



# 8Z Input Expansion SnapCard™ Installation Instructions

## Product summary

The 8Z Input Expansion SnapCard™ allows you to add hardwired input zones to Concord™, Concord 4, Concord Express (v4), and Advent® panels. For Advent panels, the SnapCard can be installed in combination with other cards on either the primary or secondary expansion slot.

The SnapCard includes the following features:

- Smoke Detector Loops (2) – 12 V, Class B/Style A, two-wire smoke detector loops at 100 mA each.
- False Alarm Prevention – When a smoke detector alarm is received, the panel interrupts loop power and resets each detector.

**Note:** On the 521B and the 521BXT, DIP switches must be set to 1 (On) or 2 (Off).

- Six supervised, UL Fire rated, hardwire loops (UL Listed 2k ohm end-of-line resistor required on each loop) that can be used for any hardwire device including
  - Four-wire smoke detectors
  - Fire pull stations
  - Water flow detector switches
  - Gate valve switches
  - Control valve supervisory switches
  - Butterfly valve switches
  - Rate-of-rise detectors
  - Carbon monoxide detectors
  - Standard burglar detection devices

## Installation guidelines

- A 2k-Ohm EOL resistor is required for each supervised hardwire loop.
- For Concord and Concord 4 panels, plug the SnapCard into the panel expansion card connector; for Concord

Express (v4) panels, plug the SnapCard into the expansion card connector; For Advent panels, plug the SnapCard into the primary or secondary expansion card connector.

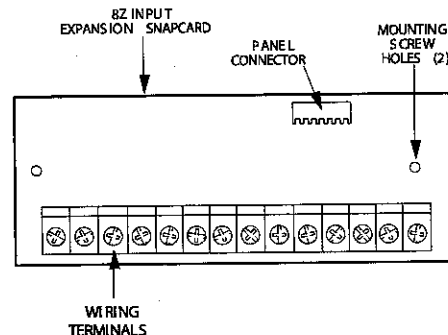
**Note:** For Advent panels, SnapCard expansion slots must be used for either fire or burglary applications. Do not combine fire and burglary applications on SnapCard inputs and outputs.

- Route four-conductor, 22-gauge or larger diameter wire from card terminals to detection devices. Use 18-gauge or larger diameter wire for all fire applications.

## Tools needed

- Slotted and Phillips screwdrivers
- 22- or 18-gauge wire
- Mounting screws (included)
- 2k-Ohm EOL resistor (included)

Figure 1. 8Z Input Expansion SnapCard components



## Installation

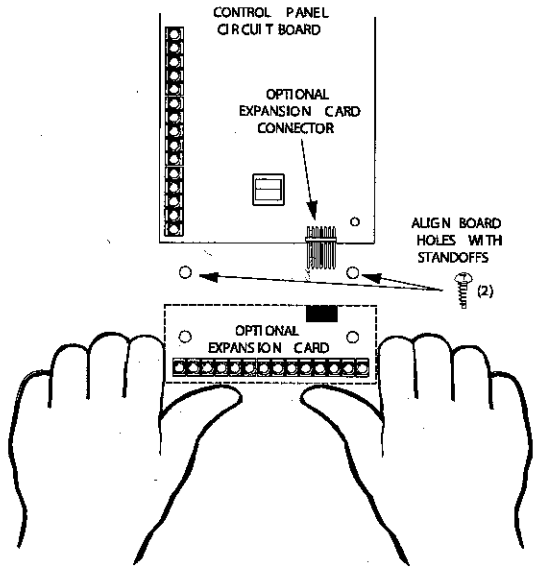
Installation requires you to install the SnapCard, wire input devices, and program the panel.

1. Disconnect panel AC power and each backup battery.

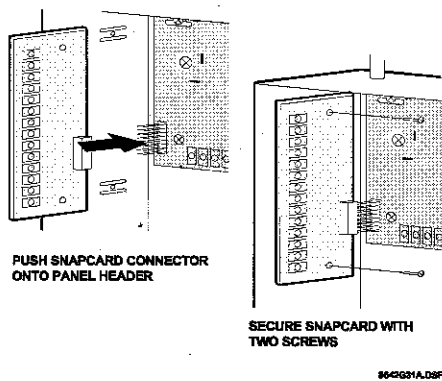
**Caution:** You must be free of static electricity while handling electronic components. Touch a grounded bare metal surface before touching a circuit board.

- Align the SnapCard's mounting holes with the panel's standoffs and connector pins. Refer to [Figure 2](#) for Concord, Concord Express V4, and Concord 4 panels; [Figure 3](#) for Concord Express V4 panels; and [Figure 4](#) for Advent panels.

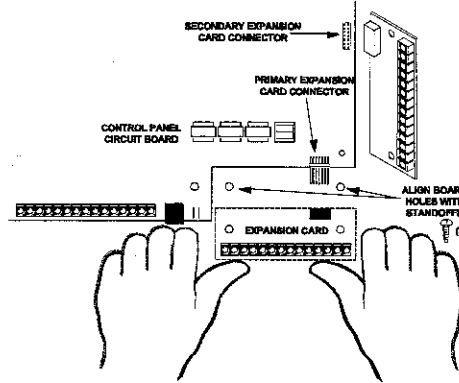
**Figure 2. Concord, Concord 4, or Concord Express V4 SnapCard Installation**



**Figure 3. Concord Express SnapCard Installation**



**Figure 4. Advent SnapCard Installation**



- To seat the card, firmly press it on to the connector.
- Secure the card to the panel with the mounting screws.

## Wiring

Refer to [Table 1](#) for a description of each SnapCard terminal. Terminals are numbered from left to right. [Figure 5](#) illustrates how to connect detection loops/devices to the SnapCard.

**Table 1. SnapCard wiring terminal descriptions.**

Terminal number	Description	Use
1 (ZN1)	Zone 1	Hard wire input Zone 1
2 (ZCOM)	Zone COM	Common for Zones 1, 2, & 3
3 (ZN2)	Zone 2	Hard wire input Zone 2
4 (ZN3)	Zone 3	Hard wire input Zone 3
5 (ZN4)	Zone 4	Hard wire input Zone 4
6 (ZCOM)	Zone COM	Common for Zones 4, 5, & 6
7 (ZN5)	Zone 5	Hard wire input Zone 5
8 (ZN6)	Zone 6	Hard wire input Zone 6
9 (SMK+)	12V Smoke Loop 1 (Positive)	Positive side of two-wire, 12V smoke loop 1. Connect up to 20 Class B / Style A smoke detectors between terminals 9 and 10. (Terminal also supplies +12V DC switched power to four-wire smoke detectors.)
10 (SMK-)	12V Smoke Loop 1 (Negative)	Negative side of two-wire 12V smoke loop 1.
11 (SMK+)	12V Smoke Loop 2 (Positive)	Positive side of two-wire 12V smoke loop 2. Connect up to 20 Class B / Style A smoke detectors between terminals 11 and 12. (Terminal also supplies +12V DC switched power to four-wire smoke detectors.)

12 (SMK-)	12V Smoke Loop 2 (Negative)	Negative side of two-wire 12V smoke loop 2.
13 (GND)	Ground	Auxiliary power supply ground return.
14 (+12VDC)	+12V Output	Auxiliary regulated DC power supply, 12V DC @ 500mA maximum.  <b>Note:</b> This output draws 500 mA from the panel. Remember to include this current draw when calculating total panel power.

### Wiring the SnapCard to a Panel

Wiring the SnapCard is identical for all Concord and Advent panels. Follow the instructions provided below.

1. Disconnect panel AC power and each backup battery.
2. Wire each input device or smoke detector as shown in Figure 5. For all Concord panels, connect up to 10 two-wire smoke detectors per loop; for Advent panels, connect up to 20 two-wire smoke detectors per loop. Compatible smoke detectors include:
  - System Sensor Models — 2100S, 2100TS, 2100D, 2100DT, 2400, 2400TH (for power supervision use A77-716 12/24V)
  - Sentrol (ESL) Models — 429 AT; 521 B; 521 BXT (for power supervision use 204-12/24V)
    - Use terminals 9 and 10 for the first two-wire 12V smoke detector loop.
    - Use terminals 11 and 12 for the second two-wire 12V smoke detector loop if necessary.
    - Refer to [Table 2](#) for two-wire detector loop and zone input wire lengths.

**Note:** For UL-864 listed Advent installations, each input must be dedicated to either a fire or burglary application. Do not combine fire and burglary applications on a SnapCard in any partition.
3. Install the EOL resistor as shown in [Figure 5](#).
4. Reconnect the backup battery and restore panel AC power.

**Table 2. Maximum wire length**

Gauge	Maximum 2-Wire Lengths*	Maximum Zone Input Wire Lengths**
22	330 ft.	300 ft.
20	470 ft.	
18	830 ft.	750 ft.
16	1200 ft.	

14	1900 ft.
12	2900 ft.

\* 10-Ohm maximum resistance.  
\*\* Wire length based on 10-Ohm maximum resistance including wire, device, and EOL resistor.

### Programming

In order for input zones to properly function, each zone must be programmed into panel memory. Refer to specific panel *Installation Instructions* for zone programming information.

### Testing

Once installed, the card becomes an integral operating component for the panel. It is recommended that you test each input and output zone after programming is completed. Refer to specific panel *Installation Instructions* and *User's Manual* for sensor and zone testing information.

**Note:** While the sensor test is a valuable installation and service tool, it only tests sensor operation for the current conditions. You should perform a sensor test after any change in environment, equipment, or programming.

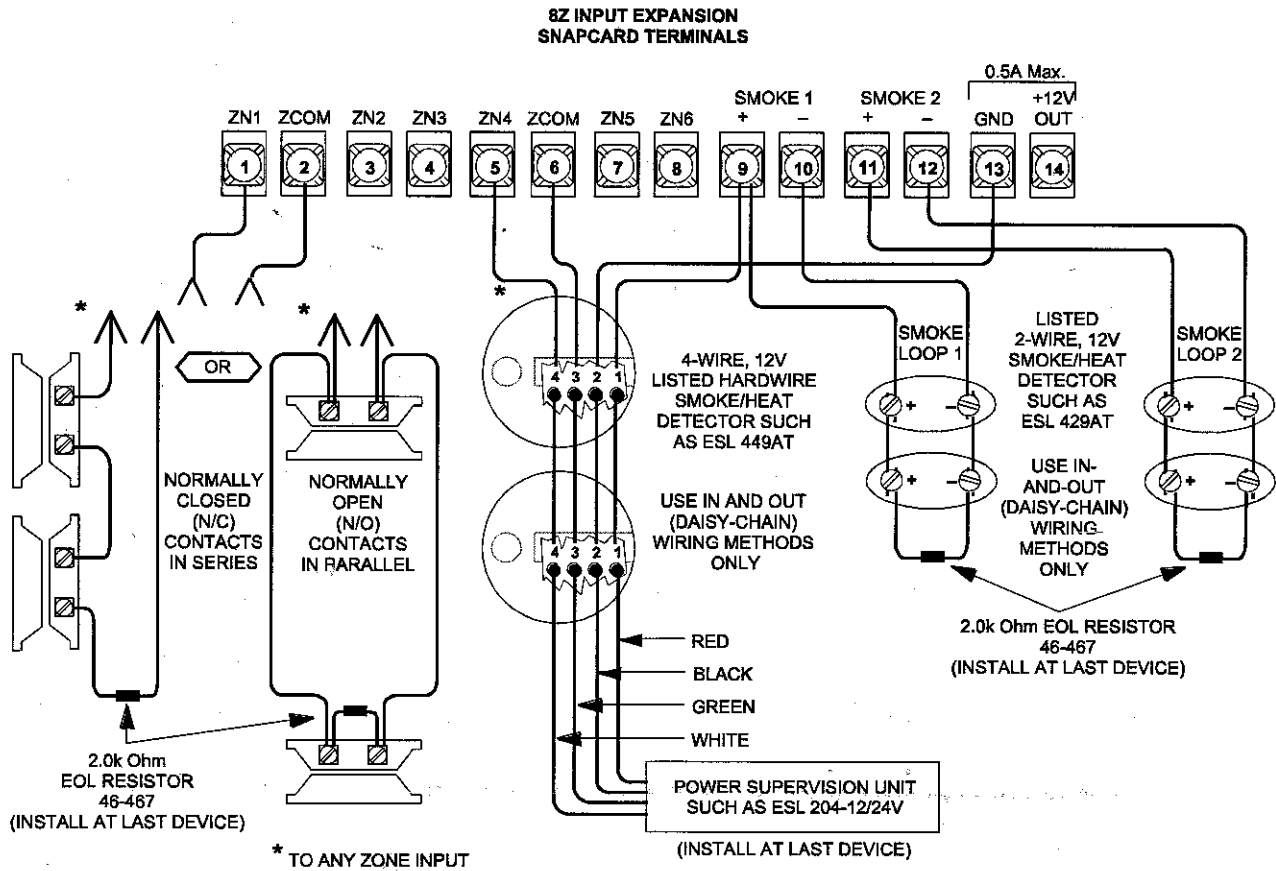
### Troubleshooting (all panels)

Refer to [Table 3](#) for troubleshooting techniques.

**Table 3. Troubleshooting hardwire inputs**

Problem	Action/Solution
No input detected.	Ensure each input is programmed into panel memory. Check input wiring connections.
One input cannot be detected.	Ensure each input is programmed into panel memory. Check device operation. Check input wiring connections.
Wrong input detected.	Check panel input programming for the specific input. Check input wiring connections.
Panel indicates sensor trouble.	Ensure the EOL resistor is properly installed in the zone loop circuit. Check normally open (NO) input circuits for any connection breaks. Check normally closed (NC) input circuits for electrical shorts. Check input circuit for any wires shorted to ground. Ensure ZCOM Terminals 2 and 6 are used for common input zones and <i>not</i> GND Terminal 13.

Figure 5. 8Z Input Expansion SnapCard Wiring Diagram



## Specifications

Compatibility	Interlogix Concord, Concord 4, Concord Express (v4), and Advent panels.
Power requirements	12V DC @ 230 mA maximum draw
Storage temperature	-30° to 140°F (-34° to 60°C)
Operating temperature	32° to 140°F (0° to 60°C)
Maximum humidity	90%-relative humidity, non-condensing
Inputs	Six supervised UL Fire rated hardware loops. Two 12V Class B, Style A two-wire smoke detector loops that provide up to 100 mA each. 10 two-wire smoke detectors per loop for Concord and Concord Express panels. Advent panels allow up to 20 two-wire smoke detectors per loop. Compatible smoke detectors include: System Sensor Models— 2100S, 2100TS, 2100D, 2100DT, 2400, 2400TH Sentrol (ESL) Models— 429AT, 521B, 521BXT
Outputs	One 12V DC, 500 mA regulated power output (from the panel) Power limited to 6 watts
Dimensions	2.0" x 5.25" x 0.75" (H x W x D)

## Regulatory information

Manufacturer	UTC Fire & Security Americas Corporation, Inc. 1275 Red Fox Rd., Arden Hills, MN 55112-6943, USA
UL listings	UL 985 Household Fire Warning System Units UL 1023 Household Burglar-Alarm System Units UL 1610 Central-Station Burglar-Alarm Units (Commercial Burglary) CSFM California State Fire Marshall <b>Note:</b> See specific panel <i>Installation Instructions</i> for complete UL installation requirements for the system you are installing.
FCC compliance	<b>FCC Part 15 Information to the User</b>  Changes or modifications not expressly approved by Interlogix can void the user's authority to operate the equipment. <b>FCC Part 15 Class A</b>  This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.  This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case users will be required to correct the interference at their own expense. <b>FCC Part 15 Class B</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

## Contact information

For contact information, see [www.utcfireandsecurity.com](http://www.utcfireandsecurity.com) or [www.interlogix.com](http://www.interlogix.com).

For technical support, toll-free: 888.437.3287 in the US including Alaska, Hawaii, Puerto Rico, and Canada. Outside the toll-free area, contact your dealer.

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