

BAL500

FLUORESCENT EMERGENCY BALLAST
500 Lumens

APPLICATION

The BAL500 fluorescent emergency ballast works in conjunction with the 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 one compact white case. The BAL500 can be used with one 17 W through 40 W (2' - 4') T8, T10, or T12 fluorescent lamp without integral starters, including U-shaped, HO, VHO, circline, energy saving, and (4-pin) long compact. It is also compatible with most 1, 2, 3, and 4-lamp electronic, standard, energy saving, and dimming AC ballasts. If used in an emergency-only fixture, no AC ballast is necessary. This ballast is not suitable for use in air handling heated air outlet fixtures, and wet or hazardous location fixtures. For information about specific lamp and ballast compatibility, please call the factory.

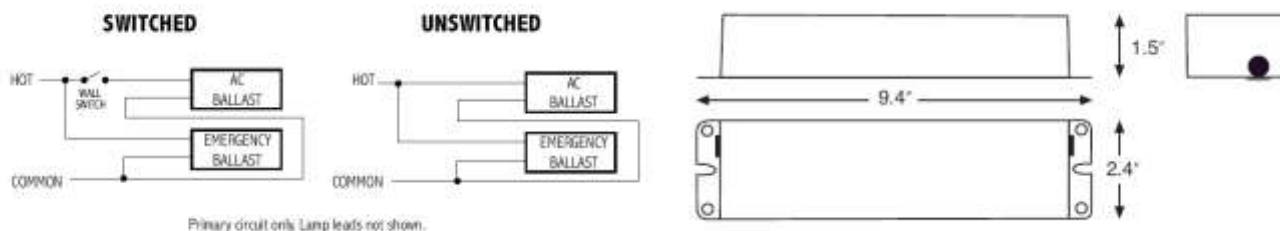


OPERATION

When AC power fails, the BAL500 immediately switches to the emergency mode, keeping one lamp illuminated at a reduced lumen output for a minimum of 90 minutes. When AC power is restored, the ballast automatically returns to the charging mode.

INSTALLATION

The BAL500 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 BAL500 may be installed inside, on top of, or remote from the fixture. The emergency ballast may be remote-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 for extended periods.



UL AND CODE COMPLIANCE

The BAL500 has been tested by Underwriters Laboratories in accordance with the standards set forth in UL924, "Emergency Lighting and Power Equipment," and is UL Listed for factory and field installation. Emergency illumination time exceeds the National Electrical Code (NEC), Life Safety Code (NFPA-LSC) and UL 90-minute requirements.

BATTERY

Because high temperatures exist in fluorescent fixtures, the BAL500 uses a specifically constructed, high-temperature nickel cadmium battery. This battery requires no maintenance and has a life expectancy of 7 – 10 years.

EMERGENCY ILLUMINATION

The BAL500 produces 500 to 600 lumens initial emergency light output. During emergency illumination, one lamp is illuminated, even if installed with a multi-lamp AC ballast. Emergency lumen output will be less with a compact fluorescent lamp.

SPECIFICATION

Emergency lighting shall be provided by using a standard fluorescent fixture equipped with a Howard BAL500 emergency ballast. This emergency ballast shall consist of a high-temperature, maintenance-free nickel cadmium battery, charger and electronic circuitry contained in one 9 3/8" x 2 3/8" x 1 1/2" white metal case. A solid-state charging indicator light to monitor the charger and battery, a single-pole test switch, and installation hardware shall be provided. The emergency ballast shall be capable of operating one 17 W - 40 W (2'- 4') T8, T10, or T12 fluorescent lamp or (4-pin) long compact fluorescent lamp at reduced illumination in the emergency mode for a minimum of 90 minutes. The BAL 500 shall produce 350 to 450 lumens initial emergency light output, have 2.5 Watts of input power, a 9.6 Watt-hour battery capacity, and comply with 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 BAL500 is warranted for five (5) full years from date of purchase. This warranty covers only properly installed Howard emergency ballasts use under normal conditions. For the warranty period Howard will, at its option, repair or replace without charge, a defective emergency ballast provided it is returned to the factory transportation 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 emergency ballast.

PRODUCT SUMMARY

UL LISTED

Factory or Field
Installation

ILLUMINATION

90 Minutes

INITIAL LIGHT OUTPUT

350-450 Lumens

FULL WARRANTY

5 Years (NOT pro-rata)

DUAL VOLTAGE INPUT

120/277VAC 60 Hz

AC INPUT CURRENT

320mA

AC INPUT POWER RATING

2.5 Watts

TEST SWITCH

Single pole

BATTERY

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

BATTERY CHARGING CURRENT

270mA

RECHARGE TIME

24 Hours

CHARGING INDICATOR LIGHT

LED

TEMPERATURE RATING (AMBIENT)

0°C TO 50°C (32°F TO 112°F)

DIMENSIONS

9.4" X 2.4" X 1.5"
(238mm x 60mm x 38mm)
Mounting center 8.9" (226mm)

WEIGHT

2.1lbs (1kg)



CAUTION :Contains nickel-cadmium rechargeable battery. Must be recycled or disposed of properly.



Installation Instructions

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When using this lighting device the safety precautions should be followed at all times.

PLEASE READ CAREFULLY AND FOLLOW ALL INSTRUCTIONS FOR YOUR OWN SAFETY

1. This device is designed for indoor use. Do not use outdoors.
2. Prior to installation, battery connector must be open to prevent high voltage from being present on our put leads (red & yellow).
3. This device is designed for use with 17W – 40W single pin or bipin fluorescent lamps. These lamps are commonly available in the market. Please use energy saving, circline, U-bent, or 4-pin rapid start long compact fluorescent lamps.
4. Please ensure the electrical connections conform to the National Electrical Code and local regulations if applicable.
5. To avoid electric shock, please disconnect normal and emergency power supplies and battery connector of the emergency ballast before servicing.
6. This device is designed for factory or field installation in either the ballast channel, or on top of the indoor fixture, except air handling heated air outlets, wet or hazardous location fixtures. Do not install this device near gas or electric heaters.
7. AC power source of 120VAC or 277VAC is required.
8. The battery is sealed, non-maintenance, and is not replaceable in the field. Please contact manufacturer for information on service. Do not attempt to service the battery please.
9. Do not use accessory equipment that is not recommended by manufacturer. Failure to do so may cause unsafe conditions. Servicing should only be performed by qualified service personnel.
10. Do not use the product for other purpose that the product is NOT designed for.



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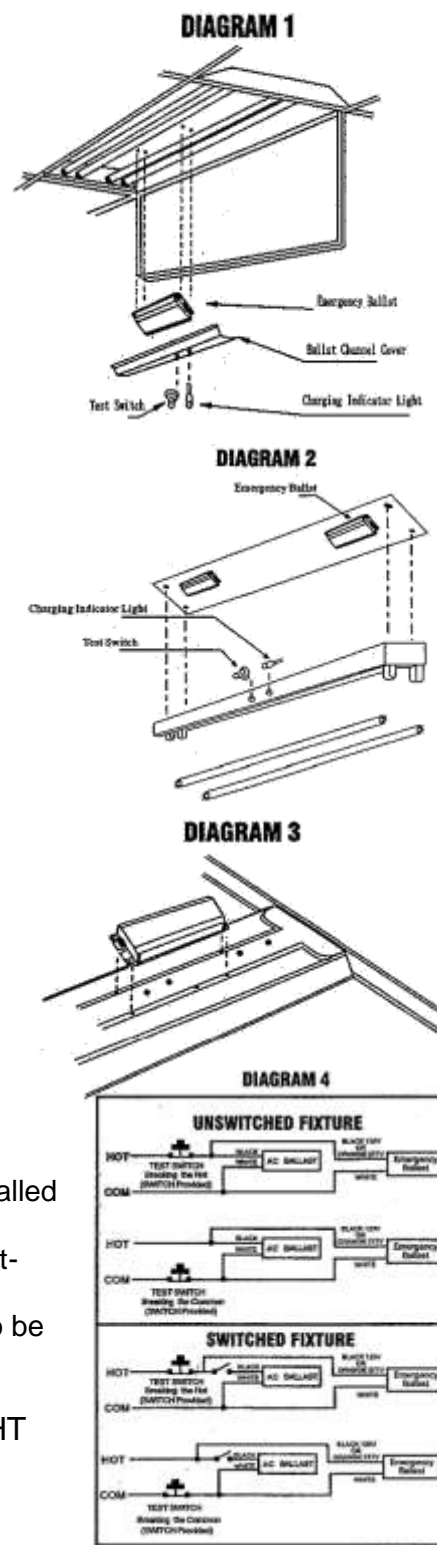
Installation Instructions

NOTE: All the branch circuit wiring has to be ready as well as an unswitched source of power before the fixture is installed. Confirm that the same branch circuit runs the emergency ballast and the AC ballast.

CAUTION: Battery connector has to be opened for preventing high voltage on output leads (red & yellow). Wait until all the installation process is completed and AC is supplying power to the emergency ballast then join the battery connector.

1. AC power has to be off before installation.
2. Choose the right wiring diagram to connect the emergency ballast to AC ballast and lamp.
3. The emergency ballast can be used with no more than 2 lamp fixture and operates no more than two lamps when there is emergency mode. (Study the wiring schematics before connecting the wire.)
4. Follow diagram 1&2 to install the emergency ballast on the top of fixture or in the ballast channel.
5. To install the test switch, it would go through the side of a strip fixture or the ballast channel cover of a troffer. Follow diagram 1&2 to drill a 1/2" hole and install the test switch. In order to remove AC power from both the emergency ballast and the AC ballast, the test switch has to be connected properly (check diagram4).
6. Matching violet and brown leads to connect the charging indicator light to the emergency ballast (Check diagram 5). The charging indicator would be on after the fixture is installed properly.
7. Please search in readily visible location and stock the label with "CAUTION: This Unit Has More Than One Power Supply Connection Point. To Reduce The Risk Of Electric Shock, Disconnect Both The Branch Circuit-Breakers Or Fuses And Emergency Power Supplies Before Servicing."
8. Do not join the inverter connector until the fixture is completely installed and supply AC power to the emergency ballast.
9. The battery needs to be charged for one hour in order to have short-term testing on the emergency function. Before having a long-term emergency function testing, the battery in emergency ballast has to be charged for 24 hours.

NOTE: MARK AN APPROPRIATE LABEL ON INDICATOR LIGHT AND TEST SWITCH AFTER INSTALLATION



OPERATION:

THE CHARGING INDICATOR LIGHT WOULD BE ON TO INDICATE THE BATTERY IS BEING CHARGED WHEN AC POWER IS APPLIED.

THIS EMERGENCY BALLAST WOULD FUNCTION AND OPERATE ONE OR TWO LAMPS WHEN THE AC POWER IS FAILED.

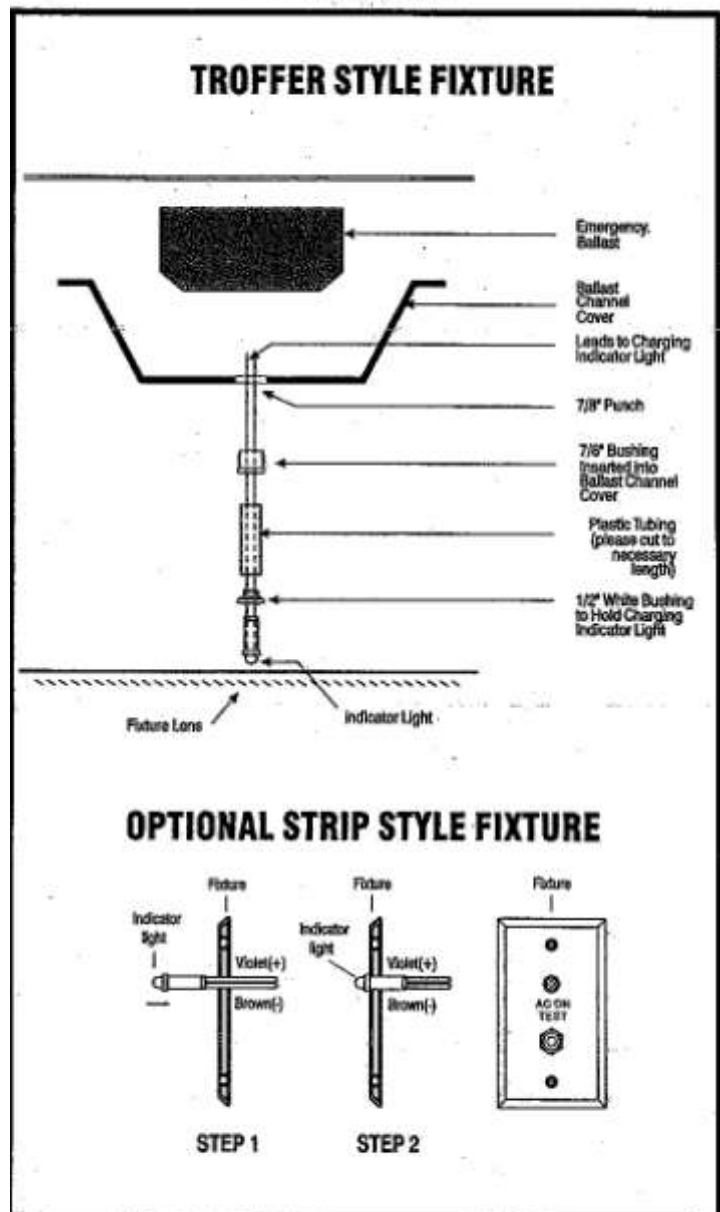
THE DEVICE OF THIS EMERGENCY BALLAST WILL OPERATE 17 WATT TO 40 WATT LAMPS AT LEAST 90 MINUTES.

MAINTENANCE:

NOTE: SERVICES SHOULD ONLY BE PERFORMED BY QUALIFIED PERSONNEL.

THE EMERGENCY BALLAST SHOULD BE CHECKED PERIODICALLY TO CONFIRM FUNCTIONING AND THE FOLLOWING SCHEDULE IS RECOMMENDED

- 1) TO INSPECT THE CHARGING INDICATOR EVERY MONTH AND CONFIRM THAT IS ILLUMINATED.
- 2) PUSH THE TEST SWITCH FOR 30 SECONDS TO ENSURE THE EMERGENCY BALLAST IS FUNCTIONING, RECOMMENDED TO PERFORM THIS TEST EVERY 30 DAYS.
- 3) PERFORMING A LONG-TERM (90 MINUTE BATTERY DISCHARGE) IN EVERY YEAR. ONE OR TWO LAMPS SHOULD BE OPERATED FOR NO LESS THAN 90 MINUTES.

DIAGRAM 5

NOTE: MARK AN APPROPRIATE LABEL ON INDICATOR LIGHT AND TEST SWITCH AFTER INSTALLATION.



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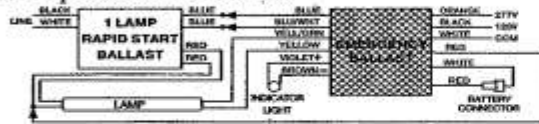
WIRE DIAGRAMS FOR 1-LAMP EMERGENCY OPERATION

EMERGENCY BALLAST AND AC BALLAST MUST BE FED FROM THE SAME BRANCH CIRCUIT

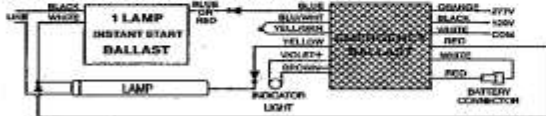
TYPICAL SCHEMATICS ONLY. MAY BE USED WITH OTHER BALLASTS. CONSULT THE FACTORY FOR OTHER WIRING DIAGRAMS.

For 1 Lamp Fixture

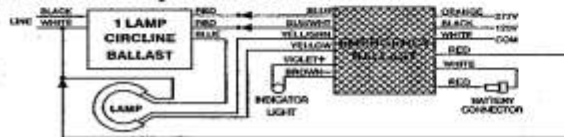
A. Rapid Start AC Ballast



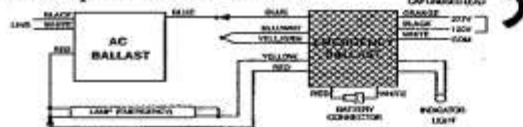
B. Instant Start Slimline Ballast



C. Circuline Rapid Start Ballast

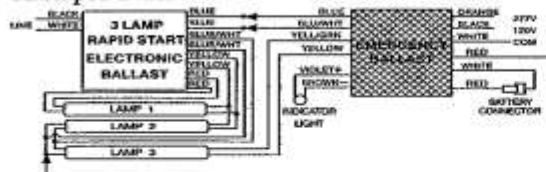


D. 1 Lamp Instant Start Ballast

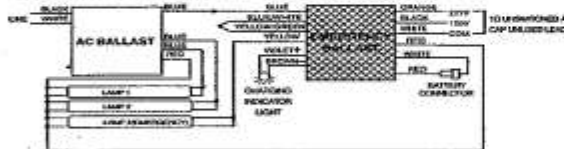


For 3 Lamp Fixture

A. Rapid Start

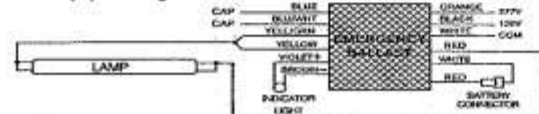


B. Instant start Ballast



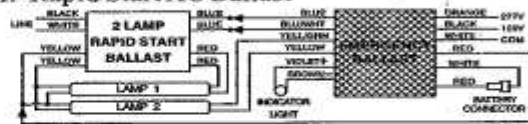
Emergency only

One (1) Lamp Without AC Ballast

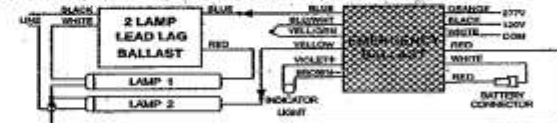


For 2 Lamp Fixture

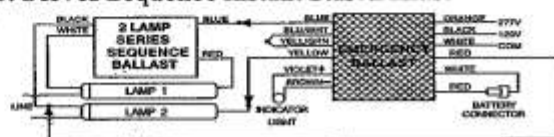
A. Rapid Start AC Ballast



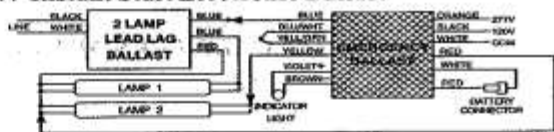
B. LEAD/LAG Instant Start Slimline Ballast



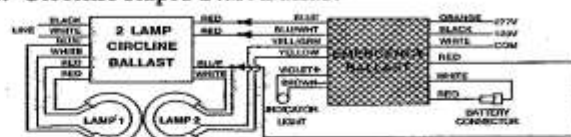
C. Serves Sequence Instant Start Ballast



D. Instant Start Electronic Ballast

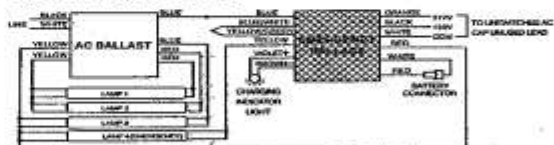


E. Circuline Rapid Start Ballast

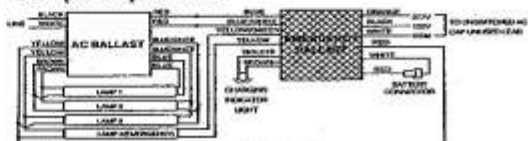


For 4 Lamp Ballast

A. Instant Start Ballast



B. Rapid Start Ballast



NOTE: Use the proper tap cap to unswitched AC lead