



SuperBus 2000 8Z Input Module Installation Instructions

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Product summary

Each SuperBus® 2000 8Z Input Module adds eight supervised hardwire zones to Advent®, Concord™, Concord 4™, Concord Express™ (v4), and UltraGard® panels. Each module includes mounting hardware and eight 2.0k Ohm End-of-Line (EOL) resistors. Power for the module may be provided by the panel or an auxiliary 12V DC power supply.

Both normally-open and normally-closed detectors can be wired to a module input. Using an EOL resistor on each loop input, the module monitors each zone and alerts the panel in cases of an open or short circuit.

Advent panels can support up to 250 zone inputs; Concord panels can support and monitor up to 96 zone inputs; Concord Express (v4) panels support up to 32 zone inputs; and UltraGard panels can support eight modules for a total of 64 additional zone inputs.

For added security install a magnet and reed switch (not included) for tamper protection.

SuperBus 2000 vs. SuperBus

SuperBus 2000 panels auto-address module unit numbers. When the panel is powered, a unique device ID number (pre-programmed at the factory) is automatically learned by the panel. Potential identical unit number conflicts and the need to manually set DIP switches are eliminated.

Older SuperBus panels can communicate with the 8Z Input Module by manually setting the module's DIP switches.

SuperBus 2000 Panels

- Advent
- Concord (v2.0-later)
- Concord 4
- Concord Express (v4)

SuperBus Panels

- UltraGard
- Concord (v1.0-1.6)

Table 1. Module component descriptions

Component	Function
Unit Number DIP Switch	Used to manually set SuperBus unit numbers.
SuperBus 2000 Device ID Number Label	Identifies device ID numbers.
Software Version Label	Identifies installed software versions.
Power LED	Indicates module power status.
Bus LED	Indicates panel bus communication.
Wiring Terminals	Provides power, bus, and hardwire zone input connections.

Installation guidelines

- Refer to Table 2 for maximum number of bus devices and touchpads for each panel.

Table 2. Maximum bus devices per panel

Panel	Maximum Bus Devices
Advent	62
UltraGard	8
Concord / Concord 4	16
Concord Express (v4)	16

- When powering bus devices and hardwired sensors from the panel, *do not* exceed the panel's total power output. Refer to specific panel *Installation Instructions* for further detail.
- Each 8Z Input Module draws a maximum current of 35 mA.
- *Do not* exceed recommended maximum wire lengths from a panel to a module (see Table 3).

Table 3. Maximum wire lengths for specific panels

Panel	Maximum wire length
Advent	22 ga = 1,800 ft 18 ga = 4,000 ft
UltraGard	22 ga = 500 ft 18 ga = 1,000 ft
Concord / Concord 4 / Concord Express (v4)	22 ga = 1,800 ft 18 ga = 4,000 ft

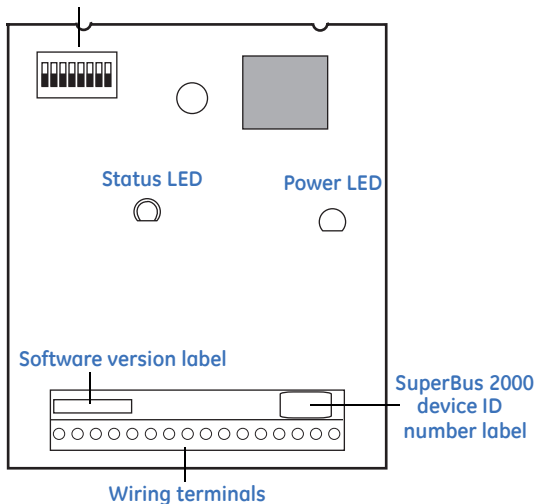
- When using a self- or remote-powered device, *do not* exceed the recommended maximum wire length of 4,000 feet for wires with a diameter larger than 22-gauge (Advent and Concord panels only).
- Terminate each hardwired zone with a 2.0k Ohm EOL resistor. For normally open circuits, wire the resistor 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 zone input terminal.

Tools and supplies needed

- Screwdrivers (Phillips and slotted)
- 3/8"-drive drill and drill bits
- 3/8" self-tapping screws (included)
- 2.0k Ohm EOL resistors (included)
- Four-conductor 22-gauge or larger diameter wire (18-gauge or larger for commercial applications)
- 1/4" inch press-fit reed switch and magnet (not included)

Figure 1. 8Z Input Module Components

Unit number DIP switches



- 1/4" self tapping screws (not included)
- Support standoff (included with Concord panels)

Installation

The module can be mounted:

- On a wall.
- Inside an Advent cabinet.
- Inside a Concord panel cabinet.
- Inside a System Expansion Enclosure. Refer to specific cabinet *Installation Instructions* for procedures.

Note: For UltraGard installations, the input module must be mounted to a wall. The module does not fit in an UltraGard cabinet.

Mounting the module



CAUTION: To prevent damage to the panel or module, remove the panel's AC power transformer and disconnect the backup battery prior to installation.



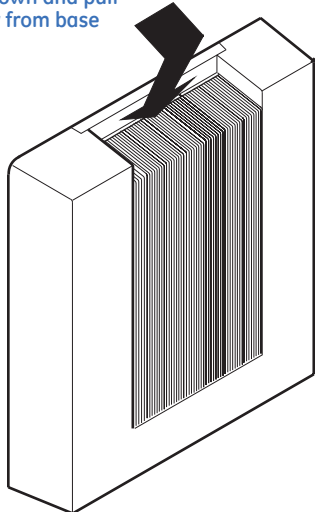
CAUTION: You must be free of static electricity while handling electronic components. Touch a grounded, metal surface before touching a circuit board.

Mounting the module on a wall

1. Remove the module cover and set aside (see Figure 2).

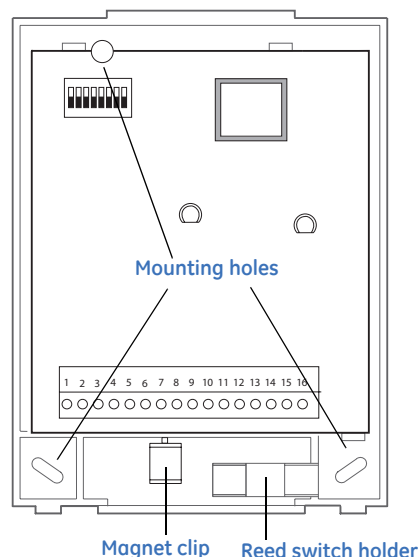
Figure 2. Removing the module cover

Press down and pull
away from base



2. Place the backplate on the wall and mark the three mounting holes (see Figure 3).
3. Drill for the mounting holes and insert appropriate anchors.
4. Secure the backplate to the wall with the included screws.

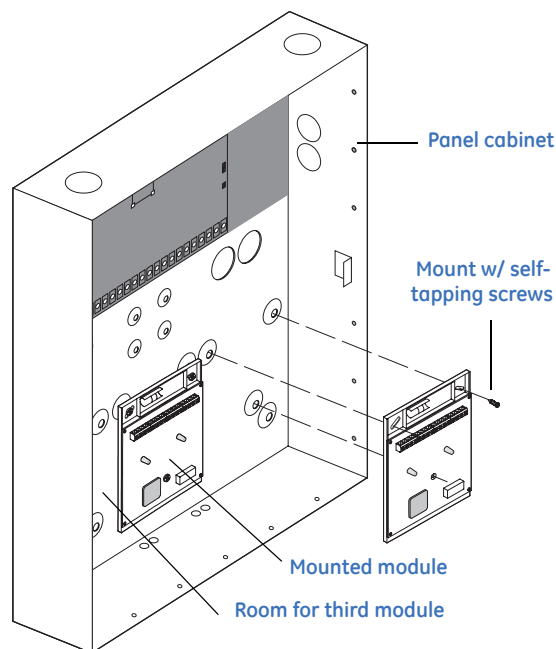
Figure 3. Wall mount hole locations



Mounting the module in an Advent cabinet

1. Remove panel AC power and disconnect the backup battery.
2. Remove the module cover and set aside (see Figure 2).
3. Rotate the module upside down and align the holes on the backplate at the desired location (see Figure 4).
4. Secure the backplate to the cabinet using the 1/4" self-tapping screws (not included).

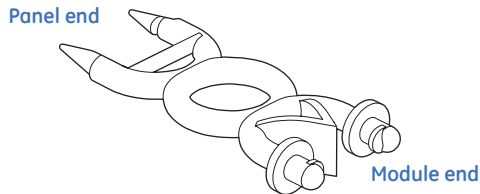
Figure 4. Mounting the module in an Advent cabinet



Mounting the module in a Concord cabinet

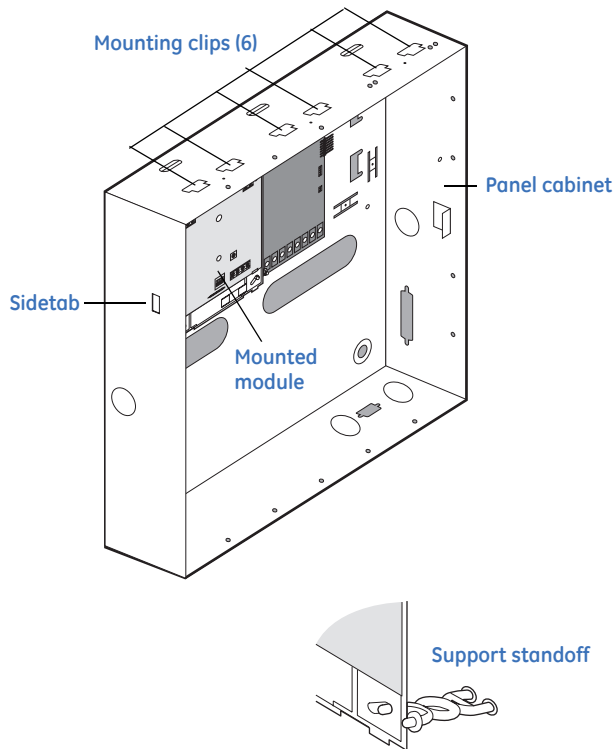
1. Remove panel AC power and disconnect the backup battery.
2. Remove and discard the module cover (see Figure 2).
3. Insert a support standoff (see Figure 5) on to the panel circuit board.

Figure 5. Support standoff



4. Slide the module backplate on to the clips located on the cabinet's center or top-left corner (see Figure 6).
- Note:** The two mounting clips in the *top-right* corner of the cabinet are designed for a receiver module; if a receiver module is not in use, the mounting clips may be used for the 8 Zone Input Module.
5. Push the lower-right corner of the module on to the support standoff (see detail in Figure 6).
 6. Gently press the module up and on to the cabinet side tab.

Figure 6. Mounting the module in a Concord cabinet



Wiring the module

Wiring the module to a panel

On Advent panels, Bus 1 and Bus 2 headers must only be used for fire or burglary applications. *Do not* mix fire and burglary bus devices on either header.

1. Ensure panel AC power is removed or turned off and that the panel's backup battery is disconnected.
2. Wire the module to the panel (see Figure 7).

Figure 7. Basic Module Wiring

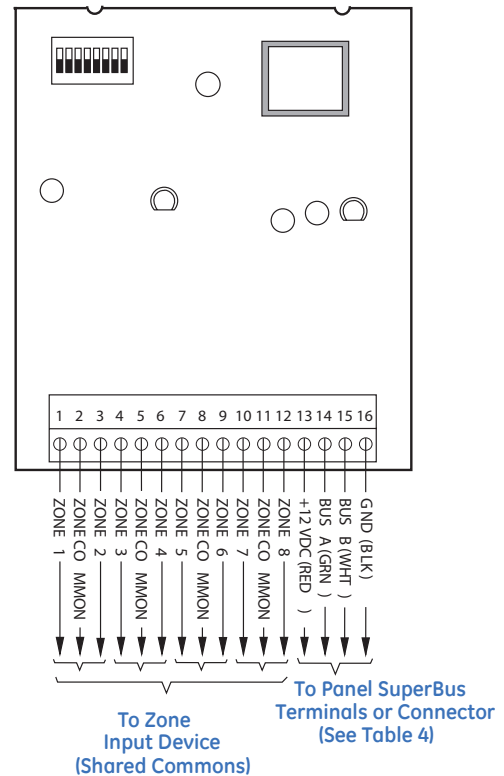


Table 4. SuperBus module/panel wiring

Module Terminals	Advent*	UltraGard	Concord
13 (+12V DC)	Red	12	4
14 (BUS A)	Green	13	5
15 (BUS B)	White	14	6
16 (GND)	Black	15	3

Note: * Panel SuperBus device connector wiring harness (connect to either panel connector.)

Wiring detectors to the module

For maximum wire length guidelines, refer to Table 5..

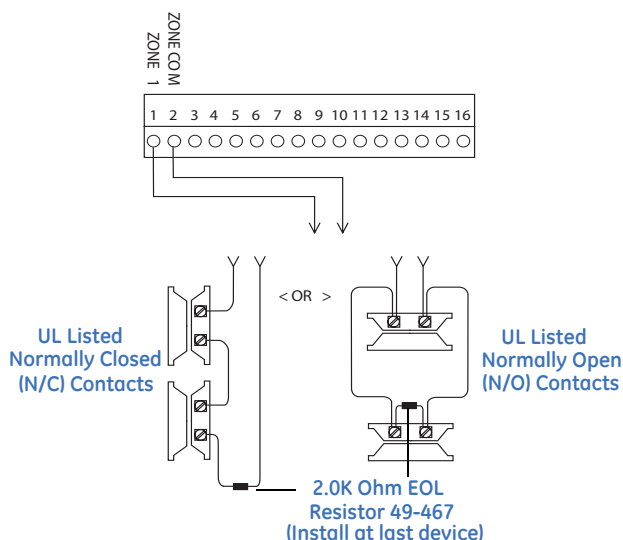
Table 5. Zone input maximum wire lengths

Gauge	Max. Wire Length*
18	750 Feet
22	300 Feet

*Wire length based on 10 Ohm maximum resistance (wire and device), including 2.0k Ohm EOL resistors.

To connect the module normally closed (N/C) or normally open (N/O) intrusion circuits, refer to Figure 8.

Figure 8. Connecting the module to N/C and N/O intrusion circuits



Installing a cover tamper switch

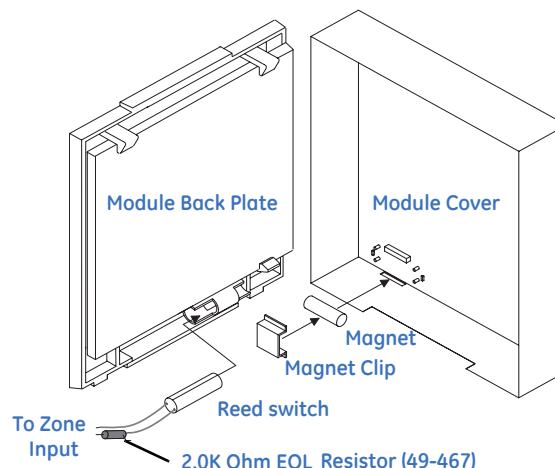
If you are mounting the module in its own plastic and not inside a cabinet, it is recommended that you add a cover tamper switch.

First, install a UL listed 1/4-inch press-fit reed switch on the module backplate. Next, wire the switch to a module zone input terminal or an unused panel zone input terminal. Once programmed, if someone opens the module cover, the tamper switch opens and causes an alarm.

The reed switch holder and magnet clip are located on the bottom of the backplate (see Figure 9).

1. On the module's backplate, place the reed switch into the reed switch holder (see Figure 9).
2. Insert the magnet into the tabs on the module cover. Remove the magnet clip from the module backplate. Next, press the magnet clip over the magnet until the clip locks into place (see Figure 9).
3. Connect the normally closed reed switch (in series with a 2.0k Ohm EOL resistor) to any module zone input and zone common terminals (see Figure 8). If connecting a reed switch to an UltraGard panel input zone, use a 4.7k Ohm EOL resistor.

Figure 9. Installing the reed switch



Setting the module unit number

Concord (v2.0-later), Concord 4, Concord Express (v4), and Advent Panels

On the module's circuit board, locate the DIP switches and set each switch to the *down* position. Unit numbers are automatically set when the system is powered.

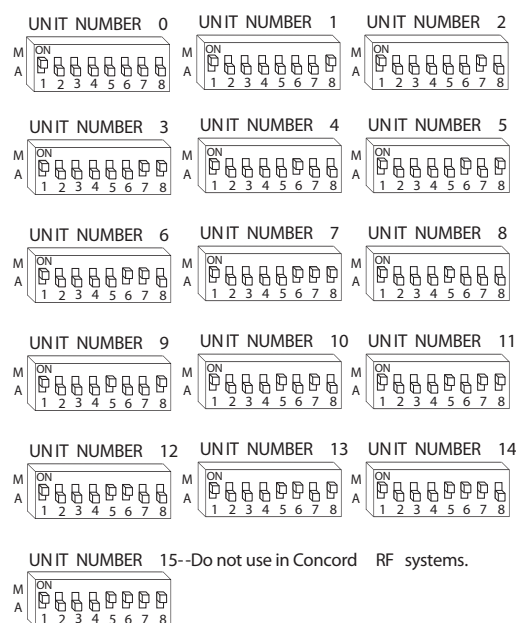
Concord (v1.0–1.6) and UltraGard Panels

Locate the DIP switches on the module circuit board and set switch 1 to *M* (manual). Set the remaining switches for each desired unit number (see Figure 10).

Note: Once the panel is powered, *do not* change DIP switch settings.

- For UltraGard — UNIT NUMBER 0–7
- For Concord — UNIT NUMBER 0–15

Figure 10. Module number DIP switch settings (non-SuperBus2000)



Power up and bus communication

This section describes how to power up the panel and module.

Concord panels

1. Verify wiring between the panel and module is correct.
2. Connect the panel's backup battery and restore panel AC power. Alphanumeric touchpad displays turn on.
Both the Bus and Power LEDs turn on for one second.
The Power LED remains on; the Bus LED flashes.

Note: If the Power or Bus LEDs do not flash, remove panel AC power, disconnect the backup battery, and refer to Table 6.

Advent panels

1. Verify wiring between the panel and module is correct.
2. Connect the panel's backup battery and restore panel AC power. Alphanumeric touchpad displays turn on.
3. Press **8** for System Menu.
4. Press **0** for Program Menu.
5. Enter your install code (default setting = **0123**).
6. Enter **Item Number 48001** to add SuperBus devices.
Each installed device is automatically learned into panel memory.
7. Press star (*) twice to return to Main Menu.
Both the Power and Bus LEDs turn on for one second.
The Power LED remains on; the Bus LED flashes.

Note: If the Power or Bus LEDs do not flash, remove panel AC power, disconnect the backup battery, and refer to Table 6.

UltraGard panels

1. Verify wiring between the panel and module is correct.
2. Check for non-conflicting unit numbers among bus devices.
3. Connect the panel's backup battery and restore panel AC power. Next, set the panel's power switch to ON.
4. On the UltraGard panel, set the Run/Program switch to PROGRAM.
If the alphanumeric touchpad displays **1-OFF** and **1** flashes, you must enter a four-digit installer code to access the panel's Program Mode.
Also, alphanumeric touchpads display **PROGRAM MODE** and the Bus LED continuously flashes.

Note: If the Power or Bus LEDs do not flash, remove panel AC power, disconnect the backup battery, and refer to Table 6.

Programming and testing

To test and add hardwired sensors into panel memory, refer to specific panel *Installation Instructions*.

If your UltraGard or Concord system uses only hardwired sensors, set the panel's Receiver Failure feature to OFF. Refer to specific panel *Installation Instructions* for details.

Troubleshooting

If you experience problems while operating the module, refer to the troubleshooting techniques provided below in Table 6.

Table 6. Troubleshooting

Problem	Action/Solution
The Power LED remains off.	1. Check for proper wiring connections. 2. Ensure sure panel AC power is applied and the backup battery is connected. If the LED remains off, replace the module.
The Bus LED does not flash	1. Enter Program Mode and verify the panel recognizes the module (see specific panel <i>Installation Instructions</i>). 2. Check for proper wiring connections. 3. For Concord (v1.0–1.6) and UltraGard panels — ensure module DIP switch 1 is set to <i>M</i> . For Concord (v2.0-later), Concord 4, Concord Express (v4), and Advent panels — ensure each module switch is set in the <i>down</i> position. If LED fails to flash, replace the module.
The system fails to respond when zone inputs are tripped.	1. For Concord (v1.0–1.6) and UltraGard panels — verify bus devices do not share identical unit number settings. 2. Disconnect and reconnect panel AC power. 3. Ensure the proper zones are learned into panel memory. 4. Enter Program Mode and verify the panel recognizes the module (see specific panel <i>Installation Instructions</i>). 5. Remove each zone and install the module without any zones. If you continue to experience problems, replace the module.

Specifications

Compatibility	Advent, Concord, Concord 4, Concord Express (v4), and UltraGard panels
Power Requirements	12V nominal; 35 mA maximum (from panel).
Inputs	Eight supervised, hardwired zones
Panel Data Bus	SuperBus and SuperBus 2000 digital data bus
Storage Temperature	-30° to 140°F (-34° to 60°C)
Operating Temperature	32° to 120°F (0° to 49°C); up to 120°F (49°C) under temporary conditions.
Maximum Humidity	90% relative humidity, non-condensing
Dimensions	5.25" x 4.125" x 1.0" (L x W x D)
Color	Belgian Gray
Case Material	ABS plastic
Installation	On wall; panel cabinet
Listings (ancillary use only)	UL 365 Police Station Connected Burglar Alarm Units and Systems UL 609 Local Burglar Alarm Units and Systems UL 985 Household Fire Warning System Units UL 1023 Household Burglar Alarm System Units UL 1610 Central Station Burglar Alarm Units (Commercial Burglary) UL 1637 Home Health Care Signaling Equipment CSFM California State Fire Marshall

Note: See specific panel *Installation Instructions* for complete UL installation requirements for your system.

Notices

FCC Part 15 Information to the User

Changes or modifications not expressly approved by GE Security can void the user's authority to operate this equipment.

FCC Part 15 Class B

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 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 affected equipment and the panel receiver to separate outlets on different branch circuits.

Consult the dealer or an experienced radio/TV technician for help.

Technical support

888 GE Security (888.437.3287). Toll-free in the US, Puerto Rico, and Canada.
503.885.5700 outside the toll-free area or contact your local dealer.

www.gesecurity.com