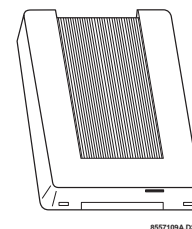


International SuperBus® 2000 Hardwire Input Module (HIM)

Document Number: 466-1777 Rev. A
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Installation Instructions

About this Document

This document describes how to install, program, and test the ITI® International SuperBus® 2000 Hardwire Input Module (HIM).

For additional HIM programming and operating details, refer to the installation instructions for the International Concord™ security panel.

Product Summary

The HIM expands the versatility of the International Concord panel by allowing the addition of hardwire input devices.

You can add up to 16 SuperBus devices to one International Concord security panel.

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 end-of-line (EOL) resistors on each loop input. To enable hardwire tamper protection, install extra EOL resistors (as shown in Figure 7) and turn on the panel Hardwire Tamper feature.

For additional security, the HIM includes a cover tamper switch that can provide tamper protection.

HIM Components

The HIM module includes mounting hardware and sixteen 2k-ohm end-of-line (EOL) resistors (part no. 49-365). Power for the HIM is provided by the panel.

Figure 1 shows the main HIM components and Table 1 describes these components

Table 1: HIM Component Descriptions

Component	Function
SuperBus 2000 Device ID Label	Identifies the unique number assigned to each ITI SuperBus 2000 module.
Red Light-Emitting Diode (LED)	Flashes to indicate normal communication to the panel bus.
Green LED	Lights to indicate that power is on.
Cover Tamper Switch	Alerts the panel if the HIM cover is removed.
Terminal Strip	Used for panel and hardwire sensor connections.

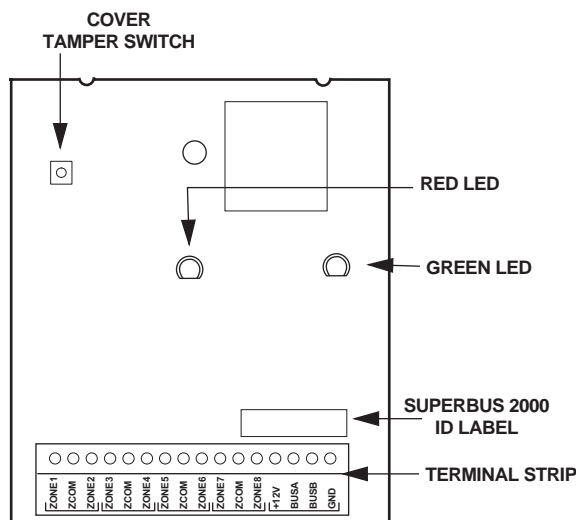


Figure 1. HIM Circuit Board Components

Installation Guidelines

- ❑ The International Concord security system supports a maximum of 16 SuperBus 2000 devices (SuperBus 2000 Alphanumeric Touchpad, HIM, HOM, etc.).
- ❑ Do not exceed the total system power guidelines when using panel power for bus devices and hardwired sensors (see panel installation instructions).

Important !
If separate power supplies are necessary to accommodate the HIM modules, safety standards require that each power supply be prominently marked with adequate instructions for removing all power from the unit.

- ❑ Maximum current draw of each HIM is 30 mA.
- ❑ Terminate hardwired zones with 2k-ohm EOL resistors (ITI part number 49-365).
- ❑ Always install the EOL resistors at the last sensor or device on the circuit, not at the HIM terminals.
- ❑ Install 2k-ohm EOL resistors (ITI part number 49-365) on all unused zones.
- ❑ Use 4-conductor, 22-gauge or larger, stranded wire between the HIM and the panel (see panel installation instructions for wire length guidelines.)
- ❑ Use 22-gauge or larger stranded wire between the HIM and the sensors.

- ❑ If you are replacing an existing HIM, then you must delete the existing HIM information from panel memory before installing this HIM. See the panel installation instructions for details.

Tools and Supplies Needed

- ❑ Screwdriver
- ❑ 3/8 -inch #6-32 self-tapping screws (included)
- ❑ #6 panhead screws
- ❑ 22-gauge or larger stranded hookup wire

Installation

To comply with safety standards, the HIM module, or the cabinet in which the HIM module is mounted, must be secured to the building structure before operation.

The SuperBus 2000 HIM can be mounted

- ❑ on a wall,
- ❑ inside a SuperBus Accessory Enclosure, or
- ❑ inside a Concord metal cabinet.



CAUTION
To prevent damaging the panel or card, remove AC power from the panel and disconnect backup battery before installation.



CAUTION
You must be free of all static electricity when handling electronic components. Touch a bare metal surface before touching the circuit board.

Mounting the HIM in a SuperBus Accessory Enclosure

1. Remove AC power from the panel and disconnect the backup battery.
2. Remove the HIM cover and set it aside (Figure 4).
3. Place the back plate inside the cabinet and line up the module mounting holes with the cabinet mounting holes (Figure 2).

4. Secure the back plate to the cabinet with four #6-32 self-tapping screws as shown.

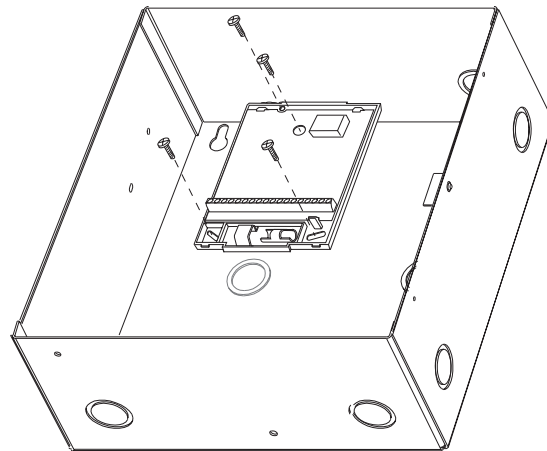


Figure 2. SuperBus Accessory Enclosure

Mounting the HIM in a Concord Cabinet

1. Remove AC power from the panel and disconnect the backup battery.
2. Remove and discard the HIM cover (Figure 4).
3. Open the panel cabinet cover.
4. Slide the module backplate onto the two module mounting clips located on the top-left, top-center, or top-right corner of the cabinet (Figure 3).

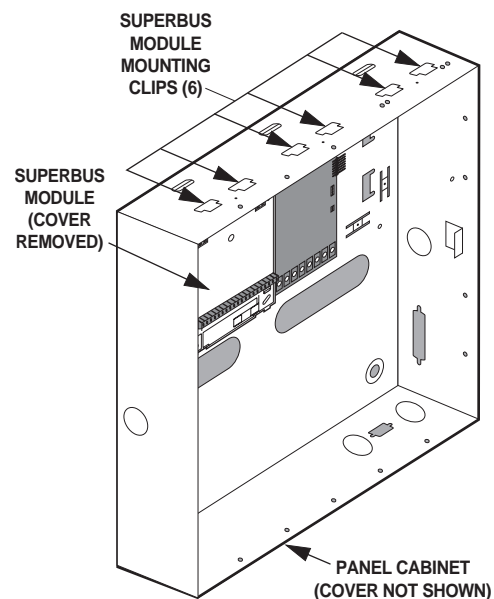


Figure 3. Mounting Module in International Concord Cabinet

5. Install the supplied standoff between the module backplate and the circuit cards

Mounting the HIM on a Wall

1. Remove AC power from the panel and disconnect the backup battery.
2. Remove the HIM cover and set it aside (Figure 4).
3. Place the back plate on the wall and mark the mounting holes (Figure 5)
4. Drill holes and insert appropriate anchors.
5. Secure the back plate to the wall with panhead screws.

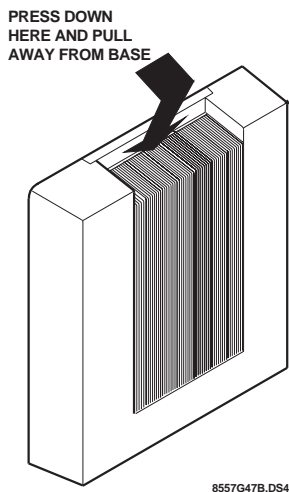


Figure 4. Removing the Cover

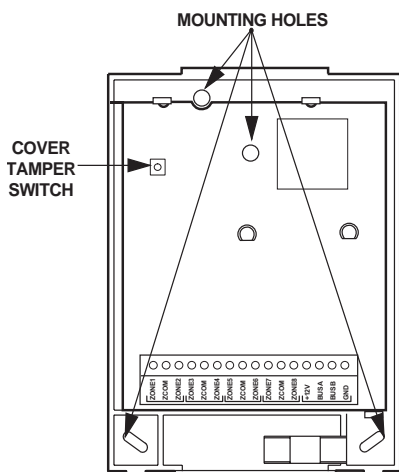


Figure 5. Mounting Holes

Wiring

This section describes how to wire the HIM to an International Concord panel and how to wire various hardwire sensors to the HIM terminals.

To wire the HIM to a panel:

1. Remove AC power from the panel and disconnect the backup battery.
2. Wire the HIM to the panel as shown in Figure 6 and Table 2. For specific SuperBus 2000 wiring details, see the panel installation instructions.

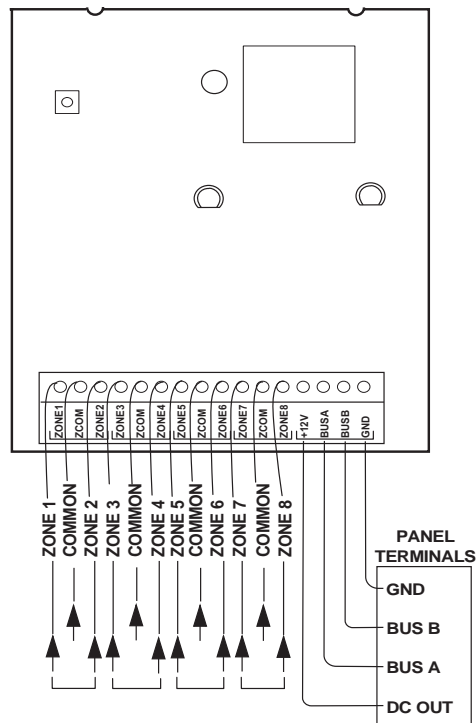


Figure 6. Wiring HIM to the Panel

Table 2: HIM SuperBus 2000/Panel Wiring

HIM Terminals	International Concord Terminals
+12V	1
BUS A	2
BUS B	3
GND	4

To wire hardwire sensors to the HIM:

1. See Figure 7 for an example of how to connect up to eight NC or NO circuits to the HIM.
2. See Figure 8 for an example of connecting hardwire smoke sensors to the HIM.
3. Install a 2k-ohm EOL resistor (ITI part number 49-365) on all unused HIM zones

Note

When installing the Power Supervision Module (ITI part # 60-798), a 2k-ohm EOL resistor is not needed since it is included on the module.

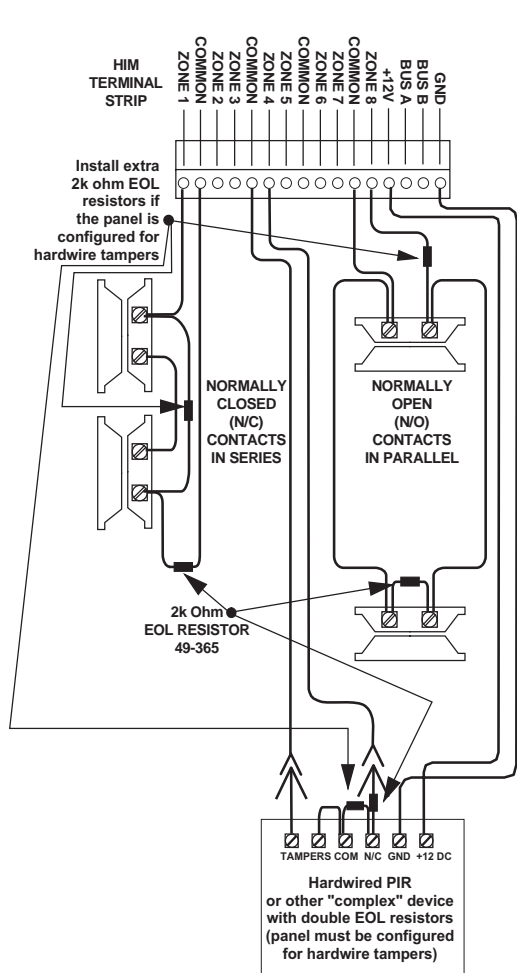


Figure 7. Connecting NC and NO Circuits to the HIM

Power Up and Bus Communication

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

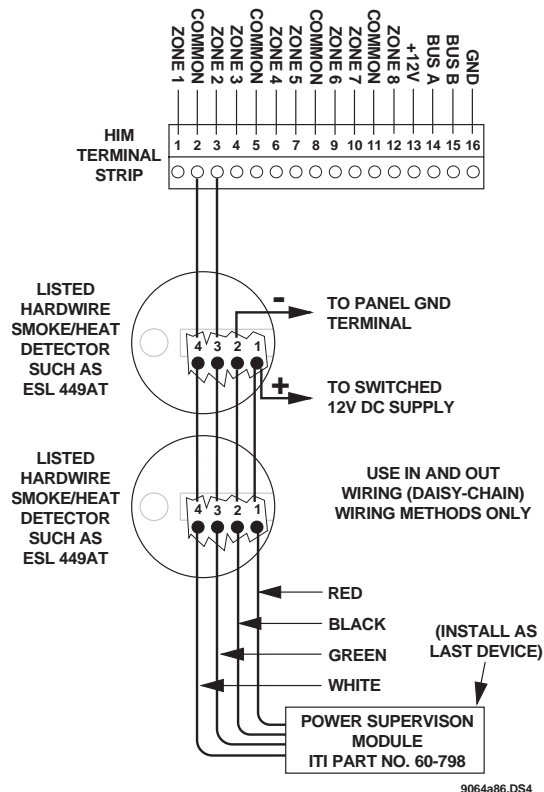
To power up the panel and verify HIM bus communication:

1. Verify that all wiring between the panel, touchpad and HIM is correct.
2. Connect the panel battery then restore AC power to the panel. Alphanumeric touchpad displays should momentarily indicate *SCANNING BUS DEVICES*.

Note

The International Concord security panel scans and automatically “learns” the device ID number of each bus device when the panel is first powered up. The panel then assigns a unique “address” to each bus device.

3. Enter program mode by pressing **[F] + installer CODE (default = 54321) + [0] + [0]**. The touchpad should display *SYSTEM PROGRAMMING*.
4. Press **[F]** and the display shows *SECURITY*.



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Figure 8. Connecting Hardwire Smoke Sensors to the HIM

5. Press **[A]** or **[B]** until the display shows *ACCESSORY MODULES*, then press **[F]**. The display should read *BUS DEVICES*.
6. Press **[F]**. The display shows the unit number *00* and its device ID number.
7. Press **[A]** or **[B]** to cycle through all bus unit numbers until the HIM device ID number appears. For example:

UNIT - ID
06 - NNNNNNNN

where *06* is the unit number assigned by the panel and *NNNNNNNN* is the device ID number on the HIM label.

Note

If the HIM device ID does not appear, remove AC power from the panel, disconnect the backup battery, and verify that all wiring is correct.

8. After verifying the HIM device ID (by checking it against the SuperBus 2000 device ID label on the HIM circuit board), press **[F]** repeatedly until the display shows *SYSTEM PROGRAMMING*.
9. Press **[A]** or **[B]** until the display shows *EXIT PROGRAMMING READY*.
10. Press **[F]** to exit program mode. The display shows the day, date, and time. The green HIM LED should be on to indicate power and the red HIM LED should be flashing to indicate successful communication with the panel.

Note

If the red LED is not flashing, remove AC power from the panel, disconnect the backup battery, and verify that all wiring is correct.

Programming and Testing

Refer to the specific panel installation instructions for replacing bus devices, adding (learning) hardwire sensors into panel memory, and testing sensors.

If the International Concord system uses hardwire sensors only, turn off the *Receiver Failure* feature in the panel. Refer to the panel installation instructions for details.

Replacing the HIM Cover

To replace the HIM cover on wall mount installations:

1. Insert the two tabs at the bottom of the module back plate into the slots of the cover.
2. Swing the cover up and press onto the back plate until it clicks into place.

Note

When the HIM is mounted inside a SuperBus Accessory Enclosure or a metal Concord cabinet the cover is not used and may be discarded.

Troubleshooting

Table 3 describes what to do if the module does not work correctly.

Table 3. Troubleshooting

Problem	Action/Solution
The green POWER LED stays off.	<ol style="list-style-type: none"> 1. Check for incorrect wiring connections. 2. Make sure the panel AC power is on and the backup battery is connected. 3. If the LED still remains off, replace the module.
The red BUS LED doesn't flash to indicate communication between the panel and the HIM.	<ol style="list-style-type: none"> 1. Verify that the panel recognizes the module by entering program mode (see specific panel installation instructions). 2. Check for incorrect wiring connections. 3. If the LED still doesn't flash, replace the module.
The red BUS LED blinks but the system does not respond when zones are tripped.	<ol style="list-style-type: none"> 1. Re-initialize the panel by disconnecting and reconnecting panel power. 2. Make sure the zone has been "learned" into panel memory. 3. Verify that the panel recognizes the module by entering program mode (see specific panel <i>Installation Instructions</i>). 4. Remove zones and try installing the module without the zones. 5. Replace the module.

Specifications

Compatibility:	International Concord security panels
Power Requirements:	12 VDC, 30 mA (maximum) panel and panel backup battery
Storage Temperature:	-30° F to 140° F (-34° C to 60° C)
Operating Temperature Range:	32° F to 140° F (0° C to 60° C)
Maximum Humidity:	90% relative humidity, non-condensing
Inputs:	Eight supervised hardwire loops
Dimensions:	5.25" x 4.125" x 1.0" (LxWxD)
Color:	Belgian gray
Case Material:	ABS plastic
Installation:	Wall or cabinet mounting

Notices



This Intruder Alarm System Accessory (Security Grade 2, Environmental Class II) has been manufactured to comply with the following European directives:

[i] EMC Directive 89/336/EEC amending directive 92/31/EEC & 93/68 EEC as per
EN 50081: 1992
EN 50130-04: 1995

[ii] Low Voltage Directive (Safety) 73/23/EEC as per
IEC 60950: 1999-04

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