Easy Series

ICP-EZM2

BOSCH

en System Reference Guide

Table of Contents

1 Overview

This document contains instructions for a trained installer to properly install, configure, and operate the Easy Series control panel, and all optional peripheral devices.

You will install and configure the system using the figures starting in *Section 1.2 System Components and Wiring*, page 6 and the information in *Section 2 System Installation and Configuration*, page 12. The sections following Sections 1 and 2 provide supporting details for installation, configuration, testing, and support.

1.1 Installation Workflow

To properly install, configure, and test the system, use the following workflow:

Step	Description	Page
1. Plan the Installation	Identify suitable locations for system component in the installation site.	Page 12
2. Install the Hardware	Install all system components.	Page 13
3. Perform RFSS Site Test	Perform radio frequency signal strength (RFSS) test.	Page 18
4. Configure the System	Enroll wireless devices into the system, perform basic programming for the system, and add users to the system.	Page 22
5. Program the System	Update the system with expert programming.	Page 33
6. Test the System	Perform a full system test. Ensure that the central monitoring station received test reports.	Page 61

Table 1.1 Installation Workflow

1.2 System Components and Wiring

Refer to *Figure 1.1* through *Figure 1.3* for overviews of the system components and wiring.

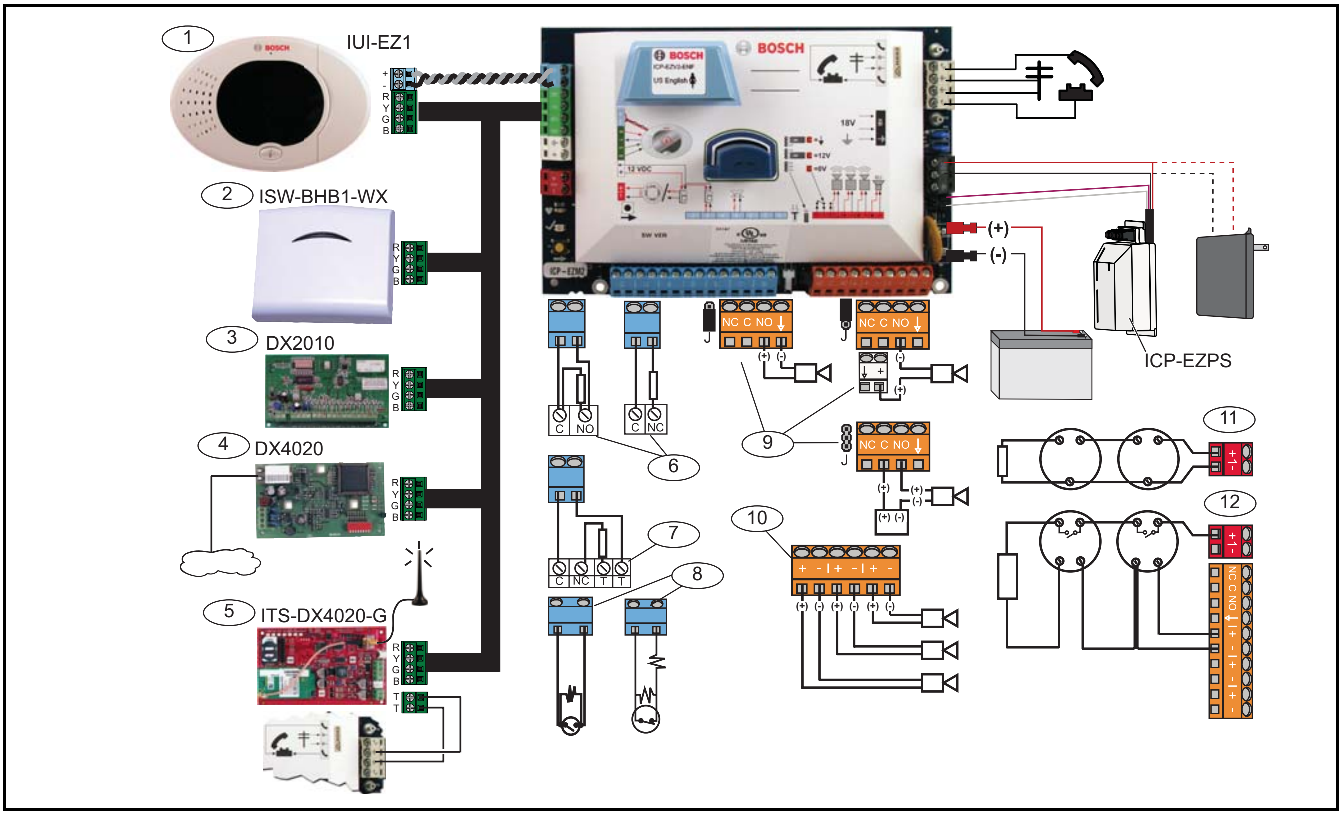
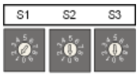
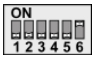
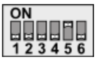
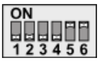
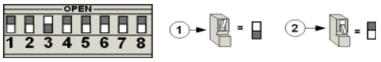
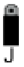
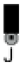
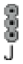


Figure 1.1 System Component Wiring Overview

Callouts for *Figure 1.2*, Page 8					
1	**Control Center** 	Mount within 3 m of control panel, Use CAT5 cable (twisted pair) for audio bus, Set data bus address (1 - 4), up to 4 controls max			
2	**wLSN Hub** 	S1	S2	S3	
		1	0	0	= Normal Operation
		9	2	0	= RFSS Mode
		9	8	7	= Default Hub (refer to Page 60)
	DX2010 Point Expander			Data Bus Adr 102: Points 9 - 16	
				Data Bus Adr 103: Points 17 - 24	
				Data Bus Adr 104: Points 25 - 32	
4	**DX4020 Network Interface Module**	Data Bus Adr 134 			1 - On 2 - Off
5	**ITS-DX4020-G**	Data Bus Adr 134 (Fixed)			
6	**Supervised Points (single EOL)**	Normally open and normally closed options (2.2k Ω)			
7	**Supervised Points (dual EOL)**	Normally closed (2.2k Ω)			
8	**Keyswitch Options (single and dual EOL)** ((2.2k Ω)				
9	**Prog Output (PO) 1 Options**	Switched 12v		Switched Ground	Dry Contact
					
10	**Prog Outputs 2 - 4**	NF A2P requires that sirens have a backup battery. When this siren requires a 14,1V to 14,4V supply, use the optional board EZPS-FRA or the auxiliary power supply IPP-PSU-2A5. Set the output as interior burglary alarm.			
11	**2-wire Smoke Detector Option**	EOL resistor (P/N: 25899) required.			
12	**4-wire Smoke Detector Option**	EOL resistor (P/N: 25899) and Bosch EOL relay module required			
Note: The system uses a 12 VDC battery, connected as shown.					

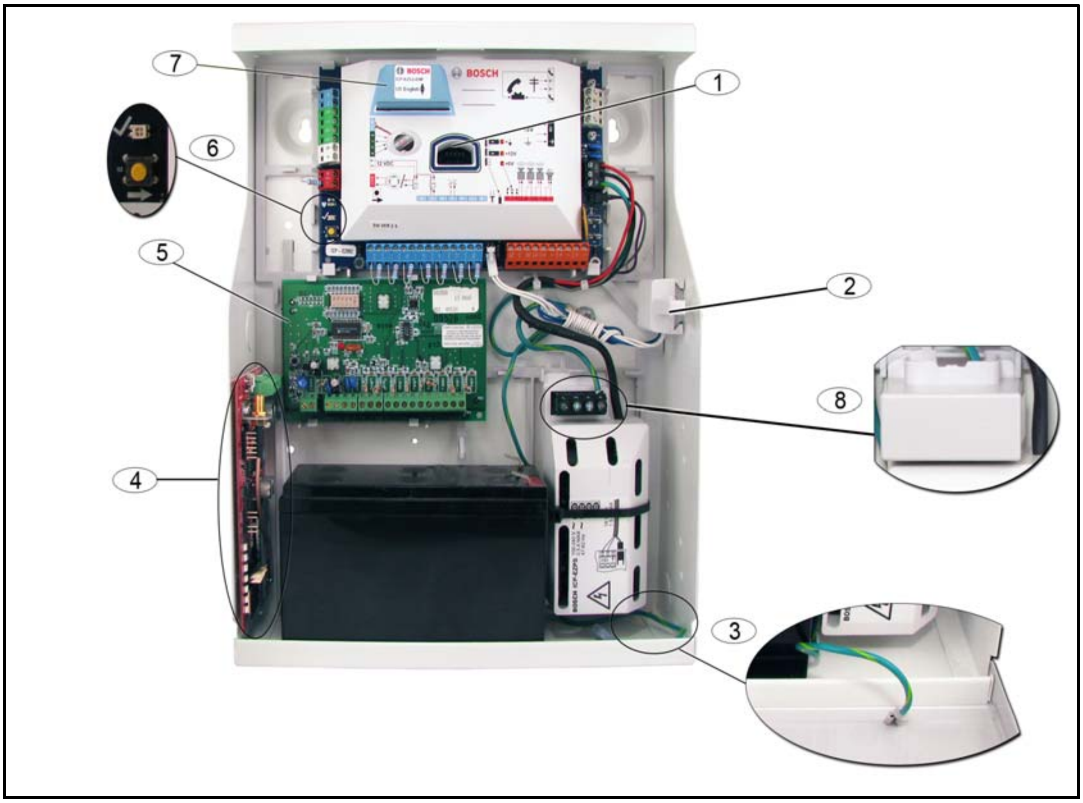


Figure 1.2 Overview of the System Component Location for the ICP-EZM2-R Enclosure

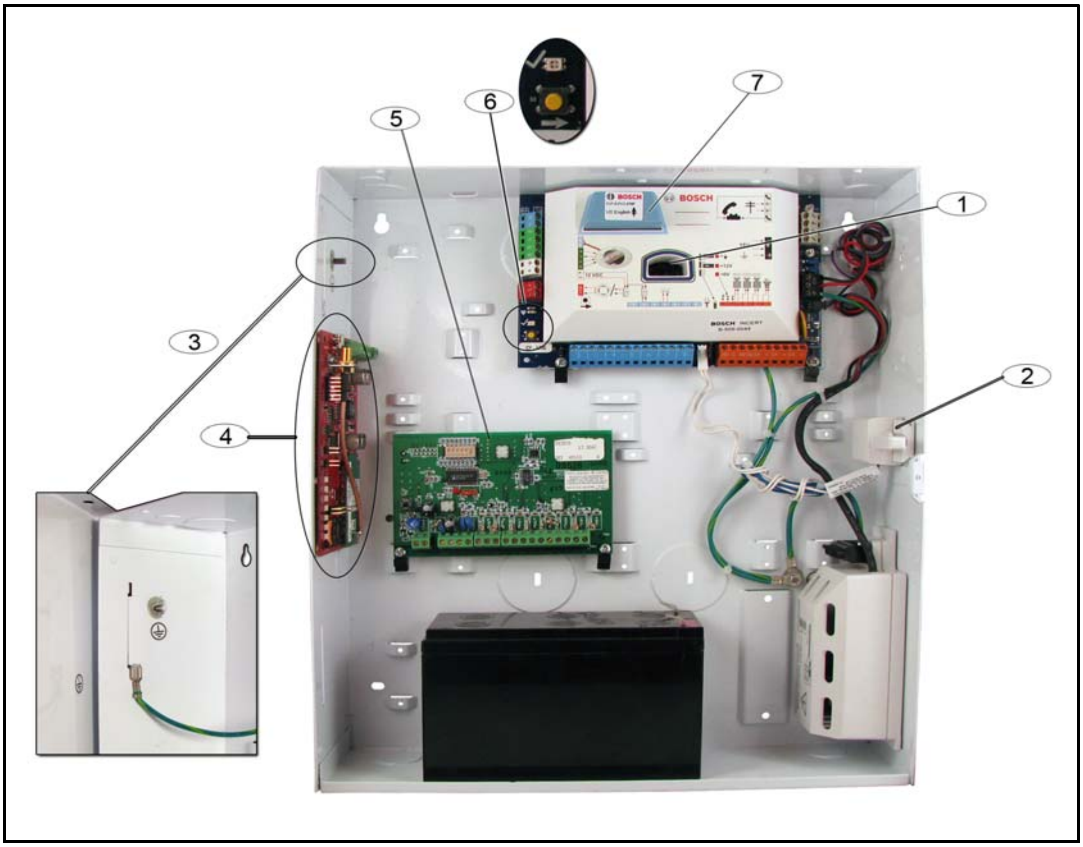
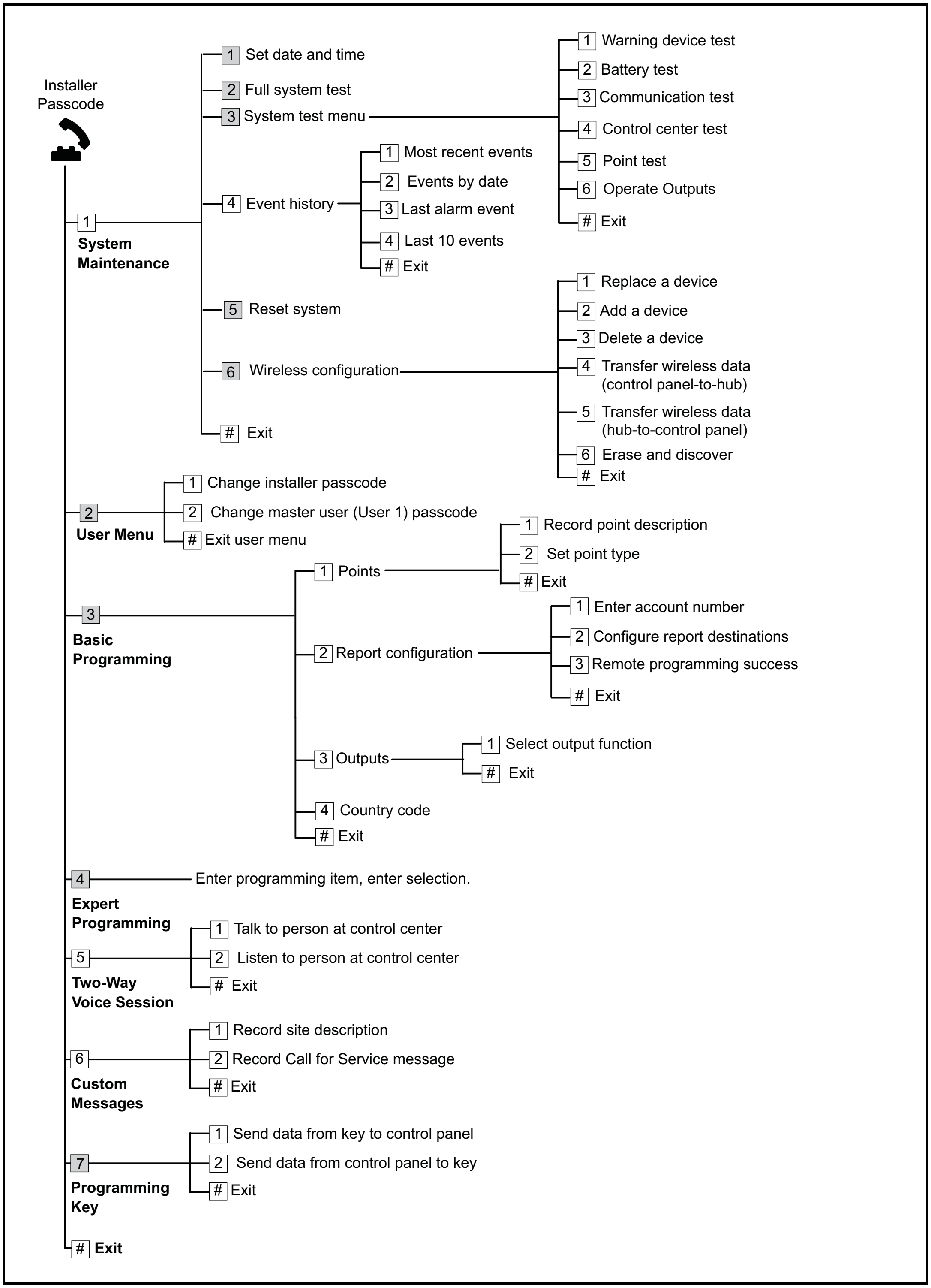


Figure 1.3 Overview of the System Component Location for the ICP-EZM2-EU Enclosure

Callouts for *Figure 1.2* Page 8 and *Figure 1.3*, Page 8	
1	**Port for ICP-EZRU-V3 ROM Update Key and Programming Key**
2	**Enclosure Cover and Wall Tamper Switch**
3	**Ground connection** Connect ground wire from enclosure to enclosure door.
4	**Module mounting location** ITS-DX4020-G shown.
5	**Module mounting location** DX2010 shown.
6	**System test button** When the system is completely installed and programmed, press the system test button to start a full system test.
7	**Port for ICP-EZVM voice module**
8	**Enclosure terminal cover** (ICP-EZM2-R Enclosure only) Shipped in hardware bag. Install over terminals when power supply wiring is completed.

1.3 Phone Menus

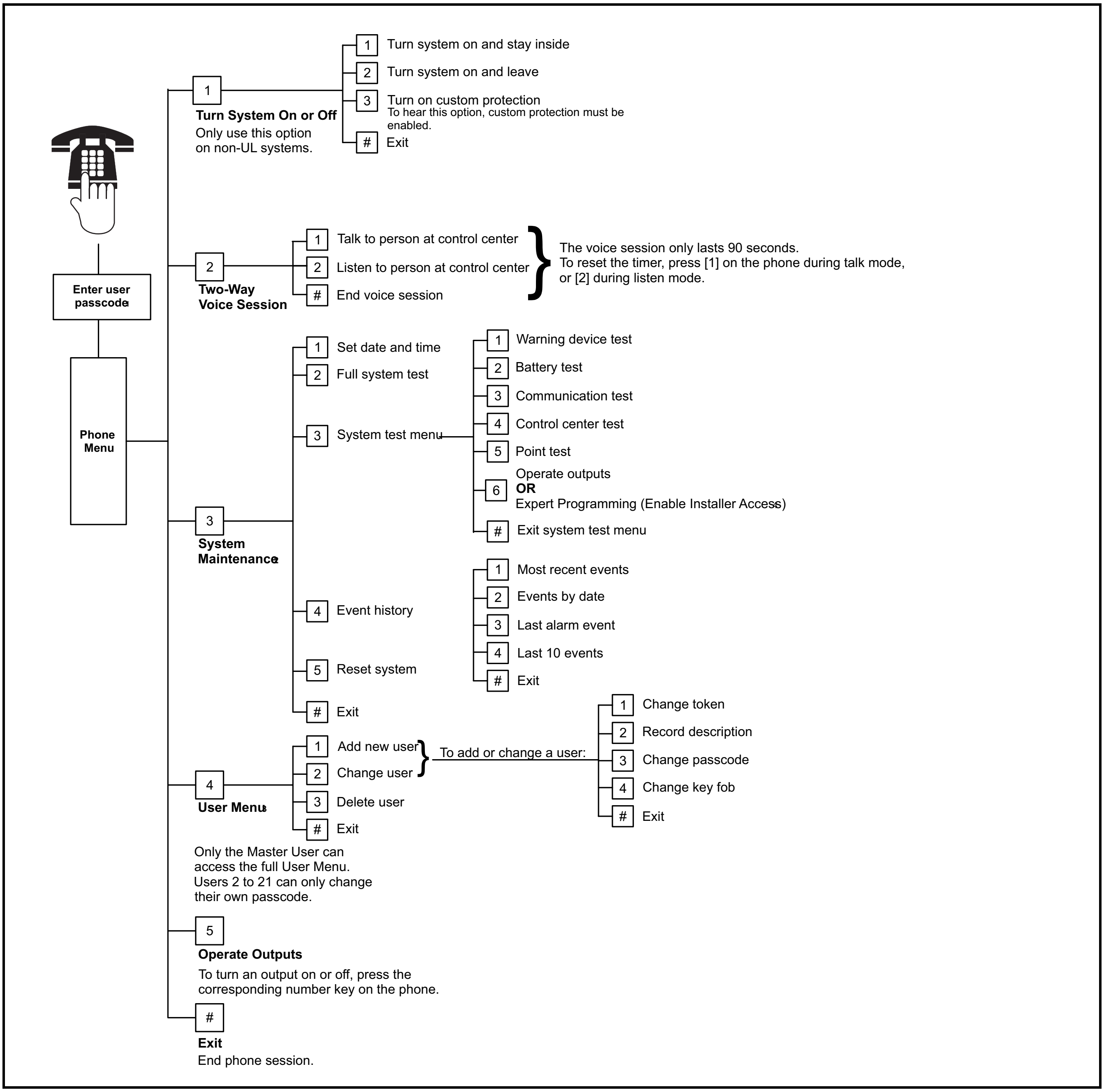
1.3.1 Installer Phone Menu



▨ = The system's arming status (on or off) and Expert Programming Item Number 142 setting of (0 or 1) determines the availability of these menu items. Refer to *Section 5.2.2 System Programming Items*, Page 43.

When recording any description (point, output, user, or custom message), do not press any buttons on your phone until prompted by the system.

1.3.2 User Phone Menu


Enter user passcode
Phone Menu
1
Turn System On or Off
Only use this option on non-UL systems.
1 Turn system on and stay inside
2 Turn system on and leave
3 Turn on custom protection
To hear this option, custom protection must be enabled.
# Exit
2
Two-Way Voice Session
1 Talk to person at control center
2 Listen to person at control center
# End voice session
The voice session only lasts 90 seconds.
To reset the timer, press [1] on the phone during talk mode, or [2] during listen mode.
3
System Maintenance
1 Set date and time
2 Full system test
3 System test menu
1 Warning device test
2 Battery test
3 Communication test
4 Control center test
5 Point test
6 Operate outputs OR Expert Programming (Enable Installer Access)
# Exit system test menu
4 Event history
1 Most recent events
2 Events by date
3 Last alarm event
4 Last 10 events
# Exit
5 Reset system
# Exit
4
User Menu
1 Add new user
2 Change user
3 Delete user
# Exit
To add or change a user:
1 Change token
2 Record description
3 Change passcode
4 Change key fob
# Exit
Only the Master User can access the full User Menu. Users 2 to 21 can only change their own passcode.
5
Operate Outputs
To turn an output on or off, press the corresponding number key on the phone.
#
Exit
End phone session.

[1] Only a user passcode (Users 1 to 21) can access the User Menu.

[2] If the system is on, the System Maintenance option is not available.

[3] Only the master user can add, change, or delete users. Users 2 to 21 can only change their own passcodes. User voice descriptions are stored in the voice module and are not transferred to the control panel with programming data.

[4] Option 6 allows the master user (User 1) to enable the Installer Passcode. Refer to Expert Programming Item Number 142 in *Section 5.2.2 System Programming Items*, Page 43.

Availability of the menu items shown above depends on the system's status.

When recording any description (point, output, user, or custom message), do not press any buttons on your phone until prompted by the system.

2 System Installation and Configuration

2.1 Plan the Installation

When planning the installation, identify suitable locations for the control panel, control center, hub, and wireless devices before installing any system components. When identifying these locations, ensure that the following considerations are addressed.

Task	Considerations
1. Identify the location for the control panel.	– Only use authorized service personnel to install this system. – Plan to install the control panel in a centrally located room that is near the AC Power MAINS. – Plan to install the control panel in a location with a good earth ground. – Because the control panel is permanently connected equipment, a readily accessible disconnect device must be included into the building installation wiring.
2. Test for GSM signal strength.	Use your cell phone to identify an area with good GSM signal strength by monitoring the signal strength on your mobile phone. **If the intended location of the control panel has poor GSM signal strength, find a new location for the control panel.**
3. Identify the location for the control center.	Plan to install the control center near the primary entry and exit door.
4. Identify the location for the wLSN Hub.	Plan to install the wLSN Hub in a location with good radio-frequency (RF) characteristics and within 100 m of the control panel.
5. Identify the location for the wLSN devices.	– wLSN devices are intended only for indoor, dry applications. Avoid installing the devices where excessive humidity or moisture, or temperatures outside of the acceptable operating range, exist. – Mount wLSN devices on flat, rigid surfaces. For more information, refer to each device's installation instructions. – Avoid mounting wLSN devices in areas with large metallic objects, electrical panels or electric motors. They might reduce the (RF) range of a wLSN device.

Table 2.1 Installation Considerations

2.2 Install System Components

NOTICE!

- Use proper anchor and screw sets when installing the enclosure on non-load-bearing surfaces, such as drywall.
- Follow anti-static procedures when handling the control panel board. Touch the earth ground terminal on the control panel board to discharge any static charge before working on the control panel board.
- If you install more than one control center, mount them at least 1.2 m apart.
- Do not install the wLSN Hub within 15 cm (6 in) of the control centers metal enclosure.

NOTICE!

Refer to *Figure 1.2*, Page 8 or *Figure 1.3*, Page 8 throughout this section for the location to install each of the hardware components in the enclosure.

2.2.1 Install the wLSN Hub

1. Separate the wLSN Hub from its base.
2. Set the wLSN Hub's rotary switches to enable RFSS mode: S1 = 9, S2 = 2, S3 = 0.
   This is the setting required for the RFSS site test. Refer to *Figure 1.1*, Page 6.
3. Connect the wLSN Hub's data bus to the control panel's data bus. The wLSN Hub's terminal block is removable.
   - **Wire Gauge:** 0.14 mm to 1.5 mm (18 AWG to 24 AWG)
   - **Wire Length (sLSN Hub to control panel):** <= 100 m
4. Reconnect the wLSN Hub and base, and then lock the wLSN Hub.
5. Mount the wLSN Hub temporarily in the desired location. You might need to relocate the wLSN Hub if it does not pass RFSS testing.

2.2.2 Install the Control Panel Enclosure

1. Remove the desired knockouts from the control panel enclosure and optional mounting skirt.
2. Attach the optional mounting skirt to the enclosure.
3. Route the wires through the desired knockouts.
4. Mount the enclosure to the desired surface. Use proper anchor and screw sets when you install the enclosure on non-load-bearing surfaces, such as drywall.

2.2.3 Install the Control Center

1. Unlock the control center and separate it from the base.
2. If you install more than one control center, each control center must have a unique address. Valid address are 1 to 4. Refer to *Figure 2.1* for the location of the address switch.

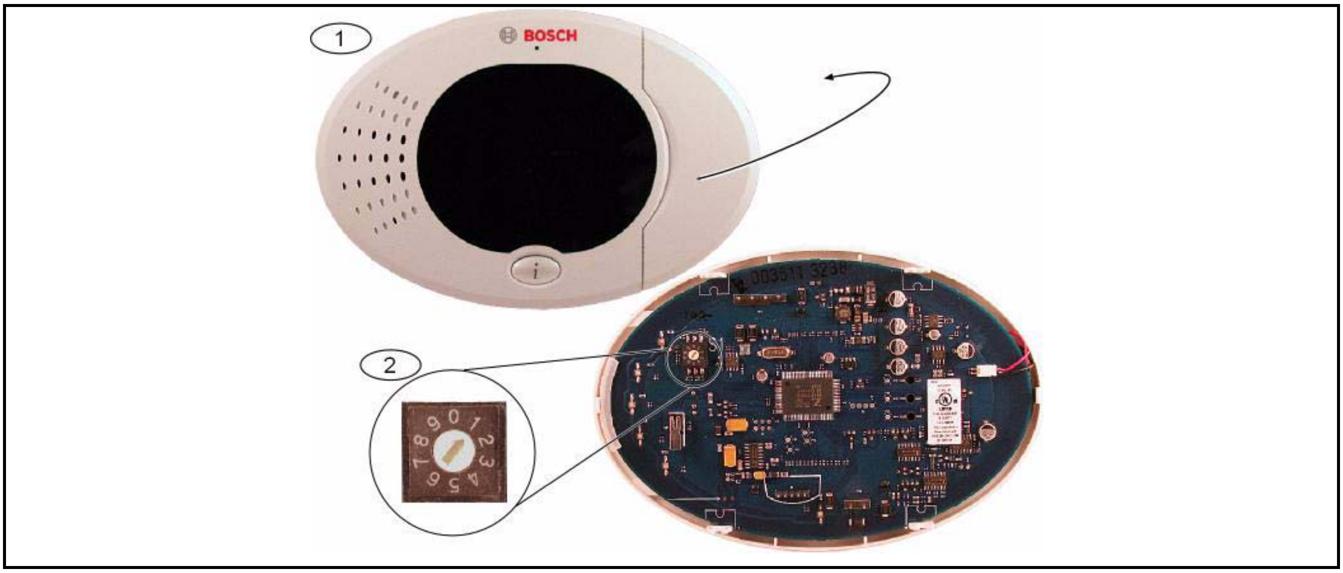


Figure 2.1 Control Center Address Switch

1	Control Center’s front cover
2	Address switch’s default settings

3. Mount the control center base to the desired surface using the appropriate mounting holes. Use the built-in level in the control center base as a guide.

NOTICE!
Mount the base to a non-metallic surface that is near the primary entry/exit door.
If you install more than one control center, ensure that there is at least 1.2 m between each control center.
Avoid mounting the control center near existing phone lines.
Avoid mounting the control center near other electronic devices.

4. Connect the control center data bus terminals to the control panel data bus terminals. Refer to *Figure 1.1*, Page 6.
5. Connect the control center audio bus terminals to the control panel audio bus terminals. Twisted pair wiring is recommended for audio bus terminals. Refer to *Figure 1.1*, Page 6.
6. Reconnect the control center and base, and then lock the control center.

Refer to Section Control Center Display States, Page 75 for an overview of the various control center display states.

2.2.4 Route Power-limited Wiring

All wiring except primary AC power and standby battery is power-limited. Separate primary AC power and standby battery wires from other wires by at least 6.4 mm (¼ in), and secure to enclosure to prevent movement. Primary AC power and standby battery wiring cannot share the same conduit, conduit fittings, or conduit knockouts with any other wiring. Refer to *Figure 2.2*, Page 15.

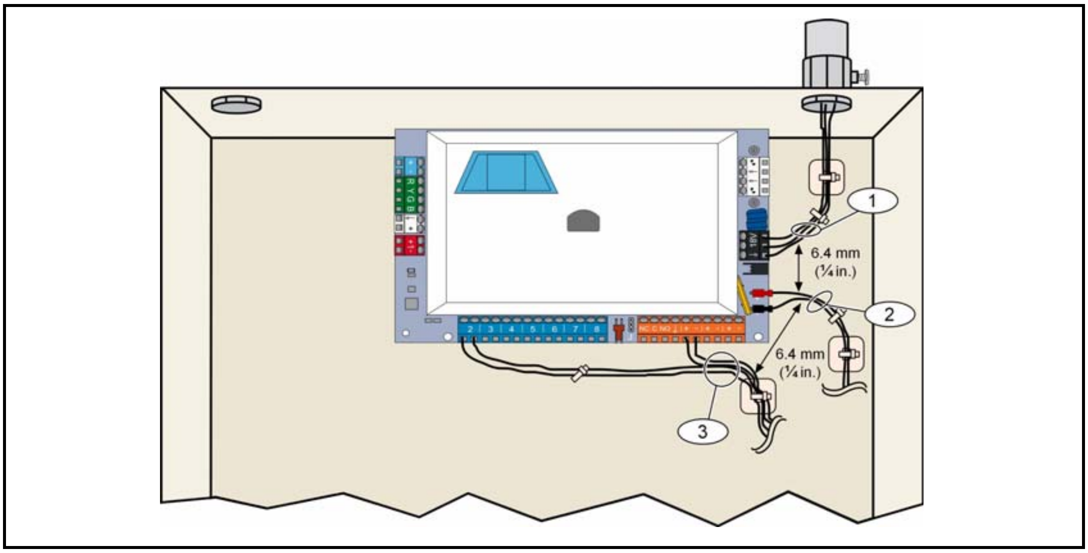


Figure 2.2 Power-limited Wire Routing

2.2.5 Install the ITS-DX4020-G Communicator and Antenna

The ITS-DX4020-G is powered from the bus.

NOTICE!

When using the ITS-DX4020-G GSM channel for communications, do not permanently connect a telephone to the Easy Series house phone terminals.

Refer to *Figure 1.1*, Page 6 for wiring instructions.

1. Install the ITS-DX4020-G SIM card.

   a) Hold the ITS-DX4020-G communicator in the orientation shown in *Figure 9.1*, Page 62.

   b) Slide the SIM cardholder door upward to unlock it, and then open the door.

   c) Hold the SIM card in the orientation shown in *Figure 9.1*, Page 62, and then Insert the SIM card into the cardholder door; the notched edge is away from the hinge.

   d) Close the cardholder door, and then slide the door downward to lock it.
2. Mount the communicator into the control panel's enclosure using the side wall mounting location.
3. Place the magnetic antenna on the panel enclosure (on top recommended for vertical polarization). The antenna must be placed on a metal surface for proper operation.
4. Connect the antenna cable to the communicator.
5. Connect the audio terminals on the ITS-DX4020-G to the control panel’s inside phone terminal block.
6. Connect the communicator option bus molex connector to the to the communicator and connect the bus wires to the option bus terminals on the control panel. If preferred, the terminal screws on the communicator can be used instead of the molex connection.
7. Install the configuration jumper on the CONFIG MODE (J200) pins. Refer to *Figure 9.1*, Page 62 for the jumper location.

2.2.6 Install the DX2010 Input Expander

The control panel supports up to three DX2010 Input Expanders for Points 9 to 32.

Refer to the *DX2010 Installation Instructions* (P/N: 49533) for more information.

1. Set the DX2010's DIP switches.
2. Mount the DX2010 into the control panel's enclosure (back wall or either side wall), or other suitable enclosure.
3. Connect the DX2010 to the control panel. Refer to *Figure 1.1*, Page 6.
   Connect a wire jumper to the TMPR and COM terminals to disable the DX2010's tamper input. For point wiring options, refer to *Section 2.2.8 Connect Supervised Points*, Page 16.
   To disable the tamper input on the DX2010, connect a wire jumper between the TMPR and COM terminals.

NOTICE!
In an NF A2P certified installation, mount the DX2010 module on one side of the panel housing, or on one side of the auxiliary power supply IPP-PSU-2A5).

2.2.7 Connect the Conettix DX4020 Network Interface Module

The control panel supports one DX4020 for wired network communication.

Refer to the *DX4020 Installation Instructions* (P/N: F01U045288) for more information.

1. Set the DX4020's DIP switches to Address 134 for network communication.
2. Mount the DX4020 into the control panel's enclosure using the back wall or side wall mounting location.
3. Connect the DX4020 to the control panel. Refer to *Figure 1.1*, Page 6.

2.2.8 Connect Supervised Points

For wiring diagrams, refer to *Figure 1.1*, Page 6.

Fire Point Wiring

Supervised Point 1 supports two- and four-wire smoke detectors.

Supervised Points 2 to 32 support only four-wire smoke detectors.

To program supervised points as fire points, refer to *Section 5.1.2 Points*, page 39.

For intrusion point configuration, refer to *Section Intrusion Point Wiring*, Page 16.

When using an output to supply power to a four-wire smoke detector, program the output function for System Reset. Refer to *Section 5.1.4 Outputs*, page 41.

Intrusion Point Wiring

You can wire Supervised Points 1 to 32 as wired or wireless intrusion points.

To program Supervised Points 1 to 32 as intrusion points, refer to *Section 5.1.2 Points*, page 39.

2.3 Apply System Power

NOTICE!

Because the control panel is permanently connected equipment, a readily accessible disconnect device must be included into the building installation wiring.

An external earth ground is required to ensure safe and proper system operation. Failure to ground the system can cause personal injury and degraded system performance, such as problems with tokens or noise on the control center.

1. Connect battery power to the control panel. Refer to *Figure 1.1*, Page 6.
2. Use a cable tie to secure the incoming AC wires to the enclosure, where required. Refer to *Figure 2.3*, Page 17.

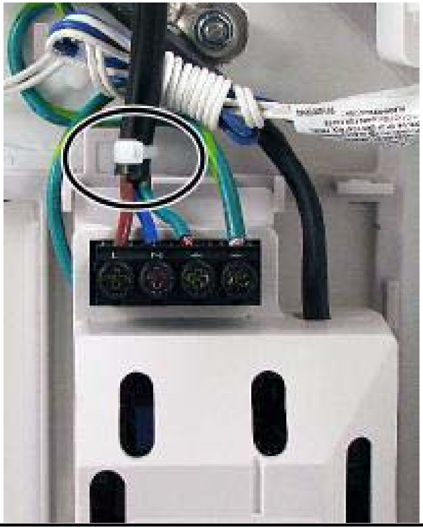


Figure 2.3 Cable tie for MAINS to Power Supply

3. Place the terminal cover over the power supply terminals.

2.4 Initial System Startup

1. Apply AC power to the system.
2. Refer to *Table 2.2* for the Initial System Startup sequence.

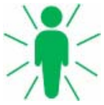
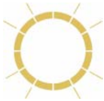
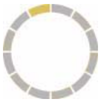
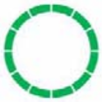
Stage	Time Interval	Control Center		wLSN Hub
1	0-15 sec		Intermittent flashing green icon	LED on steady
2	15-45 sec		Flashing amber circle	
3	45-75 sec		Single rotating amber segment	
4	75 sec		Solid green circle	

Table 2.2 Initial System Startup Sequence (No wLSN devices discovered)

2.5 Perform the RFSS Site Test using the wLSN Installation Tool

The wLSN Installation Tool communicates signal strength levels, noise levels, signal-to-noise ratio (SNR), and packet success rates. Use it to determine the best locations for wLSN device installation.

NOTICE!
Before permanently installing any wLSN device, verify that the radio-frequency signal strength (RFSS) between the planned device location and the planned wLSN Hub location is acceptable.

CAUTION!
If you have wireless devices that you will not immediately install, reinsert the battery tabs or remove the batteries to prevent battery depletion.

NOTICE!
You can perform the RFSS site test using the wLSN Hub and the specific device you wish to test. However, you must use the Installation Tool with the wLSN Smoke Detector. You cannot determine RFSS with the detector itself. Refer to *Section 3.1 Perform a RFSS Site Test with the Hub and the Device*, page 28 for instructions.

2.5.1 Prepare the wLSN Hub for Site Testing and RFSS Mode

1. Unlock the wLSN Hub and separate it from its base.
2. Set Switch S1 to 9 and Switch S2 to 2 to enable RFSS mode. This disables normal operation. Refer to *Figure 1.1*, Page 6.
3. Set Switch S3 to a value of 0 to 4, based upon the RF power level or EN50131 security grade you wish to use. Refer to *Table 2.3*.

Switch 3 Setting	**RF Power (EN50131 Security Grade**
0	Maximum power
1	3 dB lower than maximum (Security Grade 1)
2	6 dB lower than maximum (Security Grade 2)
3	9 dB lower than maximum (Security Grade 3)
4	12 dB lower than maximum (Security Grade 4)

Table 2.3 wLSN Hub RF Power/EN Settings

Refer to individual device's specification for their EN50131 classification.

NOTICE!

You must test the devices at the same EN50131 Security Grade at which the control panel discovers the devices.

4. Find a suitable location for the hub base and apply power by either connecting it to the control panel (refer to the control panel's installation instructions), or temporarily connecting a 9 VDC to 12 VDC battery.
5. Reconnect the wLSN Hub and base, and then lock the wLSN Hub.

2.5.2 wLSN Installation Tool Mode 1

Mode 1 identifies if a device location has acceptable or unacceptable RFSS.

To test the wireless devices with the Installation Tool in Mode 1:

1. Verify that the wLSN Hub rotary switch is set to S1 = 9, S2 = 2, S3 = 0. Refer to *Figure 1.1*, Page 6. The wLSN Hub's LED flashes slowly.
2. Go to the first device location, and then press and hold [*][#] on the Installation Tool for 2 sec.
3. Press [1] for Mode 1.
4. Place the Installation Tool in an upright position at the first device location, or hold it in the location, if necessary.
5. Wait 10 sec and then review the display.

– Acceptable RFSS Display:

```
MODE 1: +++OK+++
```

– Unacceptable RFSS Display:

```
MODE 1: -NOT OK-
```

If the location tests:

– **OK:** Confirm that the location is OK by testing it with the actual wireless device for this location.

– **Not OK:** Test a different location.

2.5.3 wLSN Installation Tool Mode 2

To test the wireless devices with the Installation Tool in Mode 2:

1. Verify that the wLSN Hub rotary switch is set to S1 = 9, S2 = 2, S3 = 0. Refer to *Figure 1.1*, Page 6. The wLSN Hub's LED flashes slowly.
2. Go to the first device location, and then press and hold [*][#] on the Installation Tool for 2 sec.
3. Press [2] for Mode 2.
4. Place the Installation Tool in an upright position at the first device location, or hold it in the location, if necessary.
5. Wait 10 sec and then review the display.

```
MODE 2:
■■■□□   PACKETS=3
```

The Mode 2 display shows power bars on the left and the number of packets received on the right. The bars indicate the signal strength. The Installation Tool shows the number of packets received: 1, 2, or 3.

Power Bars	Signal to Noise Ratio	Packets	Signal Strength
□□□□□	< 9 dB	≤2	Unacceptable
■□□□□	9 dB	≥2	Marginal (not recommended)
■■□□□	13 dB	≥2	Acceptable
■■■□□	16 dB	≥2	Good
■■■■□	20 dB	≥2	Very good
■■■■■	22 dB	≥2	Excellent

Table 2.4 Mode 2 Display Data

If the location tests:

- **OK:** Confirm that the location is OK by testing it with the actual wireless device for this location.
- **Not OK:** Test a different location.

2.5.4 wLSN Installation Tool Mode 3

When you perform the RFSS Site Test record the highest and lowest SNR readings because you may need to compare them.

If the results for SNR fluctuate significantly, the location is:

- **OK** if you subtract the dB difference between the highest (H) result and the lowest (L) result, and the number equals more than 13 dB. Confirm the location is OK by testing with the actual wireless device for this location. (L - (H - L) ≥ 13 dB = OK
- **Not OK** if you subtract the dB difference between the highest (H) result and the lowest (L) result and the number equals less than 13 dB. In this case, select a new location to test. (L - (H - L) ≤ 13 dB = Not OK)

To test the wireless devices with the Installation Tool in Mode 3:

1. Verify that the wLSN Hub rotary switch is set to S1 = 9, S2 = 2, S3 = 0. Refer to *Figure 1.1*, Page 6. The wLSN Hub's LED flashes slowly.
2. Go to the first device location, and then press and hold [*][#] on the Installation Tool for 2 sec.
3. Press [3] for Mode 3.
4. Place the Installation Tool in an upright position at the first device location, or hold it in the location, if necessary.
5. Wait 10 sec and then review the display.
   In the Mode 3 display, "SNR yy" refers to the signal to noise ratio in dB and "x" is the RFSS value in dBm.

   The Mode 3 display shows the signal to noise ratio (SNR) at the test spot. S refers to the signal strength of the incoming message from the wLSN Hub to the Installation Tool. N refers to the ambient noise level that exists at the location. The signal must be greater than the noise (S>N). The higher the SNR, the stronger the location's signal at that location. Dashes, appearing on both the S and N lines, indicate unacceptable signal strength.

```
MODE 3:  S-xxxdBm
SNRY     N-xxxdBm
```

6. Note the readings for the location, especially the SNR values.
7. Refer to *Table 2.5* to interpret the results based on the lowest and highest readings.
   If one or more of the results for SNR falls below 13 dB, the location is Not OK.

Signal to Noise Ratio	Signal Strength
< 9 dB	Unacceptable
9 dB	Marginal (not recommended)
13 dB	Acceptable
16 dB	Good
20 dB	Very good
22 dB	Excellent

Table 2.5 Signal to Noise Ratio Data

If the location tests:

- **OK:** Confirm that the location is OK by testing it with the actual wireless device for this location.
- **Not OK:** Test a different location.

2.6 Install wLSN Devices

1. If RFSS is **OK**:
   – Install the device's base and continue to the next location.

   If RFSS is **Not OK**:
   – Determine what is preventing acceptable RFSS and re-test.
   – Move the device to a new location and re-test, or
   – Move the wLSN Hub to a new location and re-test.
2. Repeat Steps 5 through 10 in *Section 2.5 Perform the RFSS Site Test using the wLSN Installation Tool* on Page 18 until all locations are tested and all bases installed.
3. Press and hold [*][#] to exit from the test mode.
   The Installation Tool powers down from the main menu 30 sec after the last key press.
4. Remove power from the system.
5. Set the wLSN Hub's rotary switches to: S1 = 1, S2 = 0, S3 = 0.
6. Reapply power to the system.

2.7 Configure the System from the Installer Phone Menu

NOTICE!
You can configure a control panel using pre-configured program data stored on a programming key. For more information, refer to *Section 4.3 Programming Keys*, page 36.

2.7.1 Upgrade the Control Panel (Optional)

Insert the ICP-EZRU-V3 ROM update key.
The upgrade is complete (after 5 to 10 min), when the green (√) LED on the control panel flashes. Remove the green upgrade programming key.

2.7.2 Initiate a Phone Session from the Control Panel

1. Connect a phone set to the test posts or to the phone terminals. Refer to *Figure 1.1*, Page 6.
2. Press and hold the System Test button for approximately 15 sec. *Figure 1.2*, Page 8 for the location of the Test button.
3. When prompted, use the phone set to enter the installer passcode (default is 5432[11]) for the Installer Menu, or the master user passcode (default is 1234[55]) for the User Menu. For the following two procedures, enter the installer passcode.

NOTICE!
For more information on default passcodes, refer to *Section 4.1 System Access by Phone*, page 33.

2.7.3 Configure Required Control Panel Settings

1. From the Installer menu, if prompted to set the panel date and time, press [1][1]. When finished following the prompts, press [#][#] to return to the Installer Menu.
2. If prompted to set the Country Code, press [3][4]. Refer to *Section 11.2 Country Codes*, page 107 for the appropriate Country Code. When finished following the prompts, press [#] to return to the Installer Menu.

2.7.4 Discover Wireless Devices

Discovery is the process through which the wLSN Hub identifies and includes new devices into a system.

1. From the Installer Menu (refer to *Section 2.7.2 Initiate a Phone Session from the Control Panel*, page 22), press [1][6] to start the Discovery Process.
2. Mask all motion detectors. (The optional ISW-BMASK-10 may be used.)
3. When the system announces, "Install all batteries," install the batteries or remove the battery tabs from the wireless devices.
4. Press [1] to continue. The system then says, "Discovering devices, please wait."
   During this time, the system finds all the undiscovered wireless devices. This process takes approximately 6 min.

NOTICE!

Point numbers are assigned to wireless devices in the order that the devices first communicate to the system (tampered, faulted, low battery). If specific point numbers are preferred for wireless devices, ensure that the wireless devices communicate in the appropriate order. Otherwise, the system assigns the lowest available point number to the first tested wireless device. With motion detectors, unmask only the detector you want to test.

5. The system announces, "Wireless devices: xx. Test all points."
   "xx" = the number of wireless devices discovered, but not yet tested.
6. Test each point. If specific point numbers are preferred, test points in the appropriate order.
   Refer to *Table 2.6* for instructions on testing each wireless device.

Device	To Test
Motion Detectors	Walk across the detector's coverage pattern.
Smoke Detector	Press and release the detector's test button, or blow smoke into the detector's chamber to cause an alarm. Restore the alarm.
Relay Module	**Input and Output:** Fault and restore the supervised loop. **Output Only:** Tamper the device.
Inertia Detector	**Magnetic Switch:** Open and then close the switch. **Inertia Only:** Cause an alarm and then restore the alarm[1], or tamper the detector.[3]
Glass Break Detector	Cause an alarm and then restore the alarm, or tamper the detector.[3]
Mini Door/Window Contact Recessed Door/Window Contact	Open and then close the magnetic switch.
Door/Window Contact	Open and then close the magnetic switch, or fault and then restore the supervised loop. Perform both tests only if both the magnetic switch and supervised loop are used.
Indoor Siren	Tamper the device.
Outdoor Siren	Tamper the device. To configure the device, refer to *Section 10.16 wLSN Outdoor Siren*, page 91.

Device	To Test
Water Sensor/Low-temperature Sensor	**Water Sensor:** Select one of the following methods: – Short the water probe pins for at least 5 sec. – Submerge the water probe in water for at least 5 sec. **Low-temperature Sensor:** Short the "T" pads for at least 5 sec.
[1] To test the inertia detector, create a shock to cause an inertia alarm, and then restore alarm. [2] To test the glass break detector, use a special tool to cause a glass break alarm, and then restore the alarm. [3] If you tamper the detector, the control panel enrolls the detector, but does not test it. You must create the appropriate alarm and restore the alarm to test the detector.	

Table 2.6 Wireless Device Test Procedures

After each successful point test, the system announces "Point xx was tested."

If you test a point and the system only announces "Point xx," the point number is assigned, but has not been tested:

- If you prefer specific point numbers, do not continue. Fix any issue with the device and re-test until the system announces "Point xx was tested."
- If you do not prefer specific point numbers, you can test them later through the Installer Menu. When the system completes the testing, the system announces "Wireless devices not configured."

7. The system says, "System test complete.”

2.7.5 Add Users, Tokens, and Key Fobs

1. From the User Phone Menu (refer to *Section 2.7.2 Initiate a Phone Session from the Control Panel*, page 22), press [4] to enter the User Menu.
2. From the User Phone Menu, press [4] to enter the User Menu.
3. Press [1] to add a new user. After you add a new user, you can also assign a token, passcode, and key fobs to that user.
4. Repeat Step 4 to add more users.
5. Press [#] to return to the User Menu.

NOTICE!

If you plan to use a programming key to copy control panel data for back up or use on another system, back up the data now. Refer to *Section 4.3 Programming Keys*, page 36.

2.8 Configure the ITS-DX4020-G Communicator

2.8.1 Configure the Control Panel for Cellular Communication

You must enabled GSM dialing, and set the format used and the destination IP address and port number or phone number. You can also configure anti-replay and other parameters. To do so:

1. Enable GSM dialing using Expert Programming Item 202.
2. For the primary and backup destinations, configure the control panel options as desired. Refer to *Table 2.7*, Page 25 for an example of a typical configuration and the corresponding Expert Programming Items.

	Format	IP Address/Phone Number	Port	Anti-replay
Route 1 Primary (GPRS)	Network	192.168.121.195	7700	1
Item Number to Configure	211	206	241	289
Route 1 Backup (GSM)	Contact ID	1.585.223.4060	N/A	N/A
Item Number to Configure	212	207		

Table 2.7 Example Configuration for Cellular Communications

2.8.2 Configure the ITS-DX4020-G

Ensure that the configuration jumper is installed on the CONFIG MODE (J200) pins.
Refer to *Section 2.2.5 Install the ITS-DX4020-G Communicator and Antenna*, page 15 for proper installation.

1. Observe the LEDs to check for signal strength. Refer to *Table 2.8*, Page 25. Refer to *Figure 9.1*, Page 62 for LED locations.

	LED State						
Strength/Comments	**STATUS**	**CELL IP**	**AUDIO**	**SS1**	**SS2**	**SS3**	**BUS**
Unacceptable–No reading available (modem is resetting or registering).	⊗	⊗	⊗	Off	Off	Off	⊗
Attempting to register on the GSM network.	⊗	⊗	⊗	Flash	Off	Off	⊗
Unacceptable: < -89 dBm.	⊗	⊗	⊗	On	Off	Off	⊗
Acceptable: -89 dBm to -83 dBm.	⊗	⊗	⊗	On	Flash	Off	⊗
Good: -83 dBm to -77 dBm.	⊗	⊗	⊗	On	On	Off	⊗
Very good: -77 dBm to -69 dBm.	⊗	⊗	⊗	On	On	Flash	⊗
Excellent: > -69 dBm.	⊗	⊗	⊗	On	On	On	⊗
Key: → = Scrolling LEDs, from left to right. ⊗ = LED’s status does not matter. Shifting flash = Every other LED flashes simultaneously, creating the shifting flash pattern.							

Table 2.8 ITS-DX4020-G Signal Strength LEDs

2. Call the central monitoring station (CMS) and provide the account number (may be known as NNC number at the CMS), and control panel polling rate.
3. Observe the BUS LED. The LED stays on steady when the communicator has permission to be configured. Refer to *Figure 9.1*, Page 62 for LED locations. Refer to row 2 in Table 2.9, Page 26.
4. Observe the SS1 LED to confirm the ITS-DX4020-G is registered and has sufficient signal strength to configure it by SMS. The SS1 LED must be On to continue. Refer to *Figure 9.1*, Page 62 for LED locations. Refer to Table 2.8, Page 25 for the LED states.
5. Use the SMS configuration template to send the SMS to the installed SIM card phone number. For detailed SMS configuration information, refer to *Section 9.2 Short Message Service (SMS) Configuration*, page 63.

6. Observe the LEDs to confirm that the communicator received a valid configuration SMS. Valid SMS configurationsshould be received within 5 min. Refer to row 4 in *Table 2.9*, Page 26.

		LED State						
	State/Comments	**STATUS**	**CELL IP**	**AUDIO**	**SS1**	**SS2**	**SS3**	**BUS**
1	No control panel authorization received.	→	→	→	GSM Signal Strength			Off
2	Installer is authorized for Configuration mode, or authorization is not required.	→	→	→	GSM Signal Strength			On
3	Received invalid SMS.	→	→	→	Flash	Flash	Flash	Flash
4	Received valid SMS authorizing configuration.	→	→	→	→	→	→	→
Key: → = Scrolling LEDs, from left to right. ⊗ = LED's status does not matter. Shifting flash = Every other LED flashes simultaneously, creating the shifting flash pattern.								

Table 2.9 Configuration Mode (J200 Jumper Installed) LED States

NOTICE!

If the LEDs indicate an invalid SMS, remove the configuration jumper and then repeat the steps in *Section 2.8.2 Configure the ITS-DX4020-G*, page 25.

If the LEDs continue to indicate an invalid SMS, the SMS template might be incorrect. Confirm the SMS template format and settings and try again, or use a USB connection to configure the ITS-DX4020-G.

7. Remove the configuration jumper. The communicator reboots.
8. Ensure that the ITS-DX4020-G can communicate with the D6600/DX6600i. Refer to *Table 2.10*, Page 26.

CELL IP	**Status**
Off	ITS-DX4020-G is not connected to the GPRS network.
Flash	ITS-DX4020-G is connected to the GPRS network, but not connected to the Bosch receiver.
On	ITS-DX4020-G is connected to the Bosch receiver through the GPRS network.

Table 2.10 D6600 Connection Status

2.8.3 Test ITS-DX4020-G Communications

1. Configure the control panel for cellular communication, if necessary. Refer to *Section 2.8.1 Configure the Control Panel for Cellular Communication*, page 25.
2. Send a test alarm using the GPRS network route, and then verify receipt of the alarm at the CMS.
3. For systems using a ITS-DX4020-G with *Network* as the Primary Format (GPRS) and *Contact ID* or *SIA* as the Backup Format (GSM), program and use a Manual Communicator Test using Programming Item Number 362 (refer to *Section System Report and Restoral Routing*, page 51). Then, send a test report using the PTSN using GSM destination and observe the LEDs. Refer to *Section 2.8.3 Test ITS-DX4020-G Communications*, page 27 for configuration information. To use the Manual Communicator Test:

   a) Set the Format for Route 2 Primary Destination (Programming Item Number 213) the same as the Format for Route 1 Backup Destination (Programming Item Number 212)

   b) Set the Route 2 Primary Destination (Programming Item Number 208) the same as the Route 1 Backup Destination (Programming Item Number 207).

   c) Set Programming Item Number 362 to 2 (Route 2 only).

   d) Set Programming Item Number 202 to 1.
4. If incoming GSM calling is enabled, initiate a phone call into the control panel voice menu.

3 Point Expansion

3.1 Perform a RFSS Site Test with the Hub and the Device

You can use the wLSN Hub and the wLSN device to perform an RFSS site test, or use the wLSN Installation Tool (refer to *Section 2.5 Perform the RFSS Site Test using the wLSN Installation Tool*, page 18).

1. Take the device being tested to its planned mounting location.
2. Remove and re-insert the device's batteries, then quickly press and release the tamper switch button four times to enter RFSS mode.
3. Hold the device at the planned mounting location.
4. Determine if the RF signal strength is acceptable by observing the device's LED flash pattern. The flash pattern appears for 10 min. Refer to Table 3.1, Page 28.

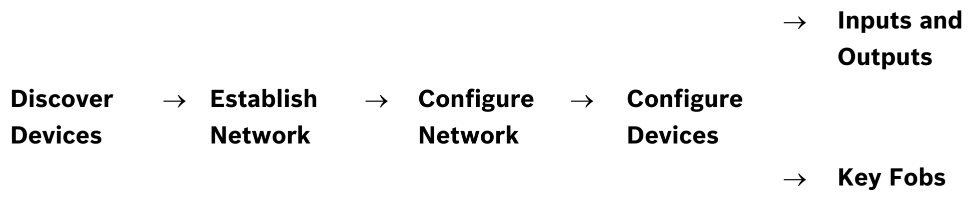
LED Flash Pattern	
Flashes at 1 sec intervals	No packets received or unacceptable signal strength condition.
Flashes rapidly (0.2 sec intervals)	Acceptable signal strength.

Table 3.1 wLSN Device LED Flash Patterns in RFSS Mode

NOTICE!
To cause a device to exit RFSS mode, remove the device's batteries and re-insert them. Devices automatically exit RFSS mode after 10 min of inactivity.

3.2 Establishing the Wireless Network and Configuring Wireless Devices

In order for the wireless network to operate properly, the following process must occur as shown below.



Discover Devices → **Establish Network** → **Configure Network** → **Configure Devices** → **Inputs and Outputs**; → **Key Fobs**

3.2.1 Discover a New System

Discovery is the process through which the wireless hub identifies and includes new (undiscovered) devices into the system.

NOTICE!
You can only perform the new system discovery process once. To update an existing wireless system, refer to *Section 3.3 Wireless Maintenance*, Page 31.

There are two ways to start the discovery process on a new system: point test, and the Wireless Configuration Menu: Point Test and the Wireless Configuration Menu.

Point Test

The device discovery process automatically starts at the beginning of the Point Test.

To start a point test from the System Test Button:

1. Ensure that all devices have exited RFSS Mode, including the wLSN Hub.
   Ensure the wLSN Hub is in normal operating mode (LED is on steady).
2. Press the System Test button for one second.

To start a point test from the Phone Menu:
From the Installer Menu of a phone session (refer to *Section 2.7.2 Initiate a Phone Session from the Control Panel*, Page 22):

– Press [1], and then press [2] to select Full System Test.

OR

– Press [1], and then press [3] to select System Test Menu. From the System Test Menu, press [5] to select Point Test.

Wireless Configuration Menu

1. Enter the Installer Menu of a phone session (refer to *Section 2.7.2 Initiate a Phone Session from the Control Panel*, Page 22).
2. Press [1][6] to select System Maintenance Wireless Configuration. The device discovery process automatically starts.

3.2.2 Establish and Configure the Wireless Network

The wLSN Hub automatically establishes and configures the wireless network.
The wLSN Hub evaluates each available radio frequency (RF) for noise, RF signal strength, and other adjacent wireless systems. The wLSN Hub then selects the frequency with the lowest amount of noise and least amount of traffic for network operation.
To configure the wireless network, the wLSN Hub selects the best channel for broadcasting. Once a channel is selected, the wLSN Hub then configures all discovered devices to operate on the selected frequency. This process takes several minutes.

3.2.3 Configure Devices

Input and Output Devices

NOTICE!
The ISW-BMC1-S135X Door/Window Contact and the ISW-BIN1-S135X Inertia Detector have a magnetic switch as an input. If the magnetic switch is not used, remove the magnet from the device before starting the Point Test.

Once the network is established and configured, the system announces "Test all points." Test the wireless devices in this order: input devices, output devices, and relay modules.

NOTICE!
Do not exit the Point Test until all intended wireless devices are tested. Otherwise, you must manually add devices to the system.
If extra wireless devices not intended for installation are within the wireless hub's range, the wLSN Hub might also discover these devices. To exclude any unused devices from the system, press [#] (or [5] from the control center) to exit the Point Test. The wLSN Hub returns all unused devices to the undiscovered state.

When you restore the device, the system announces the assigned device number.

Test Devices
Point numbers are assigned to wireless devices in the order that the devices first communicate to the system (tampered, faulted, low battery). If specific point numbers are preferred for wireless devices, ensure that the wireless devices communicate in the appropriate order. Otherwise, the system assigns the lowest available point number to the first tested wireless device. With motion detectors, unmask only the detector you want to test. Refer to *Table 2.6* on Page 24 for wLSN device testing instructions.

Key Fobs

1. After the last wireless device is configured and the Point Test ends, press [#] repeatedly until you exit the Installer Menu and end the phone session.
2. Start a new phone session, or press and hold [3] on the control center, and enter the master user (User 1) passcode.
3. Press [4] [1].
4. Enter a passcode, and then re-enter the passcode.
5. Press [4] to add a key fob. Token assignment and voice description are optional.
6. Repeat Steps 4 to 7 to add more users and key fobs, or press [#] repeatedly to end the phone session.

To create a key fob-only system (no wireless input or output devices installed), start at Step 2. In a key fob-only system, adding the first key fob might take several minutes to complete as the wireless network is established and configured. Subsequent key fob additions take less time.

3.3 Wireless Maintenance

3.3.1 Wireless Configuration Menu

Use the Wireless Configuration Menu to:

- Add new wireless devices to an existing wireless system
- Add wireless devices that were not discovered when the wireless network was first discovered
- Replace or delete wireless devices from an existing wireless system

To access the Wireless Configuration menu from the Installer Menu of a phone session (refer to *Section 2.7.2 Initiate a Phone Session from the Control Panel*, Page 22), press [1] [6] for Wireless Configuration.

Menu options are only available after the initial device discovery and point test is completed.

Button Press	Menu Option	Description
[1]	Replace a Device	Use this option to replace a known device with a new device. – Press [1] to replace a point, or [3] to replace an output. For a relay module, select either the input or output, and then enter the appropriate number in Step 2. – Enter the desired point number or output number. The device discovery process starts. – When the system announces "Test all points," activate the new device. The new device replaces the current device. If other devices were discovered in Step 2, they are returned to the undiscovered state.
[2]	Add a Device	Use this option to add more devices to the wireless network. When you press [2] to select this option, the device discovery process starts. When the system announces "Test all points," activate all of the new devices. If other devices were discovered but not activated, they are returned to the undiscovered state.
[3]	Delete a Device	Use this option to delete a known device from the system: – Press [1] to delete a point, or [3] to delete an output. – Enter the desired point number or output number. If the selected point number corresponds with a relay module, both the input and output are deleted from the system. If you only want to delete the input or the output, you must disable the corresponding function through programming. – Press [1] to delete the device. The wireless hub deletes the device from the system, and the point type or output function is set to 0 (Disabled).
[4]	Transfer Wireless Data (control panel-to-hub)	If you replace a hub, select this option to send wireless data from the control panel to the wireless hub.
[5]	Transfer Wireless Data (hub-to-control panel)	If you replace the control panel, select this option to send wireless data from the wireless hub to the control panel. This option deletes key fobs.

Button Press	Menu Option	Description
[6]	Erase and Discover	If the wireless data in the control panel does not match the wireless data in the hub (Bus Device Trouble 50), use this option to erase the wireless data in both the control panel and hub, and rediscover all devices. This option is only available if the wireless data does not match in the control panel and hub.
[#]	Exit Wireless Configuration	Select this option to return to the System Maintenance options.

Table 3.2 Wireless Configuration Menu Options

3.3.2 Assigning Points 1 to 8 as Wireless Points

To assign an on-board point (1 to 8) as a wireless point, disable the point in programming before starting the device discovery process. You can individually assign Points 1 to 8 as wireless points.

3.3.3 Recovering the Wireless Network

Expert Programming Item Number 9999 restores the control panel to its factory default settings. All wireless network data in the control panel is lost, but is retained in the wireless hub.

To recover wireless network data from the wireless hub:

1. From the Installer Menu of a phone session (refer to *Section 2.7.2 Initiate a Phone Session from the Control Panel*, Page 22), press [1] to select System Maintenance.
2. Press [6][5] to transfer wireless data from the hub to the control panel.
   This option deletes key fob assignments. You must reassign all key fobs.

3.3.4 Wireless System Messages

Refer to the following table for a description of system messages that pertain to the wireless network.

System Message	Description
“Wireless devices not configured.”	Point Test was exited before all wireless points were tested.
“Extra device ignored.”	An attempt was made to add a device to a system that already contains the maximum number of points or outputs.
“Point x was tested.”	A point was tested. RFSS is acceptable.
“Point x low.”	A point was tested. RFSS is unacceptable.
“Please wait.”	The wireless network is busy, or the control panel is waiting for the wireless network to respond. The control center might show a single rotating segment of the circle of protection with this message.
“Wireless error.”	The wireless hub is jammed, missing, or experiencing a trouble condition.
“Wireless devices x.”	“x” = the number of devices that are discovered, but not tested.
“Wireless devices not tested x.”	“x” = the number of devices that are discovered, but not yet configured.
“Point x not tested.”	The control panel assigned a point number to the device, but the device was not tested (faulted, or tampered, and restored). “x” = the voice description. By default, the system announces the point number.

Table 3.3 Wireless System Messages

4 Programming Access Options

You can access the system to make programming changes using:

- The Phone Menu
- Remote Programming Software (RPS)
- A Programming Key (using programming copied from a control panel previously programmed using the Phone Menu or RPS)

4.1 System Access by Phone

NOTICE!
Once you configure a control panel using the Phone Menus, you can copy the programming from the control panel to a programming key for use on another control panel, or for backup. Refer to *Section 4.3 Programming Keys*, page 36.

The Installer Phone Menu and User Phone Menu provide access to system functions such as testing the system, programming the system, and adding or changing users.
The Installer Phone Menu requires the installer passcode.
The User Phone Menu requires either the master user (User 1) passcode for full menu access, or a user passcode for limited menu access.
If the passcode length = four digits:

- The default installer passcode is 5432
- The default master user passcode is 1234

If the passcode length = six digits:

- The default installer passcode is 543211
- The default master user passcode is 123455

To access the system menus, select one of the options shown in *Table 4.1*, Page 33.

Options	**Steps**
House Phone	– Press [#][#][#]. – Listen for the voice prompt to enter a passcode. – Enter the installer passcode to access the installer menu, or a user passcode to access the user menu.
Outside Phones	– Call the premises phone number. – After the call is answered by a person or by a telephone answering device, press [*][*][*] to disconnect the answering party and access the system. – Listen for the voice prompt to enter a passcode. If the phone is not answered by a person or telephone answering device, the system answers after a programmed number of rings. Refer to Expert Programming Item Number 222 listed in on *Section Route Destination Items*, page 47. – Enter the installer passcode to access the installer menu, or a user passcode to access the user menu.
Installer Quick Connect	Select this option if a phone line is not available, or a local connection is required. The system must be off to use this option. – Connect a phone set to the test posts or to the phone terminals. – Press and hold the System Test button for approximately 15 sec. – Listen for the voice prompt to enter a passcode. – Enter the installer passcode to access the Installer Menu, or a user passcode to access the User Menu.

Table 4.1 Phone System Access Options

NOTICE!
For an overview of the Installer Phone Menu and User Phone Menu, refer to *Section 1.3 Phone Menus*, page 10.
For detailed Phone Menu programming options, refer to *Section 5 Programming*, page 37.

4.2 RPS

RPS (Remote Programming Software) is a Windows-based account management and control panel programming utility designed to remotely set up and program specific control panels.
You can use RPS to program the control panel from a laptop or PC that is on-site or off-site from the control panel.
For complete installation and operation instructions, refer to the *RPS Installation and Operation Guide* (P/N: 4998141259) that is available on the RPS CD-ROM.

NOTICE!
Once you configure a control panel using RPS, you can copy the programming from the control panel to a programming key for use on another control panel, or for backup. Refer to *Section 4.3 Programming Keys*, page 36.

4.2.1 RPS Connection Methods

You connect to the Easy Series Control Panel to make changes interactively.
To connect RPS to the control panel:

1. Open the control panel account by double-clicking the account, or select the account and click **Open**.
2. Click **Connect**. The **Panel Communication** window opens.
3. Select a connection method from the **Connect Via** menu that best meets the system's needs for remote programming. Refer to the following sections for descriptions of each connection method.

Automatic

This option is the primary method to use for establishing a connection between RPS and the control panel.
Connect the internal modem on the RPS PC, or an external modem, to the control panel.

Manual Dial

1. Either the installer or RPS operator establishes a phone connection between the control panel and RPS:
   – The installer dials the RPS phone number using the house phone, or connects a test telephone to the control panel's test posts,

   OR

   – From the RPS site, the RPS operator uses a telephone connected in parallel to the RPS modem and manually dials the house phone number.
2. The RPS operator selects **Manual Dial** as the connection option on the RPS Panel Communication window.
3. To answer the incoming call, the RPS operator clicks the **Connect** button on the RPS Panel Communication window to establish a remote connection between RPS and the control panel.

Modem Dial

The RPS operator uses a telephone connected in parallel to the RPS modem and clicks the **Connect To** button in the RPS Panel Communication Window to dial the premises phone number.

1. Connect the internal modem on the RPS PC, or an external modem, to the control panel.
2. When the control panel answers the incoming call, the system announces "Enter your passcode."
3. When you hear the control panel modem tones, press the **Connect To** button on the RPS Panel Communication window. RPS then sends the DTMF tone to connect to the control panel.

Direct Connect

Select this method to establish a local, on-site connection between the RPS PC (or laptop) and the control panel.

1. On the Telco side of the phone line, ensure that Tip and Ring are disconnected.
2. Connect the internal modem on the RPS PC, or an external modem, to the control panel. Refer to *Figure 4.1*, Page 35.

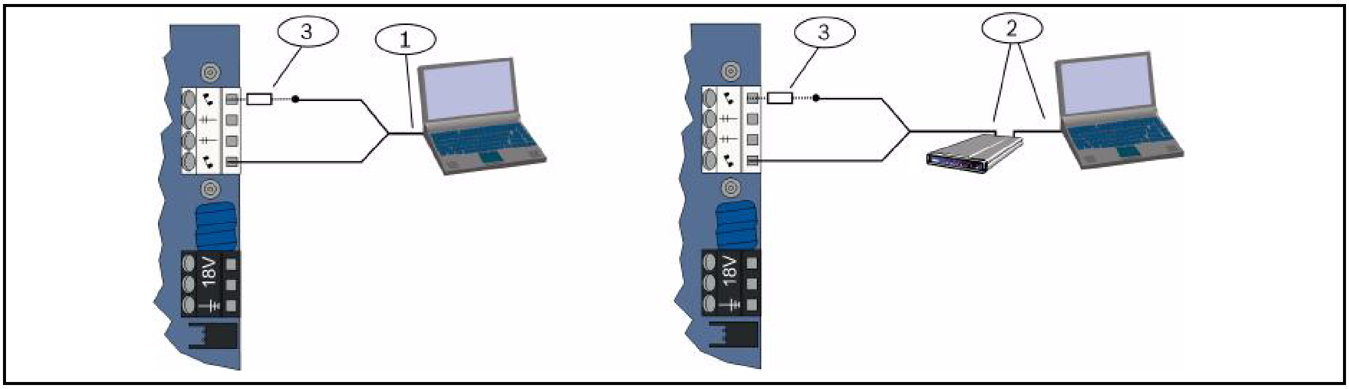


Figure 4.1 Modem Connections

1	Connection using internal modem
2	Connection using external modem
3	270 Ω to 330 Ω, ¼ W resistor (for Direct Connection option only)

3. If the first communication attempt fails, connect a 270 Ω to 330 Ω, ¼ W resistor in series with the Tip House side. Refer to *Figure 4.1*, Page 35.

Network

Select this method to establish a network connection between the RPS PC (or laptop) and the control panel using the ITS-DX4020-G or the DX4020.

4.3 Programming Keys

After you program a control panel using the Phone Menus or RPS, you can use a programming key to transfer data from that control panel to another control panel. You can also use a programming key to back up control panel data.

1. If the system is on, turn it off.
2. Place the key's lock switch in the desired position. Refer to *Figure 4.2*.

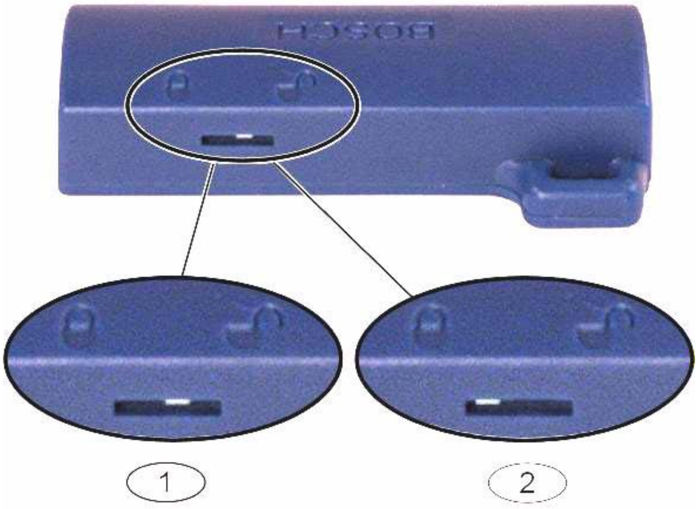


Figure 4.2 Programming Key Lock Positions

1	Send data from control panel to key
2	Send data from key to control panel

3. Insert the key into the control panel board.
   - **Auto Transfer:** If Expert Programming Item Number 123 = 1 (refer to Programming Key Auto Transfer in *Section 5.2.2 System Programming Items*, page 43), the programming key automatically transfers data depending on the position of the lock switch.
   - **Manual Transfer:** If Expert Programming Item Number 123 = 0, you must use the Installer Menu to access the programming key.
     The control center announces when data transfer is completed.
4. When the (√) LED flashes green, data transfer is successful.
   If the (√) LED flashes red, the data transfer is unsuccessful. Remove and reinstall the key.

5 Programming

Method	Description
Basic Programming	Basic Programming consists of a voice menu that contains the essential programming items. Generally, finishing this programming section is usually all that is required for a complete system.
Expert Programming	Expert Programming allows access to all programming categories for full system configuration. Only use expert programming if you have a special programming requirement.

Table 5.1 System Programming Methods

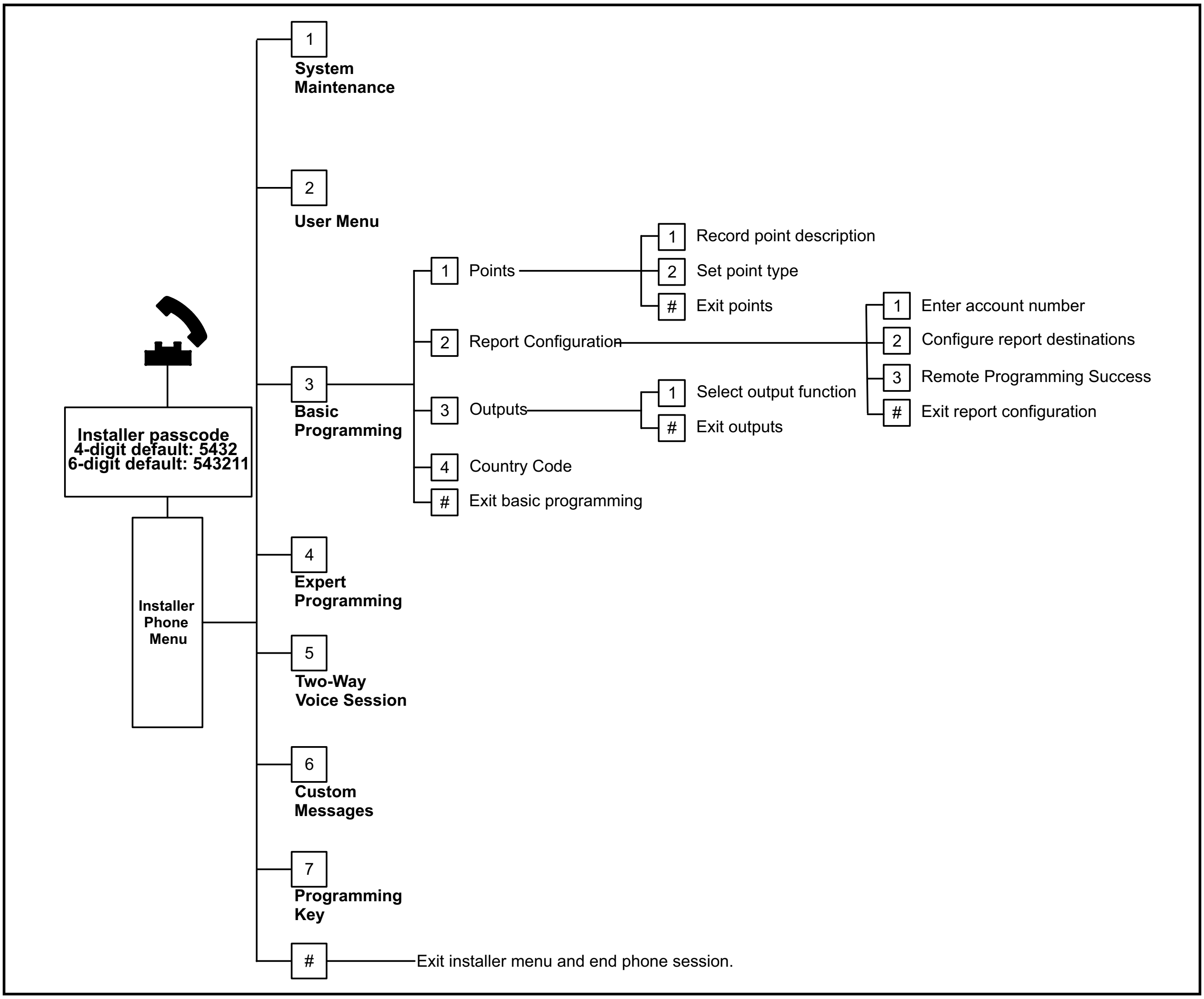
NOTICE!
You can program control panels using the remote programming software RPS. Like Expert Programming, RPS allows access to all programming categories. For more information on RPS and how to use a programming key to streamline a multiple-panel install, refer to *Section 4 Programming Access Options*, page 33.

NOTICE!
For additional instructions and information for select programming items, refer to *Section 11 Programming Details and Defaults*, page 102.
For country code specific defaults for programming items, refer to *Section 11.3 Country Code Specific Default Programming Codes*, page 108.

5.1 Basic Programming

5.1.1 Enter Basic Programming

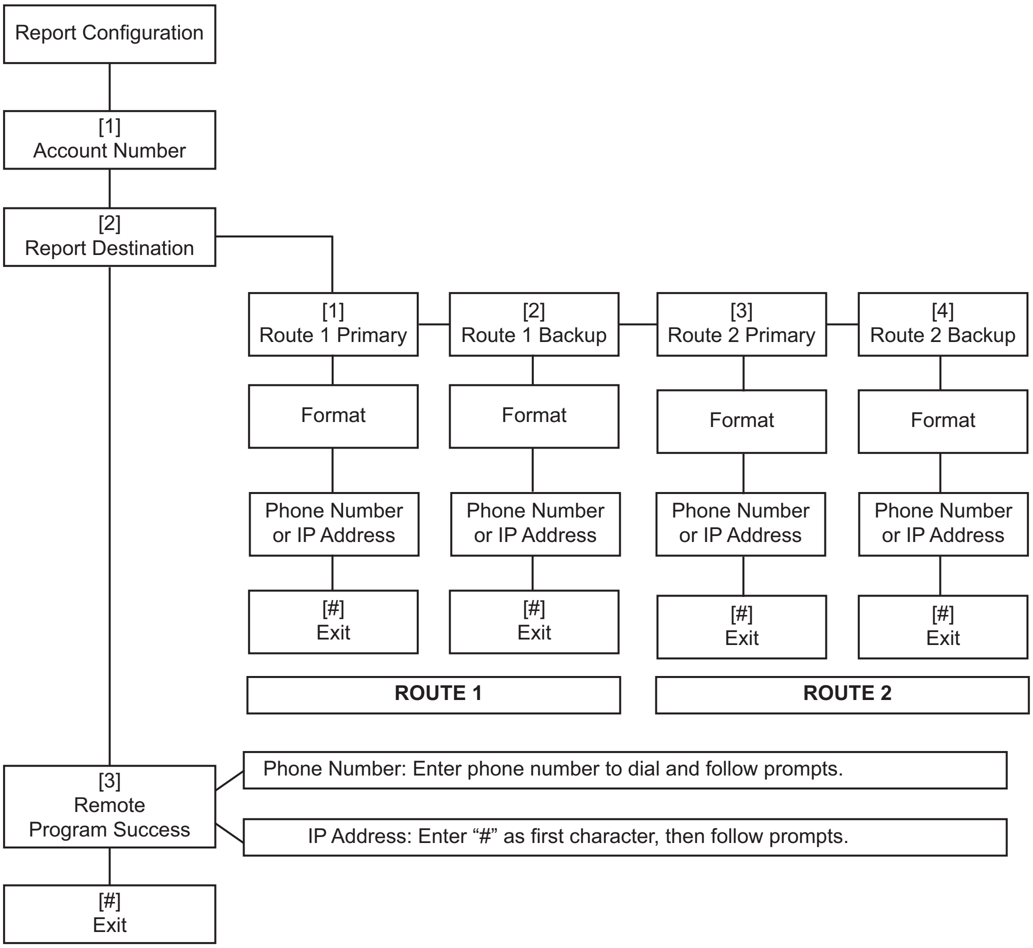
1. Select a system access option. Refer to *Section 4.1 System Access by Phone*, Page 33.
2. Enter the installer passcode to enter the Installer Phone Menu. Refer to *Section 2.7 Configure the System from the Installer Phone Menu*, page 22.
3. Press [3] to enter Basic Programming. Refer to the figure below for the Basic Programming Menu options.



5.1.2 Points

Points	Enter a point number from 1 to 32.		
1	**Record Point Description** For example, if Point 1 is located at the building's front door, say "Front Door" at the tone. **When recording your description, do not press any buttons on your phone until prompted.** Press [1] to continue programming the selected point. Press [2] to re-record your current point description.		
2	**Set Point Type** (Refer to *Point Type* table) Press [1] to select the current option. Press [2] to hear more options. Press [#] to exit Point Type.	**Point Types:** – Disabled – Perimeter (Entry or Exit) – Interior (Follower) – Perimeter Instant – 24-Hour – Fire Verified – Fire Verified – Fire Instant	**Point Types (cont.):** – Silent Panic – Interior Walkthrough – Perimeter Exit Cancel – Momentary Keyswitch – Maintained Keyswitch – 24-Hour Trouble – User Emergency
#	**Exit Points** Return to the Installer Menu.		

5.1.3 Report Configuration


Report Configuration
[1]
Account Number
[2]
Report Destination
[1]
Route 1 Primary
[2]
Route 1 Backup
[3]
Route 2 Primary
[4]
Route 2 Backup
Format
Format
Format
Format
Phone Number or IP Address
Phone Number or IP Address
Phone Number or IP Address
Phone Number or IP Address
[#]
Exit
[#]
Exit
[#]
Exit
[#]
Exit
ROUTE 1
ROUTE 2
[3]
Remote
Program Success
Phone Number: Enter phone number to dial and follow prompts.
IP Address: Enter “#” as first character, then follow prompts.
[#]
Exit

Account Number Entries			**Phone Number/IP Address Entries**	
Entry	**Key Press**		**Entry**	**Key Press**
0 to 9	[0] to [9]		0 to 9	[0] to [9]
B	[*][1]		*	[*][*]
C	[*][2]		#	[*][#]
D	[*][3]		.	[*][1]
E	[*][4]		Pause	[#]
F	[*][5]		Exit with Save	[#][#][2]
			Disable phone number	[0][#]
			Disable IP address	240.0.0.0
			[1] [*] = . between each IP address notation. [2] Press [#] twice within two seconds to exit without saving your entry.	

Table 5.2 Account Number and Phone Number/IP Address Entries

5.1.4 Outputs

Output devices consist of horns, bells, strobes, or sirens.

Outputs	Enter an output number from 1 to 8		
1	**Set Output Function** – Press [1] to select the current option. – Press [2] to hear more options. – Press [#] to exit Output Function.	**Output Functions:** – Disabled – Intrusion – Intrusion Latching – Fire – Fire Latching – Intrusion and Fire – Intrusion and Fire Latching – System Reset	**Output Functions (cont.):** – System On – System Ready – Key Fob On/Off – Key Fob 2-sec Pulse – User Controlled – Interior Intrusion and Fire – System On (Unoccupied)
#	**Exit Points** Return to Installer Menu.		

NOTICE!

When the installer PIN is entered at the keypad or phone, a 3 sec time window starts. During that time window, a tamper alarm activates the interior siren for only 1 sec. Open the enclosure door during this time to silence the sirens during maintenance. Once the enclosure is closed, tamper alarm is restored after a 3 min delay. Tampers are logged and reported.

WARNING!

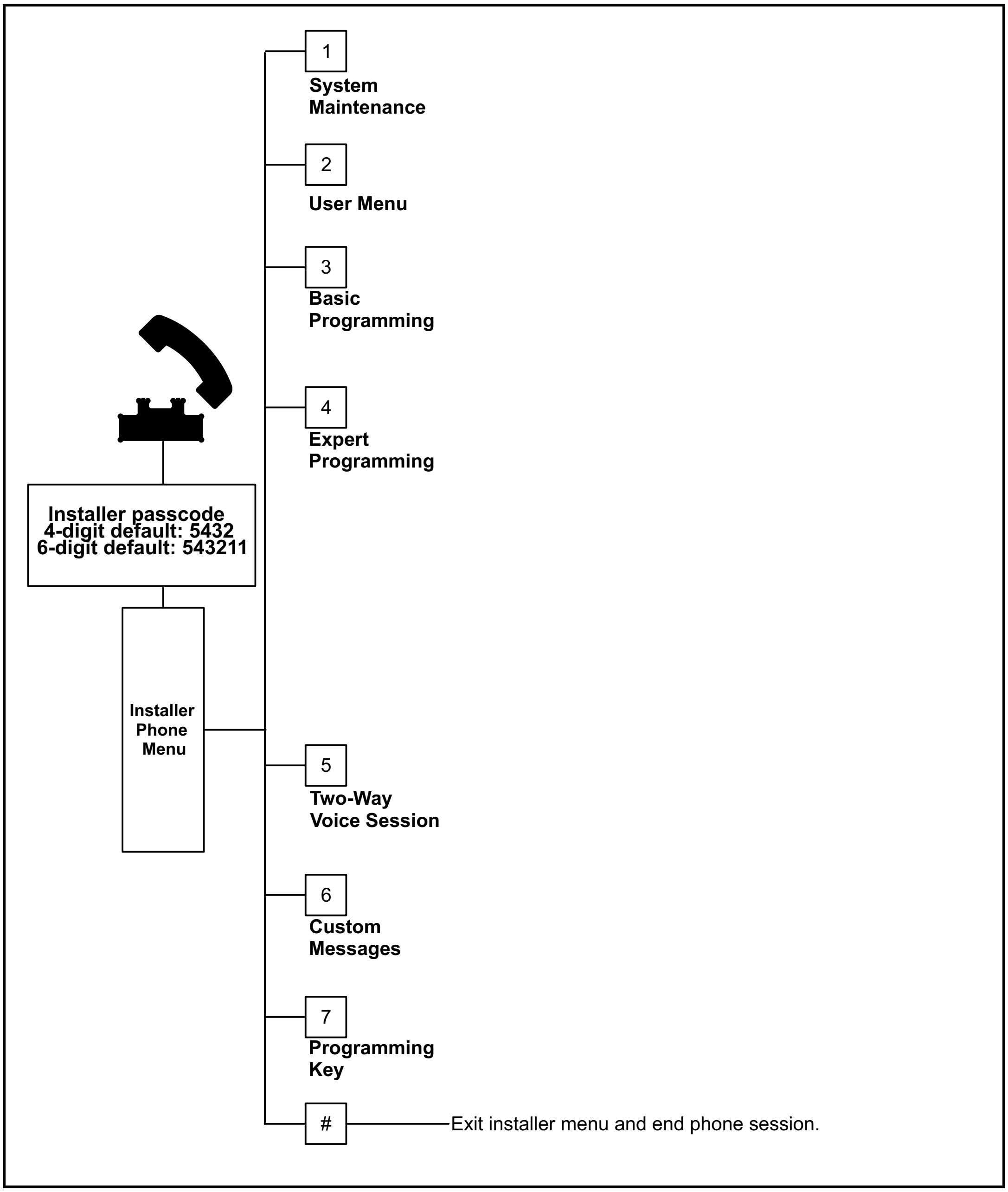
If you modify system parameters you are responsible for maintaining the system within the scope of the standard and regulations that apply to the hardware and/or the system in which it is used. In a NF A2P compliant installation, use only NF A2P listed components, and check that each parameter is in the authorized range.

5.2 Expert Programming

Each category consists of several related programming items. Each programming item is assigned a three- or four-digit number.

For No. 4 in the next figure, perform these steps:

1. Enter an expert programming item number. For example, 201, Phone Line Supervision.
2. Enter the desired value using your phone's keypad. For example, press [1] to enable phone line supervision.
3. Repeat Steps 1 and 2 to configure other programming items, or press [#] to exit Expert Programming.



The following sections list programming items, item numbers, possible selections, and default values. Record custom values in the Entry column next to the respective default value.

5.2.1 ROM Firmware Version Items

Programming Item	Item Number	Description
Control Panel Firmware Version	090	System announces the control panel's firmware version.
Control Center 1 Firmware Version	091	System announces the control center's firmware version.
Control Center 2 Firmware Version	092	
Control Center 3 Firmware Version	093	
Control Center 4 Firmware Version	094	

5.2.2 System Programming Items

Programming Item	Item Number	Selections	Manuf. Default
Country Code (refer to Section 11.2 Country Codes)	102	00 to 65	58
Enclosure Tamper Enabled	103	0 = Disabled 1 = Enabled	1
Fire Bell Cut-Off Time	107	0 to 90 min	5
Intrusion Bell-Cut off Time	108	0 to 90 min	5
Intrusion Abort Window	110	15 to 45 sec	30
Fire Alarm Cancel Window	111	0 to 10 min	0
Intrusion Cancel Window	112	5 to 10 min	5
Chime Tone Select	114	1 = Chime door bell 2 = Single chime 3 = Standard door bell	1
Chime Mode Operation After System Off	115	0 = Off 1 = On 2 = Follows previous setting	0
Automatic Test Report Frequency	116	0 = None 1 = Daily 2 = Weekly 3 = Monthly	0
Access Code	119	6 digits, using 0 to 9	999999
Daylight Saving Time Operation	121	0 = None 1 = North America (before 2007) 2 = Europe and Asia 3 = Tasmania, Australia 4 = Rest of Australia 5 = New Zealand 6 = Cuba 7 = South America and Antarctica 8 = Namibia, Africa 9 = USA after 2006	1
Installer Passcode Override Enabled	122	0 = Disabled 1 = Enabled	1

Programming Item	Item Number	Selections	Manuf. Default
Programming Key Auto Transfer	123	0 = Enable the programming key from the Installer Menu. 1 = Programming key automatically sends or receives stored programming data.	1
Point Alarm Verification	124	0 = None 1 = Cross zone 2 = Intelligent threat assessment 3 = Confirmed alarms 1 4 = Confirmed alarms 2	0
Faulted Points Allowed Threshold	125	0 to 8	3
Exit Delay	126	45 to 255 sec	60
Entry Delay	127	30 to 255 sec	30
Exit Time Restart	128	0 = User cannot reset Exit Delay timer 1 = User can reset Exit Delay timer one time	1
Recent Close Enabled	129	0 = Report not sent 1 = Report sent	1
Swinger Bypass Count	131	0-15	1
Auto Protection Level	132	0 = System turns on (unoccupied). 1 = System only turns on (unoccupied) if a perimeter point is faulted during Exit Delay.	1
System On Order Options	133	1 = "Stay," "Leave," "Custom" 2 = "Stay," "Custom," "Leave" 3 = "Leave," "Stay," "Custom" 4 = "Leave," "Custom," "Stay" 5 = "Custom," "Leave," "Stay" 6 = "Custom," "Stay," "Leave";	1
Cross Zone Timer	134	60 to 3600 sec	120
Clear Alarm Memory	136	0 = By user, 1 = By master user	0
Latching Point and Enclosure Tamper	137	0 = Any user can clear condition 1 = Only the installer can clear condition	0
Latching System Device Tamper	138	0 = Any user can clear condition 1 = Only the installer can clear condition	0
Verbose System Test Enabled	139	0 = Test results announced only at end of all tests 1 = Test results announced after each test	1
Demo Mode	140	0 = Telephone messages heard only on phone 1 = Telephone messages heard on phone and control centers 2 = Turn announcement of telephone messages over the control center on or off at the control center	0
Restrict Installer Passcode	142	0 = Master user not needed 1 = Master user needed	0
Test Report Hour	143	0 to 23	
Test Report Minute	144	0 to 59	0
Test Report Day of Week	145	0 to 6, where 0 = Sunday and 6 = Saturday	0

Programming Item	**Item Number**	**Selections**	**Manuf. Default**
Test Report Day of Month	146	1 to 28	1
Clear Confirmed Alarm Memory	147	0 = User can clear a confirmed alarm 1 = Only the installer can clear a confirmed alarm	0
Arming Beeps/Graduated Annunciation	148	0 = No arming beeps or outputs during Entry Delay 1 = Outputs activate during Entry Delay, but no arming beeps occur. 2 = Sound arming beeps, but outputs do not activate during Entry Delay 3 = Sound arming beeps, and outputs activate during Entry Delay	0
Wireless Jam Detect Level	150	0 to 15	12
Key Fob Arming	153	0 = Do not turn system on if there are faulted points 1 = Force arm faulted points if the number of faulted points is within the range set in Expert Programming Item Number 125 2 = Force arm faulted points even if the number of faulted points exceeds the range set in Expert Programming Item Number 125	0
Two-Way Voice Session Configuration	158	0 = Allow at any time 1 = Allow only during alarm conditions	0
Start Arming with Faulted Points	159	0 = Force arm all faulted points 1 = Exit Delay starts with faulted points	1
Speak Active Faults	160	0 = "Call for Service" announced 1 = Fault condition announced	0
Wireless Transmission Attenuation	161	Temporary attenuation for installation and maintenance only. Not intended for normal operation. 0 = None (normal operation) 1 = 3 dB 2 = 6 dB 3 = 9 dB 4 = 12 dB	0
Missing Wireless Device Conditions	162	0 = Creates a tamper condition (required for EN50131-compliant countries). 1 = Creates a trouble condition.	0
Silence Trouble Tones	163	0 = All trouble tones announced 1 = Fire and 24-Hour trouble tones announced	0
System Inactivity Time (Hours)	164	0 to 255	0
System Inactivity Time (Days)	165	0 to 255	0
System Inactivity Time (Weeks)	166	0 to 255	0
Force Arm/Exit Error	167	0 = Off-normal points create an Exit Error at the end of Exit Delay 1 = Off-normal points are force armed at the end of Exit Delay	0

Programming Item	Item Number	Selections	Manuf. Default
Audio Verification Command Set	168	0 = Complies with SIA AV-01-1997.11 1 = Use alternate verification command set	
Key Fob Duress	601	0 = Duress event disabled 1 = Duress event enabled	0
Key Fob Button Configuration	616	0 = Status request only 1 = Turn system on (occupied) 2 = Turn system on (custom protection) 3 = Turn output on or off 4 = Turn output on for 2 sec.	0
Key Fob Button Configuration	626		0
Default = Country-specific default. Select this programming item to hear the updated default value, or refer to *Section 11.3 Country Code Specific Default Programming Codes*, page 108.			

5.2.3 Communicator Programming Items

NOTICE!

To enable reporting, configure the following programming items:

- Account Number (Expert Programming Item Number 100)
- Route 1 Primary Destination (Expert Programming Item Number 206)
- Format for Route 1 Primary Destination (Expert Programming Item Number 211)

Route Destination Items

Programming Item	**Item Number**	**Selections**	**Manuf. Default**
Account Number	100	4 or 6 digits, using 0 to 9 and B to F. Refer to *Table 5.2*, Page 40 for account number, phone number, and IP address entry instructions.	000000
Phone Line Supervision	201	0 = Unsupervised. 1 = Supervised.	0
PSTN or GSM Connection	202	0 = PSTN telephone line 1 = ITS-DX4020-G Wireless Phone using GSM	
Voice Format Repeat Count	203	1 to 15	3
Voice Format Message Delivery Attempts	204	1 to 5 in increments of 5 sec	1
Dial Tone Detect	205	0 = Do not wait for dial tone. 1 = Wait for dial tone.	1
Route 1 Primary Destination	206	Enter a phone number (up to 32 digits) or IP address (000.000.000.000 to 255.255.255.255) for each destination: 0 to 9 = [0] to [9] * = [*][*] # = [*][#] Pause = [*][1] Exit with save = [#] Exit without save = [#][#] Press [#] twice within two seconds to exit without saving your entry. Disable phone number = [0][#] Disable IP address = 240.0.0.0	0
Route 1 Backup Destination	207		0
Route 2 Primary Destination	208		0
Route 2 Backup Destination	209		0
SMS Service Provider Number	210	Up to 32 digits.	0
Format for Route 1 Primary Destination	211	0 = Disabled 1 = Contact ID 2 = SIA 3 = Voice 4 = SMS Text 5 = Fast Format 6 = Network (requires a 4-digit account number)	0
Format for Route 1 Backup Destination	212		0
Format for Route 2 Primary Destination	213		0
Format for Route 2 Backup Destination	214		0
Call Waiting Disable	215	Enter a 3-digit string. * = [*][*]; # = [*][#]	0
Emergency Call Override Number	216	Enter a 3-digit emergency number, such as 911.	000
Emergency Call Override Number Delay	217	0 to 60 min	5

Programming Item	Item Number	Selections	Manuf. Default
Auto Detect Pulse Dial	218	0 = Tone dialing only 1 = Auto Detect Pulse or Tone	0
Phone Answer Ring Count	222	1 to 255 rings Enter 11 to bypass an answering machine.	10
Bell Test	223	0 = Disabled 1 = Enabled	0
Default = Country-specific default. Select this programming item to hear the updated default value, or refer to *Section 11.3 Country Code Specific Default Programming Codes*, page 108.			

Alternate Communication Items

Programming Item	Item Number	Selections	Manuf. Default
Port Number for Route Destination: Route 1 Primary = 241 Route 1 Backup =242 Route 2 Primary = 243 Route 2 Backup = 244	241 242 243 244	0 to 65535	7700 7700 7700 7700
Heartbeat for Route Destination: Route 1 Primary = 281 Route 1 Backup =282 Route 2 Primary = 283 Route 2 Backup = 284	281 282 283 284	0 = Disabled 1 to 65535 min	0 0 0 0
Acknowledge Wait Time for Route Destination Route 1 Primary = 285 Route 1 Backup =286 Route 2 Primary = 2887 Route 2 Backup = 288	285 286 287 288	5 to 255 sec	15 15 15 15
Anti-Replay for Route Destination: Route 1 Primary = 289 Route 1 Backup =290 Route 2 Primary = 291 Route 2 Backup = 292	289 290 291 292	0 = Disabled 1 = Enabled	1 1 1 1
Heartbeat Attempt for Route Destination: Route 1 Primary = 293 Route 1 Backup =294 Route 2 Primary = 295 Route 2 Backup = 296	293 294 295 296	1 to 99	5 5 5 5
Extend Heartbeat Period	297	0 = Disabled 1 to 255 min	

5.2.4 RPS Configuration Items

Programming Item	Item Number	Selections	Manuf. Default
RPS Passcode	118	6 digits, using 0 to 9 and A to F.	123456
RPS Automatic Call In Frequency	224	0 = Never 1 = Daily 2 = Weekly 3 = Monthly	
RPS Automatic Call In Time (Hours)	225	0 to 23	
RPS Automatic Call in Time (Minutes)	226	0 to 59	
RPS Automatic Call in Time (Day of Week)	227	0 to 6, where 0 = Sunday and 6 = Saturday	
RPS Automatic Call in Time (Day of Month)	228	1 to 28	
RPS Automatic Call in Phone Number	229	Enter a phone number (up to 32 digits) or IP address (000.000.000.000 to 255.255.255.255) for each destination: 0 to 9 = [0] to [9] * = [*][*] # = [*][#] Pause = [*][1] Exit with save = [#] Exit without save = [#][#] Press [#] twice within two seconds to exit without saving your entry. Disable phone number = [0][#] Disable IP address = 240.0.0.0	
RPS Automatic Call in Method	245	0 = Phone number 1 = IP address	
RPS Port Number	246	0 to 65535	7750

5.2.5 Route Reporting Options

Point Report and Restoral Routing

Programming Item	Item Number	Manuf. Default	Programming Item	Item Number	Manuf. Default
Point Reports and Restorals (all)*	301	3	Fire Trouble	328	3
Intrusion Alarm	307	3	Fire Trouble Restoral	329	3
Intrusion Alarm Verified	308	3	24-Hour Trouble	331	3
Intrusion Alarm Unverified	309	3	24-Hour Trouble Restoral	332	3
Intrusion Alarm 24-hr	310	3	Point Missing	333	3
Intrusion Alarm 24-hr Restoral	311		Point Missing Restoral	334	3
Intrusion Alarm Restoral	312	3	Supervisory Alarm	335	3
Duress	313	3	Supervisory Alarm Restoral	336	3
Fire Alarm	315	3	Wireless Point Low Battery	360	3
Fire Alarm Unverified	316	3	Wireless Point Low Battery Restoral	361	3
Fire Alarm Restoral	317	3	Fire Cancel	371	3
Panic	318	3	Point Tamper	388	3
Cancel	323	3	Point Tamper Restoral	397	3
Intrusion Trouble	324	3	Cross Zone Trouble	393	3
Intrusion Trouble Restoral	325	3	Alarm Recent Close	394	3
Intrusion Zone Bypass	326	3	Panic Restoral	399	3
Intrusion Zone Bypass Restoral	327	3	Cross Zone Trouble Restoral	400	3

*Enter a value to globally set all of the following reports to the same value.

To modify one a specific report, enter a value in that report’s item number:

0 = Neither route

1 = Route 1 only; Primary and Backup

2 = Route 2 only; Primary and Backup

3 = Both routes; Primary and Backup

System On and Off Report Routing

Programming Item	Item Number	Manuf. Default	Programming Item	Item Number	Manuf. Default
System On and Off* (open and close) Reports (all)	302	3	Open	341	3
Exit Error	314	3	Open Keyswitch	342	3
Recent Closing	330	3	Open Remote	343	3
Close (System On) Unoccupied	337	3	Close (System On) Custom	344	3
Close (System On) Occupied	338	3	Opening by Guard Code	386	3
Close Keyswitch	339	3	Partial Close (System On)	403	3
Close Remote	340	3			3

*Enter a value to globally set all of the following reports to the same value.

To modify only a specific report, enter a value in that report's item number.

0 = Neither route

1 = Route 1 only; Primary and Backup

2 = Route 2 only; Primary and Backup

3 = Both routes; Primary and Backup

System Report and Restoral Routing

Programming Item	Item Number	Manuf. Default	Programming Item	Item Number	Manuf. Default
System Reports and Restorals (all)[1]	303	3	Communication Restoral	352	3
User Emergency[2]	319	3	Control Center Supervision Fail	353	3
User Fire[3]	320	3	Control Center Supervision Restoral	354	3
User Fire Restoral	321	3	Control Center Tamper	355	3
User Panic	322	3	Control Center Tamper Restoral	356	3
AC Fail	345	3	System Inactive	385	3
AC Fail Restoral	346	3	Watchdog Reset	390	3
Auto System Test Normal	347	3	Passcode Tamper	391	3
Auto System Test Off-Normal	348	3	Date/Time Changed	410	3
Auxiliary Power Fault	349	3	Network Fail	413	3
Auxiliary Power Restoral	350	3	Network Restoral	414	3
Communication Fail	351	3			3
Local Programming Success*	357	3	Bus Device Trouble	373	3
Low Battery	358	3	Bus Device Trouble Restoral	374	3
Low Battery Restoral	359	3	ROM Fault	375	3
Communication Test, Manual	362	3	Bell Trouble	376	3
Phone Line Fault	363	3	Bell Restoral	377	3
Phone Line Fault Restoral	364	3	Walk Test End	378	3
Remote Programming Failure	365	3	Walk Test Start	379	3
Remote Programming Success	366	3	Bus Device Missing	380	3
Wireless Receiver Jammed	367	3	Bus Device Missing Restoral	381	3
Wireless Receiver Jammed Restoral	368	3	Battery Missing	382	3
Bus Device Tamper	369	3	Battery Missing Restoral	383	3
Bus Device Tamper Restoral	370	3	RAM Checksum Failed	384	3

[1] Enter a value to globally set all of the following reports to the same entry.

[2] To modify only a specific report, enter a value in that report's item number.

0 = Neither route

1 = Route 1 only; Primary and Backup

2 = Route 2 only; Primary and Backup

3 = Both routes; Primary and Backup

[3] To enable the control center's emergency buttons, set Expert Programming Items 889, 888, and 890.

Global Report Routing Items

Programming Item	Item Number	Selections	Manuf. Default
Communicator Disable	304	0 = Enable reporting 1 = Disable reporting (local-only system)	0
Route Attempts	305	1 to 20	10
Send Reports During Walk Test	306	0 = No reports 1 = Only Walk Test Start and Walk Test End reports	0
Default = Country-specific default. Select this programming item to hear the updated default value, or refer to *Section 11.3 Country Code Specific Default Programming Codes*, page 108.			

5.2.6 Point Programming Items

Programming Item Number (bold digits = Point Number)	Programming Item	Selections
9**01**1, 9**02**1, 9**03**1, 9**04**1... 9**10**1...9**15**1...9**20**1...9**32**1	Point Type	0 = Disabled 1 = Perimeter 2 = Interior 3 = Perimeter Instant 4 = 24-Hour 5 = Fire Verified* 6 = Fire Instant 7 = Silent Panic 8 = Interior Walkthrough 9 = Perimeter Exit Cancel 11 = Momentary Keyswitch 12 = Maintained Keyswitch 13 = 24-Hour Trouble 14 = User Emergency
9**01**2, 9**02**2, 9**03**2, 9**04**2... 9**10**2...9**15**2...9**20**2...9**32**2	Circuit Style	0 = Dual 2.2 kΩ alarm and tamper circuit 2 = Single 2.2 kΩ alarm circuit
9**01**3, 9**02**3, 9**03**3, 9**04**3... 9**10**3...9**15**3...9**20**3...9**32**3	Include in Custom Protection	0 = Point not included 1 = Point included
9**01**4, 9**02**4, 9**03**4, 9**04**4... 9**10**4...9**15**4...9**20**4...9**32**4	Cross Zone/Exit Route	0 = Cross zoning disabled, point is on the exit route. 1 = Cross zoning enabled, point is on the exit route 2 = Cross zoning disabled, point is **not** on the exit route (must force arm). 3 = Cross zoning enabled, point is **not** on the exit route.
9**01**5, 9**02**5, 9**03**5, 9**04**5... 9**10**5...9**15**5...9**20**5...9**32**5	Response Time	1 to 10 in 50 ms increments

Programming Item Number **(bold digits = Point Number)**	**Programming Item**	**Selections**
9**01**6, 9**02**6, 9**03**6, 9**04**6... 9**10**1...9**15**1...9**20**1...9**32**1	Alarm Verification	0 = Disable alarm verification 1 = Enable alarm verification
9**01**8, 9**02**8, 9**03**8, 9**04**8... 9**10**8...9**15**8...9**20**8...9**32**8	Wireless Detector Sensitivity	**Motion Detector (PIR and dual)** 0 = Standard 4 = Intermediate **Inertia Detector: Gross Attack Options** 0 = Tap off, low sensitivity 1 = Tap off, low/medium sensitivity 2 = Tap off, medium/high sensitivity 3 = Tap off, high sensitivity **Inertia Detector: Minor Attack Options** 8 = Tap on, 8 taps, low sensitivity 9 = Tap on, 8 taps, low/medium sensitivity 10 = Tap on, 8 taps, medium/high sensitivity 11 = Tap on, 8 taps, high sensitivity 12 = Tap on, 4 taps, low sensitivity 13 = Tap on, 4 taps, low/medium sensitivity 14 = Tap on, 4 taps, medium/high sensitivity 15 = Tap on, 4 taps, high sensitivity

Point Type (9**01**1 ... 9**32**1): Point 1 = 6, Points 2 - 5 = 1, Points 6 - 8 = 2, Points 9 - 32 = 0
Circuit Style (9**01**2 ... 9**32**2): Points 1 - 32 = 2
Custom Protection (9**01**3 ... 9**32**3): Points 1 - 32 = 0
Cross Zone Enabled (9**02**1 ... 9**32**1): 1
Response Time (9**01**5 ... 9**08**5): Points 1 - 8 only = 6
Wireless Sensitivity (9**01**8 ... 9**32**8): Points 1 - 32 = 0
Alarm Verification (9**01**6 ... 9**32**6): Points 1 - 32 = 0

Table 5.3 Manuf. Default for Point Programming Items

5.2.7 Output Programming Items

Programming Item	Item Number	Selections	Manuf. Default
Fire Output Cadence	600	0 = Temporal Code 3 cadence 1 = Pulse cadence (two-sec on, two-sec off)	0
Output 1 Function (wired)	611	0 = Disabled 1 = Intrusion 2 = Intrusion Latching 3 = Fire 4 = Fire Latching 5 = Intrusion and Fire 6 = Intrusion and Fire Latching 7 = System Reset 8 = System On 9 = System Ready 10 = Key Fob On/Off 11 = Key Fob 2-sec Pulse 13 = User Controlled 14 = Interior Intrusion and Fire 15 = System On (Unoccupied) 16 = Intrusion and Fire 2	5
Output 2 Function (wired)	621		5
Output 3 Function (wired)	631		5
Output 4 Function (wired)	641		7
Output 5 Function (wireless)	651		5
Output 6 Function (wireless)	661		0
Output 7 Function (wireless)	671		0
Output 8 Function (wireless)	681		0
Output 4 Supervised Speaker Driver (wired)	642	0 = Supervised 8 Ω speaker driver 1 = Unsupervised open collector	0
Default = Country-specific default. Select this programming item to hear the updated default value, or refer to *Section 11.3 Country Code Specific Default Programming Codes*, page 108.			

NOTICE!
When programming a wireless output (for example, a siren or relay module), do not select an output function that requires the output to activate for an extended period (for example System Ready).

5.2.8 Control Center Programming Items

Speech Configuration Items

Programming Item	Item Number	Selections	Manuf. Default
Alarm Message Minimum Repeat Time	880	(1 to 255 hrs).	12
"No Alarm Report Sent" Announcement	883	0 = Announcement disabled. 1 = Announcement enabled.	1
"Cancel Report Sent" Announcement	884		1
Time Format	887	0 = Determined by voice module 1 = Always use 12-hr mode 2 = Always use 24-hr mode	0

Global Control Center Items

These programming items affect all control centers connected to the control panel.

To send a user fire, emergency (medical) or panic report, the appropriate control center button and report must be enabled. Refer to *Section 5.2.5 Route Reporting Options* on Page 50 to enable reports.

Check the appropriate box in the Easy Series User Guide (P/N: F01U0xxxxx) to identify which buttons are enabled.

Programming Item	Item Number	Selections	Manuf. Default
Fire Button Alarm	888	0 = Disabled. 1 = Enabled.	0
Medical Button Alarm	889	0 = Disabled. 1 = Enabled	0
Panic Button Alarm	890	0 = Disabled. 1 = Enabled (audible). 2 = Enabled (silent).	0
One Button Arming [i]	891	0 = Disabled (token or passcode required). 1 = Enabled (token or passcode is not required).	0
Invalid Passcode Attempt Limit	892	3 to 8.	3
Control Center Lockout Time	893	1 to 30 min.	3

Individual Control Center Items

Programming Item	Item Number	Selections	Manuf. Default
Control Center Brightness	Control Center 1: 811	1 (dim) to 5 (bright).	Control Center 1: 5
	Control Center 2: 821		Control Center 2: 5
	Control Center 3: 831		Control Center 3: 5
	Control Center 4: 841		Control Center 4: 5
Control Center Backlight Extinguish Mode	Control Center 1: 814	0 = Always on. 1 = Dim until user presence is detected. 2 = Off until user presence is detected. 3 = Off until user presents token or enters passcode.	Control Center 1: 0
	Control Center 2: 824		Control Center 2: 0
	Control Center 3: 834		Control Center 3: 0
	Control Center 4: 844		Control Center 4: 0
Default = Country-specific default. Select this programming item to hear the updated default value, or refer to *Section 11.3 Country Code Specific Default Programming Codes*, page 108.			

5.2.9 User Programming Items

Programming Item	Item Number	Selections	Manuf. Default
Passcode Length	861	Set the length of all passcodes (4 or 6 digits).	4
Installer Passcode (User 0)	7001	Four-digit Range: 1111 to 5555 Six-digit Range: 111111 to 555555	5432 543211
Master User Passcode (User 1)	7011		1234 123455
Duress User (User 22) Enabled	862	0 = Duress user disabled 1 = Duress user enabled 2 = Guard code enabled Duress User passcode: Six digits: 111111 Four digits: 1111	0
RFID Token Password	863	Use this item to prevent unauthorized copying of tokens (00000000 to FFFFFFFF).	12345678
Default = Country-specific default. Select this programming item to hear the updated default value, or refer to *Section 11.3 Country Code Specific Default Programming Codes*, page 108.			

⚠ **CAUTION!**

Do not change the RFID Token Passwords item once tokens are added to the system.

5.2.10 Factory Default

Programming Item	Item Number	Selections
Factory Default	9999	Enter 9999 to restore all factory default values. All programming items, except for the country code, are reset when you restore the factory default values. This item also deletes all wireless data, but does not default the wireless hub.

⚠ **WARNING!**
For NF A2P installations, once the panel is configured, check that all parameters are within the range of authorized values. Refer to *Section 12.7 EN50131 Requirements*, page 119.

5.3 Exit Programming

Press [#] repeatedly until the system says "goodbye." This ends the phone session.

6 Control Panel Event Codes (SIA and Contact ID)

Event	SIA	Report	Contact ID	Report
Intrusion Alarm	BA	Burglary Alarm	1 130	Burglary
Intrusion Alarm Verified	BV	Burglary Alarm Verified	1 139	Burglary
Intrusion Alarm Unverified	BG	Unverified Event Burglary	1 130	Burglary
Intrusion Alarm 24-hr	BA	Burglary Alarm	1 133	24 Hour (Safe)
Intrusion Alarm 24-hr Restoral	BH	Burglary Alarm Restore	3 133	Restoral
Intrusion Alarm Restoral	BR	Burglary Restoral	3 130	Burglary
Duress	HA	Hold Up Alarm	1 121	Duress
Exit Error	EA	Exit Alarm	1 374	Exit Error (zone)
Fire Alarm	FA	Fire Alarm	1 110	Fire
Fire Alarm Unverified	FG	Unverified Event-Fire	1 110	Fire
Fire Alarm Restoral	FH	Fire Alarm Restore	3 110	Fire
Panic	HA	Holdup Alarm	1 120	Panic
Panic Restoral	HH	Holdup Alarm Restore	3 120	Panic
User Emergency (Medical)	QA	Emergency Alarm	1 101	Personal Emergency
User Fire	FA	Fire Alarm	1 110	Fire
User Fire Restoral	FH	Fire Alarm Restore	3 110	Fire
User Panic	HA	Holdup Alarm	1 120	Panic
Cancel	BC	Burglary Cancel	1 406	Cancel
Intrusion Trouble	BT	Burglary Trouble	1 380	Sensor Trouble
Intrusion Trouble Restoral	BJ	Burglary Trouble Restore	3 380	Sensor Trouble
Intrusion Point Bypass	BB	Burglary Bypass	1 570	Zone/Sensor bypass
Intrusion Point Bypass Restoral	BU	Burglary Unbypass	3 570	Zone/Sensor bypass
Fire Trouble	FT	Fire Trouble	1 373	Fire Trouble
Fire Trouble Restoral	FJ	Fire Trouble Restore	3 373	Fire Trouble
Recent Closing	CR	Recent Closing	1 459	Recent Closing
Close (System On) Unoccupied	CL	Closing Report	3 401	Unoccupied Arm by User
Close (System On) Occupied	CL	Closing Report	3 441	Occupied Arm by User
Close (System On) Custom	CL	Closing Report	3 441	Custom Arm by User
Close (System On) Partial	CL	Closing Report	3 456	Partial Arm by User
Close (System On) Keyswitch	CS	Closing Keyswitch (User 255)	3 409	Keyswitch O/C (User 255)
Open (System Off)	OP	Opening Report	1 401	O/C by User
Open (System Off) Keyswitch	OS	Opening Keyswitch (User 255)	1 409	Keyswitch O/C (User 255)
AC Fail	AT	AC Trouble	1 301	AC Loss
AC Fail Restoral	AR	AC Restoral	3 301	AC Loss
Auto System Test (Normal)	RP	Automatic Test	1 602	Period Test Report (User 0)
Auto System Test (Off-Normal)	RY	Test Off Normal	1 608	Period Test Report, System Trouble Present
Auxiliary Power Fault	IA	Equipment Failure Condition	1 310	Ground Fault
Auxiliary Power Restoral	IR	Equipment Fail Restoral	3 310	Ground Fault
Communication Fail	YC	Communications Fail	3 310	Failure to communicate event
Communication Restoral	YK	Communications Restoral	3 354	Failure to communicate event
Control Center Supervision Fail	EM	Expansion Device Missing	1 333	Expansion module failure
Control Center Supervision Restoral	EN	Expansion Missing Restore	3 333	Sensor Trouble
Control Center Tamper	ES	Expansion Device Tamper	1 341	Expansion Device Tamper
Control Center Tamper Restoral	EJ	Expansion Device Tamper Restore	3 341	Expansion Device Tamper
Local Programming	LX	Local Programming Ended	1 628	Program mode exit
Low Battery	YT	System Battery Trouble	1 302	Low System Battery
Low Battery Restoral	YR	System Battery Restoral	3 302	Low System Battery
Communication Test	RX	Manual Test	1 601	Manual trigger test report
Phone Line Fault	LT	Phone Line Trouble	1 351	Telco 1 fault

Event	SIA	Report	Contact ID	Report
Phone Line Fault Restoral	LR	Phone Line Restoral	3 351	Telco 1 fault
ROM Fault	YF	Parameter Checksum Fail	1 304	ROM Checksum Bad
Bell Trouble	YA	Bell Fault	1 320	Sounder/ Relay
Bell Restoral	YH	Bell Restored	3 320	Sounder/ Relay
Walk Test Start	TS	Test Start	1 607	Walk Test Mode
Walk Test End	TE	Test End	3 607	Walk Test Mode
Bus Device Missing	EM	Expansion Device Missing	1 333	Exp. Module Failure
Bus Device Missing Restoral	EN	Expansion Missing Restore	3 333	Exp. Module Failure
Battery Missing	YM	System Battery Missing	1 311	Battery Missing/Dead
Battery Missing Restoral	YR	System Battery Restoral	3 311	Battery Missing/Dead
RAM Checksum Failed	YF	Parameter Checksum Fail	1 303	RAM Checksum bad
Point Tamper	TA	Tamper Alarm	1 137	Tamper
Point Tamper Restoral	TH	Tamper Alarm Restoral	3 137	Tamper Restoral
Cross Zone Trouble	BG	Unverified Event - Burglary	1 378	Cross-zone Trouble
Cross Zone Trouble Restoral	BR	Burglary Restoral	3 378	Cross-zone Trouble
Point Missing	UY	Untyped Missing Trouble	1 381	Loss of Supervision - RF
Point Missing Restoral	UJ	Untyped Trouble Restore	3 381	Loss of Supervision - RF
Wireless Point Low Battery	XT	Transmitter Battery Trouble	1 384	RF Low Battery
Wireless Point Low Battery Restoral	XR	Transmitter Battery Restoral	3 384	RF Low Battery
Wireless Receiver Jammed	XQ	RF Interference	1 344	RF Receiver Jam Detect
Wireless Receiver Jammed Restoral	XH	RF Interference Restoral	3 344	RF Receiver Jam Detect
Bus Device Tamper	XS	RF Receiver Tamper	1 341	Exp Module Tamper
Bus Device Tamper Restoral	XJ	RF Receiver Tamper Restoral	3 341	Exp Module Tamper
Bus Device Trouble	ET	Expansion Trouble	1 330	System Peripheral Trouble
Bus Device Trouble Restoral	ER	Expansion Restoral	3 330	System Peripheral Trouble
Remote Programming Success	RS	Remote Program Success	1 628	Program mode exit
Remote Programming Failure	RU	Remote Program Fail	1 628	Program mode exit
24-Hour Trouble	UA	Untyped Zone Alarm	1 150	24-Hour Non-Burglary
24-Hour Trouble Restoral	UR	Untyped Zone Restoral	3 150	24-Hour Non-Burglary
Opening by Guard Code	OR	Disarm From Alarm	1 450	Exception Open/Close
System Inactive	CI	Fail to Close	1 454	Failed to Close
Network Fail	NT	Network Failure	1 350	Communication Trouble
Network Restoral	NR	Network Restoral	3 350	Communication Trouble
Passcode Tamper	JA	User Code Tamper	1 461	Wrong Code Entry
Firmware Updated	YZ	Service Completed	1 412	Successful Download/Access
Watchdog Reset	YW	Watchdog Reset	1 305	System Reset
Date/Time Change	JT	Time Changed	1 625	Time/Date Reset

7 Default the System

7.1 Default the Control Panel and the wLSN Hub

To restore the control panel to its factory settings, including programming data, and erase the wireless network:

1. Remove all power to the system.
2. Remove the wLSN Hub from its base. Refer to *Figure 1.1*, Page 6.
3. Record the current switch settings, then set the switches as follows: **S1** = 9, **S2** = 8, **S3** = 7. Refer to *Figure 1.1*, Page 6.
4. Reconnect the wLSN Hub to the base.
5. Reapply all power to the system.
6. Wait for the green LED on the wLSN Hub to turn on and then off (approximately 5 sec).
7. Remove all power to the system.
8. Disconnect the wLSN Hub from the base again, and reset the switches to their previous settings. **Do not** reconnect the wLSN Hub to the base yet.
9. Reapply all power to the system.
10. Default the control panel from the Installer Menu of a phone session (*Section 2.7.2 Initiate a Phone Session from the Control Panel*, Page 22), press [4] to select Expert Programming.
11. Press [9][9][9][9] to restore all factory default values.
12. Remove all power to the system.
13. Reconnect the wLSN Hub to the base.
14. Reapply all power to the system.
15. Default all wLSN devices.

7.2 Default wLSN Devices

Defaulting a wLSN device returns it to an undiscovered state.

To default a wLSN device:

1. Remove the batteries.
2. Press and hold the tamper switch.
3. Reinsert the batteries while holding the tamper switch.
   Continue to hold the tamper switch for at least 3 sec. The device's LED turns on.
4. Release the tamper switch within 5 sec. after the device's LED turns on.
   The device's LED briefly turns off and then on, indicating that the device was returned to an undiscovered state.

   For specific instructions for defaulting each wLSN device, refer to the *wLSN Reference Guide* (P/N F01U009440).

8 System Test and Maintenance

8.1 Test the System

Test the system for proper operation when installation and configuration are complete.

1. Press the System Test button on the control panel board for one sec. The system provides instructions throughout the test. Follow all instructions.
2. Contact the central monitoring station (CMS) to verify that all necessary test reports were received, including test reports from all installed input and output devices.

8.2 Maintain the System

Bosch Security Systems, Inc. recommends testing the system regularly, and inspecting it according to local code or law.

8.3 Installer History Event Announcements

The Installer Menu (refer to *Section 2.7 Configure the System from the Installer Phone Menu*, page 22), speaks the event report status for each event.

After the event entry and its parameters (if any) are spoken, the system will beep and then speak the status using two numbers. The first number indicates the route 1 event status. The second number indicates the route 2 event status.

The numbers in each announcement indicate the status as follows:

- 0 = The event was logged only
- 1 = The event was successfully transmitted for this route
- 2 = The transmission of this event failed for this route
- 3 = The event is still pending for this route

Refer to the following table for a history event announcement example.

Entry	Event	Tone	Route 1 Status	Route 2 Status
Announcement	“AC Fail”	Beep	“One”	“Zero”

8.4 Event Messages

The following table shows:

- Non-standard event messages that appear in the history log, and
- Event messages for SMS Text and Voice formats

Event	**History Log Entry**	**SMS Text Format**	**Voice Format**
Tamper Enclosure	Tamper 0	Point Trouble 0	Tamper 0
Duress	Duress; System Off User 22	Intrusion Alarm System Off	Duress System Off User 22
Quick Arm	System On Occupied User System On Unoccupied User 0 System On Custom User 0	System On User 0	System On Occupied User 0 System On Unoccupied User 0 System On Custom User 0
Keyswitch On	System On Unoccupied 255	System On User 255	System On Unoccupied 255
Keyswitch Off	System Off 255	System Off User 255	System Off 255
Recent Close	Recent Close User X	Intrusion Alarm	Recent Close User X

9 ITS-DX4020-G Communicator Configuration

9.1 ITS-DX4020-G Communicator Overview

The ITS-DX4020-G provides wireless communications between the control panel and the central monitoring station (CMS). You can configure the ITS-DX4020-G using one of two methods:

- Short Message Service (SMS)
- Terminal Interface on a PC connected using a USB port

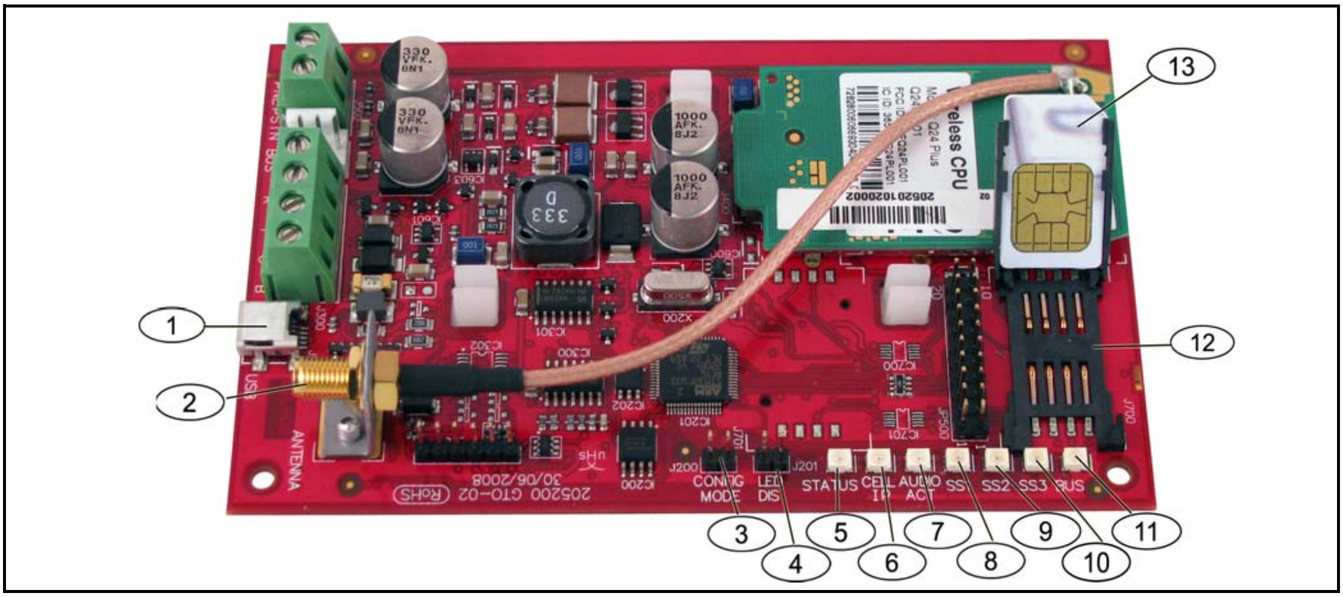


Figure 9.1 ITS-DX4020-G Communicator

1	Mini USB Port	8	Signal Strength 1 (SS1) LED
2	Antenna Connector	9	Signal strength 2 (SS2) LED
3	CONFIG MODE (J200) Jumper Pins	10	Signal strength 2 (SS2) LED
4	LED DIS (J201) Jumper Pins	11	Bus LED
5	STATUS LED	12	SIM Cardholder
6	CELL IP LED	13	SIM Card In Cardholder (Door Open)
7	AUDIO ACT LED		

NOTICE!

To conserve power, install the LED disabling jumper to the LED DIS jumper pins when the LEDs are not being observed.

When LED DIS jumper pins are shorted for the first time, the STATUS LED flashes the firmware version.

9.2 Short Message Service (SMS) Configuration

The ITS-DX4020-G supports configuration by SMS. The installer can send the SMS via mobile phone to the ITS-DX4020-G. To ensure delivery of SMS data, keep each message to a maximum of 160 characters in length with a maximum of 3 messages. The CONFIG MODE jumper pins must be shorted together with a plug to allow the receipt of SMS data. Refer to *Table 2.9*, Page 26, for LED activity. If the CONFIG MODE jumper pins are not shorted together, incoming SMS data is discarded. If the shorting plug is removed from the CONFIG MODE jumper pins before the ITS-DX4020-G receives the complete set of incoming SMS data, all incoming SMS data is discarded.

When the ITS-DX4020-G receives a complete set of incoming SMS data, it saves the values and then displays a distinct pattern across the on-board LEDs indicating that the values were saved (refer to Table 2.9, Page 26 for LED locations). At this time, remove the plug from the CONFIG jumper pins to restart the ITS-DX4020-G.The ITS-DX4020-G does not send out SMS data. *Table 9.1* shows the typical SMS format. Refer to *Table 9.6*, Page 69, and *Table 9.7*, Page 69, for descriptions of each parameter ID in the SMS format.

Format	Character	Description
%SMS sequence number<LF> <id> = <value><LF> <id> = <value><LF> <id> = <value><LF> !	<LF>	If there are multiple SMS messages, the SMS sequence number indicates the order of the messages and identifies the starting point for the parameter IDs in each message. Separate each id/value pair with a line feed (<LF>), carriage return (<CR>), or semi-colon (;). To allow spanning of configuration across multiple messages, each SMS starts with the sequence number followed by the line feed character.
	id=<value>	id/value pairs program each parameter on the ITS-DX4020-G. id/value pairs are not split between multiple SMS parts. If an SMS message contains id/value pairs with duplicate content, only the value in the last duplicated pair is used.
	!	The final part of a single (or multi-) SMS configuration has an exclamation mark at the end.

Table 9.1 ITS-DX4020-G SMS Format

NOTICE!
To reduce message size, configuration items are designated with numbers, and only the configuration items that must be changed are sent.

The configuration SMS string consists of a maximum of three SMS messages. When the ITS-DX4020-G receives the final valid part of an SMS message, it accepts the configuration. The communicator waits as long as the CONFIG jumper is on. When the CONFIG jumper is removed, all incomplete configurations will be deleted.

Table 9.2 shows an example of a single SMS message.

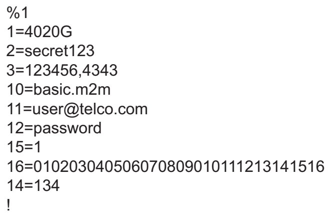
SMS Line No.	Description	Sample SMS
%1<LF>	SMS sequence number	 %1 1=4020G 2=secret123 3=123456,4343 10=basic.m2m 11=user@telco.com 12=password 15=1 16=010203040506070809010111213141516 14=134 !
1=4020G<LF>	Current password	
2=secret123<LF>	New password (case sensitive)	
3=123456,4343<LF>	PUK and new PIN to set in SIM	
10=basic.m2m<LF>	APN	
11=user@telco.com<LF>	GPRS username	
12=password<LF>	GPRS password	
15=1<LF>	Enable AES encryption	
16=010203040506070809010111213141516<LF>	Sample AES key	
14=134<LF>	Option bus address	
!	End of configuration	

Table 9.2 Single SMS Example

Table 9.3 and *Table 9.4* show an example of a double SMS message split into two parts.

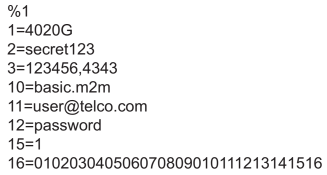
SMS Line No.	Description	Sample SMS
%1<LF>	SMS sequence number	 %1 1=4020G 2=secret123 3=123456,4343 10=basic.m2m 11=user@telco.com 12=password 15=1 16=010203040506070809010111213141516
1=4020G<LF>	Current password	
2=secret123<LF>	New password (case sensitive)	
3=123456,4343<LF>	PUK and new PIN to set in SIM	
10=basic.m2m<LF>	APN	
11=user@telco.com<LF>	GPRS username	
12=password<LF>	GPRS password	
15=1<LF>	Enable AES encryption	
16=010203040506070809010111213141516<LF>	Sample AES key	

Table 9.3 Double SMS Example, Part 1

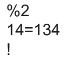
SMS Line No.	Description	Sample SMS
%2<LF>	SMS sequence number	 %2 14=134 !
14=134<LF>	Option bus address	
!	End of configuration	

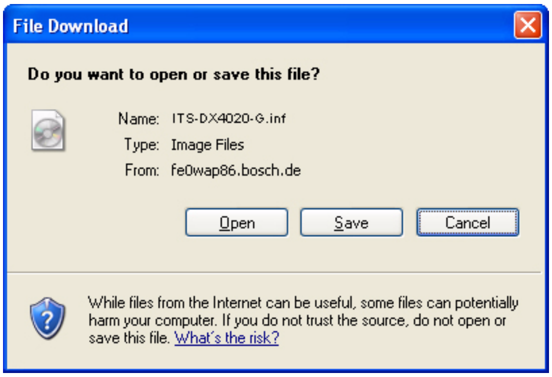
Table 9.4 Double SMS Example, Part 2

9.3 Accessing the User Interface and Logging On Using USB

9.3.1 Downloading the ITS-DX4020-G USB Driver

Before you can access the USB user interface, you must download and install the **ITS-DX4020-G.inf** file on the target PC or laptop. You only need to install this file once on the target PC or laptop.

1. From your Internet browser, go to **http://www.boschsecurity.us/en-us/** to open the US Bosch web site.
2. Under **Online Catalogs**, click **Intrusion Alarm Systems**.
3. Under **Download Library**, click **Software**.
4. Under **Software**, click **Intrusion Alarm Systems**.
5. Under **Intrusion Alarm Systems**, click **Conettix - Information Transport Solutions**.
6. To the right of **ITS-DX4020-G.INF**, click **EN**.
   The **File Download** window opens.



Do you want to open or save this file?

Name: ITS-DX4020-G.inf
Type: Image Files
From: fe0wap86.bosch.de

While files from the Internet can be useful, some files can potentially harm your computer. If you do not trust the source, do not open or save this file. What's the risk?

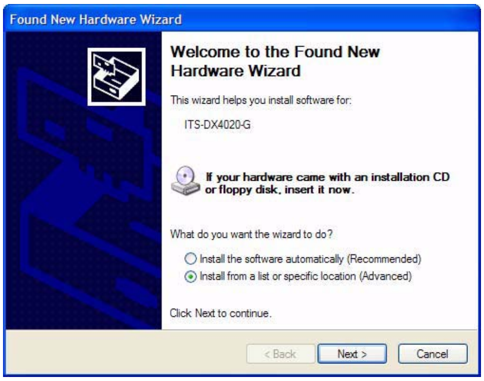
Figure 9.2 File Download Window

7. Click **Save** to save the file to the target PC or laptop.

9.3.2 Installing the ITS-DX4020-G USB Driver

If the target PC or laptop only has one USB port, you only need to install the USB driver once. If the target PC or laptop has multiple USB ports, you must install the USB driver each time the ITS-DX4020-G is connected to a new USB port.

1. Ensure that the supplied jumper plug is covering the CONFIG jumpers.
   Refer to *Figure 9.1*, Page 62, *Callout 3*.
2. Supply power to the ITS-DX4020-G (12 VDC) and connect it to the target PC or laptop, using a USB-to-mini-USB (5-pin mini-B connector) cable (not supplied).
   The **Found New Hardware Wizard** opens.



Welcome to the Found New Hardware Wizard

This wizard helps you install software for:

ITS-DX4020-G

If your hardware came with an installation CD or floppy disk, insert it now.

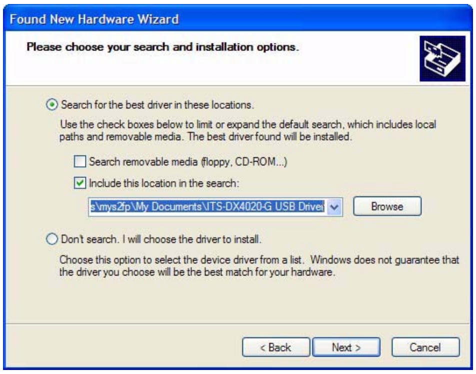
What do you want the wizard to do?

○ Install the software automatically (Recommended)
● Install from a list or specific location (Advanced)

Click Next to continue.

Figure 9.3 Found New Hardware Wizard

3. Select **Install from a list or specific location (Advanced)**, and click **Next**.
   The **Search and Installation Options** window opens.



Found New Hardware Wizard

Please choose your search and installation options.

● Search for the best driver in these locations.

Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.

□ Search removable media (floppy, CD-ROM...)

☑ Include this location in the search:

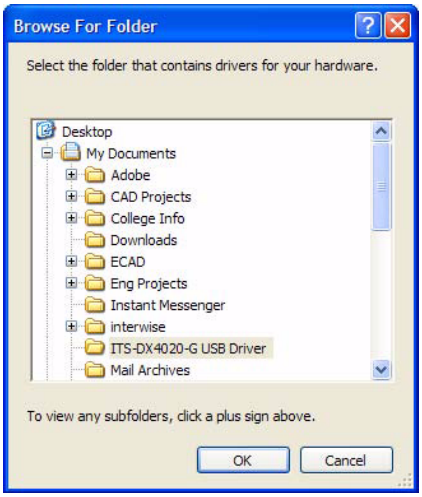
s\mys2fp\My Documents\ITS-DX4020-G USB Driver

○ Don't search. I will choose the driver to install.

Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.

Figure 9.4 Search and Installation Options Window

4. Under **Search for the best driver in these locations**, click the **Include this location in the search** option, and then click **Browse**.
   The **Browse for Folder** window opens.



Browse For Folder

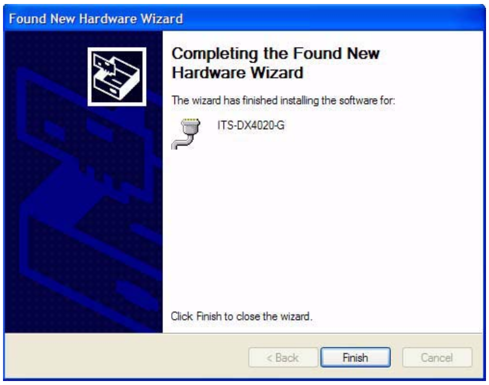
Select the folder that contains drivers for your hardware.

To view any subfolders, click a plus sign above.

Figure 9.5 Browse For Folder Window

5. In the file directory, go to the location where you saved the **ITS-DX4020-G.inf** file.
   Click **OK** and then click **Next**.

   The **Found New Hardware Finish** window opens.



Found New Hardware Wizard

Completing the Found New Hardware Wizard

The wizard has finished installing the software for:

ITS-DX4020-G

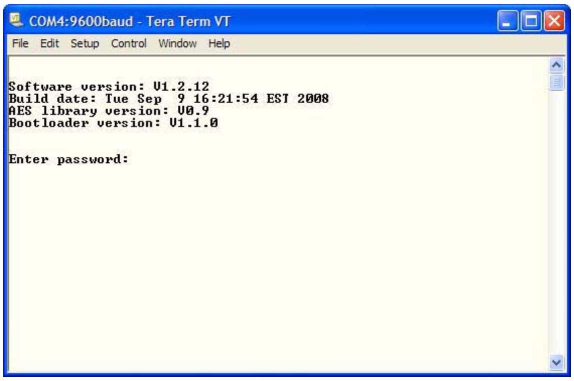
Click Finish to close the wizard.

Figure 9.6 Found New Hardware Finish Window

6. Click **Finish** to complete the installation of the ITS-DX4020-G USB driver.

9.3.3 USB Main Menu

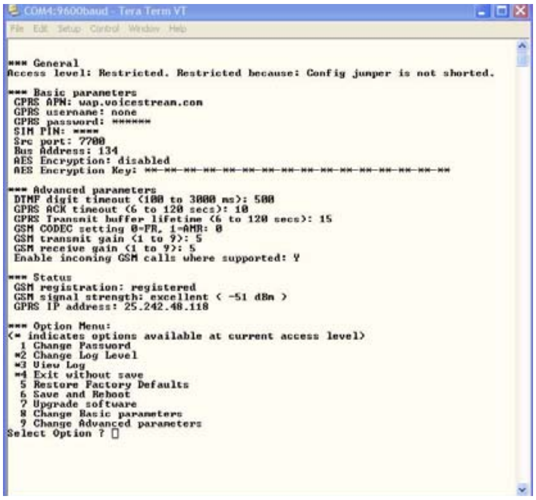
1. From Windows, start a terminal session (launch Hyper Terminal if you are running Windows XP or earlier, or download Tera Term if you are running Windows Vista). Set up a connection on the new virtual serial COM port using the following settings:
   - **Bit rate:** 9600
   - **Data bits:** 8
   - **Parity:** None
   - **Stop bits:** 1
   - **Flow control:** None
2. Press [Enter].
   The ITS-DX4020-G USB login screen opens.


COM4:9600baud - Tera Term VT
File Edit Setup Control Window Help

```
Software version: V1.2.12
Build date: Tue Sep  9 16:21:54 EST 2008
AES library version: V0.9
Bootloader version: V1.1.0


Enter password:
```

Figure 9.7 ITS-DX4020-G USB Login Screen

3. Enter a valid password to log on. The default password is **4020G** (all uppercase).
   The user interface allows three attempts to correctly enter the password. After three failed attempts, you must reset the ITS-DX4020-G by removing the jumper plug from the CONFIG jumpers.
4. Press [Enter] to continue. The USB main menu opens.


COM4:9600baud - Tera Term VT
File Edit Setup Control Window Help

```
*** General
Access level: Restricted. Restricted because: Config jumper is not shorted.

*** Basic parameters
 GPRS APN: wap.voicestream.com
 GPRS username: none
 GPRS password: ******
 SIM PIN: ****
 Src port: 7700
 Bus Address: 134
 AES Encryption: disabled
 AES Encryption Key: **-**-**-**-**-**-**-**-**-**-**-**-**-**-**-**

*** Advanced parameters
 DTMF digit timeout (100 to 3000 ms): 500
 GPRS ACK timeout (6 to 120 secs): 10
 GPRS Transmit buffer lifetime (6 to 120 secs): 15
 GSM CODEC setting 0=FR, 1=AMR: 0
 GSM transmit gain (1 to 9): 5
 GSM receive gain (1 to 9): 5
 Enable incoming GSM calls where supported: Y

*** Status
 GSM registration: registered
 GSM signal strength: excellent ( -51 dBm )
 GPRS IP address: 25.242.48.118

*** Option Menu:
(* indicates options available at current access level)
  1 Change Password
 *2 Change Log Level
 *3 View Log
 *4 Exit without save
  5 Restore Factory Defaults
  6 Save and Reboot
  7 Upgrade software
  8 Change Basic parameters
  9 Change Advanced parameters
Select Option ? 
```

Figure 9.8 ITS-DX4020-G USB Main Menu

The USB main menu appears:

- after successfully entering a password
- every time the user presses [Enter] without first selecting an option from the main screen
- on returning from a sub-screen

The main menu shows all current configuration settings first. An asterisk in front of a configuration item indicates that its setting has been changed during the current session. The content of the main menu constantly scrolls. When a user performs a new action, any resulting response from the user interface appears at the end of the menu.

9.3.4 USB Option Menu

Refer to *Table 9.5* for a description of the USB option menu items.

To see the USB option menu, refer to *Figure 9.8*, Page 67.

Option	**Press to Select**	**Description**
1 Change password	1	To change the login password, enter the old password first, and then enter the new password twice. The second entry is to confirm the new password. Passwords must be 4-15 characters long, and they are case-sensitive. 0-9, A-Z, a-z, and special characters are allowed.
2 Change log level	2	Change the debugging level shown on the View Log screen.
3 View log	3	View the debugging log. Press any key to exit.
4 Exit without Save	4	Return to the user interface login screen. All configuration changes that were made are lost and are replaced with the default values.
5 Restore Factory defaults	5	Select **Yes** to restore all factory default configurations. When prompted, remove the plug from the CONFIG jumper pins to restart the ITS-DX4020-G.
6 Save and Reboot	6	Select **Yes** to save all configuration changes. When prompted, remove the plug from the CONFIG jumper pins to restart the ITS-DX4020-G.
7 Upgrade Software	7	Select this option to upgrade the software in the ITS-DX4020-G. Refer to *Section 9.4 Upgrading the ITS-DX4020-G Software*, page 70.
8 Change Basic parameters	8	To change a basic parameter: 1. Select the parameter. 2. Enter the desired value and press [Enter]. Refer to *Table 9.6*, Page 69 for basic parameters.
9 Change Advanced parameters	9	Select to change advanced parameters. Refer to *Table 9.7*, Page 69 for advanced parameters.

Table 9.5 ITS-DX4020-G Menu Options

At a configuration screen, items are presented one at a time with the current value inside [ ] brackets. If you press [Enter] without entering a new value, the current value is unchanged.

To go to a specific menu option, enter the appropriate menu item number and press [Enter].

ID	Parameter	Default	Values	Description
1	Current Password	4020G	4 to 15 characters	Mandatory and case sensitive.
2	New Password	none	4 to 15 characters	New password, as desired. Case sensitive
3	SIM PUK,PIN	none	Maximum 10 numeric digits each	Sets the PIN into the SIM and the ITS-DX4020-G
4	SIM PIN	No PIN	4 numeric digits	Sets the PIN in the ITS-DX4020-G.
10	GPRS APN	<blank>	1 to 63 characters	Access point name.
11	GPRS username	none	1 to 63 characters	Username for wireless service provider (not always required).
12	GPRS password	none	1 to 63 characters	Password for wireless service provider (not always required).
13	Src port	7700	1 to 65535 characters	Sets the port for the ITS-DX4020-G.
14	Bus Address	134	SDI: 80, 88 Option Bus: 134	Sets the option bus address for communication with the control panel. For Easy Series, use Address 134.
15	AES Encryption	0	0 = Disabled 1 = Enabled	Security encryption on/off; must match encryption settings in the receiver.
16	AES Encryption Key	<blank>	32 characters max. 0-9, A-F, a-f allowed	Key must match encryption key in the receiver.

Table 9.6 ITS-DX4020-G Basic Parameters

ID	Parameter	Default	Values	Description
50	DTMF digit timeout	500	100 to 3000 ms	Acceptable time between dialled DTMF digits from the panel.
51	GPRS ACK timeout	10	6 to 120 secs	GPRS restarts if there is no response by the entered time.
52	GPRS Transmit buffer lifetime	15	6 to 120 secs	Duration the panel messages are buffered in the communicator before being discarded.
53	GSM CODEC setting	0	0 = Full Rate (FR) 1 = Adaptive Multi-rate (AMR)	Set to Full Rate when GSM is being used.
54	GSM transmit gain	5	0 to 10	Gain on transmitted GSM signals
55	GSM receive gain	5	0 to 10	Gain on received GSM signals.
56	Enable incoming GSM calls where supported	1	0 = Disabled 1 = Enabled	Enables/Disables incoming GSM calls.

Table 9.7 ITS-DX4020-G Advanced Parameters

9.4 Upgrading the ITS-DX4020-G Software

To upgrade the software in the ITS-DX4020-G, you must download the latest ITS-DX4020-G binary file from the Bosch website to the target PC or laptop, and then use either Hyper Terminal or Tera Term to install the binary file on the ITS-DX4020-G.

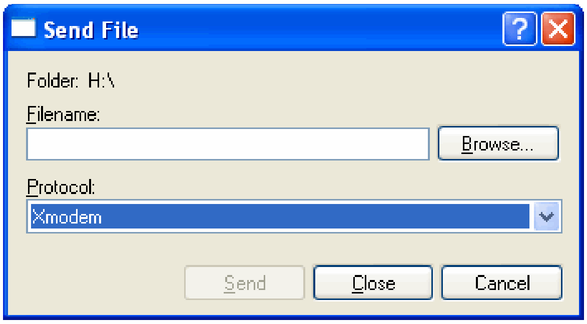
9.4.1 Downloading the Latest Software

1. From your Internet browser, go to **http://www.boschsecurity.us/en-us/** to open the US Bosch web site.
2. Under **Online Catalogs**, click **Intrusion Alarm Systems**.
3. Under **Download Library**, click **Software**.
4. Under **Software**, click **Intrusion Alarm Systems**.
5. Under **Intrusion Alarm Systems**, click **Conettix - Information Transport Solutions**.
6. To the right of **ITS-DX4020-G_x.x.x.bin**, click **EN**.
   The **File Download** window opens.
7. Click **Save** to save the file to the target PC or laptop.

9.4.2 Installing the Software with Hyper Terminal

Microsoft® includes Hyper Terminal with the Windows XP® operating system, and earlier operating systems.

1. In Windows, click **Start→All Programs →Accessories →Communications →Hyper Terminal**.
2. From the Hyper Terminal menu, click **Transfer→Send File**.
   The **Send File** window opens.



Folder: H:\

Protocol: Xmodem

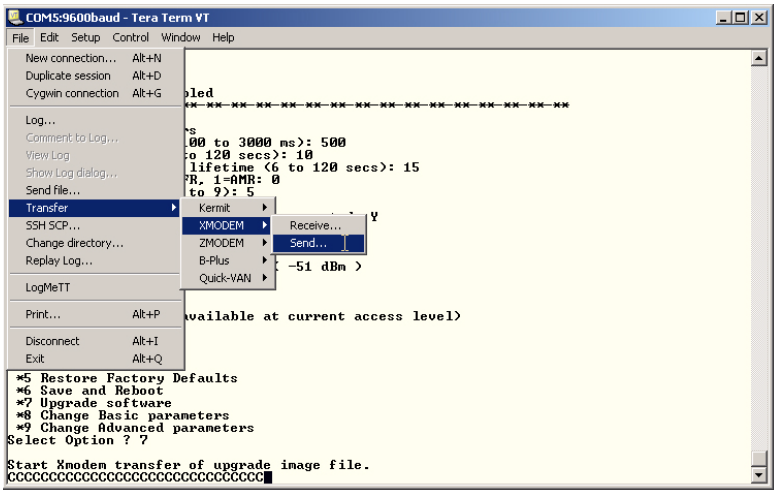
Figure 9.9 Hyper Terminal Send File Window

3. Click **Browse** and go to the location where you downloaded the ITS-DX4020-G binary file.
4. In **Protocol**, select **Xmodem**.
5. Click **Send** to start the software upgrade.
6. When the software upgrade is complete, close Hyper Terminal, and remove the jumper plug from the CONFIG jumpers on the ITS-DX4020-G. The ITS-DX4020-G restarts.

9.4.3 Installing the Software with Tera Term

If you are using Microsoft® Vista®, you must download and install a communication utility, such as Tera Term, on the target PC or laptop.

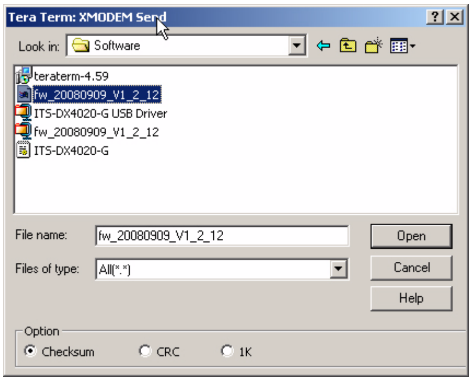
1. Start Tera Term.
2. Select **File→Transfer→XMODEM→Send**.



```
bled
**-**-**-**-**-**-**-**-**-**-**-**-**-**-**-**

's
l00 to 3000 ms): 500
to 120 secs): 10
 lifetime (6 to 120 secs): 15
FR, 1=AMR: 0
 to 9): 5
                          Y

 ( -51 dBm )

available at current access level)

 *5 Restore Factory Defaults
 *6 Save and Reboot
 *7 Upgrade software
 *8 Change Basic parameters
 *9 Change Advanced parameters
Select Option ? 7

Start Xmodem transfer of upgrade image file.
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
```

Figure 9.10 Tera Term File Menu Path

3. In the **XMODEM Send** window, use the **Look in:** menu to find the location where you downloaded the ITS-DX4020-G binary file.
4. Click **Open** to start the software upgrade.



Look in: Software

File name: fw_20080909_V1_2_12

Files of type: All(*.*)

Option

● Checksum ○ CRC ○ 1K

Figure 9.11 Tera Term XMODEM Send Window

5. When the software upgrade is complete, close Tera Term, and remove the jumper plug from the CONFIG jumpers on the ITS-DX4020-G. The ITS-DX4020-G restarts.

10 Device Specifications and Overview

10.1 Control Panel

Enclosure	
Dimensions (H x W x D):	37 cm x 31.8 cm x 8.5 cm (14.5 in x 12.5 in x 3.25 in)
Construction Material:	Cold-rolled steel, zinc seal, 0.36 mm thick (20 Ga.)
Environmental Considerations	
Relative Humidity:	93% at 32°C 2°C (89.6°F 35.6°F)
Operating Temperature:	-10°C to +49°C (14°F to +120°F) **CE:** -10°C to +40°C (+14°F to +104°F) **NF A2P:** -10°C +55°C (+14°F to +131°F)
Storage Temperature:	-10°C to +55°C (+14°F to +131°F)
Protection Level	IP 30 - IK 04
Supervised Points	
On-board Hardwire:	8 Single or dual end-of-line (2.2 k EOL) tamper point support Point 1 supports two-wire smoke detectors All points support four-wire smoke detectors Enclosure tamper input (does not reduce point capacity) Reaction time lower than 250ms
Programmable Outputs (PO)	
On-board:	4 **PO 1 only:** Configurable relay **PO 2 to PO 4:** Configurable solid state **PO 4 only:** Internal supervised speaker driver option
PO 1 Relay Rating:	**Contacts:** 2 A with no jumper installed; resistive loads only; in a NF A2P certified installation: 1 A **Output:** 1.2 A with jumper installed; resistive loads only; in a NF A2P certified installation 1 A **Operating Voltage:** 30 VDC maximum
PO 2 to PO 4 Rating:	400 mA current sink
Number of...	
Users:	22 **User 1:** Master user **Users 2 to 21:** System users **User 22:** Duress user
Events:	500 history events, stamped with time and date
Tokens and Key Fobs:	One per user (User 22 does not receive a token or key fob)
Phone Line	
Phone line trouble voltage	Trouble condition occurs when the phone line voltage is between 1.10 V and 4.75 V
Control Panel Power Requirements	

AC Input Line Voltage	Use a UL Listed 18 V Class 2 transformer (22 VAC, VA 50/60 Hz), or the EZPS Power Supply In an NF A2P certified installation, use the EZPS power supply delivered with the panel
Total Alarm Power:	1.4 A (AC power and standby battery; intrusion applications only). With a 7.0 Ah battery, the following current draws apply to all outputs and devices connected to the system: – Up to 170 mA for 24 hr for fire and combined fire/burglary applications – Up to 1.2 A for other applications
Auxiliary Power:	12 VDC, 1.0 A maximum. Includes 110 mA for each control center connected to the system, and up to 400 mA for the programmable outputs.
Current Draw:	85 mA standby; 160 mA alarm with all outputs activated
Voltage:	12 VDC nominal (11.2 VDC to 12.3 VDC) The control panel stops processing point faults when the voltage drops below 9.5 VDC.
Battery:	D126 (7 Ah) or D1218 (18 Ah) sealed, lead acid rechargeable 1.7 A maximum recharging current Low battery condition occurs when battery drops below 12 VDC If AC power fails and the battery drops below 9.5 VDC, the control panel stops processing point faults. Disconnect the battery under these conditions. Maximum auxiliary current to recharge standby battery within 72 hours: – **12 V, 7 Ah Battery:** 400 mA – **12 V, 18 Ah Battery:** 900 mA In an NF A2P certified installation, use a battery Yuasa NP17-12IFR
EZPS Power Supply Requirements	
AC Input:	**AC Input Voltage:** 100 VAC to 240 VAC **Line Voltage Frequency:** 47 Hz to 63 Hz **Maximum Input Current:** 0.5 A **Power Factor:** Approximately 0.65 at full load
DC Output:	**Nominal Output Voltage under AC line input:** 18 VDC **Output Voltage Range under AC line input:** 16 VDC to 20 VDC **Continuous Rated Output Current:** 1.25 A **Output Current Limit:** Approximately 1.75 A to 2.5 A **Periodic and Random Deviation (PARD):** Less than 250 mV

10.1.1 Standby Battery Calculation

Use the following formula to calculate standby battery capacity for 24 hr of standby power:

(Total B ____ x 24 hr) + (Total C ____ x 0.067 hr) + 10% reserve = Total battery Ah required

If the Column C total exceeds 1.4 A, use an external power supply.

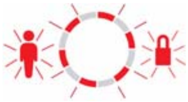
		A **AC Power On Normal Current**			**B** **AC Power Off Minimum Current**			**C** **In Alarm Maximum Current**		
Model	Qty Used	**Each Unit (mA)**		**Total (mA)**	**Each Unit (mA)**		**Total (mA)**	**Each Unit (mA)**		**Total (mA)**
Control Panel		85	x1	85	85	x1	85	160	x1	160
Control Center		110	x Qty		110	xQty		165	xQty	
Wireless Hub (IWT-WSN-N!-86)		30	x Qty		30	x Qty		30	xQty	
DX2010		35	x Qty		35	x Qty	0	35	xQty	
Sounders Connected to PO 4										
D118 8 Ω Speaker		0	xQty	0	0	xQty	0	330	xQty	
Ratings of other devices in system that are not shown above										
			x Qty			x Qty			x Qty	
			x Qty			x Qty			x Qty	
			x Qty			x Qty			x Qty	
			x Qty			x Qty			x Qty	
			x Qty			x Qty			x Qty	
			Total A			**Total B**			**Total C**	

10.2 Control Center

Control Center Specifications

Control Center	
Dimensions (H x W x D):	12 cm x 17.7 cm x 2.5 cm (4.7 in. x 7 in. x 1 in.)
Total Number Supported:	4
Recommended Mounting Surface:	Non-metallic surface
Minimum Mounting Distance:	1.2 m (4 ft) between each control center
Current Draw:	110 mA standby; 165 mA alarm
Minimum Wire Length:	3 m (10 ft)
Maximum Wire Length:	**Total:** 400 m (1312 ft) using 0.8 mm (22 AWG) wire; **Single run:** 100 m (328 ft) using 0.8 mm (22 AWG) wire
Data Bus Wire Type Options:	1 four-conductor, power-limited 1.2 mm (18 AWG) or 0.8 mm (22 AWG) wire At least 0.6 mm (24 AWG) twisted pair CAT5 wire. UL installations require power-limited wiring.
Audio Bus Wire Type Options:	1 two-conductor or 1 four-conductor, power-limited 1.2 mm (18 AWG) or 0.8 mm (22 AWG) wire. Only two conductors are used. At least 0.6 mm (24 AWG) twisted pair CAT5 wire. UL installations require power-limited wiring. Unless using CAT5 cable, audio bus connections require a dedicated wire.
CAT5 Wire Requirements:	Refer to *Section 2.2.3 Install the Control Center*, page 14.
Protection Level	IP 30 - IK 04

Control Center Display States

Display	Color	Description
	Green circle	No alarm or trouble conditions exist. You can turn on the system.
	Flashing green circle	System trouble exists. You can still turn on the system. Alarm memory active.
	Flashing amber circle	System trouble exists. You cannot turn on the system. Alarm memory active.
	Broken green circle	Wired point(s) are faulted. Turn on the system to bypass faulted point(s). Chime point faulted. Chime tone sounds.
	Broken amber circle	Wired point(s) are faulted. You cannot turn on the system.
	Broken red circle; flashing red icons	Fire or intrusion alarm occurred.
	Single rotating segment	Alarm memory announcement. Add or change user token. Waiting for information from wireless network.

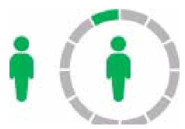
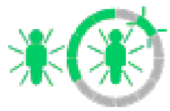
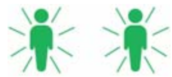
Display	Color	Description
	Green circle and icons	Add or change user passcode. Outside icon appears for first passcode entry. Inside icon appears for second passcode entry.
	Green or amber	Point walk test. Green single circle segments represent tested points.
	Green flashing icons	Control center test. Icons alternately flash.

Table 10.1 System Off Display States

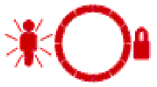
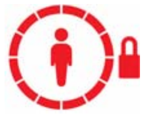
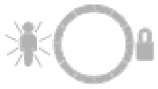
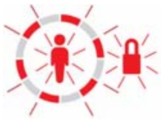
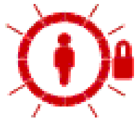
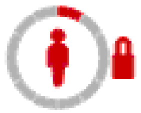
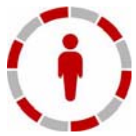
Display	Color	Description
	Flashing red icon	Exit Delay in progress. Circle segments turn on, one at a time, to provide a visual status of Exit Delay.
	Red	System is on (occupied or custom protection).
	Flashing icon (amber then red)	Entry Delay in progress.Circle segments turn off, one at a time, to provide a visual status of Entry Delay. **Amber icon:** First half of Entry Delay. **Red icon:** Second half of Entry Delay.
	Broken red circle; flashing red icons	Fire or intrusion alarm occurred.
	Flashing red circle	Active alarm memory (if system is on). System trouble exists.
	Single red rotating segment	Alarm memory announcement (if system is on).
	Broken red circle	At least one point is faulted or bypassed; no trouble exists.

Table 10.2 System On (Occupied or Custom Protection) Display States

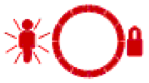
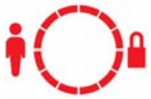
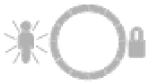
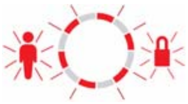
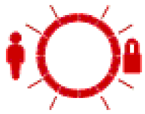
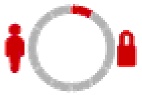
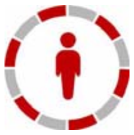
Display	Color	Description
	Flashing red icon	Exit Delay in progress.
	Red	System is on (unoccupied).
	Flashing icon (amber then red)	Entry Delay in progress. **Amber icon:** First half of Entry Delay. **Red icon:** Second half of Entry Delay.
	Broken red circle; flashing red icons	Fire or intrusion alarm occurred.
	Flashing red circle	Active alarm memory (if system is on).
	Single red rotating segment	Alarm memory announcement (if system is on).
	Broken red circle	At least one point is faulted or bypassed; no trouble exists.

Table 10.3 System On (Unoccupied) Display States

10.3 DX2010 Input Expander

NOTICE!
If Points 9 to 32 contain wired and wireless points, install all required DX2010 Input Expanders before adding any wireless points to the system.

The DX2010 Input Expander connects directly to the data bus of a compatible control panel. Each expander adds eight input loops.

DX2010 Input Expander	
Operating Voltage:	8 VDC to 14 VDC
Current Draw:	35 mA standby; 135 mA maximum with connected accessories
Outputs:	100 mA, 12 VDC supervised output for accessories
Sensor Loop Terminal Wire Size:	0.8 mm (22 AWG) to 1.8 mm (14 AWG)
Wire Length:	**Control panel to DX2010 (DX2010 auxiliary output not used):** – 0.8 mm (22 AWG) = 305 m (1000 ft) – 1.2 mm (1.2 mm) = 610 m (2000 ft) **Control panel to DX2010 (DX2010 auxiliary output supplying 100 mA):** – 0.8 mm (22 AWG) = 30 m (100 ft) – 1.2 mm (1.2 mm) = 76 m (250 ft)
Operating Temperature:	0°C to +50°C (+32°F to +122°F)
Relative Humidity:	5% to 85% at +30°C (+86°F)
Sensor Loop Resistance:	60 Ω maximum
Sensor Loop:	Up to eight inputs; input contacts can be normally open (NO) or normally closed (NC) with appropriate EOL resistors for supervision.

Add a DX2010 Before Adding Wireless Points

The control panel supports up to three DX2010 modules. Each module occupies a group of eight points.

The DX2010's DIP switch address determines which group of points the DX2010 occupies:

- Address 102: DX2010 occupies Points 9 to 16
- Address 103: DX2010 occupies Points 17 to 24
- Address 104: DX2010 occupies Points 25 to 32

Refer to on *Section 2.2.6 Install the DX2010 Input Expander*, page 16, for more DIP switch settings.

As each DX2010 module is added to the system, it occupies the next available group of points. For Points 9 to 32, wireless points also occupy points in the same groups of eight as the DX2010 modules:

- If you add two DX2010 modules using Addresses 102 (Points 9 to 16) and 103 (Points 17 to 24), wireless points can only occupy Points 25 to 32.
- If you add three DX2010 modules, wireless points can only occupy Points 1 to 8.
- If you add a DX2010 module using address 102 (Points 9 to 16), wireless points can only occupy Points 17 to 32.

Add a DX2010 After Adding Wireless Points

If you add a DX2010 module after wireless points are added, based on its DIP switch address, the DX2010 replaces the conflicting group of wireless points.

For example, if wireless points occupy Points 9 to 24, and you need Points 17 to 24 as wired points, a DX2010 module with Address 103 replaces the wired points occupying Points 17 to 24.

If the next point grouping is available, for this example, Points 25 to 32, the control panel retains all point programming except for voice descriptions, and moves the conflicting wireless points to the next point grouping. You must re-record voice descriptions for the points that were moved.

If the next point grouping is not available, the control panel deletes the conflicting wireless points from the system.

10.4 Conettix DX4020 Network Interface Module

The Conettix DX4020 Ethernet Network Interface Module creates two-way communications over Ethernet networks for compatible control panels.

DX4020 Network Interface Module	
Operating Voltage:	12 VDC nominal
Current Draw:	**10Base-T:** 110 mA maximum; **100Base-T:** 135 mA maximum
Operating Temperature:	0°C to +50°C (+32°F to +122°F)
Relative Humidity:	5% to 85% at +30°C (+86°F)

10.5 ITS-DX4020-G Communicator

The Conettix ITS-DX4020-G Communicator is a multi-function, dual-path security communicator that communicates with Bosch Security Systems, Inc. Conettix receivers. It is compatible with DX4020 protocols, and it provides a cellular (GSM/GPRS) modem.

ITS-DX4020-G GPRS/GSM Communicator	
Operating Voltage:	12 VDC nominal, 10 VDC to 15 VDC
Current Draw:	Standby: 70mA, Alarm: 400mA
Operating Temperature:	-10°C to +55°C (+14°F to +131°F)
Relative Humidity:	5% to 95%
Ripple/Noise:	200 mVpp maximum

10.6 wLSN Installation Tool

Use the wLSN Installation Tool to determine the best locations for wLSN device installation. The Installation Tool communicates signal strength and packet success ratios through an LCD display.

Specifications

868 MHz	ISW-BIT1-HAX, ISW-BIT1-HBX, ISW-BIT1-HCX	
915 MHz	ISW-BIT1-HCX	
Power	Docked	12 VDC nominal, 6 VDC to 14 VDC
	Batteries	3 AAA NiMH rechargeable batteries that require an initial charge of at least 7 hours of charging. Operating Life: Up to 50 hours of continuous use on a single charge.
EN50131-1	Environmental Class II	

LED Displays

The crescent-shaped LED indicates charging status when placed in a docking station. Refer to *Figure 10.1* on Page 80 and *Table 10.4* on Page 80.

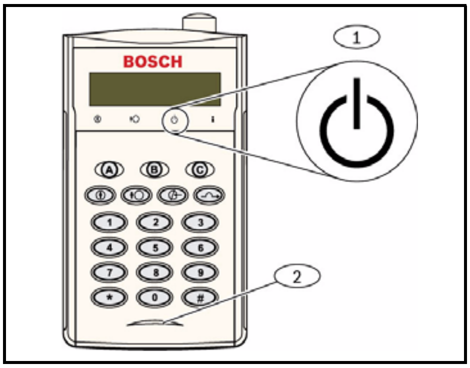


Figure 10.1 wLSN Installation Tool

1	Power Indicator
2	Charging Status LED

LED (Green)	**Status**
On	Batteries fully charged
Off	Installation Tool operation on battery only.
Flashing	Batteries charging
Flashing power indicator	Low battery

Table 10.4 wLSN Installation Tool LED Status

10.7 wLSN Hub

Specifications

868 MHz	ISW-BHB1-WX
915 MHz	ISW-BHB1-WY
Wire Gauge	0.14 mm to 1.5 mm
Wire Length	100 m
Power/Voltage	12 VDC nominal, 7 to 14 VDC
Current Draw	60 mA maximum
Compliance	EN50131-1 Security Grade 2 Type C, Environmental Class II

The wLSN Hub monitors and coordinates two-way communications between the control panel and the detectors.

Rotary switches (S1, S2, and S3) configure device operation and enable special diagnostic modes.

An LED on the front provides device status.

General Operation

Refer to *Table 10.5* on Page 81 and *Table 10.6* on Page 81 for an overview on wLSN Hub LEDs and switch settings.

Operation	**LED Display**
Self Test and Hardware Failure	LED flashes twice per sec. This indicates failure. The wLSN Hub does not operate.
Standard Operation	LED on.
Configuring Network	LED flashes once every 2 sec.
RFSS Mode	LED flashes once every 4 sec.

Table 10.5 wLSN Hub LED Displays

	Switches		
Function	**S1**	**S2**	**S3**
Normal Operation	1	0	0
RFSS Mode	9	2	0
Default Mode	9	8	7

Table 10.6 wLSN Hub Switch Settings

10.8 wLSN PIR and Dual Motion Detectors

The PIR Motion Detector (ISW-BPR1-W13PX) uses an infrared sensor. The Dual Motion Detector uses (ISW-BPR1-W13PGX) both PIR and microwave technology.
A cover-and-wall tamper switch transmits a tamper signal when the cover is removed from its base, or when the unit is pulled away from the wall.
An LED provides status for Walk Test, RFSS, and Discovery Modes.

Specifications

868 MHz	**PIR:** ISW-BPR1-W13PX **Dual:** ISW-BDL1-W11PGX, ISW-BDL1-W11PHX, ISW-BDL1-W11PKX
915 MHz	**PIR:** ISW-BPR1-W13PY **Dual:** ISW-BDL1-W11PGY, ISW-BDL1-W11PHY, ISW-BDL1-W11PKY
PIR Motion Detector Power/ Voltage	Four AA 1.5 V alkaline batteries
Dual Motion Detector Power/ Voltage	Six AA 1.5 V alkaline batteries
EN50131-1	Security Grade 2, Environmental Class II

Sensitivity Settings
Sensitivity settings are set at the control panel. Refer to the control panel's documentation for detailed information.

1. Standard Sensitivity
   Use this setting when pets are present in the area to be monitored. Standard sensitivity provides excellent detection performance and is the least sensitive to false alarms.
2. **Intermediate Sensitivity**
   Only use this setting in non-pet installations where environmental disturbances are minimal. Intermediate sensitivity provides the highest level of detection performance.

NOTICE!
The Dual Motion Detector's microwave motion sensor is factory adjusted to sense motion to at least 11 m.

3. **Setting the Dual Motion Detector's Microwave Range Adjustment**
   a. If the microwave coverage needs adjustment (red or yellow LED does not light), increase or decrease the microwave range as needed (using the back of the device).
   b. Repeat the Walk Test.
   c. Repeat Steps a and b until the required coverage is met.

10.9 wLSN Door-Window Contact

The wLSN Door-Window Contact is a magnetic reed switch and wireless transceiver used for monitoring doors, windows, and other dry contact devices.
A cover-and-wall tamper switch transmits a tamper signal when the cover is removed from its base, or when the unit is pulled away from the wall.
An LED provides status for RFSS and Discovery Modes.

Specifications

868 MHz	ISW-BMC1-S135X
915 MHz	ISW-BMC1-S135Y
Maximum Distance Between Sensor and Magnet	<12,7 mm, the magnet can be placed on either side. The base is marked to indicate the magnet position.
Wire Gauge	0.14 mm (22 AWG) to 1.5 mm (16 AWG)
Power/Voltage	Two AA batteries, 1.5 V alkaline
Terminal Block	For connecting other dry contact devices such as another magnetic reed switch. (2.2k EOL)
EN50131-1	Security Grade 2, Environmental Class II

Supported Wiring Configurations
The wLSN Door-Window Contact provides a supervised point for monitoring external devices. Refer to Section 2.2.7 Connect Supervised Points on page 19 for supported wiring options when using the supervised point.

10.10 wLSN Recessed Door-Window Contact

The wLSN Recessed Door-Window Contact is a wireless transceiver used for monitoring doors A cover tamper switch transmits a tamper signal when the cover is removed from its base.and windows.
An LED provides status for RFSS and Discovery Modes.

NOTICE!
Mounting the wLSN Recessed Door-Window Contact in a metal door or window frame could degrade the RF signal strength.

Specifications

868 MHz	ISW-BMC1-R135X
915 MHz	ISW-BMC1-R135Y
Power/Voltage	One CR2 lithium battery, 3 VDC
Maximum Distance Between Reed Switch and Magnet	<12,7 mm
Drill Tools	Requires the use of a 19 mm (3/4 in.) drill bit and 22 mm (7/8 in.) spade bit
Circuit Board Removal	Needle nose pliers are recommended
EN50131-1	Security Grade 2, Environmental Class II

Tamper Switch Location

Refer to *Figure 10.2* on Page 84 for the location of the device's tamper switch and LED.

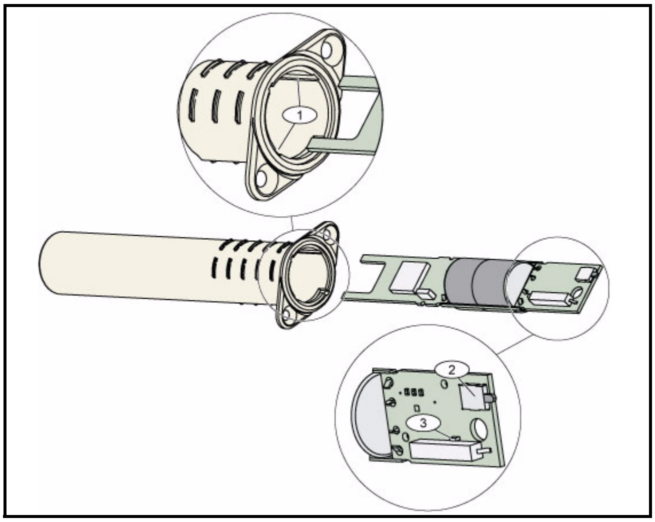


Figure 10.2 Recessed Door-Window Contact

1	Mounting slots for printed circuit board
2	Tamper switch
3	LED for RFSS Mode and Discovery Mode

10.11 wLSN Mini Door-Window Contact

Similar to the wLSN Door-Window Contact, the wLSN Mini Door-Window Contact is a wireless transceiver device used for monitoring doors and windows.
A cover-and-wall tamper switch transmits a tamper signal when the cover is removed from its base, or when the unit is pulled away from the wall.
An LED provides status for RFSS, and Discovery Modes.

Specifications

868 MHz	ISW-BMC1-M82X
915 MHz	ISW-BMC1-M82Y
Power/Voltage	One CR2 lithium battery, 3 VDC
Maximum Distance Between Reed Switch and Magnet	<12,7 mm (1/2 in.) The magnet can be placed on either side of the detector.
EN50131-1	Security Grade 2, Environmental Class II

Tamper Switch Location

Refer to *Figure 10.3* on Page 84 for the location of the device's tamper switch.

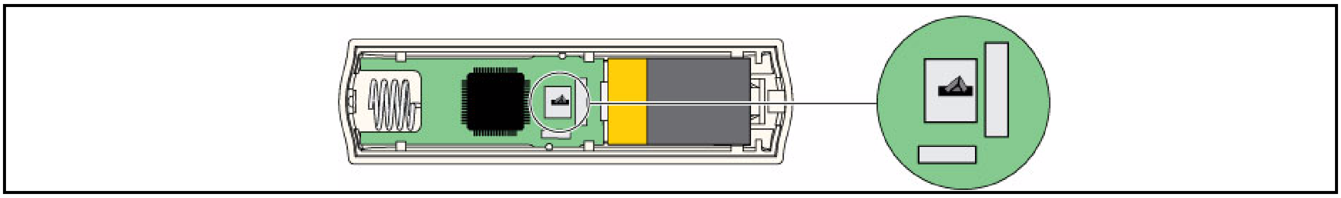


Figure 10.3 Mini Door-Window Contact Tamper Switch

10.12 wLSN Inertia Detector

The wLSN Inertia Detector is a vibration detector combined with a wireless transceiver used for monitoring doors or windows.
A cover-and-wall tamper switch transmits a tamper signal when the cover is removed from its base, or when the unit is pulled away from the wall.
An LED provides status for Test, RFSS, and Discovery Modes.

Specifications

868 MHz	ISW-BIN1-S135X
915 MHz	ISW-BIN1-S135Y
Maximum Distance Between Detector and Magnet	<12,7 mm (1/2 in.) The magnet can be placed on either side of the detector.
Power/Voltage	2 AA batteries, 1.5 V alkaline
Sensor Adjustment	Adjust the position of the sensor element, so the arrow always points up by removing and replacing the element to accommodate the possible placement positions (refer to *Figure 10.4* on Page 85). Route the wiring from the sensor element so it does not make contact with the tamper spring (refer to *Figure 10.4* on Page 85).
EN50131-1	Security Grade 2, Environmental Class II

Sensor Adjustment

Proper sensor element orientation is critical to the operation of the device. The arrow, embossed on the body of this sensor, must always point up. Refer to *Figure 10.4* on Page 85 for arrow and for proper wire routing when reinserting the sensor element.

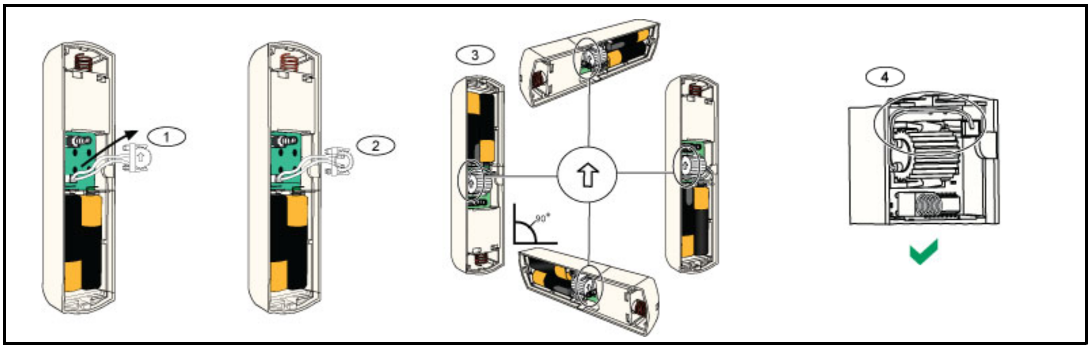


Figure 10.4 Sensor Adjustment

1	Remove sensor element
2	Turn sensor element as desired
3	Ensure arrow on sensor element points up
4	Proper wire routing

Sensitivity Settings

All sensitivity settings are programmed at the control panel (refer to *Section 5.2.6 Point Programming Items*, page 52). The sensor element has two settings:

- Gross Attack
- Minor Attack

Gross Attack is always enabled. The Minor Attack setting is very sensitive and can be disabled.

NOTICE!

A single tap such as a branch in the wind lightly brushing a window can start the minor attack timer and tap count. To avoid false alarms, do not use the Minor Attack setting where there is potential for stray vibrations.

Test Mode

The unit is automatically in Test mode for the first 10 minutes after power up.

The green LED flashes:

- Once to indicate initialization is complete and the unit is in Test mode
- Twice to indicate a Minor Attack test
- Three times to indicate a Gross Attack test

10.13 wLSN Key Fob

The wLSN Key Fob is a two-way personal transmitter carried by the user. Use it to remotely arm or disarm a security area.

Specifications

868 MHz	ISW-BKF1-H5X
915 MHz	ISW-BKF1-H5Y
Power/Voltage	Two CR2032 lithium batteries, 3 VDC
Gaskets	Interchangeable; for multiple users, different colors available
EN50131-1	Security Grade 2, Environmental Class II

Key Fob User Interface

Refer to *Figure 10.5* on Page 87, *Table 10.7* on Page 88, and *Table 10.8* on Page 88 for key fob LED and button functions.

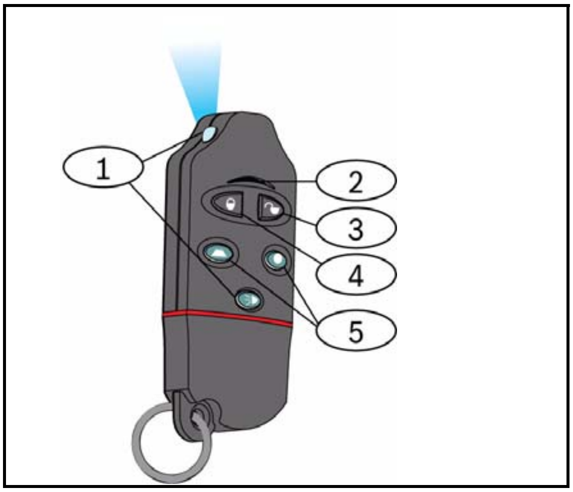


Figure 10.5 wLSN Key Fob Button and LED Locations

1	High intensity LED
2	Status LED
3	Disarm button
4	Arm button
5	Programmable buttons

LED/Button	Function
High intensity LED	Suitable for use as a flashlight. Press 🔦 to operate.
Status LED	Refer to *Table 10.8* on Page 88 for status indications.
Disarm button	Press 🔒 to turn the system off. Press and hold 🔒🔓 for 1 sec to create a panic alarm.
Arm button	Press 🔓 to turn the system on (unoccupied). Press and hold 🔒🔓 to create a panic alarm.

LED/Button	Function
Programmable buttons	To operate the programmable buttons, press and hold ⬭ or ◎ for at least one sec. Program these buttons at the control panel to control lights, garage doors, and so on. Refer to Expert Programming Items 616 and 626 on page 56.
High intensity LED button	Press [FIG] to operate the high intensity LED.

Table 10.7 wLSN Key Fob LEDs and Buttons

Status	Description
Alternating red and green	A key fob button was pressed. The LED either stops flashing, or one of the other status indicators in this table occurs. This display lasts approximately for 15 sec.
Red fast flash	The system is in alarm, or silent panic feature was used.
Red slow flash	Exit delay in progress (system occupied or unoccupied).
Red on steady	The system is on (occupied or unoccupied).
Green fast flash	An error occurs while turning the system on. The system does not turn on as expected.
Green slow flash	The system is not ready to turn on. A button programmed for system status also shows this status.
Green on steady	The system is off and is ready to turn on. The button programmed for system status also shows this status.
Green on steady and slow amber flash	Either ⬭ or ◎ was pressed to turn an output on or off.
Red on steady and slow amber flash	Either ⬭ or ◎ was pressed to turn an output on for two seconds.
Red blip	If the LED flashes red once every 5 sec when the key fob is not in use, replace the batteries.

Table 10.8 wLSN Key Fob LED Status

10.14 wLSN Relay Module

The wLSN Relay Module allows the control panel to control external devices through a Form C relay. This module also provides a supervised point for monitoring external devices.
Auxiliary power input terminals are also provided to supplement battery power when relay use is high.
A cover-and-wall tamper switch transmits a tamper signal when the cover is removed from its base, or when the unit is pulled away from the wall.
An LED provides status for RFSS and Discovery Modes.

Specifications

868 MHz	ISW-BRL1-WX	
915 MHz	ISW-BRL1-WY	
Wire Gauge	0.14 mm to 1.5 mm	
Power	Four AA batteries, 1.5 V alkaline	
External Power Source (optional)	12 VDC nominal, 6 VDC to 14 VDC	
Terminal Blocks	DC+ and DC -	External power source, 12 VDC nominal, 6 VDC to 14 VDC
	PT + and PT - (input)	Input, supervised sensor loop
	NO, C, NC (output)	Relay output for control of external devices.
Relay Output	2A at 30 VDC (resistive load)	
EN50131-1	Security Grade 2, Environmental Class II	

NOTICE!
The external power option is intended to be used as a supplemental (secondary) source of power only. Do not operate the Relay Module without the batteries.

10.15 wLSN Indoor Siren

The wLSN Indoor Siren provides auxiliary power input terminals are also provided to supplement battery power when siren use is high.
A cover-and-wall tamper switch transmits a tamper signal when the cover is removed from its base, or when the unit is pulled away from the wall.
An LED provides status for RFSS and Discovery Modes.

Specifications

868 MHz	ISW-BSR1-WX
915 MHz	ISW-BSR1-WY
Wire Gauge	0.14 mm to 1.5 mm
Power	Four AA batteries, 1.5 V alkaline
External Power Source (optional)	12 VDC nominal, 6 VDC to 14 VDC
DC+ and DC - Terminal Blocks	External power source, 12 VDC nominal, 6 VDC to 14 VDC
Sounder	85 dB at 3 m
EN50131-1	Security Grade 2, Environmental Class II

NOTICE!
The external power option is intended to be used as a supplemental (secondary) source of power only. Do not operate the Indoor Siren without the batteries.

10.16 wLSN Outdoor Siren

Specifications

868 MHz	ISW-BSR1-WOX
Wire Gauge	0.14 mm to 1.5 mm
Power	Two 2 x 13Ah (3.6 VCC nominal)
Outdoor Modulation	1400 – 1600 Hz, excursion of 200 Hz
Sounder	90 to 105 dB at 1m
EN50131-1	EN Environmental class IV outdoor

Configuration

Use the Outdoor Siren DIP switches to configure the siren for compliance with the laws of the installation country. Refer to *Figure 10.6*, Page 91.

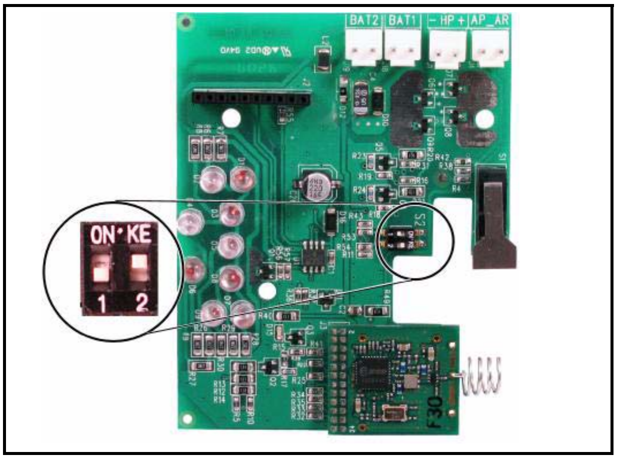


Figure 10.6 Outdoor Siren Configuration Switches

Refer to the following table for configurations allowed by the DIP Switch Settings.

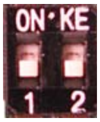
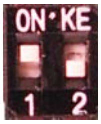
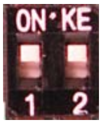
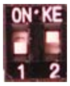
Configuration	Region	DIP Switches	Configuration
OFF/OFF	Default		– Siren is limited to 90 sec. – Flashes every 1.5 sec from 0 - 90 sec of the alarm. – Flashes every 3 sec from 90 sec - 30 min of the alarm. – Flash stopped after 30 min.
ON/OFF	Spain		– Siren is activated for 60 sec, then 30 sec of silence, and then activated for 60 more sec. – Flashes every 1.5 sec from 0 - 150 sec of the alarm. – Flashes every 3 sec from 150 sec - 30 min of the alarm. – Flash stopped after 30 min.
ON/ON	Belgium		– Siren is limited to 90 sec. – Flashes every 1.5 sec from 0 - 90 sec of the alarm. – Flashes every 3 sec from 90 sec - 30 min of the alarm. – Flashes every 20 sec from 30 min of the alarm until the siren is turned off.
OFF/ON	Reserved		Reserved for future use.

Table 10.9 Outdoor Siren DIP Switch Settings

10.17 wLSN Smoke and Heat Detectors

The ISW-BSM1-SX (868 MHz) is a wireless smoke detector.

The ISW-BSM1-SY (915 MHz) is a wireless smoke and heat detector that provides fixed temperature and rate-of-rise sensors.

Under normal conditions, the red LED flashes once every 8 sec while the sensor monitors the surrounding environment. When the sensor detects smoke, the LED changes from flashing to steady on and the sounder produces a loud continuous tone.

A self-diagnostic feature monitors detector sensitivity and operational status.

A cover tamper switch transmits a tamper signal when the cover is removed from its base, or when the unit is pulled away from the wall.

The optical chamber is removable for easy maintenance.

Specifications

868 MHz	ISW-BSM1-SX
915 MHz	ISW-BSM1-SY
Power/Voltage	Two lithium batteries; 3 VDC
Fixed Temperature Sensor (ISW-BSM1-SY)	+57°C ± 3°C (+135°F ± 5°F)
Raye-of-Rise Sensor (ISW-BSM1-SY)	+8.3°C/min>+41°C (+15°F>+105°F)
Photoelectric Beam Obscuration Sensitivity	0.14 ± 0.04 dB/m
Drift Compensation Adjustment	1.64%/m (0.5%/ft) maximum
Average Alarm Current	70 mA
Sounder	85 dBA at 3 m
Self-diagnostics Feature	Monitors detector sensitivity and operational status.
EN14604	ISW-BSM1-SX

Battery Replacement

The LED normally flashes every 8 sec. Replace batteries when the LED stops flashing and the sensor chirps every 45 sec.

The low battery trouble chirps can be silenced for 24 hours by pushing the Test/Silence Button. Refer to *Figure 10.7* on Page 92 for the location of the Test/Silence Button.

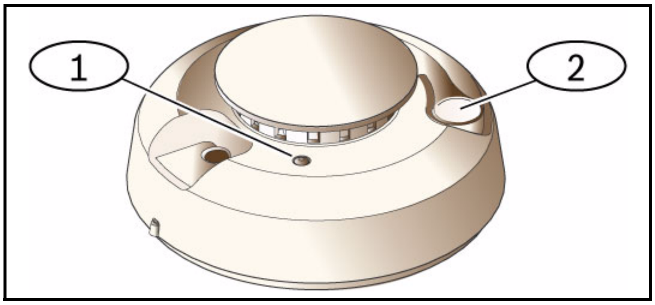


Figure 10.7 wLSN Smoke Detector

1	High intensity LED
2	Test/Silence Button

Smoke Test

Test smoke detectors annually using a listed aerosol smoke tester to simulate an alarm. Follow the instructions on the can.

The LED should remain on while the detector provides a continuous tone. The detector automatically resets when smoke is no longer present. A detector that fails to activate with the Smoke test might require cleaning or replacement.

NOTICE!

To avoid a fire department dispatch, contact the central monitoring station or put the system into Test mode before activating the detector using this method.

Sensitivity Test

NOTICE!

Test mode is seen by the control panel as a test. It does not send an alarm.

The detector includes a Sensitivity Level Test mode for determining the detector's sensitivity:

1. Press and hold the Test/Silence button for 4 sec. The LED flashes 1 to 9 times and the sounder activates.
2. Count the number of LED flashes and use *Table 10.10* on Page 93 to determine the status of the detector's sensitivity and the action to take.

Flashes	Action Recommended
1	Return device for service or replacement.
2 to 3	Clean the detector and re-test. If error persists, replace the detector.
4 to 7	Normal.
8 to 9	Confirm that the smoke chamber is snapped down securely. Clean the sensor and re-test.

Table 10.10 wLSN Smoke Detector Sensitivity Conditions

Silence an Alarm

Press the Test/Silence Button (refer to *Figure 10.7* on Page 92) to silence the sounder during an alarm. If smoke is still present after a few minutes, the sounder and alarm resume.

LEDs

LED	Status
Flashing	Normal.
On	Detects smoke (heat), sending an alarm.
Off	Replace the batteries, clean the detector, or replace the optical chamber as required.

Table 10.11 wLSN Smoke Detector LED Statuses

Cleaning the Detector and Replacing the Optical Chamber

Clean the detector cover with a dry or damp cloth as needed to keep it free from dust and dirt. Clean the detector interior at least once a year, or as needed.

To clean the detector:

1. Rotate the detector counter-clockwise to remove it from the mounting base.
2. Remove the batteries.
3. Slide a flat head screwdriver in the slot on the detector cap and gently push down to pry the cap off. Squeeze the optical chamber where indicated and pull it up and away from the detector. Refer to *Figure 10.8* on Page 94.

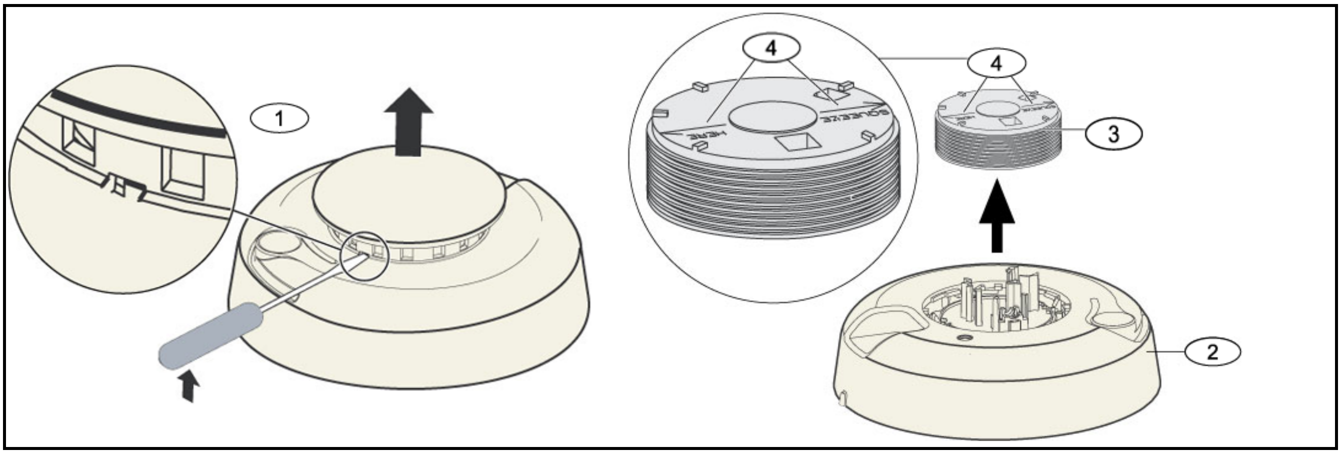


Figure 10.8 Remove the Detector Cap and the Chamber

1	Remove detector cap
2	Smoke Chamber Base
3	Optical Chamber
4	Alignment Arrows

4. Use compressed air or a soft-bristled brush to remove dust and dirt from the smoke chamber base.
5. Align the new optical chamber with the base and snap into place.
6. To attach the detector cap, line the cap up with the detector, press the cap onto the detector, and turn the cap clockwise to snap it firmly into place.
7. Observing the proper polarity, install the batteries and the battery cover. If the batteries are not installed, the detector does not properly fit onto the mounting base.
8. Mount the detector onto the mounting base.
9. Test the detector's sensitivity.
   Refer to *Section Sensitivity Test* on Page 93.

10.18 wLSN Glassbreak Detector

Specifications

The wLSN Glassbreak Detector is a wireless transmitter used for detecting breaking glass.
A cover-and-wall tamper switch transmits a tamper signal when the cover is removed from its base, or when the unit is pulled away from the wall.

Specifications

868 MHz	ISW-BGB1-SAX		
915 MHz	ISW-BGB1-SAY		
Power/Voltage	2 AA batteries, 1.5 V alkaline		
Acoustic Capabilities	Glass types and thicknesses	**Type**	**Thickness**
		Plate	0,24 cm to 0,95 cm
		Tempered	0,32 cm to 0,95 cm
		Laminated*	0,32 cm to 1,43 cm
		Wired	0,64 cm
		* Protected only if both panes of glass are broken.	
	Minimum pane size for all types of glass	28 cm x 28 cm	
	Range	Maximum 7.6 m; no minimum range	

General Overview

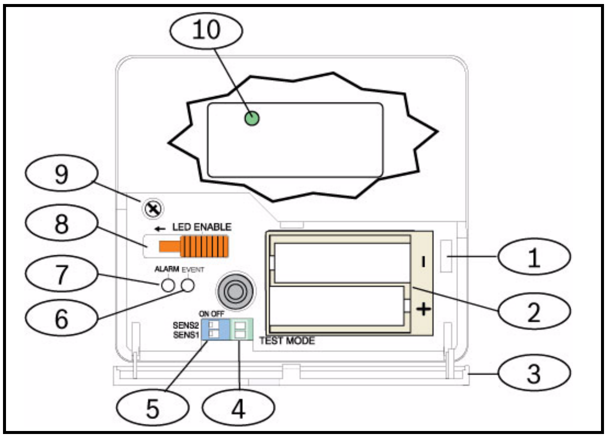


Figure 10.9 wLSN Glassbreak Detector Front Layout

1	Service door tamper switch
2	AA batteries
3	Service door
4	Test Mode pads
5	Sensitivity DIP switches
6	Event LED
7	Alarm LED
8	LED enable switch (off position)
9	Housing screw
10	RFSS Mode LED (remove housing screw and cover piece)

Installation Considerations

NOTICE!
Glassbreak detectors are intended only as a component of a perimeter protection system. You should always use a motion detector in conjunction with a glassbreak detector.

For the best detector performance, select a mounting location that is:

- within 7.6 m of the protected glass.
- within clear view of the protected glass.
- at least 2 m from the floor.
- at least 1 m from forced-air ducts.
- at least 1 m from sirens or bells greater than 5 cm in diameter.
- on a window frame if any heavy window covering is present.

Avoid mounting the detector:

- in a corner.
- on the same wall as the protected glass.
- on free-standing posts or pillars.
- in rooms with noisy equipment such as air compressors, bells, and power tools.

Sensitivity Settings

1. If the front housing is attached, carefully open the service door (Item 3, *Figure 10.9* on Page 95).
2. Enable the LEDs for test purposes by sliding the LED ENABLE switch (Item 8, *Figure 10.9* on Page 95) in the direction the arrow points (above the switch). An orange flag protrudes from the side of the detector.
   Refer to *Figure 10.10* on Page 96.

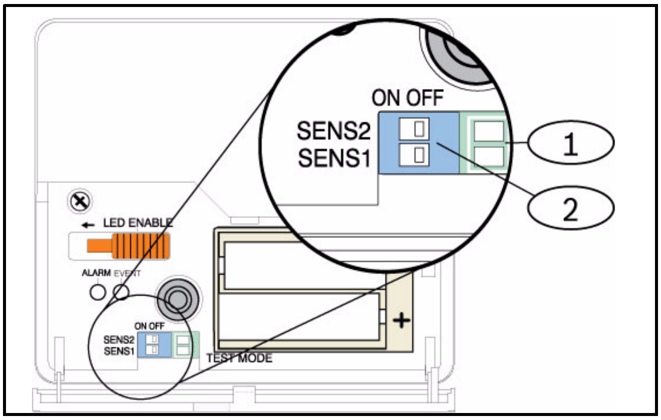


Figure 10.10 wLSN Glassbreak Sensitivity Switches

1	Test pads
2	Sensitivity switches

3. Determine the sensitivity setting for your application.
   Refer to *Table 10.12*.

Sensitivity	SENS1	SENS2	Approximate Range
Maximum	OFF	OFF	7,6 m
Medium	ON	OFF	4,6 m
Low	OFF	ON	3 m
Lowest	ON	ON	1,5 m

Table 10.12 wLSN Glassbreak Detector Sensitivity Settings

4. Use a small screwdriver to move the sensitivity switches. Use the settings determined in Step 3.
5. Turn on any sources of noise (such as machinery, office, or audio equipment) in the area.
6. Observe the green event LED (Item 6, *Figure 10.9* on Page 95) for approximately 1 min. If the green LED flashes, relocate the unit or reduce the sensitivity by adjusting the sensitivity switch.
7. Repeat Steps 3 through 6 until you achieve the best sensitivity level.
8. After setting the sensitivity, slide the LED enable switch (Item 8, *Figure 10.9* on Page 95) to the OFF position.

Testing

Test the detector at least once each year. Test the detector with the 13-332 Sound Sensor Tester.

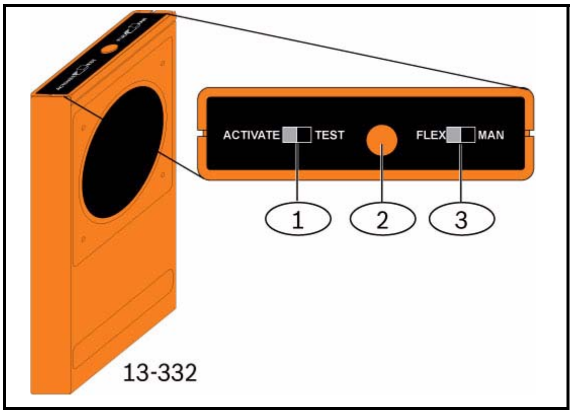


Figure 10.11 13-332 Sound Sensor Tester

1	Activate/Test switch
2	Start button
3	Flex/Man switch

Entering Test Mode

Place the detector in Test Mode. In Test Mode, the detector's LED disable switch (Item 8, *Figure 10.9* on Page 95) is overridden. You can enter the Test Mode locally or remotely.
To enter the Test Mode locally:

1. Carefully open the service door of the detector.
2. Insert a screwdriver into the slot next to the sensitivity switches that contains the test pads (Item 1, *Figure 10.9* on Page 95).
3. Momentarily short both test pads together with the tip of the screwdriver, or other metallic conductive object.
   The Event LED (green) (Item 6, *Figure 10.9* on Page 95) flashes once per sec. If the green LED does not flash, repeat Steps 10 and 11.

DANGER!
The 13-332 Sound Sensor Tester produces extremely loud sounds and can be hazardous to hearing when used at close range. Do not point the 13-332 towards someone's head.

To enter the Test Mode remotely:

1. Stand within 3 m of the detector.
2. Move the switches on top of the 13-332 Tester to ACTIVATE and to MAN modes (Items 1 and 3, *Figure 10.9* on Page 95).
3. Point the front of the tester towards the detector and press the red Start button on top (Item 2, *Figure 10.9* on Page 95).

The tester buzzes and the green LED on the detector flashes once per sec. If the green LED does not flash, move closer to the detector and repeat the procedure.

Testing

Testing the Detector (Flex and Audio Signals)

1. Set the 13-332 Tester switches to the TEST and FLEX positions (Items 1 and 3, *Figure 10.9* on Page 95).
2. Press the red Start button (Item 2, *Figure 10.9* on Page 95). The tester activates and starts an eight-sec armed period.
3. If window coverings are present, close them fully.
4. Hold the 13-332 Tester near the point on the glass farthest from the detector. If window coverings are present, hold the tester between the glass and window coverings.
5. Carefully strike the glass with a cushioned tool. The 13-332 Tester responds by producing a burst of glass break audio.

If the detector receives both the flex and audio signals properly, its red Alarm LED lights for 3 sec.
If the red LED does not light, return to Section 9.0 RFSS Site Testing on page 81 to reposition the detector.

Exiting Test Mode

To exit the Test Mode locally:

1. Carefully open the service door of the detector.
2. Insert a screwdriver into the slot next to the sensitivity switches that contains the test pads (Item 1, *Figure 10.9* on Page 95).
3. Momentarily short both test pads together with the tip of the screwdriver, or other metallic conductive object.

When the detector exits Test Mode, the green Event LED (Item 6, *Figure 10.9* on Page 95) stops flashing. If the Event LED continues to flash, repeat Steps 2 and 3.

To exit the Test Mode remotely:

1. Stand within 3 m of the detector.
2. Move the switches on top of the 13-332 Tester to ACTIVATE and to MAN modes (Items 1 and 3, *Figure 10.9* on Page 95).
3. Point the front of the tester towards the detector and press the red Start button on top (Item 2, *Figure 10.9* on Page 95).
   The tester buzzes.

Entering RFSS Mode with the Wall Tamper Removed

To enter RFSS Mode if the wall tamper tab is removed:

1. Remove and reinsert the batteries.
2. Press and hold the wall tamper switch.
   Refer to *Figure 10.12* on Page 99.

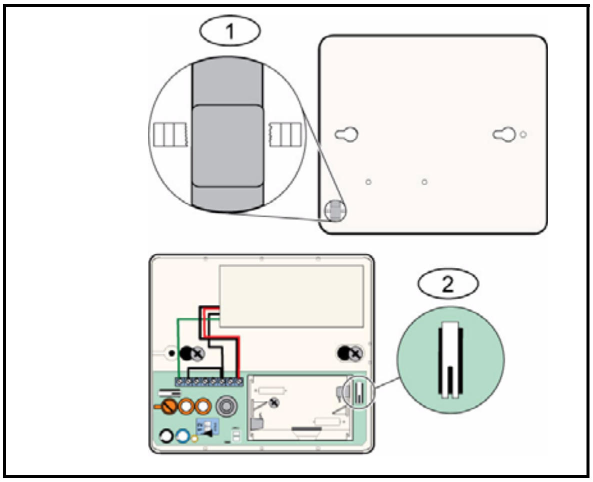


Figure 10.12 Wall and Cover Tamper Switches

1	Wall tamper switch (back of detector)
2	Cover tamper switch (inside of detector)

3. Quickly press and release the cover tamper switch four times within 10 sec of reinserting the batteries. Refer to *Figure 10.12* on Page 99. The detector enters RFSS Mode.

Low Battery Indication

The detector indicates a low battery condition in two ways:

- If the LEDs are enabled, both flash simultaneously every sec.
- A low battery status indication is sent to the control panel.

The LED flashing and a low battery indication at the control panel are independent of each other and do not necessarily occur at the same time. Receiving either condition indicates a low battery.

10.19 wLSN Water Sensor/Low-temperature Sensor

The wLSN Water Sensor/Low-temperature Sensor detects water spilled or leaking onto a solid surface. It can also be used to monitor temperature to warn of potential water pipe freezing. If temperatures fall below +7°C (+45°F) for more than 30 sec. the sensor sends a signal to the wLSN Hub.

Specifications

868 MHz	ISW-BWL1-SX
915 MHz	ISW-BWL1-SY
Power/Voltage	Two AA batteries, 2.3 VDC to 3.0 VDC
Relative Humidity	Up to 95%, non-condensing
Temperature (operating)	-10°C to +55°C (+14°F to +131°F)
Temperature (alarm)	<+7°C (+45°F)
EN50131-1	Environmental Class II

Installation Considerations

The wLSN Water Sensor/Low-temperature Sensor is not intended to:

- monitor water levels in storage tanks or other liquids
- be permanently submerged in water
- detect absence of water

Test and Enable wLSN Water Sensors/Low-temperature Sensors

Test each newly discovered device during the Point Test to enable the device. If specific point numbers are preferred, test devices in the appropriate order.

Testing and Enabling When Both Sensors are Required

1. During the Point Test, test the low-temperature sensor first. Refer to *Table 10.13*, Page 100 for instructions.
   The system announces "Point xx was tested."
2. Test the water sensor. Refer to Table 2 for instructions.

Testing and Enabling When Only the Water Sensor is Required

During the Point Test, test the water sensor. Refer to *Table 10.13*, Page 100 for instructions. The system announces "Point xx was tested."

Testing and Enabling When Only the Low-temperature Sensor is Required

During the Point Test, test the low-temperature sensor. Refer to *Table 10.13*, Page 100 for instructions.
The system announces "Point xx was tested."
Do not connect the water sensor probe.

Sensor	**To Test**
Water	Select one of the following methods: – Short the water probe pins for at least 5 sec. Refer to *Figure 10.13*, Page 101. – Submerge the water probe in water for at least 5 sec.
Low-temperature	Short the "T" pads for at least 5 sec. Refer to *Figure 10.13*, Page 101.

Table 10.13 Water Sensor/Low-temperature Sensor Test and Enable Procedures

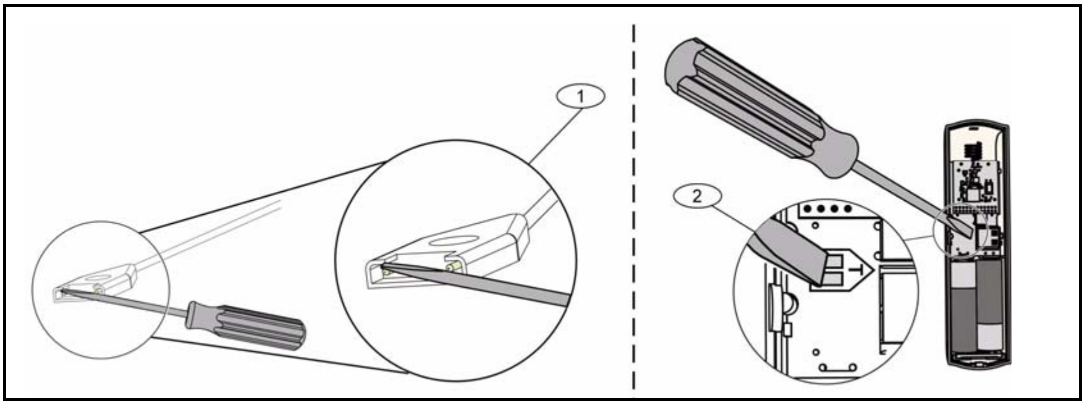


Figure 10.13 Enabling the Water Probe and Low-Temperature Functions

1	Water sensor
2	Low-temperature sensor

11 Programming Details and Defaults

This section defines the primary function of the major programming items.

This section also lists the programming defaults for the most frequently used country codes.

11.1 Programming Item Programming Details

102. Country Code

Select the appropriate code for country-specific operation.

107. Fire Bell Cut-off Time

Enter how long the fire alarm sounds at bell outputs and at the control center.

108. Intrusion Bell Cut-off Time

Enter how long the intrusion alarm sounds at bell outputs and at the control center.

110. Intrusion Abort Window

Enter how long the control panel waits to send an alarm report after an alarm occurs.

111. Fire Alarm Cancel Window

Enter how long a user has to cancel a fire alarm report after the system sends the report to the central station. If a fire alarm is acknowledged during the cancel window, the system sends a cancel report to the central station. An entry of 0 disables this feature.

112. Intrusion Cancel Window

Enter how long a user has to cancel an intrusion alarm report after the system sends the report to the central station.

115. Chime Mode Operation after System Off

Determines Chime Mode operation after the system is turned off.

116. Automatic Test Report Frequency

Determines how often the control panel sends the automatic test report.

118. RPS Passcode

Enter the 6-digit passcode that allows access to the control panel from RPS.

124. Point Alarm Verification

Determines the level of alarm verification required by point before generating an intrusion alarm condition.

125. Faulted Points Allowed Threshold

Determines the maximum number of faulted points that are disabled while the system is on.

126. Exit Delay

Enter how long the user has to exit the building before the system turns on.

127. Entry Delay

Enter how long the user has to enter the building and turn off the system before an alarm condition occurs.

131. Swinger Bypass Count

Enter the number of alarm reports allowed from a point while the system is on before the point is bypassed.

133. System On Order Options

Determines the order that system-on options are announced to the user.

134. Cross Zone Timer

Enter how long the system waits for at least two Cross Zone points to be faulted before the control panel sends a Verified Alarm report to the central station.

140. Demo Mode

Demo Mode controls how telephone messages are announced by the system: either only over the telephone, or over the telephone and through all idle control centers (control centers that are not currently engaged in a command). Set Demo Mode to **2** (Demo Mode Auto On/Off). Enter the telephone menu.

On an idle control center, press the [i] button to either turn on or off the announcement of telephone messages through all idle control centers. When you exit the telephone menu and end the phone session, the system turns Demo Mode off.

142. Restrict Installer Passcode

If set to 0, the Master User must enable the Installer passcode before a person logged in with the Installer passcode can perform any tasks through the phone menu or RPS; enabling the Installer passcode grants it Level 3 access. The Installer passcode remains at Level 3 until an exit delay.

If set to 0, and the Installer is granted access while the control panel is armed, the programming items are limited.

To enable the Installer Passcode:

1. From the control center, the Master User enables enters the passcode. When the validation for the Master User passcode expires, the Installer passcode is enabled.
2. Using a token, the Master User presents the token several times until the control center speaks "Turning your system off". If the Master User token is presented again, the Installer passcode is disabled.
3. From the phone interface, the Master User enters the passcode, then presses [3] for System Maintenance, [3] for System Test menu, and then [6] to enable the Installer's passcode.

145. Test Report Day of Week

Select the day that the control panel sends the test report.

146. Test Report Day of Month

Enter the day of the month that the control panel sends the test report.

148. Arming Beeps/Graduated Annunciation

Select whether the Intrusion and Intrusion and Fire Output Function types beep when the key fob is used to arm or disarm the control panel.

150. Wireless Jam Detect Level

Configure the jam detect level of the wireless devices.

163. Silence Trouble Tones

Silence annunciation of trouble tones.

164. System Inactivity Time (Hours)

Enter the number of hours that the system must be turned off before it sends the System Inactive report.

165. System Inactivity Time (Days)

Enter the number of days that the system must be turned off before it sends the System Inactive report.

166. System Inactivity Time (Weeks)

Enter the number of weeks that the system must be turned off before it sends the System Inactive report.

168. Audio Verification Command Set

Select the command set that the control panel uses for internal alarm verification. Press the [*] key on the phone to enable the microphone on the control centers. This allows the central station operator to hear noise on the premises. This option only effects the button presses on the phone while an audio verify session is active between the control panel and the central station operator.

224. RPS Automatic Call In Time (Hours)

202. PSTN or GSM Connection

Select the type of telephone connection the system will use to send reports to the central station.

203. Voice Format Repeat Count

Enter the number of times the system repeats a voice report during the phone call.

204. Voice Format Message Delivery Attempts

Enter how many times the system attempts to deliver a voice format message.

217. Emergency Call Override Number Delay

Enter the amount of time the system waits before sending reports if an emergency number is dialed.

222. Phone Answer Ring Count

Enter the number of rings before the system answers an incoming call.

223. Bell Test

This programming item applies to all Intrusion output functions and to all arming modes.

0 = No closing ring-back or bell test; 1 = Enabled

If closing reports are disabled, the outputs turn on for 1 sec at the end of Exit Delay.

If closing reports are enabled, the outputs turn on for 1 sec when the control panel receives a closing report acknowledgement from the central station.

Select the hour when the control panel calls RPS.

225. RPS Automatic Call in Time (Minutes)

Select the minute when the control panel calls RPS.

227. RPS Automatic Call in Time (Day of Week)

Select the day of the week when the control panel calls RPS.

228. RPS Automatic Call in Time (Day of Month)

Select the day of the month when the control panel calls RPS.

229. RPS Automatic Call in Phone Number

Enter the phone number that the control panel uses to call RPS.

245. RPS Automatic Call in Method

Select whether the control panel uses a phone number or an IP address to call RPS.

246. RPS Port Number

Enter the port number for contacting RPS when the automatic call in occurs over a network connection.

305. Route Attempts

Enter the number of times the system attempts each destination in the selected route if the first attempt fails.

601. Key Fob Duress

Select whether or not a wireless key fob sends a Duress event when the Arm and Disarm buttons are pressed and held together.

611. Output 1 Type

- **Disabled:** Output is disabled.
- **Intrusion:** Output turns on when intrusion alarm occurs. To turn off output, turn off system, or wait until end of intrusion bell cut-off time.
- **Fire:** Output turns on when a fire alarm occurs. To turn off output, turn off system if it is already on, or wait until end of fire bell cut-off time.
- **Fire Latching:** Output turns on when a fire alarm occurs. To turn off output, turn off system if it is already on, or acknowledge alarm if system is off.
- **Intrusion and Fire:** Output turns on when an intrusion or fire alarm occurs. To turn off output, turn off system, or wait until end of bell cut-off time. Fire alarms take priority over intrusion alarms.
- **Intrusion and Fire Latching:** Output turns on when an intrusion or fire alarm occurs. To turn off output, turn off system if it is already on, or acknowledge alarm if system is off. Fire alarms take priority over intrusion alarms.
- **System Reset:** Output is normally on. Output turns off for approximately 10 sec when system is reset. Use this function to supply power to devices such as four-wire smoke detectors that require power interruption to reset a latching alarm condition
- **System On:** Output turns on when the system is turned on, and remains on until system is turned off.
- **System Ready:** Output turns on when the system is ready to turn on (no faulted points or system troubles exist).
- **Key Fob On/Off:** Output turns on or off when the user presses the key fob's ○or ⬭ key.
- **Key Fob 2-sec Pulse:** Output turns on for two seconds when the user presses the key fob's ○ or ⬭ key.
- **User Controlled:** Output turns on or off when a user or the installer uses the Operate Outputs option from the phone menus.
- **Interior Intrusion and Fire:** Output turns on when an interior intrusion or fire alarm occurs. To turn off output, turn off system, or wait until end of bell cut-off time. Fire alarms take priority over intrusion alarms.
- **System On (Unoccupied):** Output turns on when the system is turned On (Unoccupied) and there are no bypassed or force-armed points.
- **Intrusion and Fire:**
  - Output turns on when any alarm (Intrusion or Fire) occurs. To turn off the output, turn off the system, or wait until the end of the bell cut-off time.
  - When a fire alarm occurs, this output function provides only a steady output (no Temporal Code 3 or Pulsed cadence).
  - Fire alarms take priority over Intrusion alarms.

880. Alarm Message Minimum Repeat Time

Enter how long the control center waits between alarm message announcements before repeating the message even if the control center's proximity sensor detects motion.

9xx1. Point Types

- **Disabled:** Point is disabled.
- **Perimeter (Entry or Exit):** If faulted and the system is on, Entry Delay starts. An alarm occurs if the system is not turned off when Entry Delay ends.
- **Interior (Follower):** If the system is on occupied, it ignores these points. If the system is on unoccupied, a faulted interior point starts an alarm. These points are ignored during Exit and Entry Delay times.
- **Perimeter Instant:** If faulted when the system is on, a local alarm occurs
- **24-Hour**: If faulted, an alarm always occurs. To restore a 24-hour point, turn the system off if it is on, or acknowledge the alarm if the system is off.
- **Fire Verified:** If faulted, fire verification occurs. If a second fire event occurs during the two-min. wait period, a fire alarm occurs. If no second fire event occurs, the system returns to normal.
- **Fire Instant:** If faulted, a fire alarm always occurs.
- **Silent Panic:** If faulted, an alarm always occurs. There is no visual or audio indication of the alarm.
- **Interior Walkthrough:** If faulted and the system is on custom protection, Entry Delay starts. If the system is on occupied or unoccupied, this point functions as an interior point.
- **Perimeter Exit Cancel:** If faulted and restored during Exit Delay, Exit Delay stops and the system immediately turns on.
- **Momentary Keyswitch:** Turn the system on or off using a momentary keyswitch.
- **Maintained Keyswitch: Turn the system on or off using a maintained keyswitch.**
- **24-Hour Trouble:** If faulted, a trouble condition always occurs. To restore a 24-hour trouble point, turn they system off if it is on, or acknowledge the alarm if the system is off.
- **User Emergency, 24-hour supervisory point type:**
  - If the point's circuit style = **0**, an open or shorted circuit creates a tamper condition. An off-normal circuit creates an alarm condition.
  - If the point's circuit style = **1**, an open or shorted circuit creates an alarm condition.
  - Refer to Circuit Style on page 68 for more information.
  - If User Emergency is assigned to a wireless detector, any off-normal alarm condition creates an alarm condition.
  - To restore a user emergency point, turn the system off if it is on, or acknowledge the alarm if the system is off.

9xx6. Alarm Verification

Select whether or not the central station can verify the alarm when it receives an alarm report from the point and the report is acknowledged.

11.2 Country Codes

The country code sets the control panel to the appropriate country-specific defaults for your installation.

Country	Code	Country	Code
Argentina	01	Israel	63
Australia	02	Italy	25
Austria	03	Japan	26
Belarus	62	Lithuania	29
Belgium	04	Luxembourg	20
Bosnia	65	Malaysia	32
Brazil	05	Mexico	34
Bulgaria	06	Netherlands	35
Canada	07	New Zealand	36
China	08	Norway	38
Croatia	10	Poland	41
Czech Republic	12	Portugal	42
Denmark	13	Romania	43
Egypt	14	Russian Federation	44
Finland	16	Spain	51
France	17	Sweden	52
Germany	18	Taiwan	54
Greece	19	Thailand	55
Hong Kong	20	Turkey	56
Hungary	21	Ukraine	62
India	22	United Arab Emirates	65
Indonesia	23	United Kingdom	57
Ireland	24	United States	58

11.3 Country Code Specific Default Programming Codes

Prog Item# ↓	Country Codes													
	3	4	6	10	12	13	14	16	17	18	19	21	24	25
107	5	3	5	5	1	3	5	5	3	5	7	5	15	3
108	5	3	5	5	1	3	5	5	3	5	7	5	15	3
125	0	3	3	3	3	0	3	3	3	0	3	3	0	3
126	60	60	60	60	30	45	60	30	45	60	60	60	45	30
127	30	30	30	30	30	45	30	25	30	30	30	30	45	20
133	1	1	1	1	1	3	1	3	3	1	1	3	3	1
136	0	1	0	0	0	0	0	0	0	0	0	0	0	0
137	0	0	0	0	0	1	0	0	0	0	0	0	0	0
138	0	0	0	0	0	0	0	0	0	0	0	0	0	0
204	3	3	1	1	3	3	1	2	3	3	5	3	3	5
211	0	0	0	0	0	0	0	0	0	0	0	0	5	3
212	0	0	0	0	0	0	0	0	0	0	0	0	5	3
213	0	0	0	0	0	0	0	0	0	0	0	0	5	3
214	0	0	0	0	0	0	0	0	0	0	0	0	4	3
216	110	112	000	112	112	112	000	112	112	110	000	112	999	113
306	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9011	6	1	6	6	1	6	6	6	1	6	6	6	1	1
9021	1	3	1	1	2	1	1	1	2	1	1	1	8	3
9031	1	3	1	1	2	3	1	2	2	1	3	1	3	3
9041	1	3	1	1	2	3	1	2	2	1	3	1	3	3
9051	1	3	1	1	2	3	1	3	3	1	2	1	3	2
9061	2	3	2	2	2	2	2	3	3	2	2	2	3	2
9071	2	3	2	2	2	2	2	4	3	2	2	2	2	2
9081	2	3	2	2	2	2	2	3	4	2	4	2	2	4
9012	2	0	2	2	2	2	2	2	0	2	2	2	0	0
9022	2	0	2	2	2	0	2	2	0	2	2	2	0	0
9032	2	0	2	2	2	0	2	2	0	2	2	2	0	0
9042	2	0	2	2	2	0	2	2	0	2	2	2	0	0
9052	2	0	2	2	2	0	2	2	0	2	2	2	0	0
9062	2	0	2	2	2	0	2	2	0	2	2	2	0	0
9072	2	0	2	2	2	0	2	2	0	2	2	2	0	0
9082	2	0	2	2	2	0	2	2	0	2	2	2	0	0
9092	2	0	2	2	2	0	2	2	0	2	2	2	0	0
9102	2	0	2	2	2	0	2	2	0	2	2	2	0	0
9112	2	0	2	2	2	0	2	2	0	2	2	2	0	0
9122	2	0	2	2	2	0	2	2	0	2	2	2	0	0
9132	2	0	2	2	2	0	2	2	0	2	2	2	0	0
9142	2	0	2	2	2	0	2	2	0	2	2	2	0	0
9152	2	0	2	2	2	0	2	2	0	2	2	2	0	0
9162	2	0	2	2	2	0	2	2	0	2	2	2	0	0
9172	2	0	2	2	2	0	2	2	0	2	2	2	0	0
9182	2	0	2	2	2	0	2	2	0	2	2	2	0	0
9192	2	0	2	2	2	0	2	2	0	2	2	2	0	0

Prog Item# ↓	Country Codes													
	3	4	6	10	12	13	14	16	17	18	19	21	24	25
9202	2	0	2	2	2	0	2	2	0	2	2	2	0	0
9212	2	0	2	2	2	0	2	2	0	2	2	2	0	0
9222	2	0	2	2	2	0	2	2	0	2	2	2	0	0
9232	2	0	2	2	2	0	2	2	0	2	2	2	0	0
9242	2	0	2	2	2	0	2	2	0	2	2	2	0	0
9252	2	0	2	2	2	0	2	2	0	2	2	2	0	0
9262	2	0	2	2	2	0	2	2	0	2	2	2	0	0
9272	2	0	2	2	2	0	2	2	0	2	2	2	0	0
9282	2	0	2	2	2	0	2	2	0	2	2	2	0	0
9292	2	0	2	2	2	0	2	2	0	2	2	2	0	0
9302	2	0	2	2	2	0	2	2	0	2	2	2	0	0
9312	2	0	2	2	2	0	2	2	0	2	2	2	0	0
9322	2	0	2	2	2	0	2	2	0	2	2	2	0	0
814	0	1	0	0	1	1	0	0	1	0	0	0	2	0
824	0	1	0	0	1	1	0	0	1	0	1	0	2	2
834	0	1	0	0	1	1	0	0	1	0	1	0	2	2
844	0	1	0	0	1	1	0	0	1	0	1	0	2	2
861	4	6	4	4	4	4	4	6	6	4	4	6	4	4
611	5	5	5	5	5	5	5	5	14	5	5	5	5	5
621	5	5	5	5	5	5	5	5	5	5	5	5	5	6
631	5	6	7	7	7	7	7	7	6	5	7	7	1	8
641	5	7	5	5	5	6	5	5	7	5	5	5	9	5
642	0	1	0	0	1	1	0	0	1	0	0	0	0	1
121	2	2	2	2	2	2	8	2	2	2	2	2	2	2
600	0	1	1	1	1	1	1	1	1	0	1	1	1	1
115	0	2	2	0	2	2	0	0	2	0	0	0	0	2
116	0	0	0	0	0	0	0	0	0	0	0	1	0	0
128	1	1	0	1	1	1	1	1	1	1	1	1	1	1
132	0	0	1	1	1	0	1	0	0	0	1	1	1	0
147	0	0	0	0	0	0	0	0	0	0	0	0	1	0
153	1	1	1	1	1	0	1	1	1	1	1	1	0	1
159	0	1	1	1	1	1	1	1	1	0	1	1	1	0
160	1	1	1	1	1	1	0	1	1	1	1	1	1	1
344	3	3	3	3	3	3	3	3	3	3	3	3	3	3
403	3	3	3	3	3	3	3	3	3	3	3	3	3	3
9015	6	6	6	6	6	6	6	5	4	6	6	6	6	6
9025	6	6	6	6	6	6	6	5	4	6	6	6	6	6
9035	6	6	6	6	6	6	6	5	4	6	6	6	6	6
9045	6	6	6	6	6	6	6	5	4	6	6	6	6	6
9055	6	6	6	6	6	6	6	5	4	6	6	6	6	6
9065	6	6	6	6	6	6	6	5	4	6	6	6	6	6
9075	6	6	6	6	6	6	6	5	4	6	6	6	6	6
9085	6	6	6	6	6	6	6	5	4	6	6	6	6	6
163	1	0	1	1	1	1	1	1	1	1	1	1	1	1
168	0	0	0	0	0	0	0	0	1	0	0	0	0	0

	Country Codes												
Prog Item# ↓	29	30	35	38	41	42	43	44	51	52	53	56	57
107	5	3	3	5	5	2	5	5	2	5	5	5	15
108	5	3	3	5	5	2	3	5	2		5	5	15
125	3	3	3	3	3	8	3	3	3	3	0	3	0
126	60	60	60	60	60	30	30	60	30	60	60	60	45
127	30	30	20	30	30	30	15	45	20	30	30	30	45
133	1	1	3	3	1	3	1	3	3	3	1	1	4
136	0	0	0	0	0	0	1	0	0	0	0	0	0
137	0	0	0	0	0	0	0	0	0	0	0	0	0
138	0	0	0	0	0	0	0	0	0	0	0	0	0
204	1	3	3	3	1	2	1	1	3	3	3	1	3
211	0	0	0	0	0	3	0	1	1	0	0	0	5
212	0	0	0	0	0	0	0	1	1	0	0	0	5
213	0	0	0	0	0	0	0	0	0	0	0	0	5
214	0	0	0	0	0	0	0	0	0	0	0	0	0
216	000	112	000	112	000	112	000	000	000	112	110	000	000
306	0	0	0	0	0	0	0	1	0	0	0	0	0
9011	6	1	6	6	6	6	6	6	6	6	6	6	1
9021	1	3	1	1	1	1	1	1	1	1	1	1	8
9031	1	3	1	2	1	2	1	2	2	2	1	1	3
9041	1	3	1	2	1	2	1	2	2	2	1	1	3
9051	1	3	1	2	1	2	1	2	2	2	1	1	3
9061	2	3	2	2	2	2	2	2	2	2	2	2	3
9071	2	3	2	2	2	2	2	2	2	2	2	2	2
9081	2	3	2	2	2	2	2	2	2	2	2	2	2
9012	2	0	2	2	2	2	2	2	0	2	2	2	0
9022	2	0	0	0	2	2	2	2	0	0	2	2	0
9032	2	0	0	0	2	2	2	2	0	0	2	2	0
9042	2	0	0	0	2	2	2	2	0	0	2	2	0
9052	2	0	0	0	2	2	2	2	0	0	2	2	0
9062	2	0	0	0	2	2	2	2	0	0	2	2	0
9072	2	0	0	0	2	2	2	2	0	0	2	2	0
9082	2	0	0	0	2	2	2	2	0	0	2	2	0
9092	2	0	0	0	2	0	2	2	0	0	2	2	0
9102	2	0	0	0	2	0	2	2	0	0	2	2	0
9112	2	0	0	0	2	0	2	2	0	0	2	2	0
9122	2	0	0	0	2	0	2	2	0	0	2	2	0
9132	2	0	0	0	2	0	2	2	0	0	2	2	0
9142	2	0	0	0	2	0	2	2	0	0	2	2	0
9152	2	0	0	0	2	0	2	2	0	0	2	2	0
9162	2	0	0	0	2	0	2	2	0	0	2	2	0
9172	2	0	0	0	2	0	2	2	0	0	2	2	0
9182	2	0	0	0	2	0	2	2	0	0	2	2	0
9192	2	0	0	0	2	0	2	2	0	0	2	2	0

	Country Codes												
Prog Item# ↓	29	30	35	38	41	42	43	44	51	52	53	56	57
9202	2	0	0	0	2	0	2	2	0	0	2	2	0
9212	2	0	0	0	2	0	2	2	0	0	2	2	0
9222	2	0	0	0	2	0	2	2	0	0	2	2	0
9232	2	0	0	0	2	0	2	2	0	0	2	2	0
9242	2	0	0	0	2	0	2	2	0	0	2	2	0
9252	2	0	0	0	2	0	2	2	0	0	2	2	0
9262	2	0	0	0	2	0	2	2	0	0	2	2	0
9272	2	0	0	0	2	0	2	2	0	0	2	2	0
9282	2	0	0	0	2	0	2	2	0	0	2	2	0
9292	2	0	0	0	2	0	2	2	0	0	2	2	0
9302	2	0	0	0	2	0	2	2	0	0	2	2	0
9312	0	1	0	0	0	1	0	0	0	0	0	0	2
9322	0	1	0	0	0	1	0	0	0	0	0	0	2
814	0	1	0	0	0	1	0	0	0	0	0	0	2
824	0	1	0	0	0	1	0	0	0	0	0	0	2
834	4	6	4	4	4	4	4	4	4	4	4	4	4
844	5	5	5	5	5	5	5	1	5	5	5	5	5
861	5	5	5	5	5	5	5	3	5	5	5	5	5
611	7	6	5	7	7	7	7	7	7	7	5	7	1
621	5	7	5	6	5	8	5	5	5	6	5	5	5
631	0	1	1	1	0	1	0	1	1	1	0	0	0
641	2	2	2	2	2	2	2	2	2	2	2	2	2
642	1	1	1	1	1	1	1	1	1	1	0	1	1
121	0	2	0	0	0	0	0	2	0	0	0	0	0
600	0	0	0	0	0	0	1	1	2	0	0	0	0
115	1	1	1	1	1	1	1	1	1	1	1	1	1
116	1	0	0	0	1	1	1	0	0	0	0	1	0
128	0	0	0	0	0	0	0	0	0	0	0	0	1
132	1	1	0	0	1	1	1	0	1	1	1	1	0
147	1	1	1	1	1	1	1	0	1	1	0	1	1
153	1	1	1	1	1	1	1	1	1	1	1	1	1
159	3	3	3	3	3	3	3	1	3	3	3	3	0
160	3	3	3	3	3	3	3	1	3	3	3	3	3
344	6	6	6	6	6	6	6	6	6	6	6	6	6
403	6	6	6	6	6	6	6	6	6	6	6	6	6
9015	6	6	6	6	6	6	6	6	6	6	6	6	6
9025	6	6	6	6	6	6	6	6	6	6	6	6	6
9035	6	6	6	6	6	6	6	6	6	6	6	6	6
9045	6	6	6	6	6	6	6	6	6	6	6	6	6
9055	6	6	6	6	6	6	6	6	6	6	6	6	6
9065	6	6	6	6	6	6	6	6	6	6	6	6	6
9075	1	1	1	1	1	1	1	1	1	1	1	1	1
9085	0	0	0	0	0	0	0	0	0	0	0	0	0
163													
168													

12 Agency Approvals and Requirements

12.1 Certifications and Approvals

Compliance with specific standards, such as SIA CP-01 and DD243, reduces false alarms and is required in many locations.

The Easy Series Intrusion Control Panel is designed to comply with the following certifications, approvals, and standards:

- ANSI/SIA CP-01 False Alarm Immunity
- CE
- EN50131-1 Security Grade 2, Environmental Class II*
- EN 50131-3, EN 50131-5-3, EN 50131-6, IP30 - IK04 (EN50529 - EN50102)
- DD243*
- PD6662*
- CCC*
- UL Standards:
  - UL365, Police Station Burglar Alarm Units and systems
  - UL609, Local Burglar Alarm Units and Systems
  - UL985, Household Fire Warning System Units
  - UL1023, Household Burglar-alarm System Units
  - UL1076, Proprietary Burglar Alarm Units and Systems
- cUL Standards:
  - CAN/ULC-S545, Residential Fire Warning System Control Units
  - CAN/ULC-S545, Residential Fire Warning System Control Units
  - CAN/ULC-S303, Local Burglar Alarm Units and Systems
  - C1076, Proprietary Burglar Alarm Units and Systems
  - C1023, Household Burglar Alarm Units
- FCC
- Industry of Canada (IC)
- A-Tick*
- C-Tick*
- TBR21 for PSTN*
- INCERT (Belgium) *
- CSFM Listing - Control Unit Household
- Japan Approvals Institute for Telecommunications Equipment (JATE) *

* Not investigated by Underwriters Laboratories, Inc.

NOTICE!
The ITS-DX4020-G has not been tested by UL.

12.2 FCC

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. If this equipment is not installed and used according to this document, it might 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 must correct the interference.

Part 68

This equipment complies with Part 68 of FCC rules. A label contains, among other information, the FCC registration number and ringer equivalency number (REN). If requested, this information must be provided to the telephone company.

The Bosch Security Systems Easy Series Intrusion Control Panel is registered for connection to the public telephone network using an RJ38X or RJ31X jack.

The REN determines the number of devices that can be connected to the telephone line. Excessive REN's on the telephone line might result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the REN's should not exceed five. To determine the number of devices that can be connected to the telephone line, contact the telephone company for the maximum REN for the calling area.

The telephone company notifies you if this equipment harms the telephone network. If advance notice is not practical, the telephone company notifies the customer as soon as possible. Also, you are advised of your right to file a complaint with the FCC if you believe it is necessary to do so.

The telephone company might make changes in its facilities, equipment, operation, or procedures that could affect the operation of this equipment. If this happens, the telephone company provides advance notice so you can make the necessary modifications for maintaining uninterrupted service.

If you experience trouble with the Easy Series Intrusion Control Panel, contact Bosch Security Systems Customer Service for repair and warranty information. If the trouble harms the telephone network, the telephone company might request that you remove the equipment from the network until the problem is resolved. User repairs must not be made, and doing so voids the user's warranty.

This equipment cannot be used on public coin service provided by the telephone company. Connection to party line service is subject to state tariffs. Contact your state public utilities commission for more information.

- **FCC Registration Number:** US:ESVAL00BEZ1; **Ringer Equivalence:** 0.0B
- **Service Center:** Contact your Bosch Security Systems, Inc. representative for the location of your service center.

12.3 Industry Canada

This product meets the applicable Industry Canada technical specifications.
The ringer equivalence number (REN) for this terminal equipment is 0.0. The REN assigned to each terminal equipment indicates the maximum number of terminals allowed to be connected to a telephone interface. The termination of an interface can consist of any combination of devices subject only to the requirement that the sum of the REN of all devices does not exceed five.

12.4 SIA

Programming Requirements

To comply with ANSI/SIA CP-01 False Alarm Reduction, set these programming items as follows:

Programming Item	Item Number	Default	Section Starting Page
Intrusion Abort Window	110	30 sec	Page 43
Intrusion Cancel Window	112	5 min	
Exit Delay	126	60 sec	
Entry Delay	127	30 sec	
Swinger Bypass Count	131	1	
Auto Protection Level	132	1	

To comply with ANSI/SIA CP-01 False Alarm Reduction, by default, this system:

- Sends Intrusion Alarm Verified and Exit Error reports
- Sends a Recent Closing report for any alarm that occurs within two min of the end of Exit Delay
- Includes a Fire Verified point type option that is disabled by default

Quick Reference

Refer to the following table for programmable features, shipping defaults, and recommended programming that comply with the ANSI/SIA CP-01 False Alarm Reduction standard.

The system test button tests all points, all outputs, the control panel, and the communicator. Refer to *Section 8.1 Test the System*, page 61 for more information.

Paragraph Number in ANSI/SIA CP-01	**Feature**	**Requirement**	**Range**	**Shipping Default**	**Recommended Programming**[1]
4.2.2.1	Exit Time	Required (programmable)	For full or auto arming: 45 sec to 2 min (255 sec max)	60 sec	60 sec
4.2.2.2	Progress Annunciation/ Disable for Silent Exit	Allowed	Individual control centers can be disabled.	All control centers enabled.	All control centers enabled.
4.2.2.3	Exit Time Restart	Required Option	For re-entry during Exit Time	Enabled	Enabled
4.2.2.5	Auto Stay Arm on Unvacated Premises	Required option (except for remote arm)	If no exit after full arm	Enabled	Enabled
4.2.4.4	Exit Time and Progress Annunciation/ Disable for Remote Arm	Allowed option (for remote arm)	Can be disabled for remote arm	Enabled	Enabled
4.2.3.1	Entry Delay(s)	Required (programmable)	30 sec to 4 min[2]	30 sec	At least 30 sec[2]
4.2.5.1	Abort Window for Non-fire Zones	Required option	Can be disabled by zone or zone type	Enabled	Enabled (all zones)
4.2.5.1	Abort Window Time for Non-fire Zones	Required (programmable)	15 sec to 45 sec[2]	30 sec	At least 15 sec[2]
4.2.5.1.2	Abort Annunciation	Required option	Annunciate that no alarm was transmitted	Enabled	Enabled
4.2.5.4.1	Cancel Annunciation	Required option	Annunciate that a Cancel was transmitted	Enabled	Enabled
4.2.6.1 and 4.2.6.2	Duress Feature	Allowed Option	No 1+ derivative of another user code; no duplicates of other user codes	Disabled	Disabled
4.3.1	Cross Zoning	Required Option	Programming needed	Disabled	Enabled and two or more zones programmed
4.3.1	Programmable Cross Zoning Time	Allowed	Can program	Per manufacturer	Per walk path in protected premises
4.3.2	Swinger Shutdown	Required (programmable)	For all non-fire zones, shut down at one or two faults	One fault	One fault
4.3.2	Swinger Shutdown Disable	Allowed	For non-police response zones	Enabled	Enabled (all zones)

Paragraph Number in ANSI/SIA CP-01	Feature	Requirement	Range	Shipping Default	Recommended Programming[1]
4.3.3	Fire Alarm Verification	Required option	Depends on control panel and sensors	Disabled	Enabled unless sensors can self-verify
4.5	Call Waiting Cancel	Required option	Depends on user phone line	Disabled	Enabled if user has call waiting

[1] Programming at installation site might be subordinate to other UL requirements for the intended application.

[2] Combined Entry Delay and Abort Window should not exceed 1 minute.

[3] If the cross zone timer ends and a second cross zone point is not faulted, the system sends an intrusion alarm unverified report.

12.5 Underwriters Laboratories (UL)

Household Fire Warning System

- Install at least one UL Listed four-wire latching type smoke detector rated to operate over the voltage range of 11.2 VDC to 12.3 VDC. The maximum smoke detector load is 50 mA.
- Install one UL Listed 85 dB audible device rated to operate over the range of 11.2 VDC to 12.3 VDC as required for this application. Program the bell cut-off time for at least four minutes. Refer to Programming Item 107 in *Section 5.2.2 System Programming Items*, page 43.
- Install end-of-line resistor P/N: 47819 after last smoke detector.
- Do not use a printer interface module.
- Where two-wire addressable devices are used, do not place fire and intrusion devices on the same zone.
- The system must be able to operate for at least 24 hr, and generate a full alarm output for at least 4 min without AC power.

Household Burglar Alarm Unit

- Install at least one UL Listed 85 dB audible device rated to operate over the voltage range of 11.2 VDC to 12.3 VDC.
- Install at least one IUI-EZ1 Control Center.
- Program all zones to use end-of-line supervision.
- Install intrusion initiating devices rated to operate over the voltage range of 11.2 VDC to 12.3 VDC.
- Program all intrusion zones for audible notification.
- Do not exceed 60 sec when programming Exit Delay. Refer to Programming Item 126 in *Section 5.2.2 System Programming Items*, page 43. Do not exceed 45 sec when programming Entry Delay. Refer to Programming Item 127 in *Section 5.2.2 System Programming Items*, page 43. Program the bell cut-off time for at least of four minutes. Refer to Programming Item 108 in *Section 5.2.2 System Programming Items*, page 43.
- The system must be able to operate for at least 24 hr, and generate a full alarm output for at least 4 min without AC power.

Commercial Burglary, Local

- Use the D8108A Attack Resistant Enclosure with the D2402 Mounting Skirt.
- Install at least one UL Listed 85 dB audible device rated to operate over the voltage range of 11.2 VDC to 12.3 VDC. All wiring connections between the control panel and device must be in conduit.
- Do not exceed 60 sec when programming Exit Delay. Refer to Programming Item 126 in *Section 5.2.2 System Programming Items*, page 43. Do not exceed 60 sec when programming Entry Delay. Refer to Programming Item 127 in *Section 5.2.2 System Programming Items*, page 43.
- Install a tamper switch to protect the enclosure door.
- Set Programming Item 116 to 1 (Daily) to ensure the automatic test report is sent on a daily basis. Refer to *Section 5.2.2 System Programming Items*, page 43.
- Ensure that the integrated communicator is enabled (Programming Item 304 = 0; refer to *Section Global Report Routing Items*, page 52). Ensure that the system can send low battery reports (Programming Item 358 = 1, 2, or 3; refer to *Section System Report and Restoral Routing*, page 51).
- Install at least one IUI-EZ1 Control Center.
- Program the bell cut-off time for at least 15 minutes. Refer to Programming Item 108 in *Section 5.2.2 System Programming Items*, page 43.
- This system was not evaluated for Bank Safe and Vault applications.
- The system must be able to operate for at least 24 hr, and generate a full alarm output for at least 15 min without AC power.

Commercial Burglary, Police Station Connected Protected Premises*

- Refer to *Section Commercial Burglary, Local*, page 117 for installation requirements.
- Ensure that the integrated communicator is enabled (Programming Item 304 = 0; refer to *Section Global Report Routing Items*, page 52).

* Systems are approved for Encrypted Line Security when used in conjunction with the C900V2 Conettix IP Dialer Capture Module and communicating over a packet-switched data network (PSDN).

Commercial Burglary, Proprietary*

- The integrated communicator is enabled (Programming Item 304 = 0; refer to *Section Global Report Routing Items*, page 52).
- The system has one owner.
- The system must be able to operate without AC power for at least 24 hours. The central station receiver must be able to receive reports without AC power for at least 24 hours.

* Systems are approved for Encrypted Line Security when used in conjunction with the C900V2 Conettix IP Dialer Capture Module and communicating over a packet-switched data network (PSDN).

12.6 PD6662 and DD243 Requirements

To comply with PD6662 and DD243, you must meet all of the EN50131-3 requirements and the following requirements:

- **Maintenance:** A qualified technician must check the system at least twice a year.
- **AC Power Supply:**
  - **Type:** A
  - **Rated Voltage:** 230 V
  - **Rated Input Frequency:** 50 Hz
  - **Rated Input Current:** 250 mA maximum
  - **Fuse Rating:** 0.25 A, 250 V Slow Blow
- **Construction Materials:** Enclosures and housings for the control panel, control center, DX2010, wireless hub, and wireless devices are made from materials that are durable, secure, and resistant to attack by hand-held tools.
- **Confirmed Alarms:** Set Expert Programming Item Number 124 to either Option 3 or 4. Refer to *Section 5.2.2 System Programming Items*, page 43for more information.

The Easy Series Intrusion Control Panel is designed to comply with PD6662:2004 as a Grade 2 system that supports Notification Options A, B, C, or X with the appropriate notification devices installed (devices not included with system).

12.7 EN50131 Requirements

The Easy Series Intrusion Control Panel is designed to comply with EN50131-1 Security Grade 2, Environmental Class II.

Installation, Programming, and Maintenance
Installation: Refer to *Section 2.2 Install System Components*, page 13.
Programming: Refer to *Section 5 Programming*, page 37.
Testing: Refer to *Section 8 System Test and Maintenance*, page 61.
Maintenance: Refer to *Section 8 System Test and Maintenance*, page 61.
Power Supply (AC and Standby Battery)
AC Power Supply: Refer to *Section 10.2 Control Center*, page 75.
Standby Battery: Refer to *Section 10.2 Control Center*, page 75.
Automatic Inhibit
Intruder Alarm and Fault Signal or Message: Set *Expert Programming Item Number 131* to a value between 1 and 3. Refer to *Section 5.2.2 System Programming Items*, page 43for more information.
Authorization Code: Set E*xpert Programming Item Number 892* to a value between 3 and 8. Refer to *Section 5.2.8 Control Center Programming Items*, page 55for more information.
Logical and Physical Keys
Minimum Number of Combinations per User: – **Passcodes:** 15,625 (passcode length must be six digits) – **Tokens:** 42,000,000,000 – **Key Fobs:** 2,800,000,000,000,000 **Method Used to Determine Number of Combinations:** – **Passcodes:** Digits 1 to 5 are allowed. For a six-digit passcode, all combinations are allowed. – **Tokens:** 32 bits. All combinations are allowed. – **Key Fobs:** 56 bits (48 serialized during manufacturing, 8 remain static)
Operating Temperature Range
Refer to *Environmental Considerations* on Page 72.
Control Panel and Control Center Current Consumption
Control Panel: Refer to *Section 10.1 Control Panel*, page 72.
Control Center: Refer to *Section 10.1 Control Panel*, page 72.
Output Current Rating
Refer to *Programmable Outputs* on Page 72.

To comply with EN50131-1, set these programming items as follows:

Programming Item	**Item Number**	**Setting**	**Section Starting Page**
Programming Key Auto Transfer	123	Select Option 0	Page 43
Entry Delay	127	Set to 45 sec or less	
Swinger Bypass Count	131	Select Option 3	
Restrict Installer Passcode	142	Select Option 1	
RPS Automatic Call In Frequency	224	Select Option 0	Page 49
Passcode Length	861	Set passcode length to six digits	Page 56

12.8 INCERT

To comply with INCERT, set these programming items as follows:

Programming Item	Item Number	Default	Section Starting Page
Restrict Installer Passcode	142	1	Page 43
Passcode Length	861	6 digits	
Invalid Passcode Attempt	892	3*	
Control Center Lockout Time	893	3*	Page 56
* To comply with INCERT, set these programming items to 3 or higher.			

12.9 cUL

For Canadian installations, install systems according to ULC-S302. Systems that use the C900V2 Conettix IP Dialer Capture Module meet Level 3 Line Security when communicating over a packet-switched data network (PSDN).

12.10 NF A2P

If you modify system parameters you are responsible for maintaining the system within the scope of the standard and regulations that apply to the hardware and/or the system in which it is used. In a NF A2P compliant installation, use only NF A2P listed components, and check that each parameter is in the authorized range.

Accessories Authorized in a Certified Installation

Part	Description
IUI-EZ1	Control Center
NP17-12IFR	17AH Yuasa Battery
ICP-EZPK	Flash memory
EZPS-FRA	Power supply for motion detectors and sirens
IPP-PSU-2A5	Supervised Auxiliary power supply
ICP-EZVM-FRF	Voice module in French
ISW-BHB1-WXFR	wLSN Hub
ISW-BK-F1-H5X	wLSN keyfob
ISW-BDL1-W11PHX	wLSN Tri-tech motion detector 11 x 11 m
ISW-BPR1-W13PX	PIR wLSN motion detector 12 x 12 m
ISW-BMC1-S135X	wLSN magnetic contact wLSN
ISW-BMC1-M82X	wLSN mini contact
ISW-BMC1-R135X	wLSN recessed contact
ISW-BIN-S135X	wLSN Choc and magnetic contact
ISW-BSM1-SX	wLSN smoke detector
ISW-BGB1-SAX	wLSN Glass break detector
ISW-BSR1-WX	wLSN sounder
ISW-BRL1-WX	wLSN output relay
DX2010	8 wire zones expansion board

Siren Wiring in a NF A2P Certified Installation

Use only sirens with backup battery. Sirens which require a primary voltage of 14.4V can be powered by the optional module EZPS-FRA, or the auxiliary power supply IPP-PSU-2A5.
Bring the hold-on +12V through panel PO1, set it as the interior siren, as shown on the siren installation guide. Depending on the current requirement of the siren battery, the hold-on + voltage can be taken from the orange terminal, white terminal, +14.4V of the siren power output of optional board EZPS-FRA, or one of the outputs of auxiliary power supply IPP-PSU-2A5.

NOTICE!
In a NF A2P certified installation, the power supply used to feed the battery of the siren shall not be used to feed the motion detectors.

Motion Detectors Wiring in a NF A2P Certified Installation

Power for motion detectors shall be separated from power for sirens. Power for motion detectors can either come from the white terminal + and -, or by the optional board EZPS-FRA when the number of motion detector requires separate power lines, or by the auxiliary power supply IPP-PSU-2A5.

Panel Configuration in a NF A2P Certified Installation

Check that each parameter is in the range of authorized values for NF A2P certified installations.

Current Chart in a NF A2P Type 2 Certified Installation

To meet the 36 hours of backup power, check that the current required by all the equipments used in the system is lower than the backup current available:

- Max current in idle state: 465 mA (i.e. 270 mA of current for the panel , with one control center)
- Max current in alarm: 1000 mA (i.e. 675 mA of current for the panel, with one control center)
  Refer to the chart below.

	Max Current in Idle State			**Max Current In Alarm State**		
Module	**I Max**		**Total**	**I Max**		**Total**
Easy Series Control Panel	85 mA	x1	85 mA	160 mA	x1	160 mA
Current for the panel: **A**			....mA			...mA
IUI-EZ1 Control Center (at least 1)	110 mA	x Qty		165 mA	xQty	
Current on the option bus: **B**			....mA			....mA
Motion detector(s)		x Qty			x Qty	
Siren(s)		x Qty			x Qty	
(Autre)		x Qty			x Qty	
Total aux current: **C**			...mA			...mA
Total **A + B + C**			**...mA**			**...mA**
Max backup current available, with a 17 AH battery (type 2, 36H)			465 mA			1000 mA

Current Chart of the Aux Power Supply IPP-PSU-2A5

When the current required by additional components is higher than the backup current available from the panel with the 17AH battery, add one or several auxiliary power supply IPP-PSU-2A5.

The IPP-PSU-2A5 provides also the 14.5V output required by the siren batteries.

	Max Current in Idle State			**Max Current In Alarm State**		
Module	**I Max**		**Total**	**I Max**		**Total**
IPP-PSU-2A5	55 mA	x1	55 mA	55 mA	x1	55 mA
Detector(s)		x Qty			xQty	
Siren(s)		x Qty			x Qty	
Control Center(s)		x Qty			x Qty	
Total aux current: **C**			...mA			...mA
Total in Idle State			**...mA**	Total in alarm state		**...mA**
Max backup current available, with a 17 AH battery			465 mA			750 mA
The IPP-PSU-2A5 auxiliary power supply provide a protection against the deep discharge of the battery (active at idle state) and status LEDs. This current has to be taken into account in the current chart. Max. available current in idle state: 465 mA. Max. current in alarm: 750 mA.						

NOTICE!

For Aux power supply supervision, use an input from the panel or from a DX2010, with a two resistors wiring (alarm and tamper)

- Connect the output relay "trouble" from the aux power supply to a 24hr/24hr input. Record the zone name with a text meaning "AC loss aux power supply"
- On the tamper zone, connect the tamper contact of the aux power supply enclosure

Controller Recorder Wiring

To connect a controller / recorder, connect the coil inpu of the recorder to + and - of PO2, PO3 and/or PO4.

Set the output as follows:

- To record the state "arm unoccupied", set the output to "armed unoccupied"
- To record the state "alarm", set the corresponding output to "intrusion and fire 2" (reversed level)

Programming Items

To comply with NF A2P, set these programming items as follows:

Programming Item	Item Number	NF A2P Approved Range	Section Starting Page
Country Code	102	17	Page 43
Enclosure Tamper Enabled	103	1	
Fire Bell Cut-off Time	107	2 or 3	
Intrusion Bell Cut-off Time	108	2 or 3	
Intrusion Abort Window	110	0	
Point Alarm Verification	124	0	
Entry Delay	127	Shorter than Exit Delay	
Auto Protection Level	132	0	
Latching Point and Enclosure Tamper	137	1	
Latching System Device Tamper	138	1	
Restrict Installer Passcode	142	1	
Start Arming With Faulted Points	159	0	
Passcode Length	861	6	Page 56
Circuit Style	9xx2*	0	Page 52
Response Time	9xx5*	4 or 5	
* The middle digits = the point number. For example, "01" = Point 1, and "32" = Point 32.			

Table 12.1 NF A2P Certified Configuration Values

NOTICE!

For supervised points (dual EOL), 2.2k Ω EOL resistors (P/N: 47819) required.

Seal the Enclosure

1. Open the pre-opened hole which is on the right of the enclosure.
2. Pass the sealing wire through this hole, and bring the two wires in the corresponding hole of the enclosure door.
3. Seal the sealing lead as near as possible from the enclosure.

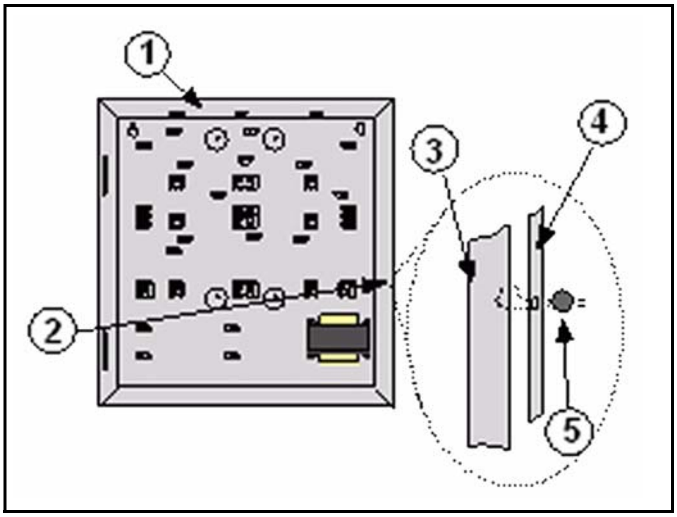


Figure 12.1 Enclosure Sealing

1	Enclosure
2	Sealing Location (pre-opened)
3	Right side of the enclosure
4	Right side of the door
5	Sealing lead

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