310SB immediately switches to the emergency mode, operating the LEDs at a reduced lumen output for a minimum of 90 minutes. When AC power is restored, the emergency driver automatically returns to the charging mode. A patented circuit delays AC LED driver operation for up to 5 seconds to prevent over current of LED's that would occur if both drivers supply the load at the same time.

### Installation

The BSL310SB does not affect normal fixture operation and may be used with either a switched or unswitched fixture. If a switched fixture is used, an unswitched hot lead must be connected to the emergency driver.

The emergency driver must be fed from the same branch circuit as the AC driver. Per UL requirements, the polycarbonate BSL310 must be enclosed if remote mounted outside of the fixture. Installation is not recommended with fixtures where the ambient temperature may fall below 0° C. The product is suitable for installation in sealed and gasketed fixtures. For LED loads rated less than 30V, connect the load select per Table 1 for proper operation and optimum performance.

### CODE COMPLIANCE

For detailed information regarding standards and code compliance for emergency lighting see product page or the Codes and Standards section on the web site.

### Emergency Illumination

The BSL310SB operates an LED load of up to 10.0 W at nominal battery voltage for a minimum of 90 minutes.

### Specification

Emergency lighting shall be provided by using a LED fixture equipped with a Philips Bodine BSL310SB universal input (120-277 V) emergency driver. A patented circuit delays AC LED driver operation for up to 5 seconds to prevent over current of LED's that would occur if both drivers supply the load at the same time. This emergency driver shall consist of a high-temperature, maintenance-free nickel-

cadmium battery, charger and electronic circuitry contained in one case. An illuminated test switch (ITS) to monitor charger and battery as well as installation hardware shall be provided. The emergency driver shall be capable of delivering up to 10 watts to an LED load for a minimum of 90 minutes. The BSL310SB is suitable for indoor and damp locations. The BSL310SB shall have a maximum of 4.0 watts of input power and a 24.0 Watt-hour battery capacity and shall comply with emergency standards set forth by the current NEC. The emergency driver shall be UL Classified for field or factory installation and UL Component Recognized for factory installation.

### Warranty

The BSL310SB is warranted for five (5) full years from date of purchase (NOT pro-rata). Please see detailed warranty information on our web site.

Table 1 Load Select Options

Max Load Voltage	Load Select
10V – 29V	Connected
30V – 50V	Not onnected



**This product is suitable for field installation with suitable LED loads including LED luminaires, DC voltage driven LED replacements for fluorescent lamps and others. There are 4 checks to determine if your luminaire is eligible for field installation.**

1. Ensure the LED load's rated power is greater than or equal to the power output of this emergency LED driver. This is to ensure that this emergency product will not produce more power than the LED load can handle, thus ensuring that the LED load will not be damaged when the system is in the emergency mode.
2. Verify that the forward voltage of the luminaire's LED array is within the limits of this emergency LED driver. The forward voltage of the LED array is commonly designated as Vf and should be found on the luminaire markings, in the luminaire specifications, or imprinted directly on the LED arrays. If multiple LED arrays are to be driven, verify that the total forward voltage is within the limits of this product. Using a voltage meter, it may be possible to directly measure the voltage across the LED arrays when operating from the AC driver.
3. Ensure that the maximum out current of the LED driver does not exceed 3.0A. This is the applied to the emergency driver's blue wire.
4. UL Classified emergency products can be paired with LED luminaires or retrofit kits if found in the Design Lights Consortium database. Go to the Design Lights Consortium website (<http://www.designlights.org>) and search for your LED system by model name or model number. If found in the database, these products are preapproved by UL to be installed together in the field or at a luminaire manufacturer, provided steps are taken to ensure there will be sufficient light output in the end application.

**NOTE:** This product has been designed to reliably interface with a wide selection of LED loads and is electrically compatible with every simple LED array that meets criteria 1 and 2 above. However, compatibility cannot be guaranteed with all current and future LED systems. Compatibility testing of the end-use system is suggested. Please contact the factory with any questions.

**Estimate the egress lighting illumination levels by doing the following:**

- a. Find the efficacy of the LED load, which will be found in the Design Lights Consortium database. This number will be given in lumens per watt (lm/w).
- b. Determine the initial power output of the emergency LED driver. This is given in Figure 1 below.
- c. Lumens can be calculated by multiplying the output power of the emergency LED driver by the efficacy of the LED load. In many cases the actual lumen output in emergency mode will be greater than this calculation gives, however it will provide a good estimate for beginning the lighting design of the system.

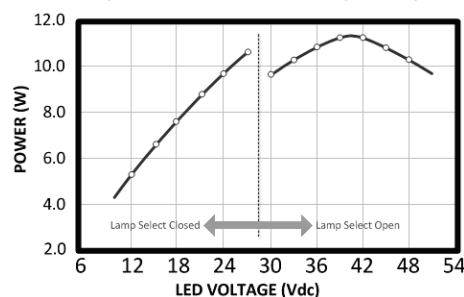
(Lumens In Emergency Mode = Lumens per Watt of Fixture X Output Power of Chosen Product)

$$\text{_____ (Lumens)} = \text{_____ (lm/W)} \times \text{10 (W)}$$

**After installation, it will be necessary to measure light output to ensure it complies with national, state, and local code requirements.**

- d. Using the results of this calculation and industry standard lighting design tools, calculate the anticipated illumination levels in the path of egress.

Figure 1



© 2015 Koninklijke Philips N.V. All rights reserved. Philips reserves the right to make changes in specifications and/or to discontinue any product at any time without notice or obligation and will not be liable for any consequences resulting from the use of this publication.

Document order number: L2300234 16.0104



Philips Emergency Lighting  
236 Mt. Pleasant Rd.  
Collierville, TN 38017  
Tech Support: 888.263.4638  
Sales: 800.223.5728

[philips.com/bodine](http://philips.com/bodine)