Control Panels

B9512G/B8512G (B9512G-E/B8512G-E)

en Installation and System Reference Guide

Table of contents

# 1		Certifications, approvals, listings, and safety

This section provides certification and approval listings and safety information.

## 1.1		Listings and approvals

This document includes the section *Approved applications, page 102*. Refer to this section for guidelines on installing the control panels in Underwriters Laboratories Inc. (UL) and fire-specific applications.

### 1.1.1		UL

Listed for:
- UL 365 - Police Station Connected Burglar Alarm Units and System
- UL 609 - Local Burglar Alarm Units and System
- UL 636 - Holdup Alarm Units and System
- UL 864 - Control Units and Accessories for Fire Alarm Systems (Commercial Fire)
- UL 985 - Household Fire Warning System Units
- UL 1023 - Household Burglar Alarm Units and System
- UL 1076 - Proprietary Burglar Alarm Units and System
- UL 1610 - Central Station Burglar Alarm Units
- UL 1635 - Digital Alarm Communicator System Units

### 1.1.2		ULC

Listed for:
- ULC C1023 - Household Burglar Alarm System Units
- ULC C1076 - Proprietary Burglar Alarm Units and System
- ULC S303 - Local Burglar Alarm Units and System
- ULC S304 - Central and Monitoring Station Burglar Alarm Units
- ULC S545 - Residential Fire Warning System Control Units
- ULC S559 – Fire Signal Receiving Centres and Systems

### 1.1.3		Security Industry Association (SIA)

Listed for Control Panel Standard - Features for False Alarm Reduction ANSI/SIA CP-01-2010.

### 1.1.4		Department of Defense (DoD)

The B9512G/B8512G control panels were granted approval for Department of Defense (DoD) installations in Sensitive Compartmented Information Facilities (SCIF).

### 1.1.5		Department of Energy

This control panel operates on a transformer that has been reviewed by a third party and deemed to be compliant to the Department of Energy, U.S. Energy Conservation Standard for External Power Supplies (found in section 10 CFR 430.32(w)(1)(i) of the Federal Code) as an indirect device.

### 1.1.6		National Institute of Standards and Technology (NIST)

When communicating via a network, listed for Advanced Encryption Standard (AES), Federal Information Processing Standards Publication 197 (FIPS 197).

1.1.7   Federal Communications Commission (FCC) Rules

Part 15

This equipment was 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 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 according to the instructions, can cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user is required to correct the interference at his or her own expense**.**

Part 68

The B430 module by Bosch Security Systems, Inc. is registered with the Federal Communication Commission (FCC) under Part 68, for connection to the public telephone system using an RJ31X or RJ38X phone line connection jack installed by the local telephone company.

Do not connect registered equipment to party lines or coin-operated telephones. Notify the local telephone company and provide the following information before connecting the control panel to the telephone network:
– The particular line to which you connect the module
– Make (Bosch Security Systems, Inc.), model (B9512G/B8512G), and serial number of the control panel
– FCC registration number: ESVAL00BB430
– Ringer eq: 0.0B

1.1.8   Industry Canada (IC)

ICES-003 - Information Technology Equipment

This Class B digital equipment meets all requirements of the Canadian interference-causing equipment regulations.

Cet appareil numérique de la Class A respecte toutes les exifences de règlement sue le matériel brouilleur du Canada.

CS-03 - Compliance Specification for Terminal Equipment

The B430 module by Bosch Security Systems, Inc. meets the applicable Industry Canada technical specifications. The Ringer Equivalence Number (REN) is an indication of the maximum number of devices allowed to be connected to a telephone interface. The termination of an interface may consist of any combination of devices subject only to the requirement that the sum of the RENs of all the devices not exceed five.

Le présent matériel est conforme aux spécifications techniques applicables d'Industrie Canada.

L'indice d'équivalence de la sonnerie (IES) sert à indiquer le nombre maximal de terminaux qui peuvent être raccordés à une interface téléphonique. La terminaison d'une interface peut consister en une combinaison quelconque de dispositifs, à la seule condition que la somme d'indices d'équivalence de la sonnerie de tous les dispositifs n'excède pas cinq.

1.2   Lightning

The control panel design significantly reduces the adverse effects of lightning. Taking installation precautions can further reduce these adverse effects.

1.2.1   Effects of lighting

Electronics involved in a direct lightning strike or near a lightning strike can show adverse effects. When lightning strikes, several things happen:

– An electromagnetic wave spreads from the center point of the strike inducing high voltages onto nearby conductors.
– The voltage changes substantially on electrical grounds near the lightning strike.
– High voltages are induced onto anything directly struck by lightning.

The effects of lightning can include trouble events, alarm events, and physical damage.

1.2.2   Installation precautions

To minimize the undesirable effects from lightning:

– Do not run wiring outside the building.
– If you install the unit in a metal building, keep the wiring at least 2 ft (0.61 m) away from external metal surfaces. Make a proper earth ground connection.
– Earth ground the unit correctly. Do not use an electrical ground or telephone ground.
– Avoid running wires near telephone, data, or power lines. Locating control panel wiring at least 2 ft (0.61 m) away helps reduce the effects of lightning.
– When your data lines must cross the path of AC or other wiring, cross perpendicular to the lines.

1.2.3   Warranty

The warranty does not cover physical damage due to lightning.

2 Introduction

This section includes an introduction to documents for this product and other document-related instructions.

2.1 About documentation

This document contains instructions for a trained installer to properly install, configure, and operate this control panel, and optional peripheral devices. Review this document before beginning the installation to determine the hardware and wiring requirements for the features used.

(Bosch Security Systems, Inc. recommends that installers follow good wiring practices such as those descibed in NFPA 731, Standard for the Installation of Electronics Premises Security Systems.)

Throughout this document, the words "control panel" refer to all control panels covered by this document (B9512G/B8512G/B9512G-E/B8512G-E).

Notifications

This document uses Notices, Cautions, and Warnings to draw your attention to important information.

i	**Notice!** These include important notes for successful operation and programming of equipment, or indicate a risk of damage to the equipment or environment.

⚠	**Caution!** These indicate a hazardous situation which, if not avoided, could result in minor or moderate injury.

⚠	**Warning!** These indicate a hazardous situation which, if not avoided, could result in death or serious injury.

Copyright

This document is the intellectual property of Bosch Security Systems, Inc. and is protected by copyright. All rights reserved.

Trademarks

All hardware and software product names used in this document are likely to be registered trademarks and must be treated accordingly.

2.1.1 Related documentation

To obtain any of the documents listed in this section, download them from the web.

Downloading documentation:
1. Go to the Bosch website (us.boschsecurity.com).
2. In the Search text box on the right side of the page, enter the name for the product for which you want to download the documentation.
3. Press ENTER.
4. If you see the desired document in the search results, click the link for the document to open it. Otherwise, click the desired product's Product Page button. The product page opens with the Details tab selected.

5.   Click on the Documents tab, and then click the desired language listed to the right of the desired document.

Call Bosch Security Systems, Inc., Technical Support (1-800-289-0096) if you need additional assistance.

Control panel documents

Control Panels (B9512G/B8512G) Release Notes *
Control Panels (B9512G/B8512G) Installation and System Reference Guide (this document) (P/N: F01U303996)[+]
Control Panels (B9512G/B8512G/B5512/B4512/B3512) Owner's Manual (English) (P/N: F01U307371)* [+]
Control Panels (B9512G/B8512G) Program Entry Guide (P/N: F01U303998)[+]
Control Panels (B9512G/B8512G) UL Installation Guide[+] (P/N: F01U304001)* [+]
Control Panels (B9512G/B8512G) SIA Quick Reference Guide (P/N: F01U304000)* [+]
Control Panels (B9512G/B8512G/B6512/B5512/B4512/B3512) ULC Installation Guide (P/N: F01U321698)
*Shipped with the control panel. [+]Located on the documentation CD shipped with the control panel.

Keypad documents

Basic Keypad (B915) Installation Guide (P/N: F01U297873)*
Two-line Alphanumeric Keypad (B920) Installation Guide (P/N: F01U265450)*
Fire Keypads (B925F/B926F) Installation Guide (P/N: F01U305193)*
Two-line Capacitive Keypad with Inputs (B921C) Installation Guide (P/N: F01U297887)*
ATM Style Alphanumeric Keypad (B930) Installation Guide (P/N: F01U265451)*
Touch Screen Keypad (B942/B942W) Installation Guide (P/N: F01U294527)*
*Shipped with the keypad.

Optional module documents

Octo-input Module (B208) Installation and Operation Guide (P/N: F01U265456)*
POPEX Module (B299) Installation Guide (P/N: F01U300043)*
Octo-output Module (B308) Installation and Operation Guide (P/N: F01U265458)*
Conettix Ethernet Communication Module (B426) Installation and Operation Guide (P/N: F01U281208)* [+]
Plug-in Telephone Communicator (B430) Installation Guide Installation Guide (P/N: F01U265454)*
Conettix Plug-in Cellular Communicator (B440) Installation and Operation Guide (P/N: F01U265455)*
Conettix Plug-in CDMA Cellular Communicator (B441) Installation and Operation Guide (P/N: F01U282233)*

Conettix Plug-in GPRS Cellular Communicator (B442) Installation and Operation Guide (P/N: F01U283180)*
Conettix Plug-in HSPA+ Cellular Communicator (B443) Installation and Operation Guide (P/N: F01U283181)*
Conettix Plug-in Communicator Interface (B450) Installation and Operation Guide (P/N: F01U300740)* ⁺
Auxiliary Power Supply (B520) Installation and Operation Guide (P/N: F01U265445)*
Retrofit ZONEX Module (B600) Installation Guide (P/N: F01U300237)
RADION receiver SD (B810) Installation Guide (P/N: F01U261834)*
SDI2 Inovonics Interface Module (B820) Installation Guide (P/N: F01U265460)*
Access Control Module (B901) Installation Guide (P:/N: F01U300416)
Dual Class B Initiating Module (D125B) Installation Instructions (P/N: F01U036340)
Multiplex Bus Interface (D8125MUX) Operation and Installation Guide (P/N: F01U034973)
OctoPOPIT Module (D8128D) Installation Guide (P/N: F01U070537)
Access Control Interface Module (D9210C) Installation and Operation Guide (P/N: F01U215232)
*Shipped with the module. ⁺Located on the documentation CD shipped with the module.

2.2   Bosch Security Systems, Inc. product manufacturing dates

Use the serial number located on the product label and refer to the Bosch Security Systems, Inc. website at http://www.boschsecurity.com/datecodes/.

The following image shows an example of a product label and highlights where to find the manufacturing date within the serial number.

3   System overview

B91x/B92x/B93x/B94x
Use keypads* to operate
the control panel by area.
B9512 control panels support up to 32 areas.
B8512 control panels support up to 8 areas.
Each area can have its own account number
or you can group together areas
with a common account number.

B810
RADION receiver SDs
connect RADION wireless devices
to the control panel.

B208
Octo-input modules allow
the addition of up to 8
input devices.

B820
SDI2 Inovonics Interface modules
interface with an Inovonics
wireless receiver.

B299
POPEX modules provide
support for up to 100 POPIT
devices over a single
expansion loop.

B426
The B426 provides off-board
communication over a network.

Control
Panel

On-board Points
1 to 8

B430
Plug-in Tephone Communicator
provides a single
telephone RJ-45 connector
to allow communication
over telephone lines.

B308
Octo-output modules allow
the addition of up to 8
output devices.

B600
The ZONEX modules allows
the connection of ZONEX
expansion modules.

B44x
Conettix Plug-In Cellular
Communicator allows
communciation over
a cellular network.

B520
Auxiliary Power Supply modules
expand power by connecting to
an SDI2 device bus or
other 12 volt devices.

B450
Conettix Plug-In Communicator
Interface allows communciation
over a cellular network through
the SDI2 bus.

*Up to 8 of the keypads can be models D1260, D1257/D1257RB, D1256/D1256RB, or
D1255/D1255R/D1255RB on the SDI bus (SDIx configured as SDI).

3.1   Configuration and parts

This section lists each control panel's capacities and a parts list.

3.1.1   Control panel capacities

Features	B9512G/ B9512G-E	B8512G/ B8512G-E
Number of users	2000	500
Total number of doors	32[1]	8[1]
Number of cards/tokens	2000	500
Number of custom functions	32	8
Number of areas	32	8
Number of points	599	99
Number of outputs	599	99
Total number of keypads	32[2]	16[2]
Number of B208 Octo-input Modules	59	9
Number of B299 POPEX modules	6	1
Number of B308 Octo-output Modules	59	9
Number of on-board Ethernet ports ("E" control panel variants do **not** include an Ethernet port)	1	1
Number of B426 Conettix Ethernet Communication Modules or B450 Conettix Plug-in Communicator Interfaces	2	2
Number of B430 Plug-in Telephone Communicators	2	2
Number of B440 Conettix Plug-in Cellular Communicators, B441 Conettix Plug-in CDMA Cellular Communicators, B442 Conettix Plug-in Cellular Communicators, or B443 Conettix Plug-in Cellular Communicators	1	1
Number of B520 Auxiliary Power Supply Modules	8	4
Number of RADION receiver SDs (B810) or B820 SDI2 Inovonics Interface Modules	1	1
Number of cameras[3]	16	8

[1]The control panel supports 32 doors using the optional B901 Access Control Module. The control panel supports up to 8 doors using the optional D9210C Access Control Interface Module.
[2]The control panel supports up to 16 of the keypads as SDI keypads.
[3]Bosch IP cameras use is supplementary in UL Listed systems.

3.1.2   Parts list

Control panels ship assembled from the factory with the following parts:

Literature
–   *Control Panels (B9512G/B8512G) UL Installation Guide*
–   *Control Panels (B9512G/B8512G/B5512/B4512/B3512) Owner's Manual*
–   *Control Panels (B9512G/B8512G) SIA Quick Reference Guide*
–   *Control Panels (B9512G/B8512G) Documentation CD*

- *Product Label in French*
- *7000/9000 Series Point Chart Label*

HW pack
- 1 kΩ EOL resistors
- Battery wires

Assembly
- PC board with protective cover
- Mounting skirt
- One #6 x 3/4-inch screw

3.1.3   Order separately

Order the accessories listed below to aid in the installation of your control panel. If you ordered your control panel in a kit, you might already have these parts.
- B91x/B92x/B93x/B94x keypad
- B925F/B926F fire keypad
- D1640 plug-in transformer
- D126 or D1218 Battery
- B430 Plug-in Telephone Communicator or a B440 Conettix Plug-in Cellular Communicator/B441 Conettix Plug-in Cellular Communicator/B442 Conettix Plug-in Cellular Communicator/B443 Conettix Plug-in Cellular Communicator
- D161 or D162 Phone Cord
- BATB-40, BATB-80, B8103, D8103, D8108A, or D8109 enclosure
- D1255 or D1260 keypads
- D1255RB/D1256RB fire keypad or D1257RB Fire Alarm Annunciator

3.2   Accessories

Accessory compatibility

The following table lists accessories that are compatible with the control panel. An X in a column indicates the accessory is compatible with the standard.

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Notice!

Where the fire alarm transmitter is sharing on-premise communications equipment, the shared equipment must be UL Listed (ITE or fire protective signaling).

Model number	UL365 - Police Connected Burglary	UL609 - Local Burglary	UL636 - Holdup	UL864 - Commercial Fire	UL985 - Household Fire	UL1023 - Household Burglary	UL1076 - Proprietary Burglary	UL1610 - Central Station Burglary	CAN/ULC S303 - Local Burglary	CAN/ULC S304 - Signal Receiving Centre and Premise	CAN/ULC S545 - Residential Fire	ULC-ORD C1023 - Household Burglary	ULC-ORD C1076 - Proprietary Burglary
Keypads													
B915/B915I*	X	X	X		X	X	X	X	X	X	X	X	X
B920*	X	X	X		X	X	X	X	X	X	X	X	X
B921C*1	X	X			X	X	X	X			X		X
B925F*	X	X	X	X	X	X	X	X	X	X	X	X	X
B926F*				X	X						X		

Model number	UL365 - Police Connected Burglary	UL609 - Local Burglary	UL636 - Holdup	UL864 - Commercial Fire	UL985 - Household Fire	UL1023 - Household Burglary	UL1076 - Proprietary Burglary	UL1610 - Central Station Burglary	CAN/ULC S303 - Local Burglary	CAN/ULC S304 - Signal Receiving Centre and Premise	CAN/ULC S545 - Residential Fire	ULC-ORD C1023 - Household Burglary	ULC-ORD C1076 - Proprietary Burglary
B930*	X	X	X		X	X	X	X	X	X	X	X	X
B942/B942W*	X	X	X		X	X	X	X	X	X	X	X	X
D1255/ D1255B**	X	X			X	X	X	X	X	X		X	X
D1255RB**	X	X		X	X	X	X	X	X	X		X	X
D1255W**	X	X			X	X	X	X	X	X		X	X
D1256RB**	X	X		X	X	X	X	X	X	X		X	X
D1257RB**	X	X		X	X	X	X	X	X	X		X	X
D1260/ D1260B**2	X	X			X	X	X	X	X	X		X	X
Transformers, batteries, power supplies, etc.													
B520	X	X	X	X	X	X	X	X	X	X	X	X	X
D122/D122L	Suitable for use on approved applications.												
D126	Suitable for use on approved applications.												
D1218	Suitable for use on approved applications.												
D1640	Suitable for use on approved applications in the USA.												
D1640-CA	Suitable for use on approved applications in Canada.												
Enclosures													
BATB-40/ BATB-80				X	X	X							
B8103	X	X		X	X	X		X	X	X		X	
D8103	X	X		X	X	X		X	X	X		X	
D8109	X	X		X	X	X		X	X	X		X	
D8108A	X	X		X	X	X	X	X	X	X		X	
D8004	X	X		X		X	X	X					
Expansion modules													
B208	X	X	X	X	X	X	X	X	X	X		X	X
B299	X	X	X	X	X	X	X	X	X	X	X	X	X
B308	X	X	X	X	X	X	X	X	X	X		X	X
B600	X	X	X	X	X	X	X	X	X	X	X	X	X

Model number	UL365 - Police Connected Burglary	UL609 - Local Burglary	UL636 - Holdup	UL864 - Commercial Fire	UL985 - Household Fire	UL1023 - Household Burglary	UL1076 - Proprietary Burglary	UL1610 - Central Station Burglary	CAN/ULC S303 - Local Burglary	CAN/ULC S304 - Signal Receiving Centre and Premise	CAN/ULC S545 - Residential Fire	ULC-ORD C1023 - Household Burglary	ULC-ORD C1076 - Proprietary Burglary
D125B[3]	X	X		X	X	X	X	X	X	X		X	X
D129	X	X		X	X	X	X	X	X			X	X
D192G	X	X		X	X	X	X	X	X			X	X
D8125	X	X		X	X	X	X	X	X	X		X	X
D8125MUX	X	X		X	X	X	X	X	X			X	X
D8128D	X	X		X	X	X	X	X	X	X		X	X
D8129	X	X		X	X	X	X	X	X	X		X	X
D8130	X	X		X	X	X	X	X	X			X	X
D9127U/T	X	X		X	X	X	X	X	X	X		X	X
DS7461i	X	X		X	X	X		X					
DS7465i	X	X		X	X	X		X					
Wireless													
B810[4]	X	X	X		X	X	X	X					
B820[5]	X	X	X		X	X	X	X					
Communicators													
B426	X	X		X	X	X	X	X	X	X		X	X
B430	X	X	X	X	X	X	X	X	X	X	X	X	X
B440	X	X	X	X	X	X	X	X					
B441	X	X	X	X	X	X	X	X					
B442[7]	X	X	X	X	X	X	X	X	X	X	X	X	X
B443[7]	X	X	X	X	X	X	X	X	X	X	X	X	X
B450	X	X	X	X	X	X	X	X	X	X		X	X
Accessories													
D113	X	X			X	X	X	X					
D130	X	X		X	X	X	X	X	X			X	X
D132A					X						X		
D133	X	X			X	X	X	X					
D134	X	X			X	X	X	X					
D161	Suitable for use on approved applications.												

Model number	UL365 - Police Connected Burglary	UL609 - Local Burglary	UL636 - Holdup	UL864 - Commercial Fire	UL985 - Household Fire	UL1023 - Household Burglary	UL1076 - Proprietary Burglary	UL1610 - Central Station Burglary	CAN/ULC S303 - Local Burglary	CAN/ULC S304 - Signal Receiving Centre and Premise	CAN/ULC S545 - Residential Fire	ULC-ORD C1023 - Household Burglary	ULC-ORD C1076 - Proprietary Burglary
D162	Suitable for use on approved applications.												
D185				X									
ICP-SDI-9114	X	X		X	X	X	X	X				X	X
ICP-EZTS	X	X			X	X	X	X	X	X	X	X	X
Door control (Access)													
B901	X	X		X	X	X	X	X	X	X		X	X
D9210C	X	X		X	X	X	X	X	X	X		X	X

*Approved for use on combination fire and burg systems when on a different bus from fire devices.

**Combination fire and burg systems using SDI devices might require an ICP-SDI-9114 to separate fire and intrusion devices onto separate circuits.

[1]ULC listed for Proprietary Burglary and Residential Fire only.

[2]Keypad version 1.04 or higher.

[3]Refer to the *Dual Class B Initiating Module (D125B) Installation Instructions* (P/N: F01U036340) for compatible D125B devices.

[4]Refer to the section within this section for compatible RADION devices.

[5]Refer to the section within this section for compatible Inovonics devices.

[7]Check for availability in your region.

Compatible detectors

The following is a sampling of wired detectors suitable for use on approved applications. Other UL listed devices are available.

Model	Name
FCC-380	Carbon Monoxide Detector
F220-P with F220-B6	Photoelectric Smoke Detector with Detector Base
HUB	Potter HUB Holdup Button
ISC-BDL2-WP12	Wheelock MB Series 12V 6 " Fire Bell (Red)
MB-G6-12-R	Wheelock MB Series 12V 6 " Fire Bell (Red)
ZX776Z	PIR Motion Sensor [15 m (50 ft)] with POPIT
ZX794Z	PIR Motion Sensor [24 m (80 ft)] with POPIT
ZX865	PIR/Microwave Motion Sensor [+1.7°C (+35°F)] with POPIT
ZX938Z	PIR Motion Sensor [18 m (60 ft)] with POPIT
ZX970	PIR/Microwave Motion Sensor [+1.7°C (+35°F)] with POPIT
5110/4001-42	Rothenbuhler High Security Bell

B810 wireless receiver compatible accessories

Refer to *RADION receiver SD (B810) Installation Guide*.

Model	Name	Description
RFBT-A	RADION specialty	Bill trap
RFDL-11-A	RADION TriTech	Motion detector
RFDW-RM-A	RADION contact RM	Recessed door/window contact
RFDW-SM-A	RADION contact SM	Surface mount door/window contact
RFGB-A	RADION glassbreak	Glassbreak detector
RFKF-FB-A	RADION keyfob FB	Four-button key fob
RFKF-FBS-A	RADION keyfob FB	Four-button encrypted key fob
RFKF-TB-A	RADION keyfob TB	Two-button key fob
RFKF-TBS-A	RADION keyfob TB	Two-button encrypted key fob
RFPB-SB-A	RADION panic SB	Single button panic
RFPB-TB-A	RADION panic TB	Two button panic
RFRP-A	RADION repeater	Repeater
RFSM-A	RADION smoke[1]	Smoke detector
RFPR-12-A	RADION PIR	PIR detector
RFPR-C12-A	RADION PIR C	PIR curtain detector
RFUN-A	RADION universal	Universal transmitter
[1] UL 985 only.		

B820 SDI2 Inovonics Interface Module compatible accessories

Model	Name
EN1210	Universal Transmitter (Single-input)
EN1210EOL	Universal Transmitter with EOL Resistor
EN1210W	Door-Window Transmitter with Reed Switch
EN1215EOL	Universal Transmitter with Wall Tamper and EOL Resistor
EN1215WEOL	Door-Window Transmitter with Wall Tamper, Reed Switch, and EOL Resistor
EN1223D*	Water-resistant Pendant Transmitter (Double-button)
EN1223S*	Water-resistant Pendant Transmitter (Single-button)
EN1224-ON	Multiple-Condition On/Off Pendant Transmitter
EN1233D	Necklace Pendant Transmitter (Double-button)
EN1233S	Necklace Pendant Transmitter (Single-button)
EN1235D	Beltclip Pendant Transmitter (Double-button)
EN1235DF	Fixed-location Transmitter (Double-button)

Model	Name
EN1235S	Beltclip Pendant Transmitter (Single-button)
EN1235SF	Fixed-location Transmitter (Single-button)
EN1242	Smoke Detector Transmitter
EN1247	Glass-break Detector Transmitter
EN1249	Bill Trap Transmitter
EN1260	Wall Mount Motion Detector
EN1261HT	High Traffic Motion Detector
EN1262	Motion Detector With Pet Immunity
EN1265	360° Ceiling Mount Motion Detector
EN4200	Serial Receiver
EN4204R	Four Zone Add-on Receiver With Relay Outputs
EN5040-T	High Power Repeater With Transformer
EN7016*	Wireless Survey Kit
ENKIT-SDI2	B820 and EN4200 Kit
*Not investigated by UL.	

Notice!
No wireless detectors have been approved for use with alarm verification points.
For specific installation and operation instructions, please refer to manufacturers' manuals.

D125B 2-wire smoke compatibility table
Refer to the *Dual Class B Initiating Module (D125B) Installation Instructions*.

3.2.1   Compatible UL Listed Synchronization (Sync) modules and strobes

Notice!
For UL 864 compliance, use only these models of synchronization modules and strobes.

Synchronization modules and strobes capacity

Device	Maximum number of devices[1]
Wheelock control panel powered devices	4
Wheelock 12 VDC external powered devices	11
Wheelock 24 VDC external powered devices	33
System Sensor control panel powered devices	4
System Sensor 12 VDC external powered devices	11
System Sensor 24 VDC external powered devices	33
[1] High current settings reduces the quantity.	

Wheelock synchronization module DSM/SM-24 and strobe compatibility

Strobe model	Product	Description
AH Series Wall or Ceiling-mount Electronic Horns	AH-24-R	24 VDC, Red
	AH-24-W	24 VDC, White
	AH-24WP-R	24 VDC, Outdoor, Weatherproof, Red
AS Series Audible Strobes	AS-241575W-FR	24 VDC, 15 cd, (75 cd on axis), Two-wire, Wall-mount, Red
	AS-24MCC-FR	24 VDC, 15 cd to 95 cd, Ceiling-mount, Red
	AS-24MCC-FR-V	24 VDC, Variable cd, Ceiling-mount, Red
	AS-24MCC-FW	24 VDC, 15 cd to 95 cd, Square, Ceiling-mount, White
	AS-24MCCH-FR	24 VDC, 115/177 cd, Square, Ceiling-mount, Red
	AS-24MCCH-FW	24 VCD, 115/177 cd, Square, Ceiling-mount, White
	AS-24MCW-FR	24 VDC, Variable cd, Wall-mount, Red
	AS-24MCW-FW	24 VDC, Variable cd, Wall-mount, White
	AS-24MCWH-FR	24 VDC, 135/185 cd, Square, Wall-mount, Red
	AS-24MCWH-FW	24 VDC, 135/185 cd, Square, Wall-mount, White
	ASWP-2475W-FR	24 VDC, 75 cd, Red
CH70 Series Wall-mount Chimes and Chime Strobes	CH70-24-R	24 VDC, Square, Red
	CH70-24-W	24 VDC, Square, White
	CH70-241575W-FR	24 VDC, 15 cd (75 cd on axis), Square, Red
	CH70-24MCW-FR	24 VDC, Variable cd, Red
	CH70-24MCW-FW	24 VDC, Variable cd, White
	CH70-24MCWH-FR	24 VDC, 135 cd to 185 cd, Square, Red
	CH70-24MCWH-FR	24 VDC, 135 cd to 185 cd, Square, White
HS4 Series Two or Four-wire Horn Strobes	HS4-241575W-FR	24 VDC, 15/75 cd, Four-wire, Red
	HS4-241575W-FW	24 VDC, 15/75 cd, Four-wire, White
	HS4-24MCW-FR	24 VDC, 15 to 110 cd, Four-wire, Square, Red
	HS4-24MCW-FW	24 VDC, 15 to 110 cd, Four-wire, Square, White
	HS4-24MCWH-FR	24 VDC, 135 to 185 cd, Four-wire, Square, Red
	HS4-24MCWH-FW	24 VDC, 135 to 185 cd, Four-wire, Square, White
NS Series Horn Strobes	NS-241575W-FR	24 VDC, 15/75 cd, Red
	NS-241575W-FW	24 VDC, 15/75 cd, Red
	NS-24MCW-FR	24 VDC, Variable cd, Mini, Wall-mount, Red
	NS-24MCW-FW	24 VDC, Variable cd, Mini, Wall-mount, White

Strobe model	Product	Description
RSS Series Strobes	RSS-241575W-FR	24 VDC, 15/75 cd, Synchronized, Red
	RSS-241575W-FW	24 VDC, 15/75 cd, Synchronized, White
	RSS-24MCC-FR	24 VDC, 15 to 95 cd, Ceiling-mount, Red
	RSS-24MCC-FR-V	24 VDC, Variable cd, Ceiling-mount, Red
	RSS-24MCC-FW	24 VDC, 15 to 95 cd, Square, White
	RSS-24MCC-NW	24 VDC, 15 to 95 cd, Ceiling-mount, White
	RSS-24MCCH-FR	24 VDC, 115 to 177 cd, Ceiling-mount, White
	RSS-24MCCH-FW	24 VDC, 115 to 177 cd, White
	RSS-24MCCHR-FR	24 VDC, 115 to 177 cd, Ceiling-mount, Red
	RSS-24MCCHR-FW	24 VDC, 115 to 177 cd, Ceiling-mount, White
	RSS-24MCCR-FR	24 VDC, 15 to 95 cd, Ceiling-mount, Red
	RSS-24MCCR-FW	24 VDC, 15 to 95 cd, Ceiling-mount, White
	RSS-24MCW-FR	24 VDC, Variable cd, Wall-mount, Red
	RSS-24MCW-FW	24 VDC, Variable cd, Wall-mount, White
	RSS-24MCWH-FR	24 VDC, 135 to 185 cd, Wall-mount, Red
	RSS-24MCWH-FW	24 VDC, 135 to 185 cd, Wall-mount, White
	RSSP-241575W-FR	24 VDC, 15/75 cd, Plate, Red
	RSSP-24MCW-FR	24 VDC, 15 to 110 cd, Red
	RSSP-24MCWH-FR	24 VDC, 135 to 185 cd, Retrofit, Red
	RSSR-24110C-NW	24 VDC, 110 cd, Ceiling-mount, White
	RSSR-2475C-NW	24 VDC, 75 cd, Ceiling-mount, White
	RSSR-2475W-AAR	24 VDC, 74 cd, Square, Wall-mount, Red
	RSSWP-2475W-FR	24 VDC, 75 cd, Waterproof, Red
	RSSWP-2475W-FW	24 VDC, 75 cd, Outdoor, White

Strobe model	Product	Description
Exceder LED Low Frequency Sounder	LLFHNR-AL	LED LF HN RED,2W,WALL,24V,ALERT
	LLFHNW-AL	LED LF HN WHT,2W,WALL,24V,ALERT
	LLFHNR-CO	LED LF HN RED,2W,WALL,24V,CO
	LLFHNW-CO	LED LF HN WHT,2W,WALL,24V,CO
	LLFHNR-N	LED LF HN RED,2W,WALL,24V,NO LTR
	LLFHNW-N	LED LF HN WHT,2W,WALL,24V,NO LTR
	LLFHSR	LED LF HN STR,RED,2W,WALL,24V,110CD, FIRE
	LLFHSW	LED LF HN STR,WHT,2W,WALL,24V,110CD, FIRE
	LLFHSR-AL	LED LF HN STR,RED,2W,WALL,24V,110CD, ALERT
	LLFHSW-AL	LED LF HN STR,WHT,2W,WALL,24V,110CD, ALERT
	LLFHSR-CO	LED LF HN STR,RED,2W,WALL,24V,110CD, CO
	LLFHSW-CO	LED LF HN STR,WHT,2W,WALL,24V,110CD, CO
	LLFHSR-N	LED LF HN STR,RED,2W,WALL,24V,110CD, NO LTR
	LLFHSW-N	LED LF HN STR,WHT,2W,WALL,24V,110CD,NO LTR

Wheelock synchronization module DSM/SM-12/24 and strobe compatibility

Strobe model	Product	Description
HN Series Wall or Ceiling-mount Horns	HN	12/24 VDC, Horn, Wall-mounting
	HN-C	12/24 VDC, Horn, Wall or Ceiling-mount
HS Series Wall or Ceiling-mount Strobes	HS	12 VDC, 15/15-75 cd, Wall-mount
		24 VDC, 15/15-75/30/75/95/110/135/185 cd, Wall-mount
	HS-C	12 VDC, 15 cd, Ceiling-mount
		24 VDC, 15/30/60/75/115/150/177 cd, Ceiling-mount
ST Series Wall or Ceiling-mount Strobes and Horns	ST	12 VDC, 15/15-75 cd, Wall-mount
		24 VDC, 15/15-75/30/75/95/110/135/185 cd, Wall-mount
	ST-C	12 VDC, 15 cd, Ceiling-mount
		24 VDC, 15/30/60/75/95/115/150/177 cd, Ceiling-mount
ZNH Series Wall or Ceiling-mount Horns	ZNH-R	12/24 VDC, Flush, Square, Red
	ZNH-W	12/24 VDC, Flush, Square, White
ZNS Series Wall or Ceiling-mount Horn Strobes	ZNS-MCW-FR	24 VDC, Selectable 15/30/75/110 cd, Red
	ZNS-MCW-FW	24 VDC, Selectable 15/30/75/110 cd, White
	ZNS-MCWH-FR	24 VDC, 135/185 cd, Square, Red
	ZNS-MCWH-FW	24 VDC, 135/185 cd, Square, White

Strobe model	Product	Description
ZRS Series Strobe Appliances	ZRS-MCW-FR	24 VDC, Selectable 15/30/75/110 cd, Red
	ZRS-MCW-FW	24 VDC, Selectable 15/30/75/110 cd, White
	ZRS-MCWH-FR	24 VDC, Selectable 135/185 cd, Wall, Red
	ZRS-MCWH-FW	24 VDC, Selectable 135/185 cd, Wall, White
	ZRS-MCC-FR	24 VDC, Selectable 15/30/75/95 cd, Red
	ZRS-MCC-FW	24 VDC, Selectable 15/30/75/95 cd, White
	ZRS-MCCH-FR	24 VDC, Selectable 115/177 cd, Red
	ZRS-MCCH-FW	24 VDC, Selectable 115/177 cd, White

System Sensor synchronization module MDL3 strobe compatibility

Strobe model	Product	Description
PC24 Series Ceiling-mount Horn Strobes	PC24115	24 VDC, 115 cd, Red, Ceiling mount
	PC24115W	24 VDC, 115 cd, White, Ceiling mount
	PC2415	24 VDC, 15 cd, Red, Ceiling mount
	PC2415W	24 VDC, 15 cd, White, Ceiling mount
	PC241575	24 VDC, 15 cd (75 cd on axis), Red, Ceiling mount
	PC242575W	24 VDC, 15 cd (75 cd on axis), White, Ceiling mount
	PC24177	24 VDC, 177 cd, Red, Ceiling mount
	PC24177W	24 VDC, 177 cd, White, Ceiling mount
	PC2430	24 VDC, 30 cd, Red, Ceiling mount
	PC2430W	24 VDC, 30 cd, White, Ceiling mount
	PC2475	24 VDC, 75 cd, Red, Ceiling mount
	PC2475W	24 VDC, 75 cd, White, Ceiling mount
	PC2495	24 VDC, 95 cd, Red, Ceiling mount
	PC2495W	24 VDC, 95 cd, White, Ceiling mount

Strobe model	Product	Description
SC24 Series Ceiling-mount Strobes	SC24115	24 VDC, 115 cd, Red, Ceiling mount
	SC24115W	24 VDC, 115 cd, Round, White, Ceiling mount
	SC2415	24 VDC, 15 cd, Round, Red, Ceiling mount
	SC2415W	24 VDC, 15 cd, Round, White, Ceiling mount
	SC241575	24 VDC, 15/75 cd, Round, Red, Ceiling mount
	SC241575W	24 VDC, 15/75 cd, Round, White, Ceiling mount
	SC24177	24 VDC, 177 cd, Round, Red, Ceiling mount
	SC24177W	24 VDC, 177 cd, Round, White, Ceiling mount
	SC2430	24 VDC, 30 cd, Round, Red, Ceiling mount
	SC2430W	24 VDC, 30 cd, Round, White, Ceiling mount
	SC2475	24 VDC, 75 cd, Round, Red, Ceiling mount
	SC2475W	24 VDC, 75 cd, Round, White, Ceiling mount
	SC2495	24 VDC, 95 cd, Round, Red, Ceiling mount
	SC2495W	24 VDC, 95 cd, Round, White, Ceiling mount

> **Notice!**
> Use of 24 V devices requires the use of a UL1481 regulated power-limited power supply and a D130 Relay Module. Refer to the *D130 Installation Instructions*.

3.3   Features

This section includes the control panel's notable features.

3.3.1   SDI2 interconnect wiring

Most SDI2 modules include one or two interconnect wiring connectors. You can use these connectors to connect the modules to the control panel, and then to each other, without having to connect wires individually to the SDI2 terminals. For installations using multiple SDI2 modules in the same enclosure, interconnect wiring makes the installation quicker and easier than using terminal strip wiring. Each SDI2 module that has an SDI2 interconnect wiring connector comes with a 12 in (30 cm) interconnect cable.

3.3.2   Points

B9512G control panels provide up to 599 points of protection. B8512G control panels provide up to 99 points of protection.
Point programming parameters determine the control panel's response to open and shorted conditions on the sensor loop for the point. Several options allow individual point programming to custom-fit the protection to the installation.
The control panel has eight on-board points, points 1 to 8.
The SDI2 bus allows for point expansion. For example, the SDI2 bus supports a combination of B208 Octo-input Modules, B299 POPEX modules, and a B810 wireless receiver or B820 SDI2 Inovonics Interface Module.
The B600 Retrofit (ZONEX) module allows for connection to a D8125 (D8125MUX, D8125INV) module for point expansion.

3.3.3 Areas and accounts

B9512G control panels support up to 32 areas. B8512G control panels support up to 8 areas. You can assign all points to a single area or distribute them over multiple areas.

Users can turn areas on and off individually or together. You can assign an authority level to a user that allows the user to turn an area on from a remote keypad in another area.

Assigning each area its own account number creates up to 32 separate accounts in the B9512G, and up to 16 separate accounts in the B8512G.

Assigning the same account number to different areas groups them together in a single account.

Area options include exit tone and delay, separate fire and burglary outputs, and multiple opening and closing windows. Use area types to create area relationships.

For systems with more than one area, all areas must be under the responsibility of one ownership and management. This may be a group of buildings attached or unattached and may even have different addresses but are under the responsibility of someone having mutual interest (other than the alarm installing company). This does not apply to strip mall applications where each independent business must have their own separate alarm system.

An example for a commercial system would be a business that has an OFFICE area and a WAREHOUSE area in a building where each area can be armed or disarmed independently.

As a residential example a system could be configured with the garage and house as separate areas.

In each of the examples above, all of the areas are under the sole responsibility of a single owner.

In multi-area systems, the bell (or siren) and control panel must be in one of the protected areas.

The bell or siren must be located where it can be heard by users who turn areas on and off (arm and disarm).

3.3.4 Digital communication

The control panel uses its built-in Ethernet connection, a B426 Conettix Ethernet Communication Module, a Conettix Plug-in cellular module (B440/B441/B442/B443 plugged into the control panel or plugged into a B450 Conettix Plug-in Communicator Interface), or a B430 Plug-in Telephone Communicator to send reports to the central station receiver.

The control panel sends reports in either the Modem4 or ANSI-SIA Contact ID format.

The system can route Event Reports to four different destinations through an IP network or the telephone network (PSTN). Program primary and backup reporting destinations for each.

A custom option allows you to specify which Event Reports the system sends.

3.3.5 Keypads

The B9512G supports up to 32 keypads, including up to 16 SDI keypads. The B8512G supports up to 16 keypads, including up to 16 SDI keypads.

The control panel supervises all SDI2 keypads. Supervision for the 16 SDI keypads is configurable.

3.3.6 Events

Event memory

The control panel retains point alarm and trouble events for each area in event memory. You can view event memory on a keypad. Turning an area on clears the event memory for that area.

Event log

The event log stores local and reported events. The event log includes information such as time, date, event, area, point, and user. View the event log from a keypad or use RPS to remotely retrieve event information. When the event log reaches a programmed threshold of stored events, it can send an optional report to a receiver.

B9512G control panels store up to 10,192 events. B8512G control panels store up to 2048.

3.3.7   Programming

Use RPS to program the control panels. You can connect to the control panel using a network connection (on-board Ethernet port, cellular module, B426 Conettix Ethernet Communication Module, or telephone module), or locally using the control panel's on-board Ethernet port or USB port. (To program with the USB port connection, use the B99 USB 2.0 Type A Male to Type A Male cable by Bosch.) You can also use a keypad for select programming.

Refer to *RPS Help* or the control panel's *Program Entry Guide*, and to *Keypad Installer menu, page 115* for programming options.

> **Notice!**
> After system installation and any control panel programming, perform a complete system test (a UL 864 requirement). A complete system test includes testing the control panel, all devices, and communication destinations for proper operation.

3.3.8   Firmware updates

The system can update the firmware remotely:

– Control panel updates. Remotely update the control panel firmware for easy feature enhancements without replacing ROM chips.
– Module update support. Remotely update the firmware on connected SDI2 modules for easy feature enhancements without visiting each individual module.

3.3.9   Access control

3.3.10   Ground fault detection

The earth ground Terminal 10 ⏚ on the control panel is electrically isolated from all other terminals to allow the control panel to detect ground fault conditions. Ground Fault Detect is configured in programming.

3.3.11   Dual authentication

With Dual Authentication enabled, the control panel requires two forms of identification before processing certain system commands, including turning off the system and opening doors.

A standard system user must have a passcode, a credential (token or card), and appropriate command authority permissions assigned in the door and keypad's assigned area. When enabled at a keypad, only the following Passcode Functions require access credentials with passcode entry: Turn On/Turn Off, Cycle Door (Grant Access), Cycle Output, and Auto Re-arm.

> **Notice!**
> Plan ahead
> To use Dual Authentication with access control, install a keypad close to the door controller for user convenience.

4   Installation checklist

Before installing and operating the control panel, read these instructions. Failure to follow these procedures may cause the device not to function properly. Bosch Security Systems Inc. is not responsible for any devices that are improperly installed, tested, or maintained.

This document does not contain special information about local requirements and safety issues. Information on such issues is provided only to the extent that it is needed for operation of the device. Ensure that you are familiar with all safety-related processes and regulations in your area. This also includes how to act in the event of an alarm and the initial steps to take if a fire breaks out. The operating instructions should always be available on site. It is a required part of the system and must be given to the new owner if the system is ever sold.

Use the workflow and checkboxes below as you complete steps. Each step includes references for more detailed information.

☐ **Install the enclosure and wiring label**
–   Install the enclosure and wiring label

☐ **Install the control panel**
–   *Mount the control panel, page 32*
–   *Connect earth ground, page 32*

☐ **Install and wire for telephone communication**
–   *Telephone communications, page 44*

☐ **Install and wire for IP communications**
–   *IP communications, page 48*

☐ **Install and wire the battery and the transformer**
–   *Power supply, page 36*

☐ **Begin to charge the battery while you install other devices**
–   Charge the battery

☐ **Install and wire arming devices**
–   *Keypads, keyswitches, keyfobs and transmitters, page 59*

☐ **Install and wire outputs**
–   *On-board outputs, page 66*
–   *Off-board outputs, page 69*

☐ **Install and wire inputs**
–   *On-board points, page 72*
–   *Off-board points, page 75*
–   *Wireless modules, page 83*

☐ **Complete the installation**
–   *Program and test the control panel, page 88*

5   Control panel installation

This section explains how to mount the control panel enclosure, how to mount the control panel into the enclosure, and provides an overview of how to wire modules to the control panel.

Enclosure overview

Before you begin, review the overview figure:
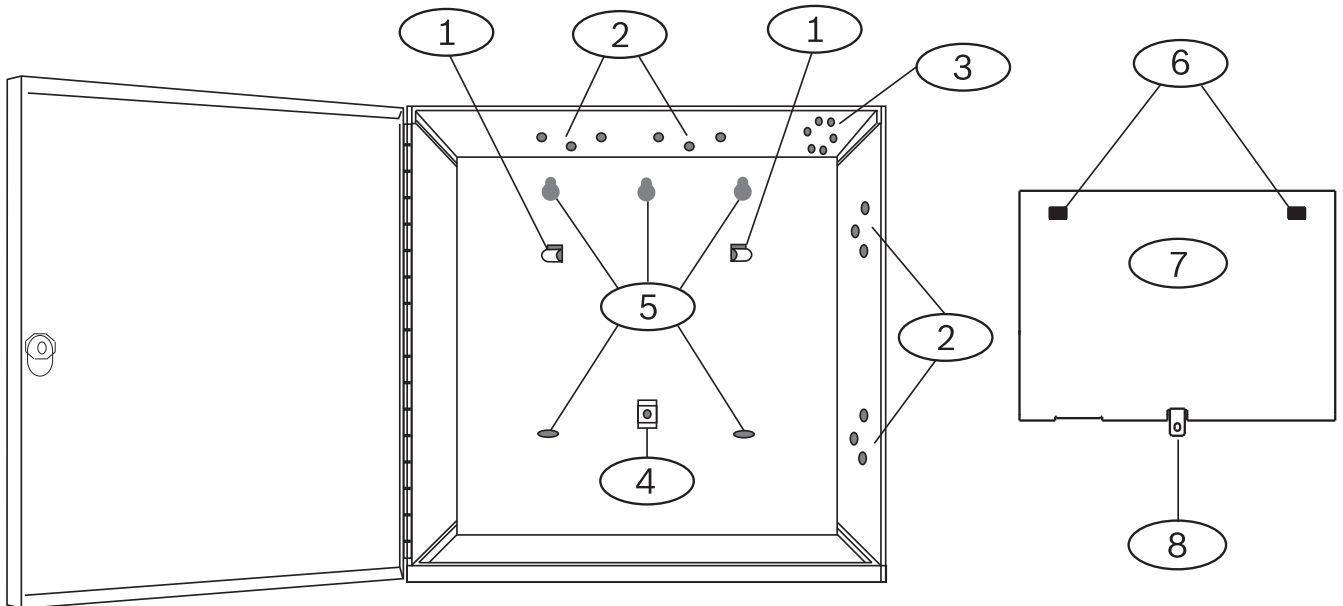
Figure 5.1: Enclosure and control panel mounting overview

Callout — Description	Callout — Description
1 — Mounting skirt attachment hooks (2)	5 — Enclosure mounting holes (5)
2 — Module mounting three-hole pattern (4)	6 — Mounting skirt attachment holes (2)
3 —Tamper switch mounting location	7 — Back of the control panel mounting skirt
4 — Mounting skirt screw location (1)	8 — Mounting skirt screw tab

5.1   Install the enclosure

Refer to *Enclosures, page 107* to determine if the application requires a specific enclosure. Installing the enclosure:

1. Remove any knockouts prior to installing the control panel.
2. Mount the enclosure in the desired location. Use all enclosure mounting holes. Refer to the mounting instructions supplied with the selected enclosure.
3. Pull the wires into the enclosure.
4. Optionally install the supplied point label chart on the inside of the enclosure door.

Notice!
Electromagnetic interference (EMI) can cause problems on long wire runs.

5.2   Install the control panel

This section includes instructions to mount the control panel in the enclosure, connect earth ground, and make other control panel connections.

5.2.1   Mount the control panel

Refer to the figure *Enclosure overview, page 31*.
Mounting the control panel:
1.   Place the control panel over the inside back of the enclosure, aligning the large rectangular openings of the mounting skirt with the enclosure mounting attachment hooks. Slide the control panel down so that it hangs on the hooks.
2.   Remove the tape from the #6 x 1/4-in screw in the mounting skirt screw tab on the control pane.l The screw passes through the mounting tab and into the skirt mounting hole in the enclosure.
3.   Tighten the screw to secure the control panel in the enclosure.

> **Notice!**
> Connect earth ground to the control panel before making any other connections.

5.2.2   Connect earth ground

To help prevent damage from electrostatic discharges or other transient electrical surges, connect the system to earth ground before making other connections. The ⏚ icon (Terminal 10) indicates the earth ground terminal. Use a recommended earth ground reference, such as a grounding rod or a cold water pipe. Make the connection using 14 AWG (1.8 mm) to 16 AWG (1.5 mm) wire.

> **Notice!**
> Do not use telephone or electrical ground for the earth ground connection. Do not connect other control panel terminals to earth ground.

> **Caution!**
> Avoid electrostatic discharge. Always touch the earth ground connection with the ⏚ icon first, before beginning work on the control panel.

5.2.3   Ground Fault Detect enable

To meet UL 864 requirements, enable Ground Fault Detect.
A ground fault is a circuit impedance to ground sufficient to result in the annunciation of a trouble condition.
The control panel has a ground fault detection circuit that when enabled, detects ground faults on Terminals 1 to 9 and 11 to 30.
If a ground fault condition occurs, the keypads annunciate a ground fault and control panel transmits a trouble message.
When the control panel recognizes that the ground fault condition is corrected, and remains corrected for between 5 to 45 consecutive seconds, the control panel clears the fault from the keypad display and sends a restoral report.
The control panel detects ground fault at ≤ 300 Ω.

Enable Ground Fault Detect and reports
To enable fault detection, use RPS. Set the following parameters:

- PANEL WIDE PARAMETERS > Miscellaneous > Ground Fault Detection. Set to Enable.
- PANEL WIDE PARAMETERS > Report Routing > Burglar Reports > Trouble Report. Set to Yes.
- PANEL WIDE PARAMETERS > Report Routing > Burglar Reports > Burg Restore (After Trouble). Set to Yes.

5.2.4 Ground fault detection troubleshooting

Measure earth ground (Terminal 10) and common (Terminal 9) to determine whether the control panel has the necessary -2.1 V decay to 0.

Measuring and comparing voltage for ground fault detection:
1. Set your digital voltmeter (DVM) to measure VDC.
2. Connect the red DVM lead to control panel Terminal 10, and the black DVM lead to Terminal 9.
3. Compare this voltage to the following table:

Control panel voltage at Terminals 9 and 10)	Terminal potentially causing ground fault
~ 0 VDC	4, 9, 12, 15, 17, 21
~ 13.65 VDC	5, 6, 7, 8, 26, 30
~ 2.51 VDC	11, 13, 14, 16, 17, 19, 20, 22
~ 2.44 to 3.2 VDC	24
~ 10.9 to 11.2 VDC	25
~ 7.2 VDC	28
~ 5.8VDC	29
~ 7.35 VDC	1, 2

5.3 Control panel to module wiring overview

In the following sections, this document provides instructions for wiring devices to your control panel. You can use interconnect or terminal wiring.
If SDIx is configured for SDI2, use either SDI2 bus.

Using terminal wiring
For terminal wiring, use 18 AWG to 22 AWG (1.02 mm to 0.65 mm) wire.

SDI2 devices daisy chained with terminal wiring
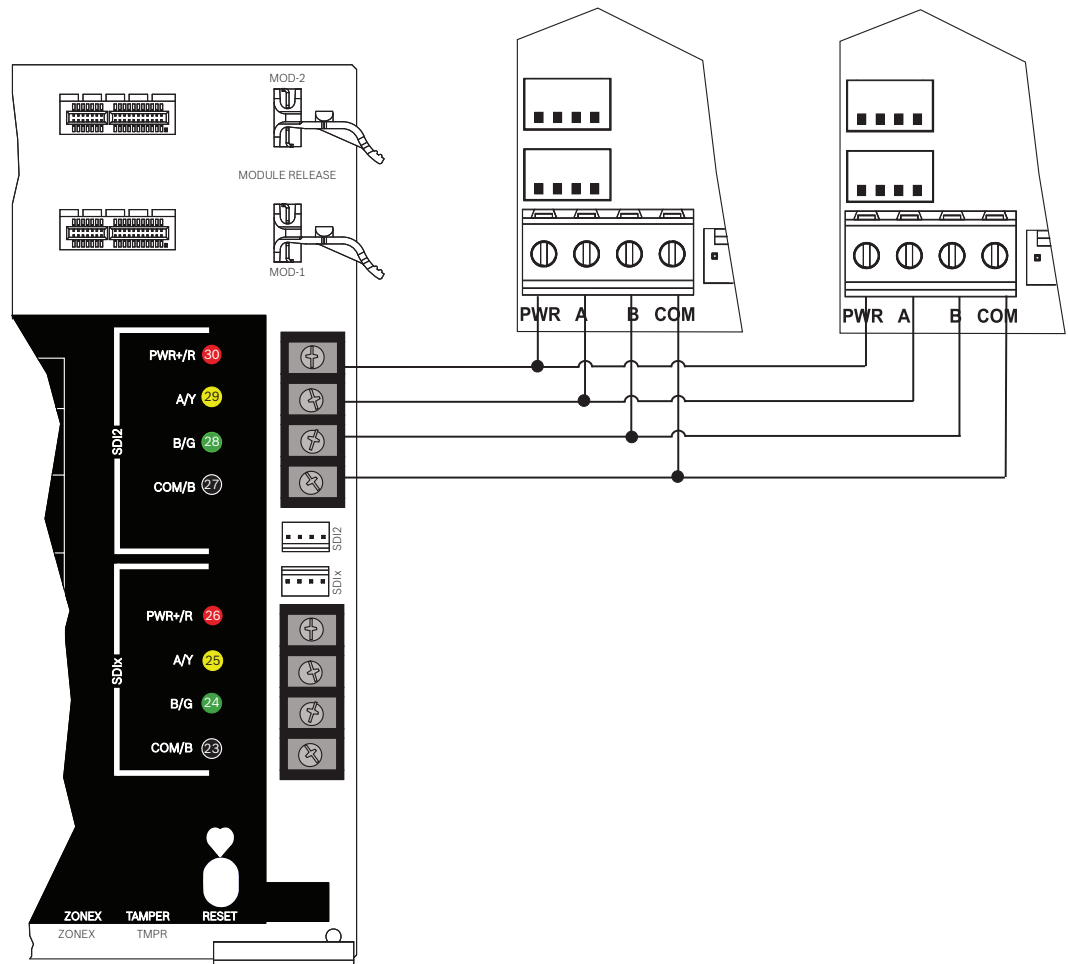
Using interconnect wiring

Interconnect wiring connectors parallel the SDI2 terminals (27 through 30 (or 23 through 26 if configured for SDI2)). In installations with multiple SDI2 modules, using interconnect wiring makes the installation quicker and easier than using terminal strip wiring. You use any combination of terminal and interconnect wiring to wire multiple modules in parallel, but do not wire a single module to the control panel using both terminal and interconnect wiring. The interconnect wiring connectors are "keyed" (interconnect wiring plug can fit in only one direction).

SDI2 devices daisy chained with interconnect wiring
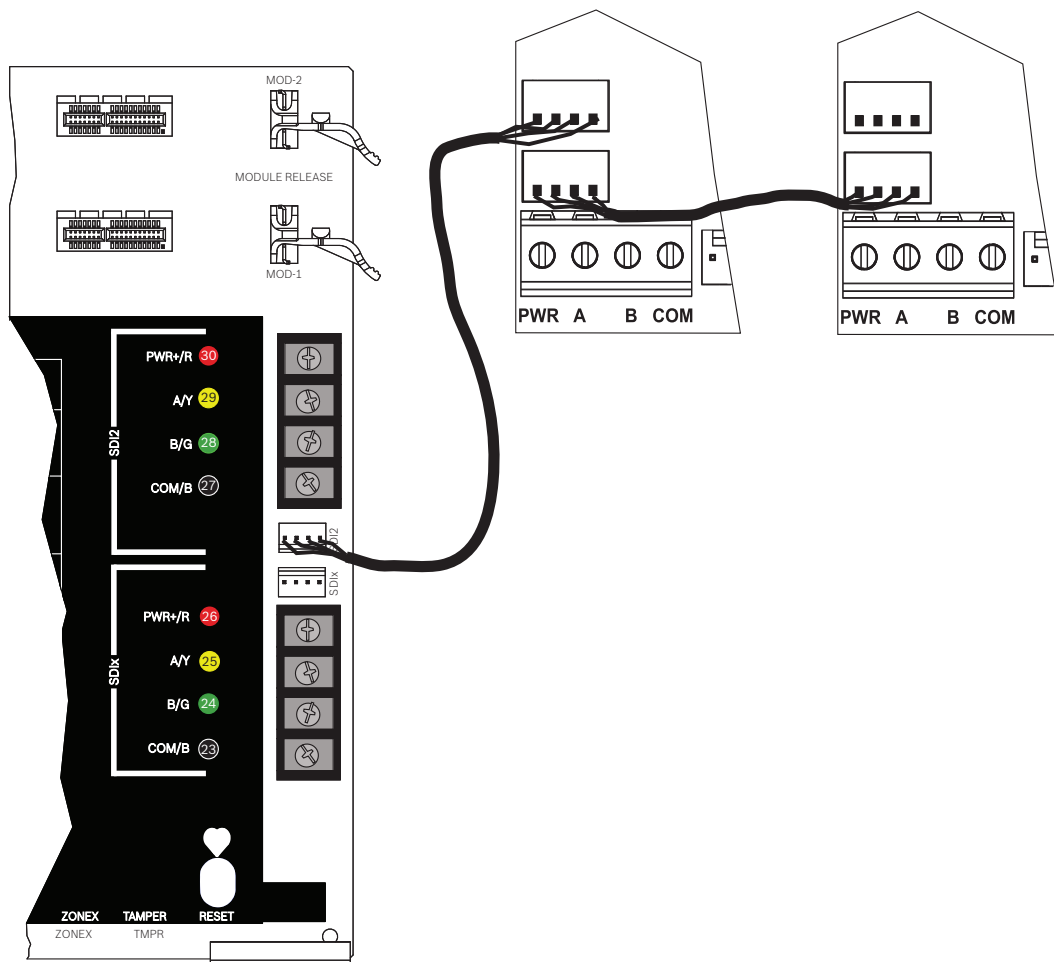
6   Power supply

This section provides information on installing and maintaining primary power, batteries, and auxiliary power.

6.1   Primary (AC) power

(1)   (2)

The control panel uses a 16.5 VAC, 40 VA, internally-fused transformer (D1640) for its primary power source. The control panel draws 190 mA when idle and 265 mA when in the alarm state.
The auxiliary power available for powered devices is 1.4 A.

Surge protection
Transient suppressors and spark gaps protect the circuit from power surges. This protection relies on the ground connection at the earth ground terminal (Terminal 10), marked with the ⏚ icon. Ensure that you connect the terminal to a proper ground.
Refer to *Connect earth ground, page 32*.

AC power fail
The system indicates an AC power failure when the transformer input terminals do not have sufficient voltage. The AC Fail Time parameter sets the amount of time without AC power before the control panel reports the failure, and the amount of time after the power returns before the control panel reports restored power.
When the control panel loses AC power long enough for the battery to become low, the control panel adds a Battery Low event to the event log. If the battery continues to discharge below the load shed threshold, the system ceases to operate and generates no further events.

6.1.1   Install the transformer

Caution!
Do not short-circuit the terminals of the transformer: Shorting the terminals opens the internal fuse, causing permanent failure. Connect the transformer to the control panel's AC power terminals before plugging it into the power source.

Notice!
Plan ahead
Route telephone, SDI2 bus wiring, and sensor loop wiring away from any AC conductors, including the transformer wire. AC wiring can induce noise and low level voltage into adjacent wiring.

1. Use 18 AWG (1.02 mm) wire minimum (12 AWG [2 mm] maximum) and connect the transformer to the control panel. Make the wire length as short as possible. Do not exceed 50 ft (15 m).
2. Connect the wire to the control panel.
3. Connect the wire to the transformer.
4. Plug the transformer into an unswitched, 120 VAC, 60 Hz power outlet only.
5. Secure the transformer to the outlet with the screw provided (not applicable in Cananda).

D8004 Transformer Enclosure required for fire systems
Use the D8004 Transformer Enclosure for the D1640 Transformer in fire and combined fire and burglary applications.

	Notice!
i	Check with the Authority Having Jurisdiction (AHJ) about mounting transformers on specific circuits.

6.2   Secondary (DC) power

4   **5**

A 12 V sealed lead-acid rechargeable battery (such as the D126/D1218) supplies secondary power to maintain system operation during interruptions of primary (AC) power.

	Notice!
i	**Use sealed lead acid batteries only**
	The charging circuit is calibrated for lead-acid batteries. Do not use gel-cell or NiCad batteries.

Extra batteries

To increase battery back-up time, connect a second 12 V battery in parallel to the first battery. Use a D122/D122L Dual Battery Harness to ensure proper and safe connection.
Refer to *Standby battery requirements and calculations, page 110*.

D1218 Battery

The D1218 is a 12 V, 18 Ah battery for use in applications requiring extended battery standby time. The control panel does not support more than 38 Ah of battery.

6.2.1   Install the battery

1. Place the battery upright in the base of the enclosure.
2. Locate the red and black leads supplied in the hardware pack.
3. Connect the black battery lead to Terminal 4 and then to the negative (-) side of the battery.
4. Connect the red battery lead to Terminal 5, and then to the positive (+) side of the battery.

	Warning!
⚠	High current arcs are possible. The positive (red) battery lead and Terminal 5 can create high current arcs if shorted to other terminals or the enclosure. Use caution when working with the positive lead and Terminal 5. Always disconnect the positive (red) lead from the battery before removing it from Terminal 5.

	Caution!
⚠	The battery terminals and wire are not power limited. Maintain a 0.250 in (6.4 mm) space between the battery terminals, battery wiring, and all other wiring. Battery wiring cannot share the same conduit, conduit fittings, or conduit knockouts with other wiring.

Non-power-limited wiring
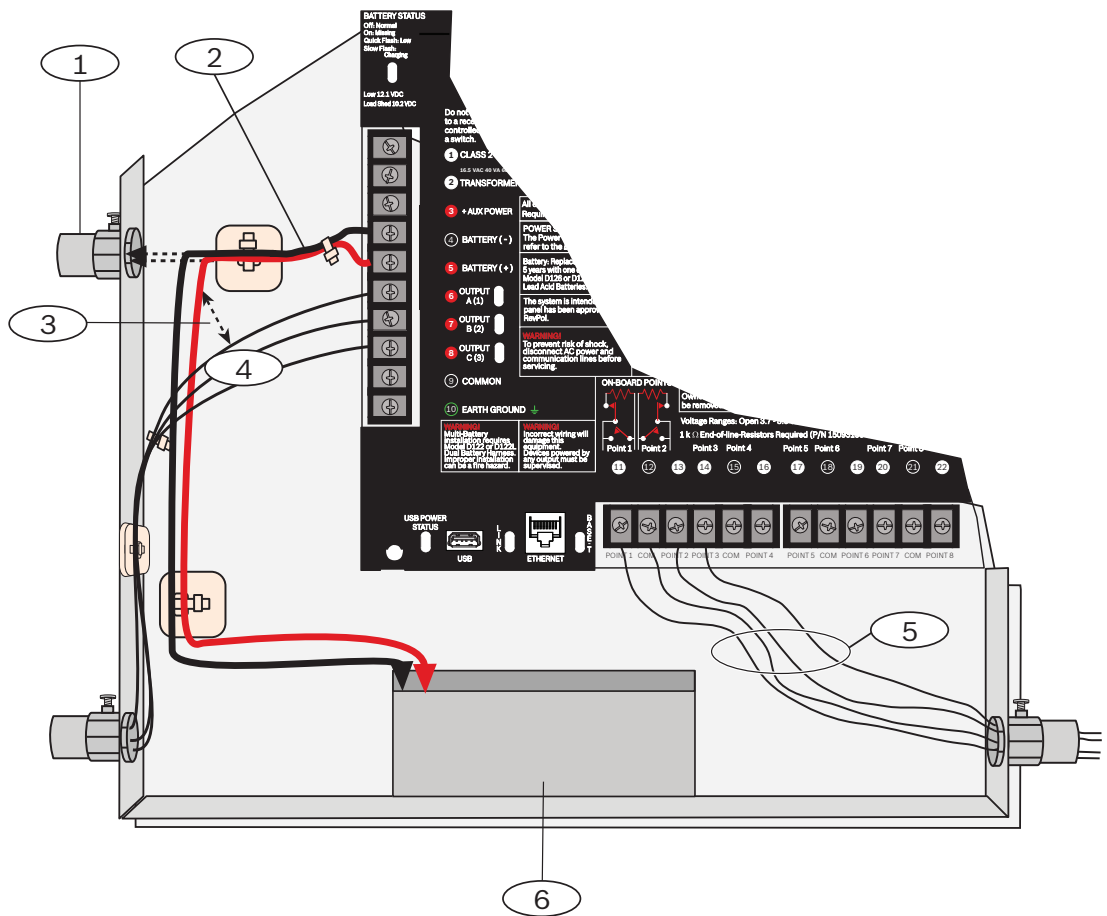
Figure 6.2: Non-power-limited wiring

Callout — Description
1 — Conduit required for use with external batteries
2 — Battery wires
3 — 0.25 in (6.4 mm) minimum. To ensure proper spacing, use tie-wraps or similar devices to secure wires.
4 — Output wires
5 — Sensor loop wires
6 — 12 V sealed lead-acid rechargeable battery (D126/D1218)

Charge the battery

Connect the battery and then the transformer to allow the control panel to charge the battery while you complete the installation.

6.2.2   BATTERY STATUS LED

The control panel includes one BATTERY STATUS LED with 4 LED patterns to indicate the battery status.

LED pattern	Function	Refer to
◯ Off	Battery is fully charged.	N/A
Flashing slowly	Battery charge is below 13.4 VDC and the battery is recharging.	*Low battery, page 39* and *Battery restoral, page 39*
Flashing quickly	Battery voltage dropped to between 12.1 VDC and 10.2 VDC. LED turns off when voltage reaches at least 13.4 and > 200 mA.	*Low battery, page 39* and *Battery restoral, page 39*
🔴 On Steady	Battery is missing, shorted, or reversed.	*Missing battery, page 39*

6.2.3   Battery maintenance

Use 12 VDC sealed lead-acid rechargeable battery (7 Ah, 18 Ah, or 38 Ah). The control panel supports up to 38 Ah of battery. If you use two batteries, they must have the same capacity and you must connect them using the D122/D122L Dual Battery Harness.

Replace the batteries every 3 to 5 years. If you install two batteries, replace them both at the same time.

Record the date of installation directly on the battery.

⚠️ **Caution!**
Exceeding the maximum output ratings or installing the transformer in an outlet that is routinely switched off causes heavy discharges. Routine heavy discharges can lead to premature battery failure.

6.2.4   Battery supervision

Low battery

If the control panel is programmed for power supervision, it sends a Battery Low report in the Modem4 communication format or a Low System Battery (302) report in the Contact ID format.

Missing battery

If the control panel is programmed for power supervision, it sends a Battery Missing/Dead report in the Modem4 communication format, or a Control Panel Battery Missing (311) report in the Contact ID format.

Battery restoral

When AC returns and the battery is charged, If the control panel is programmed for power supervision, it sends a Low System Battery Restore report in the Modem4 communication format or a Control Panel Battery Restored to Normal (302) report in the Contact ID format.

6.2.5   Battery charging circuit float charge

The float voltage for the battery charging circuit is 13.65 VDC when operating within load range.

Load shed

Load shed relay protects battery: During an AC power loss, the battery supplies all power to the security system. If the battery voltage falls below 10.0 V during an AC power loss, a load shed relay disconnects the battery from the control panel and disables control panel. Load shed protects the battery from being damaged by deep discharge.

When AC power restores, the load shed relay reconnects the charging circuit on control panel to the battery and the battery begins to recharge.

Over load with AC present

If devices draw more than 1.6 A of auxiliary current from the control panel with AC applied, the control panel indicates a Panel Over-current system trouble. Unless corrected, this condition prevents the control panel from properly maintaining the battery charge level, and leaves the system vulnerable to failing during power outages.

To correct the issue, remove all loads to the control panel and disconnect the battery and AC power. Fix the condition creating the over current and reconnect AC power.

A shorted battery condition (created either by a shorted cell inside the battery or by a short on Terminals 4 and 5), might prevent the control panel from operating, or might cause the control panel to detect a missing battery condition.

> **Caution!**
> Shorting the battery terminals is dangerous.

6.2.6   Battery discharge and recharge schedule

Battery discharge/ recharge schedule	Discharge Cycle	13.30 VDC 12.1 VDC 10.2 VDC 10.2 VDC	BATTERY STATUS LED slow flash. Low Battery Report, if programmed. BATTERY STATUS LED quick flash. Minimum operational voltage. Battery load shed.
	Recharge Cycle	AC ON 12.50 VDC (under load) 13.4 VDC and charging current < 200 mA	Load shed relay resets, battery charging begins. Battery Restoral Report sent, BATTERY STATUS LED off. Battery float charged. BATTERY STATUS LED off.

6.3   B520 Auxiliary Power Supply

The optional B520 Auxiliary Power Supply Module provides up to 2 A of 12 VDC standby power for Fire and Burglar applications. For Burglar applications, an additional 2 A of alarm power is available, allowing 2 A of standby current and up to 4 A of alarm current.

The B9512G control panels support up to 8 B520 modules. The B8512G control panels support up to 4 B520 modules.

Connect B520 Auxiliary Power Supply Modules to the SDI2 bus on the control panel using terminals 27 through 30 (or 23 through 26 if configured for SDI2). This section includes basic installation instructions. For detailed installation instructions, refer to the *Auxiliary Power Supply Module (B520) Installation Guide* for complete installation instructions, and for battery standby time calculations, refer to the *B520 Auxiliary Power Supply Module Battery Standby Chart* within the installation guide.

6.3.1   SDI2 address settings

Notice!
The module reads the address switch setting only during module power up. If you change the
setting after you apply power to the module, you must cycle the power to the module in order
for the new setting to take effect.

If multiple B520 modules reside on the same system, each B520 module must have a unique
address.

6.3.2   Supervision

The control panel supervises B520 Auxiliary Power Supply Modules on the SDI2 bus.
With any failure to receive an expected response from a B520, all keypads show a system
fault. The control panel sends a module trouble report to the central station (if configured for
module trouble reports).

6.3.3   Auxiliary power supply trouble conditions

Each auxiliary power supply module on the SDI2 bus monitors several conditions including AC
status, battery status, over current status, and a tamper input. Each of these conditions
produces a unique system trouble condition at all keypads. The control panel sends a module
trouble report to the central station (if configured for module trouble reports).

6.3.4   Installation and control panel wiring (B520)

The power supply draws approximately 15 mA (+/- 1 mA) from the control panel.
Ensure that there is enough power for the module and other powered devices you want
connected to the system.
Refer to *On-board outputs, page 66*.

Caution!
Remove all power (AC and battery) before making any connections. Failure to do so might
result in personal injury and/or equipment damage.

Install the module
1. Set the module address using the address switches before you install it in the enclosure.
2. Insert the plastic mounting clips onto the appropriate standoff locations inside the
    enclosure or on a mounting skirt, when required.
3. Mount the module onto the plastic mounting clips and then secure it using the supplied
    mounting screws.

Wire to earth ground
To help prevent damage from electrostatic charges or other transient electrical surges,
connect the system to earth ground before making other connections. Recommended earth
ground references are a grounding rod or a cold water pipe. When grounding, run wire as
close as possible to grounding device.

Caution!
Do not use telephone or electrical ground for the earth ground connection. Use 14 AWG (1.8
mm) to 16 AWG (1.5 mm) wire when making the connection.
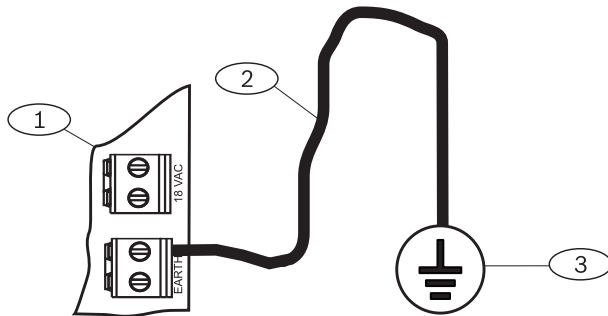
Figure 6.3: B520 earth ground wiring

Callout — Description
1 — B520 Auxiliary Power Supply Module
2 — 14 AWG - 16 AWG (1.8 mm - 1.5 mm) wire
3 — Ground device (grounding rod or cold water pipe)

Wire to the control panel

When wiring a module to a control panel, use the terminal strip labeled with PWR, A, B, and COM for SDI2 IN to wire to corresponding control panel terminals 27 through 30 (or 23 through 26 if configured for SDI2).

Use 12 AWG to 22 AWG (2 mm to 0.65 mm) wire.

6.3.5   Powered device and battery wiring

Wire to SDI2 powered devices

When wiring the output of a B520 to a SDI2 module, you can use either the SDI2 OUT terminal strip labeled with PWR, A, B, and COM to wire to terminals labeled PWR, A, B, and COM on the next module, or you can use the interconnect cable (included). Wiring the output of a B520 to a SDI2 device provides power to the device while passing through data between the control panel and the device.
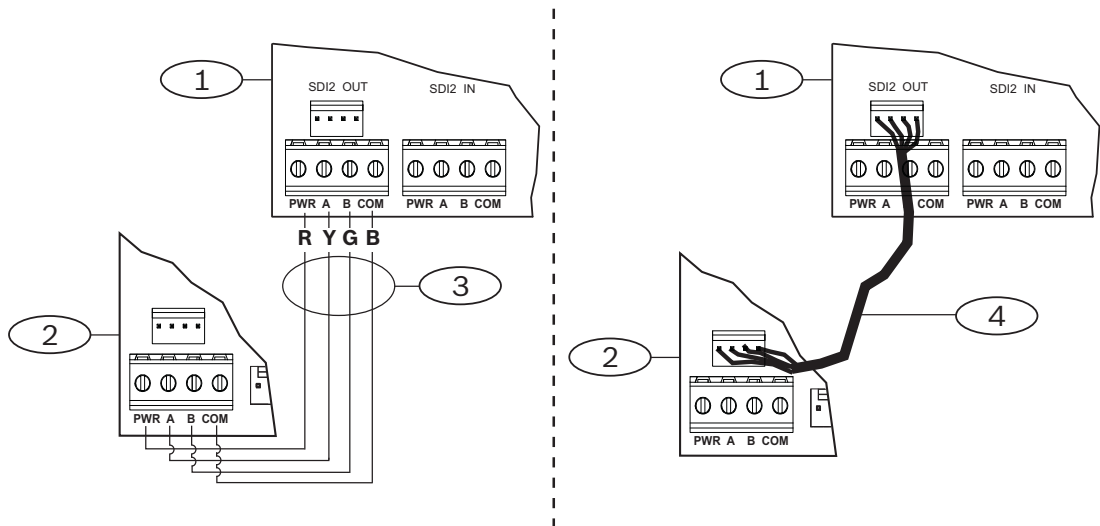
Figure 6.4: B520 to powered devices - terminal strip or interconnect wiring connector

Callout — Description
1 — B520 Auxiliary Power Supply Module
2 — Powered device (SDI2 module)

Callout — Description
3 — Terminal strip wiring
4 — Interconnect wiring (P/N: F01U079745)

Wire to batteries

Wiring the B520 to BATT 1 is required for proper operation of standby power for the B520 module. Wiring the second battery (BATT 2) is optional. If a B520 is configured for two batteries as the standby power source, then BATT 2 is also required for proper operation. BATT 2 must have the same capacity and rating as BATT 1. Maximum standby power cannot exceed 36 Ah.
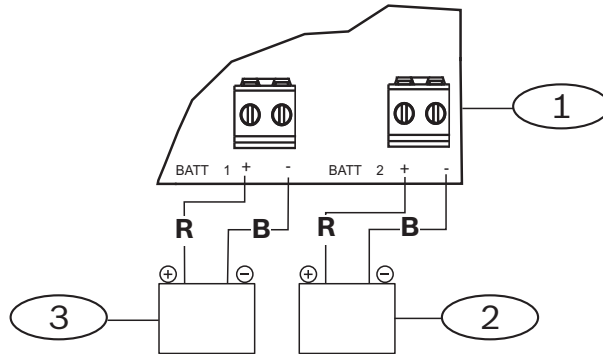
Figure 6.5: B520 BATT terminals wiring

Callout — Description
1 — B520 Auxiliary Power Supply Module
2 — Battery 2 (BATT 2) - (12 V nominal lead acid)
3 — Battery 1 (BATT 1) - (12 V nominal lead acid)

7   Telephone communications

The control panel supports telephone communications through the B430 Plug-in Telephone Communicator.

7.1   B430 Plug-in Telephone Communicator

The B430 Plug-in Telephone Communicator provides communication over PSTN. The module provides a single telephone interface RJ-45 connector for connecting the phone line. The module plugs directly into the control panel with no additional connections required.
The control panel supports two plug-in modules plugged directly into the control panel board. This section includes basic installation instructions. For detailed installation instructions, refer to the *Plug-in Telephone Communicator (B430) Installation Guide*.

Notification

The B430 module by Bosch Security Systems, Inc. is registered with the Federal Communication Commission (FCC) under Part 68, for connection to the public telephone system using an RJ31X or RJ38X phone line connection jack installed by the local telephone company.
Do not connect registered equipment to party lines or coin-operated telephones. Notify the local telephone company and provide the following information before connecting the control panel to the telephone network:
–   The particular line to which you connect the module
–   Make (Bosch Security Systems, Inc.), model (B9512G/B8512G), and serial number of the control panel
–   FCC registration number: ESVAL00BB430
–   Ringer eq: 0.0B

7.1.1   Supervision

The control panel supervises the phone line. You can configure the supervision time using RPS.

7.1.2   Installation and module wiring (B430)

Ensure that there is enough power for the module and other powered devices you want connected to the system.
Refer to *On-board outputs, page 66*.

⚠ **Caution!**
Remove all power (AC and battery) before making any connections. Failure to do so might result in personal injury and/or equipment damage.

Install the module

The module plugs into a connector and is held in place with a plug-in module retention clip. The module handle and support on top of the module hold the unit during installation.
Plug the module into a control panel by aligning the module with the control panel's on-board connector. The retention clip has a locking device to help hold the card in position. Pull the locking device back. Align the PCB metal contacts with the on-board connector. Push the module into place. The retention clip snaps closed and secures the module in place.

Wire to the phone line

The module has pads on both sides of the board to connect a test telephone set. Connect one end of a D162 or D161 Modular Telephone Cord to the phone line, and connect the other end to a RJ31X or RJ38X phone jack to make proper connection to the phone line.
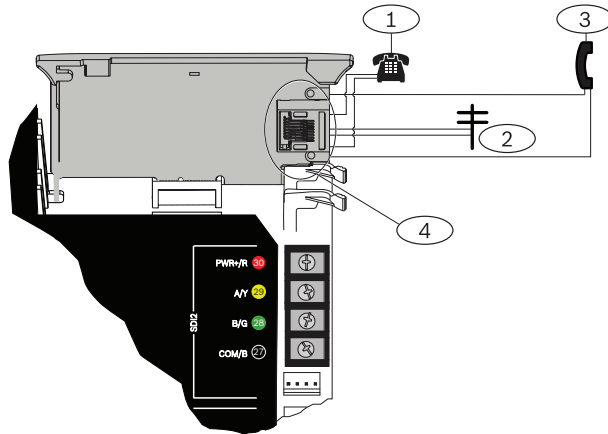
Figure 7.6: PTSN module wiring

Callout — Description
1 — Premises telephone
2 — Incoming Telco line
3 — Installer telephone test set
4 — RJ-45 phone connector

7.1.3   Diagnostic LEDs

The module uses a green LED to indicate when the module is on or off hook or the line is ringing (incoming phone call).

Flash pattern	Function
OFF	Standby
ON	Line seized
Flash	Ringing detect (incoming phone call)

Tab. 7.1: PTSN diagnostic LED patterns

7.2   Phone jack location

To prevent jamming of signals, wire the RJ31X or RJ38X jack before the premises telephone system to support line seizure. Install the jack on the street side of the telephone switch, wired ahead of any PBX equipment. Line seizure temporarily interrupts normal telephone usage while the control panel sends data. After installation, confirm that the control panel seizes the line, acquires dial tone, reports correctly to the receiver, and releases the telephone line to the in-house telephone system.
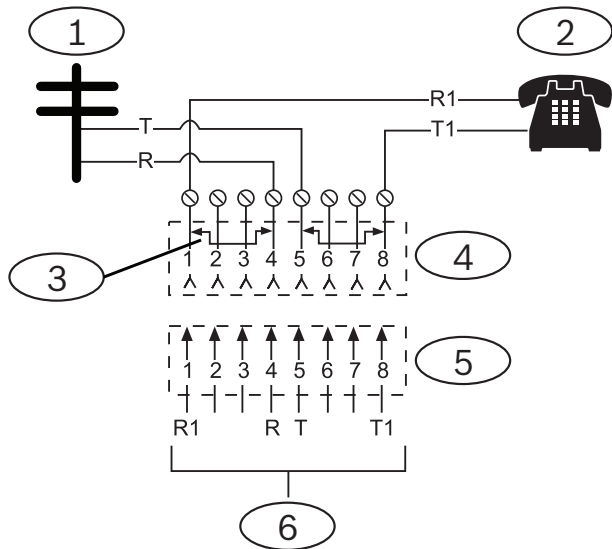
Figure 7.7: RJ31X wiring

Callout — Description
1 — Outside Telco
2 — Premises telephone
3 — Bar short removed on Telco connector block insertion – positions 1 and 4 and 5 and 8
4 — RJ31X jack
5 — Telco connector block
6 — To control panel

7.3   Telephone line monitor

The B430 module has a built-in telephone line monitor that tests the telephone line for voltage and current. The normal voltage on a telephone line is approximately 48 VDC (24 VDC for some telephone systems).

If the module senses trouble, it starts a programmable telephone line trouble timer, which continues to run as long as the monitor detects trouble. It resets to zero when the control panel senses a normal line. If the timer reaches the delay time in the Phone Supervision program item, it begins a telephone line trouble response. Programming determines what the response is. For programming information, refer to *Phone Parameters* in *RPS Help* or in the control panel *Program Entry Guide*.

> **Notice!**
> Bad Line Might Test OK
> The telephone line monitor uses voltage levels to test the status of the telephone line. In some instances, a given telephone line might be out of service without affecting the voltage on the line. The telephone line monitor cannot recognize this trouble condition.

7.4   Called party disconnect

Telephone companies provide "called party disconnect" to allow the called party to terminate a call. The called party must go on hook (hang up) for a fixed interval before a dial tone is available for a new call. This interval varies with telephone company equipment. Control panel firmware allows for "called party disconnect" by adding a 35-seconds "on hook" interval to the

dial tone detect function. If the control panel does not detect a dial tone in 7 seconds, it puts the telephone line on hook for 35 seconds to activate "called party disconnect," goes off hook, and begins a seven-seconds dial tone detect. If no dial tone is detected, the control panel dials the number anyway. Each time the control panel dials the number, the control panel records this as an attempt.

7.5   Communication failure

If the control panel has a backup route configured and the first two attempts to reach the receiver over the primary phone line fail, the system switches to the backup route. When it switches to the backup route, it sends a trouble event, and the event that triggered the telephone call to the central station follows.

After ten unsuccessful attempts to reach the receiver, the control panel enters communication failure. The control panel clears any reports queued for the failed route and generates a COMM FAIL event that shows on the keypads. A trouble sounder can be programmed to annunciate at the keypads.

One hour after a COMM FAIL event, the control panel attempts to send a COMM RSTL event. If a communication failure still occurs, the keypad trouble sounds again.

Notice!

UL Canada Compliance set to Yes

If the UL Canada Compliance parameter is set to yes, the control panel does not clear pending reports before generating a COMM FAIL event. It continues to queue the reports for the failed route until the one of the failed routes in the route group is restored. If the queue reaches the capacity of panel event log, the oldest reports are cleared (overwritten).

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8   IP communications

IP communication

The control panel can use on-board Ethernet (IP) connection (the on-board Ethernet port is excluded on "E" versions) to communicate with a Conettix D6600 or a Conettix D6100IPv6 Communications Receiver/Gateway.

The control panel can optionally use a B426 Conettix Ethernet Communication Module or a Conettix Plug-in Cellular Communicator (B440/B441/B442/B443).

Using Conettix IP communication offers a secure path that includes anti-replay/anti-substitution features and provides enhanced security with AES 256-bit encryption (using Cipher Block Chaining (CBC)).

The control panel supports Domain Name System (DNS) for both remote programming and central station communication. DNS provides ease of use, eliminating the need to use static IP addresses as your reporting destination, and accommodates a simple solution for central station disaster recovery. IP Setup is easy, eliminating the need to use complicated internet programming tools such as ARP and Telnet. The control panel supports both IPv6 and IPv4 networks.

> **Notice!**
> For premises equipment used in the communication path, such as routers, use only UL listed equipment.

8.1   On-board Ethernet connection

The built-in Ethernet port on the control panels allows for a network connection without the need for additional modules. The port supports both 10 Base-T (10 Mb) and 100 Base-TX (100 Mb) standards. The port supports full duplex, half duplex, and HP AUTO_MDIX communication, using a standard Ethernet cable. Optionally use this connection for central station reporting, automation, and programming.

8.1.1   Supervision

The control panel supervises its on-board Ethernet connection when the control panel uses the on-board Ethernet in any of the four route groups as part of either the primary route or the backup route, or when the control panel uses the connection as the automation device. Supervision ensures reliable operation of the Ethernet port.

If supervised and the on-board Ethernet does not respond to control panel supervision polls, then a system fault message appears at the keypads.

8.1.2   Local RPS programming

Use the on-board Ethernet connection to locally connect with RPS. This connection method requires a direct IP connection from the RPS computer to the on-board Ethernet port. Connecting the control panel to RPS using IP Direct:

1. If the control panel does not use the Ethernet for IP communication, perform *Steps 2* and *3*. If the control panel does use the Ethernet for IP communication, power down the control panel and remove the Ethernet cable that connects the control panel to the network.
2. Connect the control panel to the RPS computer using the Ethernet ports and a standard Ethernet cable, and apply power to the control panel, if applicable. Within 2 minutes, the RPS computer assigns an IP address using AutoIP.

3.   In RPS, open the control panel account and click the Connect button. From the Connect
      Via drop-down list select IP Direct. Click Connect. Once connected, perform the
      necessary tasks, and disconnect when finished.
4.   Reconnect the cable used for IP communication, if applicable.
For more information on using AutoIP, refer to *AutoIP, page 184*.

8.1.3   On-board Ethernet diagnostic LEDs

The control panel includes the following on-board LEDs to assist with troubleshooting the on-
board Ethernet connection.
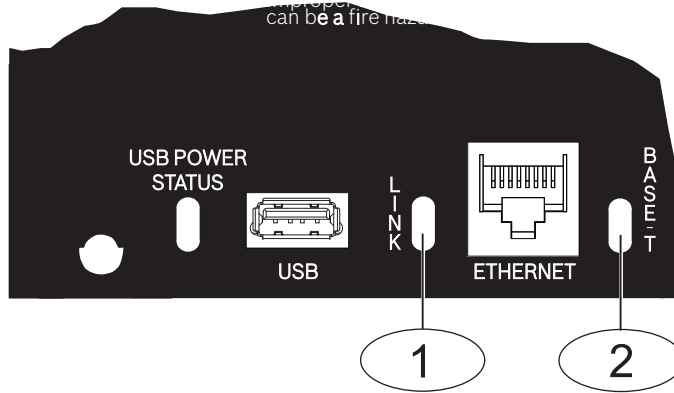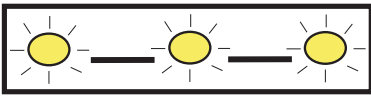
Figure 8.8: On-board Ethernet and LEDs

Callout — Description
1 — LINK LED (yellow)
2 — 100BASE-T LED (green)

Refer to the following tables for information on the 100BASE-T and LINK LEDs.

Flash pattern	Function
On Steady	Communicating at 100 Mb
Off	Communicating at 10 Mb.

Tab. 8.2: 100BASE-T LED descriptions

Flash pattern	Function
On Steady	Plugged into an Ethernet network.
Flashing	Communication in progress.

Flash pattern	Function
☐ ◯ Off	Unplugged from an Ethernet network, or the Ethernet network is not available.

Tab. 8.3: LINK LED descriptions

8.2   Conettix Plug-in Cellular Communicators

Cellular plug-in communicators provide communication between the control panel and central monitoring stations or RPS using a cellular network. The module also sends and receives SMS messages for personal notification or system configuration.

The control panel supports one Connetix plug-in cellular module (directly plugged into control panel or plugged into a B450).

Connect a module using the plug-in module connector or using a B450 Conettix Plug-in Communicator Interface (refer to the *Conettix Plug-in Communicator Interface (B450) Installation and Operation Guide* and *B450 Conettix Plug-in Communicator Interface, page 55*).

This section includes basic installation instructions. For detailed instructions, refer to the corresponding Conettix plug-in module document listed in *Related documentation, page 12*.

8.2.1   Supervision

The control panel supervises a plug-in cellular communicator when the control panel uses the module in any of the four route groups as part of either the primary route or the backup route, and the control panel uses the module to route any personal notifications. Supervision ensures reliable operation between the module and the control panel.

If supervised and the module does not respond to control panel supervision polls, then a system fault message shows on the keypads. The control panel sends a corresponding report to the central station.

8.2.2   Installation and module wiring (B44x)

Ensure that there is enough power for the module and other powered devices you want connected to the system.

Refer to *On-board outputs, page 66*.

⚠ **Caution!**
Remove all power (AC and battery) before making any connections. Failure to do so might result in personal injury and/or equipment damage.

Install the module

The module plugs into a connector and is held in place with a plug-in module retention clip. The module handle and support on top of the module hold the unit during installation.

Plug the module into a control panel by aligning the module with the control panel's on-board connector. The retention clip has a locking device to help hold the card in position. Pull the locking device back. Align the PCB metal contacts with the on-board connector. Push the module into place. The retention clip snaps closed and secures the module in place.

Wire to the antenna

The module has a threaded connector for connection to an antenna. Route the antenna cable through a wire knockout in the top of the enclosure. Connect the antenna cable to the module. Secure the antenna cable to the outside of the enclosure.

Figure 8.9: Plug-in cellular module wiring (B440 shown)
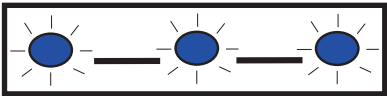
8.2.3   Signal strength and diagnostic LEDs

Five LED patterns indicate that you correctly secured the module in the control panel, and indicate the signal strength obtained by the module.

LED	Function
Blue	Indicates the overall status of the device.
Red	Indicates an unacceptable signal strength level.
Yellow	Indicates a marginal signal strength level.
Green (1 light)*	Indicates a good signal strength level.
Green (2 lights)	Indicates a very good signal strength level.
* One green LED indicates the minimum installation level.	

Tab. 8.4: Cellular module signal strength LED patterns

A single blue Status LED indicates the module status.

Flash pattern	Function
Flashes once every 1 sec	Normal state. Indicates normal operation.

Flash pattern	Function
3 quick flashes	Communication error state. Indicates the module is unable to communicate on the cellular network.
Off	LED trouble state. Module is not powered, or some other trouble condition prohibits the module from controlling the heartbeat LED.

Tab. 8.5: Cellular module diagnostic LED patterns

8.3   B426 Ethernet Communication Module

The B426 Conettix Ethernet Communication Module is a four-wire powered SDI2 device that provides connection for two-way communication over Ethernet networks to the control panels. The control panel supports two modules.

The B426 Conettix Ethernet Communication Module connects to the SDI2 bus on the control panel using terminals 27 through 30 (or 23 through 26 if configured for SDI2), or using the SDI2 interconnect wiring connector. This section includes basic installation instructions. For detailed installation instructions, refer to the *Conettix Ethernet Communication Module* (*B426*) *Installation and Operation Guide* (P/N: F01U281208).

8.3.1   Address and emulation settings

> **Notice!**
> The module reads the address switch setting only during module power up. If you change the setting after you apply power to the module, you must cycle the power to the module in order for the new setting to take effect.

Set the address switch to 1 or 2.
If multiple B426 modules reside on the same system, each B426 module must have a unique address.

8.3.2   Supervision

The control panel supervises in two ways:

– Module supervision. The control panel supervises the module through polling. If the module does not respond to the control panel polling, the control panel declares the device missing.
– Communication supervision. The control panel supervises the communication path by polling the central station receiver. If the poll is missed from either side, a communication fault is declared both at the control panel and the central station receiver.

8.3.3   B426 module faults

With a B426 installed, several services become available to the control panel. Any break in the Ethernet connection to a supervised B426 results in a system fault at the keypads indicating Open Cable trouble.

If a Domain Name Server (DNS) is available on the network, a failure to resolve an individual Network Address hostname results in a system fault at the keypads indicating DNS ERROR ##. The error number represents the communication module and destination combination that failed. Refer to *RPS Help* or the control panel's *Program Entry Guide* for details on communication module/destination combinations. The keypad shows a failure to resolve the domain name used for RPS Network Address.

If a B426 fails all communication with the DNS, a system fault indicating Network Module # Address Error shows on all keypads and the control panel sends a trouble event to the central stations, if enabled.

8.3.4   Local RPS programming

Use the B426 IP Direct connect feature to locally connect with RPS. This connection method requires a direct IP connection from the RPS computer to theB426 Ethernet port.

Connecting the B426 to RPS using IP Direct:

1. If the B426 does not use the Ethernet for IP communication, perform *Steps 2* and *3*. If the B426 does use the Ethernet for IP communication, power down the B426 and remove the Ethernet cable that connects it to the network.
2. Connect the B426 to the RPS computer using the Ethernet ports and a standard Ethernet cable, and apply power to the B426, if applicable. Within 2 minutes, the RPS computer assigns an IP address using AutoIP.
3. In RPS, open the control panel account and click the Connect button. From the Connect Via drop-down list select IP Direct. Click Connect. Once connected, perform the necessary tasks, and disconnect when finished.
4. Reconnect the cable used for IP communication, if applicable.

For more information on using AutoIP, refer to *AutoIP, page 184*.

8.3.5   Installation and control panel wiring (B426)

Ensure that there is enough power for the module and other powered devices you want connected to the system.

Refer to *On-board outputs, page 66*.

> ⚠ **Caution!**
>
> Remove all power (AC and battery) before making any connections. Failure to do so might result in personal injury and/or equipment damage.

Install the module

1. Set the module address to one using the address switch before you install it in the enclosure.
2. Install the module in the enclosure with the control panel or in an adjacent enclosure that is no more than 1000 ft (305 m) using 18 AWG to 22 AWG (1.02 mm to 0.65 mm) wire from the control panel.
3. Use the screws provided with the module to secure the module in the enclosure.

Wire the module

When you wire an SDI2 module to a control panel, you can use either the terminal strip labeled with PWR, A, B, and COM to wire to corresponding terminals labeled 27 through 30 (or 23 through 26 if configured for SDI2) on the control panel, or you can use the interconnect wiring connector and the included interconnect cable.

For terminal wiring, use 18 AWG to 22 AWG (1.02 mm to 0.65 mm) wire.

> ℹ **Notice!**
>
> Use either the terminal strip wiring or interconnect wiring to the control panel. Do not use both. When connecting multiple modules, you can combine terminal strip and interconnect wiring connectors in series.

The module has an Ethernet RJ-45 port for connection to an Ethernet network. Connect an Ethernet cable between the Ethernet jack on the module and a network jack.
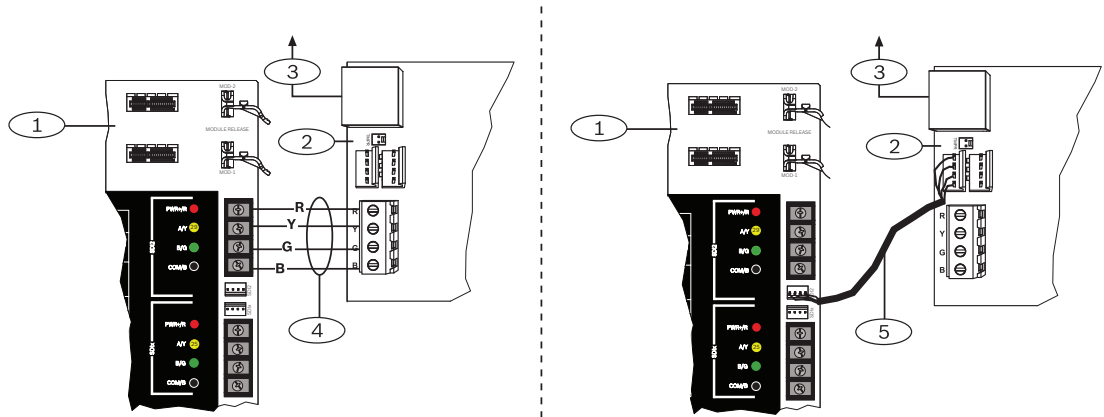
Figure 8.10: B426 wiring - terminal strip or interconnect wiring connector

Callout — Description
1 — SDI2 control panel
2 — Module
3 — To Ethernet network
4 — Terminal strip wiring
5 — Interconnect cable (P/N: F01U079745) (included)
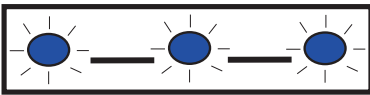
8.3.6 Diagnostic LEDs

The B426 includes the following on-board LEDs to assist with troubleshooting:
– Heartbeat (system status).
– RX (receive).
– TX (transmit).
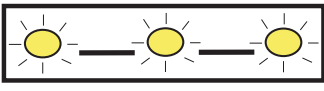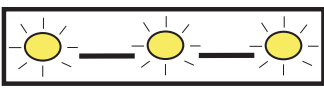
Refer to B426 module overview for Ethernet link LED locations.

Flash pattern	Function
Flashes once every 1 sec	Normal state. Indicates normal operation state.
3 quick flashes every 1 sec	Communication error state. Indicates a bus communication error. The module is not receiving commands from the control panel.
On Steady	Trouble state. Indicates a trouble condition exists.
Off	LED trouble state. Module is not powered, or some other trouble condition prohibits the module from controlling the heartbeat LED.

Tab. 8.6: Heartbeat LED descriptions

Flash pattern	Function
RX (Receive) Flashing	Occurs when the module receives a message over the network connection – UPD, TCP, or DNS.
TX (Transmit) Flashing	Occurs when the module sends a message over the network connection – UPD, TCP, or DNS.

Tab. 8.7: RX and TX LEDs descriptions

LINK (yellow) LED pattern	100Mb (green) LED pattern	Function
Off	Off	No Ethernet link
On Steady	Off	10Base-T link
Flashing	Off	10Base-T activity
On Steady	On Steady	100Base-TX link
Flashing	On Steady	100Base-TX activity

Tab. 8.8: Ethernet Link LEDs descriptions

8.4   B450 Conettix Plug-in Communicator Interface

The B450 Conettix Plug-in Communicator Interface gives the ability to connect more than one cellular plug-in communicator to the control panel by providing an interface to the control panel's SDI2 wiring.
The B450 supports one cellular plug-in module.
The B450 Conettix Plug-in Communicator Interface connects to the SDI2 bus on the control panel using terminals 27 through 30 (or 23 through 26 if configured for SDI2), or using the SDI2 interconnect wiring connector. This section includes basic installation instructions. For detailed installation instructions, refer to the *Conettix Plug-in Communicator Interface (B450) Installation and Operation Guide*.

8.4.1   SDI2 address settings

	Notice!
i	The module reads the address switch setting only during module power up. If you change the setting after you apply power to the module, you must cycle the power to the module in order for the new setting to take effect.

The control panel supports one module. Set the address switch to 1 to use the module with the control panel.

8.4.2   Supervision

The control panel supervises in two ways:
–   Module supervision. The control panel supervises the module through polling. If the module does not respond to the control panel polling, the control panel declares the device missing.
–   Communication supervision. The control panel supervises the communication path by polling the central station receiver. If the poll is missed from either side, a communication fault is declared both at the control panel and the central station receiver.

8.4.3   Installation and control panel wiring (B450)

Ensure that there is enough power for the module and other powered devices you want connected to the system.
Refer to *On-board outputs, page 66*.

	Caution!
⚠	Remove all power (AC and battery) before making any connections. Failure to do so might result in personal injury and/or equipment damage.

Insert the communication module
Insert the desired communication module into the slot of the B450 until you hear the module "click" into place.

Install the module
1.   Set the module address to one using the address switch before you install it in the enclosure.
2.   Install the module in the enclosure with the control panel or in an adjacent enclosure that is no more than 1000 ft (305 m) using 18 AWG to 22 AWG (1.02 mm to 0.65 mm) wire from the control panel.
3.   Use the screws provided with the module to secure the module in the enclosure.

Wire to the antenna
The module has a threaded connector for connection to an antenna. Route the antenna cable through a wire knockout in the top of the enclosure. Connect the antenna cable to the module. Secure the antenna cable to the outside of the enclosure.
When you wire an SDI2 module to a control panel, you can use either the terminal strip labeled with PWR, A, B, and COM to wire to corresponding terminals labeled 27 through 30 (or 23 through 26 if configured for SDI2) on the control panel, or you can use the interconnect wiring connector and the included interconnect cable.
For terminal wiring, use 18 AWG to 22 AWG (1.02 mm to 0.65 mm) wire.

Notice!
Use either the terminal strip wiring or interconnect wiring to the control panel. Do not use both. When connecting multiple modules, you can combine terminal strip and interconnect wiring connectors in series.

8.4.4   Diagnostic LEDs
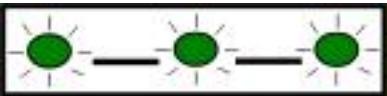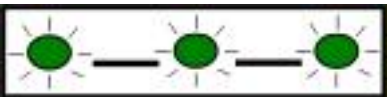
The B450 includes the following on-board LEDs to assist with troubleshooting:

– Heartbeat (system status).
– RX (receive).
– TX (transmit).

The plug-in module also includes LEDs for troubleshooting and status.

Flash pattern	Function
Flashes once every 1 sec	Normal state. Indicates normal operation.
3 quick flashes every 1 sec	Communication error state. Indicates a bus communication error with the control panel.
On Steady	Trouble state. Indicates a trouble condition exists. Examine the other LEDs to determine the trouble condition.
Off	LED trouble state. Indicates the module is not powered up, or there is a failure in the module. Check for proper installation.

Tab. 8.9: Heartbeat LED descriptions

Flash pattern	Function
RX (Receive) Flashing	Occurs every time a packet is received on-air.
TX (Transmit) Flashing	Occurs every time a packet is transmitted on-air.

Tab. 8.10: RX and TX LED descriptions

Refer to the module's *Installation and Operation Guide* for more information on the LEDs and troubleshooting.

8.5   Compatible receivers for IP communication

When the control panel is configured to report in Modem4 format, the Conettix central station receiver/gateway and the D6200 Programming/Administration Software may require an update. Requirements are shown in the Modem4 requirements table below.

Receiver/Gateway	CPU version	D6200 version
Conettix D6600 Communications Receiver/Gateway (with D6641 line cards installed only)	01.10.00	2.10
Conettix D6100IPv6 Communications Receiver/Gateway	01.10.00	2.10
Conettix D6100i Communications Receiver/Gateway	01.10.00	2.10

When the control panel is configured to report in the Contact ID reporting format, the Conettix central station receiver/gateway and the D6200 Programming/Administration Software may require an update as shown in the Contact ID requirements table below.

ContactID reporting format requirements

Receiver/Gateway	CPU version	D6200 version
Conettix D6600 Communications Receiver/Gateway (with D6641 line cards installed only)	01.03.02	1.35
Conettix D6100IPv6 Communications Receiver/Gateway	61.10.00	2.10
Conettix D6100i Communications Receiver/Gateway	61.04.00	1.35

> **Notice!**
>
> **Compliance with ULC-S304 and ULC-S559**
>
> For compliance, the Conettix central station receiver/gateway and D6200 Programming/ Administration Software must be updated as shown in the following table for both the Modem4 reporting format and the Contact ID reporting format.

ULC-S304/ULC-S559 Modem4 and ContactID reporting format requirements

Receiver/Gateway	CPU version	D6200 version
Conettix D6600 Communications Receiver/Gateway (with D6641 line cards installed only)	01.11.00	2.20
Conettix D6100IPv6 Communications Receiver/Gateway	61.11.00	2.20
Conettix D6100i Communications Receiver/Gateway	61.11.00	2.20

9   Keypads, keyswitches, keyfobs and transmitters

The system can use keypads, maintained or momentary contact keyswitches, wireless RADION keyfobs or Inovonics transmitters, or a combination of these options to turn areas on and off. B9512G control panels support up to 32 areas. B8512G control panels support up to 8 areas. Refer to *Areas and accounts, page 28* for a description of areas.

9.1   Keypads

Keypads are four-wire powered devices used to operate the system (turn areas on or off for example) and show system status.

The B9512G supports up to 32 keypads, including up to 16 SDI keypads. The B8512G supports up to 16 keypads, including up to 16 SDI keypads.

SDI2 keypads connect to the SDI2 bus on the control panels using terminals PWR, A, B, and COM.

SDI keypads connect to the SDIx bus on the control panels using terminals PWR, A, B, and COM. You must use RPS to configure the SDIx bus to communicate as an SDI bus.

You can connect more than one keypad to the control panel by wiring them in parallel.

The control panel sends a trouble report if it loses communication with a keypad and a message appears on all keypads.

All SDI2 keypads have:
– User-adjustable volume
– Keypress tones
– A nightlight feature
– A display that shows system messages
– A sounder that emits warning tones
– Highly visible status indicators
– Backlit keys, with seven configurable backlight settings ranging from 0% to 100%

SDI keypads have:
– Keypress tones
– A display that shows system messages
– A sounder that emits warning tones

> **Notice!**
> For UL 864 Commercial Fire applications, refer to *Combination fire and intrusion alarm systems, page 107* for important information about combination fire and intrusion systems.

This section includes basic installation instructions for compatible keypads. For detailed installation instructions, refer to the corresponding keypad document listed in Keypad documents—US1B.

9.1.1   B915 Basic Keypad

The B915 Basic Keypad is an SDI2 bus compatible device. It offers the same commands and menu structure as the other B Series intrusion keypads.

9.1.2   B920 Two-line Alphanumeric Keypad

The B920 Two-line Alphanumeric Keypad (SDI2) is an SDI2 bus compatible device. The display shows two lines, 18 characters per line. Each keypad has 10 number keys and seven function keys.

9.1.3   B921C Two-line Capacitive Keypad with Inputs

The B921C Two-line Capacitive Keypad is an SDI2 bus compatible device. The keypad features capacitive keys.

Each sensor loop is assigned a point number. The keypad transmits sensor loop status to the control panel individually. The control panel detects open, short, normal, and ground fault circuit conditions on the keypad sensor loops.

9.1.4   B925F Fire Keypad

The B925F Fire Keypad is a fully supervised SDI2 device for fire and combined fire/burg applications. The keypad display and sounder alert to a fire alarm, a fire trouble, or fire supervisory events as they occur. The keypad includes fire status indicators, burg indicators, and fire and burg function keys.

9.1.5   B926F Keypad

The B926F Fire Keypad is a fully supervised SDI2 device for fire applications. The keypad display and sounder alert to a fire alarm, a fire trouble, or fire supervisory events as they occur. The keypad includes fire status indicators and fire function keys.

9.1.6   B930 ATM Style Alphanumeric Keypad

The B930 ATM Style Alphanumeric Keypad (SDI2) is an SDI2 bus compatible device. The keypad features a bright five line display and eight softkeys.

9.1.7   B942 Touch Screen Keypad

The B942/B942W is an SDI2 bus compatible device. Each keypad has a credential reader, a presence sensor, a graphical interface for controlling the system, and touch screen keys for data or command entry.

Each sensor loop is assigned a point number. The keypad transmits sensor loop status to the control panel individually. The control panel detects open, short, normal, and ground fault circuit conditions on the keypad sensor loops.

The keypad includes one output.

9.1.8   SDI keypads

The control panel supports the following SDI keypads on the SDIx bus (when programmed for SDI in RPS).

– D1255/D1255B/D1255RB/D1255W. 16-character alphanumeric display for general use.
– D1256RB. Text display keypad with keys designated for local fire alarm control.
– D1257RB. Text display keypad for fire annunciation.
– D1260/D1260B: Easy-to-read, 4-line by 20-character LCD display keypad with eight softkeys. Addressable to SDI addresses 1 through 8.

9.1.9   Shortcuts and custom functions

B Series intrusion keypads include a Shortcuts feature. Shortcuts allow you to assign commonly used or custom functions to a Shortcuts menu. You create and assign shortcuts to keypads using RPS.

Custom functions

Custom functions allow you to combine multiple functions into a single function. Initiate custom functions from keypads by assigning them to the Shortcut menu.

Use RPS to create custom functions, give them a name, and assign them to a Shortcut.

The user must have the appropriate authority level enabled to use the custom function.

For more information on creating custom functions, assigning authority levels to the functions, assigning custom functions to a keypad's Shortcuts, and other methods for initiating custom functions, refer to *RPS Help* or the control panel *Program Entry Guide*.

9.1.10   Address settings

The control panel uses the keypad's address setting for communication and bus supervision. If multiple keypads reside on the same system, each keypad must have a unique address even when on different buses.

B94x/B93x/B92x keypads

B93x and B92x keypads use two hardware address switches. The B94x keypads use two virtual (on-screen) switches that mimic the hardware switches. For single-digit addresses 1 through 9, set the tens switch to 0. The figure shows the keypad switches set to 1:
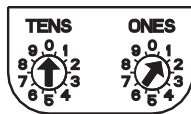
B91x and SDI keypads

B91x and SDI keypads use dip switches to set the address. For more information, refer to *B91x address settings, page 171* and *SDI keypad address settings, page 173*.

9.1.11   Supervision

The control panel supervises all enabled SDI2 keypads.

The control panel supervises SDI keypads when the Supervision parameter (within KEYPADS \Keypad Assignments) is enabled in RPS.

Any failure to receive an expected response from a keypad results in a system fault (missing keypad) shows on all keypads. The control panel sends a keypad missing report to the central station, if configured.

9.1.12   Installation and control panel wiring (keypads)

Ensure that there is enough power for the keypad and other powered devices you want connected to the system.

Refer to *On-board outputs, page 66*.

Installing a keypad:

1. Open the keypad.
2. Set the keypad address using the address switches
3. Use the provided anchors and screws to mount the keypad base on the wall.
4. Pull the necessary wiring through the mounting plate. Refer to Wire to the control panel.
5. Install the keypad on the base.

Wire to the control panel

For maximum wire lengths, refer to the SDI2 Bus and SDI Bus sections of the table in *Specifications, page 164* and the installation instructions for each keypad.

SDI2 keypads

Connect SDI2 keypads to the SDI2 bus by parallel wire run from the control panel to each keypad, wire from keypad to keypad, or a combination of the two.

SDI keypads

Connect SDI keypads to the SDIx bus by parallel wire run from the control panel to each keypad, wire from keypad to keypad, or a combination of the two.

Extra power for keypads

The keypads draw different amounts of current whether idle or in alarm. Refer to the installation instructions for each keypad for current draws. Refer to *Power supply, page 36* to determine the total power output requirements for the system.

Add B520 Auxiliary Power Supply Modules to support the desired number of keypads.

Auxiliary power wiring

1	Control panel	4	B520
2	SDI2 In	5	Keypad
3	SDI2 Out		
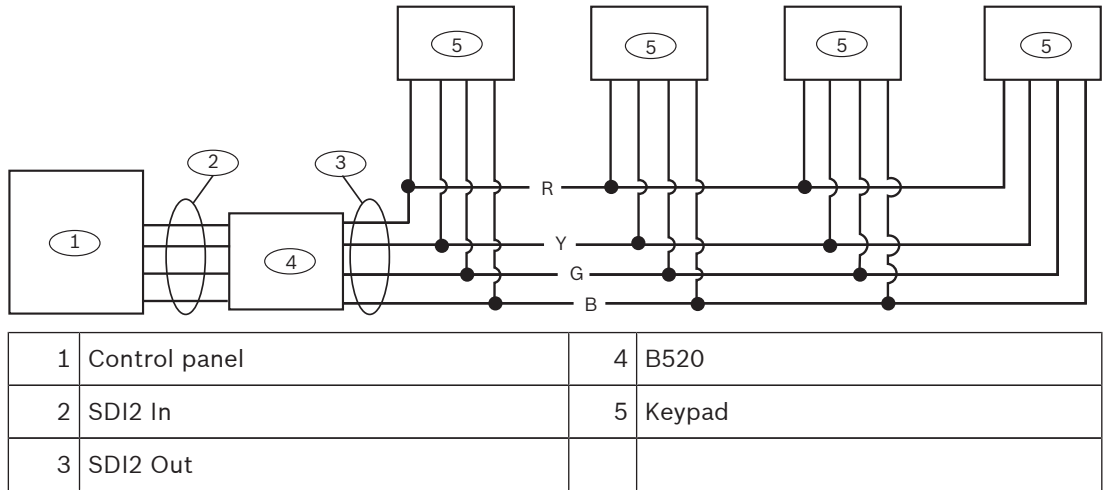
Notice!

Any power supply powering devices connected to the control panel must also be connected to a common terminal on the control panel.

If using the ground fault detection capability on the control panel with an external power supply, ensure that the external selected power supply isolates its earth ground connection from the negative side of the auxiliary power output. External power supplies that do not isolate earth ground can cause ground fault conditions on the control panel.

9.1.13   Sensor loops overview and wiring (B921C/B942/B942W only)

The keypad detects three states (Open, Supervised, Short) on its sensor loops and sends the conditions to the control panel. Each sensor loop has an assigned point number.

Use twisted-pair wire for the module sensor loops to avoid electromagnetic interference problems. Run wires away from the premises telephone and AC wiring.

To wire detection devices to keypad inputs, connect them to the keypad terminals labeled for COM, and 1, 2, 3, or 4. Wire resistance on each sensor loop must be less than 100 Ω with the detection devices connected. The terminal strip supports 12 to 22 AWG (0.65 to 2 mm) wires.
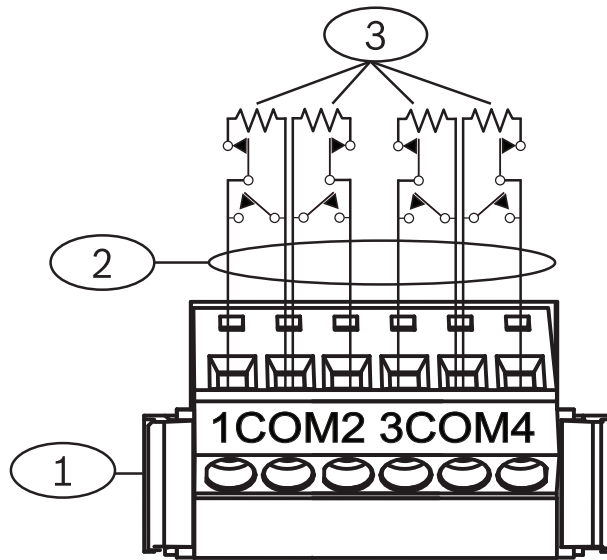
Figure 9.11: Keypad inputs wiring (B921C shown)

Callout — Description
1 — Keypad terminal strip
2 — Sensor loop
3 — 1 kΩ EOL resistor (P/N: F01U026703)

9.1.14 Output wiring (B942/B942W only)

The keypad provides one NO (normally open) output. (It includes NO and C (COMMON) terminals.) When the output is in an active (energized) state, the NO has continuity with the C terminal.

9.1.15 Troubleshooting

Keypads show a *Call for Service* message when they cannot communicate with the control panel. The most common causes are:

1. The address switch on the keypad is set to an address that is not programmed in the control panel. Change the address switch to the proper address, or program the control panel using RPS or a different keypad.
2. If your keypads are not powered from the control panel, the control panel might have lost power. Confirm the control panel has power.
3. The wiring from the keypad to the control panel is not correct or has failed. Resolve any wiring problems.

9.2 Keyswitches

You can connect a maintained or momentary contact keyswitch to turn an area All On (armed) or Off (disarmed). Connect the keyswitch to an on-board or off-board point's sensor loop. You can program outputs to activate arming status LEDs. Refer to *Outputs* in *RPS Help* and *Point Assignments* in the control panel *Program Entry Guide*.

9.2.1   Operation

Maintained contact

For points connected to the keyswitch and programmed for a maintained contact, an open on the sensor loop turns the area All On (armed). The control panel force arms all faulted points, regardless of the entry in the FA Bypass Max program item. Returning the circuit to normal turns the area off.

Momentary contact

For points connected to the keyswitch and programmed for a momentary contact, shorting the arming sensor loop toggles the area's arming state between All On (armed) and Off (disarmed). The control panel force arms all faulted points, regardless of the entry in the FA Bypass Max program item.

Refer to *Area Parameters* and *Point Assignments* in *RPS Help* or the control panel *Program Entry Guide*.

Silence the bell

To silence the bell (stop Alarm Bell output) if the system is On (armed), operate the keyswitch to turn the area off. If the area is disarmed, turn the keyswitch once to start the arming process. Turning the keyswitch a second time stops the arming process and silences the bell.

9.2.2   Installation and control panel wiring (keyswitches)

For maintained switches, connect the EOL resistor for the point at the keyswitch so that the switch opens the circuit when it operates. A short on the circuit produces an alarm if the area is armed and a trouble if it is disarmed.

For momentary keyswitches, connect the EOL resistor at the keyswitch point so that when the keyswitch operates, it shorts the resistor. An open on the circuit causes an alarm if the area is on (armed) and a trouble if it is off (disarmed).
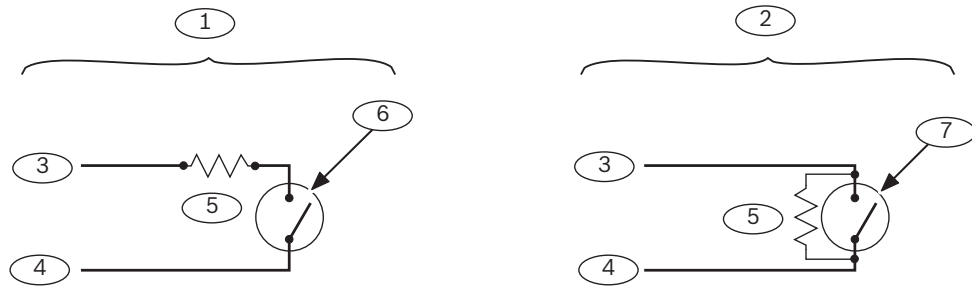
Figure 9.12: Keyswitch wiring

Callout — Description	Callout — Description
1 — Maintained keyswitch	5 — EOL (End of Line) resistor
2 — Momentary keyswitch	6 — Open on the circuit arms the area
3 — Common	7 — Momentary short on the circuit toggles the arming state
4 — Point input	

Keyswitches are not intended for use in UL listed systems.

9.3 RADION keyfobs and Inovonics pendant transmitters

The control panel supports up to 1000 wireless RADION keyfobs or 350 Inovonics pendant transmitters.

The control panel supports two RADION keyfob models, RFKF-FB-A and RFKF-TB-A, that communicate with the control panel using the B810 wireless receiver.

RADION keyfob FB

The RFKF-FB-A/RFKF-FBS-A four button keyfobs are designed for arming (lock icon) and disarming (unlock icon) the system remotely. You can configure the programmable buttons at the control panel for additional control functionality. To operate the programmable buttons, simply press and hold either button for at least one sec in order for the desired feature to work.

– Uniquely coded arm and disarm buttons
– Panic alarm
– LED indicator
– Programmable option buttons

RADION keyfob TB

The RFKF-TB-A/RFKF-TBS-A two button keyfobs are designed for arming (lock icon) and disarming (unlock icon) the system remotely. To operate these buttons, simply press and hold either button for at least one sec in order for the desired feature to work.

– Uniquely coded arm and disarm buttons
– Panic alarm
– LED indicator

Notice!

For specific installation and operation instructions, please refer to the *RADION keyfob (RFKF-FB-TB/RFKF-FB-TB-A) Installation Guide* (P/N: F01U261820) and the *RADION receiver SD (B810) System Reference Guide*.

Custom functions and the RADION keyfob FB

Using RPS, you can assign two custom functions to a RADION keyfob FB, allowing a user to initiate the functions wirelessly. For more information, refer to *RPS Help* or the control panel *Program Entry Guide*.

10　On-board outputs

The control panel provides three powered relay outputs.

10.1　Circuit protection

The powered outputs come with circuit protection.

Four self-resetting circuit breakers protect the control panel from short circuits on the continuous and programmable power outputs.

The self-resetting circuit breakers include:
– 　One self-resetting circuit breaker protects Terminal 3, auxiliary power.
– 　Another self-resetting circuit breaker protects:
  – 　Terminal 6. Alarm power output
  – 　Terminal 7. Alternate alarm power output
  – 　Terminal 8. Switched auxiliary power

> **i**
>
> **Notice!**
> A short circuit on one terminal disrupts power to the other two terminals.

– 　The third self-resetting circuit breaker protects Terminals 26 and 30, power +.
– 　The fourth self-resetting circuit breaker protects the ZONEX connection.

> **i**
>
> **Notice!**
> UL requires any device powered from a power output to be supervised.

10.2　Total available power

The system produces up to 1.4 A of combined power at 12.0 VDC nominal. The outputs in this section share the available power. These outputs appear as shown on the faceplate.

3 **Auxiliary power**

Power devices requiring continuous power.

6 **Output A (1), Alarm power output**

Programmable output normally open, power on alarm.

7 **Output B (2), Alternate alarm power output**

Programmable output normally open, power on alarm.

8 **Output C (3), Switched auxiliary power**

Programmable output normally closed, switches power off when the Sensor Reset command is executed.

26 **SDIx Power+ / R**

Powers serial device interface (SDI) keypads, or use to power serial device interface 2 (SDI2) devices, such as keypads and expansion modules.

30 **SDI2 Power+ / R**

Powers serial device interface 2 (SDI2) devices, such as keypads and expansion modules.

ZONEX **ZONEX Power**

Powers ZONEX modules such as the D8125, D8128D, and D8129 connected through the B600.

10.3   Continuous power outputs

3 **26** **30** ZONEX

The continuous current draw for powered devices connected to Terminals 3, 26, and 30, and the ZONEX connector must not exceed 1.4 A. Devices powered from these outputs operate at 12.0 VDC Nominal.

---

i

Notice!

Power Restricted for Fire and Combined Fire and Burglary Systems

Use the *Fire system power formula, page 68* to calculate the current available for fire and combined fire and burglary systems

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10.4   Programmable power outputs

6 **7** **8**

The power outputs at Terminals 6, 7, and 8 are programmed as Outputs A (1), B (2), and C (3).

Assign each output an output type (Fire Bell, for example), when assigning it to an area. You can assign an output to one or more areas.

The defaults are:

–   Output A (1) - Terminal 6 - as a Steady Alarm Bell output
–   Output B (2) - Terminal 7 - as a Pulsed Fire Bell output
–   Output C (3) - Terminal 8 - as a Verification or Reset output for smoke detectors

The Program Entry Guide contains complete instructions for programming outputs. **Refer to the Bell Parameters section of the program to set the Fire Bell, Alarm Bell output responses for outputs. Four annunciation patterns are available: Steady, Pulsed, California Standard, and Temporal Code 3.**

If Terminals 6, 7, and 8 do not provide the expected output, check:

–   The *Outputs* section of the program for Outputs A (1), B (2), and C (3).
–   The *Bell Parameters* section of the program to confirm that the Alarm and Fire Bell responses are programmed for the expected duration and pattern.
–   The *Point Assignments* section to confirm that each point is programmed for the expected local response.

10.4.1   Terminals 6 and 7

6 **7**

When activated, Terminals 6 (Output A) and 7 (Output B), provide a positive (+) 12.0 VDC Nominal power output. Use the power at Terminals 6 and 7 to power bells, siren drivers, piezoelectric fire sounders, electronic horns, or other devices.

Programming determines the format of the output and the conditions that activate it.

When using Output A or Output B to activate notification appliance circuits in UL Listed fire alarm applications, install a D192G Notification Appliance Circuit (NAC) Module.

Power restricted for Fire and Combined Fire and Burglary Systems

Fire systems are prohibited from using the battery for supplying alarm power. Use the fire system power formula that follows to calculate the current available for fire and combined fire and burglary systems.

Fire system power formula

Calculating the current available at Terminals 6 and 7 for fire and combined fire and burglary systems:

1. Add together the current draws for all devices connected to Terminals 3, 26, and 30, and the ZONEX connector. This is the total current required for the normal standby condition (NSC).
2. The current available for NSC is 1.4 A. Subtract the NSC current required calculated in Step 1 from the NSC current available, 1.4 A. The difference is the alarm current available for Terminals 6 and 7.

In formula format: 1.4 A – NSC current required (Step 1) = Alarm current available

Refer to *Approved applications, page 102* for module or accessory current requirements

10.4.2   Terminal 8

8

Terminal 8 provides continuous positive (+) 12.0 VDC Nominal power. Output C interrupts the power at Terminal 8 when activated. Use Terminal 8 to power smoke detectors or other devices that reset by interrupting power.

Verify and reset Output C

The default program sets Output C (Terminal 8) as a verification and reset output. Refer to *Output Parameters* and *Point Assignments* in the control panel *Program Entry Guide* for instructions on programming verification and resetting outputs and points.

Performing a sensor reset at a keypad produces a five-second activation of verification and reset outputs. The control panel ignores verification and resettable points during the five seconds.

10.5   USB power

USB

In addition to connecting RPS to the control panel for programming, you can use the USB port on the control panel to power USB-powered devices.

When enabled, the USB port provides 500 mA of 5 V power, which it draws from the control panel. Ensure that there is enough power for all the powered devices you want to connect to the system.

Enable USB power by pressing control panel RESET button 3 times, or using the keypad Installer menu (refer to *[7] USB Power, page 163*). The USB POWER STATUS LED lights when power to the USB is turned on. Press the control panel RESET button 3 times to turn power off, if desired.

11   Off-board outputs

The control panel supports off-board outputs using the B308 Octo-output Module and the through using a B600 Retrofit ZONEX Module.

11.1   B308 Octo-output Module

The B308 is an eight output expansion device that connects control panel through the SDI2 bus. This module is supervised for the connection to the SDI2 bus. It provides eight independently controlled outputs. Each output can operate as either normally open or normally closed. You can configure the function for each output on the module individually. Refer to *Output Parameters* in *RPS Help* or the control panel *Program Entry Guide*.
B9512G control panels support up to 59 modules to provide 472 outputs. B8512G control panels support up to 9 modules to provide 72 outputs.
B308 Octo-output Modules connect to the SDI2 bus on control panel using terminals 27 through 30 (or 23 through 26 if configured for SDI2), or using the SDI2 interconnect wiring connector. You can connect more than one module to the control panel by wiring them in parallel. This section includes basic installation instructions. For detailed installation instructions, refer to the *Octo-output Module (B308) Installation and Operation Guide*.

> **Notice!**
> Do not connect fire and non-fire devices to the same B308 Octo-output Module.

Outputs overview
Each module output provides a Form C dry contact rated for .001 to 1.0 A at 5 to 24 VDC (resistive load). Normally-open, common, and normally-closed terminals are available for each relay output. When an individual output is activated, continuity exists between the normally open and common terminals. When the output is not activated, continuity exists between the normally closed and common terminals.

11.1.1   SDI2 address settings

> **Notice!**
> The module reads the address switch setting only during module power up. If you change the setting after you apply power to the module, you must cycle the power to the module in order for the new setting to take effect.

If multiple B308 modules reside on the same system, each B308 module must have a unique address.
The number of outputs allowed by the control panel determines the valid addresses.
For valid output numbers, refer to *B308 address settings, page 169*.

11.1.2   Supervision

The control panel enables supervision of B308 Octo-output Modules on the SDI2 bus when the Output Source of an off-board output is set to Octo-output.
With any failure to receive an expected response from the module, all keypads show a system fault. The control panel sends a module trouble report to the central station (if configured for module trouble reports).

11.1.3   Installation and control panel wiring (B308)

Ensure that there is enough power for the module and other powered devices you want connected to the system.

Refer to *On-board outputs, page 66*.

> **Caution!**
> Remove all power (AC and battery) before making any connections. Failure to do so might result in personal injury and/or equipment damage.

Install the module

1. Set the module address using the address switches before you install it in the enclosure.
2. Install the module in the enclosure with the control panel or in an adjacent enclosure that is within the distances rated for the module: 400 ft (137 m) with 22 AWG (0.65 mm) wire or 1000 ft (305 m) with 18 AWG (1.02 mm) wire.
3. Use the screws provided with the module to secure the module in the enclosure.

Wire to the control panel

When you wire an SDI2 module to a control panel, you can use either the terminal strip labeled with PWR, A, B, and COM to wire to corresponding terminals labeled 27 through 30 (or 23 through 26 if configured for SDI2) on the control panel, or you can use the interconnect wiring connector and the included interconnect cable.

For terminal wiring, use 18 AWG to 22 AWG (1.02 mm to 0.65 mm) wire.

> **Notice!**
> Use either the terminal strip wiring or interconnect wiring to the control panel. Do not use both. When connecting multiple modules, you can combine terminal strip and interconnect wiring connectors in series.

11.2   B600 Retrofit ZONEX Module

The B600 Retrofit (ZONEX) module enables the use of ZONEX devices on the B9512G/B8512G control panel. The B600 module connects to the control panel through a proprietary connection (cable provided with module).

The control panel supports one B600 module.

11.2.1   D8129 Octo-relay Module

The D8129 Octo-relay Module is an eight relay output expansion device that connects to control panel using the B600.

You can assign alarm output, auxiliary relay, sensor reset, arming status, point status, alarm memory, or remote functions to the outputs individually. Refer to *Output Parameters* in *RPS Help* or in the control panel *Program Entry Guide* for programming details.

D8129 Restricted for Fire Systems

D8129 relay outputs are not supervised and cannot be used in fire or combined fire and burglary installations for primary indicating devices. For supervised relay outputs use the B308 Octo-output Module.

Address settings

Five switches on the module determine the eight relay output numbers. Set the address before installing the module. For more information, refer to *D8129 address settings, page 170*.

Installation

For detailed installation instructions, refer to the *Octo-relay Module (D8129) Installation and Operation* Guide (P/N: F01U036302).

12   On-board points

⑪   **⑫**   ⑬   ⑭   **⑮**   ⑯   ⑰   **⑱**   ⑲   ⑳   **㉑**   ㉒

The control panel provides eight on-board points (Terminals 11 to 22). Each point functions independently and does not interfere with the operation of the others. The control panel monitors the sensor loops for normal, shorted, or open conditions between an input terminal and any of the point common terminals.

The programming for the point determines how the control panel responds to those conditions.

The control panel ignores sensor loops (both on-board and off-board) for 60 seconds after power up to ensure that any connected devices stabilize.

> ⚠ **Caution!**
> Any points programmed as fire supervisory points are latching. A latching point requires acknowledgment before it can be cleared.

12.1   Point sensor loops

You can configure each sensor loop for a single EOL resistor, or for dual EOL resistors. Single EOL resistor is the default. For dual EOL resistors, set the Point Index (point profile) > Circuit Style parameter to dual.

> ⓘ **Notice!**
> You do not need to install the EOL resistor for unused points (Point Index parameter set to 0 [zero]).
> UL does not permit normally closed loops for commercial fire applications.

> ⓘ **Notice!**
> Optionally use these points for household fire applications. You can connect four-wire detectors to these points, for example.

12.1.1   Single EOL (and no EOL) resistor circuit style

When wiring on-board points for the single EOL resistor circuit style, install the resistor at the far end of the sensor loop to provide a reference for supervision. You can connect dry contact sensing devices in series (normally closed) or in parallel (normally open) to any of these loops. The number of normally open and normally closed detection devices each sensor loop can supervise is limited only by the resistance on the loop. The total resistance for the wire length and contacts, excluding the end-of-line (EOL) resistor, must not exceed 100 Ω.
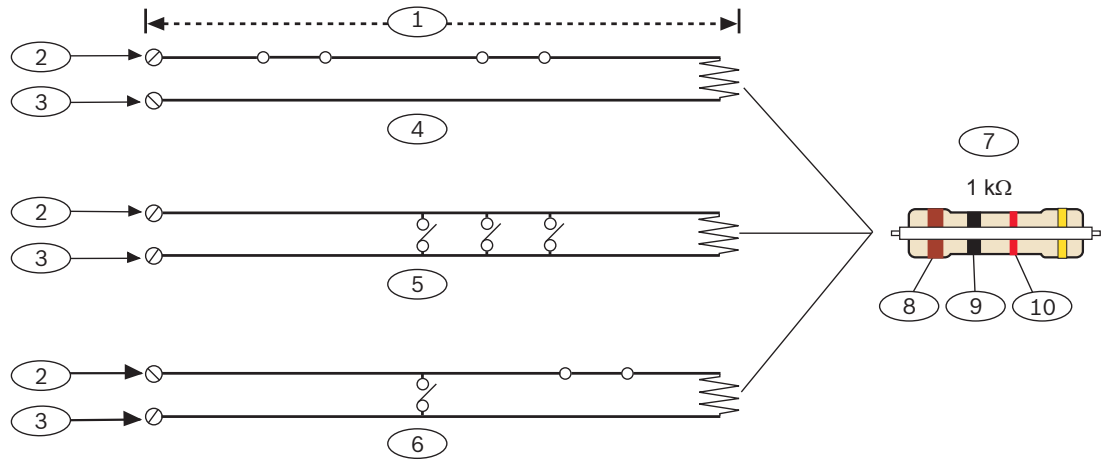
Figure 12.13: On-board point sensor loop wiring, single EOL resistor

Callout — Description
1 — 100 Ω maximum
2 — Point input terminal
3 — Common
4 — Normally closed contacts (NC)
5 — Normally open contacts (NO)
6 — Combination: Normally open contacts and normally closed contacts (NO/NC)
7 — 1 kΩ EOL resistor (ICP-1K22AWG-10)
8 — Brown
9 — Black
10 — Red

Point voltage parameters

Point voltage parameters are specified. Refer to *Specifications, page 164*.

12.1.2   Dual EOL resistor circuit style

Notice!

For the dual EOL resistor circuit style order ICP-1K22AWG-10, package of 10 1.0 kΩ EOL resistors.
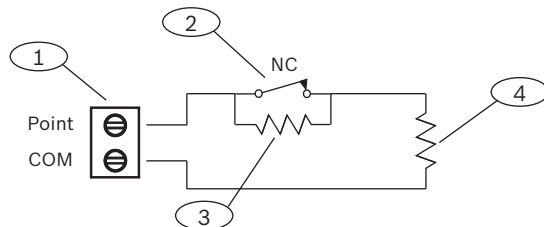
Figure 12.14: Input wiring with dual EOL resistors

Callout - Description
1 - Point sensor loop terminals

Callout - Description
2 - Normally closed device (contact)
3 - 1.0 kΩ resistor at device
4 - 1.0 kΩ resistor at EOL (end-of-line)

12.2   Point response time

The control panel scans on-board and off-board point sensor loops every 410 milliseconds. The Debounce parameter in the Point Assignment section of RPS determines point response time by setting the length of time the control panel scans a point before initiating an alarm. The debounce time can range from 410 milliseconds to 6.15 seconds. The default for Debounce is 820 ms.

> **Notice!**
> Increasing Debounce time might cause missed alarms. If you increase the Debounce time, detection devices can enter alarm and reset without exceeding the point response time.

Leave Debounce at the default of 820 ms for all points except for:
–   points assigned to a Point Index with the Point Type set to Interior Follower, and the point Source parameter set to ZONEX. Set Debounce to 1.23 s for these points.
–   points with the point Source parameter set to Door, and the access control module (B901 or D9210C) set to an SDI address. Set Debounce to 1.64 s for these points.
Debounce does not apply to points with Point Source configured as Wireless, Output, or IP Camera.

13   Off-board points

The control panel supports off-board points using the B208 Octo-input Module, the B299 POPEX Module, and the B600 Retrofit ZONEX Module.

13.1   B208 Octo-input Module

The B208 Octo-input Module is an eight point expansion device that connects to the control panel through the SDI2 bus. This module is supervised and communicates back to the control panel all point status changes. The module points work in the same way as the points on the control panel.

B9512G control panels support up to 59 modules. B8512G support up to 9 modules.

The module connects to the SDI2 bus on the control panel using terminals 27 through 30 (or 23 through 26 if configured for SDI2), or using the SDI2 interconnect wiring connector. You can connect more than one module to the control panel by wiring them in parallel. This section includes basic installation instructions. For detailed installation instructions, refer to the *Octo-input Module (B208) Installation and Operation Guide*.

> **Notice!**
> Do not connect fire and non-fire devices to the same B208 Octo-input Module in a UL commercial fire installation.

13.1.1   SDI2 address settings

> **Notice!**
> The module reads the address switch setting only during module power up. If you change the setting after you apply power to the module, you must cycle the power to the module in order for the new setting to take effect.

If multiple B208 modules reside on the same system, each B208 module must have a unique address.

The control panel model determines the number of points allowed and the valid addresses. For valid point and address numbers, refer to *B208 address settings, page 168*.

13.1.2   Supervision

The control panel automatically enables supervision of B208 Octo-input Modules on the SDI2 bus when an associated point has its source programmed for Octo-input.

With any failure to receive an expected response from the module, all keypads show a system fault. The control panel sends a module trouble report to the central station (if configured for module trouble reports).

13.1.3   Installation and control panel wiring (B208)

Ensure that there is enough power for the module and other powered devices you want connected to the system.

Refer to *On-board outputs, page 66*.

> **Caution!**
> Remove all power (AC and battery) before making any connections. Failure to do so might result in personal injury and/or equipment damage.

Install the module

1. Set the module address using the address switches before you install it in the enclosure.

2. Install the module in the enclosure with the control panel or in an adjacent enclosure that is within the distances rated for the module: 1000 ft (305 m) with 18 AWG to 22 AWG (1.02 mm to 0.65 mm) wire.
3. Use the screws provided with the module to secure the module in the enclosure.

Wire to the control panel

When you wire an SDI2 module to a control panel, you can use either the terminal strip labeled with PWR, A, B, and COM to wire to corresponding terminals labeled 27 through 30 (or 23 through 26 if configured for SDI2) on the control panel, or you can use the interconnect wiring connector and the included interconnect cable.

For terminal wiring, use 18 AWG to 22 AWG (1.02 mm to 0.65 mm) wire.

Notice!

Use either the terminal strip wiring or interconnect wiring to the control panel. Do not use both. When connecting multiple modules, you can combine terminal strip and interconnect wiring connectors in series.

13.1.4 Sensor loops overview and wiring

Only the resistance on the loop limits the number of normally-open or normally-closed detection devices each sensor loop can supervise. Resistance on each sensor loop must be less than 100 Ω with the detection devices connected.

The module detects circuit conditions on its sensor loops and sends the conditions to the control panel. Each sensor loop has an assigned point number.

Use twisted-pair wire for the module sensor loops to avoid electromagnetic interference problems. Run wires away from the premises telephone and AC wiring.

Sensor loop terminals are labeled 1 through 8. Terminals 1 and 2, 3 and 4, 5 and 6, and 7 and 8 share common terminals. The common terminals for each pair are labeled COM.

You can configure each sensor loop for a single EOL resistor, or for dual EOL resistors. Single EOL resistor is the default. For dual EOL resistors, set the Point Index (point profile) > Circuit Style parameter to dual.

Notice!

You do not need to install the EOL resistor for unused points (Point Index parameter set to 0 [zero]).

UL does not permit normally closed loops for commercial fire applications.

Notice!

Optionally use these points for household fire applications. You can connect four-wire detectors to these points, for example.

Single EOL resistor circuit style
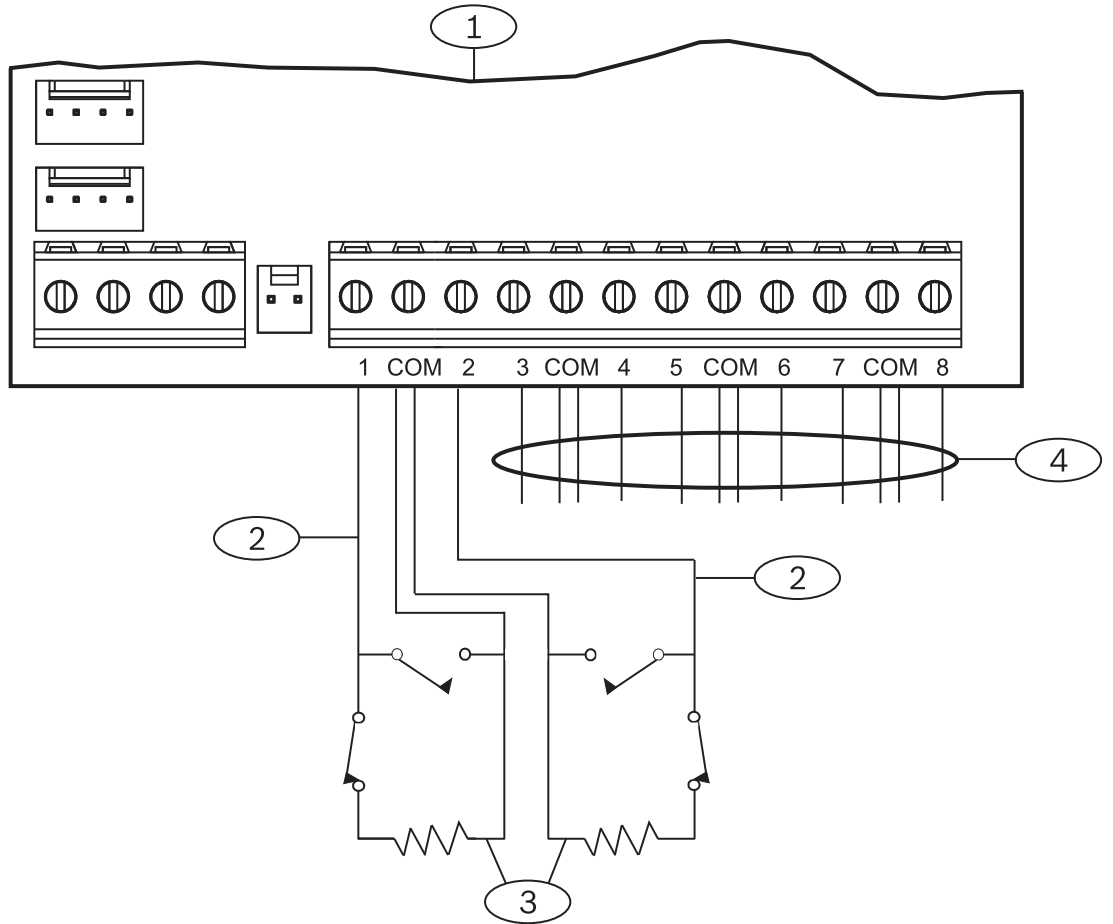
Figure 13.15: B208 sensor loop wiring

Callout — Description
1 — Module
2 — Sensor loop
3 — EOL Resistor – 1.0 kΩ (2.0 kΩ and No EOL optional)
4 — Wiring to additional sensor loops

Dual EOL resistor circuit style

> **Notice!**
> For the dual EOL resistor circuit style order ICP-1K22AWG-10, package of 10 1.0 kΩ EOL resistors.
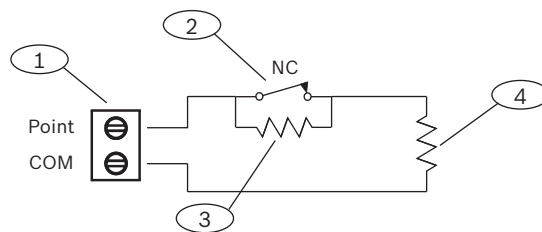
Figure 13.16: Input wiring with dual EOL resistors

Callout - Description
1 - Point sensor loop terminals
2 - Normally closed device (contact)
3 - 1.0 kΩ resistor at device
4 - 1.0 kΩ resistor at EOL (end-of-line)

13.2   B299 POPEX Module

The B299 POPEX Module is an SDI2 compatible device. The module communicates to the control panel over the SDI2 bus, and provides support for up to 100 POPIT (Point Of Protection Input Transponder) devices. This occurs over a single expansion loop using two pairs of terminals.

B9512G control panels support up to 6 modules. B8512G support up to 1 module.

The B299 POPEX Module connects to the SDI2 bus on the control panel using terminals 27 through 30 (or 23 through 26 if configured for SDI2), or using the SDI2 interconnect wiring connector. You can connect more than one module to the control panel by wiring them in parallel. This section includes basic installation instructions. For detailed installation instructions, refer to the *POPEX Module (B299) Installation and Operation Guide*.

13.2.1   SDI2 address settings

> **Notice!**
> The module reads the address switch setting only during module power up. If you change the setting after you apply power to the module, you must cycle the power to the module in order for the new setting to take effect.

If multiple B299 modules reside on the same system, each B299 module must have a unique address.

The number of points allowed by the control panel determines the valid addresses.

For valid point numbers, refer to *B299 address settings, page 168*.

13.2.2   Supervision

The control panel automatically supervises any B299 POPEX Module on the SDI2 bus when an associated point has its source programmed for POPEX.

With any failure to receive an expected response from the module, all keypads show a system fault. The control panel sends a module trouble report to the central station (if configured for module trouble reports).

13.2.3   Installation and control panel wiring (B299)

Ensure that there is enough power for the module and other powered devices you want connected to the system.

Refer to *On-board outputs, page 66*.

⚠ **Caution!**
Remove all power (AC and battery) before making any connections. Failure to do so might result in personal injury and/or equipment damage.

Install the module
1.   Set the module address using the address switches before you install it in the enclosure.
2.   Install the module in the enclosure with the control panel or in an adjacent enclosure that is within the distances rated for the module: 200 ft (60 m) with 22 AWG (0.65 mm) wire or 500 ft (152 m) with 18 AWG (1.02 mm) wire.
3.   Use the screws provided with the module to secure the module in the enclosure.

When you wire an SDI2 module to a control panel, you can use either the terminal strip labeled with PWR, A, B, and COM to wire to corresponding terminals labeled 27 through 30 (or 23 through 26 if configured for SDI2) on the control panel, or you can use the interconnect wiring connector and the included interconnect cable.

For terminal wiring, use 18 AWG to 22 AWG (1.02 mm to 0.65 mm) wire.

ℹ **Notice!**
Use either the terminal strip wiring or interconnect wiring to the control panel. Do not use both. When connecting multiple modules, you can combine terminal strip and interconnect wiring connectors in series.

13.2.4   POPIT devices overview and wiring

Wire resistance on each sensor loop must be less than 100 Ω with the detection devices connected. The terminal strip supports 12 to 22 AWG (2.0 to 0.65 mm) wires.
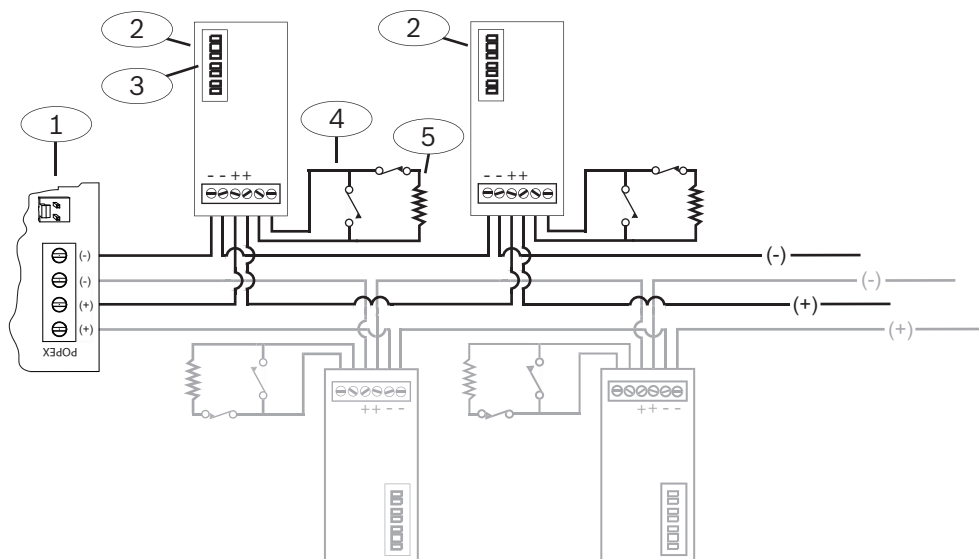
Figure 13.17: B299 POPEX expansion loop wiring

Callout — Description
1 — B299 POPEX Module
2 — POPIT device
3 —POPIT address switches
4 — POPIT sensor loop
5 —33 kΩ EOL resistor (P/N: 15-03130-022)

13.3   B600 Retrofit ZONEX Module

The B600 Retrofit (ZONEX) module enables the use of ZONEX devices on the B9512G/B8512G control panel. The B600 module connects to the control panel through a proprietary connection (cable provided with module).

The control panel supports one B600 module.

13.3.1   D8125 expansion

The control panel supports up to two of the following modules (referred throughout this section as "D8125") through the use of the B600:

– D8125 Zone Expansion Module
– D8125MUX Multiplex Bus Interface
– D8125INV Wireless Interface Module
– D8125CW-V2 Commercial Wireless Interface Module

Ensure that there is enough power for the module and other powered devices you want connected to the system.

Refer to *On-board outputs, page 66*.

> **Caution!**
> Remove all power (AC and battery) before making any connections. Failure to do so might result in personal injury and/or equipment damage.

The B9512G using a D8125 can use point of protection input transponder (POPIT) modules to provide a maximum of 238 off-board points. The B8512G using a D8125 provides up to 91 off-board points.

D9127 POPITs use the D8125 POPEX Module to report to the control panel. Each D8125 supports up to 119 POPIT points. Connect two D8125 modules to the B9512G to bring the total number of POPIT points to 238.

– Points 9 to 127 connect to the first D8125.
– Points 129 to 247 connect to the second D8125.

The control panel annunciates activity only for each POPIT, not for each detection device connected to the sensor loop.

D9127 Module enclosures are made of UL Listed fire resistant material. D9127T Modules contain tamper switches, while D9127U Modules do not. UL requires D9127T Modules for certificated installations.

> **Notice!**
> The expansion loop can be shared between fire and non-fire devices where the POPIT module provides data isolation between the input and the expansion loop connections.

Installation

For detailed installation instructions, refer to the installation documentation for the D8125 you plan to install.

13.3.2   D8128D OctoPOPIT Eight-point Expander

The control panel supports the D8128D through the use of the B600.

The B600 supports up to 30 (thirty) D8128D modules. The B9512G supports up to 15 D8128D modules connected to the B600 ZX1 terminals and up to 15 D8128D modules connected to the B600 ZX2 terminals. The B8512G supports up to 12 D8128D modules connected to the B600 ZX1 terminals (for the 12th module, switches set for points 97-104, only points 97 to 99 are available).

Ensure that there is enough power for the module and other powered devices you want connected to the system.

Refer to *On-board outputs, page 66*.

> **Caution!**
> Remove all power (AC and battery) before making any connections. Failure to do so might result in personal injury and/or equipment damage.

The D8128D OctoPOPIT Module combines the functions of the D8125 POPEX Module and the D9127 POPIT Modules to provide eight off-board points in a single module. You can wire both D8128D OctoPOPIT and D8125 POPEX Modules in parallel to the B600 ZONEX module terminals.

The B9512G supports up to thirty modules through the B600.

The B8512G supports up to twelve modules through the B600.

Requirements for Fire Initiation applications

You can connect the D125B Dual Powered Loop Interface Module outputs directly to the point inputs on the D8128D. Use the D125B to connect two-wire smoke detectors.

Mount the D125B and the OctoPOPIT in the same enclosure with the control panel or in a separate enclosure connected to the control panel's enclosure by a conduit not more than 20 ft (6 m) away.

> **Notice!**
> You can connect non-powered, fire initiating devices such as pull-stations, heat detectors, and UL Listed four-wire smoke detectors directly to the point inputs on the D8128D.

Switch settings

The switches on the D8128D set point assignments and line termination. Switches 1, 2, 3, and 4 assign the OctoPOPIT sensor loops to point numbers on the control panel. Switch 5 sets line termination. For more information, refer to *D8128D address settings, page 169*.

Installation

For detailed installation instructions, refer to *OctoPOPIT Module (D8128D) Installation Guide* (P/N: F01U070537).

13.4   Test off-board points

Use the Service Walk Test to ensure that all off-board points operate properly.

> **Notice!**
> Walk test does not show extra points.
> Setting the address switches on off-board point modules can create missing and extra points.
> If the address switches on two or more modules are set to the same address, the points associated with that address will not test correctly.

13.5 Extra Point events

The control panel generates Extra Point events when it detects a fault for an assigned point with its Point Index set to 0 (disabled).

An SDI2 Wireless point is considered assigned when its Point Source is Wireless and it has an RFID assigned.

On-board points cannot produce Extra Point events. Points that are Service Bypassed cannot produce Extra Point events.

13.6 Missing point conditions

The control panels respond to missing point conditions based on the point programming and the turned on (armed) state of the point's area. For example, if an interior motion detector point is missing during a turned off (disarmed) state, the control panel generates a Missing Trouble event; however, if the point is missing while the area is turned on (armed) the control panel generates a Missing Alarm event. Non-fire, 24-hour points always generate a Missing Alarm event, whereas Fire points always generate a Missing Fire Trouble event.

14   Wireless modules

The control panel supports one B810 or one B820 for wireless sensors for easy and flexible installation.

14.1   B810 receiver

The B810 is a wireless receiver that supports the full line of RADION wireless devices and the RADION repeater. The receiver supports up to 504 wireless point devices, up to 1000 keyfobs, and up to 8 repeaters.

Connect a RADION receiver SD to the SDI2 bus on the control panel using terminals 27 through 30 (or 23 through 26 if configured for SDI2). This section includes basic installation instructions. Refer to the *RADION receiver SD (B810) Installation Guide* for detailed installation instructions.

14.1.1   SDI2 address settings

> **Notice!**
> The module reads the address switch setting only during module power up. If you change the setting after you apply power to the module, you must cycle the power to the module in order for the new setting to take effect.

The control panel supports only address 1.

14.1.2   Supervision

The control panel enables supervision of the module when you enroll at least one RF device. Available RF devices on the control panel include RF Repeaters, wireless points, or user keyfobs. Any failure to receive an expected response from an SDI2 module results in a system fault display on all keypads and a fault event sent to the central station.

14.1.3   Installation and control panel wiring (B810)

Ensure that there is enough power for the module and other powered devices you want connected to the system.

Refer to *On-board outputs, page 66*.

> **Caution!**
> Remove all power (AC and battery) before making any connections. Failure to do so might result in personal injury and/or equipment damage.

Install the module

For best receiver reception results, place the receiver in a central location among the transmitters.

1.   Open the module.
2.   Set the module to address 1 using the address switch.
3.   Use the provided anchors and screws to mount the module base on the wall.
4.   Pull the necessary wiring through the mounting plate. Refer to *Wire to the control panel, page 84*.
5.   Install the module on the base.

> **Notice!**
> Mount the receiver in a location removed from metal. Metal objects (duct work, wire mesh screens, boxes) reduce RF range.

Wire to the control panel

When wiring a module to a control panel, use the terminal strip labeled with R, Y, G, and B to wire to terminals labeled 27 through 30 (or 23 through 26 if configured for SDI2) on the control panel. Wire the module in within the distances rated for the module: 600 ft (183 m) with 22 AWG (0.65 mm) wire or 1000 ft (305 m) with 18 AWG (1.02 mm) wire.

14.2 B820 SDI2 Inovonics Interface Module

The B820 SDI2 Inovonics Interface Modules allow a control panel to interface with an Inovonics EN4200 EchoStream Serial Receiver.

This section includes basic installation instructions. Refer to the *SDI2 Inovonics Interface Module (B820) Installation Guide* for detailed installation instructions.

14.2.1 SDI2 address settings

Notice!
The module reads the address switch setting only during module power up. If you change the setting after you apply power to the module, you must cycle the power to the module in order for the new setting to take effect.

The control panel supports only address 1.

14.2.2 Supervision

The control panel enables supervision of the module when you enroll at least one RF device. Available RF devices on the control panel include RF Repeaters, wireless points, or user keyfobs. Any failure to receive an expected response from an SDI2 module results in a system fault display on all keypads and a fault event sent to the central station.

14.2.3 Installation and control panel wiring (B820)

Ensure that there is enough power for the module and other powered devices you want connected to the system.

Refer to *On-board outputs, page 66*.

Caution!
Remove all power (AC and battery) before making any connections. Failure to do so might result in personal injury and/or equipment damage.

Install the module

1. Set the module address using the address switch before you install it in the EN4200 housing.
2. Use a slotted screwdriver top press the housing release tabs and open the housing. Remove the backing from the Velcro piece found in the product packaging to reveal the Velcro adhesive. Place the Velcro's adhesive side onto the back of the module. Remove the remaining backing to use to secure the module in the housing.
3. Insert the module into the house, connect the serial ports on the B820 and EN4200, and then press gently.
4. Refer to the *EN4200 EchoStream Serial Receiver Installation Instructions* for mounting and wiring instructions for the receiver.

Wire to the control panel

When wiring a module to a control panel, use the terminal strip labeled with PWR, A, B, and COM to wire to terminals labeled 27 through 30 (or 23 through 26 if configured for SDI2) on the control panel. For terminal wiring, use 18 AWG to 22 AWG (1.02 mm to 0.65 mm) wire. Do not exceed a wire length of 1000 ft (300 m) from the control panel.

Route the cabling through the control panel enclosure, and through the EN4200 housing.

15 Access control

The control panel supports access control using the B901 Access Control Module and the D9210C Access Control Interface Module.

Any of the following can grant access:
- Wiegand-style access control device (card reader) connected to the access control module
- Request to enter (RTE) or request to exit (REX) input
- Unlock command on an SDI2 keypad (excluding fire keypads)

The control panel access control features can deny access when the system in On (armed). The control panel can also grant access only to certain authorized users depending on whether the area is all on, part on, or off. Programming for automatic disarming when designated authorized users are granted access is also possible.

The Dual Authentication feature can optionally require passcode entry with presentation of door credentials before access authorization is granted.

15.1 B901

The B901 Access Control Interface Module is a fully supervised, addressable SDI/SDI2 bus device that allows access control integration for Bosch compatible control panels. This module offers 14 programmable levels of access authority. Authority for access is controlled by the user level, the group of the user, the time of day, the door state, and the area armed state. Control each authority restriction through automatic and manual functions.

The module connects to the control panel with the SDI2 bus or the SDIx bus configured as SDI using terminals 27 through 30 (or 23 through 26 if configured for SDI2), or using the interconnect wiring connector. You can connect more than one module to the control panel by wiring them in parallel. This section includes basic installation instructions. For detailed installation instructions, refer to the *Access Control Module (B901) Installation and Operation Guide*.

15.1.1 Address settings

i	**Notice!** The module reads the address switch setting only during module power up. If you change the setting after you apply power to the module, you must cycle the power to the module in order for the new setting to take effect.

If multiple access control modules reside on the same system, each access control module must have a unique address.

For valid addresses, refer to *B901 address settings, page 171*.

15.1.2 Supervision

With any failure to receive an expected response from the module, all keypads show a system fault. The control panel sends a module trouble report to the central station (if configured for module trouble reports).

15.1.3 Installation and control panel wiring (B901)

Ensure that there is enough power for the module and other powered devices you want connected to the system.

Refer to *On-board outputs, page 66*.

⚠ **Caution!**

Remove all power (AC and battery) before making any connections. Failure to do so might result in personal injury and/or equipment damage.

Install the module

1. Set the module address using the address switches before you install it in the enclosure.
2. Install the module in the enclosure with the control panel or in an adjacent enclosure that is within the distances rated for the module: 1000 ft (305 m) with 18 AWG to 22 AWG (1.02 mm to 0.65 mm) wire.
3. Use the screws provided with the module to secure the module in the enclosure.

Wire to the control panel

When you wire an SDI2 module to a control panel, you can use either the terminal strip labeled with PWR, A, B, and COM to wire to corresponding terminals labeled 27 through 30 (or 23 through 26 if configured for SDI2) on the control panel, or you can use the interconnect wiring connector and the included interconnect cable.

For terminal wiring, use 18 AWG to 22 AWG (1.02 mm to 0.65 mm) wire.

ℹ **Notice!**

Use either the terminal strip wiring or interconnect wiring to the control panel. Do not use both. When connecting multiple modules, you can combine terminal strip and interconnect wiring connectors in series.

The B901 module also connects to the SDIx bus and functions as a D9210C when SDIx is configured as SDI. Use either the terminal strip wiring or interconnect wiring to the control panel.

15.2 D9210C

The D9210C Access Control Interface Module is a four-wire SDI powered device providing connections for an access door point and door strike. Each D9210C supports one door to control access. You can independently configure each access door.

ℹ **Notice!**

The module reads the address switch setting only during module power up. If you change the setting after you apply power to the module, you must cycle the power to the module in order for the new setting to take effect.

SDI address settings

If multiple access control modules reside on the same system, each access control module must have a unique address.

For valid addresses, refer to *D9210C address settings, page 172*.

Installation

For detailed installation instructions, refer to *Access Control Module (D9210C) Installation and Operation Guide* (P/N: F01U215244).

15.3 Card reader wiring

To wire the access control module to a card reader, refer to the card reader instructions printed on or shipped with the reader.

16   Program and test the control panel

When you complete the hardware installation, reconnect the battery, and then plug in the transformer. Next, program the control panel, and then test the control panel and configuration.

> **Notice!**
> After system installation and any control panel programming, perform a complete system test (a UL 864 requirement). A complete system test includes testing the control panel, all devices, and communication destinations for proper operation.

16.1   Program the control panel

Use RPS or a keypad to program the control panel. Refer to *RPS Help* and *Keypad Installer menu, page 115*.

16.2   Perform walk tests

When you perform a walk test, the control panel includes only points assigned to areas within the keypad's scope, based on the walk test type chosen. During a walk test, the points do not process normally, and only indicate that they were tested. You can perform four different types of walk tests on this system.

Each walk test type automatically terminates after 20 min of inactivity.

All point verification is disabled for all points during any walk test.

The control panel sends Walk Test Start and Walk Test End reports to the central station.

16.2.1   Fire walk test

A fire walk test allows you to test **all** visible, 24-hr points.

A fire walk test includes multiple point types. Points must meet the following criteria:

– Have a point source other than Unassigned
– Have a point index not set to Disabled (must be non-zero)
– Are not service bypassed
– Are not invisible points
– Have a point type of Keyswitch maintained, Keyswitch momentary, Open/Close Point, Fire, Aux AC Supervision, or Gas

Performing a fire walk test:

1. Choose a keypad to conduct the test. Ensure that all areas are off (disarmed).
2. Open the Main menu and then go to the [3] Actions menu > [3] Test > [1] Walk Test > [1] Fire option.
3. The keypad shows the number of points that remain untested.
4. To view the list of points, press [ENTER] or [View untested points]. To scroll through the list of points, use ←/[PREV] or →/[NEXT].
5. When you fault a point (press the test button on a smoke detector for example), the keypad emits a brief tone and shows the point name.

> **Notice!**
> If the point loop has multiple detectors, then the keypad will emit a tone as confirmation for each fault detected.

16.2.2   Intrusion walk test

An intrusion walk test includes points meeting the following criteria:

- Have a point source other than Unassigned
- Have a point index not set to Disabled (must be non-zero)
- Point type must be for a Controlled Point; Part-On, Interior, or Interior Follower
- Are not service bypassed
- Are not invisible points

A controlled point can be programmed for trouble when disarmed.

Performing an intrusion walk test:
1. Choose a keypad to conduct the test. Ensure that all areas are off (disarmed).
2. Open the Main menu and then go to the [3] Actions menu > [3] Test > [1] Walk Test > [2] Intrusion option.
3. The keypad shows the number of points that remain untested.
4. To view the list of points, press [ENTER] or [View untested points]. To scroll through the list of points, use ←/[PREV] or →/[NEXT].
5. When you fault a point (open a door for example), the keypad emits a brief tone and shows the point name and that is has been tested (for example, Pt-4: P4 Follow Tested).

16.2.3 Service walk test

A service walk test allows you to walk test points assigned to any point type. The area scope of the keypad that initiates the walk test determines which points are included in the test. All points are included when the keypad scope is panel wide, including those with a Point Index of 0.

A service walk test includes points:
- with a point source other than Unassigned
- that are disabled (Point Index set to 0) in addition to those that are enabled (non-zero Point Index)
- that you have service bypassed

During a service walk test:
- The summary alarm and summary fire remain off, because there are no Fire or Burg alarm conditions to summarize.
- The test does not generate any Extra Point troubles.
- The test does not log any Extra Point events.

Performing a service walk test:
1. Choose a keypad to conduct the test. Ensure that all areas are off (disarmed).
2. Open the Main menu and then go to the [3] Actions > [3] Test > [1] Walk Test > [3] Service option.
3. Enter your passcode and press [ENTER]. The keypad shows the number of points that remain to be tested.
4. To view the list of points, press [ENTER] or [View untested points]. To scroll through the list of points, use ←/[PREV] or →/[NEXT].
5. When you fault a point (move in front of a motion sensor for example), the keypad emits a brief tone and shows the point name and information (for example, Area-1 Point-7 Onboard: Short).

16.2.4 Invisible walk test

An invisible walk test allows you to test both controlled points and 24-hr points. Points assigned to Point Indexes with the Invisible Point parameter set to Yes.
An invisible walk test includes points meeting the following criteria:

- – Have a point source other than Unassigned
- – Have a point index not set to Disabled (must be non-zero)
- – Have a point index configured with the point type of 24-Hour, Part On, Interior, or Interior Follower
- – Are not service bypassed

Performing an invisible walk test:
1. Choose a keypad to conduct the test. Ensure that all areas are off (disarmed).
2. Enter your passcode and press [ENTER]. The keypad shows the number of points that remain to be tested.
3. To view the list of points, press [ENTER] or [View untested points]. To scroll through the list of points, use ←/[PREV] or →/[NEXT].
4. When your fault a point (open a door for example), the keypad emits a brief tone and shows the name.

17   Control panel board overview
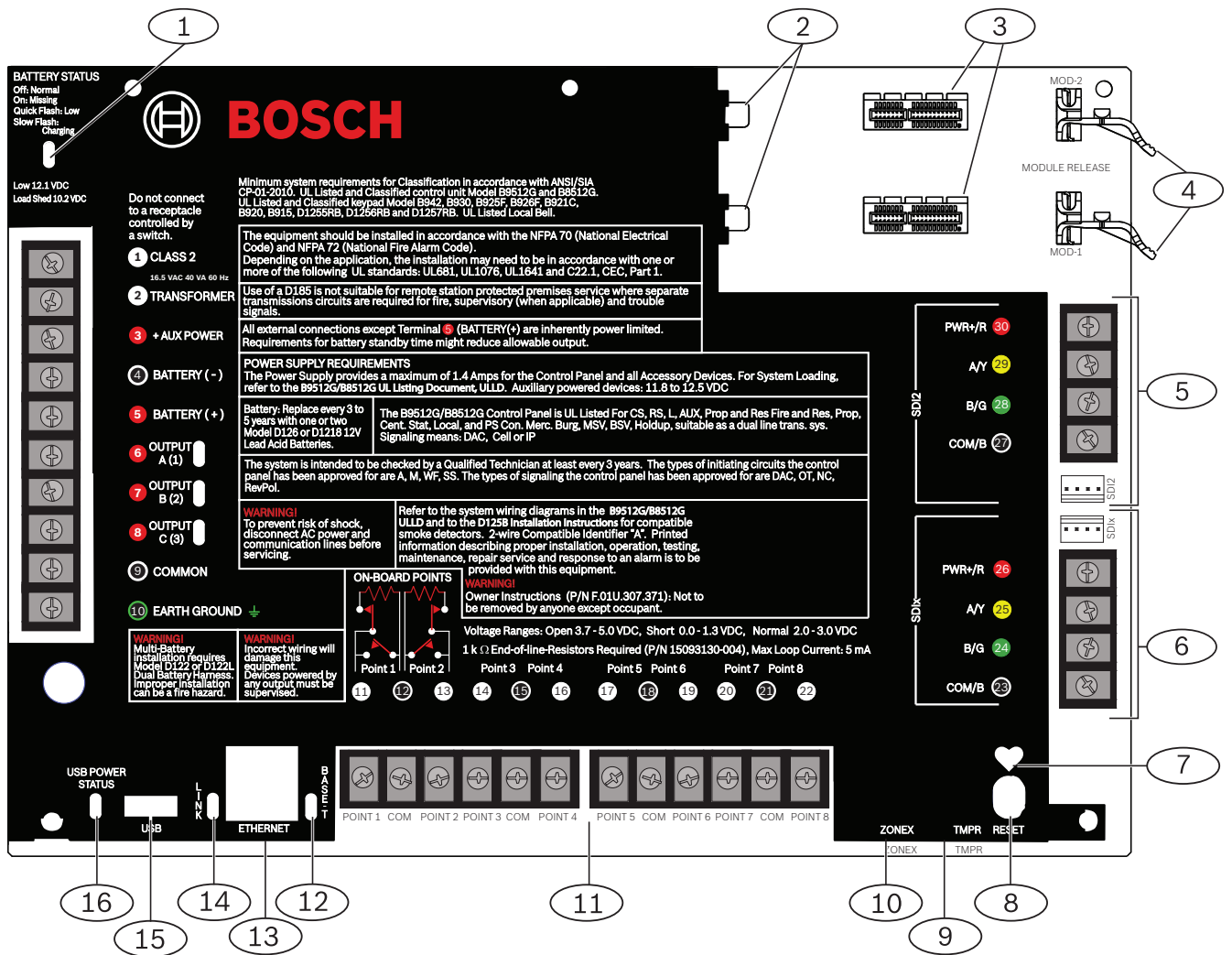
Figure 17.18: Control panel board overview

Callout — Description	For more information, refer to:
1 — BATTERY STATUS LED	*Battery discharge and recharge schedule, page 40*
2 — Holes to stabilize plug-in modules	*Installation and module wiring (B430), page 44* or *Installation and module wiring (B44x), page 50*
3 — Plug-in module connectors	
4 — Plug-in module retention clips	
5 — SDI2 wiring	*SDI2 devices general system wiring, page 98*
6 — SDIx wiring (use as SDI or SDI2)	*SDI2 devices general system wiring, page 98* or *SDI and ZONEX wiring, page 96*
7 — Heartbeat LED (blue)	*Installer keypads and SERVICE MODE, page 115*
8 — RESET button	
9 — Tamper switch connector location	*Install the enclosure, page 31*
10 — Zonex module connector location	*SDI and ZONEX wiring, page 96*
11 — Sensor loop terminals for points 1 to 8	*On-board points, page 72*

Callout — Description	For more information, refer to:
12 — BASE-T LED (green)	*On-board Ethernet connection, page 48*
13 — On-board Ethernet connector	
14 — LINK LED (yellow)	
15 — USB connector	*USB power, page 68*
16 — USB POWER STATUS LED	

18 System wiring diagrams

Notice!
For UL Certificated accounts, add additional power using only a UL Listed 12.0 VDC regulated, power-limited power supply such as the B520 Auxiliary Power Supply Module. All terminals except Outputs A (1), B (2), and C (3) (Terminals 6, 7, and 8) are supervised. For proper supervision, do not loop wire under terminals. Break the wire run to provide supervision of connections.

18.1   Power supply side wiring
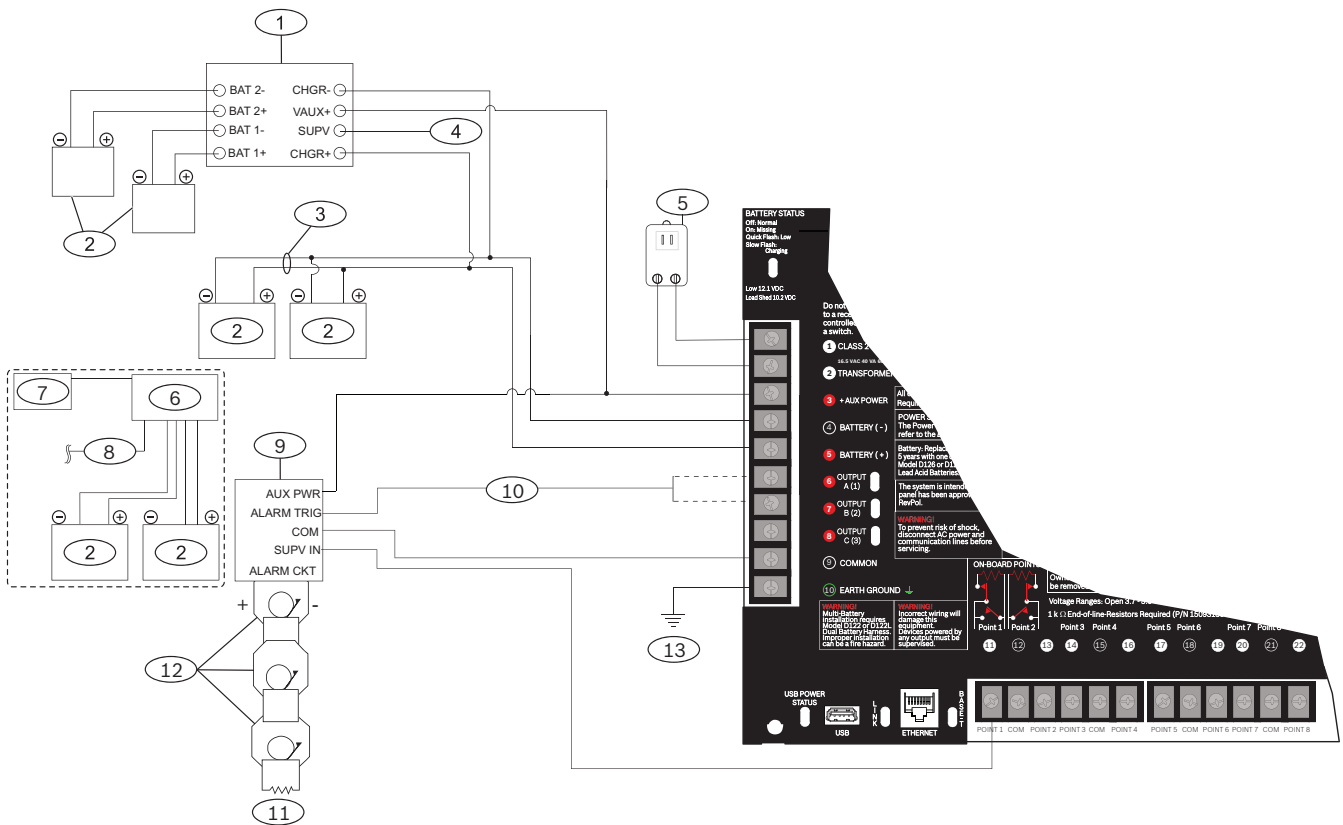
Figure 18.19: Power supply side wiring

Callout — Description	Callout — Description
1 — D113 Battery Lead Supervision Module, if required by local AHJ	8 — To control panel SDI2 wiring
2 — Batteries	9 — D192G Bell Supervision Module
3 — D122/D122L Dual Battery Harness, as required	10 — To OUTPUT A (1) or OUTPUT B (2)
4 — To supervision point	11 — 560 Ω, 2 W EOL resistor (P/N: 15-03130-005)
5 — D1640 Transformer	12 — Listed audible signaling devices rated at 12.0 VDC nominal (do not use vibrating type horns)
6 — B520 Auxiliary Power Supply Module	13 — To earth ground
7 — To powered devices	

18.2   Input points wiring with D125B, D130, or D129
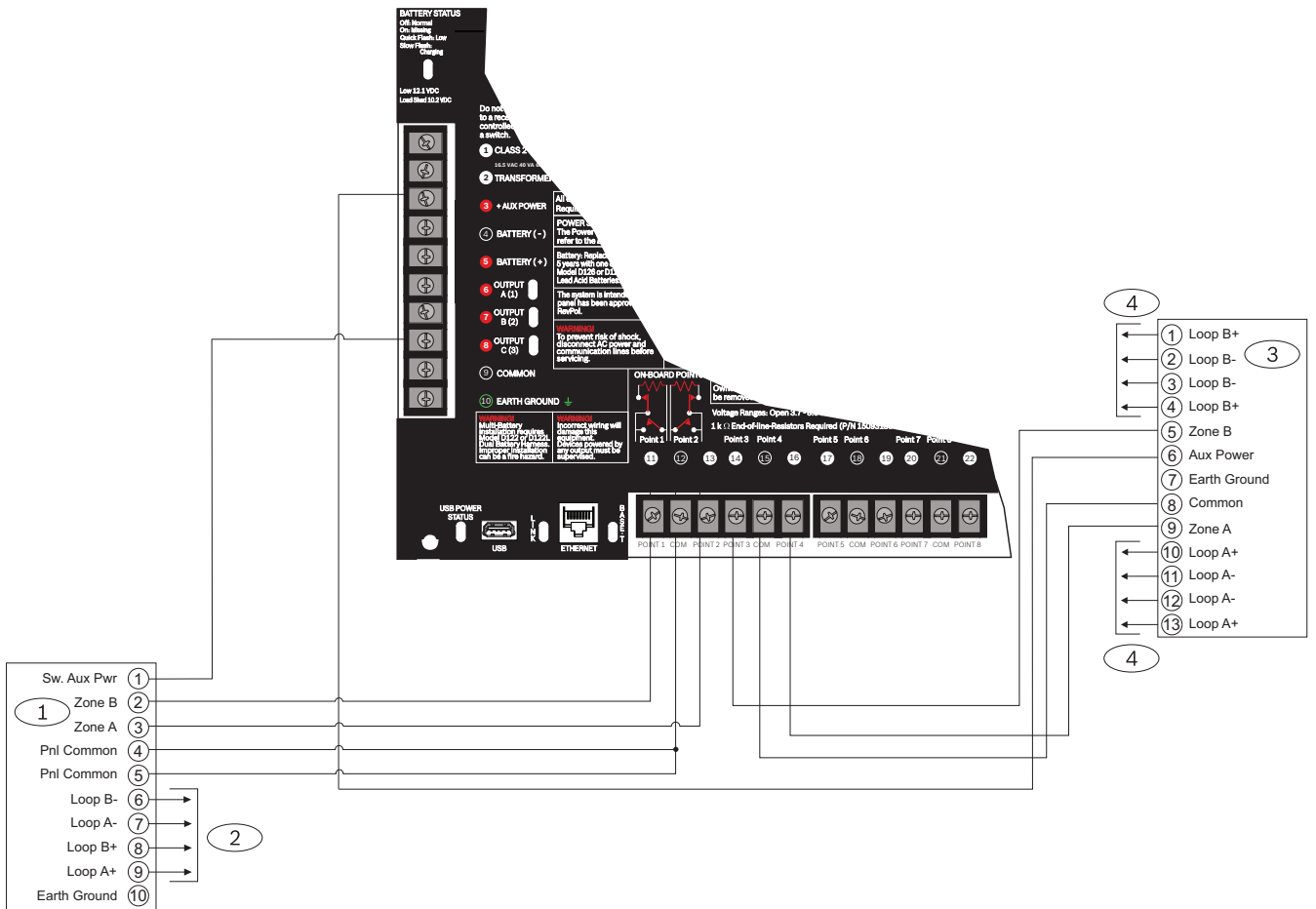
Figure 18.20: Input wiring with a D125B and a D129

Callout — Description
1 — D125B Dual Class B Initiating Module
2 — To compatible UL listed two-wire smoke detectors. Refer to the *D125B Installation Instructions* for a listing of compatible two-wire smoke detectors.
3 — D129 Dual Class A Initiation Circuit Module
4 — For wiring instructions, refer to the *D129 Dual Class A Initiation Circuit Module Installation Instructions*.

Notice!

Use zero retard except for waterflow devices.

All external connections except Terminal 5 (battery positive) are power limited.

Optionally, for 24 V applications use a UL 1481 listed, regulated, power-limited 24 VDC power supply with a D130 Relay Module. Refer to the *D130 Installation Instructions* for correct wiring requirements.

18.3   Input points wiring with or without EOL resistors

Notice!

For the dual EOL resistor circuit style order ICP-1K22AWG-10, package of 10 1.0 kΩ EOL resistors.
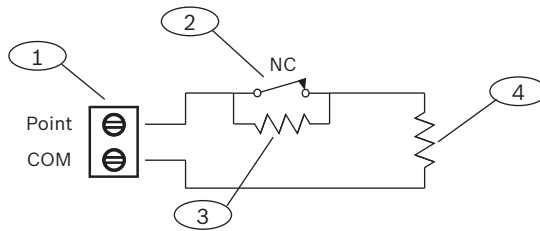
Figure 18.21: Input wiring with dual EOL resistors

Callout - Description
1 - Point sensor loop terminals
2 - Normally closed device (contact)
3 - 1.0 kΩ resistor at device
4 - 1.0 kΩ resistor at EOL (end-of-line)
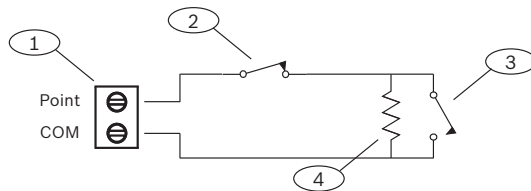
Figure 18.22: Single EOL (NC or NO)

Callout - Description
1 - Point sensor loop terminals
2 - Normally closed device (contact)
3 - Normally open device (contact)
4 - EOL Resistor – 1.0 kΩ (2.0 kΩ and No EOL optional)

Notice!
The No EOL option does not support the use of NO and NC contacts simultaneously.

18.4   SDI and ZONEX wiring

Notice!
Install Fire and Intrusion devices only on separate circuits. Refer to the *ICP-SDI-9114 Installation Instructions* (P/N: F01U030068).
All external connections except Terminal 5 (battery positive) are power limited.
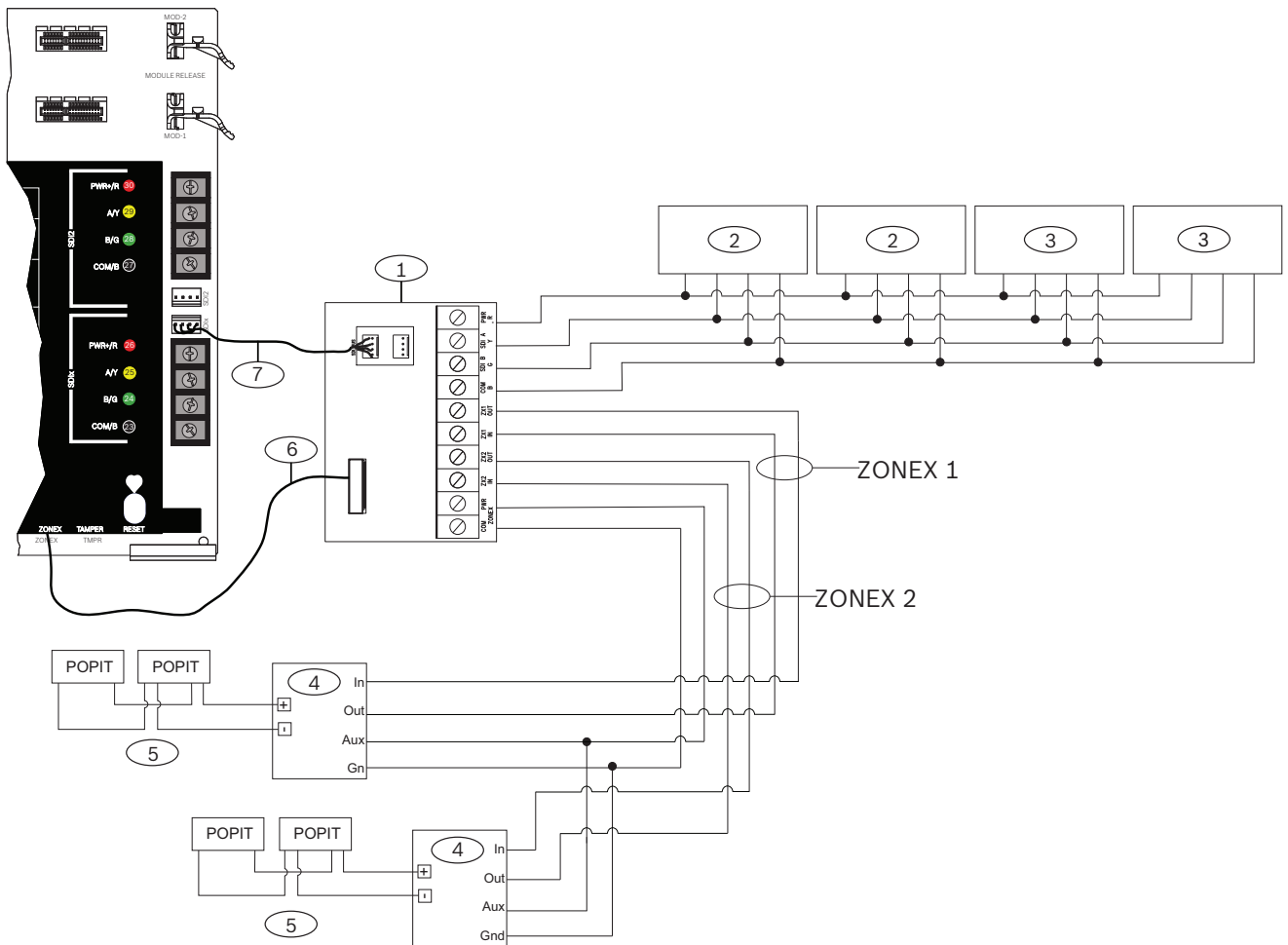
Figure 18.23: SDI and ZONEX wiring

Callout — Description	Callout — Description
1 — B600	5 —Up to 119 D9127U/T POPITs
2 — SDI keypads when configuring SDIx for SDI (refer to System power/size)	6 — ZONEX connection cable (P/N: F01U295103) (included)
3 — Up to 8 D9210C Access Control Interface Modules	7 — Interconnect cable (P/N: F01U079745) (included)
4 — D8125 POPEX Modules	
*The number of D8129 Octo-relay modules allowed for each ZONEX terminal on the B600 is limited by the number of D8128D OctoPOPITs connected to the same terminal. Refer to the *D8128D Installation Guide (P/N: F01U070537)* or the *D8129 Operation and Installation Guide (P/N: F01U036302)* for specific information.	

18.5   SDI2 devices general system wiring
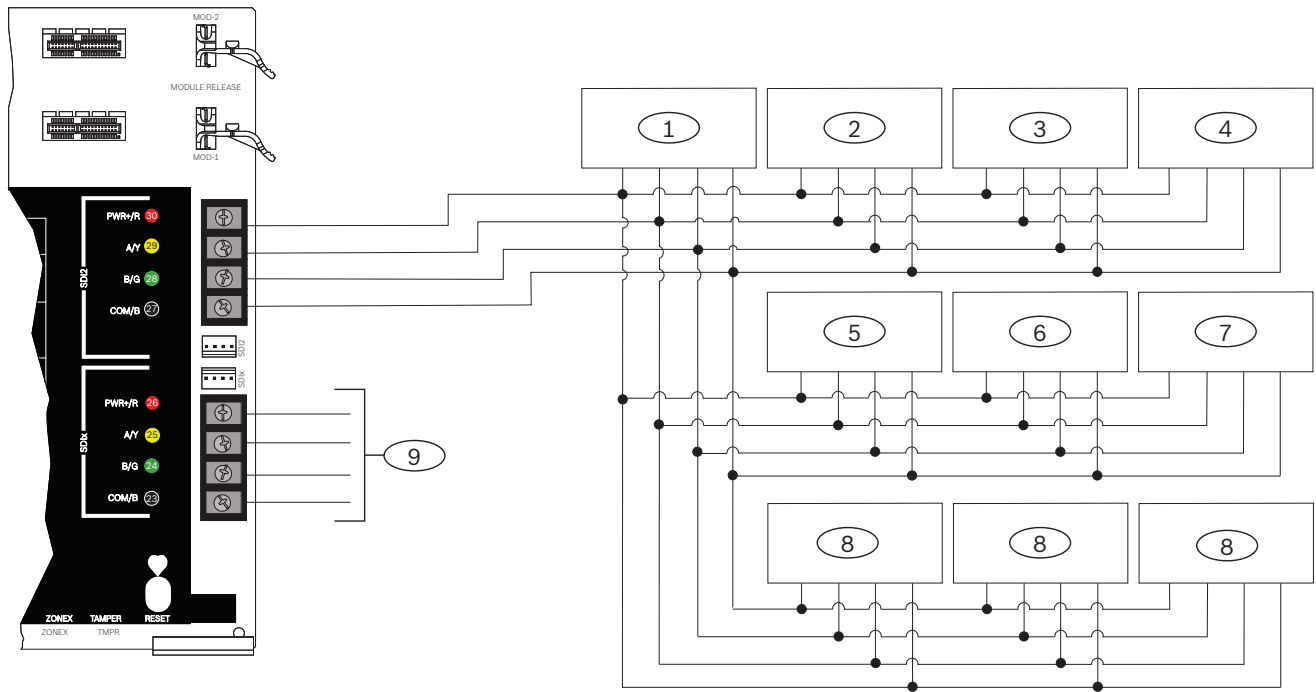
Figure 18.24: SDI2 devices system wiring

Callout — Description	B9512G/B9512G-E Capacity	B8512G/B8512G-E Capacity
1 — B208 Octo-input Modules	59	9
2 — B299 POPEX Module	6	1
3 — B308 Octo-output Modules	59	9
4 — B426 Conettix Ethernet Communication Modules or B450 Conettix Plug-in Communicator Interfaces	2	2
5 — B520 Auxiliary Power Supply Modules	8	4
6 — B810 wireless receivers or B820 SDI2 Inovonics Interface Modules	1	1
7 — B901 Access Control Modules	32	8
8 — SDI2 keypads	32	16
9 — Configurable for SDI keypads and access control interface modules, or SDI2 devices		

> **Notice!**
> Each SDI2 bus supports up to 99 devices.
> The SDI2 power terminal (PWR+/R) is power limited. The SDI2 terminals are supervised.

18.5.1   SDI2 bus wiring recommendations

Use the following SDI2 bus wiring recommendations for SDI2 installation. The control panel and SDI2 modules use the SDI2 bus to communicate with one another.

You can wire modules via home run, daisy chain, or single level T-tap anywhere on the SDI2 bus.
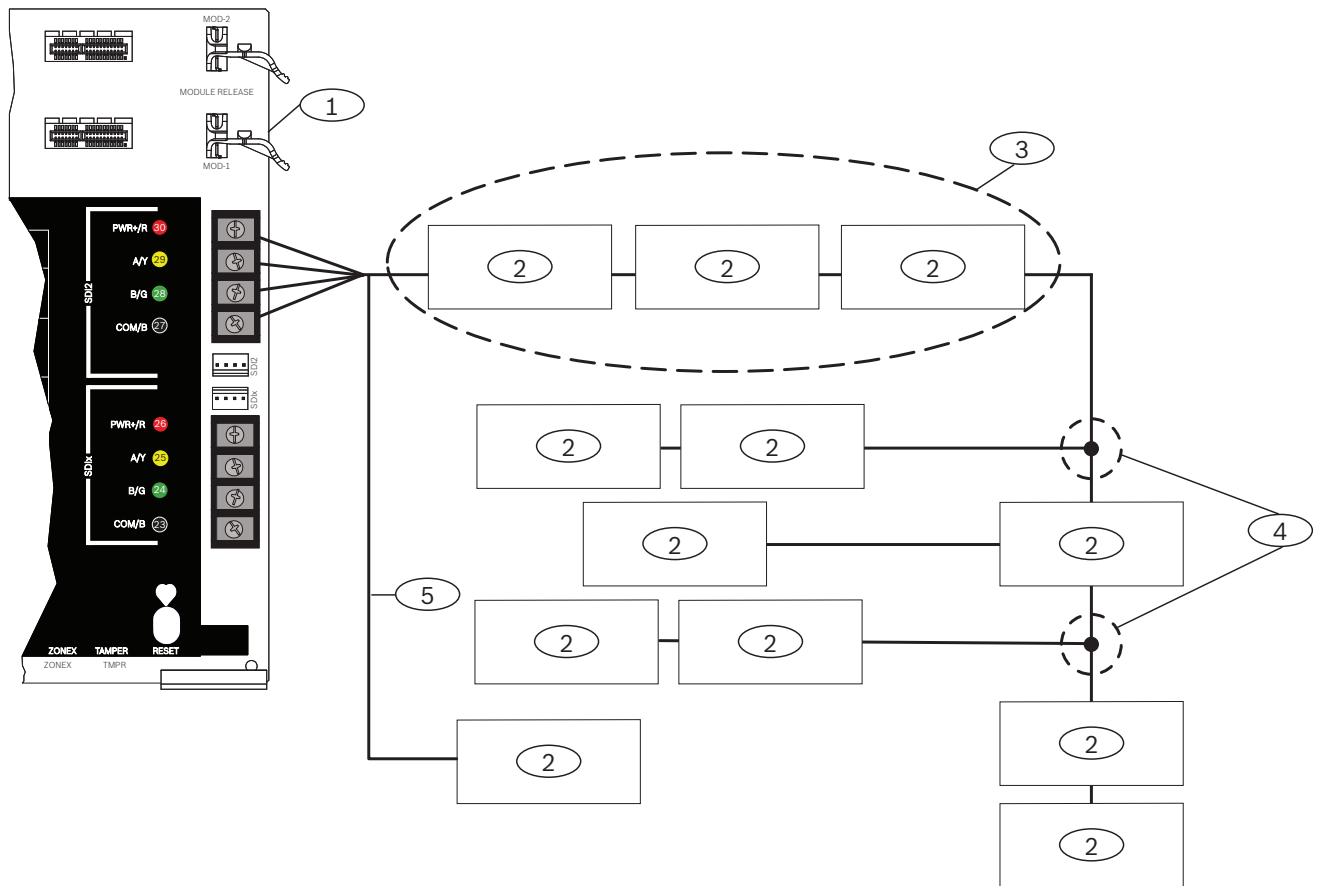
Figure 18.25: SDI2_Wiring_Recommendations

Callout — Description
1 — Control panel
2 — SDI2 device (module or keypad)
3 — Daisy chain wiring
4 — Single-level T-tapped wiring
5 — Home run wiring

Notice!

There can only be a difference of 2 volts (maximum) between the AUX power terminals of the control panel or power supply and the device for the modules and keypads to work properly under all conditions.

Maximum cable lengths

Follow these rules when wiring the SDI2 bus:

– The SDI2 bus requires the use of **unshielded** cable from 12 AWG to 22 AWG.

– Refer to the SDI2 device or keypad documentation for the allowable maximum distance from the control panel.
– Maximum overall cable lengths are listed in the following table:

Cable capacitance	Overall cable length	Cable capacitance	Overall cable length
pF/ft	ft	pF/ft	ft
< 17	7500	27	5185
18	7500	28	5000
19	7350	29	4828
20	7000	30	4700
21	6666	31	4516
22	6363	32	4400
23	6086	33	4242
24	5800	34	4100
25	5600	35	4000
26	5385	36	3800

Table 18.11: Maximum cable length

Notice!

Use unshielded cable only.

Maximum capacitance of 140nF (140,000 pF) per system. Contact the wire manufacturer for the capacitance ratings of the wire being used.

18.6   2-wire smoke wiring (D125B)
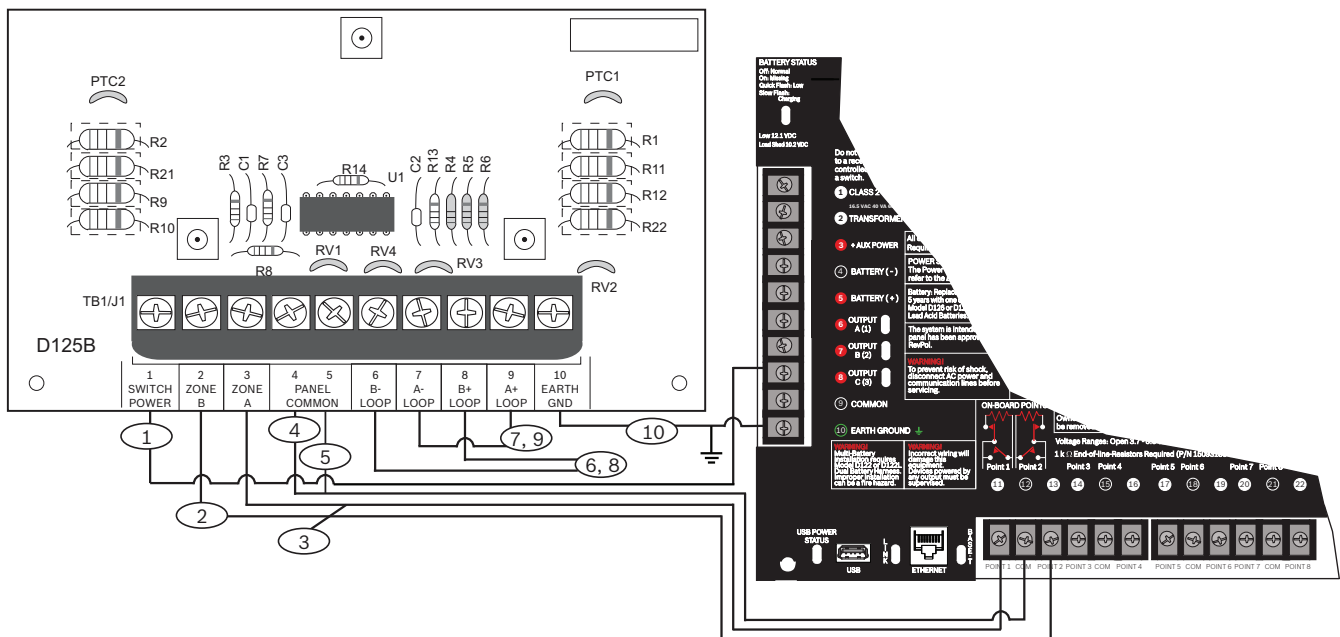
Figure 18.26: D125B to control panel wiring

Callout — Description	Callout — Description
1 — Switched auxiliary power from the control panel's relay C	6 — Supervised smoke detector to B LOOP negative
2 — Supervised connection to Zone B power from an on-board point of the control panel	7 — Supervised smoke detector to A LOOP negative
3 — Supervised connection to Zone A power from an on-board point of the panel	8 — Supervised smoke detector to B LOOP positive
4/5 — Connection to the control panel's common (one connection only)	9 — Supervised smoke detector to A LOOP positive

19 Approved applications

The UL System Chart references the components that are evaluated and listed by UL for compatibility with B9512G/B8512G control panels. These components meet the basic system requirements for the applicable standard.
Refer to *Compatible UL listed components, page 107*.
The system wiring diagrams show the relationship between the control panel and the accessory components.
Refer to System wiring diagrams.

19.1 Optional compatible equipment

You can use UL Listed components not requiring evaluation for electrical compatibility in many applications when installed according to the manufacturer's instructions.

19.1.1 Burglar applications

You can use UL Listed components not requiring evaluation for electrical compatibility in burglary applications. In some cases, you must use a UL Listed interface module with the sensors. Consult the individual component specification and installation documents to determine suitability.

19.1.2 Bank safe and vault applications

You must use the D8108A Attack-Resistant Enclosure to meet UL Standard 681.
Refer to *Wiring information for installations using the Rothenbuhler 5110/4001-42 High Security Bell, page 103* for wiring instructions and diagrams.

Control panel enclosure requirements
UL Standard 681 for Installation and Classification of Mercantile and Bank Burglary Alarm Systems requires foil lining or equivalent protection of the control unit enclosure. The D8108A Attack-Resistant Enclosure does not have a foil lining, but acceptable protection is provided by mounting electronic vibration sensors inside the enclosure.

Notice!
Do not use proximity alarms (capacitance) to protect the control panel enclosure.

– Install the same electronic vibration sensors in the D8108A that are used to protect the safe or vault.
– Mount the Sentrol 5402, Potter EVD-S, or Arrowhead S-3810 electronic vibration detection (EVD) system inside the D8108A to meet the UL 681 requirements.
– Install and test the EVD sensor according to the manufacturer's instructions.
– Mount the EVD sensor directly inside the metal cabinet of the D8108A.

Caution!
Do not install the EVD sensor within 6.4 mm (0.25 in) of the components or traces of the printed circuit assembly.

Battery connections
– Using a D122 Dual Battery Harness, connect two 12 V 7 Ah batteries in the control panel enclosure.

– Use a separate D8108A for the two 12 V 7 Ah batteries. When using a D122L Dual Battery Harness, wire the batteries in parallel and connect the harness to the BAT+ and BAT- terminals of the control panel.

Wiring information for installations using the Rothenbuhler 5110/4001-42 High Security Bell
Refer to the following two figures for wiring information.
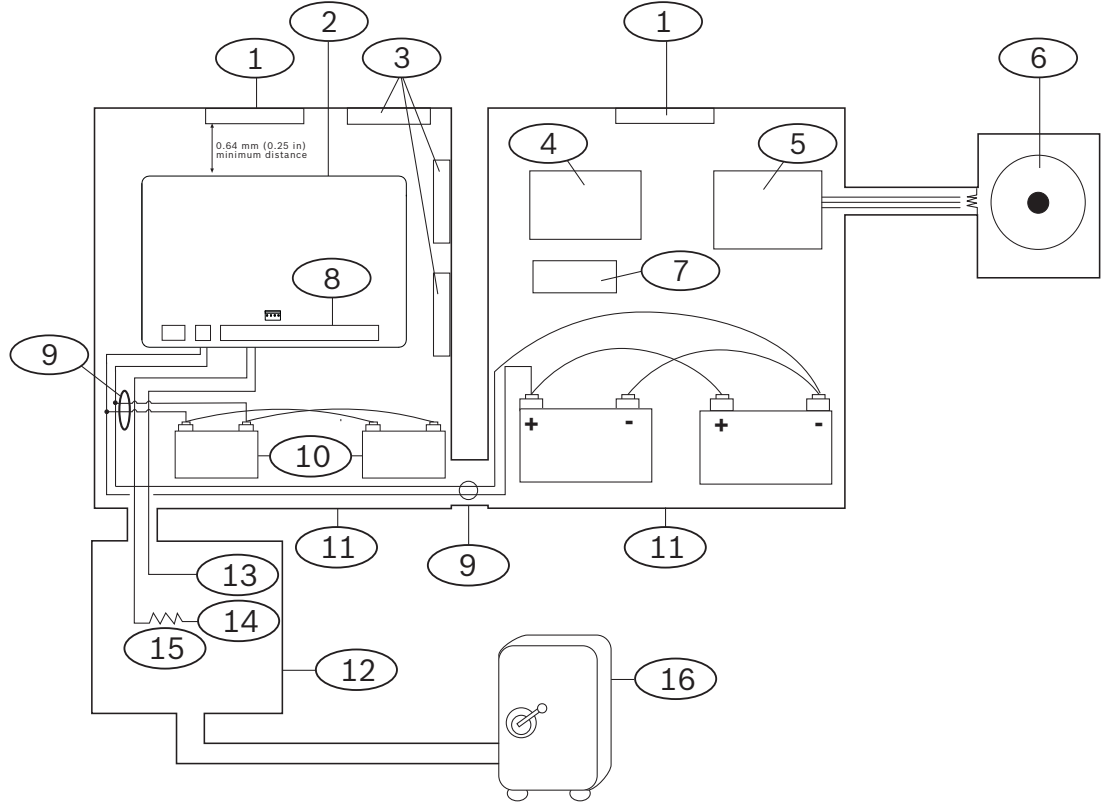
Figure 19.27: Rothenbuhler 5110 4001-42 High Security Bell to control panel wiring

Callout — Description	Callout — Description
1 — Self-contained UL listed vibration sensor	9 — D122/D122L Dual Battery Harness[2]
2 — Control panel	10 — D126 Battery
3 — Accessory modules	11 — D8108A Enclosure
4 — High line security module	12 — Proximity/control unit
5 — 4001-42 Balanced Line Module	13 — Normally open (NO)
6 — 5110 Bell	14 — Normally closed (NC)
7 — D133 Relay	15 — End-of-line (EOL) resistor
8 — Alarm input point[1]	16 — Safe
[1]Use Terminals 1 through 8. (Select only one.) [2]Use a D113 Battery Lead Supervision Module to supervise the battery connections.	
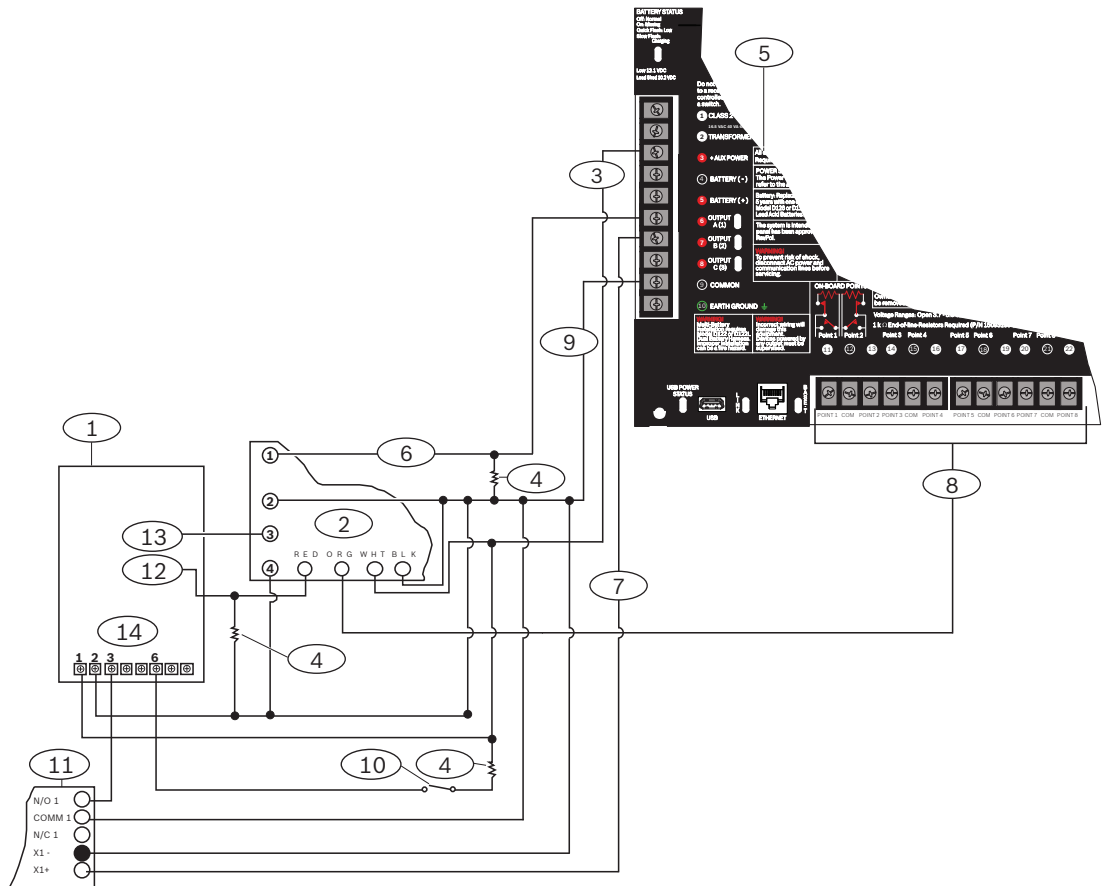
Figure 19.28: Rothenbuhler 5110_4001-42 High Security Bell Wiring Detailed

Callout — Description	Callout — Description
1 — 5110 Logic Board	8 — Alarm input point*
2 — 4001-42 External Line Balancing Module	9 — Common
3 — +AUV POWER	10 — Optional silence switch
4 — 10 kΩ resistor	11 — D133 Relay Module
5 — Control panel	12 — BBL In 4
6 — Alarm output	13 — BBL Out 5
7 — Alternate alarm	14 — Terminal TB1
*Use Terminal 11, 13, 14, 17, 19, 20, or 22. (Select only one.)	

Notice!

Bell Test at Arming: UL Standard 365 requires a Bell Test at arming for bank safe and vault applications.

System configuration requirements

The following configuration and programming options are required for UL Bank Safe and Vault Systems. Refer to *RPS Help* or the control panel's *Program Entry Guide* for programming information.

Safe and Vault protective circuits

To test the devices that protect the safe(s) or vault(s) without sounding the bell, specify the devices' points as controlled zones and supervised for trouble conditions. Refer to *Point Index* in *RPS Help* or the control panel's *Program Entry Guide* more information.

Bell configuration

– UL 365 requires a bell time of 15 to 30 min. The Rothenbuhler 5110 Bell provides selectable bell time through manipulation of its jumpers. Refer to the manufacturer's installation instructions for more information.
– In addition to the jumper settings inside the bell, you can activate the control panel for a bell time of 15 min.
– UL 365 requires a Bell Test at arming and you must enable it in control panel programming.
– Refer to the various bell parameters in *RPS Help* or the control panel's *Program Entry Guide* for more bell time and test programming information.

Bell test

– To enable the bell test feature, you enable an unused area of the control panel. Enable the bell test feature for the unused area only. Program OUTPUT B as the area bell output for the unused area.
– Make all passcodes with authority to arm the safe or vault and also send a Closing Report valid in this area. Program the area for a five-second exit delay.
– To complete the installation for this feature, connect the output to a D134 Dual Relay Module.

Exit delay

Do not program the control panel's maximum exit delay longer than 30 seconds.

Equipment requirements

– Control panel
– Two (2) D126 12 V, 7 Ah batteries
– Two (2) D1218 12 V, 18 Ah batteries
– B520 Auxiliary Power Supply Module/or D8132 Battery Charger Module
– Two (2) D8108A Enclosures
– D122 Dual Battery Harness
– D122L Dual Battery Harness
– D133 Relay Module
– EVD System (Listed Safe/Vault)

19.1.3   Fire applications

You can use UL Listed fire initiating devices not requiring electrical compatibility evaluation in any application. For example, the four-wire smoke detectors, heat detectors, waterflow switches, and manual pull stations are suitable fire initiating devices. Consult the individual component specification and installation documents to determine suitability.

Notice!
UL requires that the control panel supervises any device powered from a power output.

Notice!
The control panel does not support multiple detectors in alarm. The control panel is compatible with detectors with optional features. Do not mix detectors from different manufacturers on the same circuit.

Notice!

Fire and non-fire devices can share the expansion bus when the POPIT module provides data isolation between the input and bus connections.

Four-wire smoke detectors

When using four-wire smoke detectors, install a power supervision device according to the manufacturer's instructions. You can connect any number of four-wire smoke detectors to the control panel (subject to available auxiliary power).

The Reset Sensor command is available from the keypads when the Reset Sensor is enabled. Connect the smoke detectors to a suitable interface such as the B208 Octo-input Module or on-board point to meet UL and NFPA requirements.

Two-wire smoke detectors

Two-wire smoke detectors connect to the control panel only through the D125B Powered Loop Interface. Two-wire detectors must be evaluated for electrical compatibility, and be UL Listed for use with the control panel. Refer to the *Dual Class B Initiating Module (D125B) Installation Instructions* for detectors UL Listed for compatibility and the maximum number of detectors you can connect to each D125B loop.

You can also consult the smoke detector manufacturer to determine if a particular smoke detector is UL Listed for use with the control panel. When enabled, the Reset Sensor command is available from the keypads.

Compatibility specifications include:

– Voltage Range: 8.0 VDC to 14 VDC
– UL Compatibility Identifier: Type A (for control panel, detector, and base)

NFPA Style A (Class "B") Circuit

Loops A and B on the D125B Module are NFPA Style A (Class "B") initiating circuits suitable for connecting any fire alarm initiating device, including two-wire and four-wire smoke detectors.

Connecting initiating devices to on-board points (1 through 8) on the control panel.

– Use a D125B Powered Loop Interface Module with two-wire initiating devices.
– Use a D129 Dual Class "A" (NFPA Style D) Initiating Circuit Module with any type of initiating device, except a two-wire smoke detector.

Connecting initiating devices to off-board points:

– Do not connect two-wire smoke detectors to POPITs or MUX bus inputs.
– Use the D9127U or D9127T POPIT Modules to connect four-wire smoke.

Other devices

Use a D130 Relay Module, D8129 OctoRelay, or Switched Aux (Terminal 8) to provide reset capability to other initiating devices such as:

– B308 Octo-output Module
– D125B Powered Loop Interface Module (2-wire smoke detector module)
– D129 Dual "Class A" Initiation Circuit Module (4-wire smoke detector)
– D9127T/U POPITs
– On-board points

Install devices according to the manufacturer's instructions. For more information, refer to *Off-board outputs, page 69*.

For battery calculations, refer to *Standby battery requirements and calculations, page 110*.

> **Notice!**
> Test Weekly: Perform a Fire Test weekly. According to UL 864, a Fire Test tests both the AC power and the battery.

19.1.4 Enclosures

Mount the control panel assembly in any of the Bosch Security Systems, Inc. enclosures listed:

– D2203 Enclosure
– B8103 Universal Enclosure/D8103 Universal Enclosure
– D8109 Fire Enclosure (red)
– D8108A Attack Resistant Enclosure

B8103/D8103 Enclosure

The B8103/D8103 enclosures are suitable for residential fire and burglary installations and commercial burglary applications that do not require attack resistance or the approval by Factory Mutual (FM) or New York City – Materials and Equipment Acceptance (NYC-MEA). Refer to *Compatible UL listed components, page 107* for acceptable applications.

D8108A Enclosure

The D8108A is attack resistant and intended primarily for UL commercial burglar alarm and mercantile safe and vault applications requiring a local bell. Use this enclosure in any burglar or fire alarm application where the D8109 Enclosure is suitable.

With some modification, you can use the D8108A for bank safe and vault applications. UL lists the D8108A for all commercial fire alarm applications. It is approved by FM, CSFM, and the NYC-MEA.

D8109 Red Fire Enclosure

Generally, the D8109 is used for fire alarm applications. It is approved by FM, CSFM, and the NYC-MEA.

B12 Mounting Plate for D8103 Enclosure

The mounting plate is compatible with the D8103, D8108A, and D8109 Enclosures.

19.2 Combination fire and intrusion alarm systems

A system can include a combination of fire and intrusion devices on any bus or module.

19.3 Compatible UL listed components

Model number	Household Burglary	Household Fire	Household Fire/Burglary Combined	Central Station Burglary	Police Connected Burglary	Local Burglary	Local Fire/Burglary Combined	Local Fire	Local and Central Station Fire Combined	Local and Central Station Fire/ Burglary	Central Station Fire/Burglary Combined	Central Station Fire	Electrically Actuated Transmitter
Keypads													
B915/B915I	Opt	Opt	Opt	Opt	Opt	Opt	Opt** 3	No	No	Opt** 3	Opt** 3	No	No
B920	Opt	Opt	Opt	Opt	Opt	Opt	Opt** 3	No	No	Opt** 3	Opt** 3	No	No
B921C[3]	Opt	Opt	Opt	Opt	Opt	Opt	Opt **	No.	No	Opt **	Opt **	No.	No

Model number	Household Burglary	Household Fire	Household Fire/Burglary Combined	Central Station Burglary	Police Connected Burglary	Local Burglary	Local Fire/Burglary Combined	Local Fire	Local and Central Station Fire Combined	Local and Central Station Fire/ Burglary	Central Station Fire/Burglary Combined	Central Station Fire	Electrically Actuated Transmitter
B925F	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt
B926F	No	Opt	No	No	No	No	Opt	Opt	Opt	Opt	Opt	Opt	Opt
B930	Opt	Opt	Opt	Opt	Opt	Opt	Opt** 3	No	No	Opt** 3	Opt** 3	No	No
B942/B942W	Opt	Opt	Opt	Opt	Opt	Opt	Opt **	No.	No	Opt **	Opt **	No.	No
D1255 and D1260 Keypads	Opt	Opt	Opt	Opt	Opt	Opt	Opt **	No	No	Opt **	Opt **	No	No
D1257 Fire Annunciator	Opt	Opt	Opt	Opt	Opt	Opt	No	No	No	No	No	No	No
D1255RB, D1256RB, D1257RB	No	Opt	Opt	No	No	No	Opt	Opt	Opt	Opt	Opt	Opt	Opt
Transformers, batteries, power supplies, etc.													
B520	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt
D122/D122L	Suitable for use on approved applications.												
D126	Suitable for use on approved applications.												
D1218	Suitable for use on approved applications.												
D1640	Required for **all UL** applications.												
D1640-CA	Required for **all cUL** applications.												
Enclosures													
BATB-40/ BATB-80	Opt	Opt	Opt				Opt	Opt			Opt	Opt	
D8004	Opt	Opt	Opt	Opt	Opt	Opt	Req	Req	Req	Req	Req	Req	
B8103/D8103/ D8109 Enclosure	Opt	Opt	Opt	Opt	No	Opt	No	Opt	Opt	No	No	Opt	No
D8108A Enclosure	Opt	Opt	Opt	Opt	Req	Opt	Req	Opt	Opt	Req	Req	Opt	Opt
Expansion modules													
B208	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt
B299	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt
B308	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt

Model number	Household Burglary	Household Fire	Household Fire/Burglary Combined	Central Station Burglary	Police Connected Burglary	Local Burglary	Local Fire/Burglary Combined	Local Fire	Local and Central Station Fire Combined	Local and Central Station Fire/Burglary	Central Station Fire/Burglary Combined	Central Station Fire	Electrically Actuated Transmitter
B600	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt
D125B*	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt
D129*	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt
D192G	Opt	Opt	Opt	Opt	Opt	Opt	Req	Req	Req	Req	Req	Req	Req
D8125	Required for the D9127T/U POPITs.												
D8125MUX	Required for MUX devices.												
D8128D	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt
D8129	Optional. For remote annunciation of system functions.												
D8130	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt
D9127U/T	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	NA
Wireless													
B810	Opt	Opt	Opt	Opt	Opt	Opt	Opt	NA	NA	Opt **	Opt **	NA	NA
B820	Opt	Opt	Opt	Opt	Opt	Opt	Opt **3	NA	NA	Opt **3	Opt **3	NA	NA
Communicators													
B426	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt
B430[4]	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt
B440	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt
B441	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt
B442 [5]	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt
B443 [5]	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt
B450	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt
Accessories													
D113	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt
D130	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	
D132A	No	Opt	Opt	No	No	No	No	No	No	No	No	No	No
D133	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt
D134	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt
D161	Suitable for use on approved applications												

Model number	Household Burglary	Household Fire	Household Fire/Burglary Combined	Central Station Burglary	Police Connected Burglary	Local Burglary	Local Fire/Burglary Combined	Local Fire	Local and Central Station Fire Combined	Local and Central Station Fire/Burglary	Central Station Fire/Burglary Combined	Central Station Fire	Electrically Actuated Transmitter
D162	Suitable for use on approved applications.												
D185	No	No	No	No	No	No	Opt	Opt	Opt	Opt	Opt	Opt	Opt
ICP-SDI-9114**	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt
ICP-EZTS	Opt	No	Opt	Opt	Opt	Opt	Opt			Opt	Opt		
Door control (Access)													
B901	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt
Key	No. Not acceptable for this application.												
	Req. Required for this application.												
	Opt. Optional for this application.												
	1+. 1 or more required for this application. Consult the corresponding standard.												

* The D125B is required to connect two-wire fire alarm initiating devices. The D125B provides two powered loops for connecting listed two-wire smoke detectors. The D129 provides two non-powered Class "A" initiating circuits.

** Use of ICP-SDI-9114 will permit installation on commercial fire installations.

**[3] Commercial fire installations require separation between Fire and Burg devices. All fire devices would be required to be on a separate bus than burg.

[4] For commercial burglary applications using the B430, and when doing local or police station connect applications, the D8108A Enclosure is required for all applications.

[5]Check for availability in your region.

19.4   Standby battery requirements and calculations

Standby battery calculations

UL 365 requires 72 hours of standby battery capacity. Limit the auxiliary power current for all devices, including keypads, to 250 mA or less to meet this requirement.

		A			B			C		
		AC Power On Normal Current (mA)			AC Power Off Minimum Current (mA)			In Alarm Maximum Current (mA)		
Model Number	Qty Used	Each Unit	Qty	Total	Each Unit	Qty	Total	Each Unit	Qty	Total
B9512G/ B8512G	_____	190	x 1	= 190	190	x 1	= 190	265	x 1	= 265
B299	_____	40	x Qty	= _____	40	x Qty	= _____	140	x Qty	= _____
B208	_____	35	x Qty	= _____	35	x Qty	= _____	35	x Qty	= _____
B308[1]	_____	22	x Qty	= _____	22	x Qty	= _____	22	x Qty	= _____
B426	_____	100	x Qty	= _____	100	x Qty	= _____	100	x Qty	= _____

B430	_____	5	x 1	= _____	5	x Qty	= _____	25	x 1	= _____
B440	_____	35	x 1	= _____	35	x 1	= 35	150	x 1	= _____
B441	_____	35	x 1	= _____	35	x 1	= 35	150	x 1	= _____
B442	_____	35	x 1	= _____	35	x 1	= 35	150	x 1	= _____
B443	_____	35	x 1	= _____	35	x 1	= 35	150	x 1	= _____
B450[2]	_____	30	x Qty	= _____	30	x Qty	= _____	30	x Qty	= _____
B520	_____	15	x Qty	= _____	15	x Qty	= _____	15	x Qty	= _____
B600	_____	10	x Qty	= _____	10	x Qty	= _____	12	x Qty	= _____
B810	_____	100	x Qty	= _____	100	x Qty	= _____	100	x Qty	= _____
B820	_____	100	x Qty	= _____	100	x Qty	= _____	110	x Qty	= _____
B901	_____	110	x Qty	= _____	100	x Qty	= _____	110[6]	x Qty	= _____
B915/B915I	_____	35	x Qty	= _____	35	x Qty	= _____	70	x Qty	= _____
B920	_____	35	x Qty	= _____	35	x Qty	= _____	70	x Qty	= _____
B921C	_____	35	x Qty	= _____	35	x Qty	= _____	70	x Qty	= _____
B925F	_____	35	x Qty	= _____	35	x Qty	= _____	70	x Qty	= _____
B926F	_____	35	x Qty	= _____	35	x Qty	= _____	70	x Qty	= _____
B930	_____	35	x Qty	= _____	35	x Qty	= _____	80	x Qty	= _____
B942/B942W[3]	_____	200	x Qty	= _____	200	x Qty	= _____	300	x Qty	= _____
D125B	_____	25	x Qty	= _____	25	x Qty	= _____	168	x Qty	= _____
D127	_____	5	x Qty	= _____	5	x Qty	= _____	55	x Qty	= _____
D129	_____	23	x Qty	= _____	23	x Qty	= _____	25	x Qty	= _____
D132A	_____	10	x Qty	= _____	10	x Qty	= _____	70	x Qty	= _____
D133[4]	_____		x Qty	= _____		x Qty	= _____		x Qty	= _____
D134[5]	_____		x Qty	= _____		x Qty	= _____		x Qty	= _____
D185	_____	245	x Qty	= _____	245	x Qty	= _____	300	x Qty	= _____
D192G	_____	35	x Qty	= _____	35	x Qty	= _____	100	x Qty	= _____
D1255RB/ D1255	_____	104	x Qty	= _____	10+	x Qty	= _____	225	x Qty	= _____
D1256RB/ D1256	_____	104	x Qty	= _____	10+	x Qty	= _____	225	x Qty	= _____
D1257RB/ D1257	_____	104	x Qty	= _____	10+	x Qty	= _____	225	x Qty	= _____
D1260/D1260B	_____	140	x Qty	= _____	140	x Qty	= _____	250	x Qty	= _____
D8125	_____	60	x Qty	= _____	60	x Qty	= _____	60	x Qty	= _____
D8125MUX	_____	140	x Qty	= _____	140	x Qty	= _____	140	x Qty	= _____

D8128D	_____	25	x Qty	= _____	25	x Qty	= _____	50	x Qty	= _____
D8129	_____	20	x Qty	= _____	20	x Qty	= _____	Refer to footnote [1]		= _____
D9127T/U	_____	0.8	x Qty	= _____	0.8	x Qty	= _____	0.8	x Qty	= _____
D9210C	_____	110	x Qty	= _____	100	x Qty	= _____	110[6]	x Qty	= _____
Ratings of other devices in the system that are not shown above:										
___	_____	_____	x Qty	= _____	_____	x Qty	= _____	___	x Qty	= _____
___	_____	_____	x Qty	= _____	_____	x Qty	= _____	___	x Qty	= _____
___	_____	_____	x Qty	= _____	_____	x Qty	= _____	___	x Qty	= _____
___	_____	_____	x Qty	= _____	_____	x Qty	= _____	___	x Qty	= _____
			Total A = _____			Total B = _____			Total C = _____	

[1] The In Alarm calculation for the module is: 20 x Qty + (16.25 x number of relays).
[2] Currents listed are for the B450 only. Include plug-in device currents in calculations.
[3] If using the proximity reader, add 100 mA to columns A, B, and C before calculating.
[4] 38 mA for each active relay.
[5] Value = Minutes of alarm operation/60
[6] Use 110 mA + reader. Do not exceed 260 mA.

Table 19.12: Current rating chart for standby battery calculations

General ampere-hour (Ah) calculation

In this calculation, use Total B and Total C from the above table, and standby time (in hours) and alarm time (in minutes) from the table below.

(Total B x standby time (in hours)) + (Total C x (alarm time (in minutes) / 60)) x 1.15 = Total Ah of battery

Total Ah requirements must not exceed the Ah capacity of batteries:

– One D126 Battery = 7 Ah
– Two D126 Batteries = 14 Ah
– One D1218 Battery = 17.2 or 18 Ah
– Two D1218 Batteries = 34.4 or 36 Ah

Application	Standby time (in hours) minimum	Alarm time (in minutes) minimum
Residential Burglary	4	4
Proprietary Burglary	4	N/A
Central Station (Bank)	72	N/A
Central Station (Mercantile)	4	N/A
Police Station Connected (Bank)	72	30 (CUL)/15 (UL)
Police Station Connected (Mercantile)	24	30 (CUL)/15 (UL)
Local Burglary (Bank)	72	30 (CUL)/15 (UL)
Local Burglary (Mercantile)	24	30 (CUL)/15 (UL)

Holdup	8	N/A
Residential Fire	24	5 (CUL)/4 (UL)
Access Control	4	N/A

Table 19.13: Minimum standby and alarm times

Type	Required capacity	Calculations
Household Burglary and Commercial Burglary	4 hours	
Bank Safe and Vault	72 hours (UL 365). Auxiliary power current for all devices, including keypads, must be limited to 250 mA or less to meet this requirement.	
Central Station or Local Fire Alarm	24 hours + 5 minutes of alarm operation.	
Remote Station or Auxiliary Fire Alarm	60 hours + 5 minutes of alarm operation.	
Household Fire Warning Equipment	24 hours + 4 minutes of alarm operation.	
Access Control (Level iV Standby Power)	4 hours	

Table 19.14: Standby battery requirements

> **Notice!**
> Because of changing regulations, verify the necessary time with your local authority having jurisdiction (AHJ).

19.4.1 Household Fire Warning equipment

The Household Fire Warning Equipment Standard requires 24 hours of standby current plus 4 minutes of alarm operation at the end of the 24-hour period. Use battery Ah calculations to confirm compliance. The formula shown below includes the calculation for 4 minutes of alarm operation at the end of the 24-hour period, and a 15% contingency factor that allows for depletion of battery capacity with age.

Total B[1]		Hours		Total C[1]		Alarm Operation[2]		Contingency		Total Ah[3]
(_____	x	24)	+	(_____	x	0.083)	+	15%	=	_____
[1] Refer to previous table.										
[2] Value = Minutes of alarm operation/60										
[3] Total Ah requirements must not exceed the Ah capacity of batteries:										
– One D126 Battery = 7 Ah										
– Two D126 Batteries = 14 Ah										
– One D1218 Battery = 17.2 or 18 Ah										

Table 19.15: Household fire ampere-hour (Ah) calculation formula

19.5 UL 365 - Police Station Connected Burglar Alarm Units and Systems

In a mercantile burglar alarm system, a mercantile alarm sounding device located within a building but outside the protected area is acceptable provided it is rated for outside service and alarm conditions are transmitted to:
–   The dispatch location of the law enforcement agency having jurisdiction over the protected property

or

–   A central station or residential monitoring station complying with the Standard for Central-Station Alarm Services, UL 827.

In a mercantile burglar alarm system, an alarm sounding device located within the area of greatest protection, or outside the area of greatest protection but within an area protected by an alarm system, and that shares a common control unit with the system installed in the area of greatest protection, is acceptable provided it is rated for inside service and alarm conditions are transmitted to:
–   The dispatch location of the law enforcement agency having jurisdiction over the protected property

or

–   A central station or residential monitoring station complying with the Standard for Central-Station Alarm Services, UL 827.

Mount an inside sounding device at least 10 feet (3.05 m) above the floor or at the surface of the ceiling. When fixed construction within the area could provide access for an intruder, the mount the alarm sounding device at least 4 ft (1.2 m) as measured horizontally, away from the edges of the fixed construction or at least 10 ft (3.05 m) above it so as to minimize access by an intruder.

19.6 UL 636 - Holdup Alarm Units and System

When using control panels for hold-up operation, a hold-up point should be assigned to a point as follows:
–   P## Point Type set to 24-hr, P## Point Response set to 0 (Point is constantly armed regardless of the status of the system.)
–   P## Invisible Point set to Yes (Keypads do not display alarm activity from this point.)

When using Modem Format communication type, the unique point text should be set to ''Hold-Up'', or equivalent language per the AHJ.

When using Contact ID communication type, because the Contact ID system doesn't provide custom text, the hold-up point should be associated as a "hold-up" point at the receiving station. Set Area # Delay Restorals as follows:
–   Area # Delay Restorals = No (Restoral report is sent when point restores.)

19.7 ULC

Conduct testing monthly, with the primary de-energized.

20 Keypad Installer menu

In addition to using RPS to configure and diagnose a system, you can also perform programming and diagnostics using a keypad. Programming and diagnostics options appear on the keypad when you access the Main menu (Installer) option, which includes the Installer menu. The Main menu (Installer) option becomes available during normal control panel operation only when you enter your installer passcode and press ENTER. The default Installer passcode is 1-2-3.

The tools within the Installer menu are:

– Program menu. Program several parameters to make your system operational, including phone number and format, enhanced communication options, RPS parameters, users, points, and keypad parameters. Refer to *[1] Program menu, page 121* for more detailed information on each programming option, and to *RPS Help* or the control panel's *Program Entry Guide*.

– Wireless menu. Add, replace, remove, and diagnose points and repeaters. Refer to *[2] Wireless menu, page 153*.

– Diags menu. Diagnose points, repeaters, cellular service, IP cameras, and Cloud. Refer to *[3] Diags menu, page 158*.

– Service Bypass menu. View whether points are removed from service. Refer to *[4] Serv Byp (Service Bypass) menu, page 161*.

– Versions menu. View the version information for the control panel, encryption, and more. Refer to *[5] Versions menu, page 161*.

– Cloud menu. Enable Cloud connectivity for the control panel. Refer to *[6] Cloud menu, page 163*.

– USB Power menu. Turn the power to the USB port on or off. Refer to *[7] USB Power, page 163*.

Installer keypads and SERVICE MODE

The Installer menu is also available from the Service menu when in SERVICE MODE. The Service menu is a subset of the Main menu (Installer) option. You can use Service mode at any keypad, but the feature is most useful when you want to directly connect an Installer keypad to the control panel for keypad programming at the control panel. Set the Installer keypad to address 0, and then connect it to the control panel.

Use the control panel RESET button to enter SERVICE MODE. The rate of flashing of the Heartbeat LED increases while in SERVICE MODE.
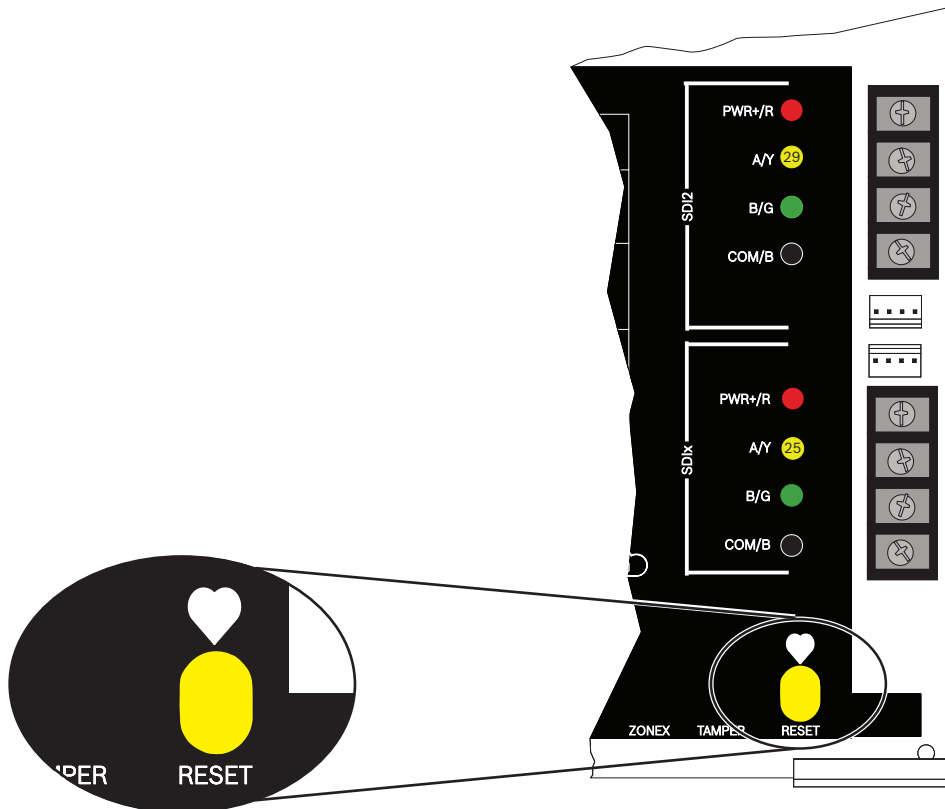
Figure 20.29: RESET button and Heartbeat LED location

Accessing SERVICE MODE (rapid pulsing Heartbeat LED):
1. Press and hold the control panel RESET button until the Heartbeat LED flashes fast. The keypad shows SERVICE MODE and prompts for the installer passcode.
2. Enter your installer passcode and press ENTER.

Exiting SERVICE MODE and returning to normal operation (slow pulsing Heartbeat LED):
Press and hold the control panel RESET button for approximately 5 seconds until the Heartbeat LED turns off. The control panel resets.

Conventions for this section
This guide to the keypad Installer menu provides instructions for using the keypad, based on the following conventions:

–   All instructions access the Installer menu from the Main menu (Installer) option, not while in Service mode.
–   This section covers all compatible keypads. It provides specific steps for each keypad style.
–   Keys to press appear in this manual in brackets [ ].
–   For simplicity, the keypad Installer menu tree and instructions combine the two-line keypad number selections with the text and graphic steps of other keypads. For example, rather than indicating that the two-line keypad reads Press [2] for enhanced comm parameters, and that a different keypad reads Enhanced Comm Parms, this section indicates the selection as [2] Enhanced Comm Parms.
–   For simplicity and readability of instructions, this section lists menu steps in succession with the > character separating steps. For example, Go to [1] Program > [1] Reporting > [2] Network > [2] Enhanced Comm Parms.

Keypad menu trees

This section includes menu trees for the Installer menu structure, and the structures of the B93x/B94x and B91x/B92x keypads user menus, for reference.

Installer
passcode

`1`

**Installer
menu**

**`1` Program
menu**

- `1` Reporting
  - `1` Phone
    - Phone Number
    - Format
    - `ESC` Exit menu
  - `2` Network
    - `1` Enhanced Comm
    - `2` Enhanced Comm Parms
      - Address
      - Port #
      - Poll Rate
      - Format
      - AES Size
      - AES Entry
      - `ESC` Exit
    - `ESC` Exit Reporting menu
  - `3` Routing
    - Primary
    - Backup
    - `ESC` Exit menu
  - `4` Notification
  - `ESC` Exit
- `2` Network
  - `1` Ethernet
    - `1` Bus Module (1)
    - `2` Bus Module (2)
    - `3` On-board
      - `1` Module Parameters
        - `1` DHCP Enable
        - `2` UPnP Enable
        - `ESC` Exit menu
      - `2` Address Parameters
        - `1` IP Address
        - `2` Subnet Mask
        - `3` Default Gateway
        - `4` Port Number
        - `ESC` Exit menu
      - `3` DNS Parameters
        - `1` IPv4 Server Address
        - `2` IPv6 Server Address
        - `3` Module Hostname
        - `ESC` Exit
      - `ESC`
    - `ESC` Exit
  - `2` Cellular
    - `1` SDI2 Cellular (1)
    - `2` SDI2 Cellular (2)
    - `3` Plug-in Module
      - `1` SIM APN
      - `2` SIM Username
      - `3` SIM Passcode
      - `4` SIM PIN
      - `ESC` Exit
    - `ESC` Exit
  - `ESC` Exit
- `3` RPS
  - `1` RPS Passcode
  - `2` RPS Phone Number
  - `3` RPS IP Address
  - `4` RPS Port Number
  - `ESC` Exit
- `4` Areas
  - Area On
  - Account #
  - `ESC` Exit menu
- `5` Keypad
  - Type
  - Scope
  - `ESC` Exit
- `6` Users
- `7` Points
  - Index
  - Source
  - `ESC` Exit menu
- `8` Disable
- `ESC` Exit

**`2` Wireless
menu**

- `1` RF Point Menu
  - `1` Enroll point RFID
  - `2` Replace point RFID
  - `3` Remove point RFID
  - `ESC` Exit
- `2` RF Repeater Menu
  - `1` Add repeater
  - `2` Replace repeater
  - `3` Remove repeater
  - `ESC` Exit
- `3` RF Diagnostic Menu
  - `1` RF point diag
    - `1` RF point state
    - `2` RF point signal
    - `ESC` Exit
  - `2` RF repeater diag
    - `1` RF repeater state
    - `2` RF repeater signal
    - `ESC` Exit
  - `ESC` Exit
- `ESC` Exit

**`3` Diags
menu**

- `1` Wireless
- `2` Network
  - `1` Bus Module (1)
  - `2` Bus Module (2)
  - `3` On-board IP
    - `1` Settings
    - `2` Connection
    - `ESC` Exit
  - `ESC` Exit
- `3` Cellular
  - `1` SDI2 Cellular (1)
  - `2` SDI2 Cellular (2)
  - `3` Plug-in Module
  - `ESC`
- `4` IP Camera
- `5` Cloud
- `ESC`

`4` Srvc Byp menu

`5` Versions menu

`6` Cloud menu

`7` USB Power menu

`ESC` **Exit**

Figure 20.30: Keypad Installer menu tree

Main menu
[1] <On/Off   Settings> [5]
[2] <Status   Shortcuts> [6] — *
[3] <Actions   Events> [7]
[4] <Users

Users menu
[1] <Change Passcode
[2] <Add User
[3] <Edit User
[4] <Delete User

Events menu
[1] <View Event Memory
[2] <Clear Event Memory
[3] <View Log

Actions menu
[1] <Reset   Go to Area> [5]
[2] <Outputs   Firmware> [6]
[3] <Test   Srv Bypass> [7]
[4] <RPS   Access> [8]

Edit User menu
[1] <Passcode   Card> [5]
[2] <Name   Language> [6]
[3] <Level   Mobile App> [7]
[4] <Keyfob

Settings menu
[1] <Watch   Dflt Text> [5]
[2] <Date/Time
[3] <Schedule
[4] <Keypad

RPS menu
[1] <Answer
[2] <Network Originate
[3] <Call via Phone

Add User menu
[1] <Passcode   Card> [5]
[2] <Name   Language> [6]
[3] <Level   Mobile App> [7]
[4] <Keyfob

Keypad menu
[1] <Brightness   Presence> [5]^
[2] <Volume
[3] <Keypress
[4] <Nightlight

Test menu
[1] <Walk Test
[2] <Test Report
[3] <Revisions
[4] <Notification Test

Access menu
[1] <Cycle Door
[2] <Unlock Door
[3] <Lock Door
[4] <Secure Door

Date/Time menu
[1] <Set Date
[2] <Set Time
[3] <Show Time
[4] <Set Date/Time Format

Status menu
[1] <View Area Status
[2] <View Point Status
[3] <Send Status Report

On/Off menu
[1] <All On   Bypass> [5]
[2] <Part On
[3] <Off
[4] <Extend Close

Bypass menu
[1] <Bypass points
[2] <Unbypass points

Off menu
[1] <Turn Off
[2] <Turn Off Select Area

Part On menu
[1] <Part On Delay
[2] <Part On Instant
[3] <Part On Select Area

All On menu
[1] <All On Delay
[2] <All On Instant
[3] <All On Select Area

*As configured by your security company. ^B94x only.

Figure 20.31: B93x/B94x keypads Main menu tree

Figure 20.32: B91x/B92x keypads Main menu tree

Escape, delete characters, and enter letters and special characters

– Escape from a menu. B91x/B92x/B93x keypads include a hard [ESC] key. To exit a menu and return to the previous level, press [ESC]. To exit and return to idle text from any level of the menu structure, press and hold [ESC]. The B94x has a ◪ key. To exit a menu and return to the previous level, press ◪. Notice! If editing a value on the B91x/B92x/B93x keypads, press and hold [ESC] to delete all the characters.

- Delete characters. B91x/B92x/B93x keypads use the [ESC] key as a backspace key. Press it once to delete the last character, or press and hold [ESC] to delete all the characters. The B94x key has a ⌫ (backspace) key on each keyboard screen.
- Enter letters. For B91x/B92x/B93x keypads, press a number key repeatedly to scroll through the number and letters shown on the key. For B94x, use the ABC keyboard.
- Special characters. For entering special characters on B91x/B92x keypads, refer to the table below. For entering special characters on a B93x, use the corresponding softkey. For entering special characters or accented characters on a B94x, press .?123 or à,æ,ë to open the corresponding keyboard.

Characters	B91x/B92x
Special dialing characters in phone numbers (*, C [3-sec pause], D [Dial Tone Detect])	Press [CMD]. The special characters menu appears. Use [PREV] or [NEXT] to cycle through the characters. Press [ENTER] to choose the character shown.
Network address characters	Use the [0] key to enter a period or dash.

20.1   [1] Program menu

With the Program menu, you can program parameters to make your system operational, including phone number and format, enhanced communication options, primary and backup routes, and notifications.

20.1.1   [1] Reporting > [1] Phone menu parameters

The control panel can dial as many as four different telephone numbers when sending event reports. In this menu, you can program the telephone numbers and the format.

	Format (circle one)	Phone number
Phone 1	Modem4/Contact ID	_____
Phone 2	Modem4/Contact ID	_____
Phone 3	Modem4/Contact ID	_____
Phone 4	Modem4/Contact ID	_____

Phone Number

B91x/B92x keypads configuration of Phone Number
1.   Enter the installer passcode, and then go the [1] Installer menu.
2.   Go to [1] Program > [1] Reporting > [1] Phone. The keypad display toggles between showing the phone number and phone format for the phone destination.
3.   Use [PREV] or [NEXT] to go to the destination you want to edit.
4.   Press [ENTER] to edit the phone destination and then [ENTER] to edit the phone number for the selected destination.
5.   Delete existing characters, if necessary, and then enter the new phone number.
6.   When finished, press [ENTER] to save the phone number.
7.   When the keypad shows *Parameter Saved*, escape from the menu.

B93x/B94x keypads configuration of Phone Number
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [1] Program > [1] Reporting > [1] Phone menu. The keypad shows the phone number for the phone destination.
3.   Use ←/[PREV] or →/[NEXT] to go to the destination you want to edit.
4.   Press [Edit] to change the phone number.
5.   Delete existing characters, if necessary, and then enter the new phone number.
6.   When finished, press [Save] to save the programming.
7.   When the keypad shows *Parameter Saved***,** escape from the menu.

Phone Format

B91x/B92x keypads configuration of Phone Format
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [1] Program > [1] Reporting > [1] Phone. The keypad display toggles between showing the phone number and phone format for the phone destination.
3.   Use [PREV] or [NEXT] to go to the destination you want to edit.
4.   Press [ENTER] to edit the phone destination and then press [NEXT] to go to the format option.
5.   Press [ENTER] to edit the phone format for the selected destination.

6. Use [PREV] or [NEXT] to toggle between the Contact ID and Modem4 option.
7. Press [ENTER] while viewing the desired format to select it and save the programming.
8. When the keypad shows *Parameter Saved*, escape from the menu.

B93x/B94x keypads configuration of Phone Format
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [1] Reporting > [1] Phone menu. The keypad shows the phone number for the phone destination.
3. Use ⬅/[PREV] or ➡/[NEXT] to go to the destination you want to edit.
4. Press [Format] to view and edit the phone format, and then press [Edit] to edit the phone format.
5. Press the icon or softkey for the desired format.
6. Press [Save] to save the programming.
7. When the keypad shows *Parameter Saved*, escape from the menu.

20.1.2   [1] Reporting > [2] Network menu parameters

Enhanced communications is the ability to communicate by some means other than a standard digital dialer. The control panel can include four separate enhanced communication destinations to which the control panel can route events. In this menu, you can enable enhanced communication and edit the network address, network address, poll rate, and port number for each destination (D1, D2, D3, and D4).

D1	Network address _____	Poll rate _____	Port number _____
D2	Network address _____	Poll rate _____	Port number _____
D3	Network address _____	Poll rate _____	Port number _____
D4	Network address _____	Poll rate _____	Port number _____

Enhanced Comm

B91x/B92x keypads configuration of Enhanced Comm
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [1] Reporting > [2] Network > [1] Enhanced Comm. The keypad shows the Enhanced Comm option as well as the current default value.
3. Press [ENTER] to view and change the enhanced comm options.
4. Use [PREV] or [NEXT] to toggle between the Yes and No options.
5. Press [ENTER] while viewing the desired option to save the programming.
6. When the keypad shows *Parameter Saved*, escape from the menu.

B93x/B94x keypads configuration of Enhanced Comm
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [1] Reporting > [2] Network > [1] Enhanced Comm menu. The keypad shows the Enhanced Comm option as well as the current default value.
3. Press [Enhanced Comm] to view and change the enhanced comm options, and then press [Edit] to edit the enhanced communication option.
4. Press the icon or softkey for the desired option.
5. Press [Save] to save the programming.
6. When the keypad shows *Parameter Saved*, escape from the menu.

Network Address

Port Number

Poll Rate (seconds)

Format

AES Size

AES Entry

B91x/B92x keypads configuration of Enhanced Comm Parameters
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [1] Program > [1] Reporting > [2] Network > [2] Enhanced Comm Parms. The keypad scrolls the entries for the selected Enhanced Comm destination.
3.   Use [PREV] or [NEXT] to go to the destination you want to edit.
4.   Press [ENTER] to edit the selected Enhanced Comm destination. The keypad asks if you want to edit the address.
5.   Press [ENTER] to edit the network address. The existing address and an editing cursor show.
6.   Delete existing characters, if necessary, and then enter the new address.
7.   Press [ENTER] to save the address. The keypad shows *Parameter Saved*.
8.   Press [NEXT]. The currently configured port number shows, and the keypad asks if you want to edit it.
9.   Press [ENTER] to edit the port number. The existing port number and an editing cursor show.
10.   Delete existing characters, if necessary, and then enter the new rate.
11.   Press [ENTER] to save the port. The keypad shows *Parameter Saved*.
12.   Press [NEXT]. The currently configured poll rate shows, and the keypad asks if you want to edit it.
13.   Press [ENTER] to edit the poll rate. The existing poll rate and an editing cursor show.
14.   Delete existing characters, if necessary, and then enter the new poll rate.
15.   Press [ENTER] to save the poll rate. The keypad shows *Parameter Saved*.
16.   Press [NEXT]. The current format (Modem4 or Contact ID) shows.
17.   Press [ENTER] to edit the format.
18.   Use [PREV] or [NEXT] to select the desired format, Modem4 or Contact ID.
19.   Press [ENTER] to save the format. The keypad shows *Parameter Saved*.
20.   Press [NEXT]. The current AES key size shows.
21.   Press [ENTER] to edit the AES key size.
22.   Use [PREV] or [NEXT] to select the desired size.
23.   Press [ENTER] to save the size. The keypad shows *Parameter Saved*.
24.   .Press [ESC] to return to the list of enhanced comm options, or press and hold [ESC] to exit the Installer menu.

B93x/B94x keypads configuration of Network Address, Poll Rate (seconds), and Port Number
1.   Enter the installer passcode, and then open the [1] Installer menu.

2. Go to [1] Program > [1] Reporting > [2] Network > [2] Enhanced Comm Parms. The keypad shows the network address for the selected Enhanced Comm destination.
3. Use ←/[PREV] or →/[NEXT] to go to the destination you want to edit.
4. Press [Edit] to change the network address. The existing address and an editing cursor show.
5. Delete existing characters, if necessary, and then enter the new address.
6. Press [Save] to save the address. The keypad shows *Parameter Saved*, and returns to the previous menu.
7. Press [Port #] to view the port number, and then press [Edit] to edit the port number.
8. Delete existing characters, if necessary, and then enter the new port number.
9. Press [Save] to save the address. The keypad shows *Parameter Saved*, and returns to the previous menu.
10. Press [Poll Rate] to view the poll rate, and then press [Edit] to edit the poll rate number.
11. Delete existing characters, if necessary, and then enter the new poll rate.
12. Press [Save] to save the address. The keypad shows *Parameter Saved*, and returns to the previous menu.
13. Press the icon or softkey for the desired option (address, port #, poll rate, AES key size).
14. Press [Edit] to change programming.
15. Press [Save] to save the programming.
16. When the keypad shows *Parameter Saved*, escape from the menu.

20.1.3   [1] Reporting > [3] Routing menu parameters

Use routing to program primary and backup destinations over standard telephone lines, local area network (LAN) or wide area network (WAN). In this menu, you can designate the primary and backup destinations for up to four routes.

Options include:

No Device, Phone 1, Phone 2, Phone 3, Phone 4, SDI2-1 D1, SDI2-1 D2, SDI2-1 D3, SDI2-1 D4, SDI2-2 D1, SDI2-2 D2, SDI2-2 D3, SDI2-2 D4, Onboard D1, Onboard D2, Onboard D3, Onboard D4, Cellular D1, Cellular D2, Cellular D3, Cellular D4.

		Route 1	Route 2	Route 3	Route 4
Primary Device	No Device	_____	_____	_____	_____
Backup Device	No Device	_____	_____	_____	_____

Primary Destination Device

B91x/B92x keypads configuration of Primary Destination Device
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [1] Reporting > [3] Routing. The keypad toggles between showing the current primary and backup setting for the selected route.
3. Use [PREV] or NEXT] to scroll though the list of routes and go to the route you want to program.
4. Press [ENTER] to edit the route.
5. Press [ENTER] to edit the primary route. The keypad shows Set Route Device.
6. Use [PREV] or NEXT] to scroll though the list of devices (for destination 1) and go to the destination 1 option you want to select for the current device (for example, Phone 1).
7. Press [ENTER] to select the device. The keypad shows Set route dest 1-4. To keep destination 1, escape from the menu. To change to a different destination (2, 3, or 4), continue to Step 8.

8. Delete existing characters, if necessary, and then enter the new number.
9. Press [ENTER] to save the change, and then escape from the menu.

B93x/B94x keypads configuration of Primary Destination Device
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [1] Reporting > [3] Routing. The keypad shows the primary device for the selected route.
3. Use ⬅/[PREV] or ➡/[NEXT] to scroll though the list of routes and go to the route you want to program.
4. Press [Edit] to edit the primary destination device for the selected route.
5. Use ⬅/[PREV] or ➡/[NEXT] to scroll though the list of devices (for destination 1) and go to the destination 1 option you want to select for the current device (for example, Phone 1).
6. To keep destination 1, escape from the menu. To change to a different destination (2, 3, or 4), press [Edit Destination] and continue to Step 8.
7. Delete existing characters, if necessary, and then enter the new number.
8. Press [Save] to save the change, and then escape from the menu.

Backup Destination Device

ℹ️	**Notice!** Keypads show and allow you to select the Backup Destination Device only after you select a Primary Destination Device.

B91x/B92x keypads configuration of Backup Destination Device
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [1] Reporting > [3] Routing. The keypad toggles between showing the current primary and backup setting for the selected route.
3. Use [PREV] or [NEXT] to scroll though the list of route and go to the route you want to program.
4. Press [ENTER] to edit the route.
5. Press [NEXT] to go to the option to edit the backup route.
6. Press [ENTER]. The keypad shows Set Route Device.
7. Use [PREV] or [NEXT] to scroll though the list of device (for destination 1) and go to the destination 1 option you want to select for the current device (for example, Phone 1).
8. Press [ENTER] to select the device. The keypad shows Set route dest 1-4. To keep destination 1, escape from the menu. To change to a different destination (2, 3, or 4), continue to Step 9.
9. Delete the current number, and then enter the new number.
10. Press [ENTER] to save the change, and then escape from the menu.

B93x/B94x keypads configuration of Backup Destination Device
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [1] Reporting > [3] Routing. The keypad shows the primary device for the selected route.
3. Use ⬅/[PREV] or ➡/[NEXT] to scroll though the list of routes and go to the route you want to program.
4. Press [Backup] to edit the backup destination device for the selected route.

5. Use [PREV] or [NEXT] to scroll though the list of devices (for destination 1) and go to the destination 1 option you want to select for the current device (for example, Phone 1).
6. To keep destination 1, escape from the menu. To change to a different destination (2, 3, or 4), press [Edit Destination] and continue to Step 8.
7. Delete the current number, and then enter the new number.
8. Press [Save] to save the change, and then escape from the menu.

20.1.4 [1] Reporting > [4] Personal Note menu parameters

The control panel can send text messages and emails for personal notification over Ethernet or using a cellular communicator. You can configure up to 32 destinations using a combination of cellular phone numbers and email addresses. The system considers an email address valid if you copy it exactly as it appears from an internet email provider. In this menu, you can add a phone number or email address to each personal notification identifier (1 through 32).

Notification Number	Phone number or email address
1	_____
2	_____
3	_____
4	_____
5	_____
6	_____
7	_____
8	_____
19	_____
10	_____
11	_____
12	_____
13	_____
14	_____
15	_____
16	_____
17	_____
18	_____
19	_____
20	_____
21	_____
22	_____
23	_____
24	_____

25	_____
26	_____
27	_____
28	_____
29	_____
30	_____
31	_____
32	_____

SMS Phone #

B91x/B92x keypads configuration of SMS Phone #
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [1] Reporting > [4] Personal Note. The keypad shows the phone number or email address of the selected personal notification destination.
3. Use [PREV] or [NEXT] to scroll though the list of personal notification destination, and go to the destination you want to program.
4. Press [ENTER] to edit the phone number or email address.
5. Delete existing characters, if necessary, and then enter the new characters.
6. Press [ENTER] to save the phone number or email address.
7. When the keypad shows *Parameter Saved*, escape from the menu.

B93x/B94x keypads configuration of SMS Phone #
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [1] Reporting > [4] Personal Note. The keypad shows the phone number or email address of the selected destination.
3. Use ◀/[PREV] or ▶/[NEXT] to scroll though the list of destinations and go to the destination you want to program.
4. Press [Edit] to edit the phone number or email address.
5. Delete existing characters, if necessary, and then enter the new characters.
6. Press [Save] to save the phone number or email address.
7. When the keypad shows *Parameter Saved*, escape from the menu.

20.1.5 [2] Network > [1] Ethernet > (choose the bus module or on-board) > [1] Module Parameters menu

You can use DCHP/AutoIP or UPnP for Ethernet communication with the on-board Ethernet or a B426. In this menu, you can enable and disable these protocols.

	Default	Module settings
DHCP/AutoIP Enable	Yes	Yes/No
UPnP Enable	Yes	Yes/No
IPv4 Address	0.0.0.0	_____
IPv4 Subnet Mask	255.255.255.255	_____
Default Gateway	0.0.0.0	_____

HTTP Port Number	80	_____
IPv4 Server Address	0.0.0.0	_____
IPv6 Server Address	0.0.0.0	_____
Module Hostname	Blank	_____

DHCP/AutoIP Enable

B91x/B92x keypads configuration of DHCP/AutoIP Enable
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [2] Network > [1] Ethernet > (choose the bus module or on-board) > [1] Module Parameters > [1] DHCP. The keypad shows the DHCP/AutoIP current configuration.
3. Press [ENTER] to edit the DHCP/AutoIP Enable configuration for the module.
4. Use [PREV] or [NEXT] to toggle between Yes and No.
5. Press [ENTER] while viewing the desired option to save the programming.
6. When the keypad shows *Parameter Saved*, escape from the menu.

B93x/B94x keypads configuration of DHCP/AutoIP Enable
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [2] Network > [1] Ethernet > (choose the bus module or on-board) > [1] Module Parameters > [1] DHCP. The keypad shows the DHCP/AutoIP current configuration.
3. Press [Yes] or [No] – whichever is available – to change the programming.
4. Press [Save] to save the programming.
5. When the keypad shows *Parameter Saved*, escape from the menu.

UPnP Enable

B91x/B92x keypads configuration of UPnP Enable
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [2] Network > [1] Ethernet > (choose the bus module or on-board) > [1] Module Parameters > [2] UPnP. The keypad shows the UPnP current configuration.
3. Press [ENTER] to edit the UPnP Enable configuration for the module.
4. Use [PREV] or [NEXT] to toggle between Yes and No.
5. Press [ENTER] while viewing the desired option to save the programming.
6. When the keypad shows *Parameter Saved*, escape from the menu.

B93x/B94x keypads configuration of UPnP Enable
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [2] Network > [1] Ethernet > (choose the bus module or on-board) > [1] Module Parameters > [2] UPnP. The keypad shows the UPnP current configuration.
3. Press [Yes] or [No] – whichever is available – to change the programming.
4. Press [Save] to save the programming.
5. When the keypad shows *Parameter Saved*, escape from the menu.

20.1.6   **[2] Network > [1] Ethernet > (choose the bus module or on-board) > [2] Address Parameters menu**

IPv4 Address

B91x/B92x keypads configuration of IPv4 Address
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [1] Program > [2] Network > [1] Ethernet > (choose the bus module or on-board) > [2] Address Parameters > [1] IP Address.
3.   Press [ENTER] to edit the IP address.
4.   Delete the existing number, if necessary, and then enter the new number. Use [PREV] or [NEXT] to move to a different byte.
5.   Press [ENTER] to save the programming.
6.   When the keypad shows *Parameter Saved*, escape from the menu.

B93x/B94x keypads configuration of IPv4 Address
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [1] Program > [2] Network > [1] Ethernet > (choose the bus module or on-board) > [2] Address Parameters > [1] IP Address.
3.   Press [Edit] to edit the IP address.
4.   Delete the existing number, if necessary, and then enter the new number. Use ←/[PREV] or →/[NEXT] to move through the different bytes.
5.   Press [Save] to save the programming.
6.   When the keypad shows *Parameter Saved*, escape from the menu.

IPv4 Subnet Mask

B91x/B92x keypads configuration of IPv4 Subnet Mask
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [1] Program > [2] Network > [1] Ethernet > (choose the bus module or on-board) > [2] Address Parameters > [2] Subnet Mask.
3.   Press [ENTER] to edit the subnet mask address.
4.   Delete the existing number, if necessary, and then enter the new number. Use [PREV] or [NEXT] to move to a different byte.
5.   Press [ENTER] to save the programming.
6.   When the keypad shows *Parameter Saved*, escape from the menu.

B93x/B94x keypads configuration of IPv4 Subnet Mask
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [1] Program > [2] Network > [1] Ethernet > (choose the bus module or on-board) > [2] Subnet Mask.
3.   Press [IPv4 Subnet Mask] to edit the subnet mask address.
4.   Delete the existing number, if necessary, and then enter the new number. Use ←/[PREV] or →/[NEXT] to move to a different byte, and use the number keys to enter the new numbers.
5.   Press [Save] to save the programming.
6.   When the keypad shows *Parameter Saved*, escape from the menu.

Default Gateway

B91x/B92x keypads configuration of Default Gateway
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [1] Program > [2] Network > [1] Ethernet > (choose the bus module or on-board) > [2] Address Parameters > [3] Default Gateway.
3.   Press [ENTER] to edit the gateway.
4.   Delete the existing number, if necessary, and then enter the new number. Use [PREV] or [NEXT] to move to a different byte.
5.   Press [ENTER] to save the programming.
6.   When the keypad shows *Parameter Saved*, escape from the menu.

B93x/B94x keypads configuration of Default Gateway
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [1] Program > [2] Network > [1] Ethernet > (choose the bus module or on-board) > [2] Address Parameters > [3] Default Gateway.
3.   Press [Default Gateway] to edit the gateway.
4.   Delete the existing number, if necessary, and then enter the new number. Use ⬅/[PREV] or ➡/[NEXT] to move to a different byte.
5.   Press [Save] to save the programming.
6.   When the keypad shows *Parameter Saved*, escape from the menu.

HTTP Port Number

B91x/B92x keypads configuration of HTTP Port Number
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [1] Program > [2] Network > [1] Ethernet > (choose the bus module or on-board) > [2] Address Parameters > [4] HTTP Port Number.
3.   Press [ENTER] to edit the port number.
4.   Delete the existing number, if necessary, and then enter the new number.
5.   Press [ENTER] to save the programming.
6.   When the keypad shows *Parameter Saved*, escape from the menu.

B93x/B94x keypads configuration of HTTP Port Number
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [1] Program > [2] Network > [1] Ethernet > (choose the bus module or on-board) > [2] Address Parameters > [4] HTTP Port Number.
3.   Press [HTTP Port Number] to edit the port number.
4.   Delete the existing number, if necessary, and then enter the new number.
5.   Press [Save] to save the programming.
6.   When the keypad shows *Parameter Saved*, escape from the menu.

20.1.7   [2] Network > [1] Ethernet > (choose the bus module or on-board) > [3] DNS Parameters menu

IPv4 Server Address

B91x/B92x keypads configuration of IPv4 Server Address
1.   Enter the installer passcode, and then open the [1] Installer menu.

2. Go to [1] Program > [2] Network > [1] Ethernet > (choose the bus module or on-board) >
    [3] DNS Parameters > [1] IPv4 Server Address. The keypad shows the IPv4 Server
    Address current configuration.
3. Press [ENTER] to edit the IPv4 Server Address.
4. Delete the existing number, if necessary, and then enter the new number. Use [PREV] or
    [NEXT] to move to a different byte.
5. Press [ENTER] to save the programming.
6. When the keypad shows *Parameter Saved*, escape from the menu.

B93x/B94x keypads configuration of IPv4 Server Address
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [2] Network > [1] Ethernet > (choose the bus module or on-board) >
    [3] DNS Parameters [1] IPv4 Server Address. The keypad shows the DHCP/AutoIP current
    configuration.
3. Press [IPv4 Server Address] to edit the IP address.
4. Delete the existing number, if necessary, and then enter the new number. Use ⬅/[PREV]
    or ➡/[NEXT] to move to a different byte.
5. Press [Save] to save the programming.
6. When the keypad shows *Parameter Saved*, escape from the menu.

IPv6 Server Address

B91x/B92x keypads configuration of IPv6 Server Address
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [2] Network > [1] Ethernet > (choose the bus module or on-board) >
    [3] DNS Parameters > [2] IPv6 Server Address. The keypad shows the IPv4 Server
    Address current configuration.
3. Press [ENTER] to edit the IPv6 Server Address.
4. Delete the existing number, if necessary, and then enter the new number. Use [PREV] or
    [NEXT] to move to a different byte.
5. Press [ENTER] to save the programming.
6. When the keypad shows *Parameter Saved*, escape from the menu.

B93x/B94x keypads configuration of IPv6 Server Address
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [2] Network > [1] Ethernet > (choose the bus module or on-board) >
    [3] DNS Parameters > [2] IPv6 Server Address. The keypad shows the DHCP/AutoIP
    current configuration.
3. Press [IPv6 Server Address] to edit the IP address.
4. Delete the existing number, if necessary, and then enter the new number. Use ⬅/[PREV]
    or ➡/[NEXT] to move to a different byte.
5. Press [Save] to save the programming.
6. When the keypad shows *Parameter Saved*, escape from the menu.

Module Hostname

B91x/B92x keypads configuration of Module Hostname
1. Enter the installer passcode, and then open the [1] Installer menu.

2.   Go to [1] Program > [2] Network > [1] Ethernet > (choose the bus module or on-board) > [3] DNS Parameters > [3] Module Hostname. The keypad shows the IPv4 Server Address current configuration.
3.   Press [ENTER] to edit the hostname.
4.   Delete existing characters, if necessary, and then enter the new characters.
5.   Press [ENTER] to save the programming.
6.   When the keypad shows *Parameter Saved*, escape from the menu.

B93x/B94x keypads configuration of Module Hostname
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [1] Program > [2] Network > [1] Ethernet > (choose the bus module or on-board) > [3] DNS Parameters > [3] Module Hostname. The keypad shows the DHCP/AutoIP current configuration.
3.   Press [Module Hostname] to edit the hostname
4.   Delete existing characters, if necessary, and then enter the new characters.
5.   Press [Save] to save the programming.
6.   When the keypad shows *Parameter Saved*, escape from the menu.

20.1.8   [2] Network > [2] Cellular > (choose the SDI2 cellular module or plug-in module)

You can use a B44x cellular communication module for communication. Plug it directly into the control panel or use it with a B450 module.

	Module 1settings	**Module 2 settings**
SIM APN	_____	_____
SIM Username	_____	_____
SIM Passcode	_____	_____
SIM PIN	_____	_____

SIM APN

B91x/B92x keypads configuration of SIM APN
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [1] Program > [2] Network > [2] Cellular > (choose the SDI2 cellular module or plug-in module) > [1] SIM APN. The keypad shows the current configuration.
3.   Press [ENTER] to edit the configuration.
4.   Delete existing characters, if necessary, and then enter the new characters.
5.   Press [ENTER] to save the programming.
6.   When the keypad shows *Parameter Saved*, escape from the menu.

B93x/B94x keypads configuration of SIM APN
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [1] Program > [2] Network > [2] Cellular > (choose the SDI2 cellular module or plug-in module) > [1] SIM APN. The keypad shows the DHCP/AutoIP current configuration.
3.   Press [Edit] to edit the configuration.
4.   Delete existing characters, if necessary, and then enter the new characters.
5.   Press [Save] to save the changes.

6.   When the keypad shows *Parameter Saved*, escape from the menu.

SIM Username

B91x/B92x keypads configuration of SIM Username
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [1] Program > [2] Network > [2] Cellular > (choose the SDI2 cellular module or plug-in module) > [2] SIM Username. The keypad shows the current configuration.
3.   Press [ENTER] to edit the configuration.
4.   Delete existing characters, if necessary, and then enter the new characters.
5.   Press [ENTER] to save the changes.
6.   When the keypad shows *Parameter Saved*, escape from the menu.

B93x/B94x keypads configuration of SIM Username
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [1] Program > [2] Network > [2] Cellular > (choose the SDI2 cellular module or plug-in module) > [2] SIM Username. The keypad shows the UPnP current configuration.
3.   Press [Edit] to edit the configuration.
4.   Delete existing characters, if necessary, and then enter the new characters.
5.   Press [Save] to save the programming.
6.   When the keypad shows *Parameter Saved*, escape from the menu.

SIM Passcode

B91x/B92x keypads configuration of SIM Passcode
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [1] Program > [2] Network > [2] Cellular > (choose the SDI2 cellular module or plug-in module) > [3] SIM Passcode. The keypad shows the current configuration.
3.   Press [ENTER] to edit the configuration.
4.   Delete existing characters, if necessary, and then enter the new characters.
5.   Press [ENTER] to save the changes.
6.   When the keypad shows *Parameter Saved*, escape from the menu.

B93x/B94x keypads configuration of SIM Passcode
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [1] Program > [2] Network > [2] Cellular > (choose the SDI2 cellular module or plug-in module) > [3] SIM Passcode. The keypad shows the UPnP current configuration.
3.   Press [Edit] to edit the configuration.
4.   Delete existing characters, if necessary, and then enter the new characters.
5.   Press [Save] to save the programming.
6.   When the keypad shows *Parameter Saved*, escape from the menu.

SIM PIN

B91x/B92x keypads configuration of SIM PIN
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [1] Program > [2] Network > [2] Cellular > (choose the SDI2 cellular module or plug-in module) > [4] SIM PIN. The keypad shows the current configuration.
3.   Press [ENTER] to edit the configuration.

4. Delete existing characters, if necessary, and then enter the new characters.
5. Press [ENTER] to save the changes.
6. When the keypad shows *Parameter Saved*, escape from the menu.

B93x/B94x keypads configuration of SIM Passcode
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [2] Network > [2] Cellular > (choose the SDI2 cellular module or plug-in module) > [4] SIM PIN. The keypad shows the UPnP current configuration.
3. Press [Edit] to edit the configuration.
4. Delete existing characters, if necessary, and then enter the new characters.
5. Press [Save] to save the programming.
6. When the keypad shows *Parameter Saved*, escape from the menu.

20.1.9   [3] RPS > [1] RPS Passcode menu parameters

The control panel verifies the remote programming software at the central station has valid access before connecting using the RPS passcode. In this menu, you can program the RPS passcode.

RPS Passcode

B91x/B92x keypads configuration of RPS Passcode
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [3] RPS > [1] RPS Passcode.
3. Press [ENTER] to edit RPS passcode.
4. Delete existing characters, if necessary, and then enter the new characters.
5. Press [ENTER] to save the programming.
6. When the keypad shows *Parameter Saved*, escape from the menu.

B93x/B94x keypads configuration of RPS Passcode
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [3] RPS > [1] RPS Passcode.
3. Press [Edit] to change the passcode.
4. Delete existing characters, if necessary, and then enter the new characters.
5. Press [Save] to save the programming.
6. When the keypad shows *Parameter Saved*, escape from the menu.

20.1.10   [3] RPS > [2] RPS Phone Number menu parameters

The RPS Phone Number is the number the control panel dials to contact RPS. In this menu, you can program the RPS phone number.

RPS Phone Number

B91x/B92x keypads configuration of RPS Phone Number
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [3] RPS > [2] RPS Phone Number.
3. Press [ENTER] to edit RPS phone number.
4. Delete existing numbers, if necessary, and then enter the new numbers.
5. Press [ENTER] to save the programming.
6. When the keypad shows *Parameter Saved*, escape from the menu.

B93x/B94x keypads configuration of RPS Phone Number
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [1] Program > [3] RPS > [2] RPS Phone Number.
3.   Press [Edit] to change the phone number.
4.   Delete existing number, if necessary, and then enter the new number.
5.   Press [ENTER] to save the phone number.
6.   Press [Save] to save the programming.
7.   When the keypad shows *Parameter Saved*, escape from the menu.

20.1.11   [3] RPS > [3] RPS IP Address menu parameters

The control panel can use a network hostname or an IPv4 address to call RPS. In this menu, you can program the IPv4 address or hostname for RPS communication.

RPS IP Address

B91x/B92x keypads configuration of RPS IP Address
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [1] Program > [3] RPS > [3] RPS IP Address.
3.   Press [ENTER] to edit RPS IP address.
4.   Use [PREV] or [NEXT] to toggle between the option to edit the address as an IPv4 address or as a hostname. Press [ENTER] when the keypad shows the option you want to edit.
5.   Delete existing characters, if necessary, and then enter the new characters. Use [PREV] or [NEXT] to move to a different byte (group of digits).
6.   Press [ENTER] to save the programming.
7.   When the keypad shows *Parameter Saved*, escape from the menu.

B93x/B94x keypads configuration of RPS IP Address
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [1] Program > [3] RPS > [3] RPS IP Address.
3.   Press [Edit as IPv4] for an IP address, or the [Edit as Name] for a hostname.
4.   Delete existing characters, if necessary, and then enter the new characters. Use [PREV] or [NEXT] to move to a different byte (group of digits).
5.   For an IPv4 address, use ←/[PREV] or →/[NEXT] to move to a different byte, and use the number keys to enter the new numbers. For a hostname, press a number key repeatedly to scroll through the number and letters shown on the key.
6.   Press [Save] to save the programming.
7.   When the keypad shows *Parameter Saved*, escape from the menu.

20.1.12   [3] RPS > [4] RPS Port Number menu parameters

In this menu, you can specify the destination port for outgoing RPS session requests to the specified IP address.

RPS Port Number

B91x/B92x keypads configuration of RPS Port Number
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [1] Program > [3] RPS > [3] RPS Port Number.
3.   Press [ENTER] to edit RPS port number.
4.   Delete the existing number, if necessary, and then enter the new number.
5.   Press [ENTER] to save the programming.

6. When the keypad shows *Parameter Saved*, escape from the menu.

B93x/B94x keypads configuration of RPS Port Number
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [3] RPS > [3] RPS Port Number.
3. Press [Edit] to change the port number.
4. Delete the existing number, if necessary, and then enter the new number.
5. Press [Save] to save the programming.
6. When the keypad shows *Parameter Saved*, escape from the menu.

20.1.13   [4] Area Options menu parameters

This parameter enables or disables specified areas. Enabled areas must have assigned account numbers. In this menu, you can turn on or off areas and assign area account numbers.

> **Notice!**
> Account numbers can contain characters 0 through 9, and B through F.

	Area 1	**Area 2**	**Area 3**	**Area 4**
Area On	Yes/No	Yes/No	Yes/No	Yes/No
Account Number	_____	_____	_____	_____
	Area 5	**Area 6**	**Area 7**	**Area 8**
Area On	Yes/No	Yes/No	Yes/No	Yes/No
Account Number	_____	_____	_____	_____
	Area 9*	**Area 10***	**Area 11***	**Area 12***
Area On	Yes/No	Yes/No	Yes/No	Yes/No
Account Number	_____	_____	_____	_____
	Area 13*	**Area 14***	**Area 15***	**Area 16***
Area On	Yes/No	Yes/No	Yes/No	Yes/No
Account Number	_____	_____	_____	_____
	Area 17*	**Area 18***	**Area 19***	**Area 20***
Area On	Yes/No	Yes/No	Yes/No	Yes/No
Account Number	_____	_____	_____	_____
	Area 21*	**Area 22***	**Area 23***	**Area 24***
Area On	Yes/No	Yes/No	Yes/No	Yes/No
Account Number	_____	_____	_____	_____
	Area 25*	**Area 26***	**Area 27***	**Area 28***

| | Area On | Yes/No | Yes/No | Yes/No | Yes/No |
| Account Number | _____ | _____ | _____ | _____ |

	Area 29*	**Area 30***	**Area 31***	**Area 32***
Area On	Yes/No	Yes/No	Yes/No	Yes/No
Account Number	_____	_____	_____	_____

*Supported by the B9512G only.

Area On

B91x/B92x keypads configuration of Area On
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [4] Area Options. The keypad toggles between showing the Area On state and the account number for the selected areas.
3. Use [PREV] or [NEXT] to go to the desired area.
4. Press [ENTER] to edit the area and then [ENTER] to edit the Area On state for the selected area.
5. Use [PREV] or [NEXT] to toggle between Yes and No.
6. Press [ENTER] while viewing the desired option to save the programming.
7. When the keypad shows *Parameter Saved*, escape from the menu.

B93x/B94x keypads configuration of Area On
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [4] Area Options menu. The keypad shows the Area On state for the selected area.
3. Use ⬅/[PREV] or ➡/[NEXT] to go to the desired area.
4. Press [Edit] to edit the Area On state for the selected area.
5. Press [Yes] or [No].
6. Press [Save] to save the programming.
7. When the keypad shows *Parameter Saved*, escape from the menu.

Account Number

B91x/B92x keypads configuration of Account Number
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [4] Area Options. The keypad toggles between showing the Area On state and the account number for the selected areas.
3. Use [PREV] or [NEXT] to go to the desired area.
4. Press [ENTER] to edit the area, and then press [NEXT] to go to the account number option.
5. Press [ENTER] to edit the account number for the selected area.
6. Delete existing characters, if necessary, and then enter the new characters.
7. Press [ENTER] to save the programming.
8. When the keypad shows *Parameter Saved*, escape from the menu.

B93x/B94x keypads configuration of Account Number
1. Enter the installer passcode, and then open the [1] Installer menu.

2. Go to [1] Program > [4] Area Options menu. The keypad shows the Area On state for the selected area.
3. Use ⬅/[PREV] or ➡/[NEXT] to go to the desired area.
4. Press [Account #] to view and edit the account number, and then press [Edit] to edit the account number.
5. Delete existing characters, if necessary, and then enter the new characters.
6. Press [Save] to save the programming.
7. When the keypad shows *Parameter Saved*, escape from the menu.

20.1.14   [5] Keypad menu parameters

The keypad scope defines which areas the keypad affects when armed (on), which areas you can view with this keypad, and the areas to which this keypad can move. In this menu, you can choose the keypad's scope. You can also use this menu to identify the keypad type.

The B9512G supports up to 32 keypads, including up to 16 SDI keypads. The B8512G supports up to 16 keypads, including up to 16 SDI keypads.

	Type (Circle one)	Scope (Circle one)
Keypad 1	No keypad / B91x / B92x / B93x / B94x / D1255 / D125xRB / D126x	No Device / Area Wide / Acct Wide / Panel Wide
Keypad 2	No keypad / B91x / B92x / B93x / B94x / D1255 / D125xRB / D126x	No Device / Area Wide / Acct Wide / Panel Wide
Keypad 3	No keypad / B91x / B92x / B93x / B94x / D1255 / D125xRB / D126x	No Device / Area Wide / Acct Wide / Panel Wide
Keypad 4	No keypad / B91x / B92x / B93x / B94x / D1255 / D125xRB / D126x	No Device / Area Wide / Acct Wide / Panel Wide
Keypad 5	No keypad / B91x / B92x / B93x / B94x / D1255 / D125xRB / D126x	No Device / Area Wide / Acct Wide / Panel Wide
Keypad 6	No keypad / B91x / B92x / B93x / B94x / D1255 / D125xRB / D126x	No Device / Area Wide / Acct Wide / Panel Wide
Keypad 7	No keypad / B91x / B92x / B93x / B94x / D1255 / D125xRB / D126x	No Device / Area Wide / Acct Wide / Panel Wide
Keypad 8	No keypad / B91x / B92x / B93x / B94x / D1255 / D125xRB / D126x	No Device / Area Wide / Acct Wide / Panel Wide
Keypad 9	No keypad / B91x / B92x / B93x / B94x / D1255 / D125xRB	No Device / Area Wide / Acct Wide / Panel Wide
Keypad 10	No keypad / B91x / B92x / B93x / B94x / D1255 / D125xRB	No Device / Area Wide / Acct Wide / Panel Wide
Keypad 11	No keypad / B91x / B92x / B93x / B94x / D1255 / D125xRB	No Device / Area Wide / Acct Wide / Panel Wide
Keypad 12	No keypad / B91x / B92x / B93x / B94x / D1255 / D125xRB	No Device / Area Wide / Acct Wide / Panel Wide
Keypad 13	No keypad / B91x / B92x / B93x / B94x / D1255 / D125xRB	No Device / Area Wide / Acct Wide / Panel Wide

	Type (Circle one)	Scope (Circle one)
Keypad 14	No keypad / B91x / B92x / B93x / B94x / D1255 / D125xRB	No Device / Area Wide / Acct Wide / Panel Wide
Keypad 15	No keypad / B91x / B92x / B93x / B94x / D1255 / D125xRB	No Device / Area Wide / Acct Wide / Panel Wide
Keypad 16	No keypad / B91x / B92x / B93x / B94x / D1255 / D125xRB	No Device / Area Wide / Acct Wide / Panel Wide
Keypad 17*	No keypad / B91x / B92x / B93x / B94x	No Device / Area Wide / Acct Wide / Panel Wide
Keypad 18*	No keypad / B91x / B92x / B93x / B94x	No Device / Area Wide / Acct Wide / Panel Wide
Keypad 19*	No keypad / B91x / B92x / B93x / B94x	No Device / Area Wide / Acct Wide / Panel Wide
Keypad 20*	No keypad / B91x / B92x / B93x / B94x	No Device / Area Wide / Acct Wide / Panel Wide
Keypad 21*	No keypad / B91x / B92x / B93x / B94x	No Device / Area Wide / Acct Wide / Panel Wide
Keypad 22*	No keypad / B91x / B92x / B93x / B94x	No Device / Area Wide / Acct Wide / Panel Wide
Keypad 23*	No keypad / B91x / B92x / B93x / B94x	No Device / Area Wide / Acct Wide / Panel Wide
Keypad 24*	No keypad / B91x / B92x / B93x / B94x	No Device / Area Wide / Acct Wide / Panel Wide
Keypad 25*	No keypad / B91x / B92x / B93x / B94x	No Device / Area Wide / Acct Wide / Panel Wide
Keypad 26*	No keypad / B91x / B92x / B93x / B94x	No Device / Area Wide / Acct Wide / Panel Wide
Keypad 27*	No keypad / B91x / B92x / B93x / B94x	No Device / Area Wide / Acct Wide / Panel Wide
Keypad 28*	No keypad / B91x / B92x / B93x / B94x	No Device / Area Wide / Acct Wide / Panel Wide
Keypad 29*	No keypad / B91x / B92x / B93x / B94x	No Device / Area Wide / Acct Wide / Panel Wide
Keypad 30*	No keypad / B91x / B92x / B93x / B94x	No Device / Area Wide / Acct Wide / Panel Wide
Keypad 31*	No keypad / B91x / B92x / B93x / B94x	No Device / Area Wide / Acct Wide / Panel Wide
Keypad 32*	No keypad / B91x / B92x / B93x / B94x	No Device / Area Wide / Acct Wide / Panel Wide

*Supported by the B9512G only.

Type

Scope

B91x/B92x keypads configuration of Type and Scope
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [1] Program > [5] Keypad. The keypad shows the type for the selected keypad.
3.   Use [PREV] or [NEXT] to go to the desired keypad.
4.   Press [ENTER] to edit the type.
5.   Use [PREV] or [NEXT] to go to the desired type.
6.   While viewing the desired type, press [ENTER] to save the new selection. The keypad shows *Parameter Saved*, and asks if you want to set the scope.
7.   Press [ENTER] to edit the scope.
8.   Use [PREV] or [NEXT] to go to the desired scope.
9.   While viewing the desired scope, press [ENTER] to save the new selection. The keypad shows *Parameter Saved*, and asks if you want to set the scope.
10. When the keypad shows *Parameter Saved*, escape from the menu.

B93x/B94x keypads configuration of Scope
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [1] Program > [5] Keypad. The keypad shows the type for the selected keypad.
3.   Use ←/[PREV] or →/[NEXT] to go to the desired keypad.
4.   Press [Edit] to edit the type.
5.   Use ←/[PREV] or →/[NEXT] to go to the desired type.
6.   While viewing the desired type, press [Save] to save the new selection. The keypad shows *Parameter Saved*, and then returns to the previous menu.
7.   Press [Scope] to view the scope.
8.   Press [Edit] to edit the scope.
9.   Use ←/[PREV] or →/[NEXT] to go to the desired scope.
10. While viewing the desired type, press [Save] to save the new selection.
11. When the keypad shows *Parameter Saved*, escape from the menu.

20.1.15   [6] Users menu parameters
In this menu, you can change the Service User passcode and the passcode for User 1.
To add and remove users, change users passcodes, and perform other user functions from the keypad, you must use the Users menu from the Main menu. Refer to the *Control Panels (B9512G/B8512G/B5512/B4512/B3512) Owner's Manual* for more information.

Users (In the Installer menu)

B91x/B92x keypads configuration of Users
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [1] Program > [6] Users. The keypad shows the Installer passcode.
3.   Use [PREV] or [NEXT] to toggle between user 000 (service user) and user 001 and go to the user you want to edit.
4.   Press [ENTER] to edit the selected user. The curser flashes at the editing location.
5.   Delete existing characters, if necessary, and then enter the new characters.
6.   Press [ENTER] to save the change.

7.   When the keypad shows *Parameter Saved*, escape from the menu.

B93x/B94x keypads configuration of Users
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [1] Program > [6] Users menu. The keypad shows the user passcode for the selected user.
3.   Use ⬅/[PREV] or ➡/[NEXT] to toggle between user 000 (service user) and user 001 and go to the user you want to edit.
4.   Press [Edit] to change the passcode.
5.   Delete existing characters, if necessary, and then enter the new characters.
6.   Press [Save].
7.   When the keypad shows *Parameter Saved*, escape from the menu.

20.1.16   [7] Points menu parameters

Use the parameters in this menu to assign a Point Source and a Point Index to each point. The Point Source parameter assigns the point to a device (on-board, Octo-input, and wireless are examples). The Point Index (point profile) determines how the point operates.

Point Source selections	
Unassigned	ZONEX
Octo-input	Output
Wireless	Keypad
On-board	IP Camera*
POPEX	Door
*The B426 and the "E" variants do not support IP cameras.	

Point Index selections
Assign a Point Index to a point by selecting the Point Index number. The tables below show the Point Index number and default configuration for each Point Index. You must use RPS to configure the Point Index parameters..

Point Indexes (point profiles) 1 through 8
Point Index Text defaults (the second language text defaults are blank):

Point Index Number	Default Text (first language)
Point Index 1	24-hr Instant on Open/Short
Point Index 2	24-hr Invisible/Sil on Short
Point Index 3	Pull Station
Point Index 4	Smoke Detector
Point Index 5	Smoke Detector w/Verification
Point Index 6	Bell Supervision - D192G
Point Index 7	Part On: Instant

Point Index 8   Part On: Delay

Point Index Number	1	2	3	4	5	6	7	8
Point Index Text (1st language)	24-hr Instant	24-hr Invisible/	Pull Station	Smoke Detector	Smoke Detector	Bell Supervisi	Part On: Instant	Part On: Delay
Point Index Text (2nd language)	(blank)	(blank)	(blank)	(blank)	(blank)	(blank)	(blank)	(blank)
Point Type / Response / Circuit Style	24 Hour	24 Hour	Fire Point	Fire Point	Fire Point	24 Hour	Part On	Part On
Entry Delay	_(30)_	_(30)_	_(30)_	_(30)_	_(30)_	_(30)_	_(30)_	_(30)_
Entry Tone Off	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Silent Bell	Y/**N**	**Y**/N	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Ring Until Restored	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Audible After Two Fails	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Invisible Point	Y/**N**	**Y**/N	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Buzz on Fault	__(0)__	__(0)__	__(0)__	__(0)__	__(0)__	__(0)__	__(0)__	__(0)__
Watch Point	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	**Y**/N
Output Response Type	__(0)__	__(0)__	__(0)__	__(0)__	__(0)__	__(0)__	__(0)__	__(0)__
Display as Device	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Local While Disarmed	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Local While Armed	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Disable Restorals	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Force Arm Returnable	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Bypass Returnable	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Bypassable	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Swinger Bypass	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Report Bypass at Occurrence	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Defer Bypass Report	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Cross Point	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Alarm Verify	Y/**N**	Y/**N**	Y/**N**	Y/**N**	**Y**/N	Y/**N**	Y/**N**	Y/**N**
Resettable	Y/**N**	Y/**N**	Y/**N**	**Y**/N	**Y**/N	Y/**N**	Y/**N**	Y/**N**
Alarm Abort	**Y**/N	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	**Y**/N	**Y**/N
Wireless Point Supervision Time	____	____	(4)____	(4)____	(4)____	(4)____	____	____
Custom Function	**Disabled**	**Disabled**	**Disabled**	**Disabled**	**Disabled**	**Disabled**	**Disabled**	**Disabled**

Point Index Number	1	2	3	4	5	6	7	8
Monitor Delay	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00
Delay Response Disarmed	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00
Delay Response Armed	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00

Point Indexes (point profiles) 9 through 16

Point Index Text defaults (the second language text defaults are blank):

Point Index Number	Default text (first language)
Point Index 9	Part Instant, Local Disarmed, Buzz
Point Index 10	Interior: Instant
Point Index 11	Interior: Delay
Point Index 12	Interior: Instant, Local Disarmed
Point Index 13	Interior: Follower
Point Index 14	Maintained Keyswitch
Point Index 15	Momentary Keyswitch
Point Index 16	Point Opening/Closing

Point Index Number	9	10	11	12	13	14	15	16
Point Index Text (1st language)	Part Instant,	Interior: Instant	Interior: Delay	Interior: Instant,	Interior: Follower	Maintained Key	Momentary Key	Point Opening/
Point Index Text (2nd language)	(blank)	(blank)	(blank)	(blank)	(blank)	(blank)	(blank)	(blank)
Point Type / Response / Circuit Style	Part On	Interior	Interior	Interior	Interior Follower	Keyswitch Maintain	Keyswitch Momenta	Open/ Close
Entry Delay	_ (30)_	_ (30)_	_ (30)_	_ (30)_	_ (30)_	_ (30)_	_ (30)_	_(30)_
Entry Tone Off	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Silent Bell	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Ring Until Restored	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Audible After Two Fails	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Invisible Point	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Buzz on Fault	__(1)__	__(0)__	__(0)__	__(0)__	__(0)__	__(0)__	__(0)__	__(0)__
Watch Point	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Output Response Type	__(1)__	__(0)__	__(0)__	__(0)__	__(0)__	__(0)__	__(0)__	__(0)__
Display as Device	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Local While Disarmed	Y/**N**	**Y**/N	Y/**N**	**Y**/N	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Local While Armed	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Disable Restorals	**Y**/N	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
FA Returnable	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Bypass Returnable	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Bypassable	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Swinger Bypass	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**

Point Index Number	9	10	11	12	13	14	15	16
Report Bypass at Occurrence	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Defer Bypass Report	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Cross Point	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Alarm Verify	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Resettable	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Alarm Abort	Y/**N**	Y/**N**	**Y**/N	**Y**/N	**Y**/N	**Y**/N	**Y**/N	**Y**/N
Wireless Point Supervision Time (None)	___	___	___	___	___	___	___	___
Custom Function	**Disabled**	**Disabled**	**Disabled**	**Disabled**	**Disabled**	**Disabled**	**Disabled**	**Disabled**
Monitor Delay	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00
Delay Response Disarmed	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00
Delay Response Armed	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00

Point Indexes (point profiles) 17 through 24

Point Index Text defaults (the second language text defaults are blank):

Point Index 17	Gas
Point Index 18	Gas: Supervisory
Point Index 19	Aux AC Supervision
Point Index 20	Part On: Watch Off
Point Index 21	Part On: POPIT Motion
Point Index 22	Fire Supervisory on Open
Point Index 23	Non-Fire Supervisory Open
Point Index 24	Local: Buzz on Fault

Point Index #	17	18	19	20	21	22	23	24
Point Index Text (1st language)	Gas	Gas Supervisi	Aux AC Supervisi	Part On Watch Of	Part On: POPIT M	Fire Supervis	Non-Fire Supervis	Local: Buzz on
Point Index Text (2nd language)	(blank)	(blank)	(blank)	(blank)	(blank)	(blank)	(blank)	(blank)
Point Type / Response / Circuit Style	Gas Point	Gas Point	Aux AC Supervisi	Part On	Part On	Fire Point	24-Hour	Part On
Point Response	__(1)__	__(2)__	__(1)__	__(E)__	__(E)__	__(8)__	__(8)__	__(F)__
Entry Delay	_(30)_	_(30)__	_(30)_	_(30)_	_(30)__	_(30)__	_(30)__	_(30)__
Entry Tone Off	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Silent Bell	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Ring Until Restored	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Audible After Two Fails	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Invisible Point	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Buzz on Fault	__(0)__	__(0)__	__(0)__	__(0)__	_____	_____	_____	_____
Watch Point	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Output Response Type	__(0)__	__(0)__	__(0)__	__(0)__	_____	_____	_____	(1) ___
Display as Device	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Local While Disarmed	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Local While Armed	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Disable Restorals	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
FA Returnable	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Bypass Returnable	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Bypassable	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Swinger Bypass	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**

Report Bypass at Occurrence	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Defer Bypass Report	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Cross Point	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Alarm Verify	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	**Y**/N	Y/**N**	Y/**N**
Resettable	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Alarm Abort	**Y**/N	**Y**/N	**Y**/N	**Y**/N	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Wireless Point Supervision Time (None)	____	____	___	___	___	___	___	___
Custom Function	**Disabled**	**Disabled**	**Disabled**	**Disabled**	**Disabled**	**Disabled**	**Disabled**	**Disabled**
Monitor Delay	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00
Delay Response Disarmed	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00
Delay Response Armed	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00

Point Indexes (point profiles) 26 through 63

Point Index Text defaults (the second language text defaults are blank):

Point Index 25	Part On: Delay Watch Off
Point Index 26	Part On: Instant (2)
Point Index 27	Part On: Delay (2)
Point Index 28	Interior: Follower (2)
Point Index 29	Interior: Instant (2)
Point Index 30	Interior: Delay (2)
Point Index 31	24-hr Inst. Open/Short, no Abort
Point Index 32	Run Custom Function
Point Indexes 33-63 (B9512G only)	Index [33 to 63]

Point Index #	25	26	27	28	29	30	31*	32
Point Index Text (1st language)	Part On: Delay W	Part On: Inst (2)	Part On: Delay (2)	Interior: Fllwr (2)	Interior: Inst (2)	Interior: Delay (2)	24-hr Inst. Op	Run Custom
Point Index Text (2nd language)	(blank)	(blank)	(blank)	(blank)	(blank)	(blank)	(blank)	(blank)
Point Type / Response / Circuit Style	Part On	Part On	Part On	Interior Follower	Interior	Interior	24-Hour	24-Hour
Point Response	__(4)__	__(0)__	__(0)__	__(0)__	__(0)__	__(0)__	__(0)__	__(0)__
Entry Delay	_(30)__	_(30)__	_(30)__	_(30)__	_(30)__	_(30)__	_(30)__	_(30)__
Entry Tone Off	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Silent Bell	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Ring Until Restored	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Audible After Two Fails	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Invisible Point	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Buzz on Fault	_____	_____	_____	_____	_____	_____	_____	_____
Watch Point	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Output Response Type	_____	_____	_____	_____	_____	_____	_____	_____
Display as Device	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Local While Disarmed	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Local While Armed	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Disable Restorals	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
FA Returnable	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Bypass Returnable	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**

Bypassable	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Swinger Bypass	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Report Bypass at Occurrence	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Defer Bypass Report	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Cross Point	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Alarm Verify	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Resettable	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Alarm Abort	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**	Y/**N**
Wireless Point Supervision Time (None)	___	___	___	___	___	___	___	___
Custom Function	**Disabled**	**Disabled**	**Disabled**	**Disabled**	**Disabled**	**Disabled**	**Disabled**	**Disabled**
Monitor Delay	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00
Delay Response Disarmed	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00
Delay Response Armed	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00

*Point Indexes 33 through 63 are supported by the B9512node:1981583935299317871133 only, and have the same defaults as Point Index 31.

Point worksheet									
Point #	Point Source	Point Index	Area Assign		Point #	Point Source	Point Index	Area Assign	
001	Onboard	(3) _ _	(1)	__		_ _ _		_ _	(1)	__
002	Onboard	(1) _ _	(1)	__		_ _ _		_ _	(1)	__
003	Onboard	(25) _ _	(1)	__		_ _ _		_ _	(1)	__
004	Onboard	(13) _ _	(1)	__		_ _ _		_ _	(1)	__
005	Onboard	(7) _ _	(1)	__		_ _ _		_ _	(1)	__
006	Onboard	(7) _ _	(1)	__		_ _ _		_ _	(1)	__
007	Onboard	(7) _ _	(1)	__		_ _ _		_ _	(1)	__
008	Onboard	(7) _ _	(1)	__		_ _ _		_ _	(1)	__
_ _ _		_ _	(1)	__		_ _ _		_ _	(1)	__
_ _ _		_ _	(1)	__		_ _ _		_ _	(1)	__
_ _ _		_ _	(1)	__		_ _ _		_ _	(1)	__
_ _ _		_ _	(1)	__		_ _ _		_ _	(1)	__
_ _ _		_ _	(1)	__		_ _ _		_ _	(1)	__
_ _ _		_ _	(1)	__		_ _ _		_ _	(1)	__
_ _ _		_ _	(1)	__		_ _ _		_ _	(1)	__
_ _ _		_ _	(1)	__		_ _ _		_ _	(1)	__
_ _ _		_ _	(1)	__		_ _ _		_ _	(1)	__
_ _ _		_ _	(1)	__		_ _ _		_ _	(1)	__
_ _ _		_ _	(1)	__		_ _ _		_ _	(1)	__
_ _ _		_ _	(1)	__		_ _ _		_ _	(1)	__
_ _ _		_ _	(1)	__		_ _ _		_ _	(1)	__
_ _ _		_ _	(1)	__		_ _ _		_ _	(1)	__
_ _ _		_ _	(1)	__		_ _ _		_ _	(1)	__
_ _ _		_ _	(1)	__		_ _ _		_ _	(1)	__
_ _ _		_ _	(1)	__		_ _ _		_ _	(1)	__
_ _ _		_ _	(1)	__		_ _ _		_ _	(1)	__
_ _ _		_ _	(1)	__		_ _ _		_ _	(1)	__
_ _ _		_ _	(1)	__		_ _ _		_ _	(1)	__
_ _ _		_ _	(1)	__		_ _ _		_ _	(1)	__
_ _ _		_ _	(1)	__		_ _ _		_ _	(1)	__

⚠️ **Caution!**
Any points programmed as fire supervisory points are latching.

Point Index

B91x/B92x keypads configuration of Point Index
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [7] Points option. The keypad toggles between showing the point index and point source for the selected point.
3. Use [PREV] or [NEXT] to go to the desired point, or enter the point number.
4. Press [ENTER] to edit the point and then [ENTER] to edit the index for the selected point.
5. Delete existing characters, if necessary, and then enter the new characters.
6. When the keypad shows *Parameter Saved*, escape from the menu.

B93x/B94x keypads configuration of Point Index
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [7] Points option. The keypad shows the index for the selected point.
3. Use ←/[PREV] or →/[NEXT] to go to the desired point, or enter the point number.
4. Press [Edit] to change the index.
5. Delete existing characters, if necessary, and then enter the new characters.
6. Press [Save].
7. When the keypad shows *Parameter Saved*, escape from the menu.

Point Source

B91x/B92x keypads configuration of Point Source
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [7] Points option. The keypad shows the index for the selected point.
3. Use [PREV] or [NEXT] to go to the desired point, or enter the point number.
4. Press [ENTER] to edit the point and then press [NEXT] to go to the source option.
5. Press [ENTER] to edit the source for the selected point.
6. Use [PREV] or [NEXT] to scroll through the available options.
7. Press [ENTER] while viewing the desired source to save the programming.
8. When the keypad shows *Parameter Saved*, escape from the menu.

B93x/B94x keypads configuration of Point Source
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [7] Points option. The keypad shows the point index for the selected point.
3. Use ←/[PREV] or →/[NEXT] to go to the desired point, or enter the point number.
4. Press [Source] to view and edit the source, and then press [Edit] to edit the source.
5. Use ←/[PREV] or →/[NEXT] to scroll through the available options.
6. Press [Save] to save the programming.
7. When the keypad shows *Parameter Saved*, escape from the menu.

RFID

B91x/B92x keypads configuration of RFID
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [7] Points option. The keypad toggles between showing the point index and point source for the selected point.
3. Use [PREV] or [NEXT] to go to the desired point, or enter the point number.
4. Press [ENTER] to edit the point and then press [NEXT] to go to the RFID option if the source is Wireless.
5. Press [ENTER] to edit the RFID for the selected.
6. Delete existing characters, if necessary, and then enter the new numbers listed on the wireless device.
7. Press [ENTER] while viewing the desired source to save the programming.
8. When the keypad shows *Parameter Saved*, escape from the menu.

B93x/B94x keypads configuration of RFID
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [7] Points option. The keypad shows the index for the selected point.
3. Use ←/[PREV] or →/[NEXT] to go to the desired point, or enter the point number.
4. Press [Source] to view and edit the source. If the source is Wireless, the [RFID] softkey appears.
5. Press [RFID] to edit the RFID.
6. Delete existing characters, if necessary, and then enter the new numbers listed on the wireless device.
7. Press [Save] to save the programming.
8. When the keypad shows *Parameter Saved*, escape from the menu.

20.1.17   [8] Disable Programming menu

The Keypad Installer menu is enabled by default. When enabled, the Service User (Authority Level 15) has authority to access the menus. If you disable Keypad Programming, the Service User cannot access the menus. In this menu, you can disable Keypad Programming.

> **i**   **Notice!**
> You can continue using the current programming session. Disabling Keypad Programming applies once you exit the current session.

Keypad Programming

B91x/B92x keypads configuration of Keypad Programming
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [8] Disable Programming. The keypad shows that programming is enabled.
3. Press [ENTER] to disable keypad programming, and then press [NEXT] to go to the No option.
4. Press [ENTER] to save the programming.
5. When the keypad shows *Parameter Saved*, escape from the menu.

B93x/B94x keypads configuration of Keypad Programming
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [1] Program > [8] Disable Programming. The keypad display shows that programming is enabled.
3. Press [Edit] to disable keypad programming.
4. Press [No].
5. Press [Save] to save the programming.
6. When the keypad shows *Parameter Saved*, escape from the menu.

20.2 [2] Wireless menu

Use the Wireless menu to add, replace, remove, and diagnose points and repeaters.

20.2.1 [1] RF Point Menu> [1] Enroll Point RFID

Once the control panel has points programmed as Wireless (refer to *B91x/B92x keypads configuration of Point Source, page 151*), you can enroll RF devices into the system as a specified wireless points. In this menu, you can enroll RFID points.

Enroll Point RFID

B91x/B92x keypads use of Enroll Point RFID
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [2] Wireless > [1] RF Point Menu> [1] Enroll Point RFID. The keypad lists any enrolled points.
3. Use [PREV] or [NEXT] to scroll though the list of wireless points, and go to the point for which you want to enroll a device, or simply enter the point number.
4. Press [ENTER] to add the device. The keypad instructs you to reset the device.
5. Initiate activity for the desired RADION device (walk through the coverage pattern if enrolling a motion detector, or press the button on the keyfob if enrolling a keyfob, or open the door or window if enrolling a door/window contact), or press the RESET button on an Inovonics device.
6. When the keypad shows Point Enrolled, escape from the menu.
7. Verify the RFID shown on the keypad matches the RFID label on the activated device.

B93x/B94x keypads use of Enroll Point RFID
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [2] Program > [1] RF Point Menu> [1] Enroll Point RFID.
3. Use ⬅/[PREV] or ➡/[NEXT] to scroll though the list of wireless points, and go to the point for which you want to enroll a device, or simply enter the point number.
4. Press [Yes] to add the device. The keypad instructs you to reset the device.
5. Initiate activity for the desired device (walk through the coverage pattern if enrolling a motion detector, or press the button on the keyfob if enrolling a keyfob, or open the door or window if enrolling a door/window contact), or press the RESET button on an Inovonics device.
6. When the keypad shows *Point Enrolled*, escape from the menu.
7. Verify the RFID shown on the keypad matches the RFID label on the activated device.

20.2.2 [1] RF Point Menu> [2] Replace Point RFID

In this menu, you can replace RFID points.

Replace Point RFID

B91x/B92x keypads use of Replace Point RFID
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [2] Wireless > [1] RF Point Menu> [2] Replace Point RFID. The keypad lists any enrolled points.
3. Use [PREV] or [NEXT] to scroll though the list of wireless points, and go to the point for which you want to replace the device, or simply enter the point number.
4. Press [ENTER] to replace the device. The keypad instructs you to reset the new device.
5. Initiate discovery on a RADION device per the device instructions, or press the RESET button on an Inovonics device.
6. When the keypad shows *Point Enrolled*, escape from the menu.

B93x/B94x keypads use of Replace Point RFID
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [2] Wireless > [1] RF Point Menu> [2] Replace Point RFID. The keypad lists any enrolled points.
3. Use ⬅/[PREV] or ➡/[NEXT] to scroll though the list of wireless points, and go to the point for which you want to replace the device, or simply enter the point number.
4. Press [ENTER] to replace the device. The keypad instructs you to reset the new device.
5. Initiate discovery on a RADION device per the device instructions, or press the RESET button on an Inovonics device.
6. When the keypad shows *Point Enrolled*, escape from the menu.

20.2.3 [1] RF Point Menu> [3] Remove Point RFID
In this menu, you can remove RFID points.

Remove Point RFID

B91x/B92x keypads use of Remove Point RFID
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [2] Wireless > [1] RF Point Menu> [3] Remove Point RFID. The keypad lists any enrolled points.
3. Use [PREV] or [NEXT] to scroll though the list of wireless points, and go to the point you want to remove, or simply enter the point number.
4. Press [ENTER] to remove the device. The keypad removes the device and shows *Point RFID Removed*.
5. Escape from the menu.

B93x/B94x keypads use of Remove Point RFID
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [2] Program > [1] RF Point Menu> [3] Remove Point RFID. The keypad lists any enrolled points.
3. Use ⬅/[PREV] or ➡/[NEXT] to scroll though the list of wireless points, and go to the point you want to remove, or simply enter the point number.
4. Press [Remove] to remove the RFID point. The keypad removes the device and shows *Point RFID Removed*.
5. Escape from the menu.

| 20.2.4 | **[2] RF Repeater Menu > [1] Add Repeater** |

In this menu, you can add Repeater points.

| **Add Repeater** |

B91x/B92x keypads configuration of Add Repeater
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [2] Wireless > [2] RF Repeater Menu > [1] Add Repeater. The keypad lists any repeaters.
3. Use [PREV] or [NEXT] to scroll though the list, and go to the repeater number for which you want to add a repeater, or simply enter the repeater number.
4. Press [ENTER] to add the device. The keypad instructs you to reset the device.
5. Initiate discovery on a RADION device per the device instructions, or press the RESET button on an Inovonics device.
6. When the keypad shows *Repeater Added*, escape from the menu.

B93x/B94x keypads configuration of Add Repeater
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [2] Program > [2] RF Repeater Menu > [1] Add Repeater. The keypad lists any repeaters.
3. Use ⬅/[PREV] or ➡/[NEXT] to scroll though the list, and go to the repeater number for which you want to add a repeater, or simply enter the repeater number.
4. Press [ENTER] to add the device to the number. The keypad instructs you to reset the device.
5. Initiate discovery on a RADION device per the device instructions, or press the RESET button on an Inovonics device.
6. When the keypad shows *Repeater Added*, escape from the menu.

| 20.2.5 | **[2] RF Repeater Menu > [2] Replace Repeater** |

In this menu, you can replace Repeater points.

| **Replace Repeater** |

B91x/B92x keypads use of Replace Repeater
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [2] Wireless > [2] RF Repeater Menu > [2] Replace Repeater. The keypad lists any existing repeaters.
3. Use [PREV] or [NEXT] to scroll though the list of repeaters, and go to the repeater you want to replace, or simply enter the repeater number.
4. Press [ENTER] to replace the device. The keypad instructs you to reset the new device.
5. Initiate discovery on a RADION device per the device instructions, or press the RESET button on an Inovonics device.
6. When the keypad shows *Repeater Replaced*, escape from the menu.

B93x/B94x keypads use of Replace Repeater
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [2] Program > [2] RF Repeater Menu > [2] Replace Repeater. The keypad lists any existing repeaters.
3. Use ⬅/[PREV] or ➡/[NEXT] to scroll though the list of repeaters, and go to the repeater you want to replace, or simply enter the repeater number.
4. Press [ENTER] to replace the device. The keypad instructs you to reset the new device.

5. Initiate discovery on a RADION device per the device instructions, or press the RESET button on an Inovonics device.
6. When the keypad shows *Repeater Replaced*, escape from the menu.

20.2.6   [2] RF Repeater Menu > [3] Remove Repeater

In this menu, you can replace Repeater points.

Remove Repeater

B91x/B92x keypads use of Remove Repeater
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [2] Wireless > [2] RF Repeater Menu > [3] Remove Repeater. The keypad lists any existing repeaters.
3. Use [PREV] or [NEXT] to scroll though the list of repeaters, and go to the repeater you want to remove, or simply enter the repeater number.
4. Press [ENTER] to remove the device. The keypad removes the device and shows *Repeater Removed*.
5. Escape from the menu.

B93x/B94x keypads use of Remove Repeater
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [2] Program > [1] RF Point Menu> [3] Remove Point RFID. The keypad lists any existing repeaters.
3. Use ←/[PREV] or →/[NEXT] to scroll though the list of repeaters, and go to the repeater you want to remove, or simply enter the repeater number.
4. Press [Remove] to remove the repeater. The keypad removes the device and shows *Repeater Removed*.
5. Escape from the menu.

20.2.7   [3] RF Diagnostic Menu > [1] RF Points

You can obtain certain wireless point diagnostic information using a keypad and this menu.

States (for RF points)

B91x/B92x keypads use of States (for RF points)
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [2] Wireless > [3] RF Diagnostic Menu > [1] RF Point Menu> [1] State.
3. Use [PREV] or [NEXT] to scroll though the list, and go to the point for which you want to view diagnostic information, or enter the point number.
4. Press [ENTER] to view the state. The menu scrolls through the following sub-categories, with the results of the diagnostic check: State, Tamper, Low-Battery, Maintenance.
5. When finished viewing the information, escape from the menu.

B93x/B94x keypads use of States (for RF points)
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [2] Wireless > [3] RF Diagnostic Menu > [1] RF Point Menu> [1] State menu.
3. Use ←/[PREV] or →/[NEXT] to scroll though the list, and go to the point for which you want to view diagnostic information, or enter the point number and press [ENTER].
4. Press [State] to view the state. The menu scrolls through the following sub-categories, with the results of the diagnostic check: State, Tamper, Low-Battery, Maintenance.
5. When finished viewing the information, escape from the menu.

Signal Strength (for RF points)

B91x/B92x keypads use of Signal Strength (for RF points)
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [2] Wireless > [3] RF Diagnostic Menu > [1] RF Point Menu> [1] Strength.
3.   Use [PREV] or [NEXT] to scroll though the list, and go to the point for which you want to view diagnostic information, or enter the point number.
4.   Press [ENTER] to view the signal strength. The menu scrolls through the following sub-categories, with the results of the diagnostic check: Signal Strengths, Level, Margin.
5.   When finished viewing the information, escape from the menu.

B93x/B94x keypads use of Signal Strength (for RF points)
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [2] Wireless > [3] RF Diagnostic Menu > [1] RF Point Menu> [1] Strength.
3.   Use ←/[PREV] or →/[NEXT] to scroll though the list, and go to the point for which you want to view diagnostic information, or enter the point number and press [ENTER].
4.   Press [Signal] to view the signal strength. The menu scrolls through the following sub-categories, with the results of the diagnostic check: Signal Strengths, Level, Margin.
5.   When finished viewing the information, escape from the menu.

20.2.8   [3] RF Diagnostic Menu > [2] RF Repeater Menu

You can obtain certain wireless point diagnostic information using a keypad and this menu.

States (for RF repeaters)

B91x/B92x keypads use of States (for RF repeaters)
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [2] Wireless > [3] RF Diagnostic Menu > [2] RF Repeater Menu > [1] State.
3.   Use [PREV] or [NEXT] to scroll though the list, and go to the repeater for which you want to view diagnostic information, or enter the repeater number.
4.   Press [ENTER] to view the state. The menu scrolls through the following sub-categories, with the results of the diagnostic check: State, Missing, Tamper, Low-Battery, Low-Battery.
5.   When finished viewing the information, escape from the menu.

B93x/B94x keypads use of States (for RF repeaters)
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [2] Wireless > [3] RF Diagnostic Menu > [2] RF Repeater Menu > [1] State.
3.   Use ←/[PREV] or →/[NEXT] to scroll though the list, and go to the repeater for which you want to view diagnostic information, or enter the repeater number and press [ENTER].
4.   Press [State] to view the state. The menu scrolls through the following sub-categories, with the results of the diagnostic check: State, Missing, Tamper, Low-Battery, Low-Battery.
5.   When finished viewing the information, escape from the menu.

Signal Strength (for RF repeaters)

B91x/B92x keypads use of Signal Strength (for RF repeaters)
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [2] Wireless > [3] RF Diagnostic Menu > [2] RF Repeater Menu > [1] Strength.
3. Use [PREV] or [NEXT] to scroll though the list, and go to the repeater for which you want to view diagnostic information, or enter the repeater number.
4. Press [ENTER] to view the signal strength. The menu scrolls through the following sub-categories, with the results of the diagnostic check: Signal Strengths, Level, Margin.
5. When finished viewing the information, escape from the menu.

B93x/B94x keypads use of Signal Strength (for RF repeaters)
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [2] Wireless > [3] RF Diagnostic Menu > [2] RF Repeater Menu > [1] Strength.
3. Use ←/[PREV] or →/[NEXT] to scroll though the list, and go to the repeater for which you want to view diagnostic information, or enter the repeater number and press [ENTER].
4. Press [Signal] to view the state. The menu scrolls through the following sub-categories, with the results of the diagnostic check: Signal Strengths, Level, Margin.
5. When finished viewing the information, escape from the menu.

20.3   [3] Diags menu

Use the Diagnostics menu to view available diagnostics.

20.3.1   [1] Wireless
The Wireless diagnostics are presented in two different menus for your convenience. Refer to *[3] RF Diagnostic Menu > [1] RF Points, page 156* and *[3] RF Diagnostic Menu > [2] RF Repeater Menu, page 157*.

20.3.2   [2] Network menu
Use the Network menu to view information about the control panel's network connection.

Settings

B91x/B92x keypads use of Settings
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [2] Network > (choose the bus module or on-board) > [1] Settings. The keypad scrolls through the following sub-categories, indicating the programming for: Hostname, iPv4 Source IP, iPv6 Source IP, MAC Address.
3. When finished viewing the information, escape from the menu.

B93x/B94x keypads use of Settings
1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [2] Network > (choose the bus module or on-board) > [1] Settings. The keypad shows the following sub-categories, indicating the programming for: Hostname, iPv4 Source IP, iPv6 Source IP, Mac Address.
3. When finished viewing the information, escape from the menu.

Connection

B91x/B92x keypads use of Connection
1. Enter the installer passcode, and then open the [1] Installer menu.

2.   Go to [2] Network > (choose the bus module or on-board) > [2] Connection. The keypad scrolls through the following sub-categories, indicating the diagnostic information for: Link, IP Address, DNS, WAN IPv4, WAN IPv6, LAN IPv4, LAN IPv6.
3.   When finished viewing the information, escape from the menu.

B93x/B94x keypads use of Connection (for the Bus Module)
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [2] Network > (choose the bus module or on-board) > [2] Connection. The keypad scrolls through the following sub-categories, indicating the diagnostic information for: Link, IP Address, DNS, WAN IPv4, WAN IPv6, LAN IPv4, LAN IPv6.
3.   When finished viewing the information, escape from the menu.

20.3.3   [3] Cellular menu

You can obtain certain cellular module diagnostic information using a keypad and this menu.

Cellular (diagnostics)

B91x/B92x keypads use of Cellular (diagnostics)
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [3] Diags Menu > [3] Cellular > (choose the SDI2 cellular module or plug-in module). The keypad scrolls through the following sub-categories, indicating the diagnostic information for:
     – Link (Yes or No. Yes indicates a data connection to the carrier. No indicates a connection problem.)
     – iPv4 IP (The IP address of the cellular radio on the carrier's network.)
     – Base ID
     – Signal (Signal strength = unacceptable, marginal, good, or very good.)
     – Signal (In dBs.)
     – Tel Num (If provided by the carrier.)
     – ESN (The cellular radio electronic serial number.)
     – Model (The cellular radio model.)
     – Version (The cellular radio version.)
3.   When finished viewing the information, escape from the menu.

B93x/B94x keypads use of Cellular (diagnostics)
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [3] Diags Menu > [3] Cellular > (choose the SDI2 cellular module or plug-in module). The keypad scrolls through the following sub-categories, indicating the diagnostic information for:
     – Link (Yes or No. Yes indicates a data connection to the carrier. No indicates a connection problem.)
     – iPv4 IP (The IP address of the cellular radio on the carrier's network.)
     – Base ID
     – Signal (Signal strength = unacceptable, marginal, good, or very good.)
     – Signal (In dBs.)
     – Tel Num (If provided by the carrier.)
     – ESN (The cellular radio electronic serial number.)
     – Model (The cellular radio model.)
     – Version (The cellular radio version.)
3.   When finished viewing the information, escape from the menu.

20.3.4   **[4] IP Camera**

IP Camera

B91x/B92x keypads use of IP Camera

1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [3] Diags Menu > [4] IP Camera. The keypad shows one of the following statuses:
    – Not Configured
    – Not responding
    – Bad Password
    – Online
    – Missing
3. When finished viewing the information, escape from the menu.

B93x/B94x keypads use of IP Camera

1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [3] Diags Menu > [4] IP Camera. The keypad shows one of the following statuses:
    – Not Configured
    – Not responding
    – Bad Password
    – Online
    – Missing
3. When finished viewing the information, escape from the menu.

20.3.5   **[5] Cloud**

B91x/B92x keypads use of Cloud (diagnostics)

1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [3] Diags > [5] Cloud. The keypad shows the Cloud ID, which is also on a label on the control panel.
3. Press [NEXT]. The keypad shows the Cloud configuration, which is one of the following:
    – Not Available
    – Enabled on Ethernet
    – Enabled on Cellular
    – Enabled on Ethernet and Cellular
4. Press [NEXT]. The keypad shows the Cloud Certificate status, which is one of the following:
    – Not Installed
    – Certificate Valid
5. Press [NEXT]. The keypad shows the Cloud state, which is one of the following:
    – Connected (and through which method)
    – Not Ready
    – Disconnected
    – Not Available
    – Trying to Connect
6. When finished viewing the information, escape from the menu.

B93x/B94x keypads use of Cloud (diagnostics)

1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [3] Diags > [5] Cloud. The keypad shows the Cloud ID, which is also on a label on the control panel.

3.   Press ➜/[NEXT]. The keypad shows the Cloud configuration, which is one of the following:
     – Not Available
     – Enabled on Ethernet
     – Enabled on Cellular
     – Enabled on Ethernet and Cellular
4.   Press ➜/[NEXT]. The keypad shows the Cloud Certificate status, which is one of the following:
     – Not Installed
     – Certificate Valid
5.   Press ➜/[NEXT]. The keypad shows the Cloud state, which is one of the following:
     – Connected (and through which method)
     – Not Ready
     – Disconnected
     – Not Available
     – Trying to Connect
6.   When finished viewing the information, escape from the menu.

20.4   [4] Serv Byp (Service Bypass) menu

In this menu, you can edit the Service Bypass points.

Service Bypass

B91x/B92x keypads use of Service Bypass to bypass points
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [4] Srvc Byp. If no points have been bypassed the keypad shows No points bypassed. If points are bypassed, the keypad lists the number of bypassed points.
3.   Enter number for the point to bypass, and then press [ENTER] to select the point.
4.   Press [ENTER] to bypass the point. The keypad shows *Parameter Saved*, and then returns to the point you just bypassed.
5.   Escape from the menu.

B93x/B94x keypads use of Service Bypass to bypass points
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [4] Srvc Byp menu. If no points have been bypassed the keypad shows No points bypassed. If points are bypassed, the keypad lists the number of bypassed points.
3.   Enter number for the point to bypass, and then press [ENTER].
4.   Press [Bypass] to bypass the point. The keypad shows *Parameter Saved*, and then returns to the point you just bypassed.
5.   Escape from the menu.

20.5   [5] Versions menu

Use the Versions menu to view control panel version information.

Versions

B91x/B92x keypads use of Versions
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [5] Versions.
3.   Use [PREV] or [NEXT] to cycle through the list of items for which you can view the version.

4.   Press [ENTER] to view the version.
5.   Escape from the menu.

B93x/B94x keypads use of Versions
1.   Enter the installer passcode, and then open the [1] Installer menu.
2.   Go to [5] Versions.
3.   Press the icon or softkey for the item for which you want view the version.
4.   The keypad shows the version.
5.   Escape from the menu.

| 20.6 | ## [6] Cloud menu |

Use the Cloud menu to enable or disable the Cloud capability in the control panel.

| **Cloud (In the Installer menu)** |

B91x/B92x keypads configuration of Cloud

1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [6] Cloud. The keypad shows the current status; disabled, enabled on Ethernet, enabled on cellular, or enabled on both Ethernet and cellular.
3. Press [ENTER] to change the status, or press [ESC] without making a change. Use [NEXT] to scroll through the list of available options and press [ENTER] to accept the choice on the display. To use the Cloud, enable it on Ethernet or Cellular or both.
4. Upon changing the setting, the keypad shows *Parameter Saved*, and then closes the menu.

B93x/B94x keypads use of Enable Status

1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [6] Cloud. The keypad shows the current status; disabled, enabled on Ethernet, enabled on cellular, or enabled on both Ethernet and cellular.
3. Press [Edit] to change the status, or press [ESC] without making a change. Use ➡/ [NEXT] to scroll through the list of available options and press Save to accept the choice on the display To use the Cloud, enable it on either Ethernet or Cellular or both.
4. Upon changing the setting, the keypad shows *Parameter Saved*, and then closes the menu.

| 20.7 | ## [7] USB Power |

Use the USB Power menu to enable or disable the power to the USB port. For more information, refer to *USB power, page 68*.

| **USB Power** |

B91x/B92x keypads use of USB power

1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [7] USB Power. The keypad shows the current status, On or Off.
3. Press [ENTER] to change the status.
4. Escape from the menu.

B93x/B94x keypads use of USB power

1. Enter the installer passcode, and then open the [1] Installer menu.
2. Go to [7] USB Power. The keypad shows the current status, On or Off.
3. Press Turn On or Turn Off, as desired.
4. Escape from the menu.

21 Specifications

Control panel power supply specifications

Voltage input (power supply)	Primary	Terminals 1 and 2	16.5 VAC 40 VA class 2 plug-in transformer (D1640)
	Secondary	Terminals 4 and 5	Use 12 VDC sealed lead-acid rechargeable battery (7 Ah, 18 Ah, or 38 Ah). The control panel supports up to 38 Ah of battery. If you use two batteries, they must have the same capacity and you must connect them using the D122/D122L Dual Battery Harness.
Current requirements	Control Panel: Idle 190 mA; Alarm 265 mA Refer to the *Current Rating Chart for Standby Battery Calculations* section in the *Control Panels (B9512G/B8512G) Installation and System Reference Guide* (this document) for the current draw requirements of other system components.		
Power outputs[2]	All external connections are power-limited except battery terminals.		
	Continuous Power Outputs	1.4 A maximum at 12.0 VDC nominal (continuous supply) total for all devices and outputs including the ZONEX connection, the plug-in module connector, and Terminals 3, 26, and 30.	
	Alarm Power Output	2.0 A maximum (1.4 A max for commercial fire) at 12.0 VDC nominal output for all devices and outputs including the ZONEX connection, the plug-in module connector, and Terminals 3, 6, 7, 26, and 30. Output can be steady or one of three pulsed patterns depending on programming. Refer to *Relays* in the Online Help for RPS.	
	Switched Aux Power	Terminal 8	1.4 A maximum at 12.0 VDC nominal output. Continuous output is interrupted by Sensor Reset or alarm verification depending on programming. Refer to *Relays* in *RPS Help* or the *Control Panels (B9512G/B8512G) Program Entry Guide*.
	Fire and Fire/ Burglary Systems	To comply with UL 985 and 864 listing standards for fire alarm systems (effective March 1, 1989), the total combined continuous and alarm current draw for the system during alarm conditions must be limited to 1.4 A provided by the primary power supply (rectified AC). If current draw for the system exceeds 1.4 A, remove connected devices until the current draw falls below 1.4 A. Then, connect the removed devices to an external power supply[1] (such as B520).	

[1] Requires a UL Listed power supply.
[2] For UL 864 applications, refer to US1B LIt differences compatible devices.

Minimum operating voltage	10.2 VDC	
SDI bus	SDI bus A: SDI bus B:	9 VDC 4572 m (15000 ft) maximum 9 VDC 4572 m (15000 ft) maximum
SDI2 bus	SDI2 bus A: SDI2 bus B:	12 VDC nominal (7500 ft) maximum[2] 12 VDC nominal (7500 ft) maximum[2]
Network	Built-in 10/100 Ethernet LAN (RJ-45 connector)	

USB	USB 2.0 full speed		
Environmental	Temperature:	0°C to +49°C (+32°F to +120°F)	
	Relative Humidity:	Maximum 93% non-condensing	
Arming stations	B942/B942W keypads, B930 keypads, B926F Fire keypads, B925F Fire keypads, B921C keypads, B920, B915/B915I, D1260 keypads, D1257/D1257RB Fire Alarm Annunciators, D1256/D1256RB, D1255/D1255R/D1255RB keypads, Keyswitch		
Point thresholds (Single EOL resistor circuit style) On-board points 1 to 8	With 1.0 kΩ resistors	Open - 3.7 to 5.0 VDC Normal - 2.0 to 3.0 VDC Short - 0.0 to 1.3 VDC Short circuit current - 5 mA	
	With 2.0 kΩ resistors	Open - 4.1 to 5.0 VDC Normal − 3.0 to 4.1 VDC Short - 0.0 to 3.0 VDC Short circuit current - 5 mA	
	No EOL	Open - 2.6 to 5.0 VDC Short - 0.0 to 2.4 VDC Short circuit current - 5 mA	
Point thresholds (Dual EOL on-board points)	Dual EOL (1.0 kΩ + 1.0 kΩ)	Short - 0 to 1.67 VDC Open - 4.12 to 4.95 VDC Normal - 1.69 to 2.94 VDC Fault - 2.95 to 4.10 VDC Short circuit current - 5 mA	
Compatible enclosures	B8103 Universal Enclosure, D8103 Universal Enclosure, D8109 Fire Enclosure, D8108A Attack Resistant Enclosure, BATB-40 and BATB-80 Battery Boxes.		

| Battery discharge/ recharge schedule | Discharge Cycle | 13.30 VDC 12.1 VDC

10.2 VDC 10.2 VDC | BATTERY STATUS LED slow flash. Low Battery Report, if programmed. BATTERY STATUS LED quick flash. Minimum operational voltage. Battery load shed. |
|---|---|---|---|
| | Recharge Cycle | AC ON 12.50 VDC (under load) 13.4 VDC and charging current < 200 mA | Load shed relay resets, battery charging begins. Battery Restoral Report sent, BATTERY STATUS LED off. Battery float charged. BATTERY STATUS LED off. |

21.1   Wire requirements

Terminal label	Terminal description	Requirements
1	AC	18 AWG min (up to 14 AWG max)
2	AC	18 AWG min (up to 14 AWG max)
3	+ AUX POWER	Terminal accommodates 14 to 22 AWG, use appropriate wire size based on current

4	BATTERY -	Bosch supplied wire lead, included with control panel..
5	BATTERY +	
6	Output A (1)	Terminal accommodates 14 to 22 AWG, use appropriate wire size based on current
7	Output B (2)	
8	Output C (3)	
9	COMMON	
10	EARTH GROUND	14 to 16 AWG
11	POINT 1	Terminal accommodates 14 to 22 AWG, use appropriate wire size based on loop resistance less than 100 Ω
12	POINT 1/2 COMMON	Terminal accommodates 14 to 22 AWG, use appropriate wire size based on loop resistance less than 100 Ω
13	POINT 2	Terminal accommodates 14 to 22 AWG, use appropriate wire size based on loop resistance less than 100 Ω
14	POINT 3	Terminal accommodates 14 to 22 AWG, use appropriate wire size based on loop resistance less than 100 Ω
15	POINT 3/4 COMMON	Terminal accommodates 14 to 22 AWG, use appropriate wire size based on loop resistance less than 100 Ω
16	POINT 4	Terminal accommodates 14 to 22 AWG, use appropriate wire size based on loop resistance less than 100 Ω
17	POINT 5	Terminal accommodates 14 to 22 AWG, use appropriate wire size based on loop resistance less than 100 Ω
18	POINT 5/6 COMMON	Terminal accommodates 14 to 22 AWG, use appropriate wire size based on loop resistance less than 100 Ω
19	POINT 6	Terminal accommodates 14 to 22 AWG, use appropriate wire size based on loop resistance less than 100 Ω
20	POINT 7	Terminal accommodates 14 to 22 AWG, use appropriate wire size based on loop resistance less than 100 Ω
21	POINT 7/8 COMMON	Terminal accommodates 14 to 22 AWG, use appropriate wire size based on loop resistance less than 100 Ω
22	POINT 8	Terminal accommodates 14 to 22 AWG, use appropriate wire size based on loop resistance less than 100 Ω
ZONEX	ZONEX	Bosch supplied wire, included with the optional B600
23	SDIx COMMON	Terminal accommodates 14 to 22 AWG, use appropriate wire size based on peripheral device current
24	SDIx DATA BUS B	22 AWG min (up to 14 AWG max)
25	SDIx DATA BUS A	
26	SDIx POWER	Terminal accommodates 14 to 22 AWG, use appropriate wire size based on peripheral device current

27	SDI2 COMMON	Terminal accommodates 14 to 22 AWG, use appropriate wire size based on peripheral device current
28	SDI2 DATA BUS B	22 AWG min (up to 14 AWG max)
29	SDI2 DATA BUS A	
30	SDI2 POWER	Terminal accommodates 14 to 22 AWG, use appropriate wire size based on peripheral device current

22   Appendix

This appendix contains information on module address settings, and on reporting.

22.1   Address settings

This section includes address and switch settings for compatible modules.

22.1.1   B208 address settings

Octo-input module number	Corresponding point numbers
01, 02, 03, 04, 05, 06, 07, 08, 09	11 - 18, 21 - 28, 31 - 38, 41 - 48, 51 - 58, 61 - 68, 71 - 78, 81 - 88, 91-98
10*, 11*, 12*, 13*, 14*, 15*, 16*, 17*, 18*, 19*	101 - 108, 111 - 118, 121 - 128, 131 - 138, 141 - 148, 151 - 158, 161 - 168, 171 - 178, 181 - 188, 191 - 198
20*, 21*, 22*, 23*, 24*, 25*, 26*, 27*, 28*, 29*	201 - 208, 211 - 218, 221 - 228, 231 - 238, 241 - 248, 251 - 258, 261 - 268, 271 - 278, 281 - 288, 291 - 298
30*, 31*, 32*, 33*, 34*, 35*, 36*, 37*, 38*, 39*	301 - 308, 311 - 318, 321 - 328, 331 - 338, 341 - 348, 351 - 358, 361 - 368, 371 - 378, 381 - 388, 391 - 398
40*, 41*, 42*, 43*, 44*, 45*, 46*, 47*, 48*, 49*	401 - 408, 411 - 418, 421 - 428, 431 - 438, 441 - 448, 451 - 458, 461 - 468, 471 - 478, 481 - 488, 491 - 498
50*, 51*, 52*, 53*, 54*, 55*, 56*, 57*, 58*, 59*	501 - 508, 511 - 518, 521 - 528, 531 - 538, 541 - 548, 551 - 558, 561 - 568, 571 - 578, 581 - 588 , 591 - 598
*Supported by the B9512G only.	

Tab. 22.16: Octo-input module corresponding point numbers

22.1.2   B299 address settings

POPEX module number	Corresponding point numbers
0	9 – 99
1*	100 – 199
2*	200 – 299
3*	300 – 399
4*	400 - 499
5*	500 - 599
*Supported by the B9512G only.	

22.1.3   B308 address settings

Octo-output module number	Corresponding relay numbers
01, 02, 03, 04, 05, 06, 07, 08, 09	11 – 18, 21 – 28, 31 – 38, 41 – 48, 51 – 58, 61 – 68, 71 – 78, 81 – 88, 91-98
10*, 11*, 12*, 13*, 14*, 15*, 16*, 17*, 18*, 19*	101 – 108, 111 – 118, 121 – 128, 131 – 138, 141 – 148, 151 – 158, 161 – 168, 171 – 178, 181 – 188, 191 – 198
20*, 21*, 22*, 23*, 24*, 25*, 26*, 27*, 28*, 29*	201 – 208, 211 – 218, 221 – 228, 231 – 238, 241 – 248, 251 – 258, 261 – 268, 271 – 278, 281 – 288, 291 – 298
30*, 31*, 32*, 33*, 34*, 35*, 36*, 37*, 38*, 39*	301 – 308, 311 – 318, 321 – 328, 331 – 338, 341 – 348, 351 – 358, 361 – 368, 371 – 378, 381 – 388, 391 – 398
40*, 41*, 42*, 43*, 44*, 45*, 46*, 47*, 48*, 49*	401 – 408, 411 – 418, 421 – 428, 431 – 438, 441 – 448, 451 – 458, 461 – 468, 471 – 478, 481 – 488, 491 – 498
50*, 51*, 52*, 53*, 54*, 55*, 56*, 57*, 58*, 59*	501 – 508, 511 – 518, 521 – 528, 531 – 538, 541 – 548, 551 – 558, 561 – 568, 571 – 578, 581 – 588 , 591 – 598
*Supported by the B9512G only.	

Tab. 22.17: Octo-output module valid relay numbers

22.1.4   D8128D address settings

The D8128D OctoPOPIT has two sets of DIP switches. Use the DIP switches on the top of the unit (with the terminal strip along the left edge) to set the address for the OctoPOPIT. Use the DIP switches at the bottom of the unit to enable or disable individual points connected to the OctoPOPIT. The D82128D connects to the control panel through a B600.

ZONEX 1 (Points 9 - 127	D8128D Address Switches					ZONEX 2 (Points 129 – 247)+
9 - 16	ON	ON	ON	ON	*	129 - 136
17 - 24	ON	ON	ON	OFF	*	137 - 144
25 - 32	ON	ON	OFF	ON	*	145 - 152
33 - 40	ON	ON	OFF	OFF	*	153 - 160
41 - 48	ON	OFF	ON	ON	*	161 - 168
49 - 56	ON	OFF	ON	OFF	*	169 - 176
57 - 64	ON	OFF	OFF	ON	*	177 - 184
65 - 72	ON	OFF	OFF	OFF	*	185 - 192
73 - 80	OFF	ON	ON	ON	*	193 - 200
81 - 88	OFF	ON	ON	OFF	*	201 - 208

ZONEX 1 (Points 9 - 127	D8128D Address Switches					ZONEX 2 (Points 129 – 247)+
89 - 96	OFF	ON	OFF	ON	*	209 - 216
97 - 104	OFF	ON	OFF	OFF	*	217 - 224
105 - 112	OFF	OFF	ON	ON	*	225 - 232
113 - 120	OFF	OFF	ON	OFF	*	233 - 240
121 - 127	OFF	OFF	OFF	ON	*	241 - 247
*Line termination switch. Refer to *Switch 5 settings for line termination, page 170*. +Supported by the B9512 only.						

Notice!

For the D8128D OctoPOPITs assigned to Points 121 to 127, 241, and 247, set Point Input Switch 8 to the OPEN position.

The B9512G uses Points 9 to 127 on ZONEX 1 and Points 129 to 247 on ZONEX 2.

B8512G uses only Points 9 to 99 on ZONEX 1.

Switch 5 settings for line termination

If a D8125 POPEX module **is** connected, set switch 5 of **only one** D8128D to **ON**.

If a D8125 POPEX module **is not** connected, set switch 5 of **all** D8128Ds to **OFF**.

22.1.5   D8129 address settings

The D8129 connects to the control panel through a B600.

Octo-relay module address setting	Control panel relay number	ZONEX Number
Off-On-On-On-On	1 – 8	1
On-Off-On-On-On	9 – 16	1
Off-Off-On-On-On	17 – 24	1
On-On-Off-On-On	25 – 32	1
Off-On-Off-On-On	33 – -40	1
On-Off-Off-On-On	41 – 48	1
Off-Off-Off-On-On	49 – 56	1
On-On-On-Off-On	57 – 64	1
Off-On-On-On-On	65 – 72	2
On-Off-On-On-On	73 – 80	2
Off-Off-On-On-On	81 – 88	2
On-On-Off-On-On	89 – 96	2
Off-On-Off-On-On	97 – 104	2
On-Off-Off-On-On	105 – 112*	2*
Off-Off-Off-On-On	113 – 120*	2*

Octo-relay module address setting	Control panel relay number	ZONEX Number
On-On-On-Off-On	121– 128*	2*
* Supported by the B9512G only.		

22.1.6   B901 address settings

Valid addresses for SDI2 (or SDIx in SDI2 mode)

B901 addresses	Designation
B9512G 01 – 32	Doors 1- 32 (Failsafe and Failsecure selected in control panel programming)
B8512G 01 – 08	Doors 1- 8 (Failsafe and Failsecure selected in control panel programming)

Valid addresses for SDI (SDIx in SDI mode)

B901 addresses	Designation
81 – 88	Doors 1 – 8 failsafe mode = door unlocked
91 - 98	Doors 1 - 8 fail secure = door locked

22.1.7   B91x address settings

Address	Switch 1	Switch 2	Switch 3	Switch 4	Switch 5	Switch 6
1	ON	OFF	OFF	OFF	OFF	OFF
2	OFF	ON	OFF	OFF	OFF	OFF
3	ON	ON	OFF	OFF	OFF	OFF
4	OFF	OFF	ON	OFF	OFF	OFF
5	ON	OFF	ON	OFF	OFF	OFF
6	OFF	ON	ON	OFF	OFF	OFF
7	ON	ON	ON	OFF	OFF	OFF
8	OFF	OFF	OFF	ON	OFF	OFF
9	ON	OFF	OFF	ON	OFF	OFF
10	OFF	ON	OFF	ON	OFF	OFF
11	ON	ON	OFF	ON	OFF	OFF
12	OFF	OFF	ON	ON	OFF	OFF
13	ON	OFF	ON	ON	OFF	OFF
14	OFF	ON	ON	ON	OFF	OFF
15	ON	ON	ON	ON	OFF	OFF
16	OFF	OFF	OFF	OFF	ON	OFF
17	ON	OFF	OFF	OFF	ON	OFF

Address	Switch 1	Switch 2	Switch 3	Switch 4	Switch 5	Switch 6
18	OFF	ON	OFF	OFF	ON	OFF
19	ON	ON	OFF	OFF	ON	OFF
20	OFF	OFF	ON	OFF	ON	OFF
21	ON	OFF	ON	OFF	ON	OFF
22	OFF	ON	ON	OFF	ON	OFF
23	ON	ON	ON	OFF	ON	OFF
24	OFF	OFF	OFF	ON	ON	OFF
25	ON	OFF	OFF	ON	ON	OFF
26		ON	OFF	ON	ON	OFF
27	ON	ON	OFF	ON	ON	OFF
28	OFF	OFF	ON	ON	ON	OFF
29	ON	OFF	ON	ON	ON	OFF
30	OFF	ON	ON	ON	ON	OFF
31	ON	ON	ON	ON	ON	OFF
32	OFF	OFF	OFF	OFF	OFF	ON

22.1.8 D9210C address settings

Fail mode	Central station Modem4	SDI address setting	Keypad display
UNLOCKED	SDI #33	81	Door #1
UNLOCKED	SDI #34	82	Door #2
UNLOCKED	SDI #35	83	Door #3
UNLOCKED	SDI #36	84	Door #4
UNLOCKED	SDI #37	85	Door #5
UNLOCKED	SDI #38	86	Door #6
UNLOCKED	SDI #39	87	Door #7
UNLOCKED	SDI #40	88	Door #8
LOCKED	SDI #33	91	Door #1
LOCKED	SDI #34	92	Door #2
LOCKED	SDI #35	93	Door #3
LOCKED	SDI #36	94	Door #4
LOCKED	SDI #37	95	Door #5
LOCKED	SDI #38	96	Door #6
LOCKED	SDI #39	97	Door #7

Fail mode	Central station Modem4	SDI address setting	Keypad display
LOCKED	SDI #40	98	Door #8

22.1.9 SDI keypad address settings

Address	Switch 1	Switch 2	Switch 3	Switch 4	Switch 5	Switch 6
1	ON	ON	ON	ON	Encoding Tone ON/ OFF	ON
2	OFF	ON	ON	ON		ON
3	ON	OFF	ON	ON		ON
4	OFF	OFF	ON	ON		ON
5	ON	ON	OFF	ON		ON
6	OFF	ON	OFF	ON		ON
7	ON	OFF	OFF	ON		ON
8	OFF	OFF	OFF	ON		ON
9	ON	ON	ON	OFF		ON
10	OFF	ON	ON	OFF		ON
11	ON	OFF	ON	OFF		ON
12	OFF	OFF	ON	OFF		ON
13	ON	ON	OFF	OFF		ON
14	OFF	ON	OFF	OFF		ON
15	ON	OFF	OFF	OFF		ON
16	OFF	OFF	OFF	OFF		ON

22.2 Reporting and device number information

This section contains information to help you understand control panel reports.

22.2.1 Report format definitions

Notice!
Control panels using Modem4 send 4-digit Point and User data.

Panel event	Modem4 code D6500 mode	Modem4 code Bosch SIA mode	Contact ID event	Contact ID code
A point supervisory condition occurred	Jspppp	NriaBSpppp	24 hour Non-Burglary	1 150 aa ppp
A valid local RPS access occurred	RsF01	NLS	Successful Download/ Access	1 412 00 000
A valid remote RPS access callback occurred	RsssF	NphhhRS	Successful Download/ Access	1 412 00 000

Panel event	Modem4 code D6500 mode	Modem4 code Bosch SIA mode	Contact ID event	Contact ID code
A valid remote RPS access occurred	RsssF	NRS	Successful Download/ Access	1 412 00 000
AC Fail – mains power supply	Pssss	NAT	AC Loss	1 301 00 000
AC Restore – mains power supply	Rsss0	NAR	AC failure restore	3 301 00 000
Add Key Fob to a User (Assign Card Event)	NsD30	NidiiiiDAiiii	Local Only	Local Only
Alarm	Aspppp	NriaBApppp	Burglary	1 130 aa ppp
Alarm Cross Point	Aspppp	NriaBMpppp	Burglary	1 130 aa ppp
Alarm Exit Error	Aspppp	Nria/idiiiiEApppp	Entry/Exit	1 134 aa ppp
Alarm with Recent Closing	Aspppp	Nria/CRpppp	Entry/Exit	1 459 aa uuu
All Points Tested by User	RsssF	NRilTC	Local Only	Local Only
All SDI devices are missing, power is shorted	TsssD	NpiET	Expansion Module Failure	1 333 00 000
All SDI devices are restored, power is normal	RsssD	NpiER	Expansion Module Failure Restore	3 333 00 000
An invalid RPS remote access callback occurred	TsssF	Np004RU	Unsuccessful Access	1 413 00 000
An invalid RPS remote access occurred	TsssF	NRU	Unsuccessful Access	1 413 00 000
Area Watch End	NsD52	Nriaa/idiiiiTZ	Local Only	Local Only
Area Watch Start	NsD51	Nriaa/idiiiiTW	Local Only	Local Only
Armed PartOn delay	Csiiii	Nriaa/idiiiiNL	Armed STAY	3 441 aa uuu
Armed PartOn instant	Csiii	Nriaa/idiiiiNL	Armed STAY	3 441 aa uuu
Aux Overload	Tsss9	NYM	Low System Battery	1 302 00 000
Aux Overload Restore	Rsss9	NYR	Low System Battery Restore	3 302 00 000
Battery Charger Circuit Trouble	Tsss9	NYT	System Trouble	1 300 00 000
Battery Charger Circuit Trouble Restoral	Rsss9	NYR	System Trouble Restore	3 300 00 000
Bypass by Sked	Nspppp	Nriaa/ aikkkUBpppp	Zone/Sensor Bypass	1 570 aa ppp
Bypass by User	Nspppp	Nriaa/ idiiiiUBpppp	Zone/Sensor Bypass	1 570 aa ppp

Panel event	Modem4 code D6500 mode	Modem4 code Bosch SIA mode	Contact ID event	Contact ID code
Cellular Fewer than Two Towers	TssssD	NpiddddET	System Peripheral Trouble	1 330 00 zzz
Cellular Fewer than Two Towers Restoral	RssssD	NpiddddER	System Peripheral Trouble Restore	3 330 00 zzz
Cellular Low Signal	TssssD	NpiddddET	System Peripheral Trouble	1 330 00 zzz
Cellular Low Signal Restoral	RssssD	NpiddddER	System Peripheral Trouble Restore	3 330 00 zzz
Cellular No Tower Available	TssssD	NpiddddET	System Peripheral Trouble	1 330 00 zzz
Cellular No Tower Available Restoral	RssssD	NpiddddER	System Peripheral Trouble Restore	3 330 00 zzz
Cellular Service Not Activated	TssssD	NpiddddET	System Peripheral Trouble	1 330 00 zzz
Cellular Service Not Activated Restoral	RssssD	NpiddddER	System Peripheral Trouble Restore	3 330 00 zzz
Change another's password or card	NsDO4	NidiiiiiJViiiii	Local Only	Local Only
Change own password	NsDO4	NidiiiiiJViiiii	Local Only	Local Only
Checksum failure on configuration memory	TsD15	NYF	RAM Checksum Bad	1 303 00 000
Closing by Account	Csiiii	NidiiiiCL	O/C by account	3 401 00 uuu
Closing by Area	Csiiii	Nriaa/idiiiiCL	O/C by User	3 401 aa uuu
Closing Early by Area	Csiiii	Nriaa/idiiiiCK	Early O/C	3 451 aa uuu
Closing Late by Area	Csiiii	Nriaa/idiiiiCJ	Late O/C	3 452 aa uuu
Communication failure by route group	TsB01	NrggYC	Failure to communicate event	1 354 00 000
Communication failure by route group restored	NsB01	NrggYK	Failure to communicate event	3 354 00 000
Communication trouble by network	TsB01	NpiddddYS	Communication Trouble	1 350 00 [1]zzz
Communication trouble by network restored	NsB01	NpiddddYK	Communication Trouble Restore	3 350 00 [1]zzz
Communication trouble by phone	TsB01	NphhhYS	Communication Trouble	1 350 00 000
Communication trouble by phone restored	NsB01	NphhhYK	Communication Trouble Restore	3 350 00 000
Configuration Failure (Device)	TssssD	NpiddddEP	System Peripheral Trouble	1 330 00 zzz

Panel event	Modem4 code D6500 mode	Modem4 code Bosch SIA mode	Contact ID event	Contact ID code
Configuration Failure Restoral (Device)	RssssD	NpiddddER	System Peripheral Trouble Restoral	3 330 00 zzz
Control panel battery low	Tsss9	NYT	Low System Battery	1 302 00 000
Control panel battery missing	Tsss9	NYM	Battery Missing/Dead	1 311 00 000
Control panel battery restored to normal	Rsss9	NYR	Low System Battery Restore	3 302 00 000
Control panel off-line	TsssF	Nid5002TS	System Shutdown	1 308 00 F02
Control panel on-line	RsssF	Nid5002TE	System Shutdown Restore	3 308 00 F02
Create Status Report	Sssss	NYY	Status Report to Follow	1 605 00 000
Date changed – no user indentified	NsD07	NJD	Time/Date Reset	1 625 00 000
Date changed by user	NsD07	NidiiiiJD	Time/Date Reset	1 625 00 uuu
Delete User by User	NsD05	NidiiiiJXiiii	Local Only	Local Only
DNS Failure	TsB01	NpiddddYS	Communication Trouble	1 350 00 [1]zzz
DNS Failure Restore	NsB01	NpiddddYK	Communication Trouble Restore	3 350 00 [1]zzz
Duplicate SDI2 device	TsssD	NpiddddET	System Peripheral Trouble	1 330 aa iii
Duplicate SDI2 device Restore	RsssD	NpiddddER	System Peripheral Trouble Restore	3 330 aa iii
Duress	Diiii	Nriaa/idiiiiHA	Duress	1 121 aa uuu
Equipment Fail	TsD29	NpiddddIA	System Peripheral Trouble	1 330 00 [1]zzz
Equipment Restore	RsD29	NpiddddIR	System Peripheral Trouble Restore	3 330 00 [1]zzz
Event Log Overflow	AsD01	NJO	Event Log Overflow	1 624 00 000
Event Log Threshold has been reached	TsD01	NJL	Event Log 90% Full	1 623 00 000
Extend Close Time by Area	TsD26	Nriaa/idiiii/ tihhmmCE	Auto-arm Time Extended	1 464 aa uuu
Extra Point	Tppppp	NriaaXEpppp	Maintenance Alert	1 393 aa ppp
Fail To Close by Area	TsssE	NriaCl	Failed to Close	1 454 aa 000
Fail to Open by Area	TsssE	NriaOl	Failed to Open	1 453 aa 000
Fire Alarm	Fsppppp	NriaaFApppp	Fire	1 110 aa ppp
Fire Cancel	\iiii	Nriaa/idiiiiFC	Cancel	1 406 aa uuu
Fire Drill Start	TsssF	Nriaa/idiiiiFL	Fire Test Start	1 604 aa iii
Fire Drill End	RsssF	Nriaa/idiiiiNF	Fire Test End	3 604 aa iii

Panel event	Modem4 code D6500 mode	Modem4 code Bosch SIA mode	Contact ID event	Contact ID code
Fire Missing	Mpppp	NriaaFYpppp	Fire Trouble	1 373 aa ppp
Fire Restoral from Alarm	Hspppp	NriaaFHpppp	Fire Alarm Restore	3 110 aa ppp
Fire Restoral from Trouble	Hspppp	NriaaFJpppp	Fire Trouble Restore	3 373 aa ppp
Fire Supervision	Espppp	NriaaFSpppp	Fire Supervisory	1 200 aa ppp
Fire Supervision from Restore	Espppp	NriaaFVpppp	Fire Supervisory Restore	3 200 aa ppp
Fire Trouble	Gspppp	NriaaFTpppp	Fire Trouble	1 373 aa ppp
Fire Walk Test End	RsssF	Nriaa/idiiiiFK	Fire Test End	3 604 aa uuu
Fire Walk Test Start	TsssF	Nriaa/idiiiiFI	Fire Test Start	1 604 aa uuu
Forced Armed PartOn Delay	Csiiii	Nriaa/idiiiiNF	Partial Arm	3 456 aa uuu
Forced Armed PartOn Instant	Csiiii	Nriaa/idiiiiNF	Partial Arm	3 456 aa uuu
Forced Close Early by Area	Csiiii	Nriaa/idiiiiCF	Early O/C	3 451 aa uuu
Forced Close Late by Area	Csiiii	Nriaa/idiiiiCF	Late O/C	3 452 aa uuu
Forced Closing by Area	Csiiii	Nriaa/idiiiiCF	O/C by User	3 401 aa uuu
Forced Point	Tspppp	NriaaXWpppp	Zone/Sensor Bypass	1 570 aa ppp
Gas Alarm	Apppp	NriaaGApppp	Gas Detected	1 151 aa ppp
Gas Alarm Restore	Rpppp	NriaaGHpppp	Gas Detected Restore	3 151 aa ppp
Gas Cancel	\iiii	Nriaa/idiiiiGC	Cancel	1 406 aa iii
Gas Missing	Vpppp	NriaaUZpppp	Sensor Trouble	1 380 aa ppp
Gas Supervisory	Jpppp	NriaaGSpppp	Sensor Trouble	1 380 aa ppp
Gas Supervisory Restore	Rpppp	NriaaGJpppp	Sensor Trouble Restore	3 380 aa ppp
Gas Trouble	Tpppp	NriaaGTpppp	Sensor Trouble	1 380 aa ppp
Gas Trouble Restore	Rpppp	NriaaGJpppp	Sensor Trouble Restore	3 380 aa ppp
Ground Fault	Tspppp	NriaaBTpppp	Ground Fault	1 310 01 000
Invalid Key Fob	VsD10	NidiiiiUY	Latch-Key Supervision	1 642 00 iii
Invalid Key Fob Restoral	RsD10	NidiiiiUR	Latch-Key Supervision Restore	3 642 00 iii
Invalid local access detected	TsF01	NLU	Unsuccessful access	1 413 00 000
Invalid Point Transmitter	Vpppp	NriaaUYpppp	Loss of Supervision –RPM	1 382 aa ppp
Invalid Point Transmitter Restore	Rpppp	NriaaBRpppp	Loss of Supervision –RPM Restore	3 382 aa ppp
Invalid Popit Address	Vpppp	NriaaUYpppp	Loss of Supervision – RPM	1 382 aa ppp
Invalid Popit Address Restore	Rpppp	NriaaBRpppp	Loss of Supervision – RPM Restore	3 382 aa ppp

Panel event	Modem4 code D6500 mode	Modem4 code Bosch SIA mode	Contact ID event	Contact ID code
IP Address Error	TsssD	NpiddddET	System Peripheral Trouble	1 330 00 [1]zzz
IP Address Error	RsssD	NpiddddER	System Peripheral Trouble Restore	3 330 00 [1]zzz
Key fob Missing	VsD10	NidiiiiUY	Latch-Key Supervision	1 642 00 iii
Key fob Missing Restoral	RsD10	NidiiiiUR	Latch-Key Supervision Rest.	3 642 00 iii
Key fob Panic	Assss	NidiiiiPA	Duress Alarm	1 121 00 iii
Key fob Silent (Hold Up) Alarm	Dssss	NidiiiiHA	Duress Alarm	1 121 00 iii
Keypad Panic Alarm	Apppp	Nriaa/Papppp	Panic Alarm	1 120 aa ppp
Keypad Silent (Hold-Up) Alarm	Dpppp	Nriaa/Happpp	Silent Alarm	1 122 aa ppp
Medical Alarm	Apppp	Nriaa/Mapppp	Personal Emergency	1 101 aa ppp
Missing Alarm	Mpppp	NriaaUZpppp	General Alarm	1 140 aa ppp
Missing Fire Supervision	GMpppp	NriaaFZpppp	Fire Trouble	1 373 aa ppp
Missing Gas Supervision	Vpppp	NriaaGSpppp	Sensor Trouble	1 380 aa ppp
Missing Supervision	MTpppp	NriaaBZpppp	Loss of Supervision –RPM	1 382 aa ppp
Missing Trouble	Vpppp	NriaaUYpppp	Loss of Supervision – RPM	1 382 aa ppp
Network Cable Connected	NsD43	Npidddance	NpidddNR010	System Peripheral Trouble Restore	3 330 00 zzz
Network Cable Disconnected	NsD42	NpidddNT010	System Peripheral Trouble	1 330 00 zzz
Non-Fire Cancel Alarm	\siiii	Nriaa/idiiiiBC	Cancel	1 406 aa uuu
Normal start-up of the control panel	NsD14	NRR	System Reset	1 305 00 000
Opening by Account	Osiiii	NidiiiiOP	O/C by account	1 401 00 uuu
Opening by Area	Osiiii	Nriaa/idiiiiOP	O/C by user	1 401 aa uuu
Opening Early by Area	Osiiii	Nriaa/idiiiiOK	Early O/C	1 451 aa uuu
Opening Late by Area	Osiiii	Nriaa/idiiiiOJ	Late O/C	1 452 aa uuu
Parameters changed	NsD02	NYG	Panel Programming Changed	1 306 00 000
Personal Notification Communication Trouble	TsB01	NpidddndYS	Communication Trouble	1 350 0 zzz

Panel event	Modem4 code D6500 mode	Modem4 code Bosch SIA mode	Contact ID event	Contact ID code
Personal Notification Communication Trouble Restore	NsB01	NpiddddYK	Communication Trouble Restore	3 350 0 zzz
Phone Line Missing 1	TsssB	NLT1	Telco 1 Fault	1 351 00 000
Phone Line Restored 1	RsssB	NLR1	Telco 1 Fault Restore	3 351 00 000
Popex Bus Fault	TsssD	NYI	PS Over Current	1 312 00 ZZZ
Popex Bus Fault Restore	RsssD	NYJ	PS Over Current Restore	3 312 00 ZZZ
Popex Invalid Popit	TsssD	NYI	PS Over Current	1 312 00 ZZZ
Popex Invalid Popit Restore	RsssD	NYJ	PS Over Current Restore	3 312 00 ZZZ
Popex Low Voltage	TsssD	NYI	PS Over Current	1 312 00 ZZZ
Popex Low Voltage Restore	RsssD	NYJ	PS Over Current Restore	3 312 00 ZZZ
Programming Started	TsssF	NiduuuuTS	System Shutdown	1 308 00 iii
Programming Finished	RsssF	NiduuuuTE	System Shutdown Restore	3 308 00 iii
RAM Fail with RPS	TsF02	NRA	Unsuccessful access	1 413 00 000
Re-Boot	NsD14t	NRR	System Reset	1 305 00 000
Relay Reset by Sked	NsD20	NaikkkROrrrr	Sounder/Relay Reset	3 320 00 000
Relay Reset by User	NsD18	NidiiiiROrrrr	Sounder/Relay Reset	3 320 00 000
Relay Set by Sked	NsD19	NaikkkRCrrrr	Sounder/Relay Set	1 320 00 000
Relay Set by User	NsD28	NidiiiiRCrrrr	Sounder/Relay Set	1 320 00 000
Remote Reset – System was reset by RPS	NsD11	NRN	System Reset	1 305 00 000
Remove User's Key Fob (Assign Card Event)	NsD30	NidiiiiDAuuuu	Local Only	Local Only
Replace Sensor	Tpppp	NriaaBTpppp	Maintenance Alert	1 393 aa ppp
Replace Sensor Restore	Rpppp	NriaaBRpppp	Maintenance Alert Restore	3 393 aa ppp
Replace User's Key Fob (Assign Card Event)	NsD30	NidiiiiDAuuuu	Local Only	Local Only
Restoral	Rpppp	NriaaBRpppp	Sensor Trouble Restore	3 380 aa ppp
Restoral from Alarm	Rpppp	NriaaBHpppp	Burglary Restore	3 130 aa ppp
Restoral from Ground Fault	Rspppp	NriaaBRpppp	Ground Fault Restore	3 310 01 000
RF Interference	TsD08	NpiddddXQ	RF RCVR Jam	1 344 00 [1]zzz
RF Interference Restore	RsD08	NpiddddXH	RF RCVR Jam Restore	3 344 00 [1]zzz
RF Transmitter	Hss001	NriaaFRpppp	Maintenance Alert Restore	3 393 aa ppp
RF Transmitter Low Battery	Tspppp	NriaaXTpppp	RF Low Battery	1 384 aa ppp

Panel event	Modem4 code D6500 mode	Modem4 code Bosch SIA mode	Contact ID event	Contact ID code
RF Transmitter Low Battery (Key Fob)	TsD10	NidiiiiXT	Battery Test Failure	1 309 00 uuu
RF Transmitter Low Battery (Key Fob) Restore	RsD10	NidiiiiXR	Battery Test Restore	3 309 00 uuu
RF Transmitter Low Battery Restore	Rspppp	NriaaXRpppp	RF Low Battery	3 384 aa ppp
RF Transmitter Maintenance	Gss001	NriaaFTpppp	Maintenance Alert	1 393 aa ppp
ROM Checksum Fail	AsD12	NYX	ROM Checksum bad	1 304 00 000
SDI Device AC Fail	TsssD	NEP	Exp. Module AC Loss	1 342 00 [1]zzz
SDI Device AC Fail Restore	RsssD	NEQ	Exp. Module AC Restore	3 342 00 [1]zzz
SDI device is missing	TssssD	NpidddddET	Expansion Module Failure	1 333 00 000
SDI device is restored	RssssD	NpidddddER	Expansion Module Failure Restore	3 333 00 000
SDI Device Low Battery	TsssDt	NpidddddEBbb	Exp. Module Low Batt.	1 338 00 [1]zzz
SDI Device Low Battery Restore	RsssDt	NpidddddEVbb	Exp. Module Batt. Restore	3 338 00 [1]zzz
SDI Device Missing	TsssDt	NpidddddEM	Exp. Module Failure	1 333 00 [1]zzz
SDI Device Missing Battery	TsssDt	NpidddddEBbb	Exp. Module Low Batt. Restore	3 338 00 [1]zzz
SDI Device Missing Battery Restore	RsssDt	NpidddddEVbb	Exp. Module Low Batt. Restore	3 338 00 [1]zzz
SDI Device Missing Restore	RsssDt	NpidddddEN	Exp. Module Failure Restore	3 333 00 [1]zzz
SDI Device Over Current	TsssD	NYI	PS Over Current	1 312 00 [1]zzz
SDI Device Over Current Restore	RsssD	NYJ	PS Over Current Restore	3 312 00 [1]zzz
SDI Device Tamper	TsssD	NES	Exp. Module Tamper	1 341 00 [1]zzz
SDI Device Tamper Restore	TsssD	NES	Exp. Module Tamper Restore	3 341 00 [1]zzz
SDI Device Trouble	TsssD	NET	System Peripheral Trouble	1 330 00 [1]zzz
SDI Device Trouble Restore	RsssD	NER	System Peripheral Trouble Restore	3 330 00 [1]zzz
SDI2 device is missing	TsssD	NpidddddEM	Expansion Module Failure	1 333 00 000
SDI2 device is restored from missing	RsssD	NpidddddEN	Expansion Module Failure	3 333 00 000
SDI2 Open Trouble	TsssD	NpiidddddET	Expansion Module Failure	1 333 00 [1]zzz

Panel event	Modem4 code D6500 mode	Modem4 code Bosch SIA mode	Contact ID event	Contact ID code
SDI2 Open Trouble Restoral	RsssD	NpiddddER	Expansion Module Failure Restore	3 333 00 [1]zzz
Sensor Reset	NsD27	Nriaa/idiiiiXlrrrr	Sounder/Relay Reset	3 320 00 000
Service Bypass	Npppp	NriaaUBpppp	Service Request	1 616 aa ppp
Service Bypass Cancel	RBpppp	NriaaUUpppp	Service Request Restore	3 616 aa ppp
Service Smoke Detector	Tpppp	NriaaASpppp	Maintenance Alert	1 393 aa ppp
Service Smoke Detector Restore	Rpppp	NriaaANpppp	Maintenance Alert Restore	3 393 aa ppp
Service Walk Test End	RsssF	NidiiiiTE	Service On/Off Premises	3 466 aa uuu
Service Walk Test Start	TsssF	Nriaa/idiiiiTS	Service On/Off Premises	1 466 aa uuu
Sked Changed – No User Identified	NsD06	NaikkkJS	Schedule Change	1 630 00 000
Sked Changed by User	NsD06	Nidiiii/aikkkJS	Schedule Change	1 630 00 000
Sked has Executed	NsD25	NaikkkJR	Local Only	Local Only
Status: Burg Alarm	SApppp	OriaaBApppp	NA	NA
Status: Burg Supervisory	STpppp	OriaaBSpppp	NA	NA
Status: Burg Trouble	STpppp	OriaaBTpppp	NA	NA
Status: Close by Area	SCssss	OriaCL	NA	NA
Status: Fire Alarm	SFpppp	OriaaFApppp	NA	NA
Status: Fire Supervisory	SEpppp	OriaaFSpppp	NA	NA
Status: Fire Trouble	SGpppp	OriaaFTpppp	NA	NA
Status: Gas Alarm	SApppp	NriaaGAppp	NA	NA
Status: Gas Supervisory	SJpppp	NriaaGSppp	NA	NA
Status: Gas Trouble	STpppp	NriaaGTppp	NA	NA
Status: Open by Area	SOssss	OriaOP	NA	NA
Swinger Bypass	Nsppp	NriaaUBpppp	Swinger Bypass	1 575 aa ppp
Test Report – System Normal, Expanded Status	RsssE	NRP & see D6600 CIM for Status Items	Periodic Test Report	1 602 00 000
Test Report – System Normal, Non-expanded Status	RsssE	NRP	Periodic Test Report	1 602 00 000
Test Report – System Off-normal, Expanded Status	RsssE	NRY & see D6600 CIM for Status Items	Periodic Test – System Trouble Present	1 608 00 000

Panel event	Modem4 code D6500 mode	Modem4 code Bosch SIA mode	Contact ID event	Contact ID code
Test Report – System Off-normal, Non-expanded Status	RsssE	NRY	Periodic Test – System Trouble Present	1 608 00 000
Time Changed – No User Identified	NsD07	NJT	Time/Date Reset	1 625 00 000
Time Changed by Receiver Sync	NsD07	Nid5001JT	Time/Date Reset	1 625 00 F01
Time Changed by User	NsD07	NidiiiiJT	Time/Date Reset	1 625 00 uuu
Trouble	Tspppp	NriaaBTpppp	Sensor Trouble	1 380 aa ppp
Unverified Event	Kpppp	NriaaUGpppp	Cross-Zone Trouble	1 378 aa ppp
User Authority level has changed	NsD40	NidiiiiJZiiii	Local Only	Local Only
User Passcode Tamper – Too Many Attempts	NsD03	NriaJA	Wrong Code Entry	1 461 aa 000
Walk Test End	RsssF	Nriaa/idiiiiTE	Walk Test Mode Emd	3 607 aa uuu
Walk Test Start	TsssF	Nriaa/idiiiiTS	Walk Test Mode	1 607 aa uuu
Watchdog Reset	NsD09	NpiddddYW	System Reset	1 305 00 000
Watchdog Reset – SDI Device Reported identifies the Source	NsD09	NpiddddYW	System Reset	1 305 00 000

22.2.2 Device numbers (zzz, dddd)

Device number	zzz data values	Description
01 - 16	001 - 016	SDI Keypads 1 through 16
01 - 59	201 - 259	SDI2 Octo-Input Modules 1 through 59
01 - 59	301 - 359	SDI2 Octo-Output Modules 1 through 59
1	801	SDI2 Premises RF Module
N/A	851 - 858	RF Repeater 1 through 8
01 - 02	401 - 402	SDI2 Network Modules 1 through 2
01 - 08	501 - 508	SDI2 Power Supply Modules 1 through 8
01 - 32	901 - 932	SDI2 Keypads 1 through 32
01 - 06	155 - 160	SDI2 POPEX Modules 1 through 6
01 - 08	33 - 40	SDI Access Modules 1 through 8
01 - 32	601 - 632	SDI2 Access Modules 1 through 32
N/A	516 - 531	IP Cameras 1 through 16
OnBrd	100	Control Panel Enclosure

OnBrd	400	On-board Ethernet module
OnBrd	408 -409	Plug-in Modules 1 through 2

22.2.3 Communication Trouble device numbers (zzzz)

Bus	Keypad display #	Reporting number	Description
On Board	Dest [1-4] Onbrd IP	410, 420, 430, 440	Destinations 1 through 4 via On-board Ethernet
On Board	Dest [1-4] Cell# [1-2]	418, 428, 438, 448	Destinations 1 through 4 via On-board Cellular Module
On-Board	PN Dest [1 – 32]	451 – 466	Personal notification destinations number 1 through 32
SDI2	Dest [1-4] SDI2# 1	411, 421, 431, 441	Destinations 1 through 4 on SDI2 Network Module 1
SDI2	Dest [1-4] SDI2# 2	412, 422, 432, 442	Destinations 1 through 4 on SDI2 Network Module 2
any	RPS	499	Used for DNS lookup error of RPS hostname

22.2.4 Special User IDs (uuuu, iiii)

To better identify the originator of some control panel events with no unique, Standard User identified, special user IDs designate each special case. All user ID are defined in the table below.

User ID type	Keypad display	Contact ID reporting	Modem format	User text
Service User	0	F00	0	"SERVICE USER"
Standard Users	1...999, 1000-2000	001...999, FFF	1...999, 1000-2000	{configured text}
Time Sync	5001	F01	5001	"AUTO TIME SYNC"
RPS User	5002	F02	5002/none	"BY RPS"
Automation User	5003	F03	5003/none	"BY AUTOMATION"
Keyswitch	5004	F04	5004	"BY KEYSWITCH"
No User Specified	User not displayed	000	0xFFFF (displays blank)	{no text}

22.2.5 Keypad alarm virtual point numbers (ppp, pppp)

Special point numbers identify the originator of manually created keypad alarm events. All special point numbers are defined in the table below.

Originating Keypad	Reported Number
Keypad 1 - 32	901 - 932

22.3   AutoIP

When AutoIP is enabled on the RPS computer, within 2 minutes of connecting the control panel and RPS computer, the control panel temporarily assumes address 169.254.1.1. The RPS IP Direct connection option only uses 169.254.1.1 to connect. The option is not configurable in RPS. If the RPS connection fails, the control panel has not adopted the correct IP address. To check the control panel IP address, from the Installer menu on a keypad, go to [1] Program > [2] Network > [1] Ethernet > (choose the bus module or on-board) > [2] Address Parameters > [1] IP Address.

If the control panel address is not 169.254.1.1, take the following steps:

– If the control panel also uses the Ethernet for IP communication, ensure you cycled power to the control panel. When power cycled, the control panel clears the IP address assigned by the network and adopts the AutoIP address assigned by the RPS computer.

– Ensure no other device is connected to the RPS computer using Ethernet. The computer assigns 169.254.1.1 to the first connected device.

– Apply a new registry key to the computer to enable AutoIP. Be sure to obtain permission from your company IT department before changing the registry, then:

– Open Notepad and create a new file called AutoIP.reg.

– In Notepad, include the text shown below the instructions.

– Save the file to a location on the host computer that you can easily find.

– Navigate to the saved file and double-click on it to add it to the host computer's registry.

– Restart the host computer.

Text for the AutoIP.reg file:

```
Windows Registry Editor Version 5.00
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters]
"IPAutoconfigurationEnabled"=dword:00000001
```