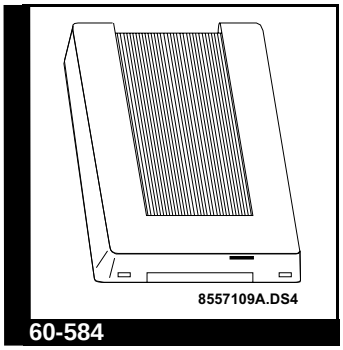
Superbus Hardwire Input Module

Document Number: 466-1033 Rev. B
January 1997



Installation Instructions

Product Summary

The Superbus Hardwire Input Module (HIM) lets you add 8 zones for hardwire sensors to a compatible security system. Both normally open and normally closed sensors can be wired to a HIM. The HIM monitors all zones and alerts the panel if there is an open / short circuit, using a 4.7k-ohm end-of-line (EOL) resistor on each loop input.

For additional security, the plastic case includes space for installing a magnetic reed switch* that can provide tamper protection when the switch is connected to one of the HIM zones.

* Not intended for use in UL-listed systems.

The HIM comes with eight 4.7k-ohm EOL resistors (ITI part number 49-365) and mounting hardware (screws and anchors). Power for the HIM is provided by the panel.

Figure 1 shows the main HIM components and table 1 describes these components.

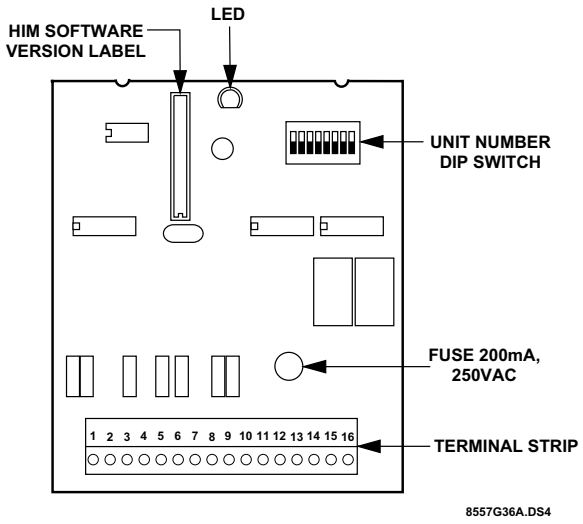


Figure 1. Main HIM Circuit Board Components

Table 1. HIM Component Descriptions

Component	Function
Software Version Label	Identifies the installed software version.
Light-Emitting Diode (LED)	Flashes constantly to indicate normal communication to the panel bus.
Unit Number DIP Switch	Determines the ID number of the HIM on the bus.
Fuse	Protects the HIM in case the input power is short circuited.
Terminal Strip	Used for panel and hardwire sensor connections.

Installation Guidelines

- For UltraGard™ systems, up to eight superbus devices can be connected to the panel (Superbus Alphanumeric Touchpad, HIM, ESM, etc.).
- Each superbus device must have a different unit ID number.
- Do not exceed the panel's total power when using panel power for bus devices and hardwired sensors that require panel power (see the specific panel's *installation instructions*).
- Maximum current draw of each HIM is 18 mA.
- Use 4-conductor, 22-gauge or larger stranded wire from the HIM to the panel.
- Terminate each hardwired zone with a 4.7k-ohm EOL resistor (ITI part number 49-365). For normally open circuits, wire the resistor in parallel. For normally closed circuits, wire the resistor in series.
- Always install the EOL resistor at the last sensor or device on the circuit; not at the HIM terminals.
- Install a 4.7k-ohm EOL resistor (ITI part number 49-365) on all unused zones

Tools and Supplies Needed

- Screwdriver
- $^{3}/_{8}$-inch self-tapping screws (included)
- Wall anchors where needed (included)
- #6 panhead screws
- Drill with sheet metal bits to match screws (cabinet mount only)
- Reed switch* (optional)

* Not intended for use in UL-listed systems.

Installation

The Superbus HIM can be mounted on a wall or inside the panel's cabinet.

Note: Wear a grounding strap to avoid damaging the board.

To mount the HIM on a wall:

1. Turn off the panel power switch.
2. Remove the HIM cover and set it aside (see Figure 2).

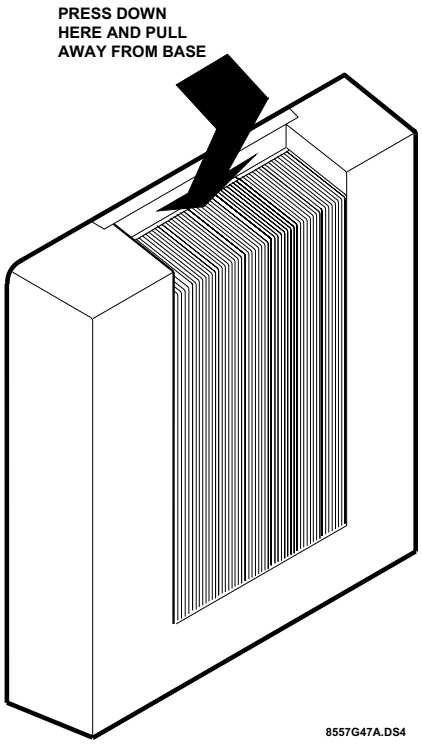


Figure 2. Removing the Cover

3. Place the back plate on the wall and mark the mounting holes (see Figure 3).

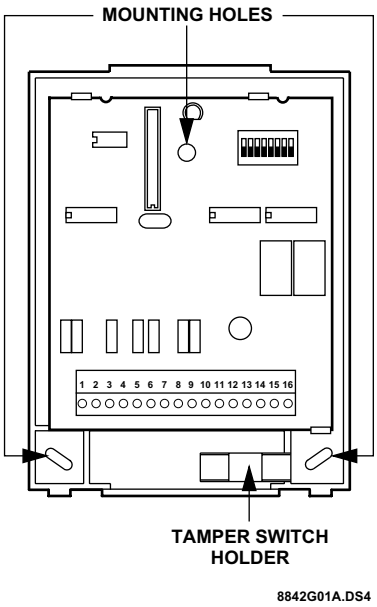


Figure 3. Mounting Holes

4. Drill holes and insert appropriate anchors.
5. Secure the back plate to the wall with panhead screws.

To mount the HIM inside the UltraGard cabinet:

1. Turn off the panel power switch.
2. Remove the HIM cover and set it aside (see Figure 2).
3. Place the back plate inside the cabinet at the lower-right corner and mark the mounting holes (see Figure 3).
4. Drill holes in the cabinet wall.
5. Secure the back plate to the cabinet with self-tapping screws.

Wiring

This section describes how to wire the HIM to the panel and how to connect hardwire sensors to the HIM.

To wire the HIM to the UltraGard panel:

1. Turn off the panel power switch.
2. Disconnect the panel's transformer and backup battery.
3. Wire the HIM to the panel (see Figure 4).

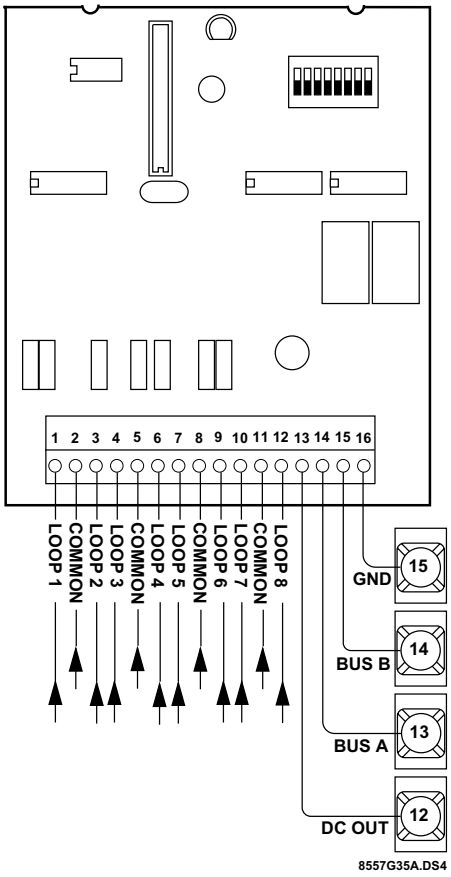


Figure 4. Connecting the HIM to the UltraGard Panel

To connect hardwire sensors to the HIM:

1. See Figure 5 for an example of how to connect NC or NO circuits to the HIM.

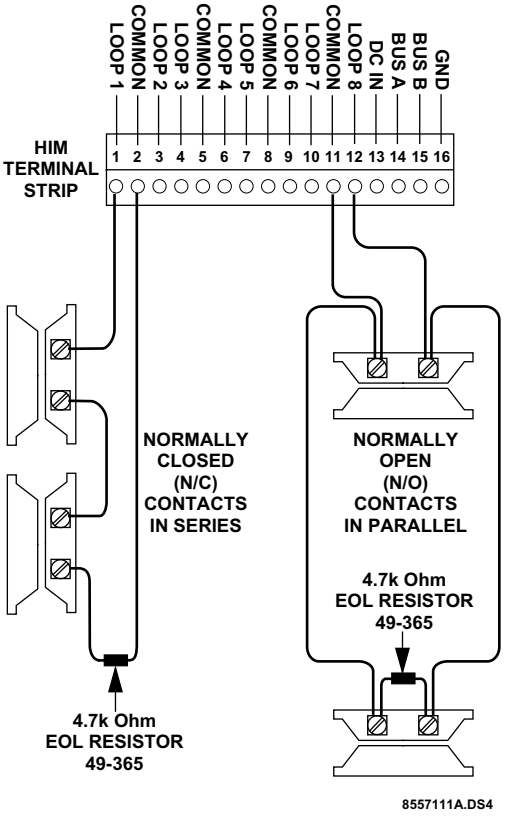


Figure 5. Connecting NC and NO Circuits to the HIM

2. See Figure 6 for an example of how to connect hardwire smoke sensors to the HIM.

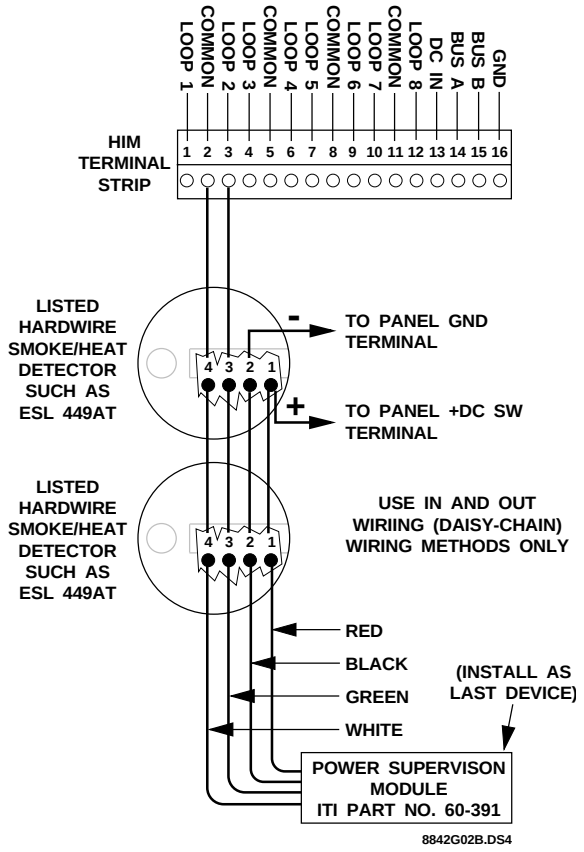


Figure 6. Connecting Hardwire Smoke Sensors to the HIM

Note: When installing the Power Supervision Module (ITI part number 60-391), a 4.7k-ohm EOL resistor is not needed since it is included on the module.

3. Install a 4.7k-ohm EOL resistor (ITI part number 49-365) on all unused HIM loops.

Setting the HIM Unit Number

Before powering up the panel, the HIM unit number must be set so that the panel recognizes it. Each bus device requires a different unit number (address) for successful communication and operation with the panel.

Note: If a HIM unit number is changed, loop inputs on that HIM are no longer recognized by the panel. Each loop input on that HIM must be deleted from panel memory and relearned at the new unit number.

To set the HIM unit number for UltraGard systems:

Locate the DIP switches on the HIM circuit board (see Figure 1) and set them to the desired unit number, 0-7 (see Figure 7).

Note: Switches 1 thru 5 must remain in the OFF position as shown in Figure 7.

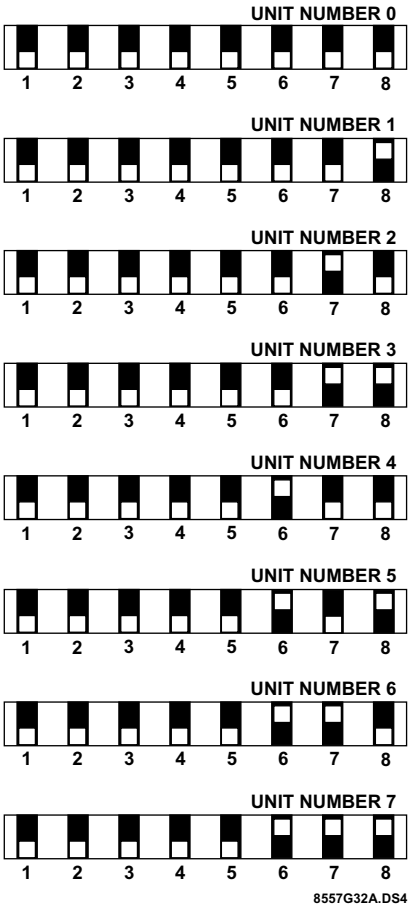


Figure 7. HIM Unit Number DIP Switch Settings

Installing a Tamper Switch*

If the HIM is visible, you may want to add tamper detection*. To do this, install a reed switch in the plastic cover and wire the switch to one of the HIM inputs. If someone opens the cover, the switch opens and causes an alarm.

The tamper switch holder is located at the lower-right side of the back plate (see Figure 3). The plastic cover holds the magnet.

* Not intended for use in UL-listed systems.

To install the reed switch:

1. Slide the reed switch into the holder.
2. Connect the reed switch (with an EOL resistor) to the desired HIM loop input.
3. Insert the magnet into the nibs on the top cover. Press the magnet down until it clicks into place.

Power Up and Bus Communication

This section describes how to power up the panel and the HIM and get them communicating with each other.

To power up the UltraGard panel and the HIM:

1. Verify that all wiring at the panel and the HIM are correct.
2. Reconnect the panel battery and plug in the power transformer.
3. Turn on the panel power switch.
4. Set the panel's RUN / PROGRAM switch to PROGRAM.

   If the alphanumeric display reads *1-OFF* and the *1* is flashing, you must enter the install code (4-digit installer access code) to get the panel into the program mode.

   The alphanumeric display should read *PROGRAM MODE* and the HIM LED should be flashing continuously, indicating successful communication to the panel.

Note: If the LED is not flashing continuously, set the RUN/PROGRAM switch to RUN and turn off the panel power switch. Verify that all wiring is correct and that all bus devices are set with different unit numbers. Whenever the HIM unit number is changed, you must turn off the panel power switch, turn it back on, and then enter the program mode for the panel and HIM to communicate successfully.

Programming and Testing

Refer to the specific panel's *installation instructions* for learning hardwire sensors into panel memory and testing sensors.

Note: If the system uses hardwire sensors only, turn off upper sensor 94 (Receiver Failure) in the panel. Refer to the panel *installation instructions*.

Specifications

Compatibility: UltraGard™

Power Requirements: 12 VDC, 18 mA (maximum)

Dimensions: 5.25" x 4.125" x 1.0" (L x W x D)

Notices

This device complies with FCC Rules Part 15. Operation is subject to the following two conditions:

1) This device may not cause harmful interference.
2) This device must accept any interference that may be received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by Interactive Technologies, Inc. can void the user's authority to operate the equipment

Interactive Technologies, Inc.
2266 second street north
north saint paul, mn 55109
t: 612/777-2690
f: 612/779-4890

WIRELESS
Security
Automation
Access Control