Linear

Emergency Operation for Linear Fluorescent Lamp Fixtures

The Philips Bodine Linear Fluorescent Emergency Ballasts

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bodine

Philips Bodine fluorescent emergency ballasts allow you to convert virtually any new or existing fluorescent fixture into code-compliant emergency lighting.

Linear

Philips Bodine linear fluorescent emergency ballasts (FEBs) are designed specifically for linear lamp fluorescent fixtures. These emergency ballasts allow you to convert virtually any new or existing fluorescent fixture into code-compliant emergency lighting. Single-lamp or multilamp fixtures fitted with T5-T12 lamps can be converted using a Philips Bodine linear FEB.

Philips Bodine linear FEBs are compatible with most electronic, standard, energy-saving and dimming AC ballasts, as well as with energy management systems, such as occupancy detectors and photo sensors. In addition, the wide variety of linear products we design and build means that we have something for almost every emergency lighting application, including indoor-dry, damp, extended temperature, extended runtime, self-testing and remote testing.

What is a Fluorescent Emergency Ballast?

A FEB is a battery-powered device that, in the absence of normal AC power, supports one or more fluorescent lamps, providing a minimum 90 minutes of emergency lighting. Emergency lighting is vital to life safety programs and is required in all commercial, industrial and institutional facilities. When normal power fails, emergency lighting guides building occupants along the path of egress to designated exits and helps them avoid obstacles en route.

Fluorescent emergency ballasts allow you to use the same light source for normal and emergency lighting. Because the same light source is used, emergency lighting looks similar to normal lighting – no drastic lighting changes or unwanted glare results.


EXIT

FEB vs. AC Ballast

Fluorescent lamps require AC ballasts for start-up and for current regulation during normal operation. When AC power fails and normal lamp operation ceases, Philips Bodine battery-powered FEBs are critical. FEBs supply power to the lamp(s) and allow the lamp(s) to provide full or reduced illumination for a minimum of 90 minutes in compliance with national safety codes for emergency lighting (e.g., NFPA® Life Safety Code®, National Electrical Code®).

FEB Operation

When AC power fails, Philips Bodine FEBs immediately switch to emergency mode, operating one, two or three lamps for a minimum of 90 minutes. When AC power is restored, the emergency ballasts return to charging mode. FEBs are fully recharged in 24 hours.

FEB Installation

Philips Bodine FEBs 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. Philips Bodine FEBs may be installed inside, on top of or remote from the fixture, depending on factors such as FEB model and fixture type.

Philips Bodine FEBs truly provide emergency lighting you'll never see … until you need it.

Code Compliance

Philips Bodine FEBs are tested by Underwriters Laboratories (UL) in compliance with standards set forth in UL 924, Emergency Lighting and Power Equipment.* Products are UL Listed for factory and field installation or UL Component Recognized for factory installation only. Emergency illumination time exceeds the National Electrical Code, Life Safety Code and UL 90-minute requirements.

*Products tested to meet standards for the Canadian Standards Association (CSA) and Normas Oficiales Mexicanas (NOM) are also available. Please check with the factory at 800-223-5728 for more information.

FEB Benefits

Fluorescent emergency ballasts allow you to use the same light source for normal and emergency lighting. Because the same light source is used, emergency lighting looks similar to normal lighting – no drastic lighting changes or unwanted glare results. In addition, the FEBs' unobtrusive installation does not detract from interior design or encourage vandal activity. Philips Bodine FEBs truly provide emergency lighting you'll never see … until you need it.

When normal power fails, emergency lighting guides building occupants along the path of egress to designated exits and helps them avoid obstacles en route.

Linear Lamp ID

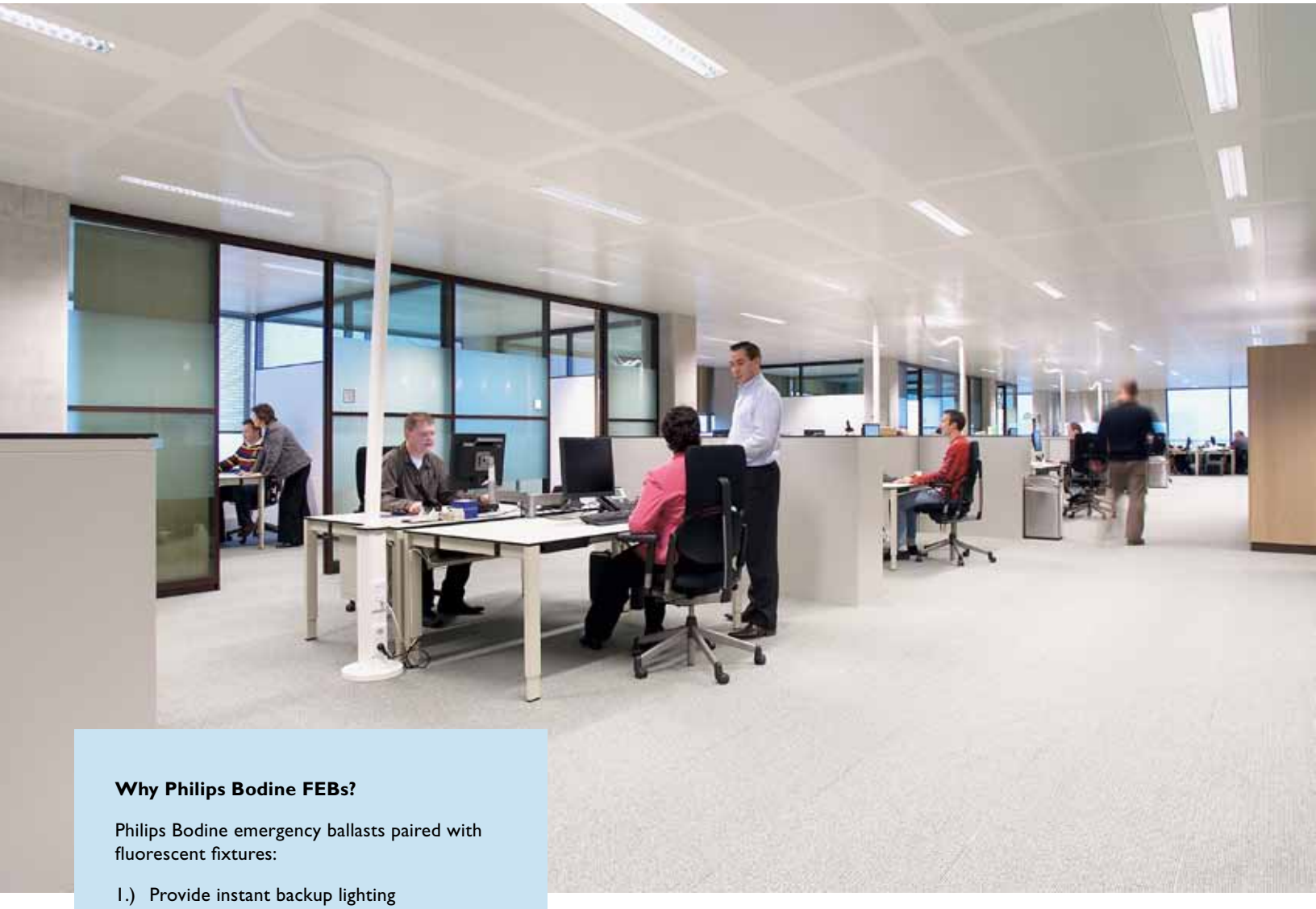
Linear fluorescent lamps are given designations such as T5, T8 and T12. The "T" indicates the lamp is linear, while the number is the diameter of the lamp measured in eighths of an inch. A T12, for example, is 12/8" and the T5 is 5/8".

T5 .625" / 16mm

T8 1" / 26mm

T12 1.5" / 38 mm

Lamp	Inches	Millimeters
T5	.625"	16 mm
T8	1"	26 mm
T9	1.125"	29 mm
T10	1.25"	32 mm
T12	1.5"	38 mm



Why Philips Bodine FEBs?

Philips Bodine emergency ballasts paired with fluorescent fixtures:

1.) Provide instant backup lighting

2.) Complement original lighting design

3.) Supply lighting that looks like normal lighting

4.) Mount inconspicuously inside, on top of or remote from the fixture to reduce the risk of tampering and vandalism

5.) Install quickly and easily to save time, labor and money. A qualified electrician can typically install a Philips Bodine emergency ballast in less than 30 minutes.

Philips Bodine emergency ballasts mount inconspicuously inside, on top of or remote from the fixture to reduce the risk of tampering and vandalism.

Life Safety

7.9.2 Performance of System.

7.9.2.1 Emergency illumination shall be provided for a minimum of 1½ hours in the event of failure of normal lighting. Emergency lighting facilities shall be arranged to provide initial illumination that is not less than an average of 1 ft-candle (10.8 lux) and, at any point, not less than 0.1 ft-candle (1.1 lux), measured along the path of egress at floor level. Illumination levels shall be permitted to decline to not less than an average of 0.6 ft-candle (6.5 lux) and, at any point, not less than 0.06 ft-candle (0.65 lux) at the end of 1½ hours. A maximum-to-minimum illumination uniformity ratio of 40 to 1 shall not be exceeded.

7.9.3 Periodic Testing of Emergency Lighting Equipment.

7.9.3.1 Required emergency lighting systems shall be tested in accordance with one of the three options offered by 7.9.3.1.1, 7.9.3.1.2, or 7.9.3.1.3.*

7.9.3.1.1 Testing of required emergency lighting systems shall be permitted to be conducted as follows:

(1) Functional testing shall be conducted monthly with a minimum of 3 weeks and a maximum of 5 weeks between tests, for not less than 30 seconds, except as otherwise permitted by 7.9.3.1.1(2).
(2) The test interval shall be permitted to be extended beyond 30 days with the approval of the authority having jurisdiction.
(3) Functional testing shall be conducted annually for a minimum of 1½ hours if the emergency lighting system is battery powered.
(4) The emergency lighting equipment shall be fully operational for the duration of the tests required by 7.9.3.1.1(1) and 7.9.3.1.1(3).
(5) Written records of visual inspections and tests shall be kept by the owner for inspection by the authority having jurisdiction.

(Life Safety Code® 2009)

*7.9.3.1.2 and 7.9.3.1.3 describe testing requirements for self-testing/self-diagnostic battery-operated emergency lighting systems and computer-based self-testing/self-diagnostic battery-operated emergency lighting systems, respectively. Monthly 30-second and annual 90-minute tests are included for both. They were omitted here because of space constraints. Please see LSC 7.9.3 (2009) for complete testing information.

Linear Products

Model	# Lamps	Max. Lumens	Types of Lamps Operated	Features
B33	2 or 3	3400	Two or three 32 W (4') T8s; or two or three 39 W or two 40-55 W (4-pin) long compacts. For use with instant start parallel AC ballasts only	3-lamp parallel illumination
B30 *	1 or 2	3500	One 17-215 W (2'-8') or two 17-40 W (2'-4') T8,T9 ,T10 or T12 lamps; one 18-55 W or two 18-39 W (4-pin) long compacts; or one 21-54 W (2'-4') standard or high output T5	High lumen output; ELC
B30RCT	1 or 2	3500	One 17-215 W (2'-8') or two 17-40 W (2'-4') T8,T9 ,T10 or T12 lamps; one 18-55 W or two 18-39 W (4-pin) long compacts; or one 21-54 W (2'-4') standard or high output T5	Remote control testing
B30ST *	1 or 2	3500	One 17-215 W (2'-8') or two 17-40 W (2'-4') T8,T9 ,T10 or T12 lamps; one 18-55 W or two 18-39 W (4-pin) long compacts; or one 21-54 W (2'-4') standard or high output T5	Automatic self-testing; ELC
B50 *	1 or 2	1400	One 17-215 W (2'-8') or two 17-40 W (2'-4') T8,T9 ,T10 or T12 lamps; or one 18-55 W or two 18-39 W (4-pin) long compacts	Specification grade; ELC
B50Cold-Pak	1 or 2	1200	One 17-215 W (2'-8') or two 17-40 W (2'-4') T8,T9 ,T10 or T12 lamps; or one 18-55 W or two 18-39 W (4-pin) long compacts	Extreme temperatures
B50RCT	1 or 2	1400	One 17-215 W (2'-8') or two 17-40 W (2'-4') T8,T9 ,T10 or T12 lamps; or one 18-55 W or two 18-39 W (4-pin) long compacts	Remote control testing
B50ST *	1 or 2	1400	One 17-215 W (2'-8') or two 17-40 W (2'-4') T8,T9 ,T10 or T12 lamps; or one 18-55 W or two 18-39 W (4-pin) long compacts	Automatic self-testing; ELC
B60 *	1 or 2	700	One 17-215 W (2'-8') or two 17-40 W (2'-4') T8,T9 ,T10 or T12 lamps; or one 18-55 W or two 18-39 W (4-pin) long compacts	Standard grade; ELC
B70A * +	1	700	One 17-215 W (2'-8') T8,T10 or T12 lamp or one (4-pin) long compact. 2-hr runtime, not recommended with reduced-wattage, energy-saving T8 lamps	2-hour runtime; ELC
B90 * +	1	600	One 17-215 W (2'-8') T8,T10 or T12 lamp or one (4-pin) long compact. Not recommended with reduced-wattage, energy-saving T8 lamps	Minimum code-compliance grade; ELC
B100 * +	1	450	One 17-40 W (2'-4') T8,T10 or T12 lamp or one (4-pin) long compact. Not recommended with reduced-wattage, energy-saving T8 lamps	Economical alternative; ELC
LP600STU	1	1325	One 14-54 W (2'-4') standard or high output T5; 17-55 W (2'-5') T8; 36-55 W (4-pin) long compact; or 22-55 W T5 circline	Low-profile fixtures; Self-testing; Ideal for low-mercury (green) lamps; Universal input; ELC
LP600	1	1325	One 14-54 W (2'-4') standard or high output T5; 17-55 W (2'-5') T8; 36-55 W (4-pin) long compact; or 22-55 W T5 circline	Low-profile fixtures; Ideal for low-mercury (green) lamps; ELC
LP550	1	700	One 14-54 W (2'- 4') standard or high output T5; 32-44 W (4'-5') standard or high output T8; or 36-55 W (4-pin) long compact	Low-profile fixtures; Ideal for low-mercury (green) lamps; ELC
LP500	1	700	One 21-54 W (2'-4') standard or high output T5 or 32 W (4') T8	Low-profile fixtures; Ideal for low-mercury (green) lamps; ELC
B50LP	1 or 2	1300	One 17-215 W (2'-8') or two 17-40 W (2'-4') T8,T9,T10 or T12 lamps; or one 18-55 W or two 18-39 W (4-pin) long compacts	Low-profile fixtures; ELC
B60LP	1 or 2	700	One 17-215 W (2'-8') or two 17-40 W (2'-4') T8,T9,T10 or T12 lamps; or one 18-55 W or two 18-39 W (4-pin) long compacts	Low-profile fixtures; ELC
B60LPU	1 or 2	700	One 17-215 W (2'-8') or two 17-40 W (2'-4') T8,T9,T10 or T12 lamps; or one 18-55 W or two 18-39 W (4-pin) long compacts	Low-profile fixtures; Universal input; ELC
B100LP	1	500	One 17-40 W (2'-4') T8,T10 or T12 or 18-39 W long compact	Low-profile fixtures; Minimum code compliance; ELC

* Available only as as ELC (end-of-lamp-life compatible).

\+ Not recommended for use with reduced-wattage, energy-saving T8 lamps. Please use emergency ballasts in the B30, B50, B60 and LP600 families for these lamps.

For more information, please visit the website at www.philips.com/bodine or contact the factory directly at 800-223-5728.

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