



# IIS-35-HE

HIGH EFFICIENCY  
35W UNIT INVERTER  
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** – To prevent electrical shock, do not mate unit connector until installation is complete and A.C. power is supplied to the unit.
2. **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 before servicing.
3. The **IIS-35-HE** requires an unswitched A.C. power source of either 120 or 277 volts.
4. **DO NOT USE OUTDOORS.** The **IIS-35-HE** is for use with grounded, UL Listed, damp location rated, indoor fixtures. Not for use in heated air outlets or hazardous locations.
5. Do not mount near gas or electric heaters.
6. Do not use this equipment for other than its intended use.
7. Not for use with HID loads.
8. The **IIS-35-HE** should be mounted securely in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
9. The use of accessory equipment not recommended by IOTA Engineering, LLC may cause an unsafe condition, will void the warranty, and result in non-compliance with UL specifications.
10. The AC voltage rating of this equipment is specified on the product label. Do not connect the **IIS-35-HE** equipment to any other voltage.
11. The **IIS-35-HE** meets CEC requirements for a small battery charger per CEC-400-2015-021-CMF.
12. Suitable for use in damp locations.
13. For use in 0° C minimum, 50° C maximum ambient temperatures.
14. Install in accordance with the National Electrical Code and local regulations.
15. Installation and servicing should be performed by qualified personnel.
16. 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.

# INSTALLATION INSTRUCTIONS

**CAUTION:** Before installing, make certain the A.C. power is off and the IIS-35-HE unit connector is disconnected.

## 1. MOUNTING THE IIS-35-HE

Mount the **IIS-35-HE** on or adjacent to the fixture in a position that does not interfere with the existing A.C. driver, ballast or any other hardware. Extend the flex conduit to the junction box or wireway channel and punch a  $\frac{7}{8}$ " hole. Feed the wires and flex connector down through the hole in the fixture and secure in place with the flex connector nut. An optional T-bar mounting kit is available to mount the **IIS-35-HE** above the ceiling tile adjacent to the fixture. Refer to Illustration 1. To order the optional T-bar mounting kit (part number TBMK-160) contact Customer Service.

When remote mounting, maximum allowable distance between the inverter and fixture is 250 ft. Consult Customer Service for additional information.

**CAUTION:** Properly secure the **IIS-35-HE** in the ceiling grid to insure compliance with local, state, and federal guidelines regarding ceiling mounted equipment.

## 2. WIRING

### A. CONNECTING THE INVERTER AC INPUT

This is the AC input that charges the inverter battery, therefore it requires an **unswitched** AC supply. Connect the AC line wire to the ORG/BLK lead. Connect the WHITE to the AC Neutral. Refer to the Wiring Diagram on Page 4.

### B. CONNECTING THE NORMAL AC SWITCHED / UNSWITCHED SUPPLY

This is the AC input that operates the fixture during normal operation. It may be switched or unswitched.

Connect the BLACK lead to the switched or unswitched AC supply. Refer to the Wiring Diagram on Page 4. For Emergency Only (Normally Off) operation, the BLACK lead is not used and should be capped separately.

### C. CONNECTING THE INVERTER TO THE AC FIXTURE

Connect the output leads of the **IIS-35-HE** to the AC fixture. Refer to the Wiring Diagram on Page 4. For additional wiring diagrams consult Customer Service.

Wire the AC driver/ballast with the lamp(s) in accordance with the manufacturer's installation instructions.

Note: only emergency fixtures should be present on the load side of the **IIS-35-HE**. Keep the output neutral isolated from all other neutrals including the input neutral.

**Install in accordance with the National Electrical Code and local regulations.**

## 3. INSTALLING THE THREADED BODY TEST SWITCH (TBTS)

The **TBTS** test switch and charge indicator is to be installed either within the AC fixture or in a single gang switch box (not provided) adjacent to the fixture.

**Single Switch Box Installation** - Cut a single gang switch box into the ceiling adjacent to the fixture. After mounting the switch box, route test accessory leads from the junction box to the switch box via flexible conduit (not provided). Complete connections within the switch box, observing proper polarity. Refer to *Illustration 1*.

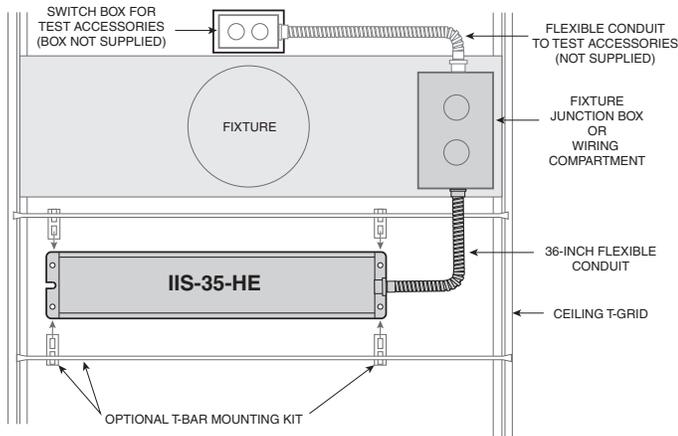
**Integral Fixture Installation** - Select a convenient location with proper clearance in the fixture where the test components are visible and accessible after installation. Drill or punch a  $\frac{1}{2}$ " hole. Push the **TBTS** housing into the  $\frac{1}{2}$ " hole until it is firmly locked in place. Connect the leads, observing the proper polarity. Refer to *Illustration 2*.

**Recessed Troffer Fixture Installation** - Select a convenient location with proper clearance in the ballast cover or exposed wireway and drill or punch a  $\frac{7}{8}$ " hole ( $\frac{1}{2}$ " knockout). Insert the  $\frac{7}{8}$ " bushing into the hole. Push the plastic tube through the bushing. Route the leads of the **TBTS** through the plastic tube. Connect the leads, observing the proper polarity (Refer to the Wiring Diagram on Page 4). 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 **TBTS** is within  $\frac{1}{4}$ " of the fixture lens. The **TBTS** must be visible after installation. Refer to *Illustration 3*.

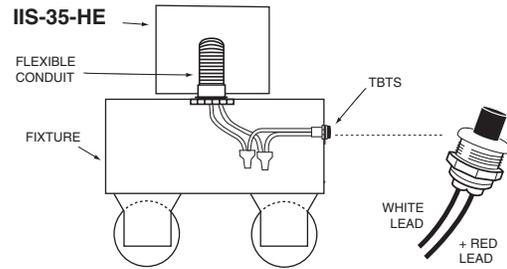
## 4. COMPLETING INSTALLATION

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

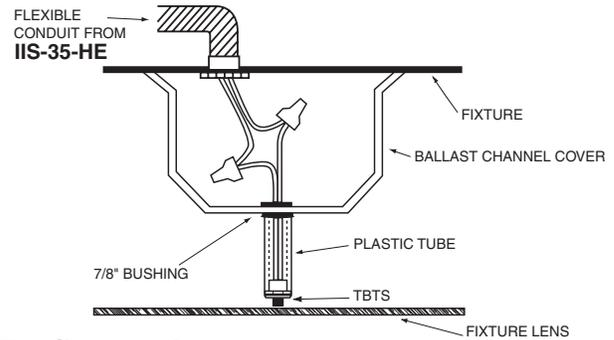
## Illustration 1: Single Switch Box Installation



## Illustration 2: Integral Fixture Installation



## Illustration 3: Recessed Troffer Fixture Installation



### A. Once AC Power has been applied, join the IIS-35-HE unit connector.

The **TBTS** will illuminate indicating the presence of AC power and that the battery is being charged.

B. Attach the appropriate labels adjacent to the **TBTS**. Annotate Replacement Label with identical manufacturer part number(s). The Caution and the Replacement labels must be on the fixture in a readily visible location to anyone attempting to service the fixture.

C. Allow the **IIS-35-HE** to charge for approximately 1 hour then conduct a short discharge test to confirm proper operation. To conduct a long-term discharge test, allow the **IIS-35-HE** to charge for 24 hours. Refer to the "Operation" section for confirming proper operating performance.

## OPERATION

**Normal Mode** – A.C. power is present. The A.C. driver/ballast operates the lamp(s) as intended. The **IIS-35-HE** is in the standby charging mode. The **TBTS** will be lit providing a visual indication that the battery is being charged.

**Emergency Mode** – The A.C. power fails. The **IIS-35-HE** senses the A.C. power failure and automatically switches to the *Emergency Mode*. The fixture is powered by the **IIS-35-HE** for a minimum of 90 minutes. When the A.C. power is restored, the **IIS-35-HE** 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. Allow a 24 hour charge before conducting a full discharge test.

The **IIS-35-HE** 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 **TBTS** light is illuminated. Conduct no less than a 30 second discharge test by depressing the **TBTS**. Lamp(s) should operate at full output.

**Annually** – Insure that the **TBTS** light is illuminated. Conduct a full 1½ hour discharge test. The unit should operate as intended for the duration of the test.

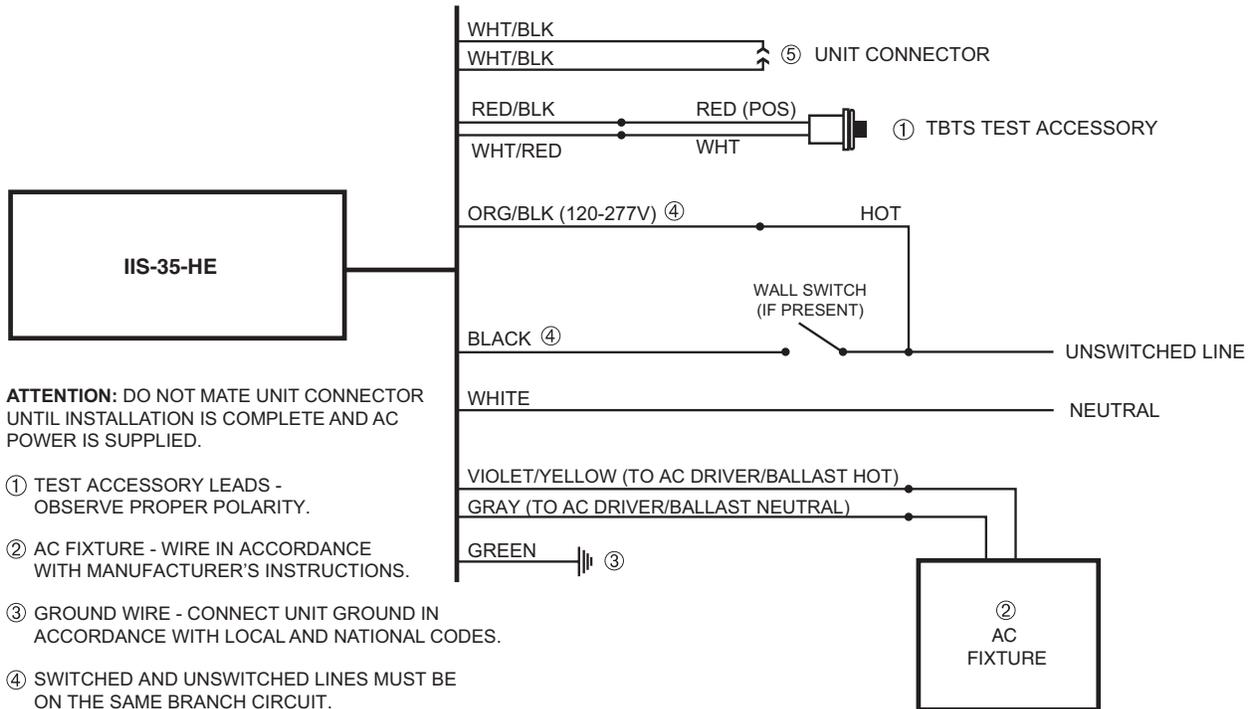
"Written records of testing shall be kept by the owner for inspection by the authority having jurisdiction."

**SERVICING SHOULD BE PERFORMED BY QUALIFIED PERSONNEL.**

**Consult Customer Service for current warranty information.**

# WIRING DIAGRAM

For additional wiring diagrams, contact Customer Service



**ATTENTION:** DO NOT MATE UNIT CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.

- ① TEST ACCESSORY LEADS - OBSERVE PROPER POLARITY.
- ② AC FIXTURE - WIRE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- ③ GROUND WIRE - CONNECT UNIT GROUND IN ACCORDANCE WITH LOCAL AND NATIONAL CODES.
- ④ SWITCHED AND UNSWITCHED LINES MUST BE ON THE SAME BRANCH CIRCUIT.
- ⑤ MATE UNIT CONNECTOR AFTER INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED.