

# CB90-48

CENTRAL BATTERY BALLASTS

# PHILIPS bodine

A Division Of Philips Electronics North America Corporation

**Full light output with one 32 W T8;  
One- or two-lamp illumination  
from 48 VDC power supply**

## Product Summary

### UL LISTED

Factory or Field Installation

### Initial Light Output

1100 - 3100 Lumens

### Full Warranty

1 Year (NOT pro-rata)

### AC Sensing Voltage

120/277 VAC, 60 Hz

### AC Input Current

90 mA

### AC Input Power Rating

0.5 Watts

### Temperature Rating (Ambient)

0°C to +55°C

(32°F to 131°F)

### Dimensions

9.4" x 2.4" x 1.5"

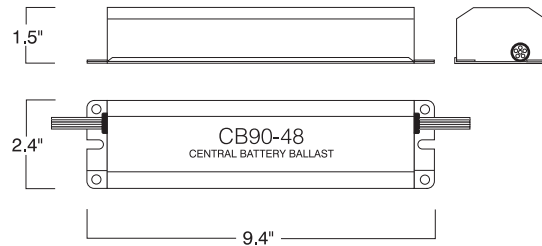
(238 mm x 60 mm x 38 mm)

Mounting Center 8.9" (226 mm)

### Weight

2.26 lbs. (1.02 kg)

*For continuous operation from 48 VDC supply source,  
refer to the TRAN-BAL® GER series.*



## APPLICATION

The CB90-48 central battery ballast provides backup lighting to existing fluorescent fixtures in buildings such as telephone exchanges or other facilities that have dedicated systems and a 48 VDC central battery supply. The central battery ballast consists of a solid-state inverter, EMI filter, AC voltage-sensing circuitry and switching circuitry in one compact case. The CB90-48 can be used with most 13 - 215 W (2' - 8') T8, T9, T10, or T12 fluorescent lamps without integral starters, including U-shaped, HO, VHO, circline and energy-saving, and (4-pin) twin, quad and triple twin-tube compacts (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 a fixture intended for DC operation only, no AC ballast is necessary. The CB90-48 is suitable for indoor locations. It is not suitable for air handling heated air outlets or wet, damp or hazardous locations. For information about specific lamp and ballast compatibility, please call the factory. Recommended applications include: telephone central offices and other facilities equipped with a 48 VDC power supply.

## OPERATION

When AC power fails, the CB90-48 senses the loss of AC power and automatically switches to DC power, operating either one or two lamps. Duration of illumination is determined by the capacity of the central battery supply. When AC power is restored, the CB90-48 returns to the standby mode, allowing the AC ballast to operate the lamps.

## INSTALLATION

The CB90-48 requires a 48 VDC power source and an unswitched source of AC power (120 or 277 VAC). It does not affect normal fixture operation and may be used with either a switched or unswitched fixture. The central battery ballast must be fed from the same AC branch circuit as the AC ballast. The CB90-48 may be installed inside, on top of or remote from the fixture. The central battery 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.

## UL and CODE COMPLIANCE

The CB90-48 has been tested by Underwriters Laboratories in accordance with standards set forth in UL 924, "Emergency Lighting and Power Equipment," and is UL Listed for factory or field installation.

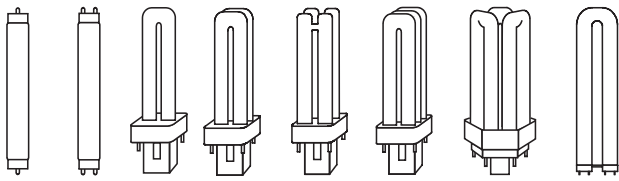
## Specifiers Reference

Project \_\_\_\_\_ Type \_\_\_\_\_ Model No. \_\_\_\_\_

Comments \_\_\_\_\_

L4000009

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**Full light output with one 32 W T8;  
One- or two-lamp illumination  
from 48 VDC power supply**

### EMERGENCY ILLUMINATION

Depending on the number (one or two), wattage and type of lamps selected, the CB90-48 produces 1000 to 3100 lumens (see Table 2). If two-lamp operation is selected, light output is evenly divided between the lamps for better distribution of illumination.

### SPECIFICATION

DC-powered lighting shall be provided by using a standard fluorescent fixture equipped with a Philips Bodine CB90-48 central battery ballast. This central battery ballast shall consist of a solid-state inverter, EMI filter, AC voltage-sensing circuitry and switching circuitry contained in one 9 3/8" x 2 3/8" x 1 1/2" compact metal case. The central battery ballast shall be capable of operating [one or two] \_\_\_\_\_ fluorescent lamp(s) (see Table 1) at \_\_\_\_\_ lumens (see Table 2). The CB90-48 shall have 0.5 Watts of AC standby input power and \_\_\_\_\_ Amps (see Table 2) of DC input current from an external 48 volt DC power supply. It shall be suitable for indoor locations. The central battery ballast shall be UL Listed for installation inside, on top of or remote from the fixture and shall be warranted for a full one year from date of purchase.

### WARRANTY

Model CB90-48 is warranted for one (1) full year from date of purchase. This warranty covers only properly installed Philips Bodine CB90-48 central battery ballasts used under normal conditions. For the warranty period, Philips Emergency Lighting will, at its option, repair or replace without charge a defective central battery ballast, provided it is returned to the factory transportation prepaid and our inspection determines it to be defective under terms of the warranty. Repair or replacement, as stated above, shall constitute the purchaser's exclusive warranty, which does not extend to transportation, installation, labor or any other charges; nor does it apply to any equipment of another manufacturer used in conjunction with the central battery ballast.

Table 1 - Lamp Compatibility

LAMP DIAMETER	BASE	WATTAGE (Length)	NO. of LAMPS (EMERGENCY)
1", 1¼", 1½" T8, T9, T10, T12	Single or Bipin	17 - 40 W (2'-4')	1
		40 - 215 W (5'-8')	2
Long Compact	4-pin (2G11)	18 - 39 W	1
		40 - 55 W	2
Compact	4-pin (G24q, GX24q)	13 - 42 W	1
			2

Table 2 - Initial Lumen Output

LAMP	NO. OF LAMP	LUMENS	DC INPUT CURRENT (A)
FO25, FBO24 T8	1	1950	0.64
	2	1400	0.50
FO32, FBO31 T8	1	3000	0.81
	2	1750	0.57
FO40 T8	1	1250	0.44
FO96 T8	2	2200	0.71
F40 T12, F40/U	1	1300	0.54
F40 T12ES (34W)	1	1600	0.57
F96 T12	2	1100	0.43
F96 T12/HO	1	1200	0.42
F96 T12/VHO	2	1500	0.49
PL-L 24W, F27/24BX, DULUX L 27W	1	1350	0.53
	2	1200	0.44
PL-L 36W, F39/36BX, DULUX L 39W	1	2200	0.67
	2	1700	0.52
PL-L 40W, F40/30BX, F50BX, DULUX L 55W	1	1300	0.41
28W 2D	1	2050	0.61
	2	1300	0.49
38W 2D	1	1800	0.62
	2	1500	0.48
PL-T 42W/4P, DULUX T/E 42W	1	3100	0.83
	2	2600	0.68
PL-T 32W/4P, DULUX T/E 32W	1	1900	0.62
	2	1750	0.48
PL-T 26W/4P, DULUX T/E 26W, F26TBX/4P	1	1400	0.53
	2	1400	0.43
PL-C 26W/4P, DULUX D/E 26W, F26DBX/4P	1	2100	0.58
	2	2150	0.52
PL-C 18W/4P, DULUX D/E 26W, F26DBX/4P	1	1150	0.52
		1150	0.48
PL-C 13W/4P, DULUX D/E 13W, F13DBX/4P	1	1100	0.47
	2	1100	0.43

*For the most current technical information and notices, please visit TechNotes on our website.*

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*EMI Specification For DC Line Conducted Emissions Less Than The Following:*  
a) - 47 dBm from 470 kHz to 1.6 MHz  
b) - 37 dBm from 1.6 MHz to 30 MHz