



P.O. BOX 11846 TUCSON, AZ 85734
(520) 294-3292 • FAX (520) 741-2837
www.iotaengineering.com



IIS-375-I

INSTRUCTION MANUAL

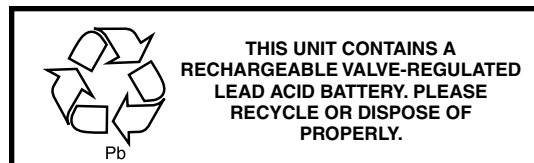
IMPORTANT SAFEGUARDS

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

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

1. **DO NOT USE OUTDOORS.**
2. Do not mount near gas or electric heaters.
3. Do not use this equipment for other than its intended use.
4. The **IIS-375-I** should be mounted securely and in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
5. The use of accessory equipment and replacement parts not recommended by IOTA Engineering, LLC may cause an unsafe condition and void the warranty.
6. The AC voltage rating of this equipment is specified on the product label. Do not connect the **IIS-375-I** equipment to any other voltage.
7. The **IIS-375-I** uses sealed valve regulated lead acid batteries. Batteries can be punctured if not handled properly, therefore use caution when servicing batteries. In the event battery acid comes in contact with eyes or skin, flush with fresh water and consult a physician immediately.
8. Install in accordance with the National Electrical Code and local regulations.
9. Installation and servicing should be performed by qualified personnel.
10. Electricians and end-users need to ensure product system compatibility before final installation.

SAVE THESE INSTRUCTIONS



INSTALLATION INSTRUCTIONS

CAUTION: Before installing, make certain the A.C. power is off.

NOTE: The battery is shipped in separate packaging for ease of handling. Store the battery in a cool, dry and safe location until ready for installation. The battery may be kept in storage for up to 3 months without recharging.

CAUTION: This is a dual input and output voltage unit. It can be connected to either a 120 or 277 volt supply. **The input and output voltages must match.**

Not for use with HID Lighting.

1. MOUNTING THE IIS-375-I

- 1) Remove the front cover of the **IIS-375-I** by removing the two (2) screws located at the top of cover.
- 2) Knock out the keyhole slots at the rear of the unit and use for mounting the **IIS-375-I** securely to the wall. There is an additional round hole for a #10 screw in the cabinet. Code requires that an additional screw be used through this hole to prevent the unit from being inadvertently lifted up off the keyhole slots. **Do not drill any holes in this unit.** If a recessed junction box is to be mounted in the wall behind the unit, make sure an unswitched AC supply of proper rated voltage is extended to the box, and that the remote wiring to the emergency fixtures is also extended to the box prior to mounting the unit. A 1/2" conduit knockout is provided in the back of the unit for wires to pass through. Sixteen inches of wire should be routed into the unit from the recessed junction box. **NOTE:** Input and output wires must be run in separate conduits. **CAUTION:** Do not drill holes into the cabinet; drill filings may damage the unit and keep it from operating. If larger knockouts are required, use a chassis-punch through the appropriate knockout to punch out a larger knockout.
- 3) If the wiring is to be external to the wall, extend both the unswitched supply, the normally-on lamp supply (if used), and the load wires to the unit at this time.

CAUTION: The **IIS-375-I** must be mounted securely. Do not rely on the junction box for supporting the weight of the unit. Mount the **IIS-375** securely to the wall using the keyhole slots provided.

ALWAYS CONSULT LOCAL CODES FOR STRUCTURAL REQUIREMENTS WHEN MOUNTING THE UNIT.

2. WIRING

1. CONNECTING THE NORMAL AC INPUT (FIGURE 1)

- A. For **120V** supply, connect the AC line wire to the **BLACK** lead coming from the inverter housing labeled **INPUT WIRES**. For **277V** supply, connect the AC line wire to the **ORANGE** lead coming from the inverter housing labeled **INPUT WIRES**. **CAUTION: Cap the unused BLACK or ORANGE input wire. Failure to do so may result in equipment failure and void the warranty.**
- B. Connect the Neutral wire to the **WHITE** lead labeled **INPUT**.
- C. Connect the ground wire in accordance with local and national codes. A **GREEN** wire is provided for this purpose.

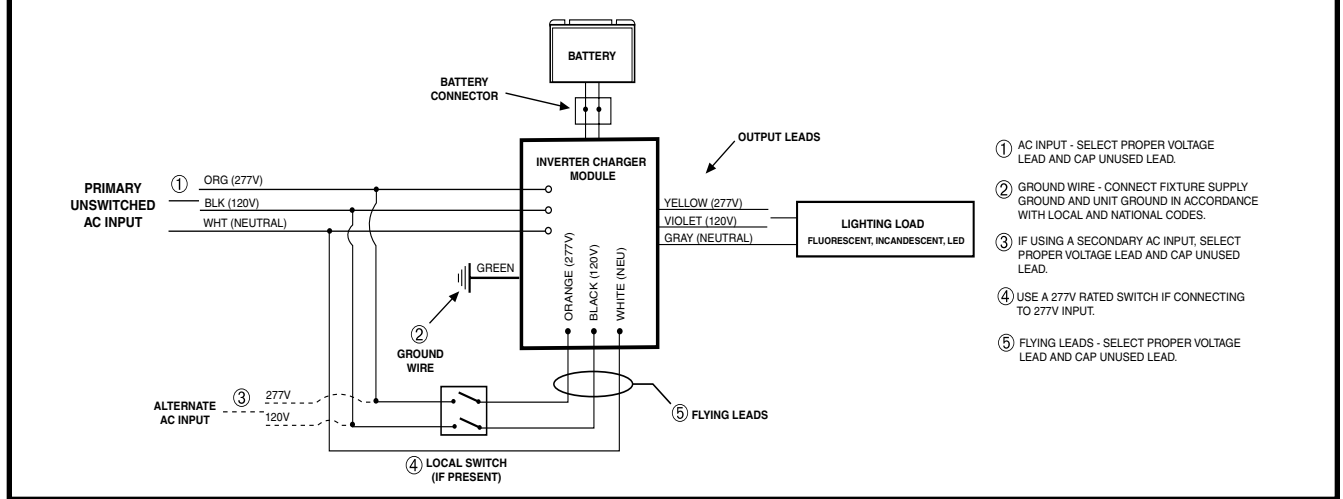
Note: If the emergency fixtures are to be **NORMALLY ON** or **SWITCHED**, you may have to connect their flying lead wires to these wires as well. Refer to **Figure 1** and **STEP 2** below.

DO NOT ENERGIZE THE CIRCUIT AT THIS TIME.

2. CONNECTING REMOTE EMERGENCY FIXTURES (FIGURE 1)

- A. Connect remote emergency fixtures to the correct output leads. The color code is as follows: neutral is **GRAY**, 120V is **VIOLET**, and 277V is **YELLOW**. All remote circuitry is to be wired in accordance with Article 700 of the National Electric Code. Do not exceed the total rating of the **IIS-375-I**.
- B. **NORMALLY-OFF FIXTURES** (only come on during power failure) - Connect the AC line input wire of the fixtures to the appropriate output wires as above (120V or 277V). Connect the load neutral wire to the **GRAY** neutral wire labeled **OUTPUT**. Refer to **Figure 1**.
- C. **NORMALLY-ON FIXTURES** - Follow Step 2B above. Then select the proper voltage flying lead from heatsink assembly (**BLACK** for 120V, **ORANGE** for 277V) and connect to the unswitched AC input line feeding the transformer. Connect the Neutral (**WHITE**) flying lead coming from the heatsink assembly to the unswitched AC input neutral of the supply line feeding the input wires. Refer to **Figure 1**.

FIGURE 1 - IIS-375-I WIRING CONNECTIONS



D. FIXTURES ON LOCAL SWITCH (fixtures may be turned on and off locally, but will come on during power failure regardless of switch position) - Follow Step 2B above. Connect the line side of the Switch to the the unswitched AC input line connected to the transformer. Connect the load side of the Switch to the proper voltage flying lead from the heatsink assembly (BLACK for 120V, ORANGE for 277V). Refer to **Figure 1**. **CAUTION: If connected to 277 volt input, use a 277V rated switch. Failure to use the proper voltage switch may result in switch failure, a shock hazard, an unsafe condition and equipment failure.**

E. ALTERNATE FEED (all fixtures are supplied on normal from an alternate circuit) - Follow Step 2B above. Then extend alternate AC input to the proper voltage flying leads from the heatsink assembly (BLACK for 120V, ORANGE for 277V). If a local Switch is present, connect the alternate AC input to the Switch, then connect the proper voltage flying leads from the heatsink assembly to the load side of the Switch as in Step 2D. Refer to **Figure 1**.

F. Connect the Fixture Supply Ground to the IIS-375-I Ground.

Consult the IIS-375-I **Application Notes** for connecting the unit to specific lighting loads. Application Notes are available on the internet or through Customer Service.

CAUTION: Before proceeding to Wiring Step 3, make sure that all unused wires are properly capped. Failure to do so may result in an unsafe condition and equipment failure.

DO NOT ENERGIZE THE CIRCUIT AT THIS TIME.

3. INSTALLING THE BATTERY

- A. Before installing the battery, check the torque on the hardware that connects the polarized connector to the terminals as these connections may have loosened in transit and storage. The proper torques should be 70 in/lbs for a **Screw Stud** terminal, and 65 in/lbs for a **L Flag** terminal.
- B. Install the battery into the **IIS-375-I** with the terminal posts facing toward the front of the unit. NOTE: The **IIS-375-I** battery is heavy. To avoid injury, exercise caution when handling the battery.
- C. Plug the battery connector together.

Note: Neither the indicator lights nor the emergency fixtures will illuminate at this time. Also, please note that there are 2 battery tie down lugs in the event that it is required that the battery be held in place. Please contact IOTA Engineering Customer Service to purchase this accessory if needed.

For Screw Stud batteries, initial torque is 70 in/lbs, annual is 65 in/lbs.

For L-Flag batteries, initial torque is 65 in/lbs, annual is 52 in/lbs.

NOTE: The emergency indicator lights will not illuminate at this time.

4. COMPLETING INSTALLATION

- A. Energize the AC supply. The Ready (Yellow) Indicator and the Charging (Red) Indicator will illuminate. The Inverter On (Green) Indicator will not illuminate at this time.
- B. Operate the Test Switch for approximately 10 seconds. Observe that any emergency fixtures do not go out, that the Inverter On (Green) Indicator comes on, and that any normally off fixtures come on.

- C. Release the Test Switch. Normally Off fixtures and the Inverter On (Green) Indicator will extinguish. Normally On, emergency, and any switched fixtures will return to their normal operating mode.
- D. Reinstall the front cover using the two (2) screws provided.

3. OPERATION

Normal Mode - AC power is present and operates the fixtures as intended. The **IIS-375-I** is in the standby charging mode. The Ready (Yellow) Indicator will be lit providing a visual indication that the unit is in Standby Mode.

Emergency Mode - The AC power fails. The **IIS-375-I** senses the AC power failure and automatically switches to the *Emergency Mode*. All fixtures, including Normally Off or switched off fixtures, connected to the **IIS-375-I** will be illuminated for a minimum of 90 minutes. When the AC power is restored, the **IIS-375-I** switches the system back to the *Normal Mode* and resumes battery charging. See page 1 of the instruction manual for important operational safeguards and requirements.

4. TESTING

- 1) To test the equipment, depress the test switch. The Ready (Yellow) Indicator will go off. The designated fixtures will either illuminate if they were off or will stay on if they were normally illuminated. The Inverter On (Green) Indicator will come on.
- 2) Release the Test Switch. The Ready (Yellow) Indicator will come on. Normally Off emergency fixtures will extinguish.

The equipment is supplied with an automatic solid state charger designed to fully recharge the battery within 72 hours after AC power is restored, and then maintain the battery in a fully charged state. Allow the battery to charge for a minimum of 72 hours after installation or power failure before conducting a 90 minute discharge test. The Life Safety Code and the Authorities Having Jurisdiction require that this test be performed on an annual basis.

5. MAINTENANCE

1. **CAUTION:** Always follow proper shutdown procedure before servicing by 1) turning off the AC supply to the equipment, and 2) disconnecting the battery by unplugging the battery connector. Only qualified service technicians should service this equipment. The use of parts supplied by other than IOTA Engineering, LLC may result in an unsafe condition, equipment failure and will void the warranty.
2. **BATTERY** - IOTA recommends that the battery terminations be re-torqued on an annual basis. Re-torque specifications are as follows: **Screw Stud** terminals 65 in/lbs; **L Flag** terminals 52 in/lbs. The battery supplied in this equipment is a high quality maintenance-free Valve Regulated Lead Acid design. It requires no maintenance and when installed in an ambient temperature of 20°-30° C (68°-86° F) its life expectancy is 8 to 10 years. However, as stated above, the equipment must be tested for 90 minutes a minimum of once per year. When the battery will no longer operate the load for 90 minutes it must be replaced. Replace only with IOTA Engineering, LLC supplied parts. Dispose or recycle the lead-acid battery properly.

6. SHUTDOWN PROCEDURE

If a shutdown of the IIS unit becomes necessary for routine maintenance or other purposes, always follow proper shutdown procedure:

- 1) De-energize the AC supply by locking off the circuit breaker feeding the unit.
- 2) Disconnect the battery by uncoupling the battery connector between the battery and converter.

When restoring power to the IIS unit, refer to instructions beginning on Page 3, Step 3 for start-up procedures.

CONTACT CUSTOMER SERVICE FOR REPLACEMENT PARTS.

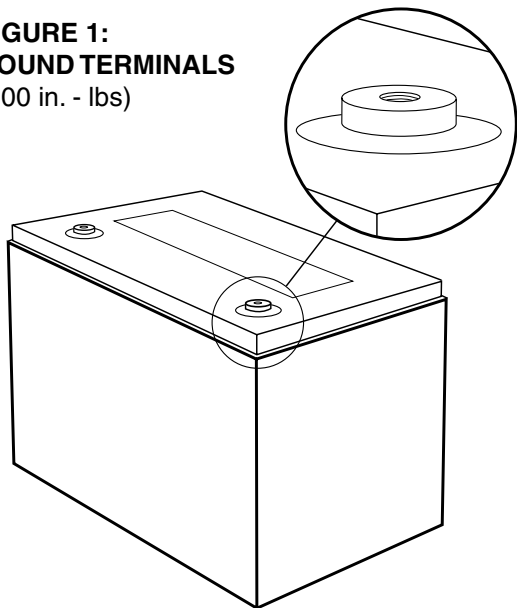
“Written records of testing shall be kept by the owner for inspection by the authority having jurisdiction.”

SERVICING SHOULD BE PERFORMED BY QUALIFIED PERSONNEL.

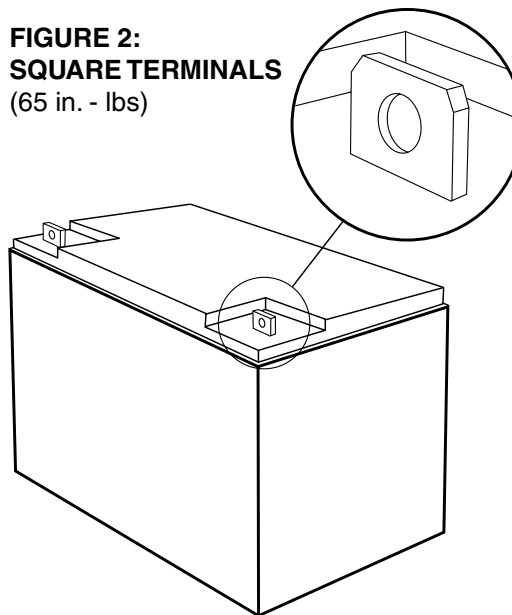
Consult Customer Service or visit www.iotaengineering.com for current warranty information.

BATTERY TORQUE SPECIFICATIONS

**FIGURE 1:
ROUND TERMINALS**
(100 in. - lbs)



**FIGURE 2:
SQUARE TERMINALS**
(65 in. - lbs)



The batteries are shipped with the harness connected to the battery terminals at the proper torque specifications for the terminal type. If, for any reason, the harness must be reconnected to the terminals, refer to the specifications below for the proper torque for the terminal type:

Round Terminals - **100 in. - lbs**

Square Terminals - **65 in. - lbs**