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I-13-L

COMPACT LAMP
EMERGENCY
LIGHTING EQUIPMENT

INSTRUCTION MANUAL

IMPORTANT SAFEGUARDS

When using electrical equipment, basic safety precautions should always be followed, including the following:

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

1. **CAUTION** – Connect the battery to the unit before applying AC power.
2. **CAUTION** – To prevent electrical shock, do not mate unit connector until installation is complete and A.C. power is supplied to the unit.
3. **CAUTION** – This fixture provides more than one power supply output source. To reduce the risk of electrical shock, disconnect both normal and emergency sources by turning off the A.C. branch circuit and by disconnecting the unit connector. In addition, the circuit board should be mounted so that no live parts are accessible during routine maintenance or relamping.
4. **CAUTION** – The high temperature Ni-Cad battery is replaceable. Replacement batteries are available from IOTA Engineering. Recycle or dispose of the nickel-cadmium battery properly.
5. The **I-13-L** is for use with grounded, U.L. Listed, indoor fixtures. The acceptability of the combination must be determined by Underwriters Laboratories. Refer to the Engineering Considerations section for proper installation.
6. The **I-13-L** requires an unswitched A.C. power source of either 120 or 277 volts. Properly cap the unused A.C. lead.
7. Do not mount near gas or electric heaters.
8. The **I-13-L** should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
9. The **I-13-L** will cold strike and operate *one* 5, 7, 9, and 13 watt twin tube, 2 pin lamp with integral starter, or *one* 9-13 watt USA quad 2 pin lamp with integral starter.
10. The **I-13-L** is for use with unusually shaped fluorescent fixtures such as wall packs, sconces, and recessed stair fixtures.
11. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition, void warranty, and result in non-compliance with UL specifications.
12. Do not use this equipment for other than intended use.
13. Install in accordance with the National Electrical Code and local regulations.
14. Installation and servicing should be performed by qualified personnel.
15. Lighting fixture manufacturers, electricians, and end-users need to ensure product system compatibility before final installation.

SAVE THESE INSTRUCTIONS



THIS UNIT CONTAINS A
RECHARGEABLE NICKEL-CADMIUM BATTERY.
PLEASE RECYCLE OR DISPOSE OF PROPERLY.

ENGINEERING CONSIDERATIONS

Use – For use only in complete equipment or final applications where the acceptability of the combination is determined by Underwriters Laboratories, Inc.

These components have been judged on the basis of the required spacings in the Standard for Emergency Lighting and Power Equipment UL 924, Sec. 29, which covers the end use product for which the component was designed.

CONDITIONS OF ACCEPTABILITY

1. Installed in a suitable ultimate enclosure.
2. Used with marked electrical ratings.
3. Provide with proper spacing between live parts and enclosure and/or adjacent devices.
4. Factory wired only (terminations not suitable for field wiring).
5. Temperature tests may have to be repeated where battery temperature exceeds 55° C.
6. Mounted within the end-use product such that the battery is secured and the test switch operates properly when the end product is fully assembled.
7. End-use products employing one or more of these devices are to be marked in accordance with the Standard for Emergency Lighting and Power Equipment, UL 924.

INSTALLATION INSTRUCTIONS

CAUTION: Before installing, make certain the A.C. power is off and the I-13-L unit connector is disconnected.

1. MOUNTING THE I-13-L AND BATTERY

Mount the I-13-L in the ballast channel or enclosed wireway so the wire leads are not exposed, at least 1/2" away from the A.C. ballast(s). Mount the I-13-L using the mounting holes provided. The insulating barrier should be mounted against the fixture wall. Then the main circuit board can be mounted leaving a space between the board and the mounting barrier as shown in *Illustration 1*. The circuit board should be placed so that no live parts are accessible during routine maintenance or relamping.

The battery should be at least 1/2" from the A.C. ballast and other heat sources. Since heat rises, try to mount the battery as low as possible. **CAUTION – Connect the battery to the unit before applying AC power.**

2. WIRING

Refer to the wiring diagrams on the back page for the appropriate wiring of lamp(s), ballast and I-13-L. Install in accordance with National Electrical Code and local regulations. For wiring diagrams of ballasts not shown, consult Customer Service.

Illustration 1

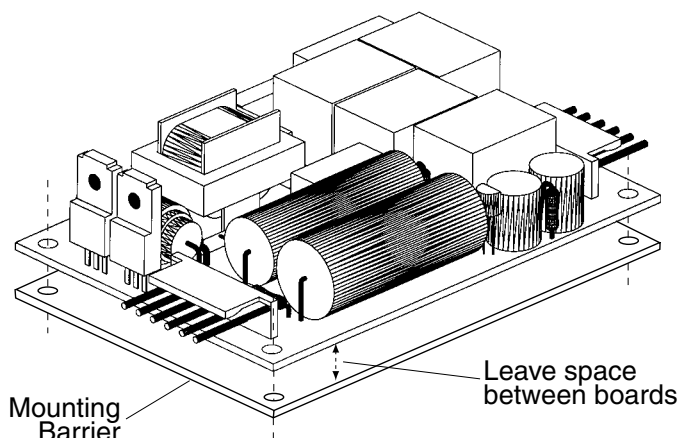
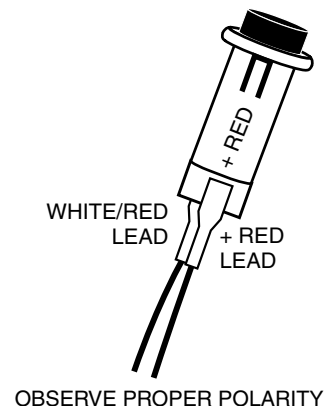


Illustration 2
Charge Indicator Light (LED)



INSURE WIRING IS IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND LOCAL REGULATIONS.

3. INSTALLING THE CHARGE INDICATOR

Select a convenient location on the fixture so that the **Charge Indicator** can be seen after installation. Allow for proper clearance and drill or punch a 1/2" mounting hole. Disconnect the leads from the **Charge Indicator**. Push the **Charge Indicator** into the 1/2" hole until it is firmly locked into place. Reconnect the leads, observing proper polarity (red lead to + red tab). Make certain all leads are enclosed in an appropriate wireway.

4. INSTALLING THE TEST SWITCH

The **Test Switch** should be mounted on the fixture to allow access to authorized personnel. Drill or punch a 1/2" mounting hole. Make certain all leads are enclosed in an appropriate wireway.

NOTE: To ensure proper operation, use only the test accessories provided with the unit. See Page 1 of the *Instruction Manual*.

5. LABELS

Attach the appropriate labels adjacent to the **Test Switch** and **Charge Indicator**. Annotate Re-lamping label for lamp type and wattage. The Caution and the Re-lamping labels must be on the fixture in a readily visible location to anyone attempting to service the fixture.

6. COMPLETING INSTALLATION

A. When the installation is complete, switch the A.C. power on and join the **I-13-L** unit connector.

B. Replace the ballast cover, fixture lens and other fixture hardware.

OPERATION

General – This unit is primarily designed to be used with compact fluorescent lamp downlight fixtures. It will wire in conjunction with the existing A.C. ballast(s) and lamp(s) to provide the emergency function. It can also be wired for emergency only operation.

Normal Mode – A.C. power is present. The A.C. ballast operates the fluorescent lamp(s) as intended. The **I-13-L** is in the standby charging mode. The **Charge Indicator** will be lit providing a visual indication that the battery is being charged.

Emergency Mode – The A.C. power fails. The **I-13-L** senses the A.C. power failure and automatically switches to the *Emergency Mode*. One lamp is illuminated, at reduced output, for a minimum of 90 minutes. When the A.C. power is restored, the **I-13-L** switches the system back to the *Normal Mode* and resumes battery charging. See page 1 of the *Instruction Manual*.

TESTING & MAINTENANCE

Initial Testing – Allow the unit to charge approximately 1 hour, then conduct a short discharge test by depressing the **Test Switch**. The **Charge Indicator** light will go out and the fluorescent tube will be illuminated. When the **I-13-L** is used in fixtures with more than one A.C. ballast, the second A.C. ballast is NOT de-energized with the **Test Switch**. It may, therefore, be advisable to switch the A.C. fixture power off prior to depressing the **Test Switch**. Allow a 24 hour charge before conducting a one hour test.

The **I-13-L** is a maintenance free unit. However, periodic inspection and testing is required. NFPA 101, Life Safety Code, outlines the following schedule:

Monthly – Insure that the **Charge Indicator** light is illuminated. Conduct a 30 second discharge test by depressing the **Test Switch**. One lamp should operate at reduced output.

Annually – Insure that the **Charge Indicator** light is illuminated. Conduct a full 1 1/2 hour discharge test. The unit should operate as intended for the duration of the test.

“Written records of testing shall be kept by the owner for inspection by the authority having jurisdiction.”

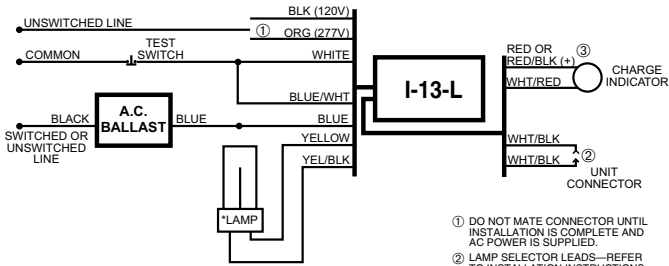
SERVICING SHOULD BE PERFORMED BY QUALIFIED PERSONNEL.

TYPICAL WIRING DIAGRAMS

For use with 2 pin, 5 through 13 watt lamps with integral starter only

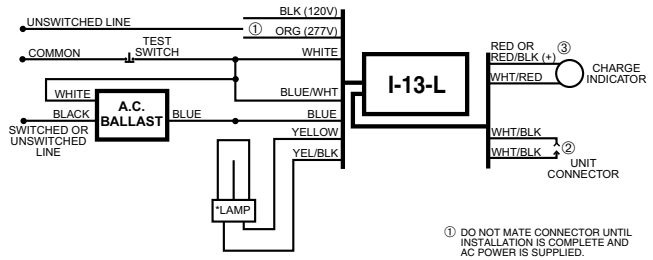
Wiring and Troubleshooting Tips are available on-line at <http://www.iotaengineering.com/wiringtips.pdf>

1. ONE LAMP MAGNETIC BALLAST



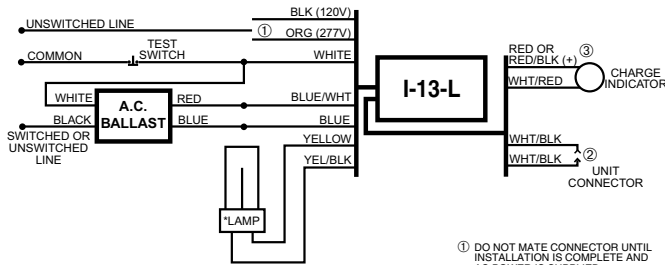
- ① DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.
- ② LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMP OPERATION SECTION FOR VARIOUS OPTIONS.
- ③ TEST ACCESSORY LEADS—REFER TO INSTALLATION INSTRUCTIONS FOR PROPER POLARITY WIRING.

2. ONE LAMP HIGH POWER FACTOR MAGNETIC BALLAST



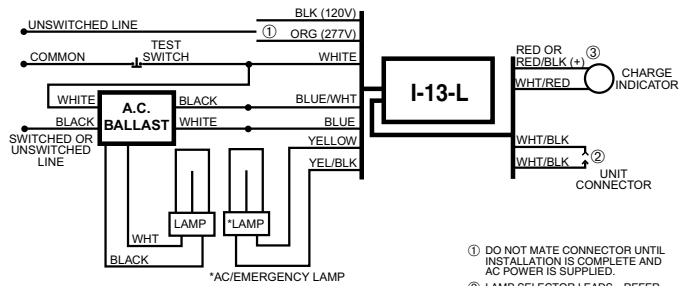
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3. ONE LAMP ELECTRONIC BALLAST



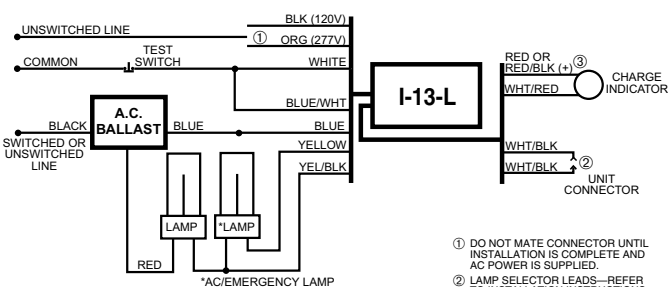
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4. TWO LAMP ELECTRONIC BALLAST



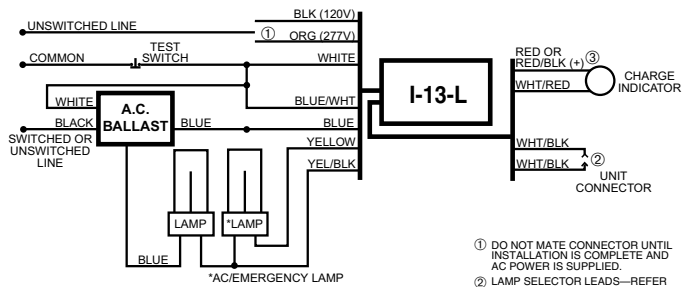
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- ③ TEST ACCESSORY LEADS—REFER TO INSTALLATION INSTRUCTIONS FOR PROPER POLARITY WIRING.

5. TWO LAMP PARALLEL MAGNETIC BALLAST



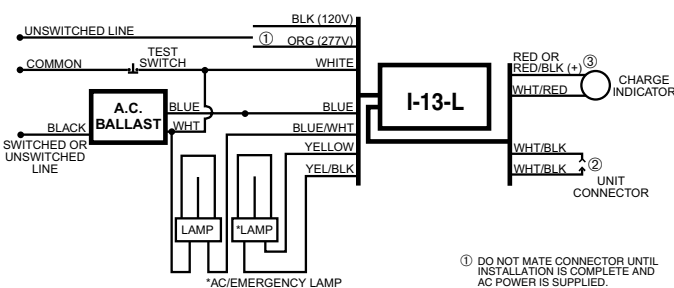
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- ③ TEST ACCESSORY LEADS—REFER TO INSTALLATION INSTRUCTIONS FOR PROPER POLARITY WIRING.

6. TWO LAMP PARALLEL HIGH POWER FACTOR MAGNETIC BALLAST



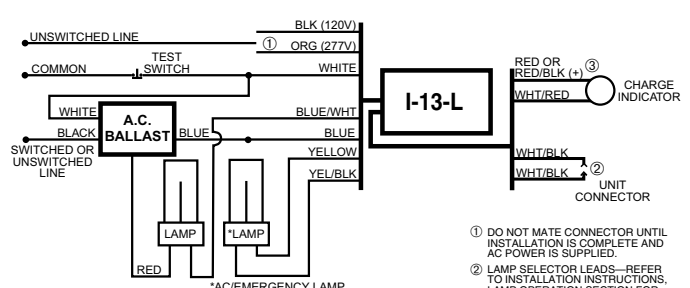
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7. TWO LAMP SERIES MAGNETIC BALLAST



- ① DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.
- ② LAMP SELECTOR LEADS—REFER TO INSTALLATION INSTRUCTIONS, LAMP OPERATION SECTION FOR VARIOUS OPTIONS.
- ③ TEST ACCESSORY LEADS—REFER TO INSTALLATION INSTRUCTIONS FOR PROPER POLARITY WIRING.

8. TWO LAMP SERIES HIGH POWER FACTOR MAGNETIC BALLAST



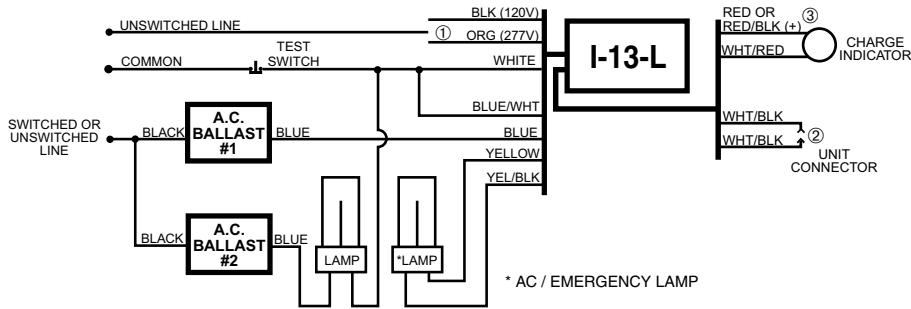
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TYPICAL WIRING DIAGRAMS

For use with 2 pin, 5 through 13 watt lamps with integral starter only.

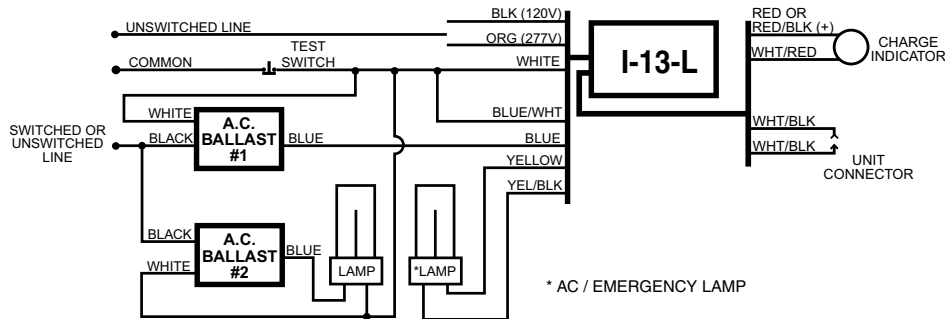
Wiring and Troubleshooting Tips are available on-line at <http://www.iotaengineering.com/wiringtips.pdf>

9. TWO NORMAL POWER FACTOR MAGNETIC BALLASTS



- ① DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.
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- ③ TEST ACCESSORY LEADS—REFER TO INSTALLATION INSTRUCTIONS FOR PROPER POLARITY WIRING.

10. TWO HIGH POWER FACTOR MAGNETIC BALLASTS



- DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.
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- TEST ACCESSORY LEADS—REFER TO INSTALLATION INSTRUCTIONS FOR PROPER POLARITY WIRING.

ATTENTION

**DO NOT APPLY POWER TO THE UNIT
UNTIL BATTERY IS CONNECTED**

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