



INSTALLATION SHEET: FH12-UNV-1400L-CEC IMPORTANT SAFEGUARDS



READ AND FOLLOW ALL SAFETY INSTRUCTIONS SAVE THESE INSTRUCTIONS

When using electrical equipment and this lighting device basic safety precaution should be followed at all times including but not limited to the following:

IMPORTANT: An un-switched AC power source of 120VAC to 277VAC is required.

WARNING: This emergency ballast has more than one power supply connection point. To reduce the risk of electric shock, disconnect the following before installation or servicing:

- AC branch power supplying the AC and Emergency Ballast.
- Disconnect the inverter connector of the Emergency Ballast.

WARNING: Do not connect the inverter connector until servicing or installation is complete and AC power is supplied to the emergency ballast.

IMPORTANT: FH12 tested at baseline height of 7.17' (2.2M) to achieve 1FC minimum. Users should confirm local code compliance based on a qualified lighting layout before installing.

CAUTION: The Emergency Ballast and AC ballast must be fed from the same branch circuit. Refer to the wiring diagram for applicable lamp and ballast configuration.

CAUTION: NOT suitable for use in air handling heated air outlets, outdoor, wet or hazardous locations. Do not install emergency ballast near gas or electric heaters.

CAUTION: Equipment should be mounted in locations and at heights where it will not be subjected to tampering by unauthorized personnel.

CAUTION: Make sure all electrical connections conform to the National Electrical Code and all applicable local regulations

CAUTION: Sealed unit. The battery is not replaceable. Replace entire unit when necessary.

CAUTION: Battery is rechargeable NiCad type and must be recycled or disposed of properly.

INTENDED USE

This device is designed for use in luminaires listed for indoor damp, or dry locations.

This device is designed for use with:

ONE- 22W CRT5, 2D28W, 2D38W, 32WCRT9, 40WCRT9, 40WCRT5, 55W CRT5, CFM57W, CFQ 18W, CFQ13W, F14T5, F17T8, F21T5, F24T5HO, F25T8, F28T5, F30T12, F32T8, F32T8(25W), F32T8(28W), F32T8(30W), F35T5, F39T5HO, F40T12, F40T8, F48T10VHO(110W), F49T5HO, F54T5HO, F58T8, F60T12HO, F60T12SL, F60T8HO, F70T8, F72T12HO, F72T12SL, F72T8HO, F84T12HO, F96T12HO(110W), F96T12HO(95W), F96T12SL(60W), F96T12SL(72W), F96T8SL, FBO16T8, FBO24T8, FBO29T8, FBO31T8, FT18W, FT24W, FT36W, FT40W, FT50W, FT55W

TWO - 2D28W, 2D38W, CFQ18W, CFQ13W, CFQ26W, CFTR13W, CFTR18W, F14T5, F17T8, F20T12, F21T5, F24T5HO, F25T8, F30T12, F32T8, F32T8(28W), F39T5HO, F40T12, F54T5HO, FBO31T8, FT18W, FT24W, FT36W, FT50W, FT55W

- Do not use outdoors.
- Do not mount near gas or electric heaters.
- Equipment should be mounted in locations and at heights where it will not be subjected to tampering by unauthorized personnel.
- The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
- Do not use this equipment for other than its intended use.
- Do not use this emergency ballast with accessory equipment other than recommended by manufacturer; failure to follow this may cause an unsafe condition. Servicing should only be performed by qualified service personnel.

WARRANTY: Fulham Co., Inc. extends limited warranty only to the original purchaser or to the first user for the period of 5 years from the date of manufacture as indicated by the date code stamped on each product and when properly installed and under normal conditions of use. For additional warranty guide line, please refer to our Complete Product Catalog (www.fulham.com) OR call Customer Service at 1-323-779-2980. Due to a program of continuous improvement, Fulham Co., Inc. reserves the right to make any variation in design or construction to the equipment described.

GENERAL INSTRUCTIONS

ASSEMBLY and FIELD INSTALLATION:

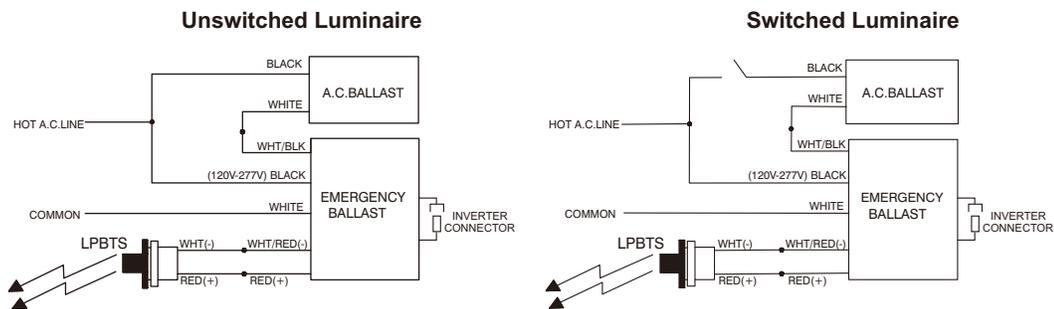
WARNING: AC power must be off before proceeding with assembly or installation of emergency ballast. Select the correct wiring diagram and AC ballast configuration before assembly and wiring of the emergency ballast.

WARNING: Inverter connector has to be open (not connected) in order to prevent high voltage from being present on the output leads (Red and Yellow). Do not connect the inverter connector until installation is complete and AC power is supplied to the emergency ballast.

CAUTION: FireHorse emergency ballast and AC ballast must be fed from the same branch circuit, **120VAC TO 277VAC UNSWITCHED POWER SOURCE IS REQUIRED WITHOUT EXCEPTION.**

CAUTION: FireHorse Emergency Ballasts can operate with a switched or un-switched luminaire. However, if a switched luminaire is used, an un-switched hot lead must be connected to the Emergency Ballast. This ensures the ballast remains in an uninterrupted charge condition when the primary power source is active. Refer to Illustration 1 for appropriate wiring option.

Illustration 1



EMERGENCY BALLAST INSTALLATION LOCATION: FireHorse emergency ballast can be mounted in the ballast channel compartment, on top of the luminaire or remotely.

IMPORTANT: When mounting the emergency ballast at a remote location the emergency ballast must be installed within one half (1/2) distance of the recommended AC ballast remote specification. The maximum remote distance for the emergency ballast is fifty feet (50'); the shorter of the two distances is recommended for optimum emergency ballast operation when used with an AC ballast.

REMOTE TEST SWITCH PLATE (OPTIONAL): It is recommended that the remote test switch plate be mounted within fifty feet (50') of the luminaire. Mounting and installation shall follow NEC and applicable local electrical codes.

FUNCTIONALITY TEST REQUIREMENT:

- A functionality test shall be manually conducted by pressing the test switch for thirty (30) seconds every thirty (30) days to ensure the emergency fluorescent light source illuminates as intended.
- A full discharge test shall be conducted once a year; the fluorescent light source shall illuminate for a minimum of ninety (90) minutes.

TESTING SYSTEM: The emergency battery requires a charge minimum of one (1) hour before testing the circuit. A full charge requires twenty four (24) hours.

GENERAL INSTRUCTIONS

1. MOUNTING THE FH12-UNV-1400L-CEC

Remove the ballast channel cover. Mount the FH12-UNV-1400L-CEC in the ballast channel at least 1/2" away from A.C. Ballast(s).

2. INSTALLING THE LIGHTED PUSH BUTTON TEST SWITCH (LPBTS)

Recessed Troffer Luminaire - Select a convenient location with proper clearance and drill or punch a 7/8" hole (1/2" knock out). Insert the 7/8" bushing into the hole. Push the plastic tube through the bushing. Route the leads of the LPBTS through the plastic tube. Connect the LED wires from the unit to the LPBTS (Red to Red, White to White/Red). Push the entire assembly back into the tube until the lens collar rests against the plastic tube. The plastic tube should be adjusted so that the LPBTS is within 1/4" of the luminaire lens. The LPBTS must be visible after installation. Refer to illustration 2.

Strip Luminaire - select a convenient location on the Luminaire so the LPBTS can be seen after installation. Allow for proper clearance inside the luminaire and drill or punch a 1/2" hole. Remove the nut from the LPBTS. Push the LPBTS housing into the 1/2" hole and secure with the nut. Connect the LED wires from the LPBTS (Red to Red, White to White/Red). Refer to Illustration 3.

Illustration 2

Recessed Troffer Luminaire

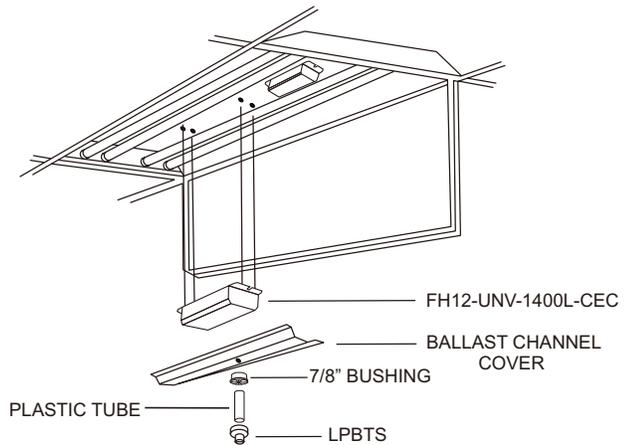
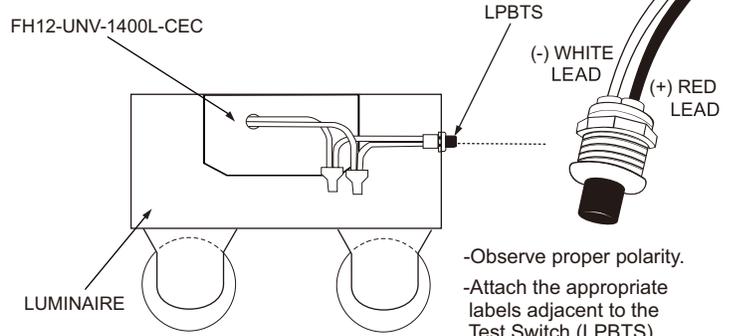
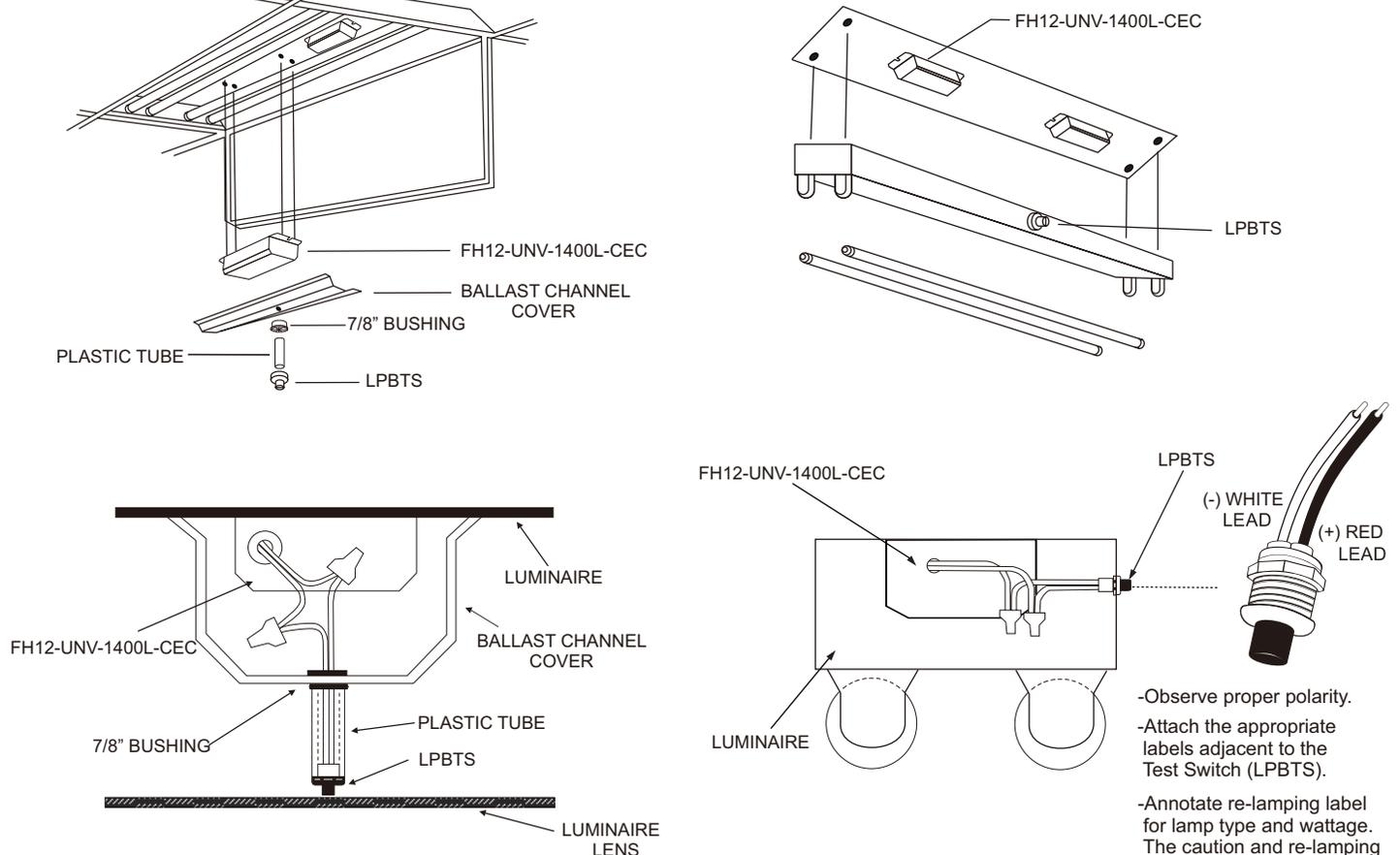


Illustration 3

Strip Luminaire

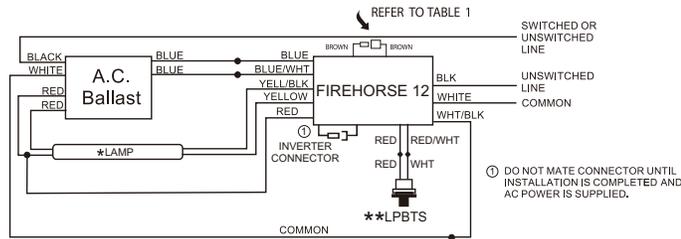


- Observe proper polarity.
- Attach the appropriate labels adjacent to the Test Switch (LPBTS).
- Annotate re-lamping label for lamp type and wattage. The caution and re-lamping labels must be on the fixture in a readily visible location to anyone attempting to service the fixture.

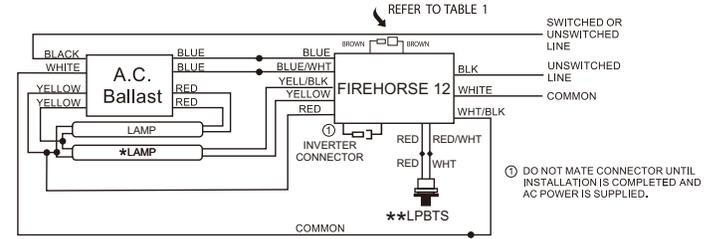
WIRING DIAGRAMS

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.

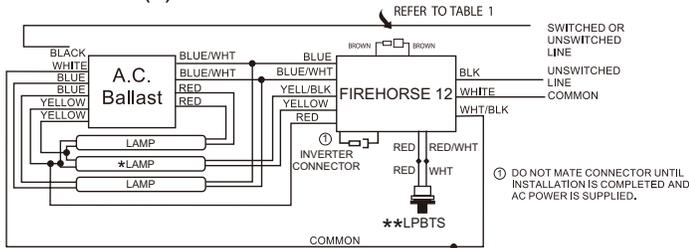
1. ONE (1) LAMP RAPID START AC BALLAST



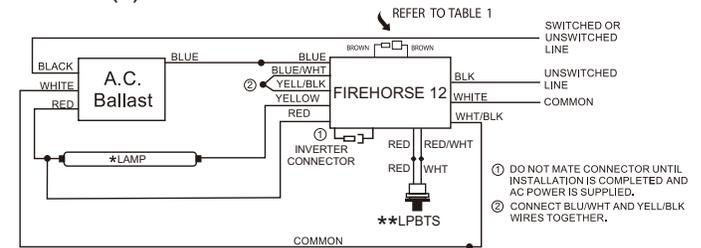
2. TWO (2) LAMPS RAPID START AC BALLAST



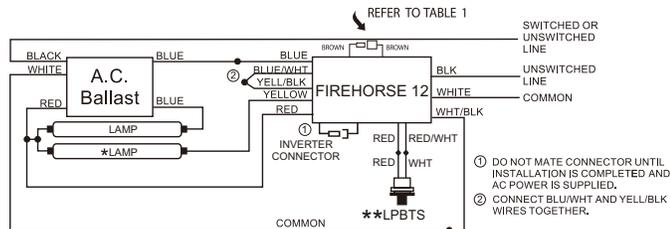
3. THREE (3) LAMPS RAPID START AC BALLAST



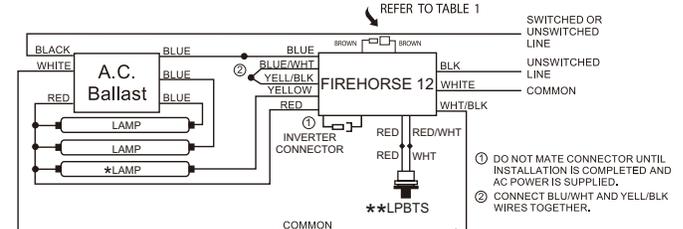
4. ONE (1) LAMP INSTANT START AC BALLAST



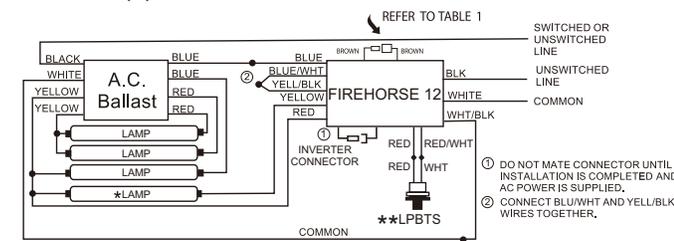
5. TWO (2) LAMPS INSTANT START AC BALLAST



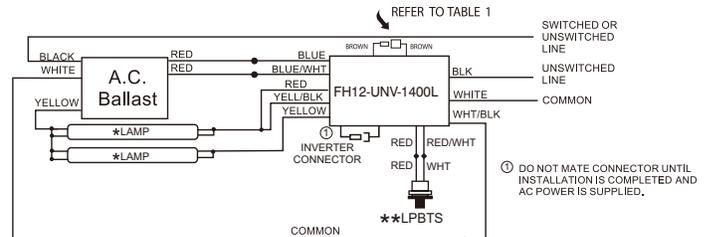
6. THREE (3) LAMPS INSTANT START AC BALLAST



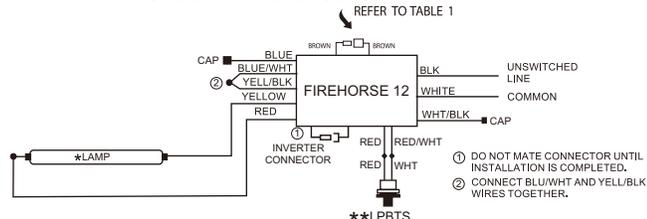
7. FOUR (4) LAMPS INSTANT START AC BALLAST



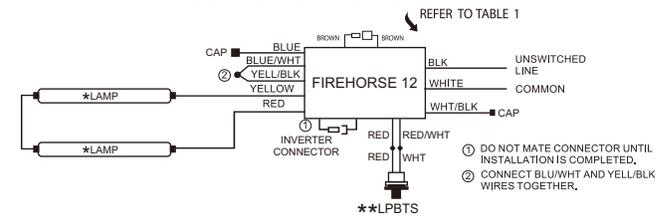
8. TWO (2) LAMPS INSTANT START AC BALLAST TWO LAMPS IN EMERGENCY



9. ONE (1) LAMP WITHOUT AC BALLAST ONE LAMP IN EMERGENCY



10. TWO (2) LAMPS WITHOUT AC BALLAST TWO LAMPS IN EMERGENCY



*AC / EMERGENCY

**LIGHTED PUSH BUTTON TEST SWITCH (LPBTS)

USE PROPER WIRENUTS TO CAP UNUSED LEADS

NOTE: THIS PRODUCT WILL NOT OPERATE MORE THAN ONE LAMP IN BATTERY (EM) MODE WITH A RAPID/PROGRAM START BALLAST.