

## APPENDIX A

- FCC PART 68 - This equipment complies with Part 68 of the FCC rules. On the plug-side of this equipment is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If requested, this information may be provided to the telephone company. The REN is used to determine the quantity of devices which may be connected to the telephone line. Excessive REN's on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the REN's should not exceed five (5.0). To be certain of the number of devices that may be connected to the line, as determined by the total REN's contact the telephone company to determine the maximum REN for the calling area.
- This equipment cannot be used on telephone company-provided coin service. Connection to Party Line Service is subject to state tariffs.
- This equipment uses the following USOC jacks: RJ11C.
- An FCC compliant telephone cord and modular plug is provided with this equipment. This equipment is designed to be connected to the telephone network or premises wiring using a compatible modular jack which is Part 68 compliant.
- If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. If advance notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.
- The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications in order to maintain uninterrupted service.
- If trouble is experienced with this equipment, please contact SoftSwitching Technologies customer service at www.I-Grid.com for repair and/or warranty information. If the trouble is causing harm to the telephone network, the telephone company may request you remove the equipment from the network until the problem is resolved.
- The following repairs can be done by the customer: Battery replacement
- It is recommended that the customer install an AC surge arrester in the AC outlet to which this device is connected. This is to avoid damaging the equipment caused by local lightning strikes and other electrical surges.

## APPENDIX B

- Industry Canada NOTICE: The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the equipment will operate to the user's satisfaction. Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations. Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment. Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas. Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

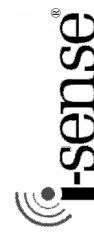
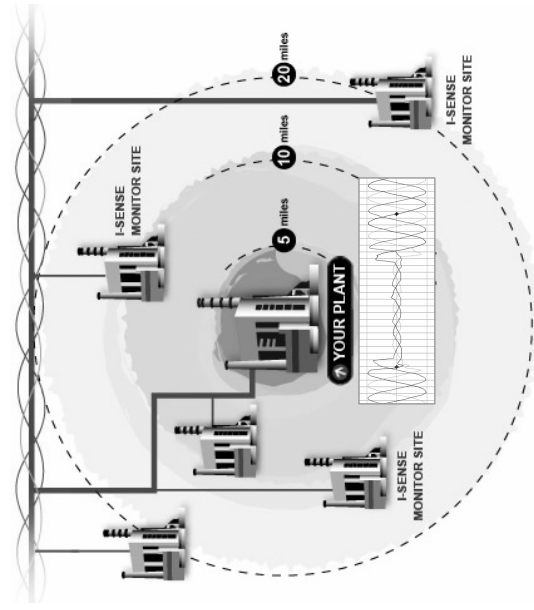
## APPENDIX C

- FCC Part 15 Class B Digital Equipment
- NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: -Reorient or relocate the receiving antenna. - Increase the separation between the equipment and receiver. -Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. -Consult the dealer or an experienced radio/TV technician for help. Any changes made by the user not approved by SoftSwitching Technologies can void the user's authority to operate the equipment.

## COMPLIANCE

- UL 60950 (Safety)
- FCC part 68 (Telephone Equipment)
- FCC part 15 (Emissions)
- Industry Canada CS-03 (Telephone Equipment)

**i-grid.com**  
Monitoring the Digital Factory



## User Guide

Write Your I-Sense®  
Serial # Here:

\_\_\_\_\_

**Save these instructions.** This guide contains important information that should be followed during installation and for continuing maintenance of your product.

PN 94-00025, rev F



NOTES:

---

---

---

---

---

---

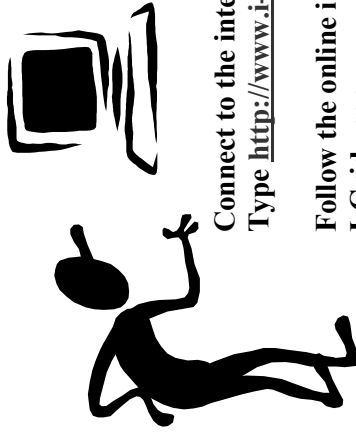
---

---

---

---

### STEP 1 – REGISTER AT I-GRID.COM



Connect to the internet via your computer.  
Type <http://www.i-grid.com> in your browser.

Follow the online instructions to register as an I-Grid user.

### STEP 2 – INSTALL ACCORDING TO USER GUIDE

Detailed instructions can be found on pages 4 – 6 of this user guide.

Additional installation, troubleshooting, and technical specification information can always be found on the I-Grid website.



**NOTES:**

---

---

---

---

---

---

---

---

---

---

**STEP 3 – VERIFY CONNECTION**

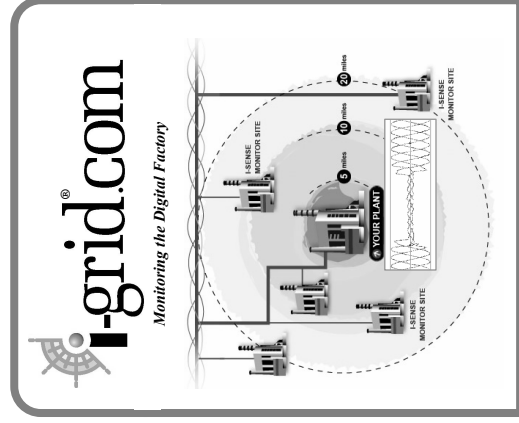
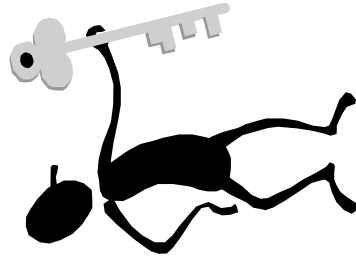


Go back to the I-Grid website and log in as a registered I-Grid user.

Verify that the site has recorded your new I-Sense's first 'heartbeat'.

**CONGRATULATIONS!**

You are now part of the **I-Grid**. With your **I-Sense** power monitor(s), you will be able to obtain information on power quality and reliability events that can cause you downtime and productivity loss. The **I-Grid** allows you to access power quality events monitored by your **I-Sense** monitor(s) as well as events on other parts of the utility grid, plus data export and advanced summary and detail reporting capability.



## **INSTALLATION PROCESS** **STEP A INSPECT PRODUCT**

Remove your **I-Sense** from the shipping container. Inspect for any damage that may have occurred while in transit. Immediately notify the carrier and place of purchase if any damage is found.

## **STEP B NOTE THE SERIAL NUMBER**

Locate the serial number label on the side of the unit and also on the product packaging. Write this number on the cover of this user guide.

## **STEP C REGISTER YOUR I-SENSE**

Launch your web browser, go to **www.i-grid.com**, and follow the links for product registration. The web-based registration includes complete setup instructions. Your **I-Sense** will automatically dial-out and begin communication to the **I-Grid** website when powered on.

## **STEP D INSTALL I-SENSE MONITOR**

### **1) VERIFY VOLTAGE**



**IMPORTANT**

Verify that your I-Sense model matches your Mains voltage.

Model	Voltage Rating
V3480A00	480 VAC Line-Line, 60 Hz, 3-wire+Ground
V3120A00	208 VAC Line-Line/120 VAC Line-N, 60 Hz, 4-wire+Ground

### **II) SCHEDULE INSTALLATION**

Installation must be performed by a qualified electrician in compliance with local electrical codes. Read all instructions before beginning.

### **INSTRUCTIONS FOR ELECTRICIAN:**

Locate the I-Sense in a well-ventilated, controlled temperature (32-113° F or 0-45° C) environment



**SAFETY**

Verify that external voltage source is de-energized and electrically safe.

- Remove four (4) screws on side of unit. Lift cover straight up. Wiring diagram is located inside cover. (see **Fig. A**)
- Secure the unit to surface using the two (2) mounting holes and #10 screws. (see **Fig. A**)
- Install conduit & fittings. Pull wires: 600 VAC, in accordance with upstream circuit breaker or fuse rating. Terminal min/max: AWG 22-14.

*Continued on next page*

(4) damage caused by weather or other natural causes, (5) damage caused by unauthorized attachment or modification, (6) damage during shipment, (7) damage due to ordinary wear and tear, or (8) any other abuse, misapplication, neglect or misuse by Buyer.

8. **DISCLAIMER OF WARRANTY:** THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, WHETHER ARISING UNDER ANY STATUTE OR LAW, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

9. **LIMITATION OF LIABILITY:** SELLER DOES NOT ACCEPT LIABILITY BEYOND THE REMEDIES SET FORTH HEREIN, INCLUDING BUT NOT LIMITED TO ANY LIABILITY FOR PRODUCT NOT BEING AVAILABLE FOR USE, LOST PROFITS, OR LOSS OF BUSINESS. EXCEPT AS EXPRESSLY PROVIDED HEREIN, SELLER WILL NOT BE LIABLE FOR ANY CONSEQUENTIAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, OR FOR ANY CLAIM BY ANY THIRD PARTY. BUYER AGREES THAT FOR ANY LIABILITY RELATED TO THE PURCHASE OF PRODUCT, SELLER IS NOT LIABLE OR RESPONSIBLE FOR ANY AMOUNT OF DAMAGES ABOVE THE AMOUNT INVOICED FOR THE APPLICABLE PRODUCT. THE REMEDIES SET FORTH IN THIS WARRANTY SHALL APPLY EVEN IF SUCH REMEDIES FAIL THEIR ESSENTIAL PURPOSE

10. Any action for breach of warranty must be commenced within 12 months following the date of the warranty breach.

11. **WARRANTY OF TITLE, PATENTS, AND COPYRIGHTS:** In addition to the warranty set forth in Paragraph 1 above, Seller warrants that it has good title to its products free of any encumbrance, and that the product shall be delivered free from the rightful claim of any third person for infringement of patent or copyright. Seller will defend Buyer against any claim of infringement and will pay resulting costs, damages, and attorney fees finally awarded, provided that, (1) Buyer promptly notifies Seller in writing of any claim, and (2) Seller has sole control of the defense and all related settlement negotiations. If a claim arises, Buyer will allow Seller, at Seller's option and expense, to procure the right for Buyer to continue using the product, to replace or modify it so that it becomes non-infringing, or to grant Buyer a refund of the purchase price in exchange for return of the infringing product

## STANDARD WARRANTY

1. Soft Switching Technologies Corporation (“Seller”) warrants that its product conforms to Seller’s published specifications and is free from defects in material or workmanship
2. The duration of the warranty is 12 months from the date the product ships from Seller’s Middleton facilities to Buyer (the “Warranty Period”).
3. The warranty is applicable only to Buyer, or to the end-user if Buyer is a authorized reseller, for whom the SoftSwitching product is originally installed for use. This warranty is not transferable or assignable.
4. If Buyer discovers within the Warranty Period a failure of the product to conform to specifications or a defect in material or workmanship, Buyer must promptly notify Seller in writing. Any such notification received by Seller after the expiration of the Warranty Period shall be null, void and ineffective. Buyer shall ship at Buyer’s cost the defective product to Seller for repair or replacement. Buyer assumes the risk of loss while product is in transit. Upon repair of the product, shipment back to Buyer shall be at Buyer’s sole expense. Seller will arrange with Buyer shipment of the repaired product back to Buyer. If Buyer requires warranty service on-site and Seller agrees, in its sole discretion, to provide such service, then labor costs for on-site field repair and all associated travel and living expenses, shall be the responsibility of Buyer. If Buyer requests expedited warranty service and Seller can accommodate such request as determined in Seller’s sole discretion, such service shall be at Buyer’s expense.

5. Within a reasonable time after Buyer’s notification, Seller will confirm whether a breach of warranty has occurred, and if so will repair the product to correct any failure of the product to conform to specifications or any defect in material or workmanship. If Seller is unable to repair the product Seller will provide to Buyer, at Seller’s sole option, one of the following: (1) a replacement product, or (2) a full refund of the purchase price. These remedies are Buyer’s exclusive remedies for breach of warranty.

6. Replacement parts shall be warranted for 90 days or for the remainder of the original Warranty Period, whichever is longer.

7. Seller does not warrant (1) defects caused by failure to provide a suitable installation environment for the product, (2) damage caused by use of the product in applications or for purposes other than it was designed for, (3) damage caused by wrong or inadequate electrical connections of field wiring.

### **Required Wires:**

Model V3480A00: L1, L2, L3, G. Wire as in Fig. B  
Model V3120A00: L1, L2, L3, N, G. Wire as in Fig. C

- d) Connect wires to terminal block “INPUT 1” as shown in **Fig. B or C**. Strip Length: 5/16 in. Tightening torque: 12-13 in-lb. Do not allow wires to extend over the circuit board beyond the terminal block. Verify wire jumpers are correctly installed per **Fig. B or C**. Connect GND wire to #10-32 chassis GND stud.
- e) Replace cover and four screws.
- f) Complete upstream connection to 3-phase source. Connect to phone line (Step III) before energizing.

### **III) CONNECT TO PHONE LINE**

- o An RJ11 phone jack is located on the bottom of the **I-Sense**. Connect a phone cord between the I-Sense RJ11 jack and a conventional phone line wall jack. The **I-Sense** is compatible with any analog phone line in the USA. The **I-Sense** is NOT compatible with digital office phone systems. Contact your systems administrator if you require assistance. The **I-Sense** does not receive telephone calls.
- o SoftSwitching recommends installing the **I-Sense** on a non-primary phone line if the email notification feature is to be used. This will prevent **I-Sense** dial-out from occasionally interfering with normal telephone use.

### **STEP E VERIFY COMMUNICATION**

Each unit has a green LED (see **Fig. D**) which also functions as a button. Pushing the button instructs the unit to immediately report a “heartbeat” event to the **I-Grid**.

Push the button and then login to the **I-Grid** website and check that your **I-Sense** monitor reported the event.

## REFERENCED FIGURES

Figure A

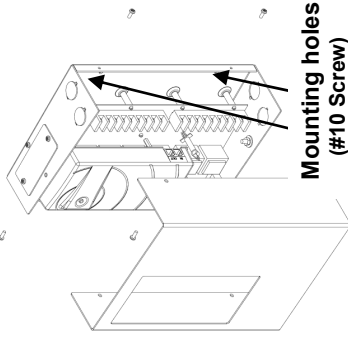


Figure B

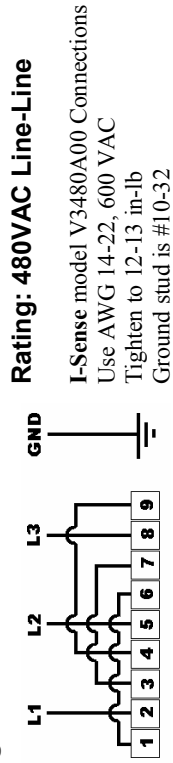


Figure C

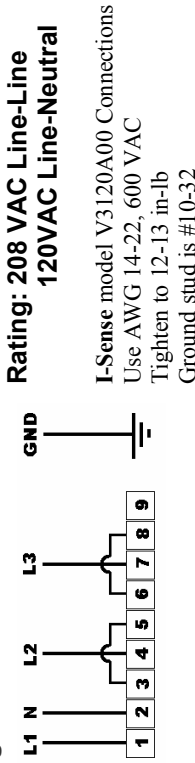


Figure D

State of LED	Activity of I-Sense™ Monitor
1 Flash	Unit is actively monitoring the electrical power for events. Unit has power quality events to report to the website, but encountered a dialing problem (busy signal, etc.) when it last attempted to dial out. The unit will wait a few minutes and then try again.
2 Flashes	
3 Flashes	Unit is trying to find a dial tone on the phone line. Unit is dialing the phone and modems are connecting.
4 Flashes	
5 Flashes	Unit is negotiating PPP settings with Internet Service Provider (ISP). Unit is sending events to the I-Grid website over the Internet.
6 Flashes	
Off	Unit has detected a long power outage. It attempted to report the start of the outage to the I-Grid website before powering off. When power returns, it will report the end of the power outage.

## FAQs and TROUBLESHOOTING

- The **I-Sense** includes an initial year of communication, notification, and support service. Following the initial year, an annual service fee is required. This service fee covers communication costs, data storage, website maintenance, and technical support. To renew your monitor you can use our online store at: <http://www.i-grid.com/store> or call **I-Grid** Support at (608) 662-7310.
- The **I-Sense** is equipped with a NiMH rechargeable battery. We recommend that the **I-Sense** battery be replaced every 2-3 years. The replacement battery specifications are:
  - Model: Varta AccuPlus Ultra, 5522 E-Block V7/8H (IEC 6F22)
  - Voltage: **8.4 volts** (this is critical; “9 volt” batteries can vary from 7-10v)
  - Minimum MilliAmp-Hours: 150 mAh
- Many aspects of the **I-Sense** behavior can be configured through your **I-Grid** website account. Your **I-Grid** registration must be completed to begin using your **I-Sense**.
- The **I-Sense** will automatically figure out if it needs to dial an 8 or 9 in order to get a dial tone. Other prefixes require custom programming; contact **I-Grid** Support for details.
- If your monitor has not reported any new data in a few days, or you receive a “Monitor Offline” email from the **I-Grid** system, please check the following:
  - Does the unit have power (is the LED flashing?)
  - Is the unit connected to an analog phone line?
  - Unplug the phone cord from the **I-Sense** and connect it to an analog handset – is there a dial tone?
  - Check with your facilities department to ensure that the phone line’s dialing requirements and restrictions have not changed.
  - Dial your local access number (you can find this online under “Manage My I-Senses”); you should hear fax/modem sounds.
- Visit <http://www.i-grid.com/support> for a complete list of FAQ and troubleshooting tips. You can also send your questions to [igridsupport@softswitch.com](mailto:igridsupport@softswitch.com), or call **I-Grid** Support at (608) 662-7310

**Limited Warranty:** SoftSwitching warrants that the I-Sense will operate as described in this operator’s manual for a period of 12 months from registration on the I-Grid web site or 18 months from the date of purchase, whichever occurs first. Soft Switching hereby excludes any and all implied warranties of merchantability, or fitness for any purpose, particular, specific or otherwise. SoftSwitching assumes no liability for incidental damage or injury in connection with the installation, use or misuse of this product.

