2GIG-TAKE-KIT1

# HARDWIRE CONVERSION KIT

## INSTALL INSTRUCTIONS

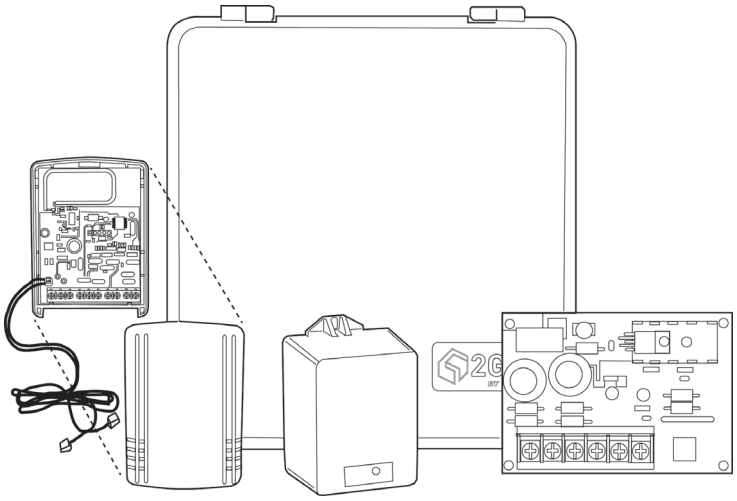
The 2GIG Hardwire Conversion Kit (2GIG-TAKE-KIT1) provides installers with an easy method for taking over a pre-wired security alarm system and converting the existing hardwired zones to wireless zones.

To ensure optimal performance with the 2GIG Control Panel, the kit provides an ABS Plastic enclosure (UL 94: V-0) to protect the kit's components. The enclosure houses up to three (3) Super Switch Takeover Modules (2GIG-TAKE-345) and the Power Supply Board with backup battery charging circuit. It also includes a space for placing a suitable backup battery.

The kit includes one (1) Super Switch Takeover Module (*Wireless Takeover of an Alarm System. US Patent No. 8,638,218*). You can also install two (2) additional modules, which permits you to convert up to 24 pre-wired security zones to wireless zones (each module converts eight (8) zones).

**IMPORTANT:** The Super Switch cannot be used to monitor Carbon Monoxide (CO) or Fire detection zones and the Hardwire Conversion Kit is intended for indoor use only.

**Figure 1** Hardwire Conversion Kit



## Box Contents

Verify that the package includes:

- 1—Super Switch Takeover Module (2GIG-TAKE-345)
  - 1—Plastic Bracket
  - 2—Phillips Head Screws for Plastic Bracket
- 1—12/24 VDC Power Supply Board
- 1—16.5VAC 50 VA Grounded Plug-in Transformer
- 1—ABS Plastic Wall-Mount Enclosure
  - 1—Removable Enclosure Door
  - 4—Drywall Anchors and Phillips Head Screws for mounting the enclosure.
  - 1—Double-sided Adhesive Tape for Super Switch Plastic Bracket
  - 3—2.5 inch (6.35 cm) Double-Stick Foam Strips for Power Supply Board
  - 1—2.5 inch (6.35 cm) Double-Stick Foam Strips for Plug-in Transformer

## Additional Equipment

Additional equipment can be purchased to enhance the Hardwire Conversion Kit:

- **Backup Battery (Required)**. You must install a 12 V, 1.4 AH Rechargeable Sealed Lead Acid Battery (or better).
- **Linear H208 (Optional)**. This kit is recommended for locking the plastic wall-mount enclosure with a key for additional security. For details, visit: http://www.linearcorp.com/product_detail.php?productId=317

## Mounting the Enclosure to the Wall

When completing the steps below, refer to *Figure 2 "Mounting the Enclosure to the Wall"* on page 2.

To mount the enclosure to the wall:

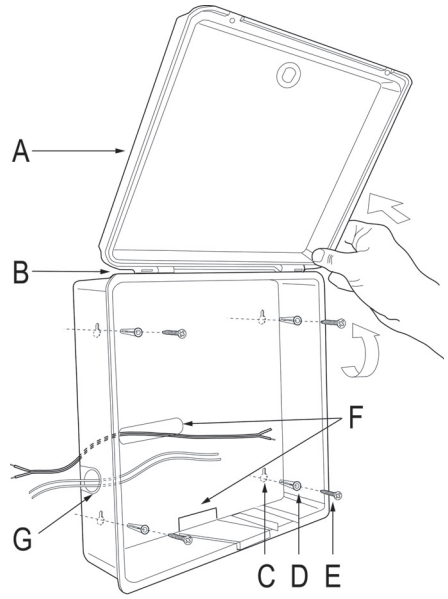
1. Choose a location within RF range of the Control Panel. Before you begin, ensure the mounting location is free of electrical wires and plumbing systems before drilling into the wall.
2. Temporarily remove the enclosure door by lifting the cover up and pushing it back until the door's hinge pins disengage.
3. Using the four (4) keyhole slots as a template, mark the location of the four (4) mounting holes at the top of the keyhole slots. Ensure that the enclosure will be level.
4. Remove the enclosure from the wall and drill 3/16" starter holes for the screws at the four (4) marked locations.
5. Push each of the wall anchors into the drilled holes, ensuring the wall anchor heads are flush with the wall.
6. Screw two (2) of the Phillips head screws into the bottom wall anchors, leaving the heads exposed.

   Do not screw these in all the way.
7. Pull the cord for the Grounded Plug-in Transformer through one of the access holes or knockout in the back of the enclosure.
8. Pull the wires for all of the wired sensors through the enclosure's access holes and/or knockout as needed.
9. With the enclosure in place, insert the two (2) screw heads into the top wall anchors.

   Ensure the screw heads are at the upper end of the keyhole slots. Then tighten both screws.
10. Lift the enclosure and insert the screw heads into the lower keyhole slots.
11. Slide the enclosure downwards so the screw heads are at the upper end of the keyhole slots.
12. Ensure that the enclosure is level.
13. Tighten the screws.
14. Continue with *"Mounting the Power Supply Board in the Enclosure"* on page 2.

**Figure 2** Mounting the Enclosure to the Wall




**A** One (1) Removable Cover
**B** Hinge Pins
**C** Four (4) Keyhole Slots
**D** Four (4) Plastic Wall Anchors (included)
**E** Four (4) Phillips Head Screws (included)
**F** Two (2) Access Holes
**G** One (1) Optional Knockout

## Mounting the Power Supply Board in the Enclosure

To mount the power supply board inside the enclosure:

1 Attach the three (3) double-stick foam strips (included) to the flat surfaces on the back edges of the power supply board.

As shown in positions A and B in the figure below, do not affix the foam strips over the edge with the exposed pins.

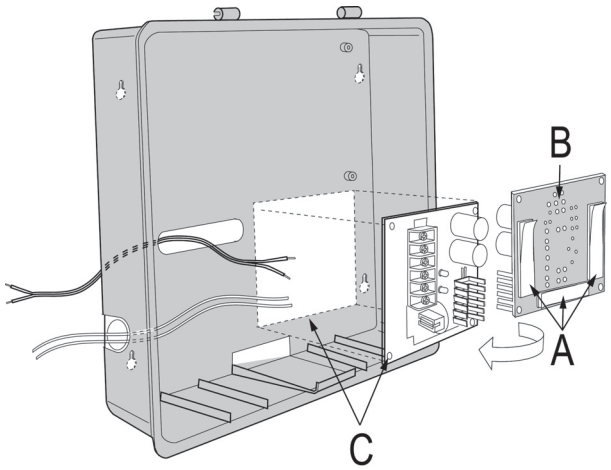
2 Affix the board to the lower-right corner of the enclosure.

**NOTE:** For safety, ensure that the board is not covering the wiring access or keyhole slots. See C in the figure below.

3 (Optional) Use four (4) sheet metal screws (not included) to secure the power supply board to the enclosure.

**NOTE:** To avoid damaging the board, do not overtighten the screws.

**Figure 3** Mounting the Power Supply Board




**A** Three (3) Double-Stick Foam Strips (Affix to Power Supply Board)
**B** Power Supply Board (Do not affix foam strips over exposed pins)
**C** Power Supply Board (Affix to back of enclosure)

## Mounting the Super Switch in the Enclosure

To mount the Super Switch inside the enclosure:

1 Attach the adhesive backing to the back side of the plastic wall bracket for the Super Switch.

The adhesive backing is included in the Hardwire Conversion Kit.

2 Affix the plastic wall bracket to the upper-right corner of the enclosure. See position 3 in *Figure 4 Mounting the Super Switch in the Enclosure*.

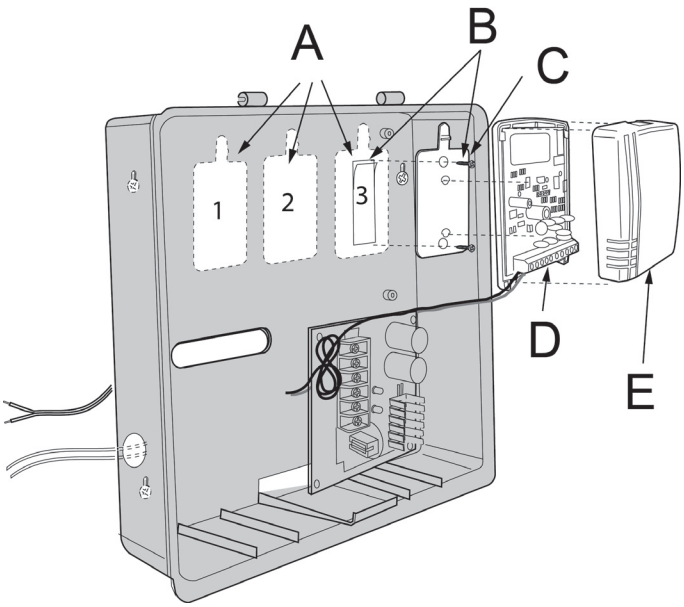
**NOTE:** If installing more than one (1) Super Switch module, mount each plastic wall bracket vertically as shown in *Figure 4*. The enclosure can house a maximum of three (3) modules.

3 Use the two (2) sheet metal screws (included with the Super Switch) to secure the module to the inside the enclosure.

4 Slide the backplate of the Super Switch downwards over the mounting stubs on the face of the plastic wall bracket.

5 To remove the Super Switch backplate from the plastic wall bracket, slide the backplate in an upwards direction to release it from the bracket's mounting stubs.

**Figure 4** Mounting the Super Switch in the Enclosure




**A** Super Switch Module(s)
**B** Plastic Wall Bracket(s) (brackets affixed vertically to back of enclosure)
**C** Double-sided Adhesive Tape (included) and/or Optional Screws for Plastic Wall Bracket
**D** Super Switch Backplate, Printed Circuit Board, and Wiring
**E** Super Switch Front Cover

## Wiring the Components

Wiring must always be installed by qualified service personnel and in accordance with National Electrical Code, as well as with all local codes and authorities having jurisdiction.

**NOTE:** The Hardwire Conversion Kit is intended for indoor use only.

To wire the components in the kit:

1 Connect the Ground and 12V wires from the Super Switch to the +V and NEG terminals on the Power Supply Board.

**NOTE:** Refer to the wiring diagram in *Figure 3 "Hardwire Conversion Kit Wiring"* on page 4.

2 Attach the positive (HI) side of each wire to the corresponding zone on the super switch terminal block.

**NOTE:** Terminals 3-10 on the super switch correspond to zones 1-8. For example, wire the positive (HI) side of zone 1 on the Super Switch to terminal 3.

**3** Repeat the steps above for each additional zone.

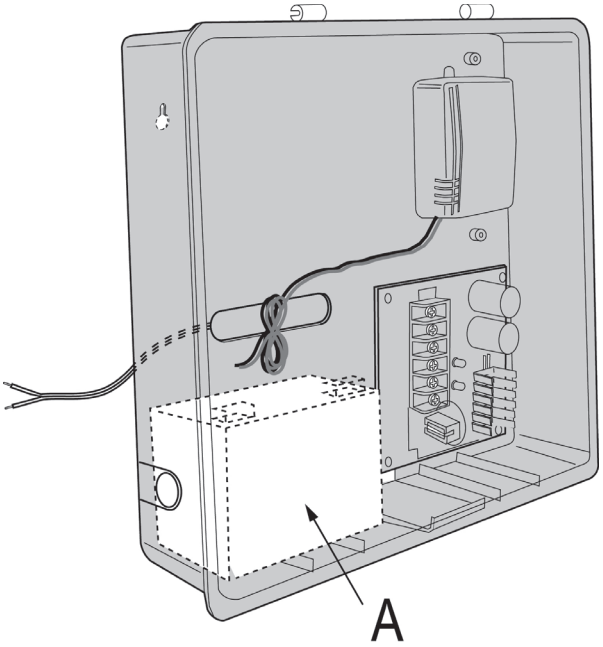
**4** Group the LO/(GND) wires together and connect them to terminal 1/G (GND) of the Super Switch.

**5** Replace the front cover on the Super Switch.

**6** Ensure the power supply is mounted in the enclosure included with the 2GIG-TAKE-KIT1.

**7** Position the backup battery in the recommended location in the enclosure.

**Figure 5** Recommended Location for Backup Battery (Not Included)




**A** Backup Battery

**8** Connect the Super Switch to the backup battery as follows:

**8a** Connect the RED (BAT+) wire from the Super Switch to the RED terminal on the backup battery.

**8b** Connect the BLACK (BAT -) wire from the Super Switch to the BLACK terminal on the backup battery.

**9** Connect the Power Supply wires to the backup battery as follows:

**9a** Connect the RED (BAT +) and BLACK (BAT -) wires (provided) from the power supply to the BAT + and BAT - terminals on the Power Supply Board.

**9b** Connect the Spade Lugs to the Power Supply Ground and 12 V wires to the corresponding Quick Disconnect Connectors on the Super Switch wires. The Super Switch should already be connected to the backup battery.

**9c** Connect the 16.5V AC leads for the transformer to the 16.5V Power Supply.

**NOTE:** To avoid potential damage to the transformer and connected devices, measure the transformer's output voltage before connecting it to the Power Supply Board.

**IMPORTANT:** To avoid nuisance low battery indicators from connected zones, always power up the battery before connecting AC power. If you experience an issue, see *Troubleshooting the Low Battery Alert*.

**10** Connect the 16.5 V AC leads to the AC terminals on the Power Supply Board.

**11** Connect the plug-in transformer (included) into an unswitched wall outlet.

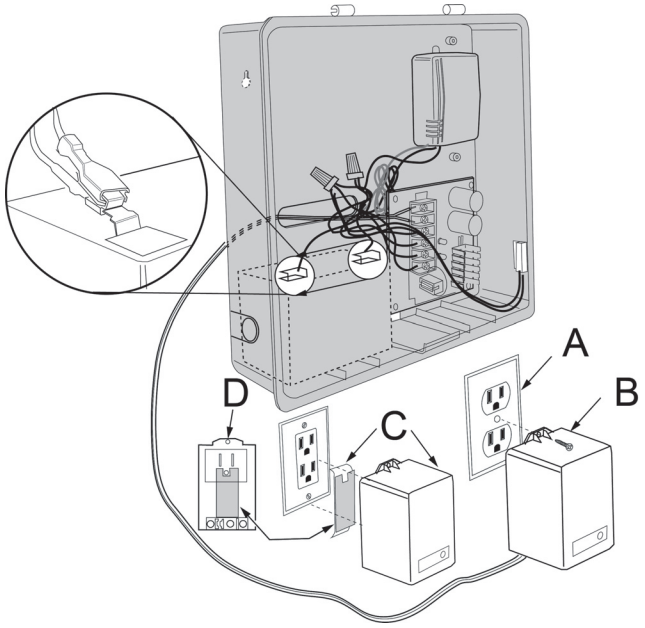
**12** Prepare to secure the transformer to the outlet as follows:

- For a standard wall outlet, screw the transformer to the outlet. The screw is included with the plug-in transformer.

  OR

- For a decora wall outlet, affix the double-sided adhesive tape to the transformer. Then adhere the transformer to the outlet.

**Figure 6** Connecting Power to the Hardwire Conversion Kit




**A** Wall Outlet
**B** Plug-in Transformer and Screw (included)
**C** Plug-in Transformer and Double-Sided Adhesive Tape (included) for Decora Outlets
**D** Back-side of Plug-in Transformer with Double-Sided Adhesive tape affixed

## Recommended Maximum Current Draw

The maximum current draw from external devices shall not exceed the recommendations in the table below:

| When this number of Super Switch Modules are installed: | Do not exceed this maximum: |
|---|---|
| Three (3) Modules | 350 mA |
| Two (2) Modules | 400 mA |
| One (1) Module | 450 mA |

## Troubleshooting the Low Battery Alert

If a low battery alert appears:

**1** Unplug the transformer to power down the Power Supply.

**2** Remove all connections from the battery.

**3** Test the battery's voltage with a battery life test meter (not multimeter).

**4** If the battery is fine, rewire the Super Switch.

**5** After rewiring the Super Switch, reconnect the battery connections, connect power to Terminal 2 on the Super Switch, and then plug in the transformer.

**NOTE:** To clear the low battery alert, you may need to open and close all of the zones or to reboot the Control Panel. To reboot the panel, go to the **Installer Toolbox**, press **System Configuration**, and the press **End** at the question screen. When the **Summary of System Configuration** screen appears, ensure the **Save Changes** box is selected. Then press **Exit**.

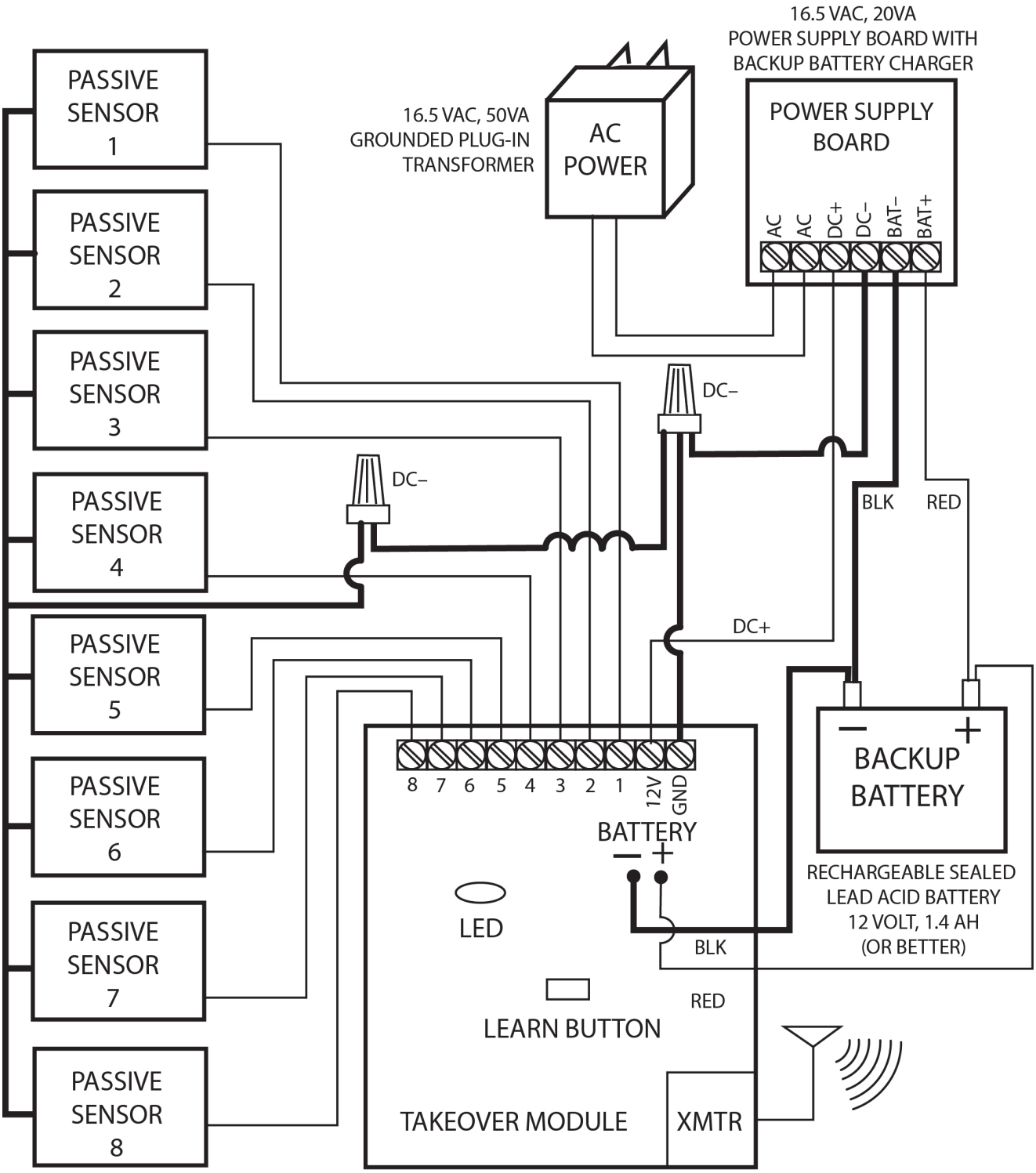
**NOTE:** All of the ground wires must be grouped together and connected to the ground port of the Super Switch.

## Hardwire Conversion Kit Wiring

Use the diagram below when wiring the Hardwire Conversion Kit.

**Figure 7** Hardwire Conversion Kit Wiring Diagram

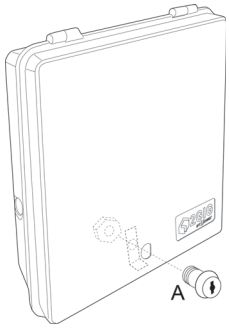



**Hardwire Conversion Kit (2GIG-TAKE-KIT1) Wiring Diagram**

## Installing an Enclosure Door Lock

The removable cover on the plastic wall-mount enclosure is equipped with an knockout that accepts the Model H208 Lock Kit from Linear LLC. This lets you install an optional key lock.




To install the optional lock:

1. Temporarily remove the enclosure door.
2. Locate the knockout for the lock. This is located in the center at the bottom of the enclosure door.
3. Carefully remove the knockout from the enclosure door using a punch tool.
4. Assemble the door lock as described in the *H208 Owner's Manual* (PN: 221963A).

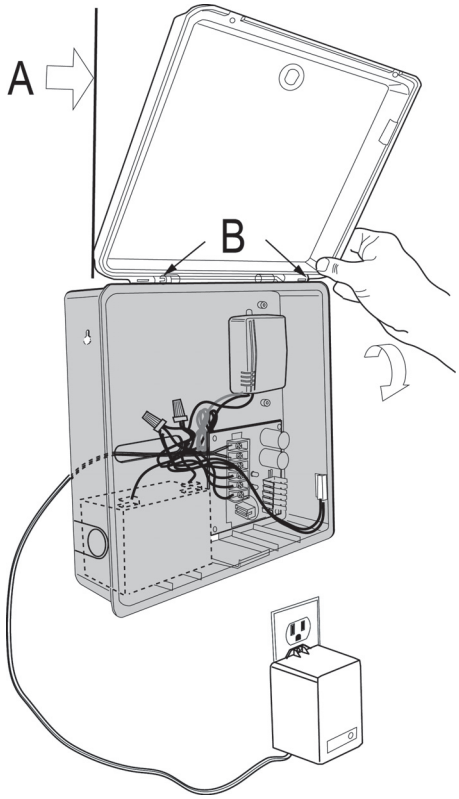
## Installing a Tamper Switch on the Enclosure

You can install an optional wired surface mount contact (not provided) from a third-party manufacturer to act as an alarm contact for protecting the enclosure. If the enclosure's cover is opened, the alarm will be activated.

To install a tamper switch on the enclosure, use the following as a guideline:

1. Follow the manufacturer's instructions to mount the switch to the inside surface of the wall-mount enclosure.
2. Place the magnet on the removable door using double-sided tape or adhesive.
3. Route the HI side wire from the surface mount contact to any available zone terminal on the Super Switch. Route the LO side to the GND.
4. Replace the enclosure door. After connecting power to the kit, you will need to program the tamper switch into the Control Panel. To learn how to program sensors into the Control Panel, see the Control Panel's *Installation and Programming Guide*.

**Figure 8** Replacing the Enclosure Door




**A** Removable Enclosure Door (must be in "straight-up" position to engage hinge pins)
**B** Hinge Pins

# SPECIFICATIONS

| | |
|---|---|
| **Enclosure** | |
| Material and Certification | ABS Plastic UL 94 V-0 |
| Dimensions | 11.5 x 12.5 x 4 in (29.2 x 31.8 x 10.2 cm) |
| **Takeover Module** | |
| Wireless Signal Range | 350 ft, open air, with Wireless Control Panel |
| Code Outputs | For each of the eight (8) serial zones: Alarm; Restore; Fault; Low Battery |
| Transmitter Frequency | 345.00 MHz (crystal controlled) |
| Unique ID Codes | Over one (1) million different code combinations |
| Supervisory Interval | 70 minutes |
| Sensor Dimensions (LxWxH) | 3.54 x 2.56 x 1.13 in. (9.0 x 6.5 x 2.9 cm) |
| Weight (including bracket) | 2.85 oz. (80.8 g) |
| Housing Material | ABS Plastic |
| Color | White |
| Operating Temperature Limits | 32° to 120° F (0° to 49° C) |
| Relative Humidity | 5-95% Non-Condensing |
| Operating Voltage | 9-16 VDC, 50mA |
| Certification | ETL, FCC Part 15, and Industry Canada |
| **Power Supply Board** | |
| Input | 16.5VAC, 20VA |
| Output | 12/24 VDC |
| Battery Backup | Built-in charger for sealed lead or gel type batteries, automatic switch over to stand-by when AC fails |
| Visual Indicators | AC input and DC output LED indicators |
| **Grounded Plug-in Transformer** | |
| Primary | 120VAC 60Hz |
| Secondary | 16.5VAC 50VA |
| LED Indicator | Supervises Power |
| Primary Termination | 2 Male Blades and Grounding Pin |
| Secondary Termination | 3 #6-32 Screw Terminals with washers for secure contact |
| Dimensions (W x D x H) | 2.88 x 2.25 x 3.88 in (7.3 x 5.7 x 9.9 cm) |
| Weight | 1.5 lbs |
| Color | White |
| **Surge Protection**: | |
| 3 Mode Protection | Line, Neutral, and Ground |
| Clamping Voltage | 340V |
| Maximum Spike Current | 4500 amps |
| Energy Dissipation | 60 joules |
| Maximum Spike Voltage | 6000Volts |
| Clamping Response Time | 25 Nanoseconds |
| Certification | UL & ULC Listed |

## Limited Warranty

This Linear LLC product is warranted against defects in material and workmanship for one (1) year. This warranty extends only to wholesale customers who buy direct from Linear LLC or through Linear's normal distribution channels. Linear LLC does not warrant this product to consumers. Consumers should inquire from their selling dealer as to the nature of the dealer's warranty, if any.

There are no obligations or liabilities on the part of Linear LLC for consequential damages arising out of or in connection with use or performance of this product or other indirect damages with respect to loss of property, revenue, or profit, or cost of removal, installation, or reinstallation. All implied warranties for functionality, are valid only until the warranty expires. This Linear LLC Warranty is in lieu of all other warranties expressed or implied.

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Contact your regional distributor
Visit dealer.2gig.com for a list of distributors in your region

PN: 77-000069-001 Rev. B

 