NX-591NE-GSM NetworX GSM 3G HSPA+ Module Installation Sheet

Description

The NX-591NE-GSM is a microprocessor-controlled GSM interface module used to connect the NetworX series of control panels to GSM cellular networks for event reporting. The module is compatible with the latest 3G and HSPA+ (4G) networks, as well as backward compatible with 2G networks, and can be used for primary or backup reporting. Flexible event selection allows only specific messages to be reported, keeping airtime to a minimum. The module interfaces with the NetworX panel data bus and has 9 LEDs to provide extensive diagnostic and setup information.

Activation

Before installing the module, it must be activated on an existing dealer account. If you do not have a dealer account, please contact Interlogix directly to initiate the account set-up procedure. The activation process automatically activates the module within a few hours. If you already have a dealer account, you can activate and manage the module via our website address: https://login.uplink.com/ge/login.aspx.

1. Enter your login name and password, then click **Login**.
2. Click on **Activate Unit** on the left side of the page.
3. Enter the serial number of the module from label on the front of the unit (10-digit number preceded by S/N) and select **Interlogix SMS Plan** from the drop-down menu, then click Activate.
4. Fill out the required information and select reporting options, then click **Update**.

Installation

To install the module you will need to mount the unit in the panel enclosure and wire the unit to the main security panel within the enclosure.

Mounting

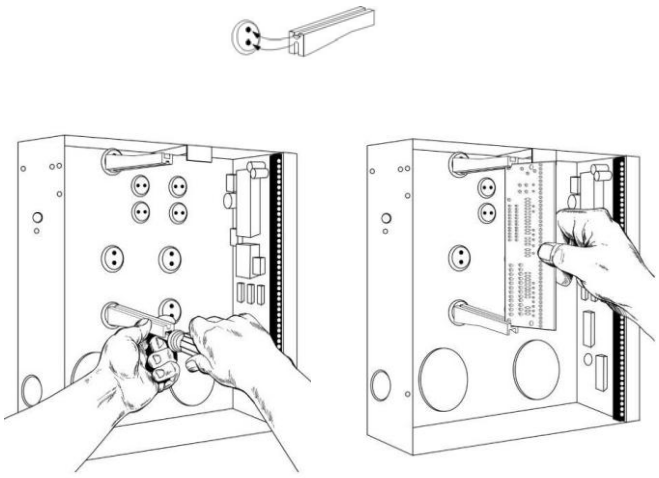
Inside the can, several two-holed insertion points have been constructed. This allows for either vertical or horizontal placement of the modules. The insertion points have two sizes of holes, a larger hole and a smaller hole. The black plastic PCB guides are grooved on one edge where the PC board will be seated. The end with the half-moon protrusion fits into the larger hole. The smaller hole is for the screw.

To mount the board, see *Figure 1* and do the following:

1. Hold the board vertically, with antenna bracket facing to the left, near the top of the inside of the panel enclosure to identify the hole knockout that must be removed to allow for the antenna to protrude through the top of the can. Note the two insertion points that align with the board.
2. Remove the knockout from the hole with appropriate tools.
3. Place the first black plastic PCB guide in the top insertion point, grooved edge downward. The half-moon protrusion will be in the large hole. It does not require force.
4. Insert one of the provided screws into the smaller hole (from the inside of the can) to secure it in place. A screwdriver should reach through the notch that runs the length of the guide to tighten the screw.
5. Position the second PCB guide opposite of the first (grooved edge up) and placed in the lower insertion point, using the same procedure.
6. Once mounted, screw it in securely.
7. Slide the board in the grooves of both guides with antenna bracket facing left.

Note: Older style enclosures did not provide an exit hole for the antenna included with the GSM module. In such cases, you must either drill a new hole (5/8 in.) on top of the can or use an optional external antenna (NX-501E-GSM).

Figure 1: Mounting the unit



Wiring

Use three-conductor, 20-guage or larger stranded wire to connect the module to the control panel or to the NX-320E power supply. Table 1 below shows the maximum wire length for each gauge.

Table 1: Maximum wire length

Gauge	Maximum wire length to panel
20 gauge	10 ft. (3.1 m)
18 gauge	50 ft. (15.2 m)
16 gauge	100 ft. (30.5 m)

Refer to *Figure 2* to identify the wiring terminals of the module and wire from these terminals to the main control panel or NX-320E power supply based on Table 2 below.

Table 2: Wiring Terminals

Terminal	Description
DATA	Connect to the KP DATA terminal of panel
COM	Connect to the KP COM terminal of panel
POS	Connect to the KP POS terminal of panel
TAM	Unused on this design

Caution: You must be free of static electricity before handling electronic components. Touch a grounded metal surface before touching the circuit board.

Caution: To prevent damaging the panel or module, you must remove panel AC power and disconnect the backup battery before making or changing wiring connections.

Figure 2: Main Board Components

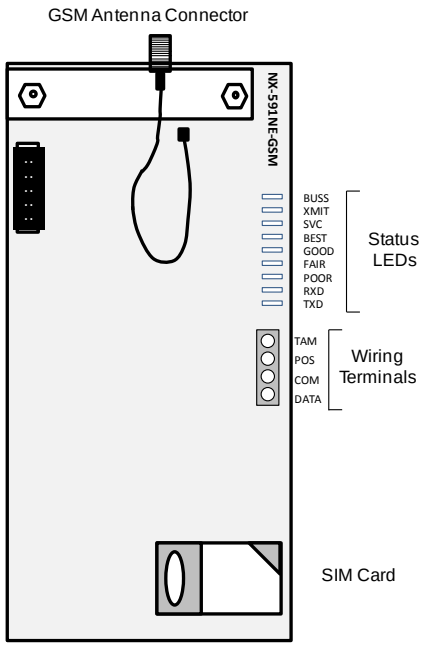


Table 3: Main Board Components

Component	Function
SIM Card	Identifies the module to the local network
Wiring terminals	Provides panel wiring connections to attach module to the data bus
Antenna Connector	Provides mounting location for GSM antenna
GSM status LEDs	Indicates communication with the GSM network, traffic, and signal strength
Serial number	10-digit number preceded with S/N – found on label on front of module or on top of antenna mounting bracket.

Module LEDs

The module has 9 status LEDs oriented in a vertical column on the front of the board. These LEDs provide valuable information about the status of the module and the GSM network. Please refer to *Figure 2* above and *Table 4* below for more details.

Table 4: Module LEDs

LED	Description
BUSS	ON = proper connection to data bus of control panel
XMIT	ON = transmitting message packet(s) to GSM tower
SVC	ON = Cellular service available
BEST	The LEDs will either be OFF, ON, Flashing Slow or Flashing Fast depending on the signal strength of the GSM signal. Refer to *Table 5* below for details.
GOOD	
FAIR	
POOR	
RXD	Receiving data from GSM radio
TXD	Sending data to GSM radio

Table 5 describes the signal strength level. This power level is denoted in dB and the larger the number, the better the signal strength from the GSM tower.

Table 5: Signal Strength Level

dB	POOR	FAIR	GOOD	BEST
-110 or worse	OFF	OFF	OFF	OFF
-109 to -104	SLOW	OFF	OFF	OFF
-103 to -100	FAST	OFF	OFF	OFF
-99 to -94	ON	OFF	OFF	OFF
-93 to -88	ON	SLOW	OFF	OFF
-87 to -84	ON	FAST	OFF	OFF
-83 to -78	ON	ON	OFF	OFF
-77 to -72	ON	ON	SLOW	OFF
-71 to -68	ON	ON	FAST	OFF
-67 to -62	ON	ON	ON	OFF
-61 to -56	ON	ON	ON	SLOW
-55 to -52	ON	ON	ON	FAST
-51 or better	ON	ON	ON	ON

Power up

You will need to power up the panel and module to begin the enrolling and programming process.

To power up:

1. Verify that all wiring between the panel and module is correct.
2. Connect the backup battery and restore AC power to the panel.

Enrolling the module

The NetworX control panels have the ability to automatically find and store in memory the presence of all keypads, zone expanders, wireless receivers, and any other device on the keypad bus. This allows these devices to be supervised by the control panel.

To enroll the devices, enter program mode of the NX control panel using the procedure described in the control panel documentation. When you exit program mode, the control panel will automatically enroll all the devices. The enrolling process takes about 12 seconds, during which time the service LED will illuminate. When using the LCD keypad, the “Service Required” message will be displayed. User codes will not be accepted during the enrolling process. Once a module is enrolled, if the control panel does not detect it, the service LED will illuminate.

Module Address

The GSM module has a fixed address of 76. When programming the module, enter program mode and select the device address as 76.

Programming

You can program the module using the LED keypad or the LCD keypad. To program the module using the LED keypad, do the following:

Enter program mode

To enter program mode, press *** 8**. The Stay, Chime, Exit, Bypass, and Cancel LEDs on the keypad will flash. Enter the “go to program code”. The factory default is **9 7 1 3**. If the code is valid, the Service LED on the keypad will flash and the five function LEDs will illuminate steady. You are now in program mode and can select the module to program.

Select the module to program

To select the module to program, press **7 6 #** (the address of this GSM module). The Armed LED on the keypad will illuminate while it is waiting for a programming location to be entered.

Factory default the module

To return the module to factory defaults, press **9 1 0 #**. The keypad will beep three times indicating that loading is in progress. Remember you will erase any values you may have entered previously.

Programming a location

Once the number of the module to be programmed has been entered, the Armed LED on the keypad will illuminate while it is waiting for a programming location to be entered.

Note: If an attempt is made to program an invalid entry for a particular segment , the keypad sounder will emit a triple error beep, and remain in that segment waiting for a valid entry.

To enter a location, enter the location number (1 to 13) and press #. The Armed LED will flash. If the location is valid, the Armed LED will extinguish, the Ready LED will illuminate, and the zone LEDs will show the data for the first segment of this location.

To change location data, enter the changed data. The Ready LED will flash to indicate a data change in progress and will continue until the data is saved. Press * to save the new data. The keypad will advance to the next segment and display its data. These steps are repeated until the last segment is reached.

To exit a location, press #. The Ready LED will extinguish. The Armed LED will illuminate waiting for a new programming location to be entered.

To review the data, enter the location number and press #. The Armed LED will flash. If the location number is valid, the Armed LED will extinguish, the Ready LED will illuminate, and the zone LEDs will show the binary data for the first segment of this location. Press * to display the next segment data. Each time you press *, the data of the next segment will be displayed for review.

Exit program mode

Press **Exit** to exit this programming level. Press **Exit** a second time to completely exit programming.

LCD keypad programming

All steps required for programming are the same as those described for the LED keypad. The LCD keypad display will prompt you for the data required. While in programming mode, and not in a location, the number in parenthesis is the location you were previously changing. For example, if the display reads, “Enter location, then **#** (5)”, it is reminding you that location 5 was the last location you programmed.

Programming data

Programming data is either numerical data, or feature selection data.

Numerical data

To program numerical data, enter a number from 0 to 255 on the numeric keys of the keypad. To view the data in a location, a binary process is used. With this process, the LEDs for zones 1 through 8 are used, and the numeric equivalents of their illuminated LEDs are added together to determine the data in a programming location. The numeric equivalents of these LEDs are as follows:

Zone 1 LED = 1 Zone 2 LED = 2 Zone 3 LED = 4
Zone 4 LED = 8 Zone 5 LED = 16 Zone 6 LED = 32
Zone 7 LED = 64 Zone 8 LED = 128

For example, if the numerical data to be programmed in a location is “66”, press **6 6** on the keypad. The LEDs for Zone 2 and Zone 7 will illuminate indicating 66 is in that location (2 + 64 = 66). Once the data is programmed, press ***** to enter the data and advance to the next segment of that location.

After the last segment of a location is programmed, press ***** to exit that location, turn the Ready LED off, and the Armed LED on. You are now ready to enter another programming location.

If an attempt is made to program a number too large for a particular segment, the keypad sounder will emit a triple beep, indicating an error, and remain in that segment waiting for a valid entry.

Feature selection data

Feature selection data will display the current condition (on or off) of eight features associated with the programming location and segment selected. Pressing a button on the touchpad (1 through 8) that corresponds to the feature number within a segment will toggle (on/off) that feature. Pressing any numeric key between 1 and 8 for selection of a feature will make the corresponding LED illuminate (feature on). Press the number again, and the LED will extinguish (feature off).

You will see that numerous features can be selected from within one segment. For instance, if all eight features of a segment are desired, pressing **1 2 3 4 5 6 7 8** will turn on LEDs 1 through 8 as you press the keys, indicating that those features are enabled.

Note: On LCD keypads, the numbers of the enabled features will be displayed. However, the features not enabled will display a hyphen (-).

After you select the desired setting for this segment, press ***** to enter the data and automatically advance to the next segment of the location. When you are in the last segment of a location and press ***** to enter the data, you will exit that location. The Ready LED will turn off and the Armed LED will turn on. You are now ready to enter another programming location.

Location 0 – this location is not used.

Location 1, feature selection

This location has four segments. Segment 1 contains the options to be programmed for the functioning of this module. Factory default for all Segment 1 options is off. *Table 6* describes the options:

Table 6: Segment 1 options

Option	Description	ON	OFF
1	Format	SIA	Contact ID
2	Test Signal	Daily[1]	Weekly[2]
3	Reserved for future use		
4	Reserved for future use		
5	Reserved for future use		
6	Disable Cellular Service LEDs	Disabled	Enabled
7	Reserved for future use		
8	Disable SIA DCS area modifier[3]	Disabled	Enabled

1 Daily test will be performed 24 hours (± 10 minutes) from time this option is programmed.

2 Weekly test will be performed 168 hours (± 10 minutes) from time this option is programmed.

3 Some older SIA DCS compatible receivers may not support the use of area (partition) modifiers. In such cases, the area modifier must be disabled (Option 8 on).

Segment 2 programs host acknowledgement requirements. Factory default for all Segment 2 options is off. *Table 7* describes the options:

Table 7: Segment 2 options

Option	Description	ON	OFF
1	Central Station Messages	Enabled	Disabled
2	Email Messages	Enabled	Disabled
3	Pager Messages	Enabled	Disabled
4	Periodic test signals	Enabled	Disabled
5 to 8	Reserved for future use		

Segments 3 and 4 are reserved for future use.

Location 2, events to report to central station – phone fault detected

Note: Reporting must be enabled in the control panel for this location to function.

This location has 16 segments and selects the partitions to include when reporting to the central station. To exclude any partition from reporting, turn off the LED corresponding to that particular partition number. Enter the numbers of the partitions to include for each type of report found in segments 1 through 16. Factory default is all partitions on for segment 1; all partitions off for segments 2 to 16. *Table 8* describes the segment options:

Table 8: Location 2 options

Segment	Description
1	Alarms
2	Open/Close
3	Bypass
4	Zone Trouble
5	Power Trouble (AC failure or low battery)
6	Siren and telephone fault
7	Test reports
8	Program, download and log full
9	Tampers
10	Short circuit and ground fault
11	Sensor lost
12	Sensor low battery
13	Expander trouble
14	Failure to communicate
15	Zone activity monitor
16	Reserved for future use

Location 3, special events to report to central station – phone fault detected

This location has 8 segments and selects the partitions to include when reporting special events to the central station. To exclude any partition from reporting, simply turn off the LED corresponding to that particular partition number. Enter the numbers of the partitions to include for each type of report found in segments 1 through 4. Factory default is all partitions off for segment 1 and 3; all partitions on for segments 2 and 4. Segments 5 to 8 are reserved for future use. *Table 9* describes the segment options:

Table 9: Location 3 options

Segment	Description
1	Alarm restores
2	Telephone fault
3	Start download
4	Failure to communicate, data lost
5 to 8	Reserved for future use

Location 4, events to report to email – phone fault detected

Note: Reporting must be enabled in the control panel for this location to function.

This location has 16 segments and selects the partitions to include when reporting to email. To exclude any partition from reporting, turn off the LED corresponding to that particular partition number. Enter the numbers of the partitions to include for each type of report found in segments 1 through 16. Factory default is all partitions off for all segments. *Table 10* describes the segment options:

Table 10: Location 4 options

Segment	Description
1	Alarms
2	Open/Close
3	Bypass
4	Zone Trouble
5	Power Trouble (AC failure or low battery)
6	Siren and telephone fault
7	Test reports
8	Program, download and log full
9	Tampers
10	Short circuit and ground fault
11	Sensor lost
12	Sensor low battery
13	Expander trouble
14	Failure to communicate
15	Zone activity monitor
16	Reserved for future use

Location 5, special events to report to email – phone fault detected

This location has 8 segments and selects the partitions to include when reporting special events to email. To exclude any partition from reporting, turn off the LED corresponding to that particular partition number. Enter the numbers of the partitions to include for each type of report found in segments 1 through 4. Factory default is all partitions off for all segments. Segments 5 to 8 are reserved for future use. *Table 11* describes the segment options:

Table 11: Location 5 options

Segment	Description
1	Alarm restores
2	Telephone fault
3	Start download
4	Failure to communicate, data lost
5 to 8	Reserved for future use

Location 6, events to report to pager – phone fault detected

Note: Reporting must be enabled in the control panel for this location to function.

This location has 16 segments and selects the partitions to include when reporting to a pager. To exclude any partition from reporting, turn off the LED corresponding to that particular partition number. Enter the numbers of the partitions to include for each type of report found in segments 1 through 16. Factory default is all partitions off for all segments. *Table 12* describes the segment options:

Table 12: Location 6 options

Segment	Description
1	Alarms
2	Open/Close
3	Bypass
4	Zone Trouble
5	Power Trouble (AC failure or low battery)
6	Siren and telephone fault
7	Test reports
8	Program, download and log full
9	Tampers
10	Short circuit and ground fault
11	Sensor lost
12	Sensor low battery
13	Expander trouble
14	Failure to communicate
15	Zone activity monitor
16	Reserved for future use

Location 7, special events to report to pager – phone fault detected

This location has 8 segments and selects the partitions to include when reporting special events to a pager. To exclude any partition from reporting, turn off the LED corresponding to that particular partition number. Enter the numbers of the partitions to include for each type of report found in segments 1 through 4. Factory default is all partitions off for all segments.

Segments 5 to 8 are reserved for future use. *Table 13* describes the segment options:

Table 13: Location 7 options

Segment	Description
1	Alarm restores
2	Telephone fault
3	Start download
4	Failure to communicate, data lost
5 to 8	Reserved for future use

Location 8, events to report to central station – phone line is good

Note: Reporting must be enabled in the control panel for this location to function.

This location has 16 segments and selects the partitions to include when reporting to the central station. To exclude any partition from reporting, turn off the LED corresponding to that particular partition number. Enter the numbers of the partitions to include for each type of report found in segments 1 through 16. Factory default is all partitions off for all segments. *Table 14* describes the segment options:

Table 14: Location 8 options

Segment	Description
1	Alarms
2	Open/Close
3	Bypass
4	Zone Trouble
5	Power Trouble (AC failure or low battery)
6	Siren and telephone fault
7	Test reports
8	Program, download and log full
9	Tampers
10	Short circuit and ground fault
11	Sensor lost
12	Sensor low battery
13	Expander trouble
14	Failure to communicate
15	Zone activity monitor
16	Reserved for future use

Location 9, special events to report to central station – phone line is good

This location has 8 segments and selects the partitions to include when reporting special events to the central station. To exclude any partition from reporting, simply turn off the LED corresponding to that particular partition number. Enter the numbers of the partitions to include for each type of report found in segments 1 through 4. Factory default is all partitions off for all segments. Segments 5 to 8 are reserved for future use. *Table 15* describes the segment options:

Table 15: Location 9 options

Segment	Description
1	Alarm restores
2	Telephone fault
3	Start download
4	Failure to communicate, data lost
5 to 8	Reserved for future use

Location 10, events to report to email – phone line is good

Note: Reporting must be enabled in the control panel for this location to function.

This location has 16 segments and selects the partitions to include when reporting to email. To exclude any partition from reporting, turn off the LED corresponding to that particular partition number. Enter the numbers of the partitions to include for each type of report found in segments 1 through 16. Factory default is all partitions off for all segments. *Table 16* describes the segment options:

Table 16: Location 10 options

Segment	Description
1	Alarms
2	Open/Close
3	Bypass
4	Zone Trouble
5	Power Trouble (AC failure or low battery)
6	Siren and telephone fault
7	Test reports
8	Program, download and log full
9	Tampers
10	Short circuit and ground fault

Segment	Description
11	Sensor lost
12	Sensor low battery
13	Expander trouble
14	Failure to communicate
15	Zone activity monitor
16	Reserved for future use

Location 11, special events to report to email – phone line is good

This location has 8 segments and selects the partitions to include when reporting special events to email. To exclude any partition from reporting, turn off the LED corresponding to that particular partition number. Enter the numbers of the partitions to include for each type of report found in segments 1 through 4. Factory default is all partitions off for all segments. Segments 5 to 8 are reserved for future use. *Table 17* describes the segment options:

Table 17: Location 11 options

Segment	Description
1	Alarm restores
2	Telephone fault
3	Start download
4	Failure to communicate, data lost
5 to 8	Reserved for future use

Location 12, events to report to pager – phone line is good

Note: Reporting must be enabled in the control panel for this location to function.

This location has 16 segments and selects the partitions to include when reporting to a pager. To exclude any partition from reporting, turn off the LED corresponding to that particular partition number. Enter the numbers of the partitions to include for each type of report found in segments 1 through 16. Factory default is all partitions off for all segments. *Table 18* describes the segment options:

Table 18: Location 12 options

Segment	Description
1	Alarms
2	Open/Close
3	Bypass
4	Zone Trouble
5	Power Trouble (AC failure or low battery)
6	Siren and telephone fault
7	Test reports
8	Program, download and log full
9	Tampers
10	Short circuit and ground fault
11	Sensor lost
12	Sensor low battery
13	Expander trouble
14	Failure to communicate
15	Zone activity monitor
16	Reserved for future use

Location 13, special events to report to pager – phone line is good

This location has 8 segments and selects the partitions to include when reporting special events to a pager. To exclude any partition from reporting, turn off the LED corresponding to that particular partition number. Enter the numbers of the partitions to include for each type of report found in segments 1 through 4. Factory default is all partitions off for all segments. Segments 5 to 8 are reserved for future use. *Table 19* describes the segment options:

Table 19: Location 13 options

Segment	Description
1	Alarm restores
2	Telephone fault
3	Start download
4	Failure to communicate, data lost
5 to 8	Reserved for future use

Specifications

Compatibility	NX-4v2, NX-6v2, NX-8v2 and NX-8E
Voltage	12 V nominal, 25 mA (continuous) 700 mA (instantaneous peaks) maximum (from panel or auxiliary power supply)
Cellular network	GSM, 2G, 3G and HSPA+ (4G)
Power/data bus	One three-wire NetworX power/communication data bus
Dimensions (D × H × W)	1.5 × 4.2 × 1.8 in. (38 × 107 × 45 mm)
Operating temperature	32 to 120ºF (0 to 49ºC)
Storage temperature	-30 to 140ºF (-34 to 60ºC)
Relative humidity	90% noncondensing (maximum)
Listings	FCC Part 15, IC, PTCRB, Numerex network

Regulatory information

FCC

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

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

In accordance with FCC requirements of human exposure to radiofrequency fields, the radiating element shall be installed such that a minimum separation distance of 20 cm is maintained from the general population.

FCC ID: QIPPHS8-US

IC ID: 7830A-PHS8US

Contact information

www.utcfireandsecurity.com or www.interlogix.com

For customer support, see www.interlogix.com/customer-support

Programming Worksheets

Location 1, feature selection

Table 20: Location 1 Worksheet

Segment	Description	Default	Data
1 Feature Selection	1 = SIA format (off = Contact ID)	OFF	
	2 = Daily test signal (off = weekly)	OFF	
	3 = Reserved for future use	OFF	
	4 = Reserved for future use	OFF	
	5 = Reserved for future use	OFF	
	6 = Disable cellular service LEDs	OFF	
	7 = Reserved for future use	OFF	
	8 = Disable SIA DCS area modifier	OFF	
2 Host acknowledgement required	1 = Host acknowledgement for central station messages	OFF	
	2 = Host acknowledgement for e-mail messages	OFF	
	3 = Host acknowledgement for pager messages	OFF	
	4 = Host acknowledgement for periodic test signals	OFF	
	5 to 8 = Reserved for future use		

Location 2, events to report to central station – phone fault detected

Table 21: Location 2 Worksheet

Segment	Partition								Description
	1	2	3	4	5	6	7	8	
1									Alarms
2									Open/close
3									Bypass
4									Zone trouble
5									Power trouble (AC fail or low battery)
6									Siren and telephone fault
7									Test reports
8									Program, download and log full
9									Tampers
10									Short circuit and ground fault
11									Sensor lost
12									Sensor low battery
13									Expander trouble
14									Fail to communicate
15									Zone activity monitor
16	Reserved for future use								

Location 3, special events to report to central station – phone fault detected

Table 22: Location 3 Worksheet

Segment	Partition								Description
	1	2	3	4	5	6	7	8	
1									Alarm restores
2									Telephone fault
3									Start download
4									Fail to communicate, data lost
5 to 8	Reserved for future use								

Location 4, events to report to email – phone fault detected

Table 23: Location 4 Worksheet

Segment	Partition								Description
	1	2	3	4	5	6	7	8	
1									Alarms
2									Open/close
3									Bypass
4									Zone trouble
5									Power trouble (AC fail or low battery)
6									Siren and telephone fault
7									Test reports
8									Program, download and log full
9									Tampers
10									Short circuit and ground fault
11									Sensor lost
12									Sensor low battery
13									Expander trouble
14									Fail to communicate
15									Zone activity monitor
16	Reserved for future use								

Location 5, special events to report to email – phone fault detected

Table 24: Location 5 Worksheet

Segment	Partition								Description
	1	2	3	4	5	6	7	8	
1									Alarm restores
2									Telephone fault
3									Start download
4									Fail to communicate, data lost
5 to 8	Reserved for future use								

Location 6, events to report to pager – phone fault detected

Table 25: Location 6 Worksheet

Segment	Partition								Description
	1	2	3	4	5	6	7	8	
1									Alarms
2									Open/close
3									Bypass
4									Zone trouble
5									Power trouble (AC fail or low battery)
6									Siren and telephone fault
7									Test reports
8									Program, download and log full
9									Tampers
10									Short circuit and ground fault
11									Sensor lost
12									Sensor low battery
13									Expander trouble
14									Fail to communicate
15									Zone activity monitor
16	Reserved for future use								

Location 7, special events to report to pager – phone fault detected

Table 26: Location 7 Worksheet

Segment	Partition								Description
	1	2	3	4	5	6	7	8	
1									Alarm restores
2									Telephone fault
3									Start download
4									Fail to communicate, data lost
5 to 8	Reserved for future use								

Location 8, events to report to central station – phone line is good

Table 27: Location 8 Worksheet

Segment	Partition								Description
	1	2	3	4	5	6	7	8	
1									Alarms
2									Open/close
3									Bypass
4									Zone trouble
5									Power trouble (AC fail or low battery)
6									Siren and telephone fault
7									Test reports
8									Program, download and log full
9									Tampers
10									Short circuit and ground fault
11									Sensor lost
12									Sensor low battery
13									Expander trouble
14									Fail to communicate
15									Zone activity monitor
16	Reserved for future use								

Location 9, special events to report to central station – phone line is good

Table 28: Location 9 Worksheet

Segment	Partition								Description
	1	2	3	4	5	6	7	8	
1									Alarm restores
2									Telephone fault
3									Start download
4									Fail to communicate, data lost
5 to 8	Reserved for future use								

Location 10, events to report to email – phone line is good

Table 29: Location 10 Worksheet

Segment	Partition								Description
	1	2	3	4	5	6	7	8	
1									Alarms
2									Open/close
3									Bypass
4									Zone trouble
5									Power trouble (AC fail or low battery)
6									Siren and telephone fault
7									Test reports
8									Program, download and log full
9									Tampers
10									Short circuit and ground fault
11									Sensor lost
12									Sensor low battery
13									Expander trouble
14									Fail to communicate
15									Zone activity monitor
16	Reserved for future use								

Location 11, special events to report to email – phone line is good

Table 30: Location 11 Worksheet

Segment	Partition								Description
	1	2	3	4	5	6	7	8	
1									Alarm restores
2									Telephone fault
3									Start download
4									Fail to communicate, data lost
5 to 8	Reserved for future use								

Location 12, events to report to pager – phone line is good

Table 31: Location 12 Worksheet

Segment	Partition								Description
	1	2	3	4	5	6	7	8	
1									Alarms
2									Open/close
3									Bypass
4									Zone trouble
5									Power trouble (AC fail or low battery)
6									Siren and telephone fault
7									Test reports
8									Program, download and log full
9									Tampers
10									Short circuit and ground fault
11									Sensor lost
12									Sensor low battery
13									Expander trouble
14									Fail to communicate
15									Zone activity monitor
16	Reserved for future use								

Location 13, special events to report to pager – phone line is good

Table 32: Location 13 Worksheet

Segment	Partition								Description
	1	2	3	4	5	6	7	8	
1									Alarm restores
2									Telephone fault
3									Start download
4									Fail to communicate, data lost
5 to 8	Reserved for future use								