

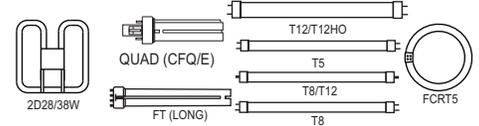
Project _____ Type _____ Model # _____

Remarks _____

Description: Firehorse Emergency Ballast for use with or without AC ballast designed to add emergency lighting when main AC power is interrupted for minimum of 90 minutes at reduced illumination. The emergency ballast is not intended for general purpose lighting applications. Complies with minimum light output for emergency lighting equipment as per UL 924, supplement "SH". Consult with factory when using EM Ballast with low mercury lamps (TCP).

This Ballast Will Operate Following Lamps.

- 1 X F8T5, F14T5, F21T5, F28T5, F54T5HO, F17T8, F25T8, F32T8, F40T12, F59T8, F86T8, F40T10, F20T12, F25T12, F34T12, F40T12, F75T12, F96T12 (95W), F96T12 (110W), F96T12 (160W), F96T12 (215W), FT18W, FT36W, FT40W, FT55W, CFQ13W, CFQ18W, CFQ26W, CRT9 20W, CRT9 40W, FB32T8, FB34T12, FB40T12
- 2 X F8T5, F14T5, F21T5, F17T8, F25T8, F32T8, F40T8, F40T10, F20T12, F25T12, F34T12, F40T12, FT18W, FT36W, CFQ13W, CFQ18W, CFQ26W, CRT9 20W, CRT9 40W, FB32T8, FB34T12, FB40T12



ELECTRICAL DATA

BALLAST TYPE / OUTPUT TYPE	EMERGENCY
INPUT VOLTAGE	120V OR 277V ± 10%, 60 Hz
AC INPUT POWER RATING	3.5W
AC INPUT CURRENT RATING	230mA
BATTERY TYPE	MAINTENANCE FREE - HIGH TEMPERATURE RECHARGEABLE SEALED NI-CAD
BATTERY VOLTAGE	14.4Vdc
BATTERY CHARGING CURRENT	230mA
BATTERY RATING	57.6Wh
BATTERY CAPACITY	4.0Ah
TEMPERATURE RATING (AMBIENT)	0°C TO 50°C (32°F TO 122°F)
MAX INITIAL LIGHT OUTPUT	3000 LUMENS
MINIMUM ILLUMINATION TIME	90 MINUTES
RECHARGE TIME	24 HOURS
TEST SWITCH TYPE	ILLUMINATED TEST SWITCH PILOT LIGHT
CHARGING INDICATOR LIGHT TYPE	LED
CASE PROFILE	16.4"L X 5.6"W X 1.8"H X 15.1" MOUNTING CENTER
CASE WEIGHT	9.2 lbs.
CASE TYPE	VANDAL RESISTANT- SEALED
CASE CONSTRUCTION	PAINTED STEEL RED FINISH
WIRE CONNECTION	SINGLE 2" FLEX CONDUIT W/ HIP/STD - LEADS ONE END
APPROVAL CLASS	UL - LISTED FOR DAMP LOCATION - FACTORY OR FIELD INSTALLATION
CODE COMPLIANCE	MEETS OR EXCEEDS UL924 - N.E.C AND NFPA 101 LIFE SAFETY CODE EMERGENCY OPERATING REQUIREMENT
AC COMPATIBILITY	ELECTRONIC FLUORESCENT - STANDARD AND DIMMING
LAMP COMPATIBILITY	FLUORESCENT SINGLE / BI-PIN / 4-PIN WITHOUT INTEGRAL STARTER
LUMINAIRE COMPATIBILITY	INDOOR SWITCHED AND UN-SWITCHED TYPE
END OF LIFE (EOL) COMPATIBILITY	NO
WARRANTY	5 YEARS

MECHANICAL DATA

TOP VIEW

WIRE LENGTH

Input		Output	
Wire Color	Wire Length	Wire Color	Wire Length
Black	30.3"	Blue	30.3"
Black/White	30.3"	Blue/White	30.3"
White	30.3"	Yellow	30.3"
Orange	30.3"	Red	30.3"
Connector		Red/White	30.3"
White	30.3"	Violet	30.3"
White	30.3"	Brown	30.3"

APPLICATION

The FireHorse emergency ballast can be used to add emergency lighting with or without an AC ballast and with most fluorescent luminaires without affecting normal luminaire operation. The emergency ballast is designed for factory or field installation and can be mounted on top, inside, or remote from the luminaire.

If used in an emergency-only luminaire, no AC ballast is required. The FireHorse emergency ballast is not suitable for use in air handling heated air outlets, outdoor, wet, or hazardous locations. The emergency ballast should not be installed near gas or electric heaters. The FireHorse emergency ballast is rated for Indoor Dry/Damp locations, including luminaires rated for UL wet locations .

OPERATION

The FireHorse emergency ballast is designed to immediately switch to the emergency mode when the primary AC power is interrupted, illuminating one or two lamps at a reduced lumen output for a minimum of 90 minutes. Upon restoration of primary AC power; the FireHorse emergency ballast immediately returns to a battery charging mode. The LED indicator light source when illuminated indicates battery is in charge mode when AC power is applied. It is recommended and by code required to test the emergency ballast every 30 days to ensure that the ballast is functioning as evidenced by reduced illumination of one or two lamps when pushing the test switch. It is also recommended a 90 minute discharge test is performed one time every 12 months. Battery requires 24 hours to fully re-charge.

INSTALLATION

The FireHorse emergency ballast may be used with either a switched or un-switched luminaire. If a switched luminaire is used, an un-switched hot lead must be connected to the emergency ballast to ensure the ballast remains in an uninterrupted charge condition while primary AC power source is active. Reference Installation Instructions for appropriate wiring or contact Fulham Customer Service.

The FireHorse emergency ballast must be fed from the same branch circuit as the AC ballast. Installation is not recommended with luminaires where the ambient temperature may fall below 0° C for extended periods as this may affect the operation of the emergency ballast.

REMOTE MOUNTING

The FireHorse emergency ballast may be remote-installed up to half the distance the AC ballast manufacturer recommends for remote mounting the AC ballast from the lamp, or up to 50 feet, whichever is less distance. The remote test switch plate may be mounted within 50 feet of the luminaire and is subject to NEC and applicable local electrical code.

UL and CODE COMPLIANCE

The FireHorse emergency ballast has been tested by Underwriters Laboratories in accordance with the standards contained in UL924, "Emergency Lighting and Power Equipment", and is UL approved for factory or field installations. Emergency illumination time meets or exceeds the National Electrical Code (NEC), Life Safety Code (NFPA-LSC) and UL 90 minute requirements.

BATTERY

The FireHorse emergency ballast contains a uniquely constructed, high-temperature rechargeable nickel cadmium battery. The battery is sealed within the ballast housing and is not replaceable. The battery must be recycled or disposed of properly and in compliance with federal, state and local regulations.

EMERGENCY ILLUMINATION

Illumination output varies with number of lamps, either 1 or 2 lamps, and lamp wattage requirement. The FireHorse model FH6-DUAL-3000L is designed to produce 1800-3000 initial emergency lumen output; if model works with 2 lamps the total initial lumen is distributed between the 2 illuminated lamps. Refer to Table 1 for average lumen output for selected lamps.

SPECIFICATION

Emergency lighting shall be provided by using a FireHorse emergency ballast with a standard fluorescent luminaire equipped with or without an AC ballast. The emergency ballast shall be capable of operating one or two fluorescent lamps as referenced in Table 1. The emergency ballast shall conform to specifications contained in Electrical Data Table and comply with standards set forth by the current NEC. The emergency ballast shall be UL approved for installation on top, inside, or remote from the luminaire.

NOTE: USE OF LOW MERCURY "GREEN" LAMPS

A growing number of fluorescent lamp manufacturers have reduced the level of mercury content in their products. While this is helpful to the environment, the lower mercury content makes the lamp more difficult to start in emergency mode, particularly in a compact fluorescent cold-start emergency-only application without an AC ballast. Please contact Fulham Customer Service for further assistance if needed.

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.



Hardware kit and instruction sheets are included with EM Ballast.

TABLE 1
LUMEN OUTPUT CHART

FH6-DUAL-3000L WITHOUT INTEGRAL STARTER	WATTS	INITIAL LUMEN OUTPUT	BROWN CONNECTOR	INITIAL LUMEN OUTPUT	BROWN CONNECTOR
		1 LAMP	1 LAMP	2-LAMPS	2-LAMPS
F8T5	8W	Pending	CLOSED	Pending	*OPEN
F14T5	14W	1150	CLOSED	1200	*OPEN
F21T5	21W	1650	CLOSED	1750	*OPEN
F28T5	28W	2250	*OPEN	X	X
F54T5HO	54W	2900	*OPEN	X	X
F17T8	17W	1150	CLOSED	1200	OPEN
F25T8	25W	1650	CLOSED	1800	OPEN
F32T8	32W	2850	CLOSED	2900	OPEN
F40T8	40W	2900	CLOSED	2950	OPEN
F59T8	59W	3000	CLOSED	X	X
F86T8	86W	2950	OPEN	X	X
F40T10	40W	Pending	CLOSED	Pending	OPEN
F20T12	20W	900	CLOSED	950	OPEN
F25T12	25W	1100	CLOSED	1200	OPEN
F34T12	34W	1700	CLOSED	1800	OPEN
F40T12	40W	2250	CLOSED	2400	OPEN
F75T12	75W	2950	OPEN	X	X
F96T12	95W	3000	OPEN	X	X
F96T12	110W	3000	OPEN	X	X
F96T12	160W	3000	OPEN	X	X
F96T12	215W	3000	OPEN	X	X
FT 18W	18W	1100	CLOSED	1200	OPEN
FT 36W	36W	1650	CLOSED	1800	OPEN
FT 40W	40W	1750	OPEN	X	X
FT 55W	55W	2450	OPEN	X	X
CFQ 13W	13W	825	CLOSED	900	OPEN
CFQ 18W	18W	925	CLOSED	1000	OPEN
CFQ 26W	26W	1250	CLOSED	1300	OPEN
CRT9	20W	750	CLOSED	800	OPEN
CRT9	40W	1450	CLOSED	1600	OPEN
FB32T8	32W	1100	CLOSED	1200	OPEN
FB34T12	34W	1025	CLOSED	1100	OPEN
FB40T12	40W	975	CLOSED	1050	OPEN

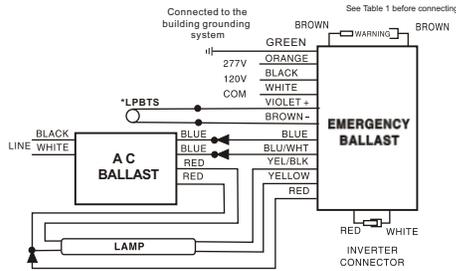
Full compatible lamp list - lumen ratings may vary with lamp specifications, light loss, lamp and luminaire maintenance and other utilization factors.
NOTE: WIRING DIAGRAMS SHOWN ON SEPARATE SHEET

*OPEN FOR EMERGENCY-ONLY OPERATION
"X" INDICATES LAMP COMBINATION NOT COMPATIBLE

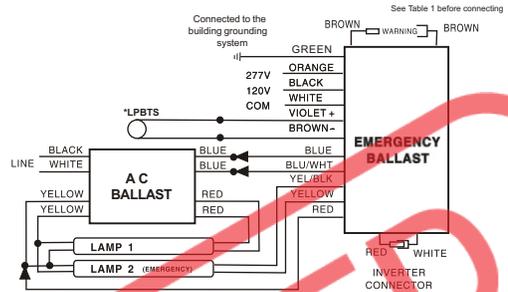
EMERGENCY BALLAST AND AC BALLAST MUST BE FED FROM THE SAME BRANCH CIRCUIT
TYPICAL SCHEMATICS ONLY. MAY BE USED WITH OTHER BALLASTS. CONSULT THE FACTORY FOR OTHER WIRING DIAGRAMS.

WIRING DIAGRAMS FOR ONE LAMP EMERGENCY OPERATION

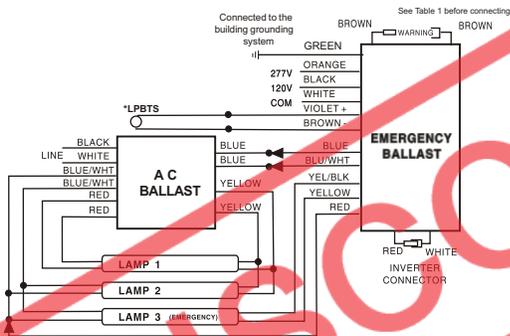
1. ONE (1) LAMP RAPID START BALLAST



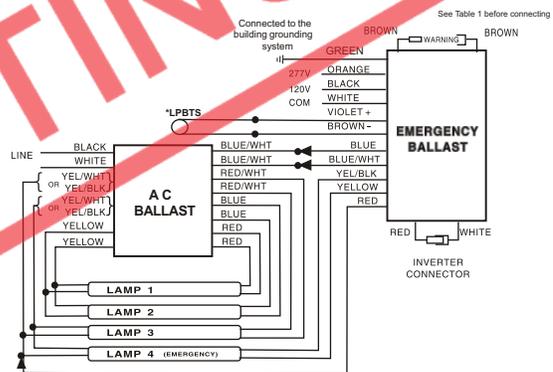
2. TWO (2) LAMP RAPID START BALLAST



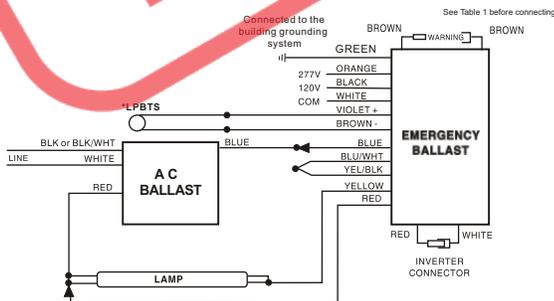
3. THREE (3) LAMP RAPID START BALLAST



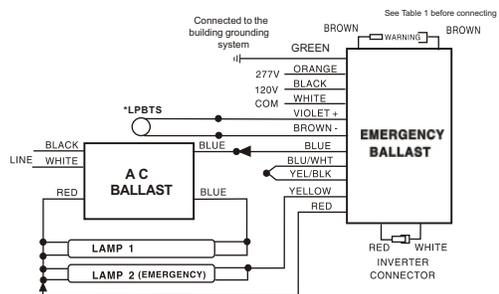
4. FOUR (4) LAMP RAPID START BALLAST



5. ONE (1) LAMP INSTANT START BALLAST



6. TWO (2) LAMP INSTANT START BALLAST



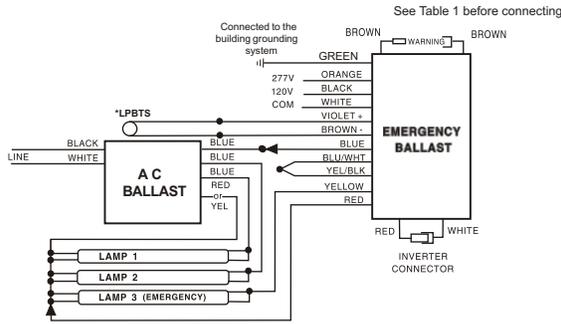
NOTE: GREEN WIRE MUST BE GROUNDED
USE PROPER CAPS TO TAP UNUSED LEADS

*LIGHTED PUSH BUTTON TEST SWITCH (LPBTS)

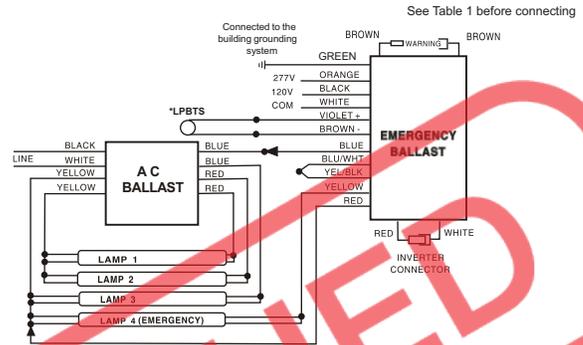
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WIRING DIAGRAMS FOR ONE LAMP EMERGENCY OPERATION

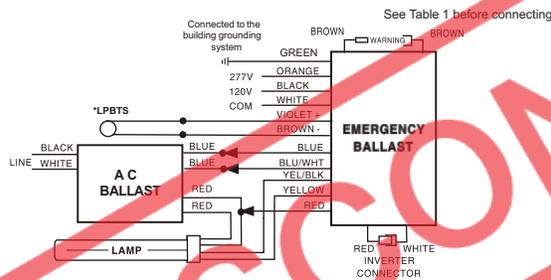
7. THREE (3) LAMP INSTANT START BALLAST



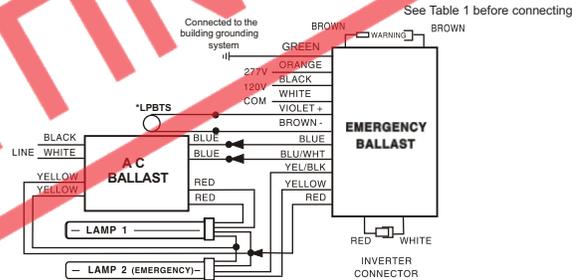
8. FOUR (4) LAMP INSTANT START BALLAST



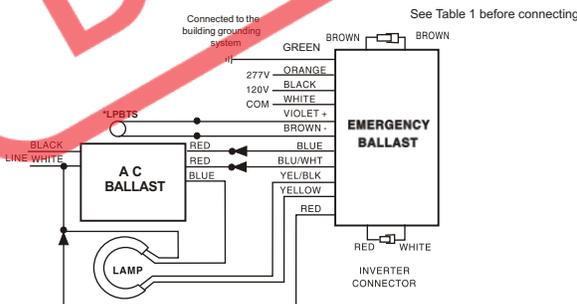
9. ONE (1) 4-PIN COMPACT LAMP RAPID START BALLAST



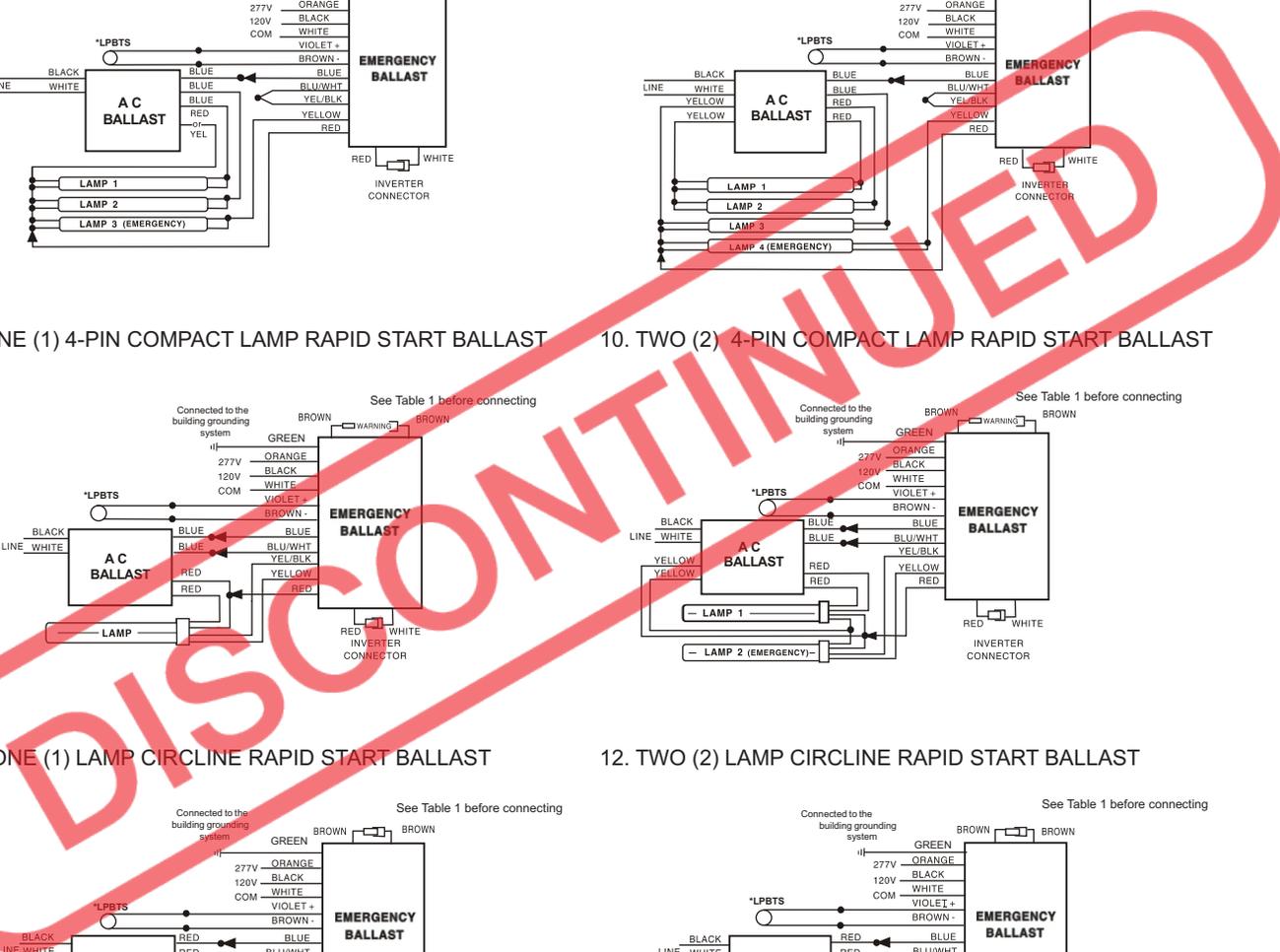
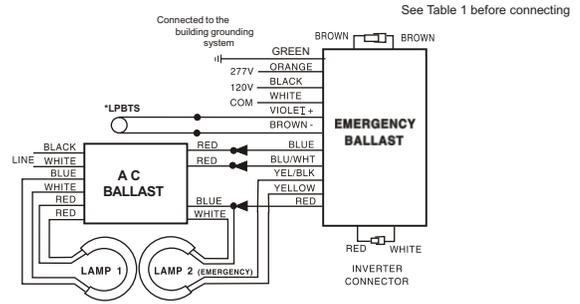
10. TWO (2) 4-PIN COMPACT LAMP RAPID START BALLAST



11. ONE (1) LAMP CIRCLINE RAPID START BALLAST



12. TWO (2) LAMP CIRCLINE RAPID START BALLAST



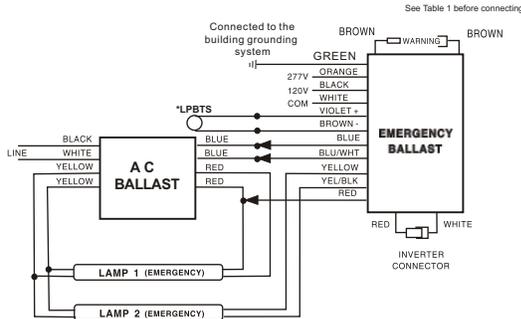
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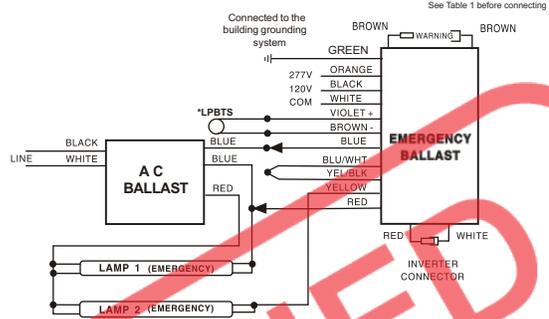
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WIRING DIAGRAMS FOR TWO LAMP EMERGENCY OPERATION

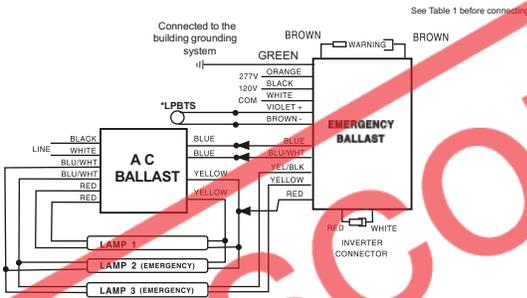
13. TWO (1) LAMP RAPID START BALLAST



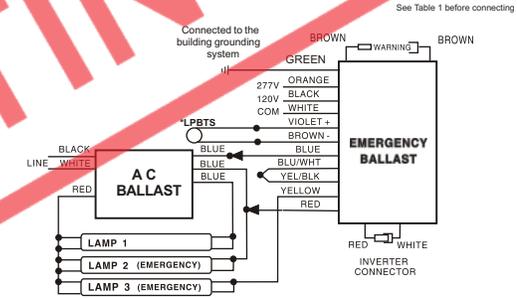
14. TWO (2) LAMP INSTANT START BALLAST



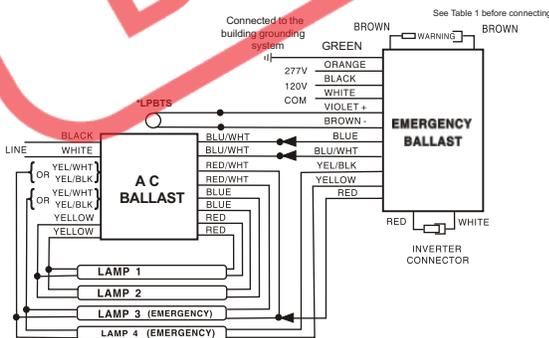
15. THREE (3) LAMP RAPID START BALLAST



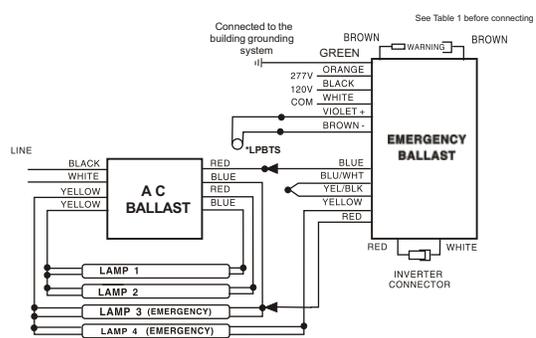
16. THREE (3) LAMP INSTANT START BALLAST



17. FOUR (4) LAMP RAPID START BALLAST



18. FOUR (4) LAMP INSTANT START BALLAST



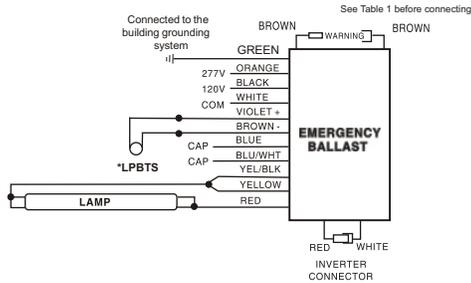
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*LIGHTED PUSH BUTTON TEST SWITCH (LPBTS)

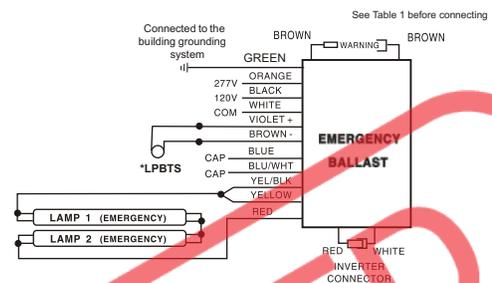
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WIRING DIAGRAMS FOR EMERGENCY ONLY OPERATION

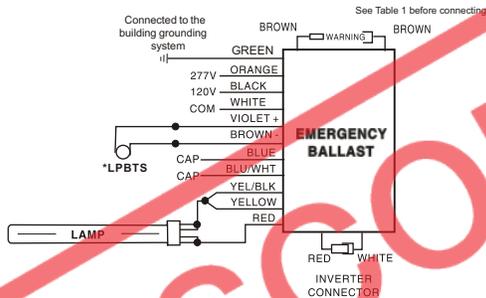
18. ONE (1) LAMP WITHOUT AC BALLAST



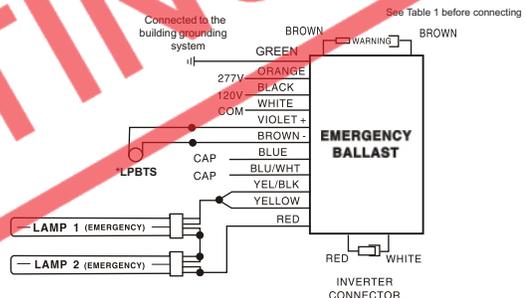
19. TWO (2) LAMP WITHOUT AC BALLAST



20. ONE (1) 4-PIN COMPACT LAMP WITHOUT AC BALLAST



21. TWO (2) 4-PIN COMPACT LAMP WITHOUT AC BALLAST



DISCONTINUED

**NOTE: GREEN WIRE MUST BE GROUNDED
USE PROPER CAPS TO TAP UNUSED LEADS**

*LIGHTED PUSH BUTTON TEST SWITCH (LPBTS)