



Automatic Code-Compliant Testing  
Up to 1400 Lumens Output  
One or Two-lamp Operation  
Universal Input (120 through 277)

**Product order number:**  
B50STU

**12NC number:**  
913702455401

Project: \_\_\_\_\_  
Location: \_\_\_\_\_  
Cat.No: \_\_\_\_\_  
Type: \_\_\_\_\_  
Qty: \_\_\_\_\_  
Notes: \_\_\_\_\_

### Specifications

#### UL Listed for US and Canada

Listed to UL 924 and tested to CSA 22.2 No. 141  
Factory or Field Installation (Indoor or Damp)

#### Illumination Time

90 Minutes

#### Initial Light Output

Up to 1400 Lumens

#### Full Warranty

5 Years (NOT pro-rata)

#### Universal Input Voltage

120-277 VAC, 50/60 Hz

#### AC Input Current

65 mA

#### AC Input Power Rating

4.0 Watts

#### Test Switch

Single Pole

#### Charging Indicator Light

LED

#### Battery

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

#### Recharge Time

24 Hours

#### Temperature Rating (Ambient)

Damp Location: 0-50°C (32-122°F)

Dry Location: 0-55°C (32-131°F)

#### Dimensions

13.3" x 2.4" x 1.5" (338 mm x 60 mm x 38 mm)

Mounting Center 12.8" (325 mm)

#### Weight

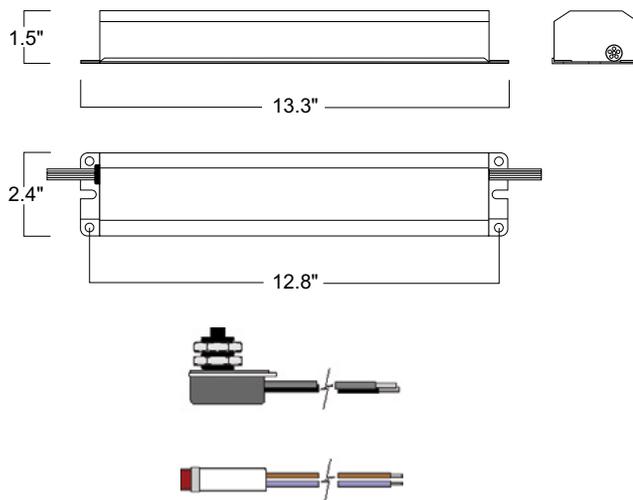
3.6 lbs (1.64 kg)

### Benefits

- Automatic code-compliant testing - 30 mins monthly, 90 mins annually
- Specification Grade Product
- Emergency mode lumen output up to 1400 lumens
- One or two-lamp operation
- Universal input (120 through 277 VAC, 50/60 Hz)
- End-of-Lamp-Life Compatible

### Dimensions

13.3" x 2.4" x 1.5" (mounting center - 12.8")



A separate test switch and charging indicator light are provided.

# B50ST

## Emergency Ballast

### Application

The B50ST emergency ballast works in conjunction with an AC ballast to convert new or existing fluorescent fixtures into emergency lighting. The emergency ballast consists of a high-temperature nickel-cadmium battery, charger and electronic circuitry in a metal case. The B50ST can be used with most 17 - 215 W (2' - 8') T8, T9, T10 or T12 fluorescent lamps without integral starters, including U-shaped, HO, VHO, circline and energy-saving. One or two-lamp operation may be selected (see Table 1). It is also compatible with most one, two, three and four-lamp electronic, standard, energy-saving and dimming AC ballasts. If used in an emergency-only fixture, no AC ballast is necessary. The B50ST is suitable for indoor and damp locations and for sealed & gasketed fixtures, including fixtures rated for wet locations. It is not suitable for air handling heated air outlets or wet, or hazardous locations. For information about specific lamp and ballast compatibility, please contact Technical Support.

### Operation

During normal operation, the B50ST constantly monitors charging current and battery voltage. When AC power fails, the B50ST immediately switches to the emergency mode, operating either one or two lamps at a reduced lumen output for a minimum of 90 minutes. When AC power is restored, the emergency ballast automatically returns to the charging mode and, using a patented circuit, delays AC ballast operation for approximately three seconds to prevent false tripping of the AC ballast end-of-lamp-life shutdown circuits. During automated testing, the B50ST simulates an AC power failure, causing the emergency ballast to

switch to emergency mode and conduct a discharge test to monitor battery voltage and discharge current. If the B50ST detects a problem, the status indicator light flashes. When testing is complete, the B50ST returns to the charging mode. The B50ST automatically tests emergency lighting for 30 seconds every 30 days and 90 minutes once a year.

### Emergency Illumination

Depending on the number (one or two), wattage and type of lamps selected, the B50ST produces up to 1400 lumens initial emergency light output (see Table 2). If two-lamp operation is selected, light output is evenly divided between the lamps for better distribution of emergency illumination.

### Installation

The B50ST 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 ballast. The emergency ballast must be fed from the same branch circuit as the AC ballast. The B50ST may be installed inside, on top of or remote from the fixture. The emergency ballast may be remotely installed up to half the distance the AC ballast manufacturer recommends removing the AC ballast from the lamp or up to 50 feet, whichever is less. Installation is not recommended with fixtures where the ambient temperature may fall below 0°C.

### Specification

Emergency lighting shall be provided by using a standard fluorescent fixture equipped with a Bodine B50ST self-testing/self-diagnostic fluorescent emergency ballast. Electronic circuitry shall be

self-testing in design and automatically test emergency lighting for a minimum of 30 seconds every 30 days and 90 minutes once a year. An embedded microcontroller will continually monitor the battery charging current and voltage. The emergency ballast, using a patented circuit, shall delay AC ballast operation for approximately three seconds to prevent false tripping of AC ballast end-of-lamp-life shutdown circuits. The B50ST shall consist of a high-temperature, maintenance-free nickel-cadmium battery, charger and electronic circuitry contained in one 13 3/8" x 2 3/8" x 1 1/2" metal case. A solid-state status indicator light to monitor the charger and battery to indicate test results and status conditions; a single-pole test switch; and installation hardware shall be provided. The emergency ballast shall be capable of operating [one or two] \_\_\_\_\_ fluorescent lamp(s) (see Table 1) at \_\_\_\_\_ lumens (see Table 2) initial light output in the emergency mode for a minimum of 90 minutes. It shall be suitable for indoor and damp locations and for sealed & gasketed fixtures, including fixtures rated for wet locations. The B50ST shall have 5 Watts of input power and a 24 Watt-hour battery capacity and shall exceed emergency standards set forth by the current NEC. The emergency ballast shall be UL Listed for installation inside, on top of or remote from the fixture.

### Warranty

Model B50ST 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 Lamp Compatibility

LAMP (DIAMETER)	BASE TYPE	WATTAGE (Length)	NO. of LAMPS (EMERGENCY)	BROWN CONNECTOR
T8, T9, T10, T12 (1", 1 1/4", 1 1/2")	Single or Bipin	17 - 40 W (2' - 4')	1	CLOSED
			2	OPEN
		40 - 215 W (5' - 8')	1	OPEN

Table 2 Initial Lumen Output

LAMP	LUMENS	
	1 Lamp	2 Lamp
FO32, FBO31 T8	1350	1350
FO25, FBO24 T8	1250	1100
FO17, FBO16 T8	1050	950
FO96, T8	1400	
F40T12, F40/U	1100	1100
F48T12/HO	1200	
F96T12, HO, VHO	1100	
F40 T12 ES (34 W)	975	975
F38 2D/4P	1000	1100
F28 2D/4P	1100	1100

