Description

The 4Z Input/2 Output Expansion SnapCard™ expands Concord, Concord 4, Concord Express, Concord Express V4, and Advent systems with the following features.

- One 12V, Class B, 2-wire smoke detector loop that provides up to 100 mA. Concord, Concord 4, Concord Express, and Concord Express V4 panels support up to 10 smoke detectors, while Advent panels support up to 20.
- Compatible smoke detectors include:
  - System Sensor Models—2400, 2400TH
  - Sentrol (ESL) Models—429AT, 521B, 521BXT
- Two "Form C" contact relays. The relays are controlled by system commands or a combination of states and system events.
- Three supervised, UL Fire rated, hardwire loops (2k ohm end-of-line resistors required) that can be used for any UL listed hardwire device including:
  - 4-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 (and other gas) detectors
  - Standard burglar detection devices.

On Advent panels, this card may be installed into the primary or secondary expansion slot and in combination with other cards.

Outputs may be programmed to turn on lights, open drapes and garage doors, turn on a closed-circuit-TV (CCTV) camera during a burglary alarm, turn exit lighting on during fire alarms, and activate backup cellular phones or long-range radios if primary communications are inoperable.

Installation

The module comes as kit that is assembled in the field. Installation consists of the following tasks:

- Mounting
- Wiring
- Power Up

Installation Guidelines

- Install a 2k ohm end-of-line resistor at the end device on each supervised two-wire hardwire loop.
- Install a power supervision module at the end device on 4-wire smoke loops.
- Plug the expansion card into the Concord panel expansion card connector, the Concord Express expansion card connector, or either the primary or secondary expansion card connector of the Advent panel.
- **Note:** On Advent panels, SnapCard expansion slots must be used for either fire or burglary applications. Do not mix fire and burglary applications on SnapCard inputs and outputs.
- Use 4-conductor, 22-gauge or larger wire from the terminals to the devices. Use 18-gauge or larger for all fire applications.

Tools and Supplies

- Screwdrivers
- 22-gauge or larger hookup wire
- Thread-rolling mounting screws (included)
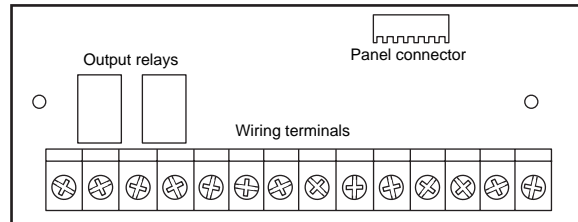- 2k ohm end-of-line resistors (included)

Mounting

⚠ **CAUTION** To avoid damaging the panel or card, always remove panel AC and backup battery power before installing and wiring the card.

Figure 1. Snap Card components

1. Remove panel AC power and disconnect backup battery.

⚠ **CAUTION** You must be free of all static electricity when handling electronic components. Touch a bare metal surface or wear a grounding strap to discharge yourself of static electricity.

2. Align the card holes with the panel standoff holes and connector pins as shown in Figures 2, 3 or 4.
3. Press firmly to secure the board to the connector.
4. Secure the card with the two thread-rolling mounting screws.

Figure 2. Installing the SnapCard on Concord, Concord 4, or Concord Express V4 Panels
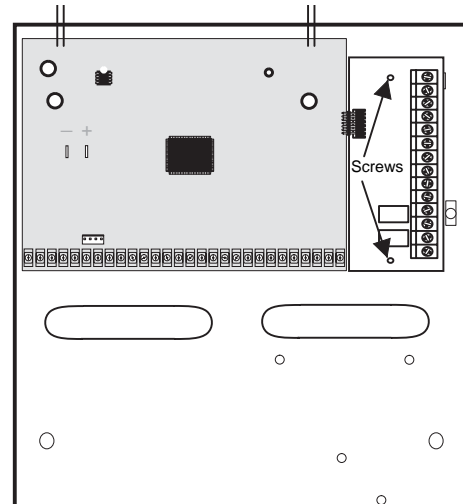
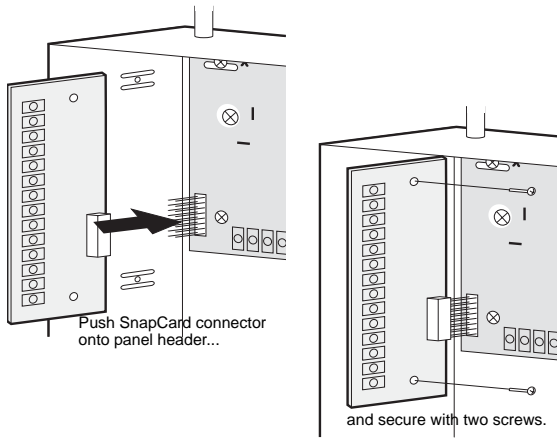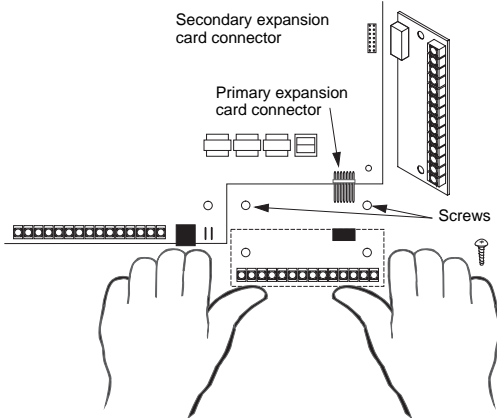Figure 3.   Installing the SnapCard on a Concord Express Panel

Push SnapCard connector
onto panel header...

and secure with two screws.

Figure 4.   Installing the Card on an Advent Panel

Secondary expansion
card connector

Primary expansion
card connector

Screws

Wiring

The following table describes each SnapCard terminal function.
See Figure 5 for wiring various devices.

Terminal	Description
1—Relay 1 N/C	Output 1 normally closed dry contact
2—Relay 1 COM	Output 1 common dry contact (maximum 5.0A @ 70 VAC)
3—Relay 1 N/O	Output 1 normally open dry contact
4—Relay 2 N/C	Output 2 normally closed dry contact
5—Relay 2 COM	Output 2 common dry contact (maximum 5.0A @ 70 VAC)
6—Relay 2 N/O	Output 2 normally open dry contact
7—ZN1	Zone 1 input
8—ZCOM	Zone 1, 2, and 3 Common
9—ZN2	Zone 2 input
10—ZN3	Zone 3 input
11—SMK+	4-wire smoke +12V (switched 12 VDC, 100 mA maximum) or 2-wire smoke loop +12V
12—SMK-	2-wire smoke -12V
13—GND	4-wire smoke ground
14—12V Out	Auxiliary +12V output (500 mA @ 12 VDC maximum) **Note:** Current at this terminal comes from the panel. Remember to include this current draw when calculating total system power requirements.

1.   Run wires for all intrusion and smoke detector circuits using
the following table describing maximum wire lengths for
those SnapCard inputs.

Wire Gauge	Max. 2-Wire Smoke Loop Wire Length* (feet)	Maximum Zone input Wire Length** (feet)
22	330	300
20	470	
18	830	750
16	1,200	
14	1,900	
12	2,900	

* 10 ohms maximum wire resistance
** Based on 10 ohms maximum wire resistance and device resistance
including 2.0k ohm resistor

2.   Connect 2-wire, 12V smoke detectors to SnapCard termi-
nals 11 and 12.p.
   • For Concord, Concord 4, Concord Express, and
   Concord Express V4 panels, connect up to 10 2-wire
   smoke detectors.
   • For Advent panels, connect up to 20 2-wire smoke
   detectors.

Note: For Advent UL 864 listed installations, all inputs and
outputs must be dedicated to either fire or burglary
(intrusion) applications. Do not mix fire and burglary on
any SnapCard in any partition for these installations.

3.   See Figure 5 for a complete wiring diagram of SnapCard
inputs and outputs.

Figure 5.   Wiring devices to the SnapCard inputs and outputs
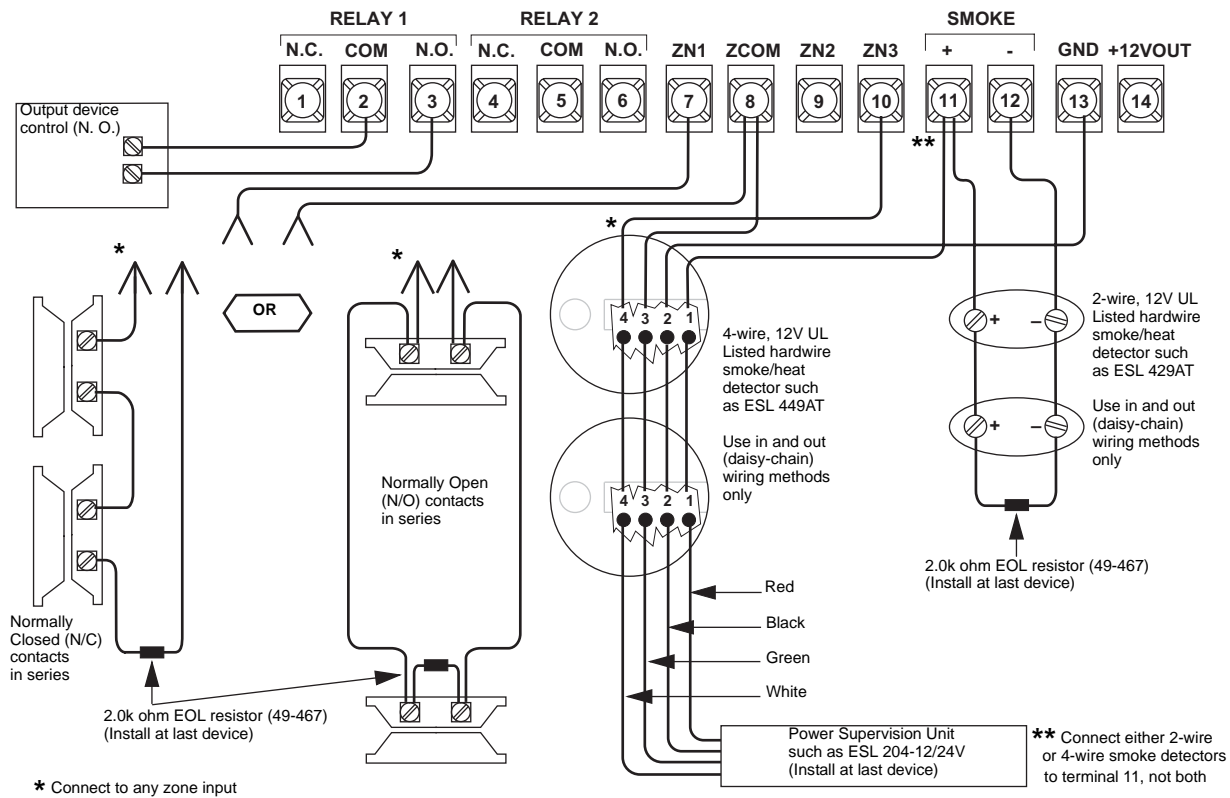
Power Up

After installing and wiring all devices to the SnapCard, use the following procedure for powering up the system.

1. Verify that all SnapCard wiring is correct.
2. Connect the panel backup battery and plug in the panel AC power transformer.

Programming

Refer to the specific panel *installation instructions* for programming zone inputs and relay outputs for the desired functions.

Testing

Test all wired and programmed inputs and outputs to verify correct operation. Refer to the specific panel *installation instructions* and *user guide or owner's manual* for complete information.

Troubleshooting

Problem	Action
Zone input (s) not detected	1. Check/correct input device wiring connections. 2. Check/correct zone input programming.
Zone/sensor trouble is indicated.	1. Check that 2.0k ohm EOL resistor is installed. 2. For normally open (N/O) circuits, check for a break in zone wire loop. 3. For normally closed (N/C) circuits, check for a short in zone wire loop. 4. Check/correct zone wire loops shorted to ground. 5. Check that ZCOM terminal 8 is used for zone input common, not GND terminal 13.
No outputs are activating.	1. Check that SnapCard is inserted completely onto panel connecting pins and that SnapCard is secured with two screws. 2. Check/correct output wiring connections. 3. Check/correct output programming. 4. Check that panel power is present. 5. Check/correct power requirements (if any) for output devices.
One output never activates.	1. Check 1-5 above. 2. Check that programmed output trigger event actually occurs. 3. Output relay may have failed or was overloaded. Reprogram to use a different (unused) output or replace SnapCard.
Wrong output activates	1. Check/correct output wiring connections. 2. Check/correct output programming.

Trademark/disclaimer

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FCC compliance

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

This device may not cause harmful interference.

This device must accept any interference that may be received, including interference that may cause undesired operation.

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

FCC ID: B4Z-XXXX-XXXX

Specifications

Model no.	60-756
Panel compatibility	All Concord and Advent panels
Power required	Maximum 185 mA @ 12 VDC (from panel)
Operating temperature	32° to 140° F (0° to 60° C)
Storage temperature	-30° to 140° F (-34° to 60° C)
Max. relative humidity	90%, non-condensing
Inputs	Three supervised UL Fire rated hardwire zones
One 12V Class B (style B) 2-wire smoke detector loop that provides up to 100 mA
Outputs	Two Form C relay contacts rated 5.0A @ 30 VDC maximum (each contact) or 5.0 A @ 70 VAC
One 12 VDC, 500 mA regulated power output (from panel) power-limited to 6 watts
Dimensions (LxWxD)	2.0 in. x 5.25 in. x .75 in. (51 mm x 133 mm x 19 mm) excluding antennas
UL listings	985, 1023, 1610, and 1635
ULC Canada Commercial Fire/Burglary Warning System
CSFM California State Fire Marshall