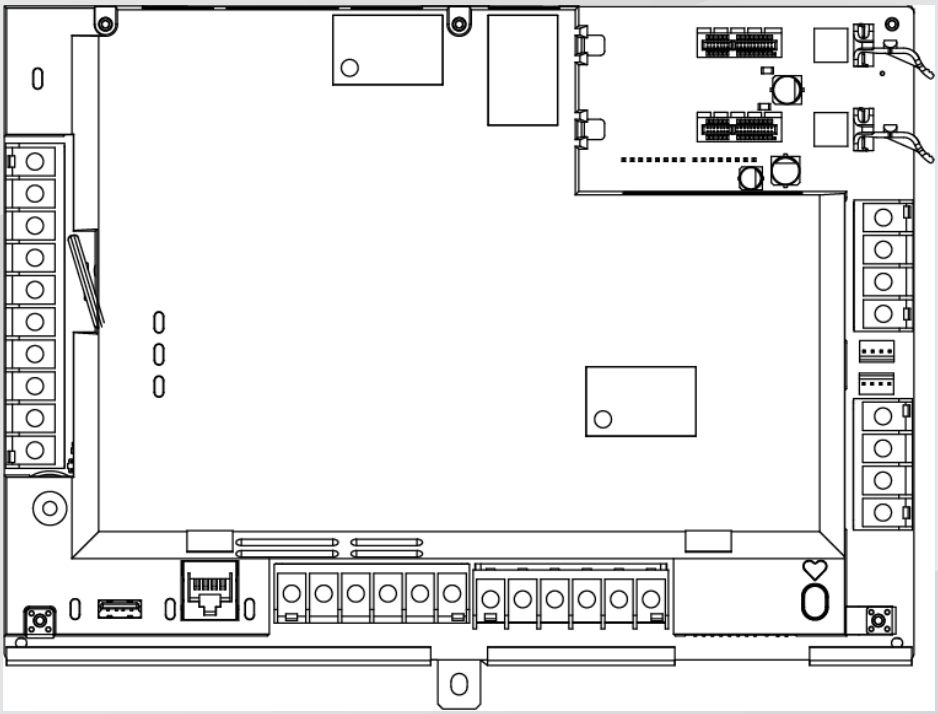
Control Panels

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



en Installation Manual

Table of contents

1	**Certifications, approvals, listings, and safety**	**9**
1.1	Listings and approvals	9
1.1.1	UL	9
1.1.2	ULC	9
1.1.3	Security Industry Association (SIA)	9
1.1.4	Department of Defense (DoD)	9
1.1.5	Department of Energy	9
1.1.6	National Institute of Standards and Technology (NIST)	9
1.1.7	Federal Communications Commission (FCC) Rules	10
1.1.8	Industry Canada (IC)	10
1.1.9	CE	10
1.2	Safety	11
1.2.1	Lightning	11
1.2.2	Earth ground	11
1.2.3	Power	12
2	**Introduction**	**13**
2.1	About documentation	13
2.1.1	Related documentation	13
2.2	Bosch Security Systems, Inc. product manufacturing dates	15
3	**System overview**	**16**
3.1	Parts list	16
3.2	Control panel capacities	16
3.3	Features	17
3.3.1	SDI2 interconnect wiring	17
3.3.2	Points	17
3.3.3	Areas and accounts	17
3.3.4	Digital communication	18
3.3.5	Keypads	18
3.3.6	Events	19
3.3.7	Programming	19
3.3.8	Firmware updates	19
3.3.9	Access control	19
3.3.10	Ground fault detection	19
3.3.11	Dual authentication	20
3.3.12	Recent closing	20
3.4	Accessories	20
3.4.1	Compatible UL Listed Synchronization (Sync) modules and strobes	25
4	**Installation checklist**	**31**
5	**Control panel installation**	**32**
5.1	Installing the enclosure	32
5.2	Installing the control panel	32
5.2.1	Earth ground	33
5.2.2	Ground Fault Detect enable	33
5.2.3	Ground fault detection troubleshooting	33
5.3	Control panel to module wiring overview	34
6	**Power supply**	**37**
6.1	Secondary (DC) power	37
6.1.1	Install the battery	37

6.1.2	BATTERY STATUS LED	38
6.1.3	Battery maintenance	39
6.1.4	Battery supervision	39
6.1.5	Battery charging circuit float charge	39
6.1.6	Battery discharge and recharge schedule	40
6.2	B520 aux power supply	40
6.2.1	SDI2 address settings	41
6.2.2	Supervision	41
6.2.3	Auxiliary power supply trouble conditions	41
6.2.4	Installation and control panel wiring (B520)	41
6.2.5	Powered device and battery wiring	42
7	**Telephone communications**	**45**
7.1	B430 Plug-in Communicator, Telephone	45
7.1.1	Supervision	45
7.1.2	Installation and module wiring (B430)	45
7.1.3	Diagnostic LEDs	46
7.2	Phone jack location	46
7.3	Telephone line monitor	47
7.4	Called party disconnect	47
7.5	Communication failure	48
8	**IP communications**	**49**
8.1	On-board Ethernet connection	49
8.1.1	Supervision	49
8.1.2	Local programming	49
8.1.3	On-board Ethernet diagnostic LEDs	50
8.2	Conettix Plug-in cellular modules	51
8.3	B426 Ethernet Communication Module	51
8.3.1	Address and emulation settings	51
8.3.2	Supervision	51
8.3.3	B426 module faults	52
8.3.4	Installation and control panel wiring (B426)	52
8.3.5	Diagnostic LEDs	53
8.3.6	Local programming	54
8.4	B450 Conettix plug-in communicator interface	55
8.4.1	SDI2 address settings	55
8.4.2	Supervision	55
8.4.3	Installation and control panel wiring (B450)	55
8.4.4	Diagnostic LEDs	56
8.5	Compatible receivers for IP communication	57
9	**Keypads, keyswitches, keyfobs and transmitters**	**59**
9.1	Keypads	59
9.1.1	Keypads overview	59
9.1.2	B921C Two-line Capacitive Keypad with Inputs	60
9.1.3	Shortcuts and custom functions	60
9.1.4	Address settings	61
9.1.5	Supervision	61
9.1.6	Installation and control panel wiring (keypads)	61
9.1.7	Sensor loops overview and wiring (B921C/B942/B942W only)	62
9.1.8	Output wiring (B942/B942W only)	63

9.1.9	Troubleshooting	63
9.2	Keyswitches	63
9.2.1	Operation	64
9.2.2	Installation and control panel wiring (keyswitches)	64
9.3	RADION keyfobs and Inovonics pendant transmitters	65
10	**On-board outputs**	**66**
10.1	Circuit protection	66
10.2	Total available power	66
10.3	Continuous power outputs	67
10.4	Programmable power outputs	67
10.4.1	Terminals 6 and 7	67
10.4.2	Terminal 8	68
10.5	USB power	68
11	**Off-board outputs**	**69**
11.1	B308 octo-output module	69
11.1.1	SDI2 address settings	69
11.1.2	Supervision	69
11.1.3	Installation and control panel wiring (B308)	70
11.2	B600 Retrofit ZONEX Module	70
11.2.1	Installation and control panel wiring (B600)	71
11.2.2	D8129 Octo-relay Module	72
12	**On-board points**	**73**
12.1	Point sensor loops	73
12.1.1	Single EOL (and no EOL) resistor circuit style	73
12.1.2	Dual EOL resistor circuit style	74
12.2	Point response time	75
13	**Off-board points**	**76**
13.1	B208 octo-input module	76
13.1.1	SDI2 address settings	76
13.1.2	Supervision	76
13.1.3	Installation and control panel wiring (B208)	76
13.1.4	Sensor loops overview and wiring	78
13.2	B299 POPEX Module	80
13.2.1	SDI2 address settings	80
13.2.2	Supervision	80
13.2.3	Installation and control panel wiring (B299)	81
13.2.4	POPIT devices overview and wiring	81
13.3	B600 Retrofit ZONEX Module	82
13.3.1	Installation and control panel wiring (B600)	82
13.3.2	D8125 expansion	83
13.3.3	D8128D OctoPOPIT Eight-point Expander	84
13.4	Off-board points test	85
13.5	Extra Point events	85
13.6	Missing point conditions	85
14	**Wireless modules**	**86**
14.1	B810 receiver	86
14.1.1	SDI2 address settings	86
14.1.2	Supervision	86
14.1.3	Installation and control panel wiring (B810)	86

14.2	B820 SDI2 Inovonics Interface Module	87
14.2.1	SDI2 address settings	87
14.2.2	Supervision	87
14.2.3	Installation and control panel wiring (B820)	87
15	**Access control**	**89**
15.1	B901 door controller	89
15.1.1	Address settings	89
15.1.2	Supervision	89
15.1.3	Installation and control panel wiring (B901)	90
15.2	D9210C access control interface module	90
15.3	Card reader wiring	91
16	**Program and test the control panel**	**92**
16.1	Program the control panel	92
16.1.1	Program the control panel with RPS	92
16.1.2	Program the control panel with the Installer Services Portal programming tool	93
16.1.3	Program the control panel with a keypad	93
16.2	Walk tests	93
16.2.1	Fire walk test	93
16.2.2	Intrusion walk test	94
16.2.3	Service walk test	94
16.2.4	Invisible walk test	95
17	**Control panel board overview**	**96**
18	**System wiring diagrams**	**98**
18.1	Power supply side wiring	99
18.2	Input points wiring with D125B, D130, or D129	100
18.3	Input points wiring with or without EOL resistors	100
18.4	SDI and ZONEX wiring	101
18.5	SDI2 devices general system wiring	103
18.5.1	SDI2 bus wiring recommendations	103
18.6	2-wire smoke wiring (D125B)	105
19	**Approved applications**	**107**
19.1	Optional compatible equipment	107
19.1.1	Burglar applications	107
19.1.2	Bank safe and vault applications	107
19.1.3	Fire applications	111
19.1.4	Enclosures	112
19.2	Combination fire and intrusion alarm systems	112
19.3	Compatible UL listed components	113
19.4	Standby battery requirements and calculations	115
19.4.1	Household Fire Warning equipment	118
19.5	UL 365 - Police Station Connected Burglar Alarm Units and Systems	119
19.6	UL 636 - Holdup Alarm Units and System	119
19.7	Required programming to meet UL 864	120
19.8	Required values to achieve 180s (ULC)/200s (UL) supervision interval	123
19.9	ULC	123
20	**Keypad Installer menu**	**124**
20.1	[1] Program menu (Programming)	131
20.1.1	[1] Reporting > [1] Phone menu parameters	131
20.1.2	[1] Reporting > [2] Network menu parameters	132

20.1.3	[1] Reporting > [3] Report Routing parameters	133
20.1.4	[1] Reporting > [4] Personal Note menu parameters	135
20.1.5	[2] Network > [1] Ethernet > (choose the bus module or on-board) > [1] Module Parameters menu	136
20.1.6	[2] Network > [1] Ethernet > (choose the bus module or on-board) > [2] Address Parameters menu	137
20.1.7	[2] Network > [1] Ethernet > (choose the bus module or on-board) > [3] DNS Parameters menu	138
20.1.8	[2] Network > [2] Cellular > (choose the SDI2 cellular module or plug-in module)	139
20.1.9	[3] RPS > [1] RPS Passcode menu parameters	140
20.1.10	[3] RPS > [2] RPS Phone Number menu parameters	140
20.1.11	[3] RPS > [3] RPS IP Address menu parameters	140
20.1.12	[3] RPS > [4] RPS Port Number menu parameters	141
20.1.13	[4] Area Options menu parameters	141
20.1.14	[5] Keypad menu parameters	143
20.1.15	[6] Users menu parameters	145
20.1.16	[7] Points menu parameters	145
20.1.17	[8] Disable Programming menu	153
20.2	[2] Wireless menu	154
20.2.1	[1] RF Point Menu> [1] Enroll Point RFID	154
20.2.2	[1] RF Point Menu> [2] Replace Point RFID	154
20.2.3	[1] RF Point Menu> [3] Remove Point RFID	154
20.2.4	[2] RF Repeater Menu > [1] Add Repeater	155
20.2.5	[2] RF Repeater Menu > [2] Replace Repeater	155
20.2.6	[2] RF Repeater Menu > [3] Remove Repeater	155
20.2.7	[3] RF Diagnostic Menu > [1] RF Points	155
20.2.8	[3] RF Diagnostic Menu > [2] RF Repeater Menu	156
20.3	[3] Diags menu	156
20.3.1	[1] Wireless	156
20.3.2	[2] Network menu	156
20.3.3	[3] Cellular menu	157
20.3.4	[4] IP Camera	157
20.3.5	[5] Cloud	158
20.4	[4] Service Bypass (Serv Byp) menu	158
20.5	[5] Versions menu	158
20.6	[6] Cloud menu	159
20.7	[7] USB Power	159
21	**Specifications**	**160**
21.1	Wire requirements	161
22	**Appendix**	**164**
22.1	Address settings	164
22.1.1	B208 address settings	164
22.1.2	B299 address settings	166
22.1.3	B308 address settings	166
22.1.4	D8128D address settings	168
22.1.5	D8129 address settings	169
22.1.6	B901 address settings	169
22.1.7	B91x address settings	169
22.1.8	D9210C address settings	170

22.1.9	SDI keypad address settings	171
22.2	Reporting and device number information	172
22.2.1	Report format definitions	172
22.2.2	Device numbers (zzz, dddd)	181
22.2.3	Communication Trouble device numbers (zzzz)	182
22.2.4	Special User IDs (uuuu, iiii)	182
22.2.5	Keypad alarm virtual point numbers (ppp, pppp)	183
22.3	AutoIP	183

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 107*. 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 Systems
- UL 609 - Local Burglar Alarm Units and Systems
- UL 636 - Holdup Alarm Units and Systems
- UL 864 - Control Units and Accessories for Fire Alarm Systems (Commercial Fire)
- UL 985 - Household Fire Warning System Units
- UL 1023 - Household Burglar Alarm System Units
- UL 1076 - Proprietary Burglar Alarm Units and Systems
- 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.

1.1.9 CE

Listed for:

- EMC
- LVD
- RoHS

1.2 Safety

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.

1.2.1 Lightning

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

Effects of lightning

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.

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.

Warranty regarding lightning

The warranty does not cover physical damage due to lightning.

1.2.2 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 shows 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
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.

1.2.3 Power

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

Caution!
Do not short-circuit the terminals of the transformer
If you short the terminals, the internal fuse opens. This causes permanent failure. Connect the transformer to the control panel AC power terminals before you plug 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.

Warning!
High current arcs are possible
The positive (red) battery lead and the terminal labeled 5 can create high current arcs if shorted to other terminals or the enclosure. Use caution when you touch the positive lead and the terminal labeled 5. Always disconnect the positive (red) lead from the battery before you remove it from the terminal labeled 5.

Caution!
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.

Caution!
Heavy discharges possible
The system can have heavy discharges if you exceed the maximum output ratings or install the transformer in an outlet that is routinely switched off. Routine heavy discharges can lead to premature battery failure.

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

2 Introduction

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

2.1 About documentation

This document has instructions for a trained installer to install, configure, and operate this control panel, and optional peripheral devices.
(Bosch Security Systems, Inc. recommends that installers follow good wiring practices such as those described 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.

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 (www.boschsecurity.com).
2. Go to Product Catalog.
3. Choose your country.
4. 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.
5. Press ENTER.
6. 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.

7. 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 Manual[+]
*Control Panels (B9512G/B8512G/B6512/B5512/B4512/B3512) Operation Manual** [+]
Control Panels (B9512G/B8512G) Program Entry Guide[+]
*Control Panels (B9512G/B8512G) UL Installation Manual** [+]
*Control Panels (B9512G/B8512G) SIA Quick Reference Guide** [+]
Control Panels (B9512G/B8512G/B6512/B5512/B4512/B3512) ULC Installation Manual
*Shipped with the control panel. [+]Located on the documentation CD shipped with the control panel.

Keypad documents

*Basic Keypad (B915) Installation Guide**
*Two-line Alphanumeric Keypad (B920) Installation Guide**
*Fire Keypads (B925F/B926F) Installation Guide**
*Two-line Capacitive Keypad with Inputs (B921C) Installation Guide**
*ATM Style Alphanumeric Keypad (B930) Installation Guide**
*Touch Screen Keypad (B942/B942W) Installation Guide**
*Shipped with the keypad.

Optional module documents

*Octo-input Module (B208) Installation and Operation Guide**
*POPEX Module (B299) Installation Guide**
*Octo-output Module (B308) Installation and Operation Guide**
*Conettix Ethernet Communication Module (B426) Installation and Operation Guide** [+]
*Plug-in Telephone Communicator (B430) Installation Guide Installation Guide**
*Conettix Plug-in GPRS Cellular Communicator (B442) Installation and Operation Guide**
*Conettix Plug-in HSPA+ Cellular Communicator (B443) Installation and Operation Guide**
*Conettix Plug-in Cellular Communicator (B444) Installation and Operation Guide**
*Conettix Plug-in Communicator Interface (B450) Installation and Operation Guide** [+]
*Auxiliary Power Supply (B520) Installation and Operation Guide**
Retrofit ZONEX Module (B600) Installation Guide
*RADION receiver SD (B810) Installation Guide**

*SDI2 Inovonics Interface Module (B820) Installation Guide**
Access Control Module (B901) Installation Guide
Dual Class B Initiating Module (D125B) Installation Instructions
Multiplex Bus Interface (D8125MUX) Operation and Installation Guide
OctoPOPIT Module (D8128D) Installation Guide
Access Control Interface Module (D9210C) Installation and Operation Guide
*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/.

3 System overview

This section has the following information:

– *Parts list, page 16*
– *Control panel capacities, page 16*
– *Accessories, page 20*
– *Features, page 17*

3.1 Parts list

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

Literature

– *Control Panels (B9512G/B8512G) UL Installation Manual*
– *Control Panels (B9512G/B8512G/B5512/B4512/B3512) Operation 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

3.2 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 octo-intput modules (B208)	59	9
Number of POPEX modules (B299)	6	1
Number of octo-output modules (B308)	59	9
Number of on-board Ethernet ports (“E” control panel variants do **not** include an Ethernet port)	1	1
Number of B426 or B450 modules	2	2
Number of plug-in telephone communication modules (B430)	2	2

Features	B9512G/ B9512G-E	B8512G/ B8512G-E
Number of plug-in cellular modules (B440/B441/B442/B443/B444)	1	1
Number of auxiliary power supply modules (B520)	8	4
Number of wireless receivers (B810/B820)	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.

3.3 Features

This section explains the control panel's notable features.

3.3.1 SDI2 interconnect wiring

The control panel and most compatible modules have interconnect wiring connectors. You can use the connectors in place of terminal wiring. 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).
Each SDI2 module that has an SDI2 interconnect wiring connector comes with a 12 in (30 cm) interconnect cable.

3.3.2 Points

The control panels provide up to the following number of points of protection:
– B9512G. 599
– B8512G. 99
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 with:
– One or more B208.
– One or more B299.
– 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

The control panels provide up to the following number of areas:
– B9512G. 32
– B8512G. 8
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.

Create up to the up to the following number of separate accounts when you assign each area its own account number:

– B9512G. 32
– B8512G. 16

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

To send reports to the central station receiver, the control panel uses its built-in Ethernet connection and one of these devices:

– Conettix Ethernet communication module (B426)
– Conettix plug-in cellular module (B440/B440-C/B441/B441-C/B442/B443/B444)
– Plug-in telephone communication module (B430)

Communication formats

The control panel sends reports in these formats:

– Modem4
– ANSI-SIA Contact ID

Route groups and destinations

The control panel can send reports to four different route groups using one primary and up to three backup destination devices for each route group.

The event reports that the system sends can be customized.

Destination test

It is possible to send test reports to each and all destinations within each route group.

3.3.5 Keypads

The control panels provide up to the following number of keypads:

– B9512G. 32, including up to 16 SDI keypads
– B8512G. 16, 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 or the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China) 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.

The control panels store up to the following number of events:

– B9512G. 10,192
– B8512G. 2,048

3.3.7 Programming

Use RPS or the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China) 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*, the Installer Services Portal programming tool *Help*, or the control panel's *Program Entry Guide*, and to *Keypad Installer menu, page 124* 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

The control panels support up to the following number of modules, cards, and tokens:

Control panel	B901	D9210C	Cards or token
B9512G	32	8 (combine with B901 for a total of 32)	– B901. 2,000 – D9210C. 999
B8512G	8	8 (combine with B901 for a total of 8)	– B901. 500 – D9210C. 500

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 it processes 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 to the assigned area of the keypad.

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
- Auto Re-arm

Notice!

Plan ahead

If you plan to use Dual Authentication with access control, install a keypad close to the door controller.

3.3.12 Recent closing

If a point with a point type set to 1, 2, or 3 goes into alarm within 2 minutes after the exit delay expires, the control panel sends a Recent Closing Alarm. This feature is always enabled and cannot be configured. The alarm with recent closing event creates new Modem4 messages that the central station might need to add to their automation software. For details of central station data changes, refer to Events in the *Modem4/ModemIIIa*[2] *Messages* section of the *Appendix* in the *Conettix D6600/D6100i Computer Interface Manual* (P/N: 4998122703).

3.4 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.

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

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
B926F*				X	X						X		
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

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
B600	X	X	X	X	X	X	X	X	X	X	X	X	X
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
B444	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					

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
D134	X	X			X	X	X	X					
D161	Suitable for use on approved applications.												
D162	Suitable for use on approved applications.												
D185				X									
ICP-SDI-9114	X	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* 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

Model	Name
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)

Model	Name
EN1235D	Beltclip Pendant Transmitter (Double-button)
EN1235DF	Fixed-location Transmitter (Double-button)
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*.

3.4.1 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

Device	Maximum number of devices[1]
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

Strobe model	Product	Description
	NS-24MCW-FR	24 VDC, Variable cd, Mini, Wall-mount, Red
	NS-24MCW-FW	24 VDC, Variable cd, Mini, Wall-mount, White
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
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

Strobe model	Product	Description
	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
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

Strobe model	Product	Description
	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
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!

UL requirement

If you use 24 V devices, you must use a UL 1481 regulated power-limited power supply and a D130 Relay Module. Refer to the *D130 Installation Instructions*.

4 Installation checklist

Before you install and operating the control panel, read these instructions. If you do not read and understand these instructions, you cannot properly install and operate the control panel. The instructions do not remove the need for training by authorized personnel.
Install, operate, test, and maintain this device according to the control panel *Installation and System Reference Guide*. 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.
The control panel *Installation and System Reference Guide* does not have 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. Make sure 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.

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

☐ **Install the control panel**
– Mount the control panel
– *Earth ground, page 33*

☐ **Install and wire for telephone communication**
– *Telephone communications, page 45*

☐ **Install and wire for IP communications**
– *IP communications, page 49*

☐ **Install and wire the battery and the transformer**
– *Power supply, page 37*

☐ **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*

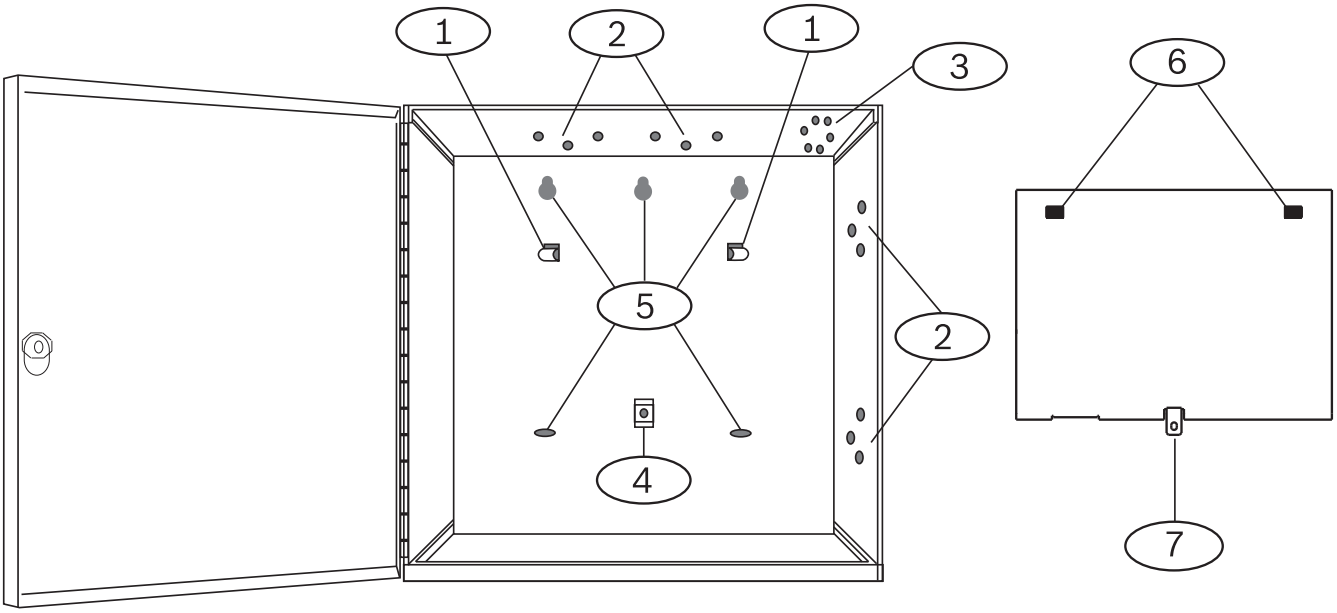
☐ **Install and wire inputs**
– *On-board points, page 73*
– *Off-board points, page 76*
– *Wireless modules, page 86*

☐ **Complete the installation**
– *Program and test the control panel, page 92*

5 Control panel installation

Refer to *Enclosures, page 112* to determine if the application requires a specific enclosure.

Enclosure and control panel (back view) overview



Callout — Description	Callout — Description
1 — Hooks to attach the mounting skirt (2)	5 — Enclosure mounting holes (5)
2 — Three-hole pattern for mounting modules (4)	6 — Holes to attach the mounting skirt to hooks (2)
3 — Mounting location for the tamper switch	7 — Tab to secure the mounting skirt
4 — Mounting skirt screw location	

5.1 Installing the enclosure

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

1. Remove the knockouts.
2. Mount the enclosure. Use all enclosure mounting holes. Refer to the mounting instructions supplied with the selected enclosure.
3. Pull the wires into the enclosure through the knockouts.
4. Position the supplied point label chart on the inside of the enclosure door (optional).

5.2 Installing the control panel

1. Position the control panel over the inside back of the enclosure.
2. Align the Holes to attach the mounting skirt to hooks with the hooks.
3. Slide the control panel down so that it hangs on the hooks.
4. Secure the mounting skirt screw.

5.2.1 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 earth ground icon identifies the earth ground terminal. Recommended earth ground references are a grounding rod or a cold water pipe. Make the connection using 14 AWG (1.8 mm) to 16 AWG (1.5 mm) wire.

To help prevent damage from electrostatic discharges or other transient electrical surges, connect the system to earth ground before making other connections. The ⏚ icon shows 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

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.

5.2.2 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.

Enabling Ground Fault Detect and reports

- ▸ In RPS or in the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China), 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.

5.2.3 Ground fault detection troubleshooting

The control panel requires -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.

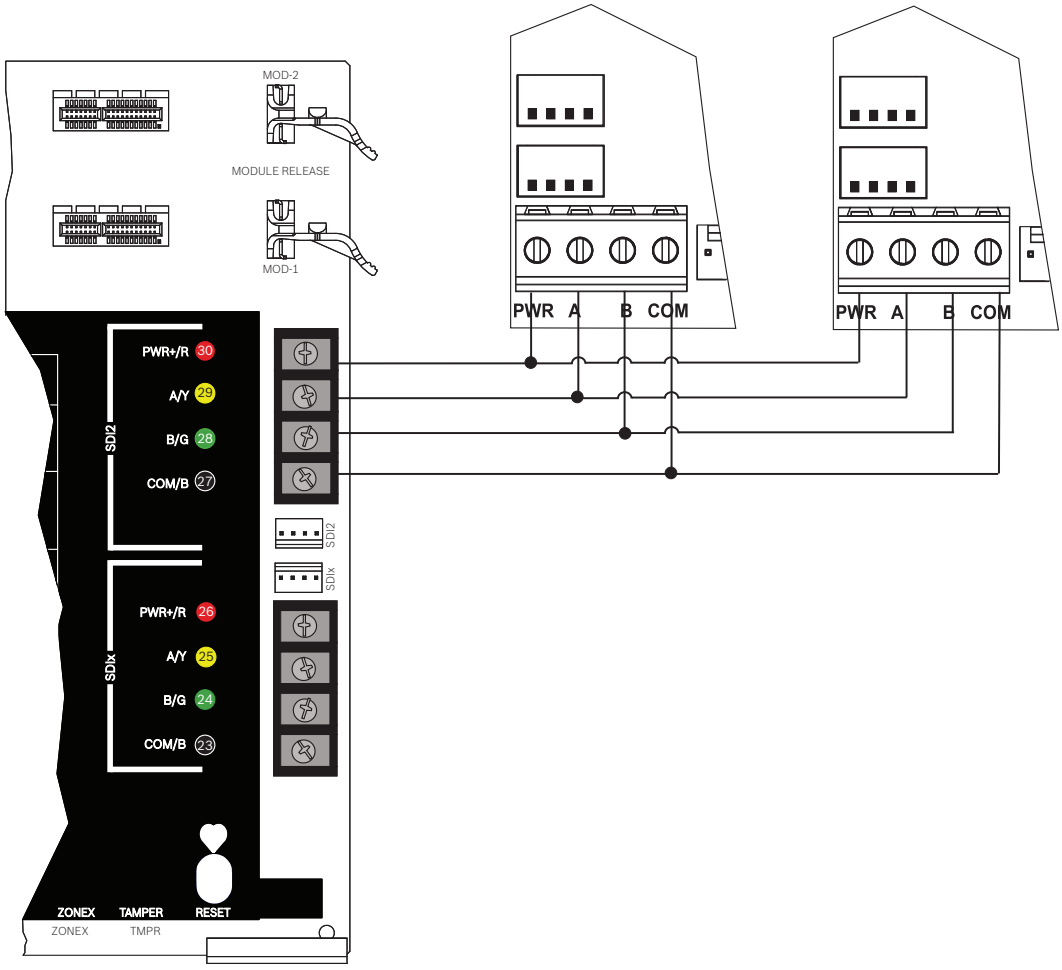
Control panel voltage at Terminals 9 and 10)	Terminal potentially causing ground fault
~ 0 VDC	4, 9, 12, 15, 17, 21
~ 13.65 VDC	5, 6, 7, 8, 26, 30
~ 2.51 VDC	11, 13, 14, 16, 17, 19, 20, 22
~ 2.44 to 3.2 VDC	24
~ 10.9 to 11.2 VDC	25
~ 7.2 VDC	28
~ 5.8VDC	29
~ 7.35 VDC	1, 2

5.3 Control panel to module wiring overview

You can use interconnect or terminal wiring to connect devices to the control panel.
If SDIx is configured for SDI2, use either SDI2 bus.

Using terminal wiring in parallel

Notice!
Wire size
For terminal wiring, use 18 AWG to 22 AWG (1.0 mm to 0.6 mm) wire.



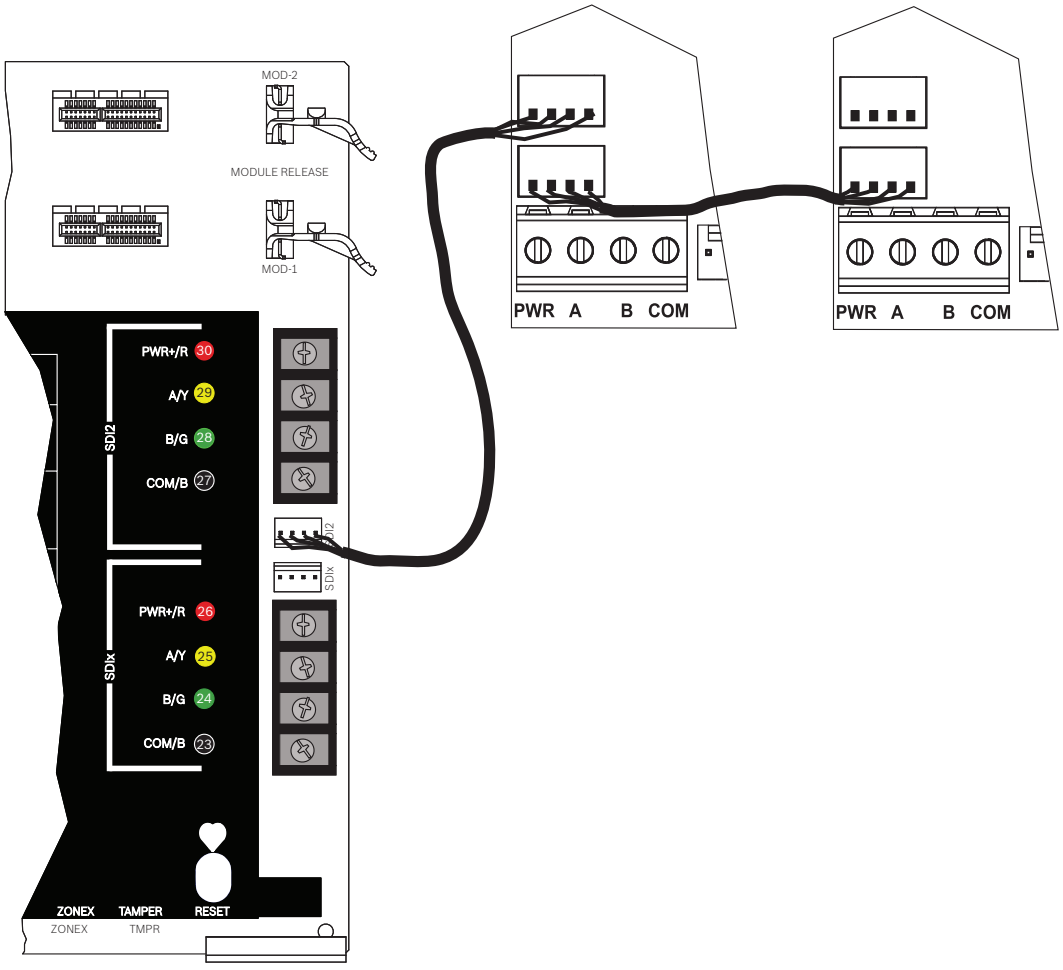
Using interconnect wiring

Notice!

More information

For more information on interconnect wiring, refer to *SDI2 interconnect wiring, page 17*.

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 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!
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 115*.

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.

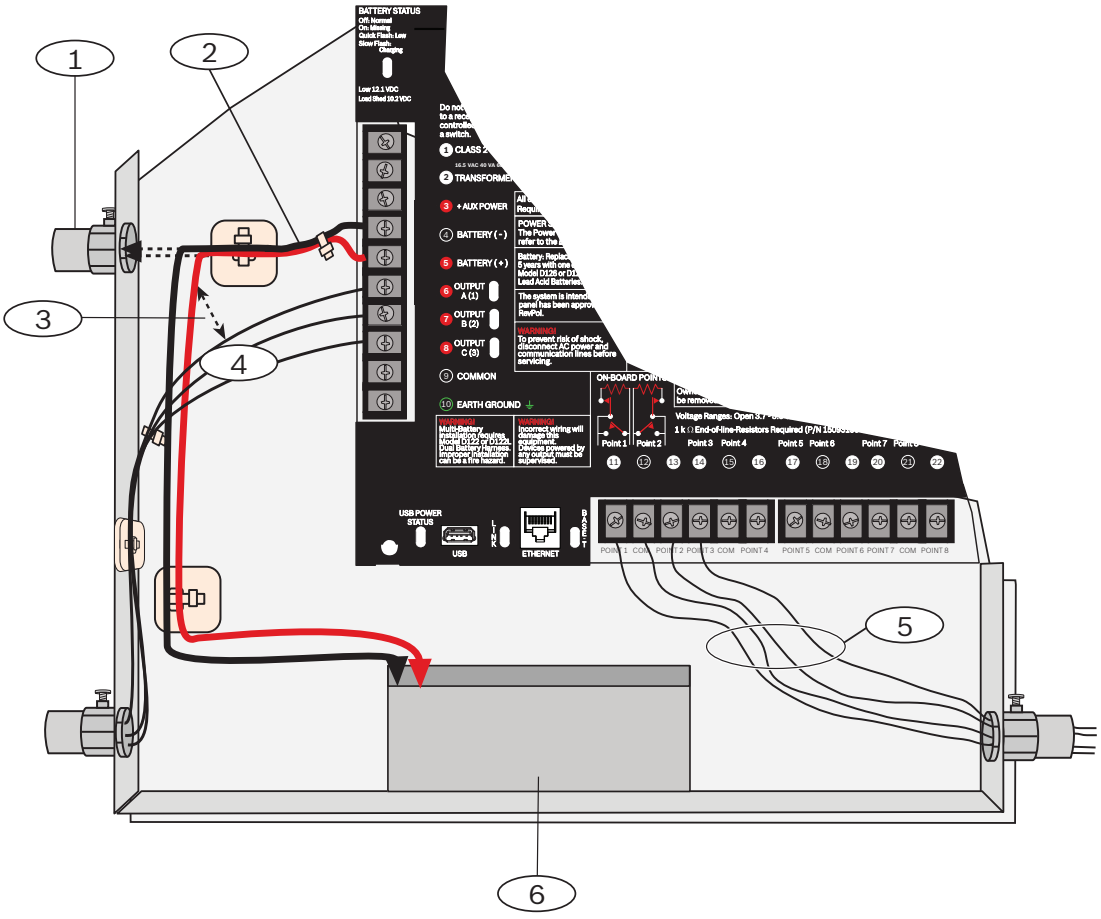
6.1.1 Install the battery

1. Put 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 4 .
4. Connect the other end to the negative (-) side of the battery.
5. Connect the red battery lead to 5.
6. Connect the other end to the positive (+) side of the battery.

Warning!
High current arcs are possible
The positive (red) battery lead and the terminal labeled 5 can create high current arcs if shorted to other terminals or the enclosure. Use caution when you touch the positive lead and the terminal labeled 5. Always disconnect the positive (red) lead from the battery before you remove it from the terminal labeled 5.

Caution!
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



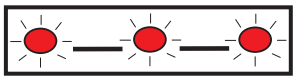
Callout — Description
1 — Conduit required for use with external batteries
2 — Battery wires
3 — 0.25 in (6.4 mm) minimum. To ensure proper spacing, use tie-wraps or similar devices to secure wires.
4 — Output wires
5 — Sensor loop wires
6 — 12 V sealed lead-acid rechargeable battery (D126/D1218)

Charging the battery

1. Connect the battery
2. Connect the transformer.
3. Allow the control panel to charge the battery while you complete the installation.

6.1.2 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*

6.1.3 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 use a D22/D122L to connect them.

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!

Heavy discharges possible

The system can have heavy discharges if you exceed the maximum output ratings or install the transformer in an outlet that is routinely switched off. Routine heavy discharges can lead to premature battery failure.

6.1.4 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.

6.1.5 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.

6.1.6 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.

6.2 B520 aux power supply

The optional B520 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 control panels support the following number of B520 modules:

– B9512G. 8
– B8512G. 4

The power supply draws approximately 15 mA (+/- 1 mA) from the control panel.

For detailed instructions, refer to the corresponding document listed in *Related documentation, page 13*.

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

6.2.2 Supervision

The control panel supervises any B520 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).

6.2.3 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).

6.2.4 Installation and control panel wiring (B520)

Calculate power consumption

Make sure that there is enough power for the module and the other powered devices that you want to connect 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.

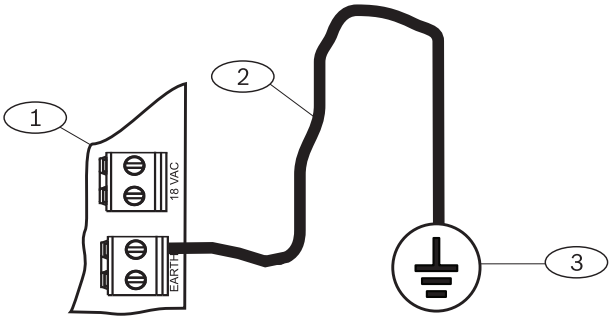
Installing the module

1. Set the module address.
2. Insert the plastic mounting clips onto the standoff locations inside the enclosure or on a mounting skirt, when required.
3. Mount the module onto the plastic mounting clips.
4. Tighten the supplied mounting screws.

Wiring 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.

Notice!
Earth ground reference
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
Use a grounding rod or a cold water pipe.
Run wire as close as possible to grounding device.



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)

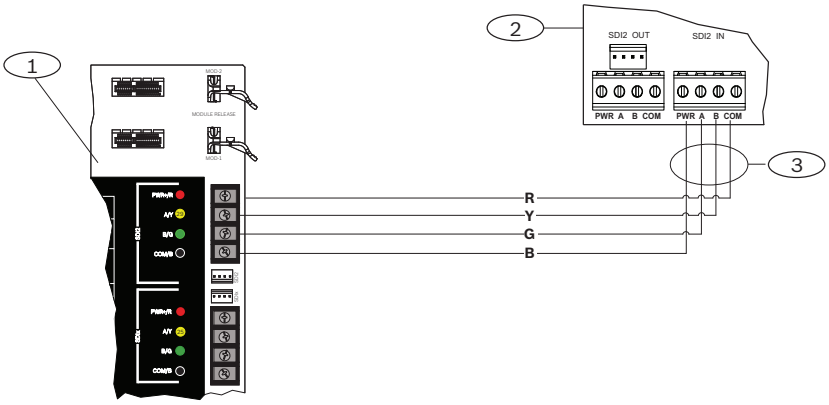
Wiring to the control panel

Notice!

Terminal wiring

Use the terminal strip labeled with PWR, A, B, and COM for SDI2 IN to wire to corresponding control panel SDI2 terminals. Do not use interconnect wiring.

Use 12 AWG to 22 AWG (2.0 mm to 0.6 mm) wire.

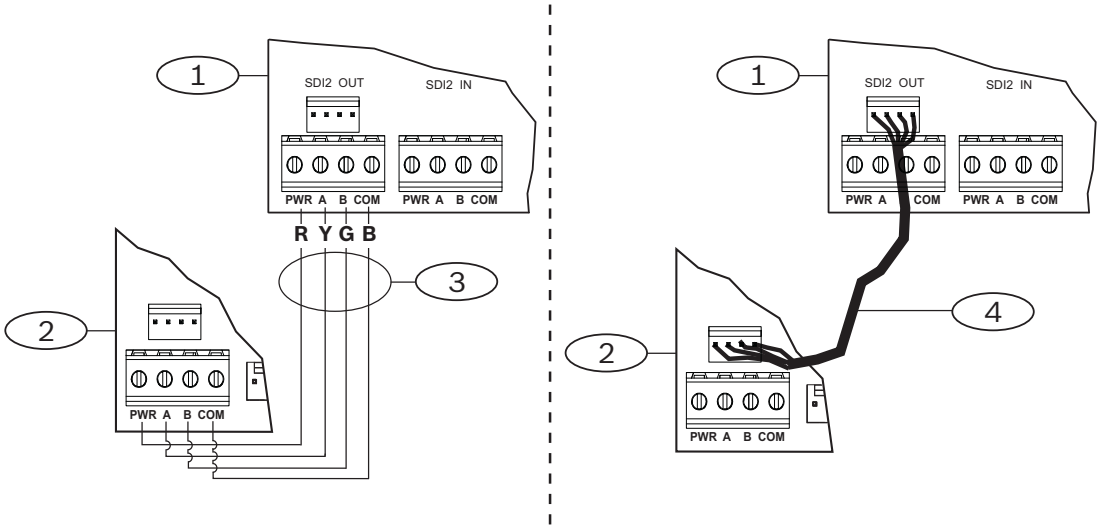


Callout — Description
1 — Control panel
2 — B520 Auxiliary Power Supply Module
3 — Terminal strip wiring

6.2.5 Powered device and battery wiring

When you wire the output of a B520 to a SDI2 module, the B520 provides power to the module while passing through data between the control panel and the module.

Wiring SDI2 modules



Callout — Description
1 — B520 Auxiliary Power Supply Module
2 — Powered device (SDI2 module)
3 — Terminal strip wiring
4 — Interconnect wiring (P/N: F01U079745)

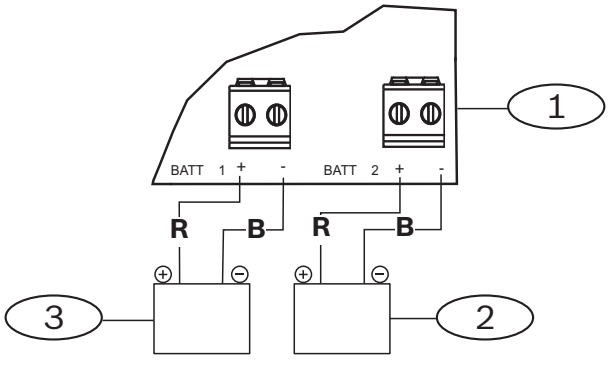
1. Do one of the following:
   Use terminal wiring to connect the SDI2 OUT terminal strip labeled with PWR, A, B, and COM on the B520 to the terminals labeled PWR, A, B, and COM on the first module.
   Connect an interconnect wiring cable (included) to the SDI2 OUT interconnect connector on the B520 to the interconnect connector on the first module.
2. Connect additional modules in series with the first module.

Wiring to batteries

Notice!

Battery wiring requirements

You must wire BATT 1. You must wire BATT 2 if you configure the B520 for two batteries.
When you use BATT 2, both batteries must have the same rating.
Maximum standby power cannot exceed 36 Ah.



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 (PSTN) communications with the plug-in telephone communicator (B430).

7.1 B430 Plug-in Communicator, Telephone

The B430 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. 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.
For detailed instructions, refer to the corresponding document listed in *Related documentation, page 13*.

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 or the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China).

7.1.2 Installation and module wiring (B430)

Calculate power consumption

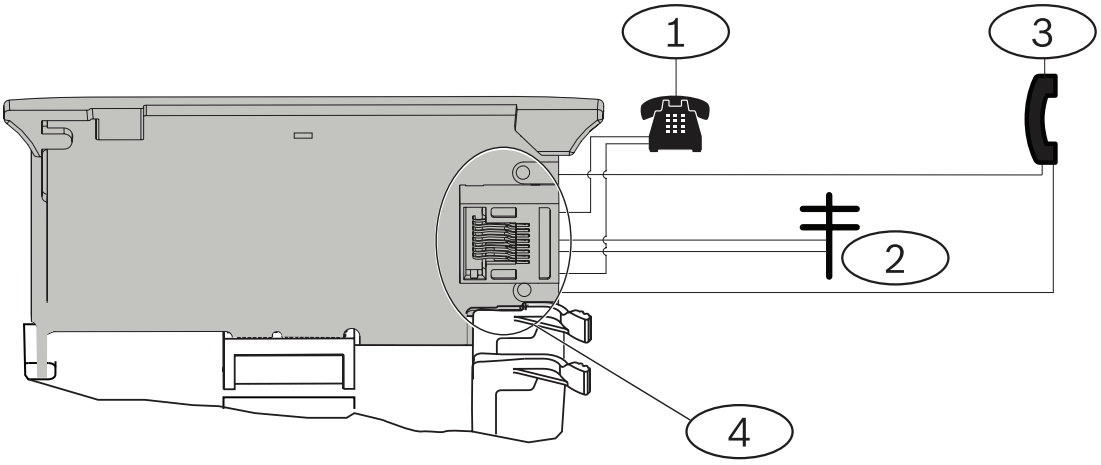
Make sure that there is enough power for the module and the other powered devices that you want to connect to the system.
Refer to *On-board outputs, page 66*.

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

Installing the module

1. Align the module with the on-board plug-in connector on the control panel.
2. The retention clip has a locking device to help hold the card in position. Pull the locking device back.
3. Align the PCB metal contacts with the on-board connector.
4. Push the module into place. The retention clip snaps closed to hold the module in position.

Wiring to the phone line



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 show:

– Whether the module is on or off hook.
– When the line rings (incoming phone call).

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

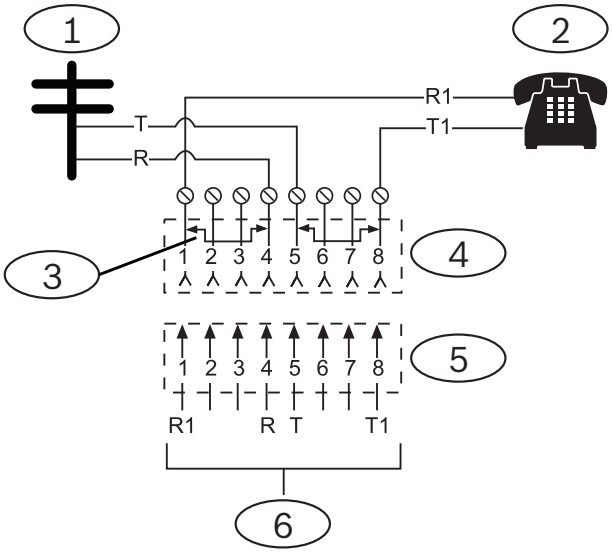
Tab. 7.1: PTSN diagnostic LED patterns

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 use while the control panel sends data. After installation, make sure that the control panel:

– Seizes the line
– Gets a dial tone
– Reports correctly to the receiver
– Releases the telephone line to the in-house telephone system

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 Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China) *Help*.

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

A control panel can have one primary and up to three backup destination devices configured per route group.

The first ten attempts to send a report

If the first two attempts to send a report to the central station receiver over the primary destination device fail, the control panel switches to the backup destination device, then the second backup destination device, then the third backup destination device, depending on how many are configured and tries to reach each backup destination device two times. If all backup destination devices fail, the control panel tries the primary destination device again. During these attempts, no events are recorded.

After ten unsuccessful attempts to send a report

After ten unsuccessful attempts to send a report to the central station receiver, the following happens:

- Communication failure
  - The route group has a communication failure and is unable to send a report.
  - All queued reports will be cleared and marked as failed.
  - The control panel generates a COMM FAIL event that is sent with the other route groups and is shown on the keypads. A trouble sounder can be programmed to sound at the keypads.
- Communication trouble
  - The control panel sends a heartbeat at least once an hour to the failed destination devices, from primary destination device to all backup destination devices.
  - If the failed destination devices do not send back an acknowledgment within the configured acknowledgment wait time and retry count, the failed destination devices have a communication trouble and are unable to communicate.
  - The control panel generates a COMM TROUBLE event that is sent with the other route groups and is shown on the keypads. A trouble sounder can be programmed to sound at the keypads.
- Communication restored
  - After a COMM FAIL report is sent successfully, the communication is restored.
  - A COMM RSTL report is sent to the central station receiver.

8 IP communications

IP communication

The control panel can use IP to communicate with a Conettix D6600 or a Conettix D6100IPv6 Communications Receiver/Gateway. Use one of the following for IP:

– The on-board Ethernet connection (not applicable to “E” control panels)
– Ethernet Communication Module: B426
– Plug-in cellular communicator: B442/B443/B444

Conettix IP communication provides a secure path that includes anti-replay/anti-substitution features, and enhanced security with up to 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. 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 give a network connection so that you do not need to install 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. You can use this connection for:

– Central station reporting
– Automation
– Programming

8.1.1 Supervision

The control panel supervises its on-board Ethernet connection in these cases:

– The on-board Ethernet connection is used in any of the four route groups as part of either the primary destination device or one of the three backup destination devices.
– The on-board Ethernet connection is used as an automation device.

If the on-board Ethernet connection does not respond to control panel supervision polls, a system fault message shows on the keypads.

8.1.2 Local programming

Use the on-board Ethernet connection to locally connect with RPS or the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China). This connection method requires a direct IP connection from the RPS or Installer Services Portal programming tool computer to the on-board Ethernet port.

Connecting the control panel to RPS or the Installer Services Portal programming tool 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 or Installer Services Portal programming tool computer using the Ethernet ports and a standard Ethernet cable, and apply power to the control panel, if applicable. Within 2 minutes, the RPS or Installer Services Portal programming tool computer assigns an IP address using AutoIP.
3. In RPS or the Installer Services Portal programming tool, 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 183*.

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.

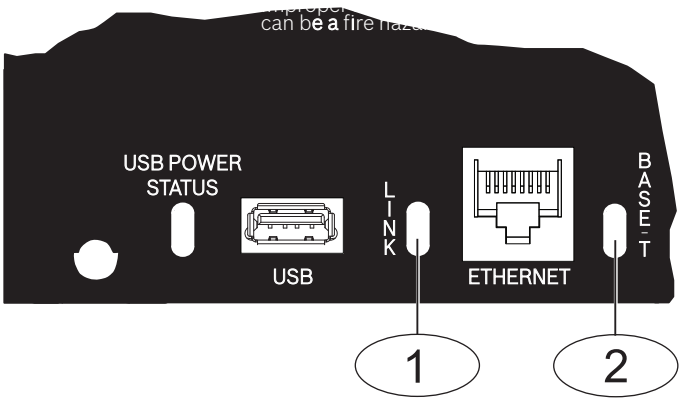


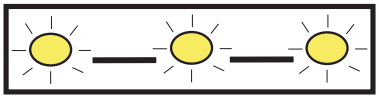
Figure 8.1: On-board Ethernet and LEDs

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.
	Communication in progress.

Flash pattern	Function
Flashing	
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 modules

Plug-in cellular modules provide communication between the control panel and central monitoring stations, RPS or the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China) using a cellular network. The module sends and receives SMS messages for personal notification or system configuration.
The control panel supports one plug-in cellular module.
Connect a module using the plug-in module connector or using a B450 (refer *B450 Conettix plug-in communicator interface, page 55*).
For detailed instructions, refer to the corresponding document listed in *Related documentation, page 13*.

8.3 B426 Ethernet Communication Module

The B426 is a four-wire powered SDI2 device with Ethernet port for IP connectivity.
Refer to the module's installation documentation for more information.
The control panel supports two modules.
The module connects to the SDI2 bus on the control panel using the SDI2 terminals, or using the SDI2 interconnect wiring connector.
For detailed instructions, refer to the corresponding document listed in *Related documentation, page 13*.

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. For details on communication module/destination combinations, refer to *RPS Help* or to the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China) *Help*. 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 error shows on all keypads and the control panel sends a trouble event to the central stations, if enabled.

8.3.4 Installation and control panel wiring (B426)

Calculate power consumption

Make sure that there is enough power for the module and the other powered devices that you want to connect 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.

Notice!

Requirement

Install the module in the enclosure with the control panel or in an adjacent enclosure that is no more than 1000 ft (305 m) from the control panel. Use 18 AWG to 22 AWG (1.0 mm to 0.6 mm) wire.

Installing the module

1. Set the module address.
2. Hold the module mounting brackets onto the inside of the enclosure. Match the bracket holes to a 3-hole mounting pattern on the enclosure
3. Use the supplied mounting screws to secure the module.

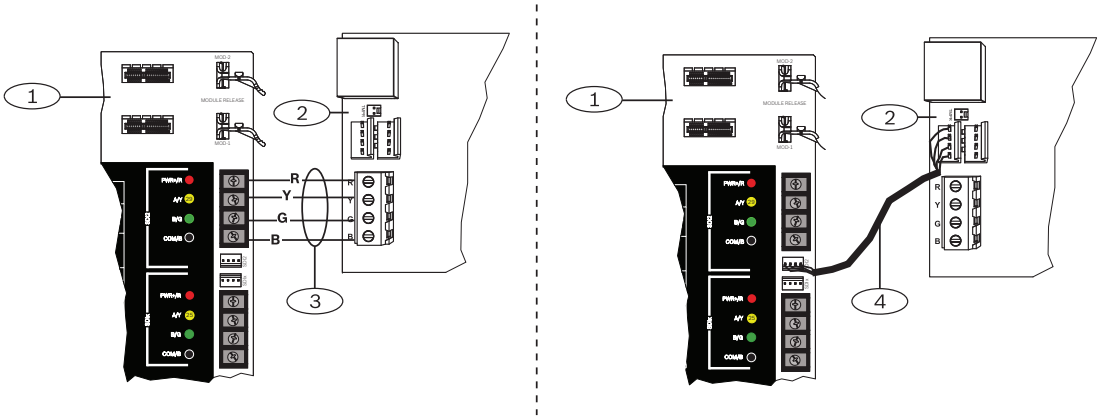
Wiring the module to the control panel

Use either the terminal strip labeled with PWR, A, B, and COM on the module to wire to the SDI2 terminals labeled on the control panel, or use the interconnect wiring connector and the included interconnect cable.

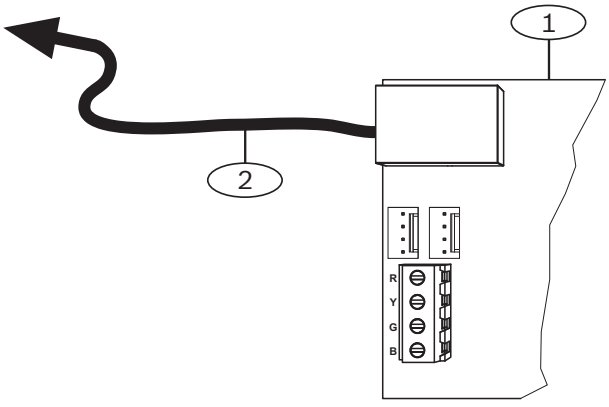
For terminal wiring, use 18 AWG to 22 AWG (1.0 mm to 0.6 mm) wire.

Notice!

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



Connecting the module to the network



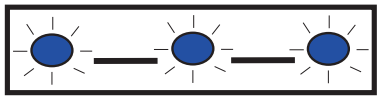
Callout — Description
1 — B426 module
2 — Ethernet cable to network jack

1. Connect an Ethernet cable to the Ethernet port on the module.
2. Connect the Ethernet cable to the RJ-45 network jack.

8.3.5 Diagnostic LEDs

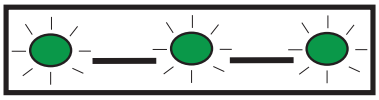
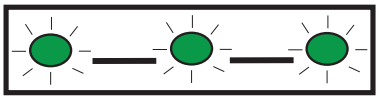
The module has the following on-board LEDs to assist with troubleshooting:

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

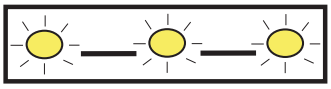
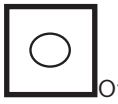
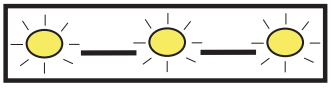
Flash pattern	Function
 Flashes once every 1 sec	Normal state. Indicates normal operation state.
3 quick flashes every 1 sec	Communication error state. Indicates a bus communication error. The module is not receiving commands from the control panel.
On Steady	Trouble state. Indicates a trouble condition exists.

Flash pattern	Function
Off	LED trouble state. Module is not powered, or some other trouble condition prohibits the module from controlling the heartbeat LED.

Tab. 8.4: 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. 8.5: 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. 8.6: Ethernet Link LEDs descriptions

8.3.6 Local programming

Use the B426 IP Direct connect feature to locally connect with RPS or the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China).

Connecting the B426 to RPS or the Installer Services Portal programming tool using IP Direct

1. If the module does not use the Ethernet for IP communication, skip to the next step. If the module does use the Ethernet for IP communication, power down the module and remove the Ethernet cable that connects it to the network.

2. Connect an Ethernet cable to the module.
3. Connect the same Ethernet cable to the computer on which you installed RPS or the Installer Services Portal programming tool.
4. Apply power to the module, if applicable. Within 2 minutes, the RPS or Installer Services Portal programming tool computer assigns an IP address with AutoIP.
5. In RPS or in the Installer Services Portal programming tool, open the control panel account and click Connect.
6. From the Connect Via drop-down list select IP Direct. Click Connect.

Make sure that you reconnect the cable used for IP communication, if applicable.
For more information on using AutoIP, refer to *AutoIP, page 183*.

8.4 B450 Conettix plug-in communicator interface

The B450 holds a plug-in cellular module so that it can connect to the control panel with SDI2 terminal wiring or SDI2 interconnect wiring.
The B450 supports one cellular plug-in module.
For detailed instructions, refer to the corresponding document listed in *Related documentation, page 13*.

8.4.1 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 one module. Set the address switch to 1.

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)

Calculate power consumption

Make sure that there is enough power for the module and the other powered devices that you want to connect 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.

Inserting the cellular module

1. Install a SIM card, if required by the cellular module.
2. Push the plug-in cellular module into the B450 until you hear the module “click” into position.

Installing the module

1. Set the module address.
2. Hold the module mounting brackets onto the inside of the enclosure. Match the bracket holes to a 3-hole mounting pattern on the enclosure
3. Use the supplied mounting screws to secure the module.

Wiring the antenna

1. Secure the antenna cable to the outside of the enclosure.
2. Route the antenna cable through a wire knockout in the top of the enclosure.
3. Connect the antenna cable to the cellular module.

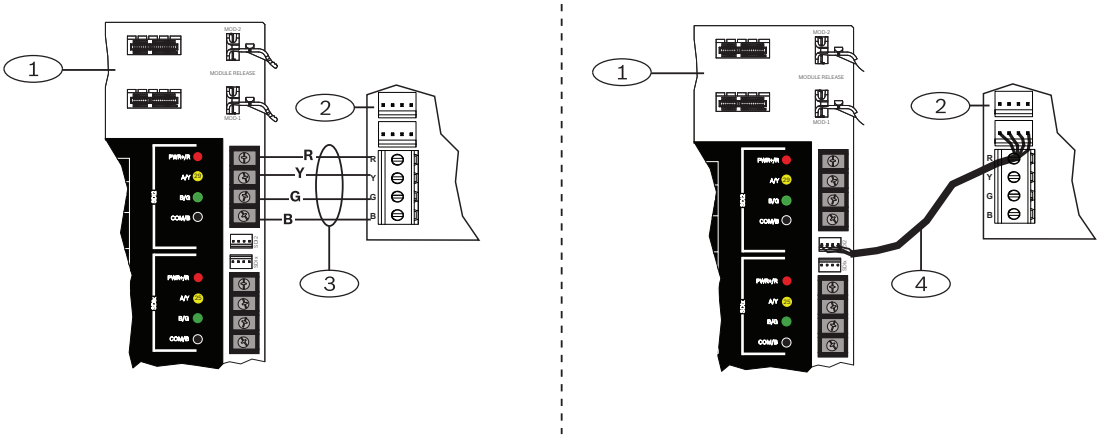
Wiring to the control panel

Use either the terminal strip labeled with PWR, A, B, and COM on the module to wire to the SDI2 terminals labeled on the control panel, or use the interconnect wiring connector and the included interconnect cable.

For terminal wiring, use 18 AWG to 22 AWG (1.0 mm to 0.6 mm) wire.

Notice!

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

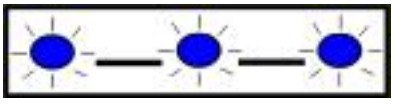
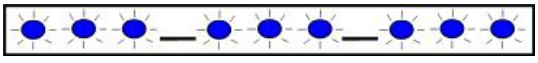


8.4.4 Diagnostic LEDs

The module includes the following on-board LEDs to assist with troubleshooting:

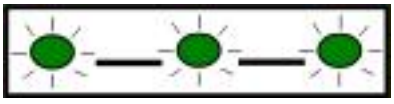
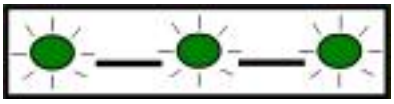
– Heartbeat (system status)
– RX (receive)
– TX (transmit)

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

Flash pattern	Indication
 Flashes once every 1 second	Normal state.
 3 quick flashes every 1 second	Communication error state. Error on the bus between the module and the control panel.

Flash pattern	Indication
On Steady	Trouble state. Examine the other LEDs to determine the trouble condition.
Off	LED trouble state. The module does not have power, or the module failed. Check for proper installation.

Tab. 8.7: 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. 8.8: 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

Modem4 format

When you configure the control panel to send reports in Modem4 format, the Conettix central station receiver/gateway and the D6200CD Receiver programming software might require an update.

- Update your device according to this table:

Receiver/Gateway	CPU version	D6200CD version
D6600 Central station receiver, 32-line (with D6641 Telephone line card installed only)	01.10.00	2.10
D6100IPV6-LT Central station receiver, 2-line, IP	01.10.00	2.10

ANSI-SIA ContactID format

When you configure the control panel to send reports in ANSI-SIA Contact ID format, the Conettix central station receiver/gateway and the D6200CD Receiver programming software might require an update.

- Update your device according to this table:

Receiver/Gateway	CPU version	D6200 version
D6600 Central station receiver, 32-line (with D6641 Telephone line card installed only)	01.03.02	1.35
D6100IPV6-LT Central station receiver, 2-line, IP	61.10.00	2.10

ULC-S304 and ULC-S559 compliant report format

Notice!
ULC-S304 and ULC-S559 compliant report format
For ULC-S304 and ULC-S559 compliant report formats, the Conettix central station receiver/ gateway and the D6200CD Receiver programming software need to use the version in the table.

- Update your device according to this table:

Receiver/Gateway	CPU version	D6200 version
D6600 Central station receiver, 32-line (with D6641 Telephone line card installed only)	01.11.00	2.20
D6100IPV6-LT Central station receiver, 2-line, IP	61.11.00	2.20

9 Keypads, keyswitches, keyfobs and transmitters

To turn areas on and off, users and the system can use one or a combination of the following:

– *Keypads, page 59*
– *Keyswitches, page 63*
– *RADION keyfobs and Inovonics pendant transmitters, page 65*

The control panels provide up to the following number of areas:

– B9512G. 32
– B8512G. 8

Refer to *Areas and accounts, page 17* for a description of areas.

9.1 Keypads

Keypads are four-wire powered devices used to operate the system and show system status.
The control panels provide up to the following number of keypads:

– B9512G. 32, including up to 16 SDI keypads
– B8512G. 16, 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 or the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China) 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 series.
The control panel sends a trouble report if it loses communication with a keypad. A message shows on all keypads.

Notice!
UL 864 Commercial Fire applications
For important information about combination fire and intrusion systems, refer to *Combination fire and intrusion alarm systems, page 112*

For detailed instructions, refer to the corresponding document listed in *Related documentation, page 13*.

9.1.1 Keypads overview

B942/B942W
The keypad has a credential reader, a presence sensor, one output, four supervised inputs, 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.

B930
The keypad features a bright five line display and eight softkeys. It has dedicated function buttons for common commands.

B926F
The 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.

B925F

The 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.

B921C

The keypad features capacitive keys and four supervised inputs.
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.
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, and normal circuit conditions on the keypad sensor loops.

B920

The keypad display shows two lines, 18 characters per line. Each keypad has 10 number keys and seven function keys, and a on-display help.

B915/B915I

The keypads offer the same commands and menu structure as the other SDI2 intrusion keypads, with basic text or icons.

User interface languages

The following table shows the available languages per keypad type.

	B915/B915I	B920	B921C	B930	B942/B942W
English	✓	✓	✓	✓	✓
Chinese	✓				✓
Dutch	✓	✓	✓	✓	✓
French	✓	✓	✓	✓	✓
German	✓	✓	✓	✓	✓
Greek	✓				✓
Hungarian	✓	✓	✓	✓	✓
Italian	✓	✓	✓	✓	✓
Polish	✓				✓
Portuguese	✓	✓	✓	✓	✓
Spanish	✓	✓	✓	✓	✓
Swedish	✓	✓	✓	✓	✓

9.1.2 B921C Two-line Capacitive Keypad with Inputs

9.1.3 Shortcuts and custom functions

SDI2 intrusion keypads have a Shortcuts feature. You can assign commonly used or custom functions to a Shortcuts menu. Use RPS or the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China) to create and assign shortcuts and custom functions.

Custom functions

Custom functions allow you to combine multiple functions into a single function. Assign custom functions to a keypad Shortcut so that the users can easily run the function from the keypad.

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

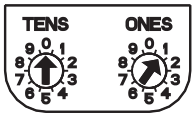
For more information, refer to *RPS Help* or to the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China) *Help*.

9.1.4 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 169* and *SDI keypad address settings, page 171*.

9.1.5 Supervision

The control panel supervises all enabled SDI2 keypads.

The control panel supervises SDI keypads when you enable the Supervision parameter (within KEYPADS\Keypad Assignments) in RPS or in the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China).

If the control panel does not receive an expected response from a keypad, all keypads in the system show a missing keypad error. You can configure the control panel to sends a keypad missing report to the central station.

9.1.6 Installation and control panel wiring (keypads)

Calculate power consumption

Make sure that there is enough power for the module and the other powered devices that you want to connect 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 160* 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.

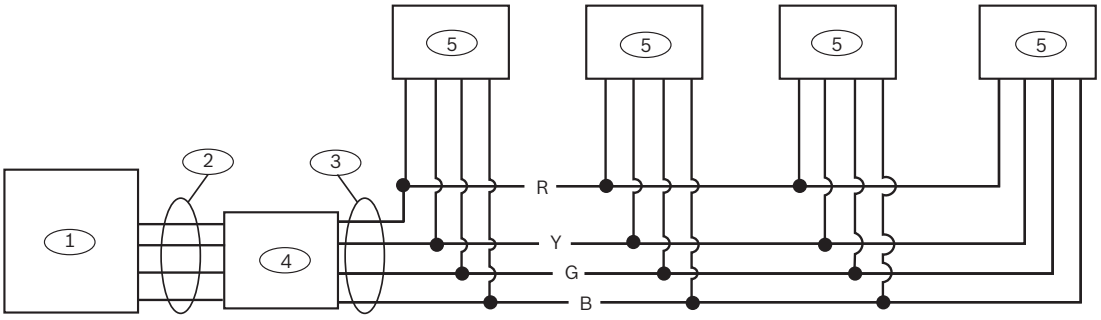
SDI keypads

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 37* 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.

9.1.7 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.

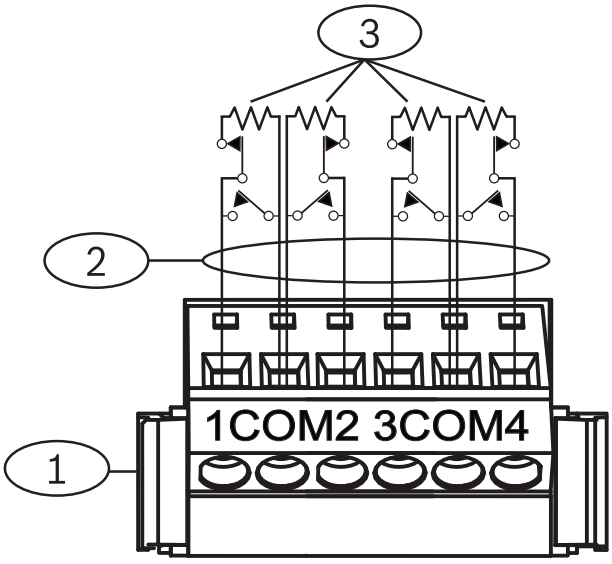


Figure 9.1: Keypad inputs wiring (B921C shown)

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

9.1.8 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.

9.1.9 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, the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China) 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* or in the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China) *Help*.

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 in the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China) *Help*.

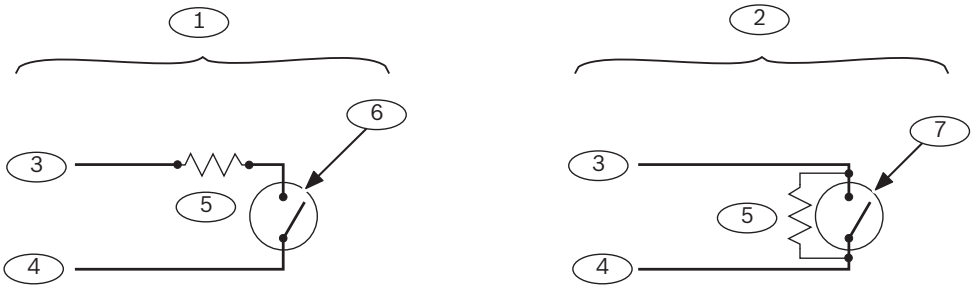
Silence the bell

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).



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	

Notice!

UL requirement

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 RADION keyfob FB 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 RADION keyfob TB 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* and the *RADION receiver SD (B810) System Reference Guide*.

Custom functions and the RADION keyfob FB
Using RPS or the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China), 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 Installer Services Portal programming tool *Help*.

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. Each breaker protects a separate terminal or group of terminals:

- Terminal 3, auxiliary power
- Power terminals
  - Terminal 6. Alarm power output
  - Terminal 7. Alternate alarm power output
  - Terminal 8. Switched auxiliary power
  - Terminals 26 and 30, power +
  - ZONEX connection

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

Notice!
UL requirement
Supervise devices powered from a power output.

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.

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

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 (Steady Alarm 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 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.

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 107* for module or accessory current requirements

10.4.2 Terminal 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

In addition to connecting RPS or the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China) 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. The port draws the power from the control panel. Make sure that there is enough power for all the powered devices you want to connect to the system.

Enabling USB power:

- Do one of the following:
  Press the control panel RESET button 3 times.
  Use the keypad Installer menu (refer to *[7] USB Power, page 159*).

The USB POWER STATUS LED lights when power to the USB is turned on.

You can disable USB at any time. Use the Installer menu or press the control panel RESET button 3 times.

11 Off-board outputs

The control panel supports off-board outputs with the following modules:
– *B308 octo-output module, page 69*
– *B600 Retrofit ZONEX Module, page 70*

11.1 B308 octo-output module

The B308 is an eight output expansion device that connects control panel through 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 in the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China) *Help*.
The control panels supports up to the following number of modules:
– B9512G. 59 (472 outputs)
– B8512G. 9 (72 outputs)
The module connects to the SDI2 bus on control panel using SDI2 terminals, or using the SDI2 interconnect wiring connector. You can connect more than one module to the control panel by wiring them in series.

Notice!
UL Commercial fire and intrusion devices
Do not connect fire and non-fire devices to the same B308.

For detailed instructions, refer to the corresponding document listed in *Related documentation, page 13*.

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 166*.

11.1.2 Supervision

The control panel enables supervision of B308 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)

Calculate power consumption

Make sure that there is enough power for the module and the other powered devices that you want to connect 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.

Notice!

Enclosure

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 (0.6 mm) wire or 1000 ft (305 m) with 18 AWG (1.0 mm) wire.

Installing the module

1. Set the module address.
2. Hold the module mounting brackets onto the inside of the enclosure. Match the bracket holes to a 3-hole mounting pattern on the enclosure
3. Use the supplied mounting screws to secure the module.

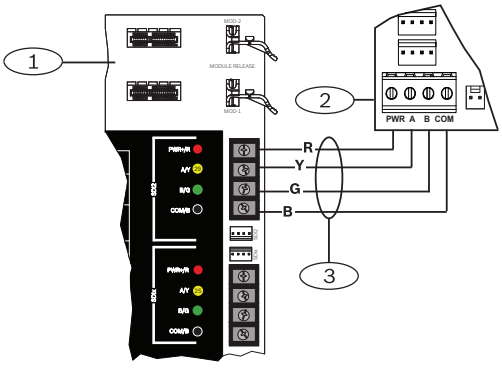
Wiring to the control panel

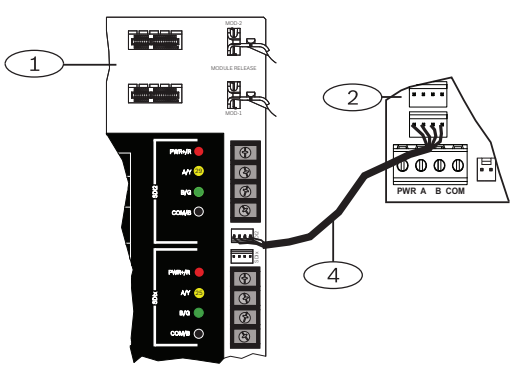
Use either the terminal strip labeled with PWR, A, B, and COM on the module to wire to the SDI2 terminals labeled on the control panel, or use the interconnect wiring connector and the included interconnect cable.

For terminal wiring, use 18 AWG to 22 AWG (1.0 mm to 0.6 mm) wire.

Notice!

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





11.2 B600 Retrofit ZONEX Module

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

The control panel supports one B600.

For detailed instructions, refer to the corresponding document listed in *Related documentation, page 13*.

11.2.1 Installation and control panel wiring (B600)

Calculate power consumption

Make sure that there is enough power for the module and the other powered devices that you want to connect to the system.

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

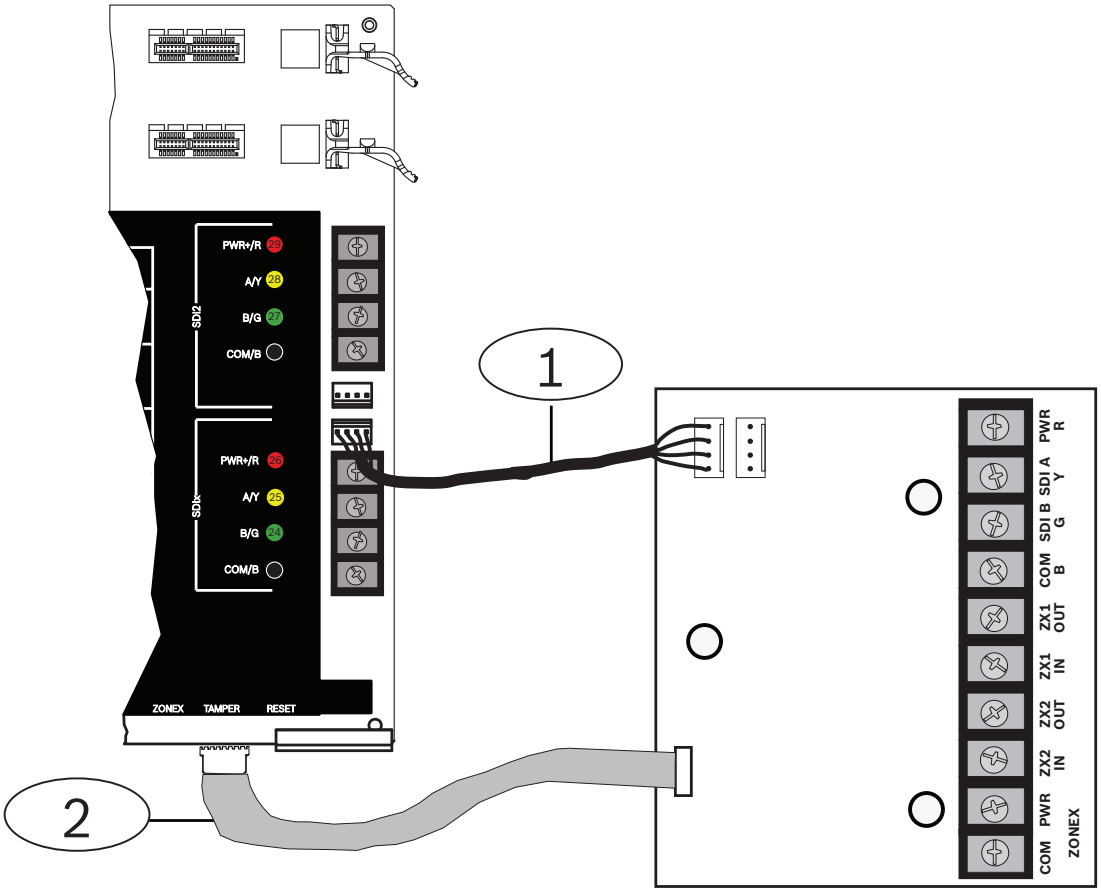
Caution!

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

Installing the module

1. For retrofit applications, remove the terminal strip from the module.
2. Hold the module mounting brackets onto the inside of the enclosure. Match the bracket holes to a 3-hole mounting pattern on the enclosure
3. Use the supplied mounting screws to secure the module.

Wiring the module to the control panel



Callout — Description
1 — ZONEX connection cable
2 — SDI interconnect cable

Wiring the terminal strip

Refer to the next section for information on how to wire the terminal strip.

11.2.2 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*, in the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China) *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 a B308.

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 169*.

Installation

For detailed instructions, refer to the corresponding document listed in *Related documentation, page 13*.

12 On-board points

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 the following conditions between an input terminal and any of the point common terminals:

– Normal
– Shorted
– Open

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 make sure that any connected devices stabilize.

Caution!
Points programmed as fire supervisory points are latching. A latching point requires that you acknowledge it before you can clear it.

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 Profile > Circuit Style parameter to dual.

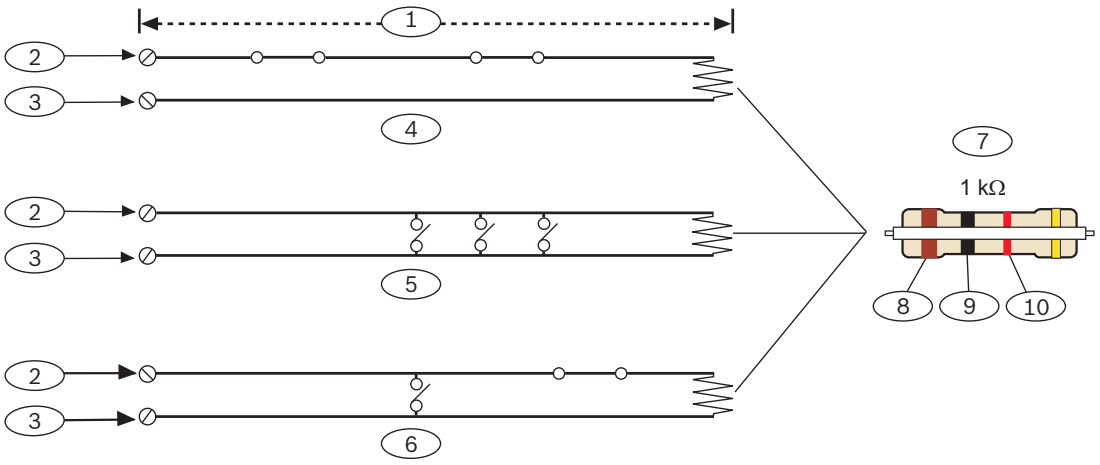
Notice!
You do not need to install the EOL resistor for unused points (Point Profile parameter set to 0 [zero]).
UL does not permit normally closed loops for commercial fire applications.

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

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.



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

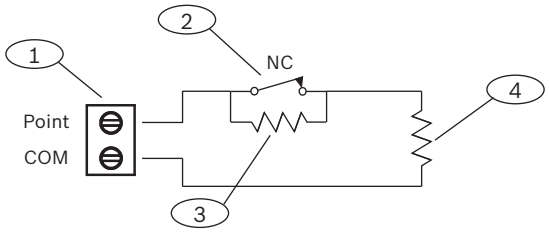
Refer to *Specifications, page 160*.

12.1.2 Dual EOL resistor circuit style

Notice!

EOL resistors

For the dual EOL resistor circuit style order ICP-1K22AWG-10, package of 10 1.0 kΩ EOL resistors.



Callout - Description
1 - Point sensor loop terminals
2 - Normally closed device (contact)

Callout - Description
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. In RPS or in the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China), the Debounce parameter in the Point Assignment section sets the point response time. Set the length of time the control panel scans a point before the control panel sends an alarm.
The debounce time can range from 410 milliseconds to 6.15 seconds. The default for Debounce is 820 ms.

Notice!
Before you increase the Debounce time
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 Profile with the Point Type set to Interior Follower, and the point Source parameter set to ZONEX. Set Debounce to 1.23 seconds 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 seconds for these points.

Debounce does not apply to points with the Point Source configured as Wireless, Output, or IP Camera.

13 Off-board points

The control panel supports off-board points using the following modules:
– *B208 octo-input module, page 76*
– *B600 Retrofit ZONEX Module, page 82*
– B600

See also
– *B299 POPEX Module, page 80*

13.1 B208 octo-input module

The B208 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. The control panels provide up to the following number of modules:
– B9512G. 59
– B8512G. 9
The module connects to the SDI2 bus on control panel using SDI2 terminals, or using the SDI2 interconnect wiring connector. You can connect more than one module to the control panel by wiring them in series.

Notice!
UL commercial fire and intrusion devices
Do not connect fire and non-fire devices to the same B308.

For detailed instructions, refer to the corresponding document listed in *Related documentation, page 13*.

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 164*.

13.1.2 Supervision

The control panel automatically enables supervision of B208 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)

Calculate power consumption
Make sure that there is enough power for the module and the other powered devices that you want to connect 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.

Use either the terminal strip labeled with PWR, A, B, and COM on the module to wire to the SDI2 terminals labeled on the control panel, or use the interconnect wiring connector and the included interconnect cable.
For terminal wiring, use 18 AWG to 22 AWG (1.0 mm to 0.6 mm) wire.

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

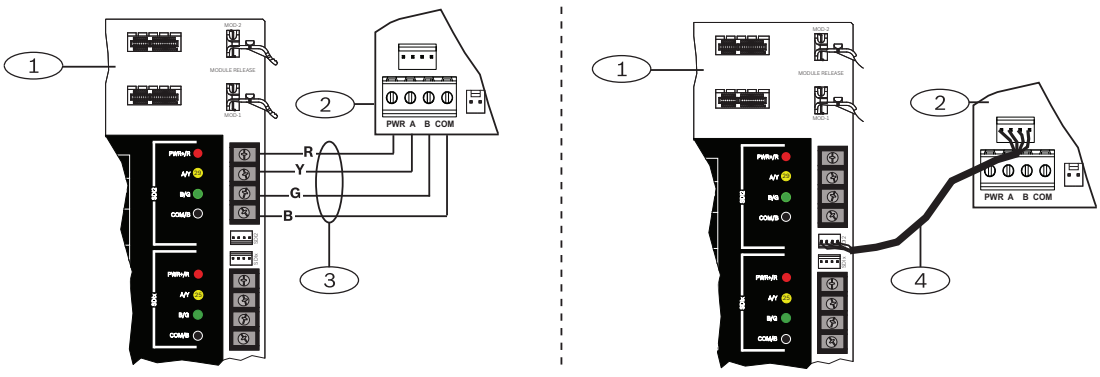
Notice!
Enclosure
Install the module in the enclosure with the control panel or in an adjacent enclosure that is within the distances rated for the module: 1000 ft (305 m) with 18 AWG to 22 AWG (1.0 mm to 0.6 mm) wire.

Installing the module

1. Set the module address.
2. Hold the module mounting brackets onto the inside of the enclosure. Match the bracket holes to a 3-hole mounting pattern on the enclosure
3. Use the supplied mounting screws to secure the module.

Wiring to the control panel
Use either the terminal strip labeled with PWR, A, B, and COM on the module to wire to the SDI2 terminals labeled on the control panel, or use the interconnect wiring connector and the included interconnect cable.
For terminal wiring, use 18 AWG to 22 AWG (1.0 mm to 0.6 mm) wire.

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



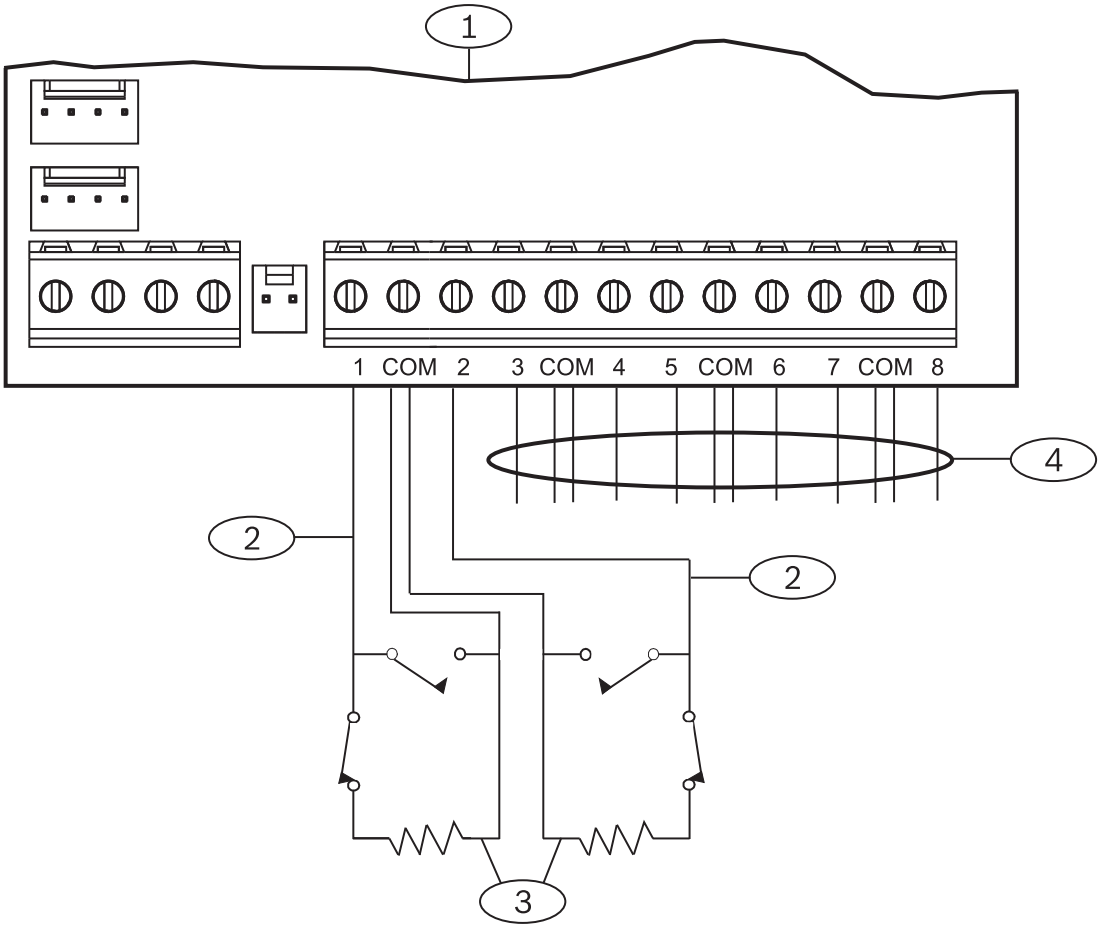
13.1.4 Sensor loops overview and wiring

The resistance on the loop sets 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 Profile > Circuit Style parameter to dual.

Notice!
You do not need to install the EOL resistor for unused points (Point Profile 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.

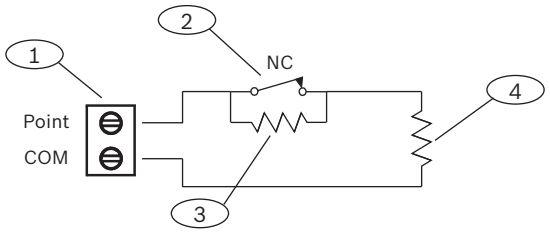
Single EOL resistor circuit style



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!
EOL resistors
For the dual EOL resistor circuit style order ICP-1K22AWG-10, package of 10 1.0 kΩ 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.
The control panels provide up to the following number of modules:
– B9512G. 6
– B8512G. 1
The module connects to the SDI2 bus on control panel using SDI2 terminals, or using the SDI2 interconnect wiring connector. You can connect more than one module to the control panel by wiring them in series.
For detailed instructions, refer to the corresponding document listed in *Related documentation, page 13*.

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 166*.

13.2.2 Supervision

The control panel automatically supervises any B299 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)

Calculate power consumption

Make sure that there is enough power for the module and the other powered devices that you want to connect 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.

Notice!

Enclosure

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 (0.6 mm) wire or 500 ft (152 m) with 18 AWG (1.0 mm) wire.

Installing the module

1. Set the module address.
2. Hold the module mounting brackets onto the inside of the enclosure. Match the bracket holes to a 3-hole mounting pattern on the enclosure
3. Use the supplied mounting screws to secure the module.

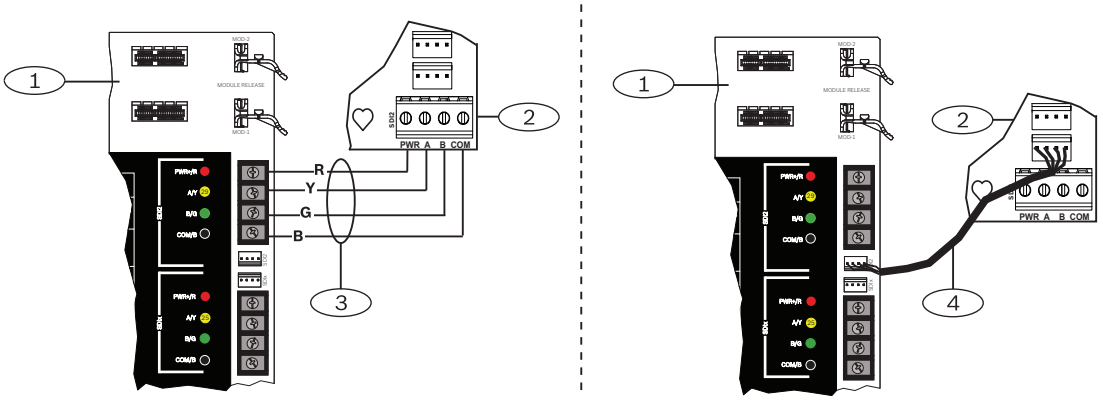
Wiring to the control panel

Use either the terminal strip labeled with PWR, A, B, and COM on the module to wire to the SDI2 terminals labeled on the control panel, or use the interconnect wiring connector and the included interconnect cable.

For terminal wiring, use 18 AWG to 22 AWG (1.0 mm to 0.6 mm) wire.

Notice!

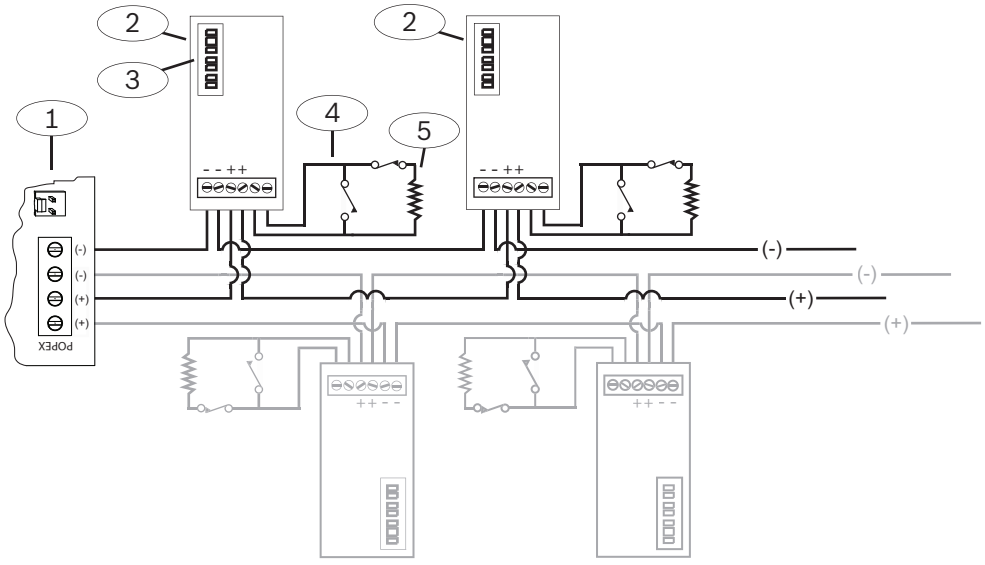
Use either the terminal strip wiring or interconnect wiring to the control panel. Do not use both. When you connect multiple modules, you can combine terminal strip and interconnect wiring connectors in parallel.



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 0.6 mm) wires.

Wiring the devices



Callout — Description
1 — B299
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. The B600 module connects to the control panel through a proprietary connection (cable provided with module).
The control panel supports one B600.

13.3.1 Installation and control panel wiring (B600)

Calculate power consumption

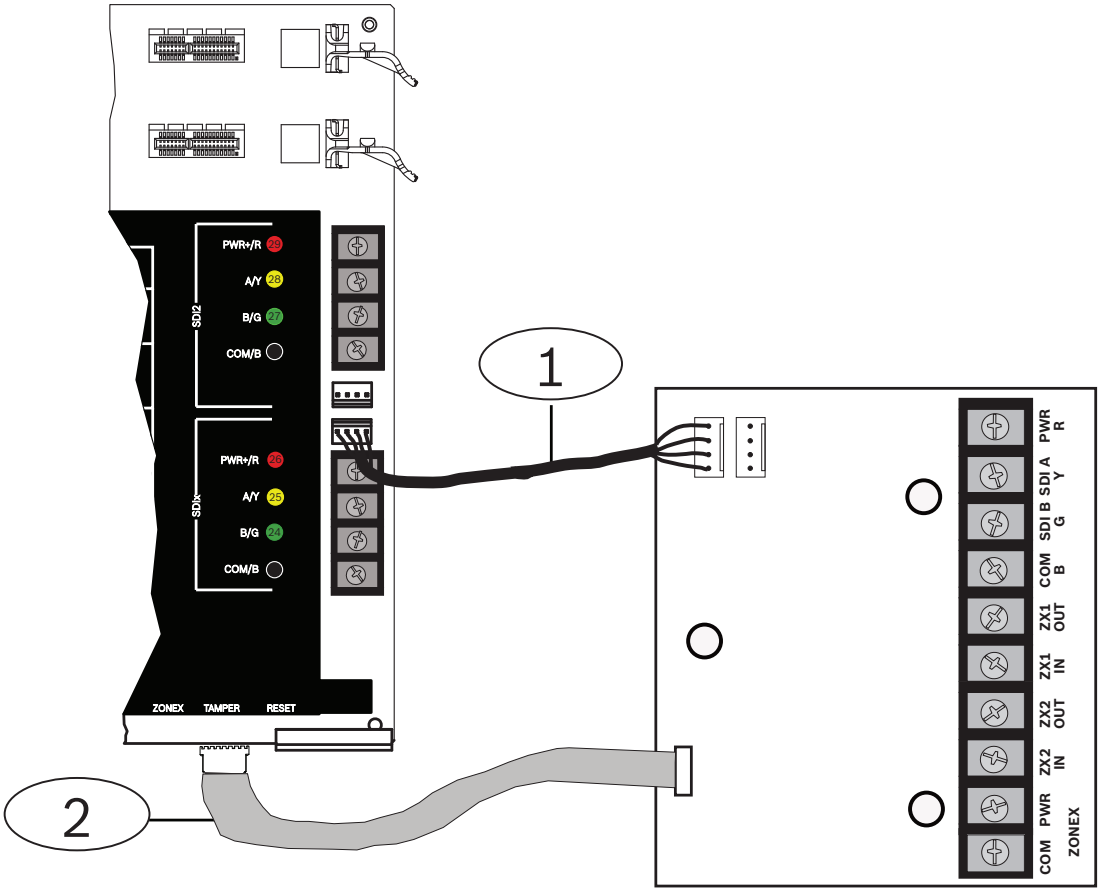
Make sure that there is enough power for the module and the other powered devices that you want to connect to the system.
Refer to *On-board outputs, page 66*.

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

Installing the module

1. For retrofit applications, remove the terminal strip from the module.
2. Hold the module mounting brackets onto the inside of the enclosure. Match the bracket holes to a 3-hole mounting pattern on the enclosure
3. Use the supplied mounting screws to secure the module.

Wiring the module to the control panel



Callout — Description
1 — ZONEX connection cable
2 — SDI interconnect cable

Wiring the terminal strip

Refer to the next section for information on how to wire the terminal strip.

13.3.2 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 Expansion Module
- D8125MUX Expansion module, Multiplex
- D8125INV Wireless Module
- D8125CW-V2 Interface module, Inovonics Echostream

Calculate power consumption

Make sure that there is enough power for the module and the other powered devices that you want to connect 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 instructions, refer to the corresponding document listed in *Related documentation, page 13*.

13.3.3 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).

Calculate power consumption
Make sure that there is enough power for the module and the other powered devices that you want to connect 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 control panel supports the following number of modules through the B600:
– B9512G. 30
– B8512G. 12

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.

Address 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 168*.

Installation
For detailed instructions, refer to the corresponding document listed in *Related documentation, page 13*.

13.4 Off-board points test

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

Notice!
Walk test does not show extra points
If you set the address switches on off-board point modules, the control panel might 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 do 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 Profile 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

Point programming and the state of the area that the point is in sets how the control panel operates. For example:

- An interior motion detector point is missing and the area is turned off (disarmed). The control panel makes a Missing Trouble event.
- An interior motion detector point is missing and the area is turned on (armed). The control panel makes a Missing Alarm event.

Non-fire, 24-hour points always make a Missing Alarm event. Fire points always make a Missing Fire Trouble event.

14 Wireless modules

The control panel supports one B810 or one B820. Use the module to add wireless sensors to the system.

14.1 B810 receiver

The B810 is a wireless receiver that supports RADION wireless devices and the RADION repeater. The receiver supports up to:

- 504 wireless point devices
- 1,000 keyfobs
- 8 repeaters

The module connects to the SDI2 bus on control panel using SDI2 terminals.
For detailed instructions, refer to the corresponding document listed in *Related documentation, page 13*.

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)

Calculate power consumption

Make sure that there is enough power for the module and the other powered devices that you want to connect 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.

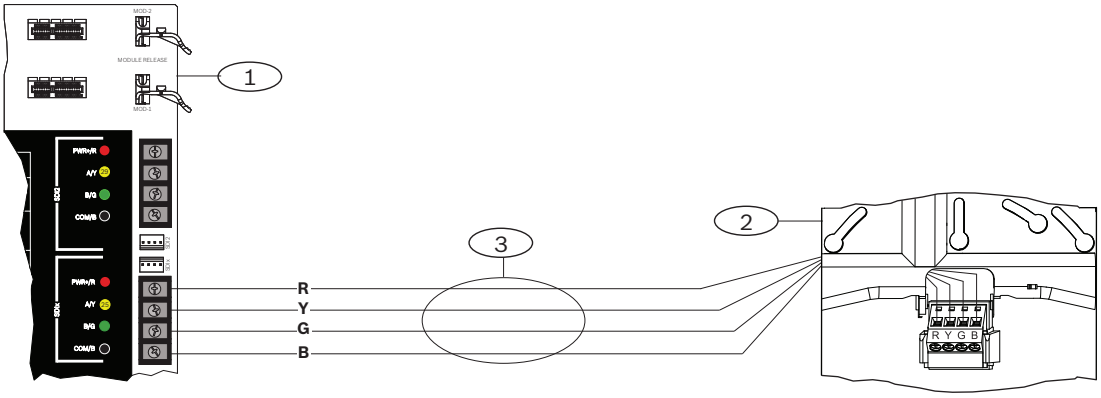
Installing the module

Notice!
Install the receiver in a location away from metal, near transmitters
Metal objects (duct work, wire mesh screens, boxes) reduce RF range.
For best receiver reception, install the receiver near the transmitters.

1. Open the module.
2. Use the address switch to set the module to address 1.
3. Use the provided anchors and screws to mount the module base on the wall.
4. Pull the wiring through the mounting plate.
5. Put the module on the base.

Wiring to the control panel

Use the terminal strip labeled with PWR, A, B, and COM on the module to wire to the SDI2 terminals labeled on the control panel. Wire the module within the distances rated for the module: 600 ft. (183 m) with 22 AWG (0.6 mm) wire or 1000 ft. (305 m) with 18 AWG (1.0 mm) wire.



Callout — Description
1 — Control panel
2 — Module
3 — Terminal strip wiring

14.2 B820 SDI2 Inovonics Interface Module

The B820 is a module to connect a control panel with an Inovonics EN4200 EchoStream Serial Receiver.

For detailed instructions, refer to the corresponding document listed in *Related documentation, page 13*.

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)

Calculate power consumption

Make sure that there is enough power for the module and the other powered devices that you want to connect 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.

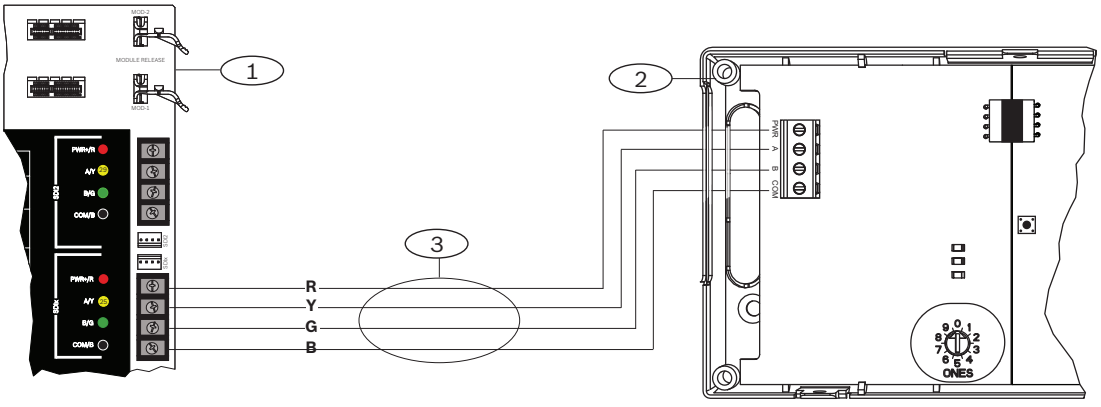
Installing the module

1. Set the module address using the address switch before you install it in the EN4200 housing.
2. Use the address switch to set the module address.
3. Use a slotted screwdriver to press the housing release tabs and open the housing.
4. Remove the backing from one side of the supplied Velcro piece to show the Velcro adhesive.
5. Put the adhesive side of the Velcro onto the back of the module.
6. Remove the other backing from the Velcro.
7. Insert the module into the housing.
8. Connect the serial ports on the B820 and EN4200.
9. Push gently on the B820 to make sure that the Velcro sticks.
10. Refer to the *EN4200 EchoStream Serial Receiver Installation Instructions* for mounting and wiring instructions for the receiver.

Wiring to the control panel

Use the terminal strip labeled with PWR, A, B, and COM on the module to wire to the SDI2 terminals labeled on the control panel. Wire the module within the distances rated for the module: 600 ft. (183 m) with 22 AWG (0.6 mm) wire or 1000 ft. (305 m) with 18 AWG (1.0 mm) wire.

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



Callout — Description
1 — Control panel
2 — Module
3 — Terminal strip wiring

15 Access control

The control panels support up to the following number of modules, cards, and tokens:

Control panel	B901	D9210C	Cards or token
B9512G	32	8 (combine with B901 for a total of 32)	– B901. 2,000 – D9210C. 999
B8512G	8	8 (combine with B901 for a total of 8)	– B901. 500 – D9210C. 500

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. You can also program the system to automatically turn off (disarm) for authorized users.

The Dual Authentication feature can require a user to enter a passcode and present a card or token for access.

15.1 B901 door controller

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 series.

For detailed instructions, refer to the corresponding document listed in *Related documentation, page 13*.

15.1.1 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 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 169*.

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)

Calculate power consumption

Make sure that there is enough power for the module and the other powered devices that you want to connect 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.

Installing the module

1. Set the module address.
2. Hold the module mounting brackets onto the inside of the enclosure. Match the bracket holes to a 3-hole mounting pattern on the enclosure
3. Use the supplied mounting screws to secure the module.

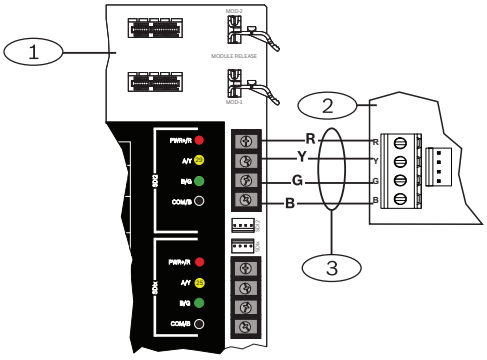
Wiring to the control panel

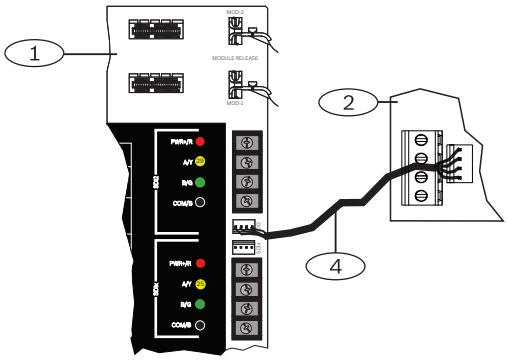
Use either the terminal strip labeled with PWR, A, B, and COM on the module to wire to the SDI2 terminals labeled on the control panel, or use the interconnect wiring connector and the included interconnect cable.

For terminal wiring, use 18 AWG to 22 AWG (1.0 mm to 0.6 mm) wire.

Notice!

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





On a B9512 or B8512, the B901 can connect to the SDIx bus. The module then works as a D9210C when SDIx is set as SDI. Use either the terminal strip wiring or interconnect wiring to the control panel.

15.2 D9210C access control interface module

The D9210C 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.

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 170*.

Installation
For detailed instructions, refer to the corresponding document listed in *Related documentation, page 13*.

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

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, the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China), or a keypad to program the control panel.
The following table shows the available languages for RPS and Installer Services Portal programming tool.

	Installer Services Portal programming tool	RPS programming	RPS custom text*
English	✓	✓	✓
Chinese	✓		
Dutch	✓		✓
French	✓		✓
German	✓		✓
Greek	✓		
Hungarian	✓		✓
Italian	✓		✓
Polish	✓		
Portuguese	✓		✓
Spanish	✓		✓
Swedish	✓		✓

* RPS custom text is text, that can be entered in RPS and which will then be displayed on keypads and on the Remote Security Control app.

16.1.1 Program the control panel with RPS

How to create an RPS panel account

1. Go to the RPS product page and download and install RPS v6.06 or later.
2. Follow the RPS Account Assistant instructions to create a new control panel account.

How to connect the control panel using RPS

1. Connect a computer with RPS installed. Direct RPS connections can be done through a USB connection or an Ethernet connection.
2. For a USB direct connection, use a B99 USB cable.
   The RPS Account Assistant automatically launches when you create a new account.

How to configure and send to control panel using RPS

1. Program your configuration information using the RPS Account Assistant.
2. Click **close Account Assistant, and connect to control panel**.
3. The Panel Communication window opens.

4. Click **Connect** and send the configuration programming to the control panel.
5. Click **Disconnect** when the programming is complete.

For more information, refer to *RPS Help*.

16.1.2 Program the control panel with the Installer Services Portal programming tool

The Installer Services Portal programming tool is available in Europe, Middle East, Africa, and China.

How to create an Installer Services Portal programming tool panel account

1. Register for the Installer Services Portal at: https://sp.boschsecurity.com.
2. Make sure that the control panel is connected to the network.
3. Log into the Installer Services Portal programming tool.
4. To create a panel account, click on **New** and select **Device**.
5. Add the panel account information.
6. Activate the CloudID.
   The Installer Services Portal programming tool searches the database for a registered ID.
7. Click **Activate**.
8. Click **Add Panel**.

How to connect and send using the Installer Services Portal programming tool

1. Search or select a device to connect to a control panel.
2. To find a new account, type in the panel account name in the Search field.
3. Select the panel account.
4. Click **Connect**.
5. Click **Configuration**.
6. Program your configuration information.
7. To send programming, click the 3 vertical dots and select **Push Pending Changes to Panel**.
8. Click **Disconnect** when the programming is complete.

For more information, refer to the Installer Services Portal programming tool *Help*.

16.1.3 Program the control panel with a keypad

Refer to *Keypad Installer menu, page 124*.

16.2 Walk tests

When you do a walk test, the control panel test the points assigned to areas in the scope of the keypad scope. During a walk test, the points do not work normally. The points only show that you tested them.

You can perform four different types of walk tests on this system. The tests terminate 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 receiver.

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 profile 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

Doing a fire walk test

1. Choose a keypad to conduct the test. Make sure that all areas are off (disarmed).
2. Open **Main Menu** and then go to the [3] **Actions Menu** > [3] **Test** > [1] **Walk Test** > [1] **Fire**.
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 ◄/**Previous** 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!
Multiple detectors
If the point loop has multiple detectors, then the keypad emits 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 profile 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. Make sure that all areas are off (disarmed).
2. Open **Main Menu** and then go to the [3] **Actions Menu** > [3] **Test** > [1] **Walk Test** > [1] **Intrusion**.
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 ◄/**Previous** 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 it 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 Profile of 0.

A service walk test includes points:

– with a point source other than Unassigned
– that are disabled (Point Profile set to 0) in addition to those that are enabled (non-zero Point Profile)
– 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 **Main Menu** and then go to the [3] **Actions Menu** > [3] **Test** > [1] **Walk Test** > [1] **Service**.
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 ←/**Previous** 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 Profiles with the Invisible Point parameter set to Yes.

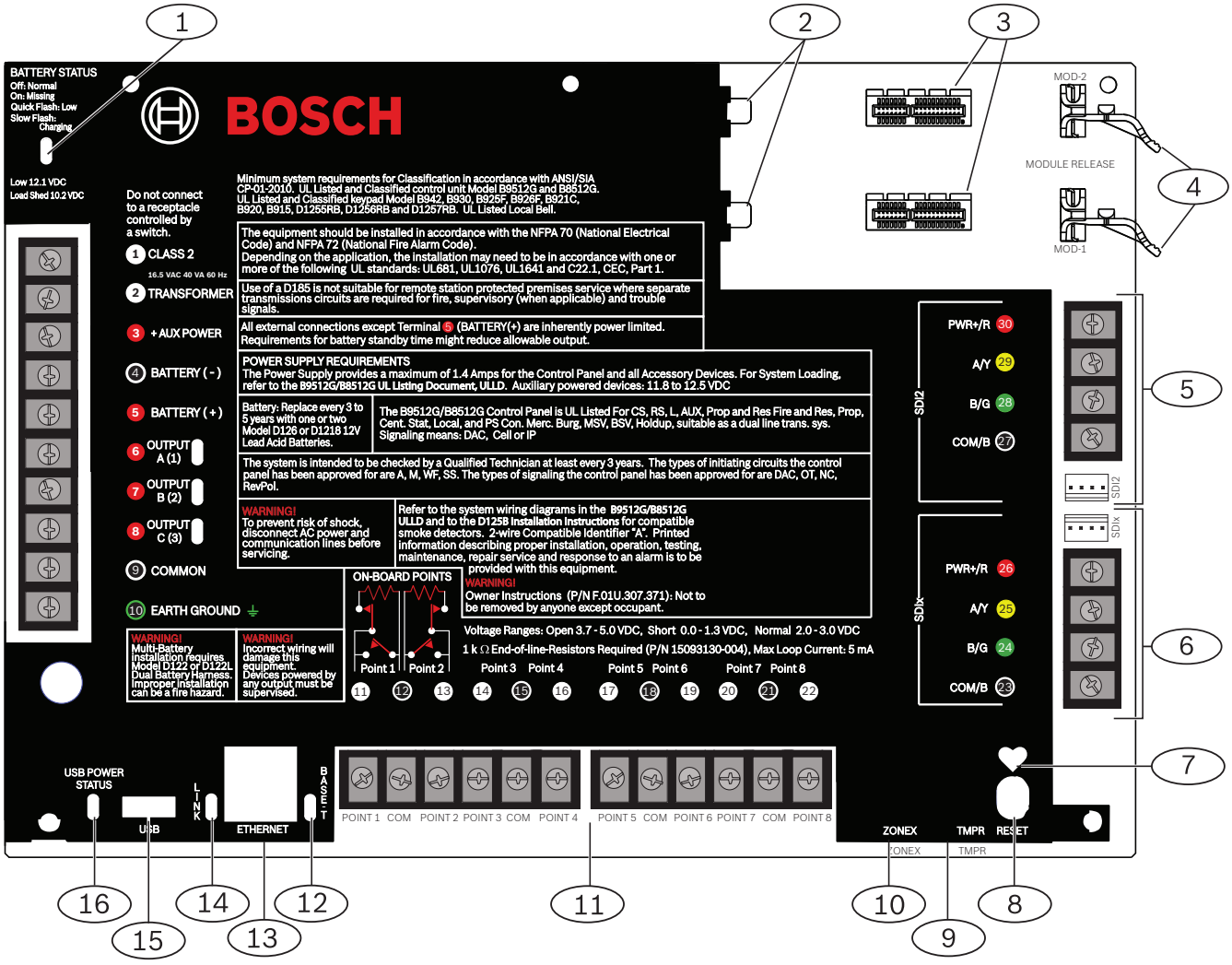
An invisible walk test includes points meeting the following criteria:

– Have a point source other than Unassigned
– Have a point profile not set to Disabled (must be non-zero)
– Have a point profile 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. 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 ←/**Previous** or →/**Next**.
5. When you fault a point (open a door for example), the keypad emits a brief tone and shows the name.

17 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 45* or Installation and module wiring (B44x)
3 — Plug-in module connectors	
4 — Plug-in module retention clips	
5 — SDI2 wiring	*SDI2 devices general system wiring, page 103*
6 — SDIx wiring (use as SDI or SDI2)	*SDI2 devices general system wiring, page 103* or *SDI and ZONEX wiring, page 101*
7 — Heartbeat LED (blue)	*Installer keypads and SERVICE MODE, page 124*
8 — RESET button	
9 — Tamper switch connector location	*Installing the enclosure, page 32*
10 — Zonex module connector location	*SDI and ZONEX wiring, page 101*
11 — Sensor loop terminals for points 1 to 8	*On-board points, page 73*

Callout — Description	For more information, refer to:
12 — BASE-T LED (green)	*On-board Ethernet connection, page 49*
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

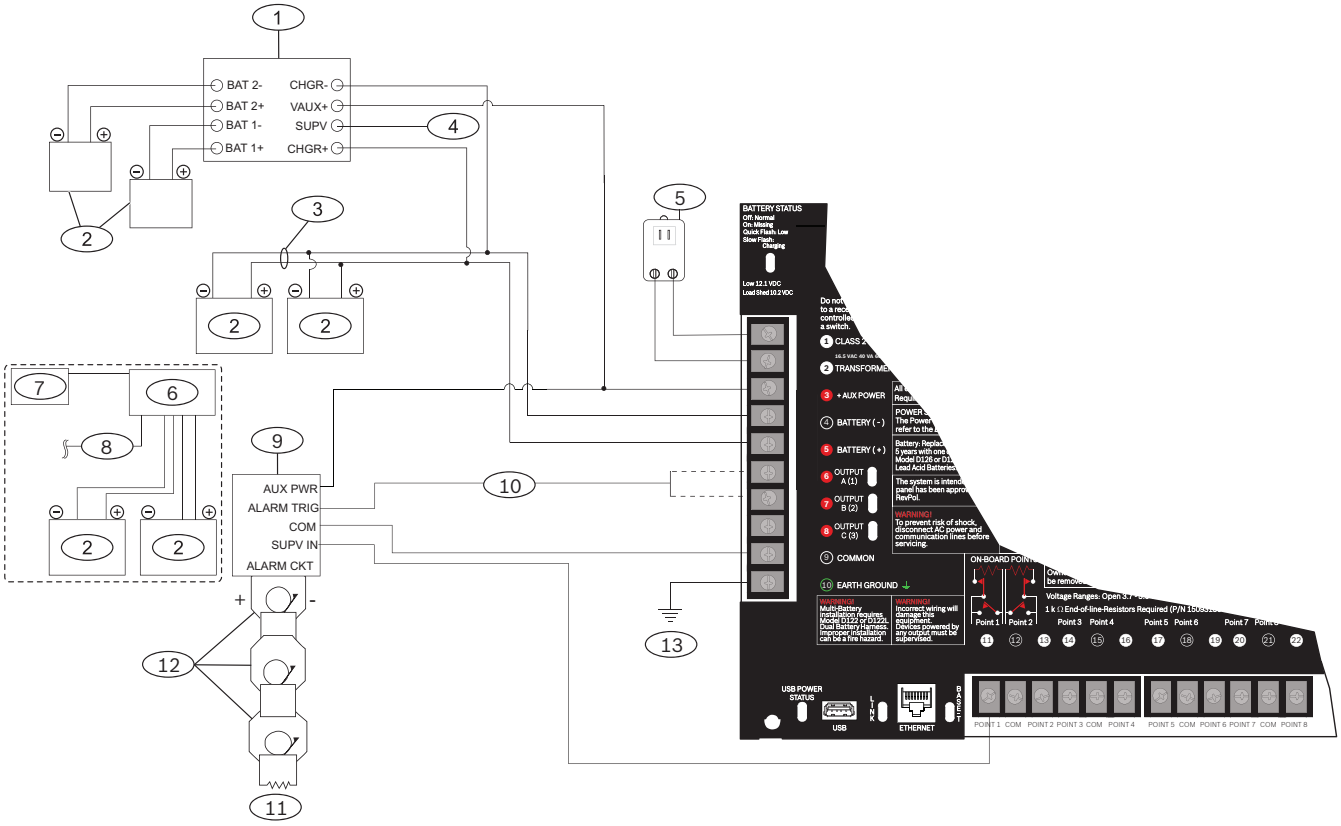
Notice!

UL notifications

Add additional power using only a UL Listed 12.0 VDC regulated, power-limited power supply such as the B520.

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



Callout — Description	Callout — Description
1 — D113 Supervision module, battery lead (if required by local AHJ)	8 — To control panel SDI2 wiring
2 — Batteries	9 — D192G Notification appliance 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 —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

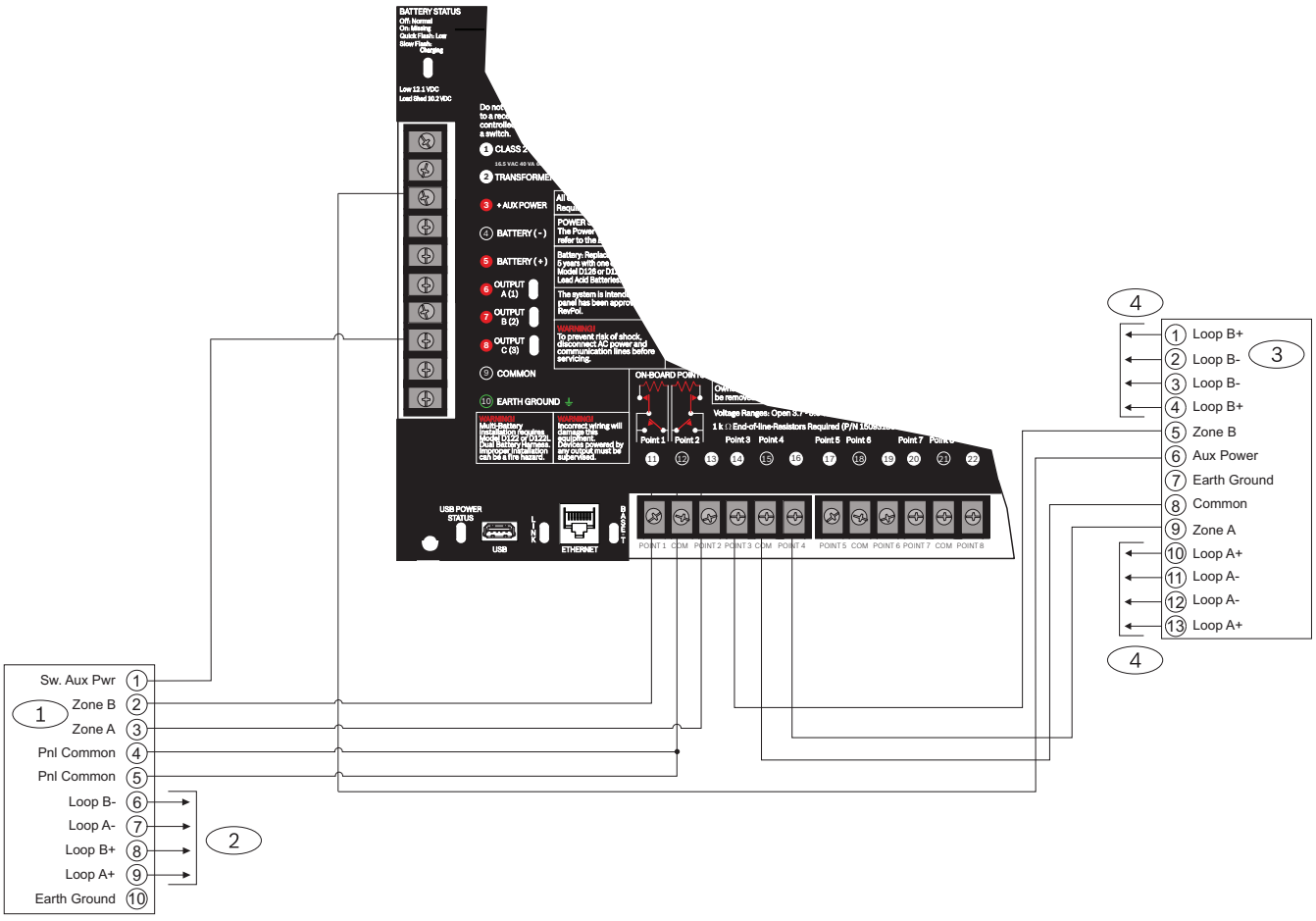


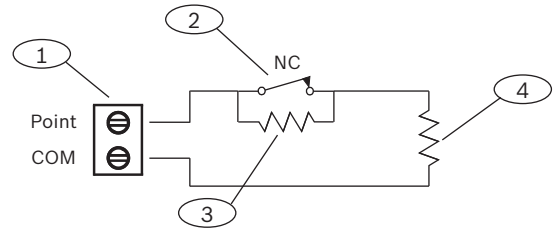
Figure 18.1: Input wiring with a D125B and a D129

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!
EOL resistors
For the dual EOL resistor circuit style order ICP-1K22AWG-10, package of 10 1.0 kΩ 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)

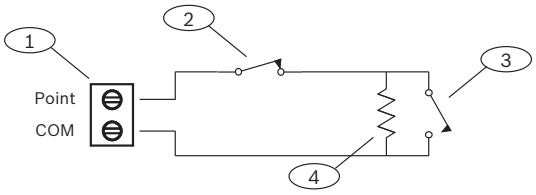


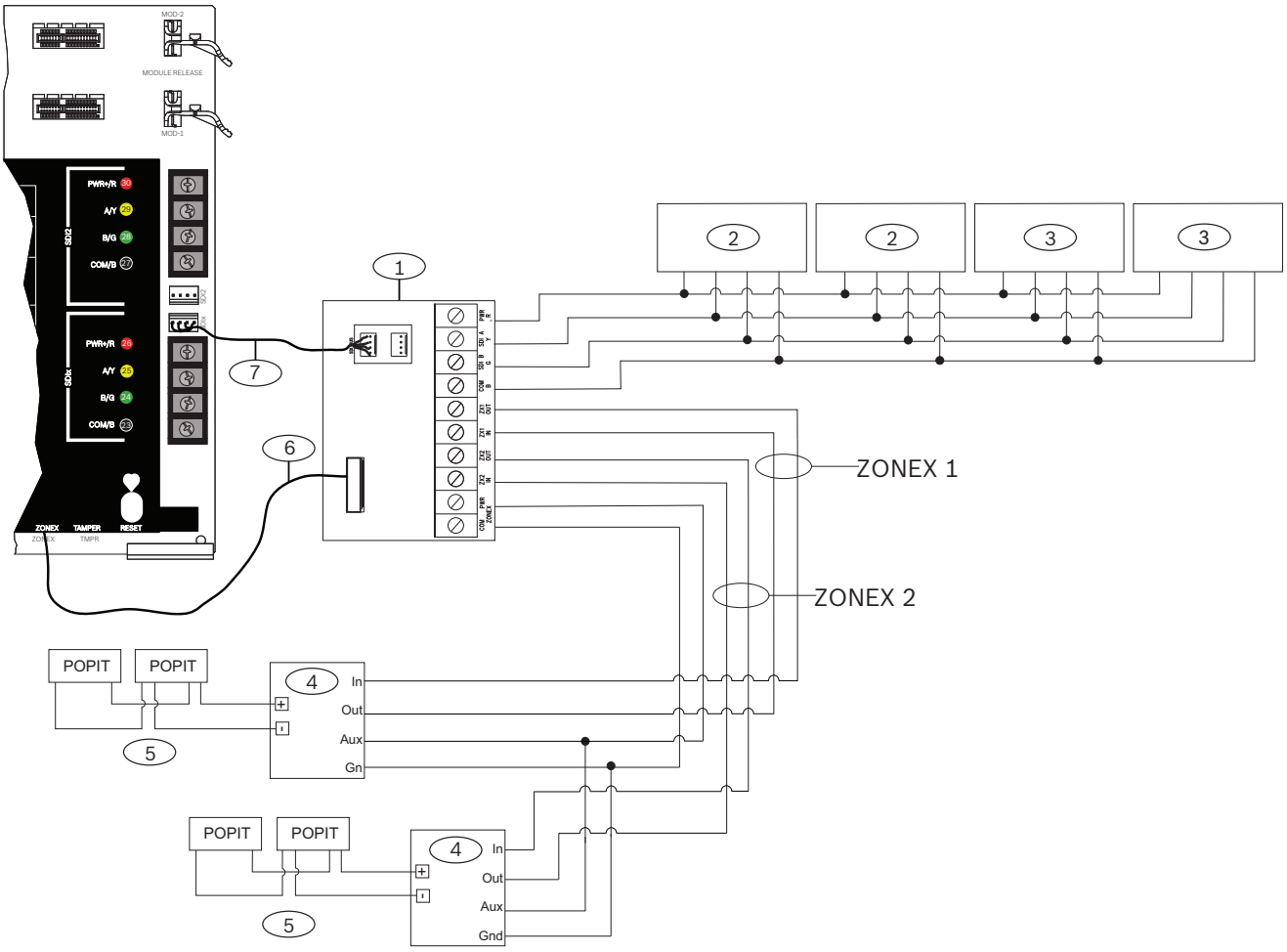
Figure 18.2: Single EOL (NC or NO)

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.

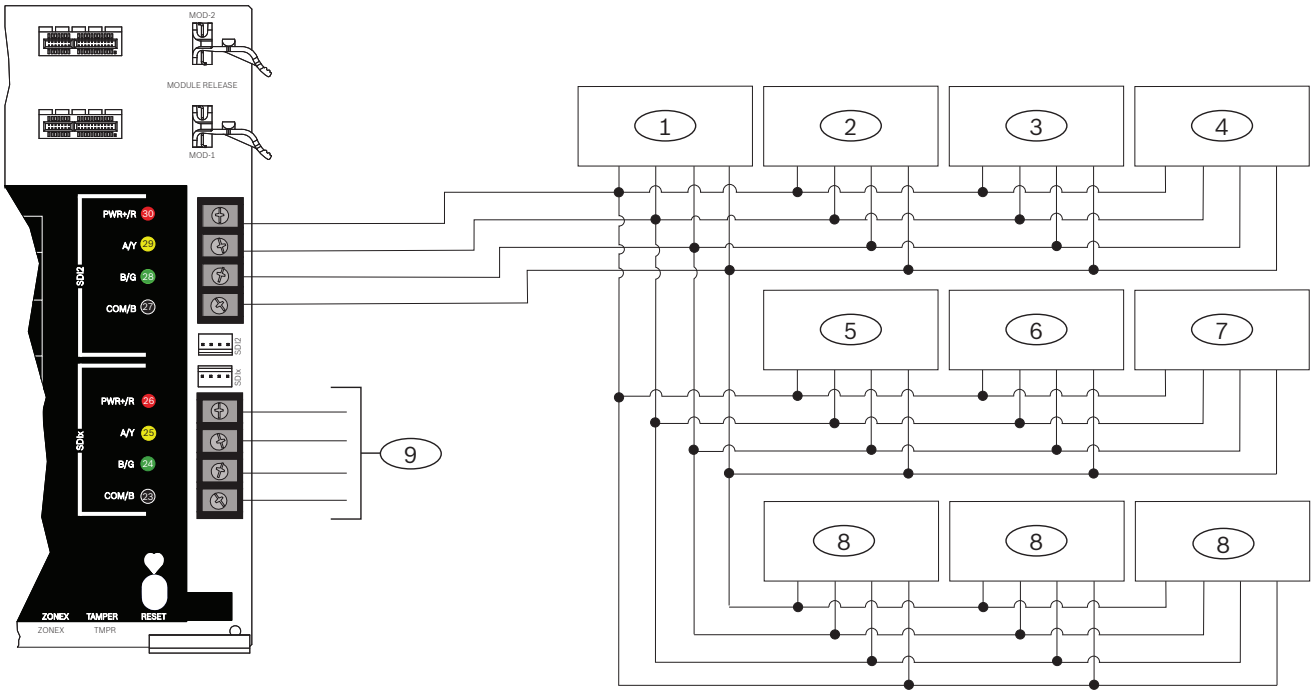
18.4 SDI and ZONEX wiring

Notice!
Install Fire and Intrusion devices only on separate circuits. Refer to the *ICP-SDI-9114 Installation Instructions*.
All external connections except Terminal 5 (battery positive) are power limited.



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* or the *D8129 Operation and Installation Guide* for detailed instructions.	

18.5 SDI2 devices general system wiring

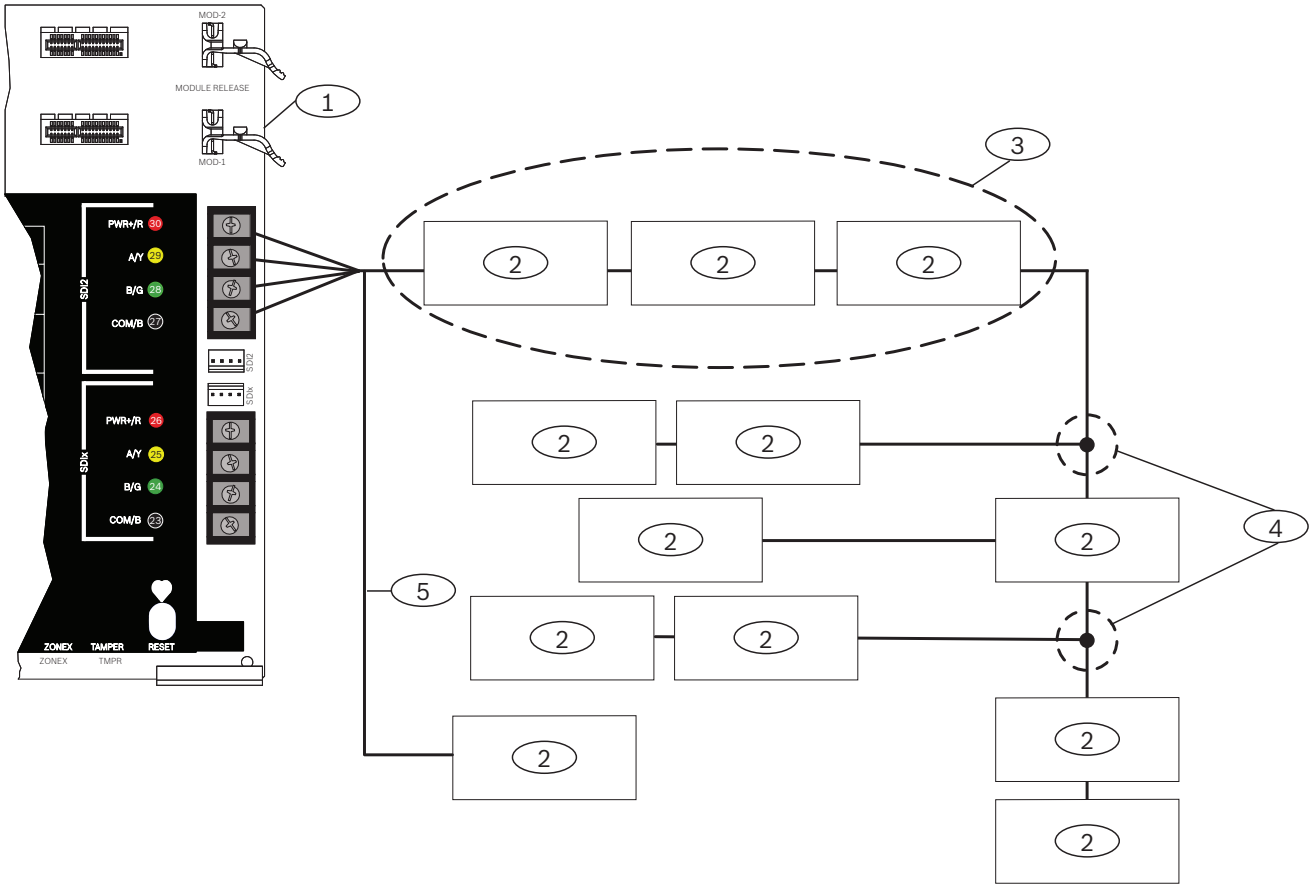


Callout — Description	B9512G/B9512G-E Capacity	B8512G/B8512G-E Capacity
1 — B208	59	9
2 — B299	6	1
3 — B308	59	9
4 — B426 or B450	2	2
5 — B520	8	4
6 — B810 or B820	1	1
7 — B901	32	8
8 — SDI2 keypads	32	16
9 — Configurable for SDI keypads and access control interface modules, or SDI2 devices		

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.



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:

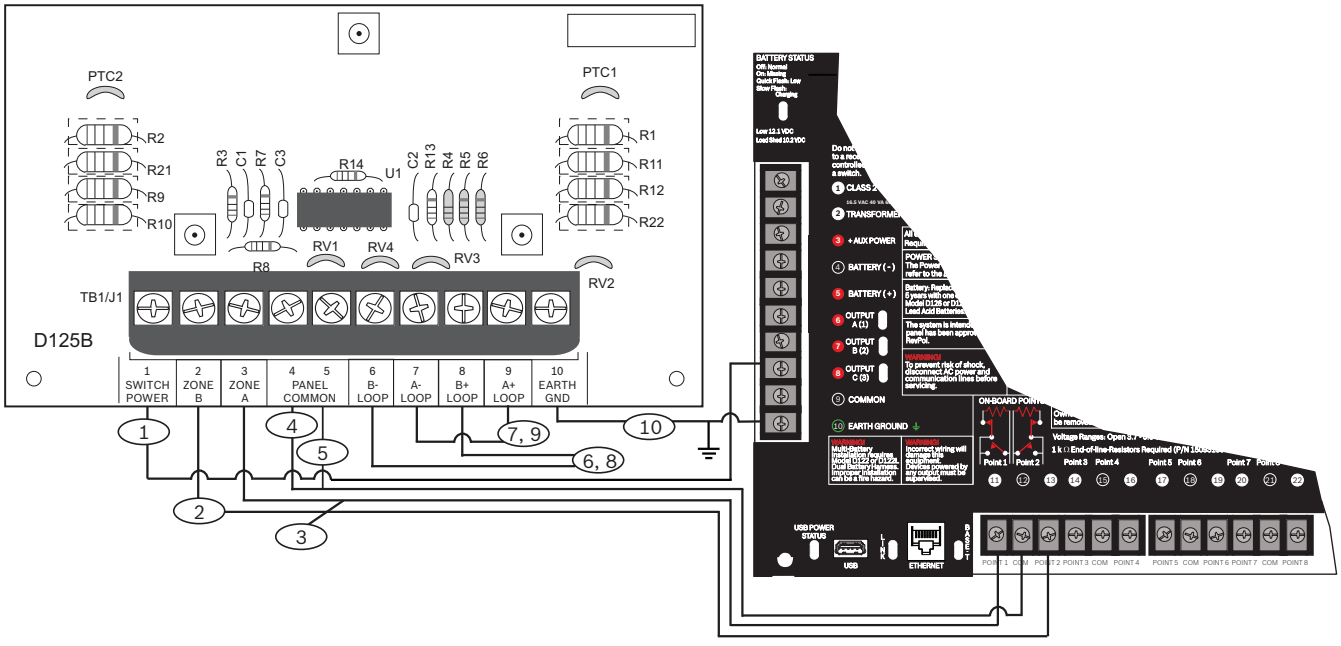
- The SDI2 bus requires the use of **unshielded** cable from 12 AWG to 22 AWG (0.65 mm to 2 mm).
- Refer to the SDI2 device or keypad documentation for the allowable maximum distance from the control panel.
- Maximum overall cable lengths are listed in the following table:

Cable capacitance	Overall cable length		Cable capacitance	Overall cable length	
pF/ft	ft	m	pF/ft	ft	m
< 17	7500	2286	27	5185	1580
18	7500	2286	28	5000	1524
19	7350	2240	29	4828	1472
20	7000	2134	30	4700	1433
21	6666	2032	31	4516	1376
22	6363	1939	32	4400	1341
23	6086	1855	33	4242	1293
24	5800	1768	34	4100	1250
25	5600	1707	35	4000	1219
26	5385	1641	36	3800	1158

Table 18.9: 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)



Callout — Description	Callout — Description
1 — Switched auxiliary power from relay C of the control panel	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

Callout — Description	**Callout — Description**
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 common the control panel (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. These components meet the basic system requirements for the applicable standard.
Refer to *Compatible UL listed components, page 113*.
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 *Rothenbuhler 5110/4001-42 High Security Bell overview, page 108* 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!
Proximity alarms
Do not use proximity alarms (capacitance) to protect the control panel enclosure.

1. Install the same electronic vibration sensors in the D8108A that are used to protect the safe or vault.
2. 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.
3. Install and test the EVD sensor according to the manufacturer's instructions.
4. Mount the EVD sensor directly inside the metal cabinet of the D8108A.

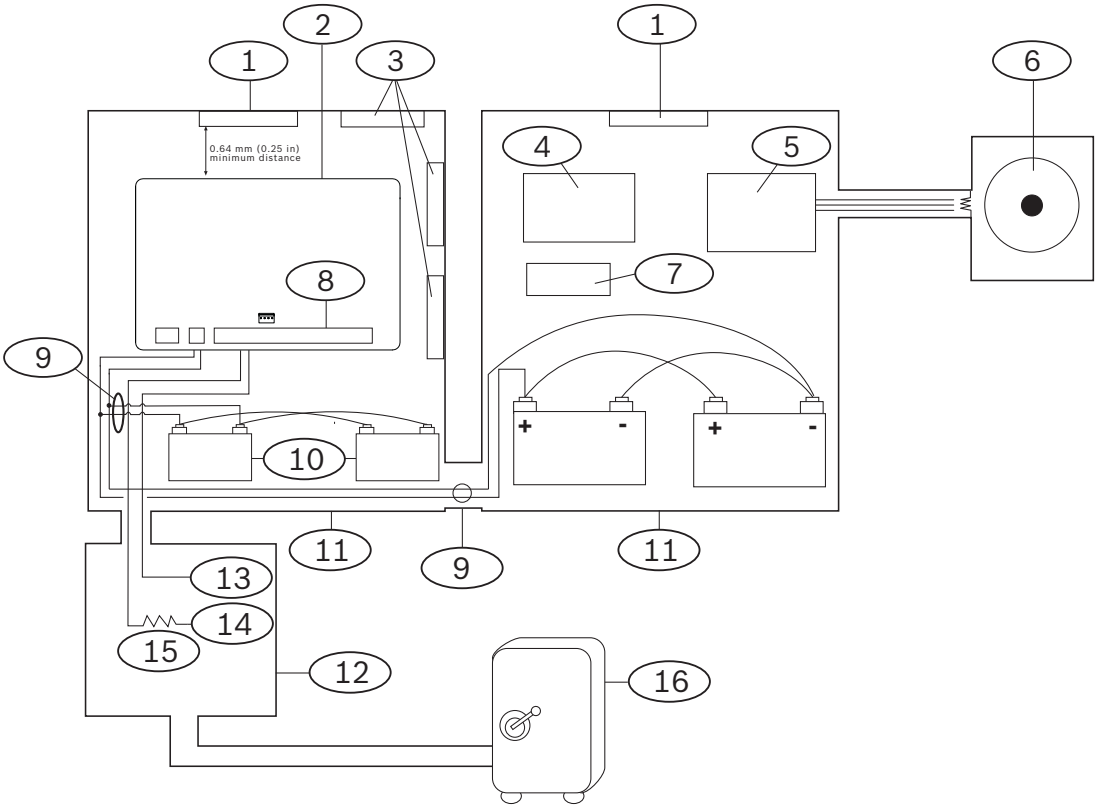
Caution!
EVD installation
Do not install the EVD sensor within 6.4 mm (0.25 in) of the components or traces of the printed circuit assembly.

Battery connections

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

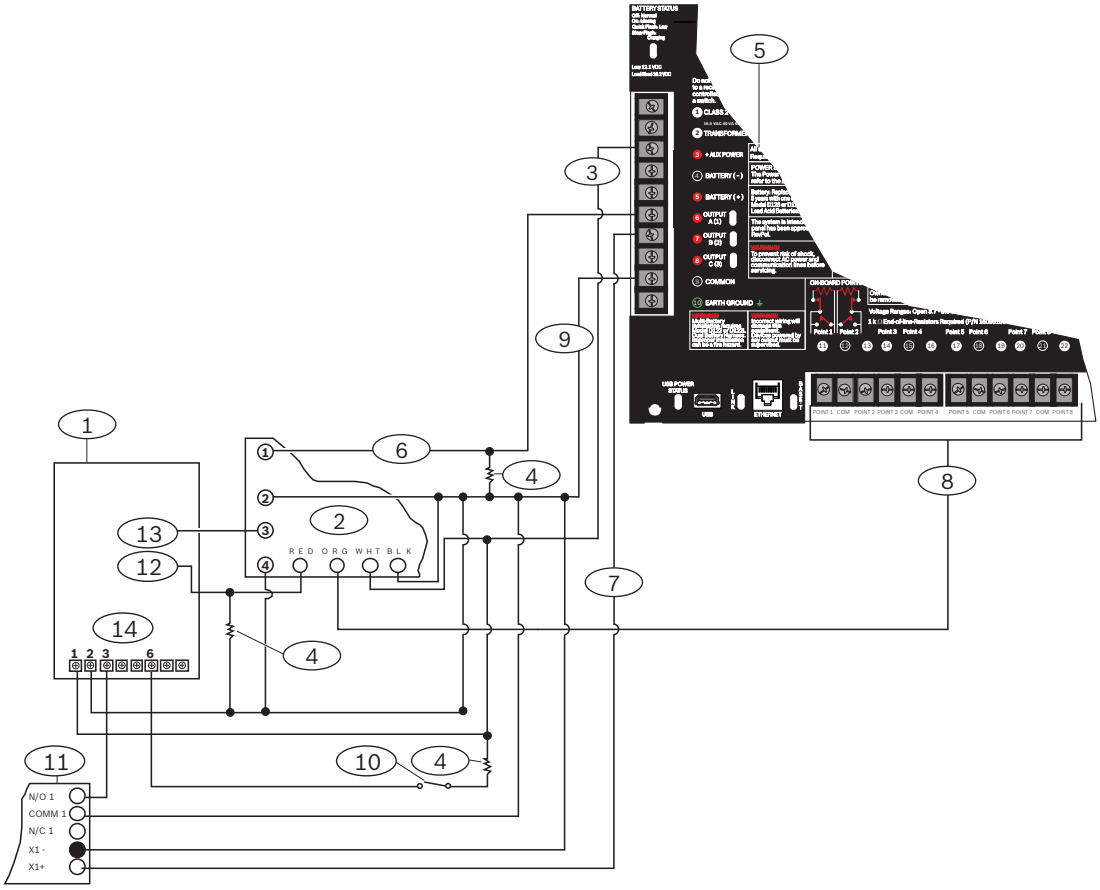
2. Use a separate D8108A for the two 12 V 7 Ah batteries. When using a D122L Dual Battery Harness, wire the batteries in parallel and connect the harness to the BAT+ and BAT- terminals of the control panel.

Rothenbuhler 5110/4001-42 High Security Bell overview



Callout — Description	Callout — Description
1 — Self-contained UL listed vibration sensor	9 — D122/D122L[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.	

Rothenbuhler 5110/4001-42 High Security Bell to control panel wiring



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.

The Bell Test feature only works when the area is armed All On. The Bell Test feature does not work when the area is armed Part On.

System configuration requirements

The following configuration and programming options are required for UL Bank Safe and Vault Systems. Refer to *RPS Help*, the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China) *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 Profile* in *RPS Help*, in the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China) *Help* or in the control panel's *Program Entry Guide* for more information.

Bell configuration

1. 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.
2. In addition to the jumper settings inside the bell, you can activate the control panel for a bell time of 15 min.
3. UL 365 requires a Bell Test at arming and you must enable it in control panel programming.
4. Refer to the various bell parameters in *RPS Help*, in the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China) *Help* or in or the control panel's *Program Entry Guide* for more bell time and test programming information.

Bell test

Notice!

Bell Test for All On arming only

The Bell Test feature only works when the area is armed All On. The Bell Test feature does not work when the area is armed Part On.

1. 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.
2. 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.
3. 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)

See also

– *Rothenbuhler 5110/4001-42 High Security Bell overview, page 108*

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!
UL 864
Fire and non-fire devices can share the expansion bus when the POPIT module provides data isolation between the input and bus connections.
A fire test tests both the AC power and the battery.

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 115*.

Notice!

Test weekly

Perform a fire test once each week.

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 113* 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
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	

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
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
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

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
B444	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												
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	x1	=190	190	x1	=190	265	x1	=265
B299	_____	40	xQty	=_____	40	xQty	=_____	140	xQty	=_____
B208	_____	35	xQty	=_____	35	xQty	=_____	35	xQty	=_____
B308[1]	_____	22	xQty	=_____	22	xQty	=_____	22	xQty	=_____
B426	_____	100	xQty	=_____	100	xQty	=_____	100	xQty	=_____
B430	_____	5	x1	=_____	5	xQty	=_____	25	x1	=_____
B440	_____	35	x1	=_____	35	x1	=35	150	x1	=_____
B441	_____	35	x1	=_____	35	x1	=35	150	x1	=_____
B442	_____	35	x1	=_____	35	x1	=35	150	x1	=_____
B443	_____	35	x1	=_____	35	x1	=35	150	x1	=_____
B444	_____	35	x1	=_____	35	x1	=35	150	x1	=_____
B450[2]	_____	30	xQty	=_____	30	xQty	=_____	30	xQty	=_____
B520	_____	15	xQty	=_____	15	xQty	=_____	15	xQty	=_____
B600	_____	10	xQty	=_____	10	xQty	=_____	12	xQty	=_____
B810	_____	100	xQty	=_____	100	xQty	=_____	100	xQty	=_____
B820	_____	100	xQty	=_____	100	xQty	=_____	110	xQty	=_____
B901	_____	110	xQty	=_____	100	xQty	=_____	110[6]	xQty	=_____
B915/B915I	_____	35	xQty	=_____	35	xQty	=_____	70	xQty	=_____
B920	_____	35	xQty	=_____	35	xQty	=_____	70	xQty	=_____
B921C	_____	35	xQty	=_____	35	xQty	=_____	70	xQty	=_____
B925F	_____	35	xQty	=_____	35	xQty	=_____	70	xQty	=_____
B926F	_____	35	xQty	=_____	35	xQty	=_____	70	xQty	=_____
B930	_____	35	xQty	=_____	35	xQty	=_____	80	xQty	=_____
B942/B942W[3]	_____	200	xQty	=_____	200	xQty	=_____	300	xQty	=_____
D125B	_____	25	xQty	=_____	25	xQty	=_____	168	xQty	=_____
D127	_____	5	xQty	=_____	5	xQty	=_____	55	xQty	=_____
D129	_____	23	xQty	=_____	23	xQty	=_____	25	xQty	=_____
D132A	_____	10	xQty	=_____	10	xQty	=_____	70	xQty	=_____
D133[4]	_____		xQty	=_____		xQty	=_____		xQty	=_____
D134[5]	_____		xQty	=_____		xQty	=_____		xQty	=_____

D185	_____	245	xQty	=_____	245	xQty	=_____	300	xQty	=_____
D192G	_____	35	xQty	=_____	35	xQty	=_____	100	xQty	=_____
D1255RB/ D1255	_____	104	xQty	=_____	10+	xQty	=_____	225	xQty	=_____
D1256RB/ D1256	_____	104	xQty	=_____	10+	xQty	=_____	225	xQty	=_____
D1257RB/ D1257	_____	104	xQty	=_____	10+	xQty	=_____	225	xQty	=_____
D1260/D1260B	_____	140	xQty	=_____	140	xQty	=_____	250	xQty	=_____
D8125	_____	60	xQty	=_____	60	xQty	=_____	60	xQty	=_____
D8125MUX	_____	140	xQty	=_____	140	xQty	=_____	140	xQty	=_____
D8128D	_____	25	xQty	=_____	25	xQty	=_____	50	xQty	=_____
D8129	_____	20	xQty	=_____	20	xQty	=_____	Refer to footnote [1]		=_____
D9127T/U	_____	0.8	xQty	=_____	0.8	xQty	=_____	0.8	xQty	=_____
D9210C	_____	110	xQty	=_____	100	xQty	=_____	110[6]	xQty	=_____
Ratings of other devices in the system that are not shown above:										
___	_____	____	xQty	=_____	_____	xQty	=_____	___	xQty	=_____
___	_____	____	xQty	=_____	_____	xQty	=_____	___	xQty	=_____
___	_____	____	xQty	=_____	_____	xQty	=_____	___	xQty	=_____
___	_____	____	xQty	=_____	_____	xQty	=_____	___	xQty	=_____
			Total A=_____			Total B=_____			Total C=_____	

[1] The In Alarm calculation for the module is: 20 xQty + (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 19.10: 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)) x1.15 =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 19.11: 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 19.12: 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 19.13: 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 the system 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 Required programming to meet UL 864

This section identifies the programming requirements you must make in order to comply with UL 864 Commercial Fire applications.

Notice!
NOTICE TO USERS, INSTALLERS, AUTHORITIES HAVING JURISDICTION, AND OTHER INVOLVED PARTIES
This product incorporates field-programmable software. In order for the product to comply with the requirements in the Standard for Control Units and Accessories for Fire Alarm Systems, UL 864, you must limit certain programming features or options to specific values.

UL 864 programming requirements

Product feature/option	**Permitted in UL 864? (Yes/No)**	**Possible settings**	**Settings permitted in UL 864**
Phone 1 through 4	Yes	24 characters	Program a valid phone number
Phone Supervision	Yes	0 to 240 seconds	10 to 200 seconds
Alarm On Fail	No	Yes / No	Set to **No**
Buzz On Fail	Yes	Yes / No	Set to **Yes**
Two Phone Lines	Yes	Yes / No	Set to **Yes** when using PSTN communications.
Expand Test Report	Yes	Yes/No	Set to **Yes**
Fire Reports	Yes	Yes / No	Set to **Yes**
R# Fire Supervisory Missing	Required	Yes/No	Set to **Yes**
Test Reports	Yes	Yes / No	Set to **Yes**
AC Fail Report	Yes	Yes / No	Set to **Yes**
AC Restoral Report	Yes	Yes / No	Set to **Yes**
Battery Missing Report	Yes	Yes / No	Set to **Yes**
Low Battery Report	Yes	Yes / No	Set to **Yes**
Battery Restoral Report	Yes	Yes / No	Set to **Yes**
R# Service Start Report	Required	Yes / No	Set to **Yes**
R# Service End Report	Required	Yes / No	Set to **Yes**
R# Fire Walk St Report	Required	Yes / No	Set to **Yes**
R# Fire Walk End Report	Required	Yes / No	Set to **Yes**
R# Walk Test St Report	Required	Yes / No	Set to **Yes**
R# Walk Test End Report	Required	Yes / No	Set to **Yes**
Ground Fault Detection	Yes	Enabled / Disabled	Set to Enabled
AC Fail Time	Yes	1:00 to 90:00 min	Enter 1:00
AC Fail Display	Yes	10 to 300 seconds	10 to 200 seconds

Product feature/option	Permitted in UL 864? (Yes/No)	Possible settings	Settings permitted in UL 864
AC Tag Along	Yes	Yes / No	Set to **Yes**
AC/Battery Buzz	Yes	Yes / No	Set to **Yes**
Bat Fail/Restoral Report	Yes	Yes / No	Set to **Yes**
Area 1 Area On	Required to send system status reports	Yes / No	Set to **Yes**
A# Delay Restoral	Yes	Yes / No	Set to **Yes**
Restart Time	Yes	5 to 55 seconds	5 seconds
Area # Fire Time	Yes	1 to 90 min	5 min (check with AHJ)
Supervised (within the Keypads section)	Yes	Yes / No	Set to **Yes**
Trouble Tone (within the Keypads section	Yes	Yes / No	Set to **Yes**
Remote Program	Disable / Enable	-, E, or P	Set to **P**
A# Fire Bell	Yes	0 to 599	Program with a relay
A# Reset Sensors	Yes	0 to 599	Program with a relay
U### Area # Auth	Yes	0 to 13	Program an Authority Level for the Fire Area
U### Passcode	Yes	3-, 4-, 5-, or 6-digit passcode	Must program at least one passcode. Passcode must have at least 4 digits.
P## Silent Bell	No	Yes / No	Set to **No**
P## Invisible Point	No	Yes / No	Set to **No**
P## Local While Disarmed	No	Yes / No	Set to **No**
P## Local While Armed	No	Yes / No	Set to **No**
P## Disable Restorals	No	Yes / No	Set to **No**
P## Bypassable	No	Yes / No	Set to **No**
P## Swinger Bypass	No	Yes / No	Set to **No**
P## Resettable	Yes	Yes / No	As required
Sked## Function	Required	Varies	Sked Function Send Test Report
Sked## Defer Test	No	Yes / No	Set to **No**
Sked## Hourly Test (Report?)	No	Yes / No	Set to **No**
Sked## Time	Enter valid time	00:00 to 23:59	00:00 to 23:59
Sked## Date	No	mm/dd	Set to **No**
Sked## Sunday	Yes	Yes / No	Set to **Yes**

Product feature/option	Permitted in UL 864? (Yes/No)	Possible settings	Settings permitted in UL 864
Sked## Monday	Yes	Yes / No	Set to **Yes**
Sked## Tuesday	Yes	Yes / No	Set to **Yes**
Sked## Wednesday	Yes	Yes / No	Set to **Yes**
Sked## Thursday	Yes	Yes / No	Set to **Yes**
Sked## Friday	Yes	Yes / No	Set to **Yes**
Sked## Saturday	Yes	Yes / No	Set to **Yes**
Sked## Xept On Holiday	No	Yes / No	Set to **No**
Point Type (On-board, B208)	Yes	NEOL / DEOL / 2kEOL	Single / 2kEOL
For IP Communications to a D6600 Receiver			
Enhanced Comm	Yes	Yes / No	Set to **Yes**
Path # Network Address	Yes	IPV4 address or hostname	Program a valid IPV4 address or hostname
Path # Receiver Supervision Time**	Yes	200s, 300s, 1hr	Select the Receiver Supervision Time required by your AHJ (200 seconds or 300 seconds)
Path # Poll Rate	Yes	0, 5 to 65535 seconds*	Program as necessary
Path # Ack Wait	Yes	5 to 65535 seconds	Program as necessary
Path # Retry Count	Yes	1 to 255	Program as necessary
* Set the Path 1 Poll Rate to 65535 for 24 hr.			

Use the following parameters for commercial fire alarm installations. Check with your local Authority Having Jurisdiction.

UL 864 programming recommendations

Prompt	Possible Settings	Recommendation
Phone Line Fail Report	Yes / No	Yes
Phone Line Restoral Report	Yes / No	Yes
Fire Walk Start Report	Yes / No	Yes
Fire Walk End Report	Yes / No	Yes
Cancel Report	Yes / No	Yes
KP# Scope	Panel Wide, Account Wide, Area Wide, Custom, No Keypad	Do not program **No Keypad**
Function Lock (within the Keypads section	Yes / No	**No**

Prompt	Possible Settings	Recommendation
Reset Sensors	Disable/Enable/Passcode Protect	Enable
Fire Test	Disable / Enable / Passcode Protect	Enable
L## Reset Sensors	Disable / Enable	If **Reset Sensor** is set to **Passcode Protect**, set this to **Enable**
L## Fire Test	Disable / Enable	If **Fire Test** is set to **Passcode Protect**, set this to **Enable**
U### User Group	0 to 32	Program as 0
P## Ring Until Restored	Yes / No	May be required for **Waterflow**, otherwise **No**
P## Cross Point	Yes / No	Set to **No** for Fire devices.
D# Fire Unlock	Yes / No	No

19.8 Required values to achieve 180s (ULC)/200s (UL) supervision interval

Applicable for both IP and cellular communication.

Requirement	Parameter
Supervision interval for IP and Cellular communication is 200 seconds (UL)	Panel Wide Parameters > Enhanced Communications > Receiver Supervision Time set to 200 seconds
Supervision interval for IP and Cellular communication is 180 seconds (ULC)	Panel Wide Parameters > Enhanced Communications > Receiver Supervision Time set to Custom, Poll Rate set to 89, ACK Wait Time set to 15, and Retry Count set to 5

19.9 ULC

Conduct testing monthly, with the primary de-energized.

20 Keypad Installer menu

In addition to RPS and the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China), you can configure and diagnose a system with 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 the installer passcode and press **Enter**. The default installer passcode is 1-2-3.

The tools within the **Main Menu (Installer)** are:

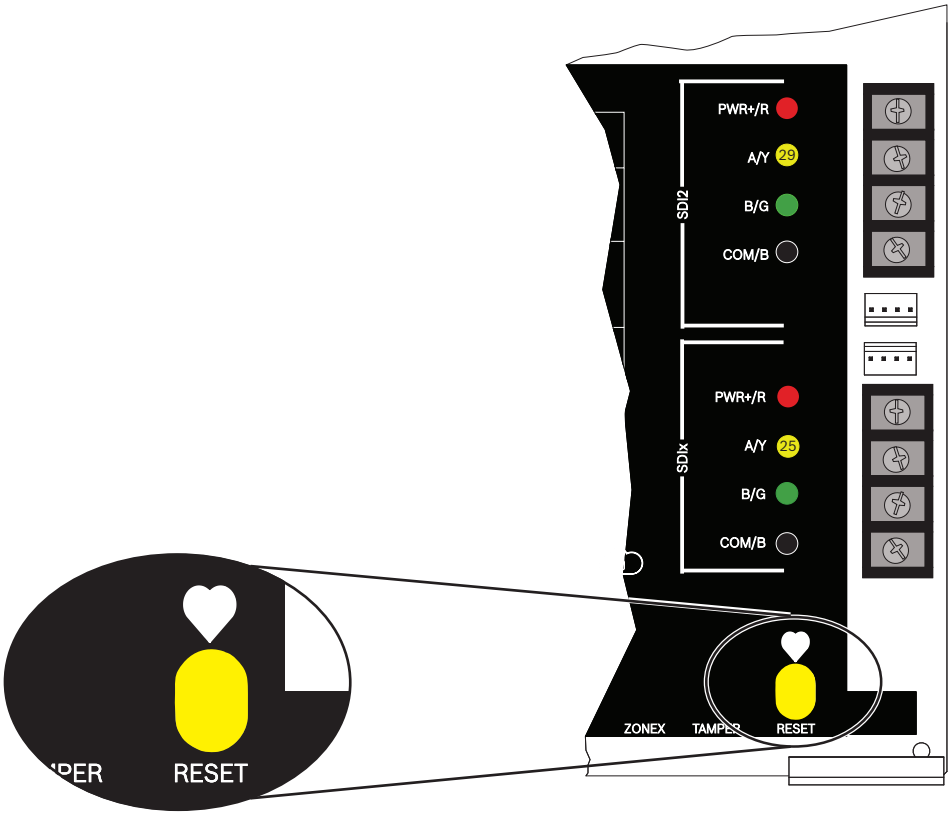
- **Programming Menu**. Program several parameters to make your system operational. Options include: phone number and format, enhanced communication options, RPS or Installer Services Portal programming tool parameters, users, points, and keypad parameters. Refer to *[1] Program menu (Programming), page 131*, and to *RPS Help* or the Installer Services Portal programming tool *Help*.
- **Wireless Menu**. Add, replace, remove, and diagnose points and repeaters. Refer to *[2] Wireless menu, page 154*.
- **Diagnostics Menu**. Diagnose points, repeaters, cellular service, IP cameras, and Cloud. Refer to *[3] Diags menu, page 156*.
- **Service Bypass Menu**. View whether points are removed from service. Refer to *[4] Service Bypass (Serv Byp) menu, page 158*.
- **Version Menu**. View the version information for the control panel, encryption, and more. Refer to *[5] Versions menu, page 158*.
- **Cloud Menu**. Enable Cloud connectivity for the control panel. Refer to *[6] Cloud menu, page 159*.
- **USB Power Menu**. Turn the power to the USB port on or off. Refer to *[7] USB Power, page 159*.

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.

Accessing SERVICE MODE (rapid pulsing Heartbeat LED)

1. Set the Installer keypad to address 0.
2. Connect it to the control panel.
3. 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.
4. 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.

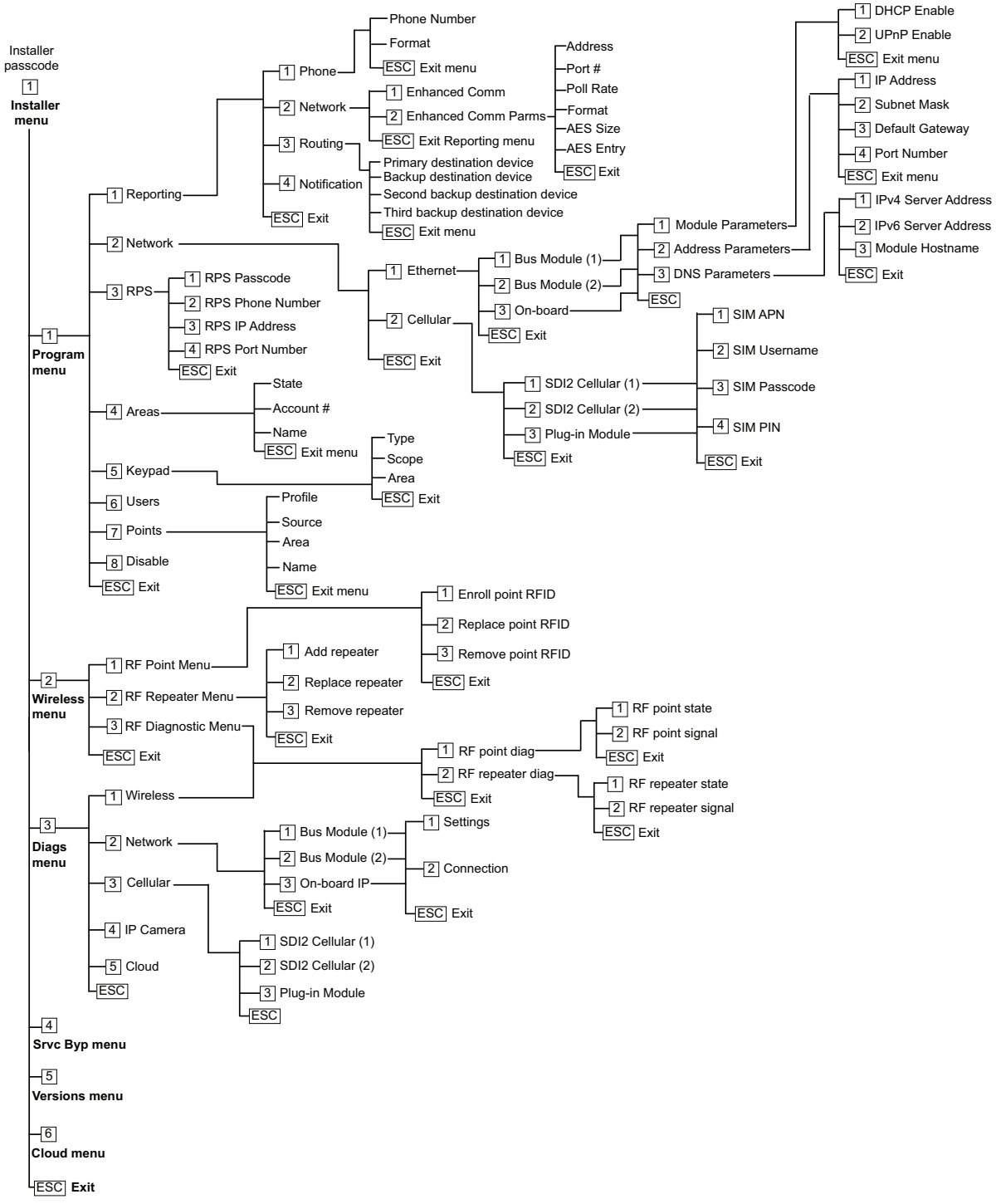
The control panel resets.

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, when applicable.
- 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, this section does not have the B920 instructions of Press [2] for enhanced comm parameters, and for the B930 instructions of Press [2] **Enhanced Comm Parms**. It has the following more general instructions for all keypads: Press [2] **Enhanced Comm Parms**.
- Go to [1] **Programming Menu** > [1] **Reporting** > [2] **Network** > [2] **Enhanced Comm Parms**.

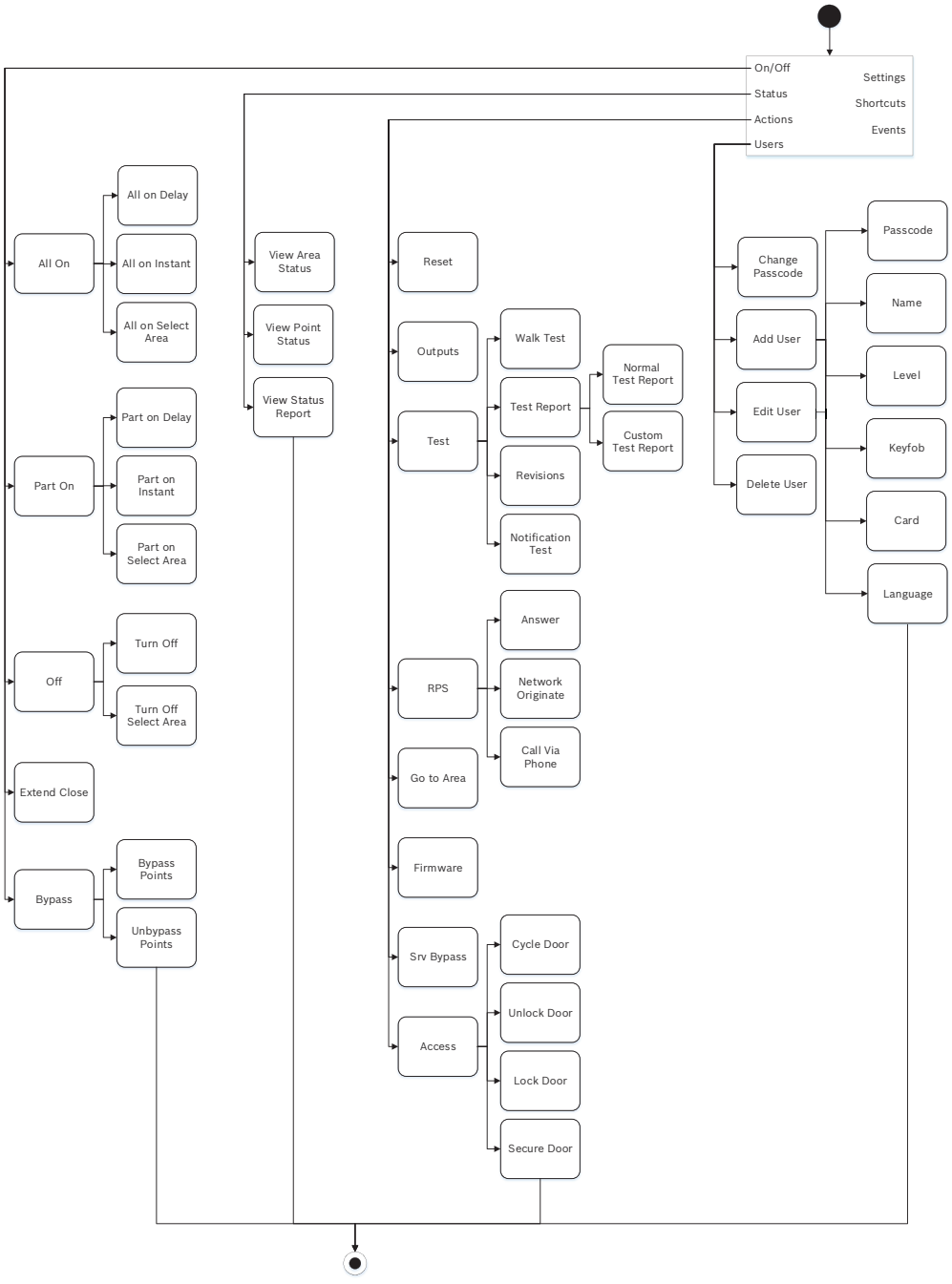
Installer menu tree

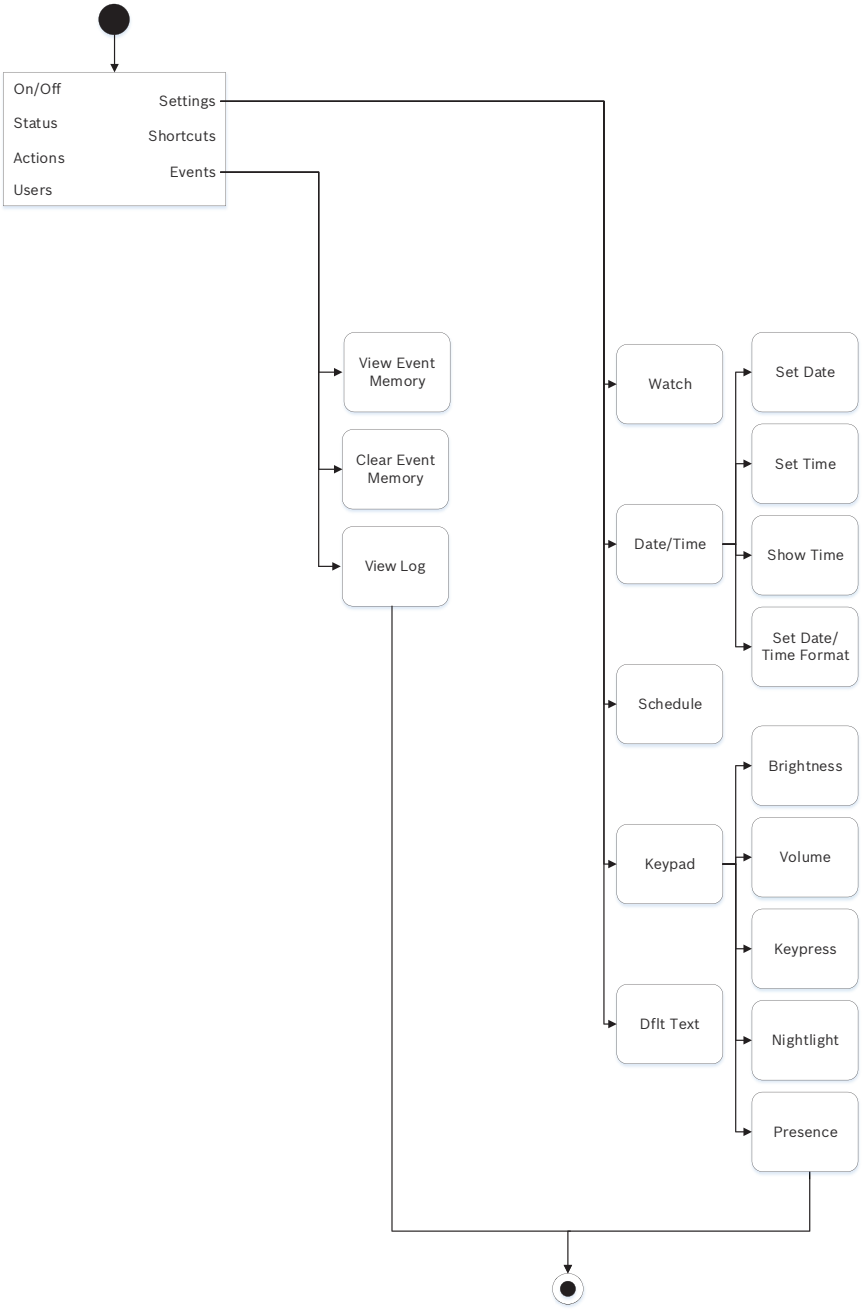


User menu trees

Menu tree

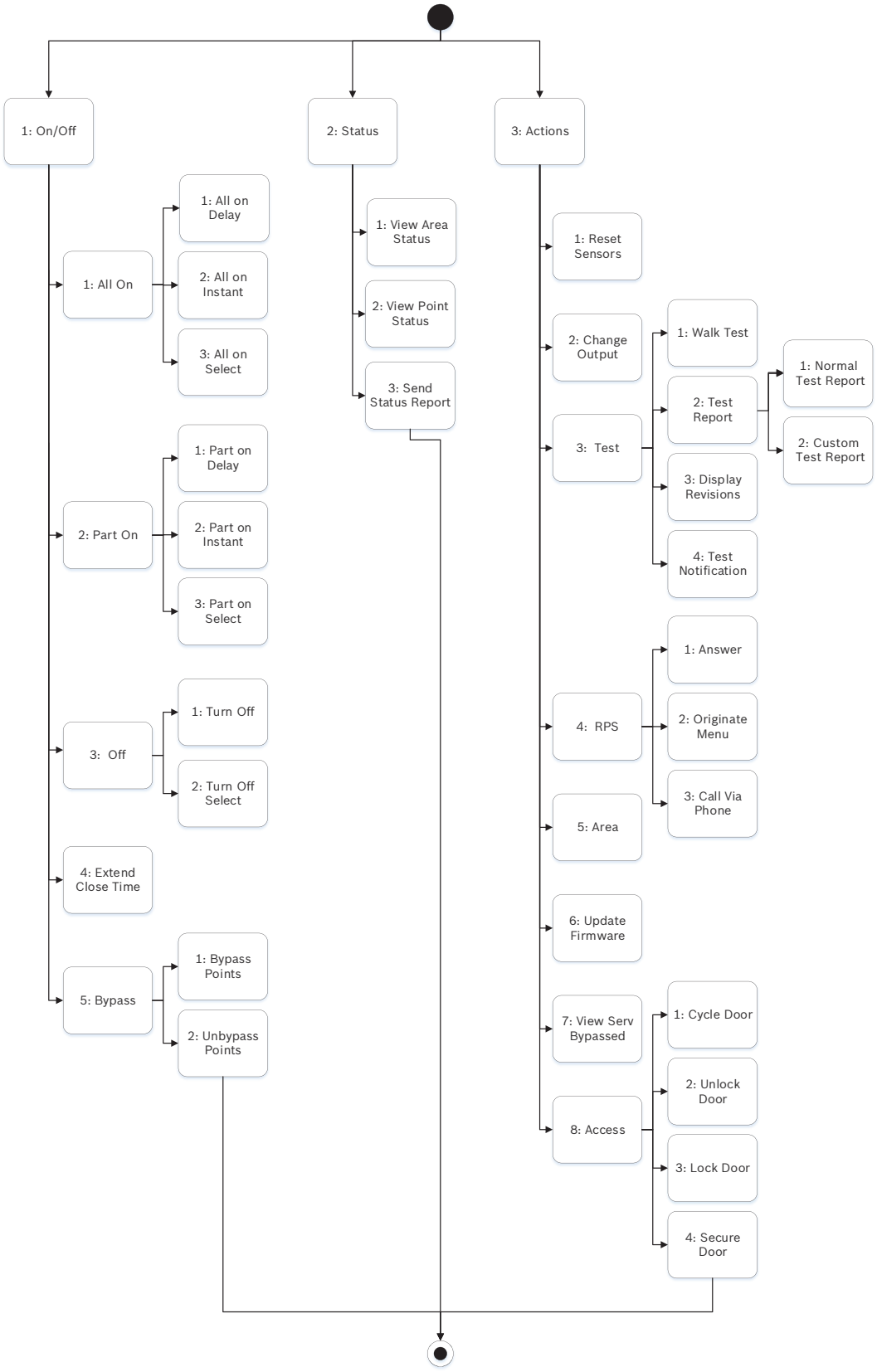
The following graphics show the menu tree for the B94x / B93x keypads.

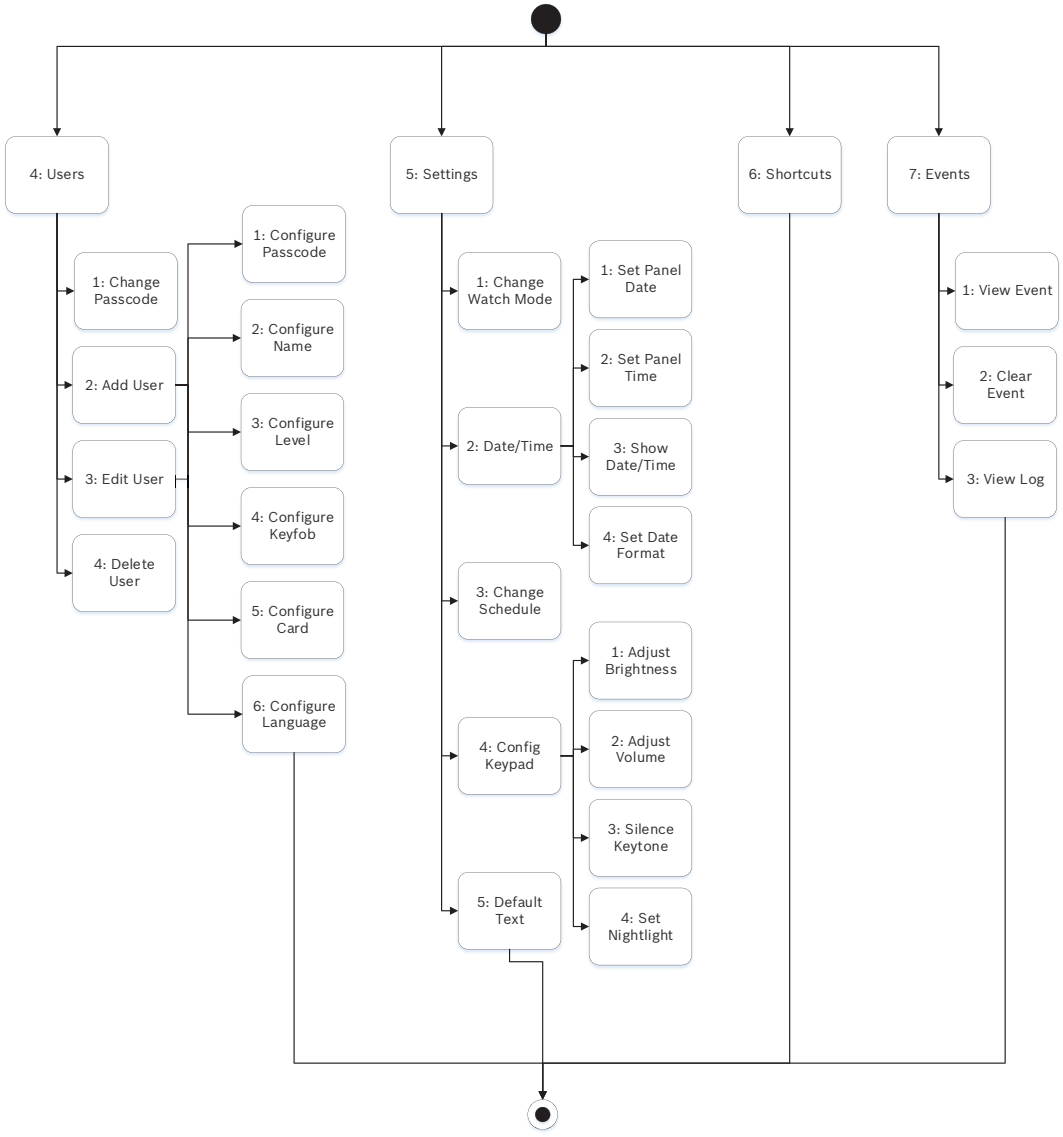

On/Off
Status
Actions
Users
Settings
Shortcuts
Events
All On
All on Delay
All on Instant
All on Select Area
Part On
Part on Delay
Part on Instant
Part on Select Area
Off
Turn Off
Turn Off Select Area
Extend Close
Bypass
Bypass Points
Unbypass Points
View Area Status
View Point Status
View Status Report
Reset
Outputs
Test
Walk Test
Test Report
Revisions
Notification Test
Normal Test Report
Custom Test Report
RPS
Answer
Network Originate
Call Via Phone
Go to Area
Firmware
Srv Bypass
Access
Cycle Door
Unlock Door
Lock Door
Secure Door
Change Passcode
Add User
Edit User
Delete User
Passcode
Name
Level
Keyfob
Card
Language



Menu tree

The following graphics show the menu tree for the B92x / B91x keypads.


1: On/Off
2: Status
3: Actions
1: All On
1: All on Delay
2: All on Instant
3: All on Select
2: Part On
1: Part on Delay
2: Part on Instant
3: Part on Select
3: Off
1: Turn Off
2: Turn Off Select
4: Extend Close Time
5: Bypass
1: Bypass Points
2: Unbypass Points
1: View Area Status
2: View Point Status
3: Send Status Report
1: Reset Sensors
2: Change Output
3: Test
1: Walk Test
2: Test Report
1: Normal Test Report
2: Custom Test Report
3: Display Revisions
4: Test Notification
4: RPS
1: Answer
2: Originate Menu
3: Call Via Phone
5: Area
6: Update Firmware
7: View Serv Bypassed
8: Access
1: Cycle Door
2: Unlock Door
3: Lock Door
4: Secure Door



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.
- Save. B91x/B92x keypads typically use **Enter** to save. The B93x/B94x keypads typically use **Save** to save. The B94x keypad uses the key to save from the Qwerty keyboard.

– Special characters. For entering special characters on B91x/B92x keypads, refer to the following table. 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 ←/**Previous** 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.

***B915I keys**

The B915I keypad uses the following icons, instead of words, on hard keys. All instructions in this section refer to the word key without specifying the B915I icon.

B915 key	BB915I key
[PREV]	[▲]
[ENTER]	[-]
[NEXT]	[▼]
[ESC]	[*]
[CMD]	[#]

20.1 [1] Program menu (Programming)

With the **Program menu** (**Programming Menu**), you can program parameters to make your system operational, including phone number and format, enhanced communication options, primary and backup destination devices, 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

1. Enter the installer passcode, and then go the [1] **Installer Menu**.
2. Go to [1] **Programming Menu** > [1] **Reporting** > [1] **Phone**. The keypad shows the phone number and phone format for the phone destination.
3. Use ←/**Previous** or →/**Next** to go to the destination you want to edit.
4. Depending on keypad model:

Press **Edit**.

-or-

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** or **Save** to save the phone number. The keypad shows **Parameter saved**.
7. Escape from the menu.

Phone Format

1. Enter the installer passcode, and then go the [1] **Installer Menu**.
2. Go to [1] **Programming Menu** > [1] **Reporting** > [1] **Phone**. The keypad shows the phone number and phone format for the phone destination.
3. Use ←/**Previous** or →/**Next** to go to the destination you want to edit.
4. Depending on keypad model:
   Press **Enter** to edit the phone destination, and then press **Next** to go to the format option, and then press **Enter** to edit the phone format for the selected destination.
5. Press **Format** and then **Edit**. Use ←/**Previous** or →/**Next** to toggle between the **Contact ID** and **Modem4** option, and press **Format** while viewing the desired format to select it and save the programming. The keypad shows **Parameter saved**.
6. 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

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [1] **Programming Menu** > [1] **Reporting** > [2] **Network** > [1] **Enhanced Comm**. The keypad shows the **Enhanced Comm** option as well as the current default value.
3. Depending on keypad model:
   Press **Enter** and then press **Disable** or **Enable**.
   -or-
   Press **Enter**.
   Press **Save** or **Enter**. The keypad shows **Parameter saved**.
4. Escape from the menu.

Network Address

Port Number

Poll Rate (seconds)
Format
AES Size
AES Entry

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [1] **Programming Menu** > [1] **Reporting** > [2] **Network** > [2] **Enhanced Comm Parms**. The keypad shows the first destination and its address.
3. Use /**Previous** or /**Next** to the destination you want to edit.
4. Depending on keypad model:
   Press **Edit**.
   -or-
   Press **Enter** and **Enter** again.
5. Delete existing characters, if necessary, and then enter the new address.
6. Press **Save** or **Enter**. The keypad shows **Parameter saved**.
7. Depending on keypad model:
   Press **Port #** and **Edit**.
   -or-
   Press **Next** and **Enter** and then **Enter**.
8. Delete existing characters, if necessary, and then enter the new number.
9. Press **Save** or **Enter**. The keypad shows **Parameter saved**.
10. Depending on keypad model:
    Press **Poll Rate** and **Enter**.
    -or-
    Press **Next** and **Enter** and then **Enter**.
11. Delete existing characters, if necessary, and then enter the new poll rate.
12. Press **Save** or **Enter**. The keypad shows **Parameter saved**.
13. Depending on keypad model:
    Press **Format** and **Edit**.
    -or-
    Press **Next** and **Enter** and then **Enter**.
14. Press the icon or softkey for the desired option or use /**Previous** or /**Next** to select the desired format, **Modem4** or **Contact ID**.
15. Press **Save** or **Enter**. The keypad shows **Parameter saved**.
16. Depending on keypad model:
    Press **AES Size** and **Edit**.
    -or-
    Press **Next** and **Enter** and then **Enter**.
17. Press the softkey for the desired option or use /**Previous** or /**Next** to select the desired size.
18. Press **Save** or **Enter**. The keypad shows **Parameter saved**.
19. Escape from the menu.

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

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

The 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 destination device	No Device	_____	_____	_____	_____
Backup destination device	No Device	_____	_____	_____	_____
Second backup destination device	No Device	_____	_____	_____	_____
Third backup destination device	No Device	_____	_____	_____	_____

Primary destination device

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [1] **Programming Menu** > [1] **Reporting** > [3] **Routing**.
3. Use ←/**Previous** or →/**Next** to scroll through the list of routes and go to the route you want to program.
4. Press **Edit** or **Enter** to edit the route.
5. Use ←/**Previous** or →/**Next** to scroll through the list of destinations and go to the destination device you want to select for the primary destination device. To keep the primary destination device, escape from the menu. To change to a different destination device, press **Edit Destination**.
6. Press **Save** or **Enter**. The keypad shows **Parameter saved**.
7. Escape from the menu.

Backup destination device, second backup destination device, and third backup destination device

Notice!
You can select the backup destination device only after you select a primary destination device.
You can select the second backup destination device only after you select the backup destination device.
You can select the third backup destination device only after you select the second backup destination device.

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [1] **Programming Menu** > [1] **Reporting** > [3] **Routing**.
3. Use ←/**Previous** or →/**Next** to scroll through the list of routes and go to the route you want to program.
4. Press **Edit** or **Enter** to edit the route.
5. Use ←/**Previous** or →/**Next** to scroll through the list of destination devices and go to the destination device you want to select for the backup destination device. To keep the backup destination device, escape from the menu. To change to a different destination device, press **Edit Destination**.

6. Press **Save** or **Enter**. The keypad shows **Parameter saved**.
7. Repeat step 5 and 6 for the second backup destination device and the third backup destination device.
8. 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 _____

Personal Note

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [1] **Programming Menu** > [1] **Reporting** > [4] **Personal Note**. The keypad shows the phone number or email address of the selected personal notification destination.
3. Use ←/**Previous** or →/**Next** to scroll through the list of destinations and go to the destination you want to program.
4. Press **Edit** or **Enter** to edit the phone number or email address.
5. Delete existing characters, if necessary, and then enter the new characters.
6. Press **Save** or **Enter**. The keypad shows **Parameter saved**.

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

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [1] **Programming Menu** > [2] **Network** > [1] **Ethernet** > (choose the bus module or on-board) > [1] **Module Parameters** > [1] **DHCP Enable**. The keypad shows the DHCP/AutoIP current configuration.
3. Depending on the keypad model:
   Press **Yes** or **No**.
   -or-

Press **Enter** to edit the DHCP/AutoIP Enable configuration for the module. Use **Previous** or **Next** to toggle between **Yes** and **No**..

4. Press **Save** or **Enter**. The keypad shows **Parameter saved**.
5. Escape from the menu.

UPnP Enable

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [1] **Programming Menu** > [2] **Network** > [1] **Ethernet** > (choose the bus module or on-board) > [1] **Module Parameters** > [2] **UPnP Enable**. The keypad shows the UPnP current configuration.
3. Depending on the keypad model:
   Press **Yes** or **No**.
   -or-
   Press **Enter** to edit the UPnP Enable configuration for the module. Use **Previous** or **Next** to toggle between **Yes** and **No**..
4. Press **Save** or **Enter**. The keypad shows **Parameter saved**.
5. Escape from the menu.

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

IPv4 Address

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [1] **Programming Menu** > [2] **Network** > [1] **Ethernet** > (choose the bus module or on-board) > [1] **Module Parameters** > [2] **Address Parameters** > [1] **IP Address**.
3. Press **Edit** or **Enter** to edit the IP address.
4. Delete the existing number, if necessary, and then enter the new number. Use ←/**Previous** or →/**Next** to move through the different bytes.
5. Press **Save** or **Enter**. The keypad shows **Parameter saved**.
6. Escape from the menu.

IPv4 Subnet Mask

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [1] **Programming Menu** > [2] **Network** > [1] **Ethernet** > (choose the bus module or on-board) > [1] **Module Parameters** > [2] **Subnet Mask**.
3. Press **Edit** or **Enter** to edit the subnet mask address.
4. Delete the existing number, if necessary, and then enter the new number. Use ←/**Previous** or →/**Next** to move to a different byte.
5. Press **Save** or **Enter**. The keypad shows **Parameter saved**.
6. Escape from the menu.

Default Gateway

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [1] **Programming Menu** > [2] **Network** > [1] **Ethernet** > (choose the bus module or on-board) > [2] **Address Parameters** > [3] **Default Gateway**.
3. Press **Edit** or **Enter** to edit the gateway.
4. Delete the existing number, if necessary, and then enter the new number. Use ←/**Previous** or →/**Next** to move to a different byte.
5. Press **Save** or **Enter**. The keypad shows **Parameter saved**.

6. Escape from the menu.

HTTP Port Number

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [1] **Programming Menu** > [2] **Network** > [1] **Ethernet** > (choose the bus module or on-board) > [2] **Address Parameters** > [4] **Port Number**.
3. Press **Edit** or **Enter** to edit the port number.
4. Delete the existing number, if necessary, and then enter the new number.
5. Press **Save** or **Enter**. The keypad shows **Parameter saved**.
6. 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

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [1] **Programming Menu** > [2] **Network** > [1] **Ethernet** > (choose the bus module or on-board) > [3] **DNS Parameters** > [1] **IPv4 Server Addr**. The keypad shows the IPv4 Server Address current configuration.
3. Press **Edit** or **Enter** to edit the IPv4 Server Address.
4. Delete the existing number, if necessary, and then enter the new number. Use ←/**Previous** or →/**Next** to move to a different byte.
5. Press **Save** or **Enter**. The keypad shows **Parameter saved**.
6. Escape from the menu.

IPv6 Server Address

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [1] **Programming Menu** > [2] **Network** > [1] **Ethernet** > (choose the bus module or on-board) > [3] **DNS Parameters** > [2] **IPv6 Server Addr**. The keypad shows the IPv6 Server Address current configuration.
3. Press **Edit** or **Enter** to edit the IPv6 Server Address.
4. Delete the existing number, if necessary, and then enter the new number. Use ←/**Previous** or →/**Next** to move to a different byte.
5. Press **Save** or **Enter**. The keypad shows **Parameter saved**.
6. Escape from the menu.

Module Hostname

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [1] **Programming Menu** > [2] **Network** > [1] **Ethernet** > (choose the bus module or on-board) > [3] **DNS Parameters** > [3] **Module Hostname**. The keypad shows the current hostname.
3. Press **Edit** or **Enter** to edit the hostname.
4. Delete the existing number, if necessary, and then enter the new number. Use ←/**Previous** or →/**Next** to move to a different byte.
5. Press **Save** or **Enter**. The keypad shows **Parameter saved**.
6. 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 1 settings	Module 2 settings
Access Point Name	_____	_____
Access Pt Username	_____	_____
Access Pt Passcode	_____	_____
SIM PIN	_____	_____

Access Point Name

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [1] **Programming Menu** > [2] **Network** > [2] **Cellular** > (choose the SDI2 cellular module or plug-in module) > [1] **Access Point Name**. The keypad shows the current configuration.
3. Press **Edit** or **Enter** to edit the configuration.
4. Delete existing characters, if necessary, and then enter the new characters.
5. Press **Save** or **Enter**. The keypad shows **Parameter saved**.

Access Pt Username

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [1] **Programming Menu** > [2] **Network** > [2] **Cellular** > (choose the SDI2 cellular module or plug-in module) > [2] **Access Pt Username**. The keypad shows the current configuration.
3. Press **Edit** or **Enter** to edit the configuration.
4. Delete existing characters, if necessary, and then enter the new characters.
5. Press **Save** or **Enter**. The keypad shows **Parameter saved**.

Access Pt Passcode

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [1] **Programming Menu** > [2] **Network** > [2] **Cellular** > (choose the SDI2 cellular module or plug-in module) > [3] **Access Pt Password**. The keypad shows the current configuration.
3. Press **Edit** or **Enter** to edit the configuration.
4. Delete existing characters, if necessary, and then enter the new characters.
5. Press **Save** or **Enter**. The keypad shows **Parameter saved**.

SIM PIN

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [1] **Programming Menu** > [2] **Network** > [2] **Cellular** > (choose the SDI2 cellular module or plug-in module) > [4] **SIM PIN**. The keypad shows the current configuration.
3. Press **Edit** or **Enter** to edit the configuration.
4. Delete existing characters, if necessary, and then enter the new characters.
5. Press **Save** or **Enter**. The keypad shows **Parameter saved**.

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

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [1] **Programming Menu** > [3] **RPS** > [1] **RPS Passcode**.
3. Press **Edit** or **Enter** to edit the RPS passcode.
4. Delete the existing number, if necessary, and enter the new number.
5. Press **Save** or **Enter**. The keypad shows **Parameter saved**.
6. 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 or the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China). In this menu, you can program the RPS phone number.

RPS Phone Number

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [1] **Programming Menu** > [3] **RPS** > [2] **RPS Phone Number**.
3. Press **Edit** or **Enter** to edit the RPS phone number.
4. Delete the existing number, if necessary, and then enter the new number.
5. Press **Save** or **Enter**. The keypad shows **Parameter saved**.
6. 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 or the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China). In this menu, you can program the IPv4 address or hostname for RPS or Installer Services Portal programming tool communication.

RPS IP Address

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [1] **Programming Menu** > [3] **RPS** > [3] **RPS IP Address**.
3. Depending on keypad model:
   Press **Edit as IPv4** for an IP address, or **Edit as Name** for a hostname.
   -or-
   Use **Previous** 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.
4. Delete the existing characters, if necessary, and enter the new characters. For an IPv4 address, use ←/**Previous** 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.
5. Press **Save** or **Enter**. The keypad shows **Parameter saved**.
6. 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 or Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China) session requests to the specified IP address.

RPS Port Number

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [1] **Programming Menu** > [3] **RPS** > [4] **RPS Port Number**.
3. Press **Edit** or **Enter** to edit the RPS port number.
4. Delete the existing number, if necessary, and then enter the new number.
5. Press **Save** or **Enter**. The keypad shows **Parameter saved**.
6. 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 State

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [1] **Programming Menu** > [4] **Areas**.
3. Use ←/**Previous** or →/**Next** to go to the desired area.
4. Depending on keypad model:
   Press **Edit** and then **Yes** or **No**.
   -or-
   Press **Enter** to edit the area and **Enter** to edit the Area On state for the selected area. Use **Previous** or **Next** to toggle between the **Yes** and **No** options.
5. Press **Save** or **Enter**. The keypad shows **Parameter saved**.
6. Escape from the menu.

Area Account Number

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [1] **Programming Menu** > [4] **Areas**.
3. Use ←/**Previous** or →/**Next** to go to the desired area.
4. Depending on keypad model:
   Press **Account #** and then **Edit**.
   -or-
   Press **Enter** to edit the area, and then press **Next** to go to the account number option. Press **Enter** to edit the account number for the selected area.
5. Delete existing characters, if necessary, and then enter the new characters.
6. Press **Save** or **Enter**. The keypad shows **Parameter saved**.
7. Escape from the menu.

Area Account Name

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [1] **Programming Menu** > [4] **Areas**.
3. Use ←/**Previous** or →/**Next** to go to the desired area.
4. Depending on keypad model:
   Press **Account #** and then **Name** and then **Edit**.
   -or-
   Press **Enter** to edit the area, and then press **Next** and **Next** to go to the account name option. Press **Enter** to edit the account name for the selected area.
5. Delete existing characters, if necessary, and then enter the new characters.
6. Press **Save** or **Enter**. The keypad shows **Parameter saved**.
7. 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 and assign it to an area.

The control panels provide up to the following number of keypads:

– B9512G. 32, including up to 16 SDI keypads
– B8512G. 16, 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
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

	Type (Circle one)	**Scope (Circle one)**
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

Area

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [1] **Programming Menu** > [5] **Keypad**.

3. Use ←/**Previous** or →/**Next** to go to the desired keypad.
4. Press **Edit** or **Enter** to edit the type.
5. Depending on keypad model:
   Press the icon or softkey for the desired type.
   -or-
   Use **Previous** or **Next** to go to the desired type.
6. Press **Save** or **Enter**. The keypad shows **Parameter saved** and then asks if you would like to edit the scope.
7. Press **Edit** or **Enter** to edit the type.
8. Depending on keypad model:
   Press the icon or softkey for the desired scope.
   -or-
   Use **Previous** or **Next** to go to the desired scope.
9. Press **Save** or **Enter**. The keypad shows **Parameter saved** and then asks if you would like to edit the area.
10. Press **Edit** or **Enter** to edit the type.
11. Depending on keypad model:
    Press the icon or softkey for the desired area.
    -or-
    Use **Previous** or **Next** to go to the desired area.
12. Press **Save** or **Enter**. The keypad shows **Parameter saved**.
13. 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)

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [1] **Programming Menu** > [6] **Users**. The keypad shows the Installer passcode.
3. Use ←/**Previous** or →/**Next** to toggle between user 000 (service user) and user 001 and go to the user you want to edit.
4. Press **Edit** or **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 **Save** or **Enter**. The keypad shows **Parameter saved**.
7. 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 Profile to each point. The Point Source parameter assigns the point to a device (on-board, Octo-input, and wireless are examples). The 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 Profile selections
Assign a Point Profile to a point by selecting the Point Profile number. The tables below show the Point Profile number and default configuration for each Point Profile. You must use RPS or the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China) to configure the Point Profile parameters.

Point Profiles 1 through 8

Point Profile Text defaults (the second language text defaults are blank):

Point Profile Number	**Default Text (first language)**
Point Profile 1	24-hr Instant on Open/Short
Point Profile 2	24-hr Invisible/Sil on Short
Point Profile 3	Pull Station
Point Profile 4	Smoke Detector
Point Profile 5	Smoke Detector w/Verification
Point Profile 6	Bell Supervision - D192G
Point Profile 7	Part On: Instant
Point Profile 8	Part On: Delay

Point Profile Number	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Point Profile Text (1st language)	24-hr Instant	24-hr Invisible/	Pull Station	Smoke Detector	Smoke Detector	Bell Supervisi	Part On: Instant	Part On: Delay
Point Profile 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**

Point Profile Number	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
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**
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 Profiles 9 through 16

Point Profile Text defaults (the second language text defaults are blank):

Point Profile Number	**Default text (first language)**
Point Profile 9	Part Instant, Local Disarmed, Buzz
Point Profile 10	Interior: Instant
Point Profile 11	Interior: Delay
Point Profile 12	Interior: Instant, Local Disarmed
Point Profile 13	Interior: Follower
Point Profile 14	Maintained Keyswitch
Point Profile 15	Momentary Keyswitch
Point Profile 16	Point Opening/Closing

Point Profile Number	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Point Profile Text (1st language)	Part Instant	Interior: Instant	Interior: Delay	Interior: Instant	Interior: Follower	Maintain-ed Key	Moment-ary Key	Point Opening/

Point Profile Number	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Point Profile Text (2nd language)	(blank)	(blank)	(blank)	(blank)	(blank)	(blank)	(blank)	(blank)
Point Type / Response / Circuit Style	Part On	Interior	Interior	Interior	Interior Follower	Keyswitch Maintained	Keyswitch Momentary	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**
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

Point Profile Number	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Delay Response Armed	00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00

Point Profiles 17 through 24

Point Profile Text defaults (the second language text defaults are blank):

Point Profile 17 Gas

Point Profile 18 Gas: Supervisory

Point Profile 19 Aux AC Supervision

Point Profile 20 Part On: Watch Off

Point Profile 21 Part On: POPIT Motion

Point Profile 22 Fire Supervisory on Open

Point Profile 23 Non-Fire Supervisory Open

Point Profile 24 Local: Buzz on Fault

Point Profile #	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**
Point Profile 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 Profile 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 Profiles 26 through 63

Point Profile Text defaults (the second language text defaults are blank):

Point Profile 25	Part On: Delay Watch Off
Point Profile 26	Part On: Instant (2)
Point Profile 27	Part On: Delay (2)
Point Profile 28	Interior: Follower (2)
Point Profile 29	Interior: Instant (2)
Point Profile 30	Interior: Delay (2)
Point Profile 31	24-hr Inst. Open/Short, no Abort
Point Profile 32	Run Custom Function
Point Profiles 33-63 (B9512G only)	Profile [33 to 63]

Point Profile #	**25**	**26**	**27**	**28**	**29**	**30**	**31***	**32**
Point Profile 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 Profile 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 Profiles 33 through 63** are supported by the B9512 only, and have the same defaults as Point Profile 31.								

Point worksheet								
Point #	**Point Source**	**Point Profile**	**Area Assign**		**Point #**	**Point Source**	**Point Profile**	**Area Assign**

001	Onboard	(3) ___	(1)	__
002	Onboard	(1) ___	(1)	__
003	Onboard	(25) ___	(1)	__
004	Onboard	(13) ___	(1)	__
005	Onboard	(7) ___	(1)	__
006	Onboard	(7) ___	(1)	__
007	Onboard	(7) ___	(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)	__
____		___	(1)	__
____		___	(1)	__
____		___	(1)	__
____		___	(1)	__
____		___	(1)	__
____		___	(1)	__
____		___	(1)	__

Caution!
Any points programmed as fire supervisory points are latching.

Point Profile
Point Source
Point Area
Point Name

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [1] **Programming Menu** > [7] **Points**.
3. Enter the point number and press **Enter**, or use ←/**Previous** or →/**Next** to go to the desired point.
4. Press **Edit** or **Enter** to edit the profile for the selected point.
5. Use ←/**Previous** or →/**Next** to go the desired profile.
6. Press **Save** or **Enter**. The keypad shows **Parameter saved**.
7. Press **Source** or use →/**Next** to go to the source option.
8. Press **Edit** or **Enter** to edit the source for the selected point.
9. Use ←/**Previous** or →/**Next** to go the desired source.
10. Press **Save** or **Enter**. The keypad shows **Parameter saved**.
11. Press **Area** or use →/**Next** to go to the area option.
12. Press **Edit** or **Enter** to edit the area for the selected point.
13. Use ←/**Previous** or → /**Next** to go the desired area.
14. Press **Save** or **Enter**. The keypad shows **Parameter saved**.
15. Press **Name** or use →/**Next** to go to the source option.
16. Press **Edit** or **Enter** to edit the name for the selected point.
17. Delete the existing characters, if necessary, and enter the new characters.
18. Press **Save** or **Enter**. The keypad shows **Parameter saved**.

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.

Notice!
You can continue using the current programming session. Disabling Keypad Programming applies once you exit the current session.

Keypad Programming

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [1] **Programming Menu** > [8] **Disable**. The keypad shows that programming is enabled.
3. Depending on keypad model:
   Press **Edit** and then press **No**.
   -or-
   Press **Enter** and then press **Next** to view the **No** option.
4. Press **Save** or **Enter**. The keypad shows **Parameter saved**.
5. 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, you can enroll RF devices into the system as a specified wireless points. In this menu, you can enroll RFID points.

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 ←/**Previous** or →/**Next** to scroll through 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** or **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 indicates that the 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

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 ←/**Previous** or →/**Next** to scroll through 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 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 indicates that the point was replaced, escape from the menu.
7. Verify the RFID shown on the keypad matches the RFID label on the activated device.

20.2.3 [1] RF Point Menu> [3] Remove Point RFID

In this menu, you can remove RFID points.

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 ←/**Previous** or →/**Next** to scroll through the list of wireless points, and go to the point for which you want to remove, or simply enter the point number.
4. Press **Remove** or **Enter** to remove the device. The keypad 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

1. Ensure that the repeater is in a normal state.
2. Enter the installer passcode, and then open the [1] **Installer Menu**.
3. Go to [2] **Wireless** > [2] **RF Repeater Menu** > [1] **Add Repeater**. The keypad lists any repeaters.
4. Use /**Previous** or /**Next** to scroll through the list, and go to the repeater number for which you want to add a repeater, or enter the repeater number. Start with address 8 before adding additional repeaters.
5. Press **Enter** to add the repeater. The keypad instructs you to tamper the repeater.
6. Initiate discovery on a RADION repeater by opening the cover, or press the RESET button on an Inovonics repeater.
7. When the keypad indicates that the repeater was 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

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 /**Previous** or /**Next** to scroll through 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 indicates that the repeater was 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

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 /**Previous** or /**Next** to scroll through 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.

20.2.7 [3] RF Diagnostic Menu > [1] RF Points

You can obtain certain wireless point diagnostic information using a keypad and this menu.

Point State

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [2] **Wireless** > [3] **RF Diagnostic Menu** > [1] **RF Point Diagnostic** > [1] **Point State**.

3. Use **Previous** or **Next** to scroll through 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.

Point Signal

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [2] **Wireless** > [3] **RF Diagnostic Menu** > [1] **RF Point Diagnostic** > [2] **Point Signal**.
3. Use **Previous** or **Next** to scroll through 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.

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.

Repeater State

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] **Repeater State**.
3. Use **Previous** or **Next** to scroll through 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**.
5. When finished viewing the information, escape from the menu.

Repeater Signal

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] **Repeater Signal**.
3. Use **Previous** or **Next** to scroll through 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.

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 155* and *[3] RF Diagnostic Menu > [2] RF Repeater Menu, page 156*.

20.3.2 [2] Network menu

Use the Network menu to view information about the control panel’s network connection.

Settings

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [3] **Diagnostics Menu** > [2] **Network** > (choose the bus module or on-board) > [1] **Settings**. The keypad the following sub-categories, indicating the programming for: **Host Name:**, **IPv4 Source IP:**, **IPv6 Source IP:**, **MAC Addr:**. (Use →/**Next** to scroll through, if necessary.)
3. When finished viewing the information, escape from the menu.

Connection

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [3] **Diagnostics Menu** > [2] **Network** > (choose the bus module or on-board) > [2] **Connection**.The keypad scrolls through the following sub-categories, indicating the connection status for: **Link**, **IP Address**, **DNS**, **LAN**, **WAN**. (Use →/**Next** to scroll through, if necessary.)
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)

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [3] **Diagnostics Menu** > [3] **Cellular** > (choose the SDI2 cellular module or plug-in module). The keypad scrolls through the following sub-categories, indicating the diagnostic information. (Use →/**Next** to scroll through, if necessary.)
   – **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

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [3] **Diagnostics 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

Cloud

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [3] **Diagnostics Menu** > [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] Service Bypass (Serv Byp) menu

In this menu, you can edit the Service Bypass points.

Service Bypass

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [4] **Service Bypass**. 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.

20.5 [5] Versions menu

Use the Versions menu to view control panel version information.

Versions

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [5] **Versions**.
3. Depending on keypad model:
   Press the icon or softkey for the item for which you want view the version.
   -or-
   Use **/Previous** or **/Next** to scroll through the list of items for which you can view the version. Press **Enter** to view the version.
4. 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

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** or **Enter** (or escape from the menu to exit without making a change).
4. Use **/Next** to go to the desired option.
5. Press **Save** or **Enter**. The keypad shows **Parameter saved** and 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

1. Enter the installer passcode, and then open the [1] **Installer Menu**.
2. Go to [7] **USB Power**. The keypad shows the current status, **USB Power is on** or **USB Power is off**.
3. Depending on keypad model:
   Press the icon or softkey for the desired option.
   -or-
   Press **Enter** to change the status.
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.
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* for the current draw requirements of other system components.		
Power outputs	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 *RPS Help* or in the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China) *Help*.	
	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 the *RPS Help*, in the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China) *Help*, or in 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.

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:	12 VDC nominal (7500 ft) maximum[2]

	SDI2 bus B:	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, B930, B921C, B920, B915/B915I, D1260, D1257/D1257RB, D1256/D1256RB, D1255/D1255R/D1255RB, 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 to 14 AWG (1.02 mm to 1.8 mm)
2	AC	18 AWG to 14 AWG (1.02 mm to 1.8 mm)

3	+ AUX POWER	Terminal accommodates 22 AWG to 14 AWG (0.65 mm to 1.8 mm), 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 22 AWG to 14 AWG (0.65 mm to 1.8 mm), use appropriate wire size based on current
7	Output B (2)	
8	Output C (3)	
9	COMMON	
10	EARTH GROUND	16 AWG to 14 AWG (1.5 mm to 1.8 mm)
11	POINT 1	Terminal accommodates 22 AWG to 14 AWG (0.65 mm to 1.8 mm), use appropriate wire size based on loop resistance less than 100 Ω
12	POINT 1/2 COMMON	Terminal accommodates 22 AWG to 14 AWG (0.65 mm to 1.8 mm), use appropriate wire size based on loop resistance less than 100 Ω
13	POINT 2	Terminal accommodates 22 AWG to 14 AWG (0.65 mm to 1.8 mm), use appropriate wire size based on loop resistance less than 100 Ω
14	POINT 3	Terminal accommodates 22 AWG to 14 AWG (0.65 mm to 1.8 mm), use appropriate wire size based on loop resistance less than 100 Ω
15	POINT 3/4 COMMON	Terminal accommodates 22 AWG to 14 AWG (0.65 mm to 1.8 mm), use appropriate wire size based on loop resistance less than 100 Ω
16	POINT 4	Terminal accommodates 22 AWG to 14 AWG (0.65 mm to 1.8 mm), use appropriate wire size based on loop resistance less than 100 Ω
17	POINT 5	Terminal accommodates 22 AWG to 14 AWG (0.65 mm to 1.8 mm), use appropriate wire size based on loop resistance less than 100 Ω
18	POINT 5/6 COMMON	Terminal accommodates 22 AWG to 14 AWG (0.65 mm to 1.8 mm), use appropriate wire size based on loop resistance less than 100 Ω
19	POINT 6	Terminal accommodates 22 AWG to 14 AWG (0.65 mm to 1.8 mm), use appropriate wire size based on loop resistance less than 100 Ω
20	POINT 7	Terminal accommodates 22 AWG to 14 AWG (0.65 mm to 1.8 mm), use appropriate wire size based on loop resistance less than 100 Ω

21	POINT 7/8 COMMON	Terminal accommodates 22 AWG to 14 AWG (0.65 mm to 1.8 mm), use appropriate wire size based on loop resistance less than 100 Ω
22	POINT 8	Terminal accommodates 22 AWG to 14 AWG (0.65 mm to 1.8 mm), 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 22 AWG to 14 AWG (0.65 mm to 1.8 mm), use appropriate wire size based on peripheral device current
24	SDIx DATA BUS B	22 AWG to 14 AWG (0.65 mm to 1.8 mm)
25	SDIx DATA BUS A	
26	SDIx POWER	Terminal accommodates 22 AWG to 14 AWG (0.65 mm to 1.8 mm), use appropriate wire size based on peripheral device current
27	SDI2 COMMON	Terminal accommodates 22 AWG to 14 AWG (0.65 mm to 1.8 mm), use appropriate wire size based on peripheral device current
28	SDI2 DATA BUS B	22 AWG to 14 AWG (0.65 mm to 1.8 mm)
29	SDI2 DATA BUS A	
30	SDI2 POWER	Terminal accommodates 22 AWG to 14 AWG (0.65 mm to 1.8 mm), use appropriate wire size based on peripheral device current

22 Appendix

This section has information on the following:

– *Address settings, page 164*
– *Reporting and device number information, page 172*
– *AutoIP, page 183*

22.1 Address settings

This section includes address and switch settings for compatible modules.

22.1.1 B208 address settings

The B9512G supports up to 59 B208 Octo-input modules.

The B8512G supports up to 9 modules.

B208 address number	B9512G point numbers	B8512G point numbers
1	11 - 18	11 - 18
2	21 - 28	21 - 28
3	31 - 38	31 - 38
4	41 - 48	41 - 48
5	51 - 58	51 - 58
6	61 - 68	61 - 68
7	71 - 78	71 - 78
8	81 - 88	81 - 88
9	91 - 98	91 - 98
10	101 - 108	
11	111 - 118	
12	121 - 128	
13	131 - 138	
14	141 - 148	
15	151 - 158	
16	161 - 168	
17	171 - 178	
18	181 - 188	
19	191 - 198	
20	201 - 208	
21	211 - 208	
22	221 - 228	
23	231 - 238	
24	241 - 248	

B208 address number	B9512G point numbers	B8512G point numbers
25	251 - 258	
26	261 - 268	
27	271 - 278	
28	281 - 288	
29	291 - 298	
30	301 - 308	
31	211 - 208	
32	321 - 328	
33	331 - 338	
34	341 - 348	
35	351 - 358	
36	361 - 368	
37	371 - 378	
38	381 - 388	
39	391 - 398	
40	401 - 408	
41	411 - 408	
42	421 - 428	
43	431 - 438	
44	441 - 448	
45	451 - 458	
46	461 - 468	
47	471 - 478	
48	481 - 488	
49	491 - 498	
50	501 - 508	
51	511 - 508	
52	521 - 528	
53	531 - 538	
54	541 - 548	
55	551 - 558	
56	561 - 568	
57	571 - 578	

B208 address number	B9512G point numbers	B8512G point numbers
58	581 - 588	
59	591 - 598	

22.1.2 B299 address settings

The B9512G supports up to 5 modules. The B8512G supports 1 module.

B299 address number	B9512G point numbers	B8512G point numbers
0	9 - 99	9 - 99
1	100 - 199	
2	200 - 299	
3	300 - 399	
4	400 - 499	
5	500 - 599	

22.1.3 B308 address settings

The B9512G supports up to 59 B308 Octo-output modules.
The B8512G supports up to 9 modules.

B308 address number	B9512G output numbers	B8512G output numbers
1	11 – 18	11 - 18
2	21 - 28	21 - 28
3	31 - 38	31 - 38
4	41 - 48	41 - 48
5	51 - 58	51 - 58
6	61 – 68	61 – 68
7	71 – 78	71 – 78
8	81 – 88	81 – 88
9	91 -98	91 - 98
10	101 – 108	
11	111 – 118	
12	121 – 128	
13	131 – 138	
14	141 – 148	
15	151 – 158	
16	161 – 168	
17	171 – 178	
18	181 – 188	

B308 address number	B9512G output numbers	B8512G output numbers
19	191 – 198	
20	201 – 208	
21	211 – 208	
22	221 – 228	
23	231 – 238	
24	241 – 248	
25	251 – 258	
26	261 – 268	
27	271 – 278	
28	281 – 288	
29	291 – 298	
30	301 – 308	
31	211 – 208	
32	321 – 328	
33	331 – 338	
34	341 – 348	
35	351 – 358	
36	361 – 368	
37	371 – 378	
38	381 – 388	
39	391 – 398	
40	401 – 408	
41	411 – 408	
42	421 – 428	
43	431 – 438	
44	441 – 448	
45	451 – 458	
46	461 – 468	
47	471 – 478	
48	481 – 488	
49	491 – 498	
50	501 – 508	
51	511 – 508	

B308 address number	B9512G output numbers	B8512G output numbers
52	521 – 528	
53	531 – 538	
54	541 – 548	
55	551 – 558	
56	561 – 568	
57	571 – 578	
58	581 – 588	
59	591 – 598	

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	D8128D address switches					ZONEX 2
Output number	**1**	**2**	**3**	**4**	**5**	**Output number**
9 to 16	ON	ON	ON	ON	--	129 to 136
17 to 24	ON	ON	ON	OFF	--	137 to 144
25 to 32	ON	ON	OFF	ON	--	145 to 152
33 to 40	ON	ON	OFF	OFF	--	153 to 160
41 to 48	ON	OFF	ON	ON	--	161 to 168
49 to 56	ON	OFF	ON	OF	--	169 to 176
57 to 64	ON	OFF	OFF	ON	--	177 to 184
65 to 72	ON	OFF	OFF	OFF	--	185 to 192
73 to 80	OFF	ON	ON	ON	--	193 to 200
81 to 88	OFF	ON	ON	OFF	--	201 to 208
89 to 96	OFF	ON	OFF	ON	--	209 to 216
97 to 104	OFF	ON	OFF	OFF	--	217 to 224
105 to 112	OFF	OFF	ON	ON	--	225 to 232
113 to 120	OFF	OFF	ON	OFF	--	233 to 240
121 to 127	OFF	OFF	OFF	ON	--	241 to 247

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.

ZONEX 1	D8129 address switches					ZONEX 2
Output number	**1**	**2**	**3**	**4**	**5**	**Output number**
1 to 8	OFF	ON	ON	ON	ON	65 to 72
9 to 16	ON	OFF	ON	ON	ON	73 to 80
17 to 24	OFF	OFF	ON	ON	ON	81 to 88
25 to 32	ON	ON	OFF	ON	ON	89 to 96
33 to 40	OFF	ON	OFF	ON	ON	97 to 104
41 to 48	ON	OFF	OFF	ON	ON	105 to 112
49 to 56	OFF	OFF	OFF	ON	ON	113 to 120
57 to 64	ON	ON	ON	OFF	ON	121 to 128

22.1.6 B901 address settings

Address	Designation
0,0	Disabled
0,1 to 3,2	Doors 1 to 32 on SDI2 (SDIx in SDI2 mode), Doors 1 to 8 for B8512
8,1 to 8,8	Doors 1 through 8 on SDIx bus in Legacy SDI mode (D9210C with Fail Safe Unlock)
9,1 to 9,8	Doors 1 through 8 on SDIx bus in Legacy SDI mode (D9210C with Fail Safe Lock)

22.1.7 B91x address settings

Address	Switches					
	1	**2**	**3**	**4**	**5**	**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

Address	Switches					
	1	**2**	**3**	**4**	**5**	**6**
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
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	OFF	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

Fail mode	Central station Modem4	SDI address setting	Keypad display
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
LOCKED	SDI #40	98	Door #8

22.1.9 SDI keypad address settings

D1255VFD Keypad / D125xRB Fire Keypad / D126x LCD Keypad address switch settings.

Notice!
D126x keypads only use addresses 1-8. To access the switch settings, press and hold [0] until the menu changes.

Address	Switches					
	1	2	3	4	5	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

Address	Switches					
	1	**2**	**3**	**4**	**5**	**6**
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 or Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China) access occurred	RsF01	NLS	Successful Download/ Access	1 412 00 000
A valid remote RPS or Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China) access callback occurred	RsssF	NphhhRS	Successful Download/ Access	1 412 00 000
A valid remote RPS or Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China) 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

Panel event	Modem4 code D6500 mode	Modem4 code Bosch SIA mode	Contact ID event	Contact ID code
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 or Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China) remote access callback occurred	TsssF	Np004RU	Unsuccessful Access	1 413 00 000
An invalid RPS or Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China) 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
Cellular Fewer than Two Towers	TssssD	NpidddddET	System Peripheral Trouble	1 330 00 zzz
Cellular Fewer than Two Towers Restoral	RssssD	NpidddddER	System Peripheral Trouble Restore	3 330 00 zzz
Cellular Low Signal	TssssD	NpidddddET	System Peripheral Trouble	1 330 00 zzz

Panel event	Modem4 code D6500 mode	Modem4 code Bosch SIA mode	Contact ID event	Contact ID code
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
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

Panel event	Modem4 code D6500 mode	Modem4 code Bosch SIA mode	Contact ID event	Contact ID code
Control panel off-line	TsssF	Nid5002TS	System Shutdown	3 308 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	Tpppp	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	Fspppp	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
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

Panel event	Modem4 code D6500 mode	Modem4 code Bosch SIA mode	Contact ID event	Contact ID code
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
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

Panel event	Modem4 code D6500 mode	Modem4 code Bosch SIA mode	Contact ID event	Contact ID code
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	NpiddddNR010	System Peripheral Trouble Restore	3 330 00 zzz
Network Cable Disconnected	NsD42	NpiddddNT010	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	NpiddddYS	Communication Trouble	1 350 0 zzz
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

Panel event	Modem4 code D6500 mode	Modem4 code Bosch SIA mode	Contact ID event	Contact ID code
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 or Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China)	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 or Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China)	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
RF Transmitter Low Battery (Key Fob)	TsD10	NidiiiiXT	Battery Test Failure	1 309 00 uuu

Panel event	Modem4 code D6500 mode	Modem4 code Bosch SIA mode	Contact ID event	Contact ID code
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	TsssDt	NpiddddEP	Exp. Module AC Loss	1 342 00 [1]zzz
SDI Device AC Fail Restore	RsssDt	NpiddddEQ	Exp. Module AC Restore	3 342 00 [1]zzz
SDI device is missing	TssssD	NpiddddET	Expansion Module Failure	1 333 00 000
SDI device is restored	RssssD	NpiddddER	Expansion Module Failure Restore	3 333 00 000
SDI Device Low Battery	TsssDt	NpiddddEBbb	Exp. Module Low Batt.	1 338 00 [1]zzz
SDI Device Low Battery Restore	RsssDt	NpiddddEVbb	Exp. Module Batt. Restore	3 338 00 [1]zzz
SDI Device Missing	TsssDt	NpiddddEM	Exp. Module Failure	1 333 00 [1]zzz
SDI Device Missing Battery	TsssDt	NpiddddEBbb	Exp. Module Low Batt. Restore	3 338 00 [1]zzz
SDI Device Missing Battery Restore	RsssDt	NpiddddEVbb	Exp. Module Low Batt. Restore	3 338 00 [1]zzz
SDI Device Missing Restore	RsssDt	NpiddddEN	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	NpiddddEM	Expansion Module Failure	1 333 00 000
SDI2 device is restored from missing	RsssD	NpiddddEN	Expansion Module Failure	3 333 00 000
SDI2 Open Trouble	TsssD	NpiiddddET	Expansion Module Failure	1 333 00 [1]zzz
SDI2 Open Trouble Restoral	RsssD	NpiddddER	Expansion Module Failure Restore	3 333 00 [1]zzz

Panel event	Modem4 code D6500 mode	Modem4 code Bosch SIA mode	Contact ID event	Contact ID code
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
Test Report - System Off-normal, Non-expanded Status	RsssE	NRY	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
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

[1]zzz represents an SDI, or SDI2 device address value, or network trouble condition, indicated by a number (for example, 501).

22.2.2 Device numbers (zzz, dddd)

Device number	zzz data values	Description
01-16	001-016	SDI Keypads 1-16
01-59	201-259	SDI2 Octo-Input Modules 1-59
01-59	301-359	SDI2 Octo-Output Modules 1-59
1	801	SDI2 Premises RF Module
N/A	851-858	RF Repeater 1-8
01-02	401-402	SDI2 Network Modules 1-2
01-08	501-508	SDI2 Power Supply Modules 1-8
01-32	901-932	SDI2 Keypads 1-32
01-06	155-160	SDI2 POPEX Modules 1-6
01-08	33-40	SDI Access Modules 1-8
01-32	601-632	SDI2 Access Modules 1-32
N/A	516-531	IP Cameras 1-16
OnBrd	100	Control Panel Enclosure

OnBrd	400	On-board Ethernet module
OnBrd	408-409	Plug-in Modules 1-2

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 or Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China)	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 or Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China) 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

You can use AutoIP when you enable AutoIP on the computer on which you operate RPS or the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China).

Using AutoIP

1. On the computer, enable AutoIP.
2. Remove power from the control panel.
3. Connect an Ethernet cable to the Ethernet port on the computer.
4. Connect the Ethernet cable to the Ethernet port on the control panel.
5. Apply power to the control panel.
6. Wait 2 minutes.

Notice!

IP address 169.254.1.1 only

The RPS or Installer Services Portal programming tool IP Direct connection option only uses 169.254.1.1 to connect. RPS or Installer Services Portal programming tool does not allow you to set the option.

If the RPS or Installer Services Portal programming tool connection fails, the control panel did not take the correct IP address.

Checking the IP address of the control panel

1. From a keypad, open from the Installer menu.
2. Enter the installer passcode, and then open the [1] **Installer Menu**.
3. Go to [1] **Programming Menu** > [2] **Network** > [1] **Ethernet** > (choose the bus module or on-board) > [1] **Module Parameters** > [2] **Address Parameters** > [1] **IP Address**.

If the control panel address is not 169.254.1.1, troubleshoot the issue.

Troubleshooting AutoIP

– If the control panel also uses the Ethernet for IP communication, make sure you cycled power to the control panel. When power cycles, the control panel clears the IP address assigned by the network and adopts the AutoIP address assigned by the RPS or Installer Services Portal programming tool computer.
– Make sure that no other device is connected to the RPS or Installer Services Portal programming tool 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. Make sure that you have permission from your company IT department before changing the registry.

Adding a new registry key, if required

1. Open Notepad.
2. Copy and paste or type the text shown below the instructions.

3. Save the file as AutoIP.reg to a location on the RPS or Installer Services Portal programming tool computer that you can easily find.
4. Use Windows Explorer to find the saved file. Double-click the file to add it to the computer registry.
5. Restart the RPS or Installer Services Portal programming tool computer.

Text for the AutoIP.reg file:

```
Windows Registry Editor Version 5.00
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters]
"IPAutoconfigurationEnabled"=dword:00000001
```

Bosch Security Systems B.V.
Torenallee 49
5617 BA Eindhoven
Netherlands
www.boschsecurity.com
© Bosch Security Systems B.V., 2019