24V Smoke Loop Expansion SnapCard™

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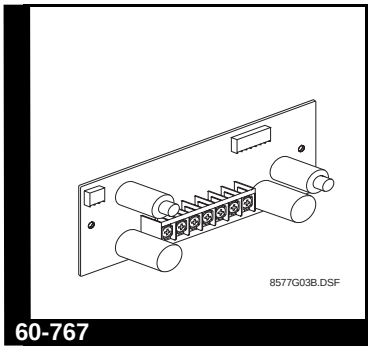

INSTALLATION INSTRUCTIONS

Product Summary

The 24V Smoke Loop Expansion SnapCard™ lets you add 24 volt, 2-wire smoke detectors to Advent® fire/security panels.

The SnapCard includes the following features:

- One 24V 2-wire supervised smoke detector loop that provides power for up to 20 Style A (Class B) smoke detectors.
- One 24 VDC regulated output (current limited to 1.5A).
- False alarm prevention. When the panel receives an alarm from the smoke detector, the panel briefly interrupts power to the smoke loop. Smoke detectors reset and recheck the alarm.
- AC and battery supervision. The panel monitors the SnapCard separate backup battery and 24 VAC power input.

Tools/Equipment Needed

- Small standard and Philips screwdrivers
- Two self-tapping metal screws (included)
- 2K ohm end-of-line (EOL) resistors (46-467)
- 2-conductor, 18-gauge or larger hookup wire

Installation Guidelines

- Install a 2K ohm EOL resistor (49-467) at the end of the smoke detector loop.
- Use one of the following AC transformers:
  - - 24VAC 100 VA, Class I transformer (ITI part number 60-830 or 60-829)
  - - 24VAC 100 VA, Class II transformer ITI part number 60-823)
- For use in UL-listed installations, use a 12V 17.2 AH or larger capacity backup battery (ITI part number 60-781).

Note: Class I transformers may need to be installed by a licensed electrician.

With the addition of this card, all panel and Quad Smoke Loop SnapCard (if any) smoke loop inputs become 24 volt instead of 12 volt. Other SnapCard and SuperBus module smoke loop inputs remain 12 volt.

- Total maximum current draw from the 24 VDC output is 1.5 amps.
- The expansion card may be plugged into either the primary or secondary slots of the Advent panel. This card can be used in combination with other expansion cards.
- Use 18-gauge or larger wire from the terminals to the devices. A maximum of 12 ohms line resistance is allowed (not including required 2K ohm EOL resistor.)

Installation

Use the following instructions to:

- install the card in the panel
- wire the card
- program the panel.

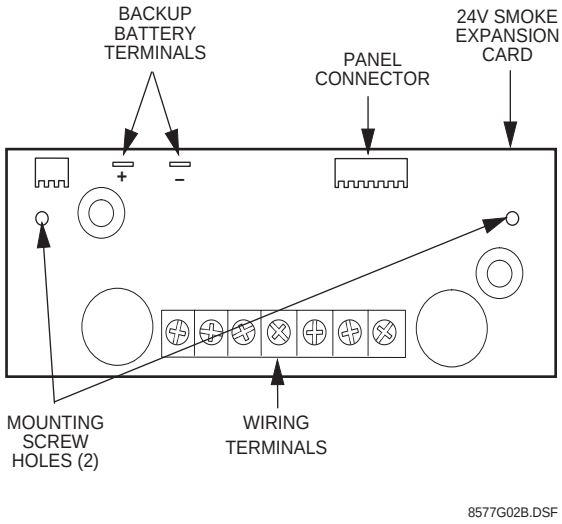

Figure 1. Card Components

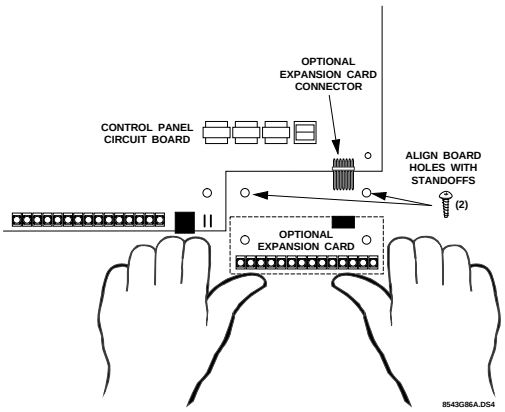

Figure 2. Installing the Card

CAUTION: To prevent damaging the panel or card, unplug the panel AC Power Transformer and disconnect backup battery before installation.

1. Disconnect the panel power and disconnect the panel backup battery(s)

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

2. Align the card holes with the enclosure standoffs and panel connector pins as shown in Figure 2.
3. Press firmly upward to secure the board to the connector
4. Secure the board with two self-tapping screws.

Wiring

The following table and figure shows you how to wire the card. Terminals are numbered left to right.

Table 1. Wiring Terminal Descriptions

Terminal Number	Description	Use
1	24 VAC Input	AC power transformer input.
2	24 VAC Input	
3	GND	Ground (power supply common).
4*	+24 VDC	Positive 24 VDC regulated power supply (limited to 1.5 A)
5	GND	Ground (power supply common).
6*	24V SMOKE LOOP --	Negative side of 2-Wire Smoke Loop. Connect up to 20 24V Style A (Class B) smoke detectors.
7	+24 SMOKE LOOP +	Positive side of 2-Wire Smoke Loop. (Limited to 100 mA in alarm condition.)

* **CAUTION:** Incorrectly connecting or shorting terminals 4 and 6 together can result in permanent SnapCard damage.

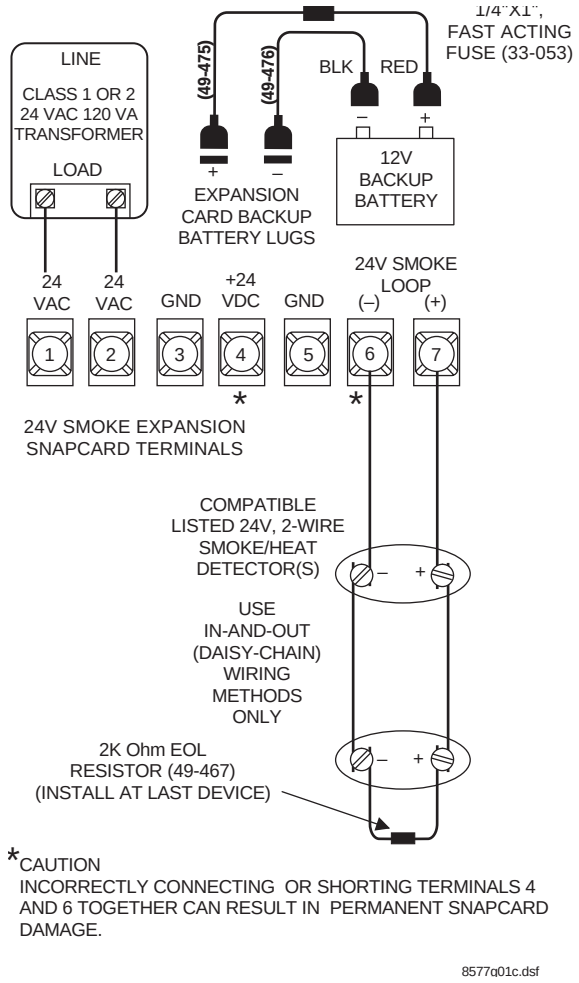

Figure 3. Typical Card Wiring

1. Wire the AC power transformer 24 VAC outputs to card terminals 1 and 2 as shown in Figure 3.
2. Wire the smoke/heat detectors to terminals 6 and 7 (note polarity). You can connect up to 20 two-wire smoke detectors on this loop.
3. Connect the 2K ohm EOL resistor (49-467) to the last device on the loop as shown.
4. Connect the card backup battery cables to the card and to the battery lugs (note polarity).
5. Reconnect the panel AC power transformer and backup battery(s).

Programming

To add (learn) zones into panel memory:

1. Disarm the system.
2. Press **8** to enter the system menu.
3. Press **0** to enter program mode.
4. Enter the installer access code (default is **0123**).
5. Enter feature number, **47001**, to learn a new zone.
6. Enter the partition number for this zone.
7. Enter the group response number. The system indicates the next available zone/sensor number. To accept this sensor number, press **#.** To use a different sensor number, type the number you want and press **#**.
8. Activate any sensor on the zone/loop.
9. Press star (*****) to exit.

Testing

We recommend that you test the sensors/zones after all programming is completed and whenever a sensor-related problem occurs.

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.

1. Attach, close, and secure the panel cover.
2. Close covers on all sensors and put them in their secured (non-alarm) state.
3. Press **8** to select *System Menu*.
4. Press **1** to select *Sensor Test*.
5. Enter your install access code (default is **0123**).
6. The system indicates *"Sensor test on"* and interior sirens and speakers sound one long beep.
7. Trip each sensor one at a time.
8. After a beep, the panel indicates the sensor tripped *[sensor #]*, the zones tested, and the zones not tested. If the system does not respond, or if the sensor tripped is not indicated, refer to the Troubleshooting section.
9. Press ***** when you think all sensors are tested.
10. The system announces untested sensor numbers.
11. Test all untested sensors. The system automatically stays in sensor test for 15 minutes, preserving the list of untested sensors.

12. If you need more time to complete the sensor test and the system sensor test has timed out, repeat steps 3-5.
13. Press ***** to exit the sensor test menu. Disarm the system to end the sensor test.

Battery Test

The panel tests both panel and expansion SnapCard batteries automatically. Problems (if any) will be indicated by the panel. Refer to Advent panel programming for automatic battery test interval (4 or 24-hour) settings.

Troubleshooting

The following instructions help you diagnose and fix expansion card installation problems. Refer to the panel *Installation Instructions* for panel related troubleshooting.

No inputs detected.

1. Check panel input programming.
2. Check input device wiring and connections.

One input is never detected.

1. Check panel programming of the affected inputs.
2. Check input device operation.
3. Check input device wiring and connections.

Wrong input is detected.

1. Check panel input programming for input.
2. Check input device wiring and connections.

***[sensor #] Trouble* or *Sensor # Trouble* is indicated.**

Check that the 2 K ohm end-of-line resistor is correctly installed in the zone loop circuit.

Specifications

Compatibility:
Panels: Advent® fire/security panels.

Detectors: System Sensor® models 2100D, 2100TD, 2100S, 2100TS, 2400, and 2400TH.

Sentrol (ESL) models 521B and 521BXT.

Power Sources:

From one of the following 110VAC, 60 HZ input AC transformers:

- 24VAC 100 VA, Class I transformer (ITI part number 60-830 or 60-829).

- 24VAC 100 VA, Class II transformer (ITI part number 60-823).

12V 17.2 AH or larger capacity backup battery (ITI part number 60-781).

Backup Time: 7Ah 24 hour backup: 292mA, 14 Ah 24 hour backup: 583 mA (fully charged).

Storage Temperature: -30° F to 140° F (-34° C to 60° C).

Operating Temperature: 32° F to 120° F (0° C to 49° C).

Maximum Humidity: 90% relative humidity, noncondensing

Inputs: One 24V two-wire smoke detector loop that provides power for up to 20 Style A (Class B) smoke detectors. Maximum alarm current is limited to 100 mA. Maximum loop wire length is 12 ohms of line resistance (not including 2K ohm EOL resistor) using 18 gauge or larger hookup wire.

Outputs: One 24 VDC regulated output (current limited to 1.5A).

Approvals/Listings:
FCC Part 15
UL 864 for Control Units for Fire-Protective Signaling Systems (applied for)
UL 985 for Household Fire Warning System Units (applied for)
ULC Canada Commercial Fire Warning System (applied for)
CSFM California State Fire Marshall (applied for)
DOD Sensitive Compartment Information Fac. (applied for)
FM Factory Mutual (applied for)
MEA New York City Material Equipment Acceptance (applied for)
Complies with NFPA 72 for Fire Alarm Code

Dimensions: 2.69” x 5.25” x 1.5” (H x W x D).

Mounting: In-panel mounting.

Notices

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.

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

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

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