



Emergency LED Driver
 20 Watts Output Power
 Class 2 Output or High Voltage Output
 With or Without Conduit
 Integral or Separate Battery

Product order number:

BSL20B2UEK55C1I1
 BSL20B2UEK55L1I1
 BSL20B2UCK55C1I1
 BSL20B2UCK55L1I1
 BSL20B6UEK55SB1I
 BSL20B2UEK55C1BA1I

12NC number:

913702487901
 913702488001
 913702488101
 913702488201
 913702488401
 913702491801

Project: _____
 Location: _____
 Cat.No: _____
 Type: _____
 Qty: _____
 Notes: _____

Specifications

Regulatory Certifications

UL Listed to UL 924 and tested to CSA 22.2, No.141
 Factory or Field Installation (Indoor and Damp)
 Output Class 2 Compliant
 Input Title 20 CEC Compliant

Illumination Time

90 Minutes

Full Warranty

5 Years (NOT pro-rata)

Universal Input Voltage

120-277 VAC, 50/60 Hz

Output Voltage

20-54 or 54-200 VDC (see Ordering Guide)

Output Power

20 W

Test Switch/Charging Indicator Light

Plenum rated metal test switch assembly
 Test switch is IP65 rated for ingress protection to dust and water jets
 Test switch assembly is UL 2043 plenum-rated
 Test switch can be mounted up to 50 feet from fixture
 Lead length 35.43" (900 mm)

Battery

High-Temperature, Maintenance-Free
 Lithium ion Battery

Recharge Time

24 Hours

Temperature Rating

Ambient: 0-55°C (32-131°F)
 Case Tc (Max): 65°C

Dimensions

B2 Enclosure:
 15.34" x 2.25" x 1.16" (369 mm x 58 mm x 30 mm)
 Mounting Center: 15.0" (356 mm)

B6 Enclosure:
 9.37" x 2.20" x 1.05" (238 mm x 55.9 mm x 26.7 mm)
 Mounting Center: 8.9" (226 mm)

Maximum Weight

BSL20B2:
 With conduit - 3.07 lbs (1.39 kg)
 Without conduit - 2.67 lbs (1.21 kg)
 BSL20B6: 2.18 lbs (0.99 kg)

Initial Illumination Levels

See guide on Page 2

Benefits

- Meets Title 20 CEC (California Energy Commission) efficiency standards.
- Smart Charger Technology with low energy consumption helps meet Title 24 building requirements.
- Self-Test automatically performs the code required testing per the latest standard (UL 924, 10th edition, May 5th, 2022).
- Allows for luminare to be completely installed prior to AC mains availability (ABConnect).
- Easily disabled for storage and fool proof commissioning (ABConnect).
- Test switch is IP65 rated for protection to dust and water ingress.
- Small size, with and without conduit, and separate battery variants provides maximum flexibility during installation.
- No conduit is needed for plenum rated test switch assembly.

BSL20B2/B6

Emergency LED Driver

Application

These Bodine emergency LED drivers are UL Listed for field or factory installations in the US and Canada and allows the same LED luminaire to be used for normal and emergency operation. These emergency LED drivers works in conjunction with an AC LED driver that has an output current not to exceed five (5) amps. These products consist of a battery and electronic circuitry in one compact galvanized steel case ("L1" type models) or, for flexibility in installation, the batteries may be separate from the electronics and the chassis ("SB" models). These products can be used with an LED lighting load up to 54 Vdc or 200 Vdc, depending on the variant selected, delivering an initial minimum power of 20 watts for 90 minutes. If used in an emergency-only fixture, no AC driver is necessary. These products are suitable for damp locations and for sealed and gasketed fixtures. These products are not suitable for air handling heated air outlets or wet or hazardous locations. For more information about specific LED and AC driver compatibility, please call Bodine Tech Support at 1-888-BODINE-8.

Operation

When AC power fails, the Bodine emergency driver immediately switches to the emergency mode, operating the LED load for a minimum of 90 minutes. When AC power is restored, the emergency driver automatically returns to the charging mode. While charging, the product will perform the required 30-second test once a month and a 90-minute test once per year. During this test, the product will monitor its operation, and alert building occupants to a possible issue through flashing of the charge indicator LED. The product shall be provided with self-test and ABCConnect functionality.

ABCConnect

ABCConnect (Automatic Bodine Connect) simplifies shipping, storage, installation, and commissioning of the emergency lighting luminaire. It allows for the luminaire to be installed and made ready for use without needing to reopen the luminaire when AC power is available, also avoiding unnecessary drain on the battery. Once activated, the product can also

be manually disabled, allowing the product or the luminaire to be safely stored for extended periods of time. In the situation where the user manually deactivates the emergency operation for shipping or storing product via the test switch, the Automatic Bodine Connect feature reactivates power when the driver senses that AC current is applied. This feature saves time, labor and the potential to overlook the converter connector step. This reduces the possibility of inadvertently discharging the battery prior to installation, whether in transit or storage.

Self-Test

These emergency drivers include self-test functionality. The self testing feature automatically performs the required 30-second test once every month and the required 90-minute, full discharge, once per year. The product monitors the performance of the battery, the charging system, the LED load, and the temperature of the installation. Test results are reported to maintenance personnel via flashing of the charge indicator light. A solidly lit charging indicator light (no flashing) means that the unit detected no issues during the self-test routine. If the unit has encountered a problem after installation and during the selftest, then it will flash an error code using the indicator light. The number of flashes indicates an issue with specific functionality of the unit. Full details on the error codes are found in the unit installation instructions. The user can also manually initiate a 30-second self-test at any time by simply pressing and holding the test switch for 5 seconds. At the conclusion of the self-test, the unit will return to the normal mode and indicate any errors, if detected.

Installation

These products do 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. Installation is not recommended with fixtures where the ambient temperature may fall below 0°C. These products are suitable for installation in sealed and gasketed fixtures.

Emergency Illumination

This product operates an LED load, delivering an initial minimum 20 watts of power for a minimum of 90 minutes.

Specification

Emergency lighting shall be provided by using a standard LED fixture equipped with a Bodine BSL20B2 or BSL20B6 emergency LED driver. This emergency driver shall consist of a high-temperature, maintenance-free Lithium ion battery separate from, or included with, the electronic circuitry, which is contained in a metal chassis. Installation hardware, an IP65 test switch, and a plenum rated test switch cable assembly shall also be provided. The emergency driver shall be capable of operating an LED load for a minimum of 90 minutes and of delivering an initial minimum output power of 20 watts, following a battery charging period of at least 24 hours. It is suitable for damp locations and sealed and gasketed fixtures. The unit contains a smart charger system that initially charges the battery within the rated time then reduces power consumption to a lower standby power mode. The unit shall automatically perform the code required monthly and annual testing (self-testing) and employ technology to automatically enable charging, sensing, and emergency operation of the inverter by means of detecting when AC power is first applied (ABCConnect). The unit shall comply with emergency standards set forth by the current NEC, Part 15 of the FCC Rules, and also meets Title 20 CEC (California Energy Commission) efficiency standards. The emergency driver shall be UL Listed for field or factory installation and shall be suitable for temperature environments ranging from 0°C to +55°C.

Warranty

The products covered by this specification are warranted for five (5) full years from date of manufacture. Please see detailed warranty information on our website.

Lumen Output Guide

These products are suitable for installation with a wide variety of LED light engines. To estimate the egress lighting illumination levels achieved by a system incorporating these products, follow the steps below.

1. Find the efficacy of the LED load which will be given as lumens/watt (lm/w). This data can be found by direct measurement, accessing of 3rd party test data, or from the luminaire supplier directly. Typically, the efficacy data found will be on the whole system, which includes losses due to driver efficiency and LED array temperatures. Actual lumens achieved may be higher. However, using these numbers in the following calculations will provide worst-case lumen estimations.
2. Determine the initial lumens delivered in the emergency mode by multiplying the LED load efficacy by the amount of power delivered by the emergency driver when running in the emergency mode.

$$\text{LUMENS IN THE EMERGENCY MODE} = \text{LUMENS PER WATT OF FIXTURE} \times \text{OUTPUT POWER OF EMERGENCY LED DRIVER}$$

3. Using this result and industry standard lighting design tools, the estimated path of egress illumination levels can be calculated.

Example Efficacy (lumens per watt)	BSL20B2/B6 Lumen Output
110	2,200
130	2,600
150	3,000
170	3,400

BSL20B2/B6

Emergency LED Driver

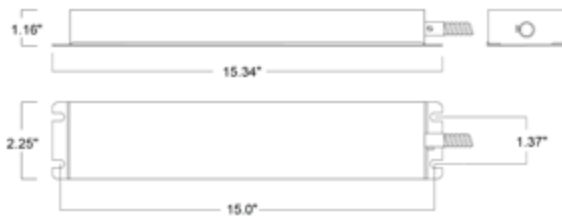
Lithium Battery Shipping Regulations

To comply with IATA provisions for air transporting lithium batteries, and for a step by step guidance through the shipping process, please visit <https://www.iata.org/en/publications/store/lithium-battery-shipping-regulations/>.

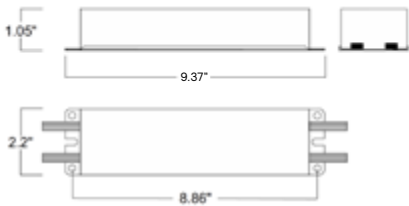
To view a Classification Flowchart for package marking requirements, please visit <http://www.iata.org/whatwedo/cargo/dgr/Pages/lithium-batteries.aspx>. Scroll to the "Guidance Material" section and click on the provided "Guidance Document" PDF link. The Classification Flowchart will be found on page 5. The BSL20B6 and BSL14B6 battery cell capacity is less than 20Wh, and the battery pack capacity is less than 100 Wh.

Drawings

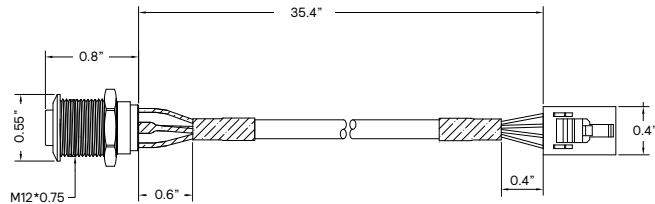
B2 Enclosure Dimensions (with conduit version shown below)
15.34" x 2.25" x 1.16" (390 mm x 57 mm x 29 mm)
Mounting center - 15.0" (381 mm)



B6 Enclosure Dimensions
9.37" x 2.20" x 1.05" (238 mm x 56 mm x 27 mm)
Mounting center - 8.86" (225 mm)

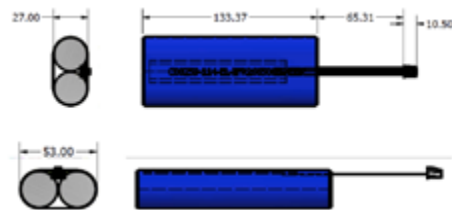


Plenum-Rated Test Switch Assembly



Note: Required hole is 0.5 inches (12.5mm)

BSL20B6 Battery (dimensions in mm)



Ordering Guide

example: BSL20B2UEK55C11

Product Category	Watts	Case	Input Voltage	Output Voltage	Temperature		Type/Harness	Packaging	Generation
BSL	20	B2	U	E	K	55	C1	I	1
BSL Bodine Solid State Lighting	20	B2 (see Drawings for case dimensions)	U 120-277 Vac	E 20-54 Vdc	K Min. Temp. 0°C	55 Max. Temp. 55°C	C1 Conduit, out one end L1 No conduit, leads out one end	I Individual	1
BSL Bodine Solid State Lighting	20	B2 (see Drawings for case dimensions)	U 120-277 Vac	C 54-200 Vdc	K Min. Temp. 0°C	55 Max. Temp. 55°C	C1 Conduit, out one end L1 No conduit, leads out one end	I Individual	1
BSL Bodine Solid State Lighting	20	B6 (see Drawings for case dimensions)	U 120-277 Vac	E 20-54 Vdc	K Min. Temp. 0°C	55 Max. Temp. 55°C	SB Separate batteries	I Individual	1



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