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NetworX™ Series

NX-7002 GSM/GPRS module

Installation manual

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GENERAL INFORMATION

The NX-7002 is the GPRS module that can be added to the NetworX range of panels (NX-8-EUR, NX-6-EUR and NX-4-EUR). The NX-7002 GPRS module features include:

- Wireless event reporting.
- Six programmable report destinations.
- Selectable reportable events from eight partitions.
- Compatible with PSTN or ISDN reporting.
- PSTN/ISDN as backup.
- SIA and Contact ID reporting over GPRS, towards Osborne-Hoffman OH2000 TPC/IP receiver.
- SIA reporting with optional area modifiers using SMS messages.
- The control panel can use GSM in addition to PSTN (reporting all panel protocols using GSM).
- Wireless upload/download using a GSM CSD connection.
- Upload/download may be initiated remotely or locally.
- Optional download sessions during test calls.

The NX-7002 package contains:

- NX-7002 GSM/GPRS module
- 1.5m external antenna
- 2 black PCB guides for mounting
- Audio cable

The GSM/GPRS module requires a SIM card (not included). In order to obtain all NX-7002 features, the SIM card needs to support:

- Voice channel (event reporting over the voice channel)
- Data channel (up/downloading)
- GPRS (event reporting towards IP receiver over GPRS)

Contact your local network provider for more information.

ORDERING INFORMATION

For detailed ordering information and part numbers, please refer to the EMEA Distribution price list of the Caddx product range.

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FEATURE DEFINITIONS

CID
Contact ID reporting protocol.

CSD
Circuit Switched Data. This is the communication used to upload/download data. It is similar to a modem but it is wireless and built in to the NX-7002 (see locations 0, 162 segment 10 and location 168).

GPRS
General Packet Radio Service. A global standard for wireless communications with a maximum speed of 115 kilobits per second. It supports a range of bandwidths and can transmit and receive both small bursts and large amounts of data.

GSM
Global System for Mobile Communications. A global standard for wireless communications with a maximum speed of 9.6 kilobits per second. It supports narrowband Time Division Multiple Access (TDMA).

Non transparent mode
An intermediate modem is used on the network to transfer data from one modem to another (see location 0 segment 1).

Operator
The network operator for the SIM card.

Polling
Polling is the process by which the system reports periodically to a receiver to say it is still alive. It works in conjunction with TCP/IP reporting only. Polling is more frequent than a daily test call but less frequent than continuous monitoring. If you configure a very short polling time, polling occurs very frequently and can generate large quantities of data. When setting the polling time, you should consider the speed of the GPRS network and the cost of data transmission (see location 0, segment 3 and location 162 segment 6).

PUK code
Personal Unblocking Key. The code to use to unblock the SIM card. The SIM card can block when an incorrect SIM PIN is entered repeatedly.

Report control
A block of reporting data that contains configurations to format selected events into one or more messages according to pre-configured settings and send them to specified destinations (see location 1).

RSSI
Received Signal Strength Indicator. This indicates the field signal strength of the NX-7002 (see location 172 and location 162 segment 11 and 12).

Secondary reporting
The means of reporting events that the control panel fails to report. When secondary reporting is enabled, the report control set in the NX-7002 will act as a backup for the control panel (see location 25 and location 162 segment 3).

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SIM card PUK code
See *PUK code*

SMS
Short Message Service. SMS is a service for sending short text messages to mobile phones (see locations 1, 145, 163, 164, 167).

Transparent mode
Data is transferred directly from one modem to another modem (see location 0 segment 1).

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PROGRAMMING HE NX-7002 GPRS MODULE

Programming the NX-7002 via the LED keypad

ENTERING THE PROGRAM MODE

To enter the program mode, press [*]-[8]. At this time, the five function LED's (Stay, Chime, Exit, Bypass and Cancel) will begin to flash. Next, enter the "Go To Program Code" (factory default is [9]-[7]-[1]-[3]). If the "Go To Program Code" is valid, the "Service" LED will flash and the five function LED's will illuminate steady. You are now in the program mode and ready to select the module to program.

Note: It is impossible to enter program mode if any partition or the system is armed.

SELECTING THE MODULE TO PROGRAM

Since all modules connected to the NetworX are programmed through the keypad, the module you are programming should be the first entry. To program the NX-7002 module, enter [7]-[8]-[#]. The [7]-[8] is the module number of the NX-7002 and the [#] is the entry key.

PROGRAMMING A LOCATION

Once the number of the module to be programmed has been entered, the "Armed" LED will illuminate, indicating it is waiting for a programming location to be entered. Any location can be accessed by directly entering the desired programming location followed by the pound [#] key. If the location entered is a valid location, the "Armed" LED will extinguish, the "Ready" LED will illuminate, and the zone LED's will show the binary data for the first segment of this location. While entering new data, the "Ready" LED will begin flashing to indicate a data change in process. The flashing will continue until the new data is stored by pressing the [*] key. Upon pressing the [*] key, the keypad will advance to the next segment and display its data. This procedure is repeated until the last segment is reached. Pressing the [#] key will exit from this location and the "Armed" LED will illuminate again waiting for a new programming location to be entered. If the desired location is the next sequential location, press the [Police] key. If the previous location is desired press the [Fire] key. If the same location is desired press the [Medic] key. To review the data in a location, repeat the above procedure, pressing the [*] key without any numeric data entry. Each time the [*] key is pressed, the programming data of the next segment will be displayed for review.

EXITING A LOCATION

After the last segment of a location is programmed, pressing the [*] key will exit that location, turn the "Ready" LED off and the "Armed" LED on. As before, you are now ready to enter another programming location. If an attempt is made to program an invalid entry for a particular segment, the keypad sounder will emit a triple error beep (beep, beep, beep) and remain in that segment awaiting a valid entry.

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EXITING THE PROGRAM MODE

When all the desired changes in programming have been made, it is time to exit the program mode. Pressing the [Exit] key will exit this programming level and then return to the "Select a Module to Program" level. If no additional modules are to be programmed, pressing the [Exit] key again will exit the program mode. If there is a module to be programmed, it may be selected by entering its address followed by the [#] key (see *Selecting the module to program* for more information). The procedure for programming these devices is the same as for the control panel, except the locations will be for the module selected.

Note: Each time you exit programming mode, the modem restarts and reads the PIN number, network operator and SMSC address number from the NX-7002 configuration.

Programming the NX-7002 via the LCD keypad

All steps required for programming are the same as the aforementioned LED keypad. The LCD keypad display will prompt you for the data required. While in the 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. Refer also to "Programming Data" which follows.

Programming data

Programming data is always one of two types. One type of data is numerical, which can have values from 0-15 or 0-255 depending on the segment size. The other type of data, feature selection data, is used to turn features on or off. Use the following procedures with these two data types.

NUMERICAL DATA

Numerical data is programmed by using the numeric keys of the system keypad to enter a number from 0-255. To view the data in a location, a binary process is used. With this process, the LED's for zones 1 through 8 are utilized, and the numeric equivalents of their illuminated LED's are added together to determine the data in a programming location. The numeric equivalents of these LED's 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

Example: If the numerical data to be programmed in a location is "66", press [6] - [6] on the keypad. The LED's for zone 2 and zone 7 will become illuminated indicating 66 is in that location (2 + 64 = 66).

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Once the data is programmed, press the [*] key to enter the data and advance to the next segment of that location. After the last segment of a location is programmed, pressing the [*] key will exit that location, turn the "Ready" LED off and the "Armed" LED on. As before, 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 awaiting a valid entry.

Remark: The number in the location will be displayed on the LCD keypad. For locations with a maximum of 15, the hexadecimal equivalent will be displayed in parenthesis.
Example: 11 (B) or 14 (E).

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 keypad (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 LED's 1 through 8 as you press the keys, indicating that those features are enabled.

LCD keypad users note: The numbers of the enabled features will be displayed. However, the features not enabled will display a hyphen (-).

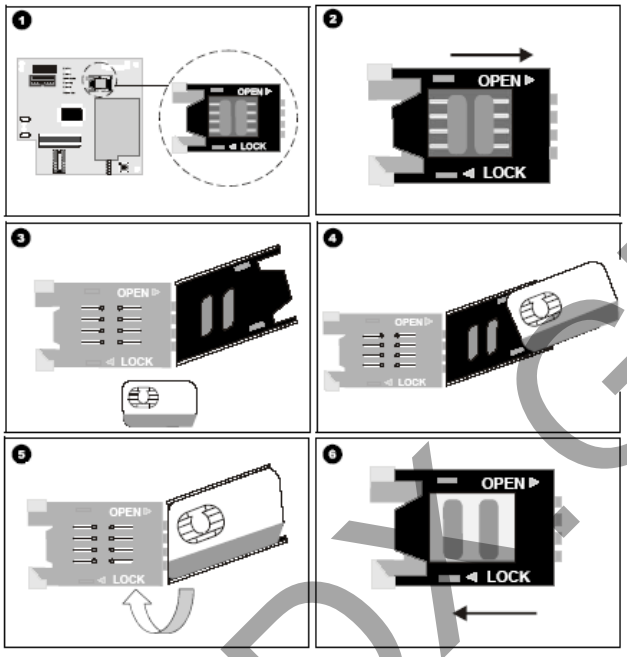
After the desired setting of features is selected for this segment, press the [*] key. This will enter the data and automatically advance to the next segment of the location. When you are in the last segment of a location and press the [*] to enter the data, you will exit that location. This will now turn the "Ready" LED off and the "Armed" LED on. As before, you are now ready to enter another programming location.

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START UP, ENROLLING AND TESTING THE NX-7002

Inserting the SIM card



Note: You must be free of all static electricity when handling electronic components.

- Always power down the system before inserting a SIM Card.
- Locate the SIM card holder ❶ on the board.
- Open the SIM card holder by sliding the metal clip as shown in ❷ and lifting the holder.
- The SIM card holder opens ❸.
- Slide the SIM card into the holder using the guides. Make sure the contacts (gold pads) face the circuit board and the angled corners face out ❹.
- Ensure the SIM card is inserted correctly in the holder and close the SIM card holder ❺.
- Slide the metal clip back to the original position as shown in ❻.
- Power up the system. Do not enter programming mode until the SIM card selects the network operator. The SIM card automatically selects a network operator when enrolled on the network. To manually select an operator, enter the relevant network operator in location 170. See *Appendix 2: Operator ID Codes* for a list of operator ID codes. Most SIM cards contain a pre-programmed SMS service centre address and under normal circumstances, this should not be changed. If you do need to change it, include the international country prefix using a '+' instead of leading zeros. Program '13' to insert '+' in the address.

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Enrolling the SIM card on the GSM network

- Insert the SIM card. See *Inserting the SIM card* for more information.
- Power up the NX-7002 GPRS module.
- Enter programming mode. See *Programming he NX-7002 GPRS module* for more information.
- Press **78#** to select the module.
- Press **169#** to enter the *GSM SIM PIN code* location.
- Enter the first digit of the SIM PIN code. Press ***** to move to the next segment. Continue in this way until all digits are programmed. Press **#** to save the changes and exit the location.
- Exit programming mode. The SIM is automatically enrolled on the GMS network.

Note: Each time you exit programming mode, the modem restarts and reads the PIN number, network operator and SMSC address number from the NX-7002 configuration.

Enrolling the SIM card on the GPRS network

- Enter programming mode.
- Press **78#** to select the module.
- Press **169#** to enter the *GSM SIM PIN code* location.
- Enter the first digit of the SIM PIN code. Press ***** to move to the next segment. Continue in this way until all digits are programmed. Press **#** to save the changes and exit the location.
- Obtain an Access Point Number from the supplier. Press **60#** to enter the *Name of GPRS access point – APN* location. Enter the first digit of the APN. Press ***** to move to the next segment. Continue in this way until all digits are programmed. Press **#** to save the changes and exit the location.
- (Optional) You may need to enter the PPP password and PPP User ID required by the network. To do this, press **32#** to select the *PPP (dial-up account) user ID* location and program the password. Then press **34#** to select the *PPP (dial-up account) password* location and program the user ID.
- Exit programming mode. The SIM PIN is automatically enrolled on the GSM network.

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Testing the RSSI value

During the enrolling procedure, it is mandatory to check the RSSI value (signal strength) of the NX-7002 GPRS module and record it in the system documentation. The RSSI value is linked to the signal level of the GSM network and ranges from 0-31 with 99 as unknown. The RSSI value may change due to environmental circumstances, for example, additional furniture or metal constructions. If an RSSI reading is not satisfactory, move the antenna to get a better reception.

VALUE	DESCRIPTION
Between 1 and 4	The module will not work properly and must be moved to another location.
Between 5 and 9	The module will work but ideally should be moved to another location.
Between 10 and 16	These are normal working values for the module located at a longer distance from the receiver.
Above 17	Perfect conditions.

- Enter programming mode.
- Press **78#** to select the NX-7002 GPRS module.
- Press **172#** to select the *Current GPRS RSSI* location.
- Note the RSSI reading and quit programming.

Testing the GSM and GPRS connection

- Enter programming mode.
- Press **78#** to select the NX-7002 GPRS module.
- Press **174#** to select the *Device status flags* location.
- Check that the SIM card PIN is not blocked: option 1 and option 2 should be ON.
- Check that the SIM card is logged onto the GSM network: option 3 should be ON.
- Verify if the module is logged into the GPRS network: option 7 should be ON.
- Quit programming mode.

See *NX-7002 layout and description* for an overview of the different Status LED's on the NX-7002.

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PROGRAMMING THE LOCATIONS

LOCATION 0 **MODULE MODE OF OPERATION FEATURE SELECTION (8 segments)**

This location contains the system characteristics.

Segment 1
- 1 = Enable site initiated downloading (*98 from a keypad)
- 2 = Enable remote initiated downloading
  This setting enables the PC to dial into the NX-7002. It is dependent on other settings (segment 3, 5 and 6).
- 3 = Remote initiated download must be from known source
  If enabled, program the phone number of the PC in location 168.
- 4 = Enable remote download at test time
  This setting configures the NX-7002 to automatically dial the PC to initiate an upload/download session after an autotest. You must program the autotest in the control panel.
- 5 = Enable auto-answer incoming CSD GSM download call.
  If enabled, the NX-7002 will automatically accept an incoming call.
  *If disabled, the user needs to accept an incoming call (*99) as soon as a "ding-dong" is heard on the keypad.*
- 6 = Callback required for incoming CSD GSM download call
  If enabled, the NX-7002 will call back to the PC before starting an up/download session.
- 7 = Use V.110 for site-initiated CSD GSM calls
  Enable this setting if the PC is on an ISDN line and is using an ISDN modem.
- 8 = Use non-transparent mode for site initiated CSD GSM calls
  If you are experiencing problems with upload/download, change this setting from transparent mode to non-transparent mode or vice versa.

Segment 2
- 1 = Use SIA DCS as backup format (Contact ID if off)
  This setting selects the reporting format when using another device as backup. The same format must be set on the backup device.
- 2-8 Reserved

Segment 3
- 1 = Reserved
- 2 = Polling enable for TCP/IP (for UL AA)
  If polling is enabled, set the polling period in location 162, segment 6.
- 3-8 Reserved

Segment 4
- 1-3 Reserved
- 4 = TCP/IP reporting in SIA (Contact ID if Off)
- 5-8 Reserved

Segment 5-8 Reserved

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LOCATION 1 **DESTINATION SELECTION FOR REPORT CONTROL 1 (1 segment)**

The NX-7002 contains up to six report controls. Each report control can be defined for SMS reporting, TCP/IP reporting or email reporting (not yet available). This location contains the report destination for report control 1. Select from the table below.

DATA	FORMAT	DESCRIPTION
0	Disabled	Report control 1 is disabled
1	TCP/IP 1	Reporting to TCP/IP receiver 1
2	TCP/IP 2	Reporting to TCP/IP receiver 2
3	Email 1	Email Reporting to Email Account 1 (not yet available)
4	Email 2	Email Reporting to Email Account 2 (not yet available)
5	SMS 1	SMS Reporting to Mobile Phone 1
6	SMS 2	SMS Reporting to Mobile Phone 2

LOCATION 2 **BACKUP DESTINATION SELECTION FOR REPORT CONTROL 1 (1 segment)**

If the primary destination selection (location 1) fails, a backup destination can be selected. If using another device as the backup destination, for example, panel dialler, set the reporting format (SIA or CID) in location 0, segment 2, option 1 and enable test report events for the backup device. This location contains the backup report destination for report control 1. Select from the table below.

DATA	FORMAT	DESCRIPTION
0	Disabled	Backup Report control 1 is disabled
1	TCP/IP 1	Backup Reporting to TCP/IP receiver 1
2	TCP/IP 2	Backup Reporting to TCP/IP receiver 2
3	Email 1	Backup Email Reporting to Email Account 1 (not yet available)
4	Email 2	Backup Email Reporting to Email Account 2 (not yet available)
5	SMS 1	Backup SMS Reporting to Mobile Phone 1
6	SMS 2	Backup SMS Reporting to Mobile Phone 2
255	Other dialler	The NX-7002 is not used as backup. Instead another dialler is used (for example: panel dialler)

LOCATION 3 **REPORT DELAY FOR REPORT CONTROL 1 (1 segment)**

The delay in seconds before the NX-7002 GPRS module reports. If any other events occur during this delay, they are sent with the first event in one message if using SMS reporting. This does not apply if using TCP/IP reporting (it does not support multiple events in one message). This can be from 0 to 255 seconds.

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LOCATION 4 **EVENT SELECTION FOR REPORT CONTROL 1 BY PARTITION (16 segments, feature selection data)**

All events for report control 1 are enabled by default. Select the partition(s) to include in the event report. Enabled events are formatted into one or more messages according to pre-configured settings and sent to the selected report destination. Enable the Test Reports event group if using the NX-7002 as backup to another auxiliary dialler.

Segment 1	Alarms (and Restores)
Segment 2	Open / Close
Segment 3	Bypass
Segment 4	Zone trouble
Segment 5	Power trouble (AC failure and Low Battery)
Segment 6	Siren & Line Fault
Segment 7	Test Report
Segment 8	Program, Download & Log full
Segment 9	Tamper
Segment 10	Short Circuit
Segment 11	Sensor Lost
Segment 12	Sensor Low Battery
Segment 13	Expander Trouble
Segment 14	Fail To Communicate
Segment 15	Zone Activity Monitoring
Segment 16	Reserved

LOCATION 5 **DESTINATION SELECTION FOR REPORT CONTROL 2 (1 segment)**

This location contains the report destination for report control 2. See location 1.

LOCATION 6 **BACKUP DESTINATION SELECTION FOR REPORT CONTROL 2 (1 segment)**

This location contains the backup report destination for report control 2. See location 2.

LOCATION 7 **REPORT DELAY FOR REPORT CONTROL 2 (1 segment)**

The delay in seconds before the NX-7002 GPRS module reports to report control 2. See location 3.

LOCATION 8 **EVENT SELECTION FOR REPORT CONTROL 2 BY PARTITION (16 segments, feature selection data)**

All events for report control 2 are disabled by default. See location 4.

LOCATION 9 **DESTINATION SELECTION FOR REPORT CONTROL 3 (1 segment)**

This location contains the report destination for report control 3. See location 1.

LOCATION 10 **BACKUP DESTINATION SELECTION FOR REPORT CONTROL 3 (1 segment)**

This location contains the backup report destination for report control 3. See location 2.

LOCATION 11 **REPORT DELAY FOR REPORT CONTROL 3 (1 segment)**

The delay in seconds before the NX-7002 GPRS module reports to report control 3. See location 3.

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LOCATION 12 **EVENT SELECTION FOR REPORT CONTROL 3 BY PARTITION (16 segments, feature selection data)**

All events for report control 3 are disabled by default. See location 4.

LOCATION 13 **DESTINATION SELECTION FOR REPORT CONTROL 4 (1 segment)**

This location contains the report destination for report control 4. See location 1.

LOCATION 14 **BACKUP DESTINATION SELECTION FOR REPORT CONTROL 4 (1 segment)**

This location contains the backup report destination for report control 4. See location 2.

LOCATION 15 **REPORT DELAY FOR REPORT CONTROL 4 (1 segment)**

The delay in seconds before the NX-7002 GPRS module reports to report control 4. See location 3.

LOCATION 16 **EVENT SELECTION FOR REPORT CONTROL 4 BY PARTITION (16 segments, feature selection data)**

All events for report control 4 are disabled by default. See location 4.

LOCATION 17 **DESTINATION SELECTION FOR REPORT CONTROL 5 (1 segment)**

This location contains the report destination for report control 5. See location 1.

LOCATION 18 **BACKUP DESTINATION SELECTION FOR REPORT CONTROL 5 (1 segment)**

This location contains the backup report destination for report control 5. See location 2.

LOCATION 19 **REPORT DELAY FOR REPORT CONTROL 5 (1 segment)**

The delay in seconds before the NX-7002 GPRS module reports to report control 5. See location 3.

LOCATION 20 **EVENT SELECTION FOR REPORT CONTROL 5 BY PARTITION (16 segments, feature selection data)**

All events for report control 5 are disabled by default. See location 4.

LOCATION 21 **DESTINATION SELECTION FOR REPORT CONTROL 6 (1 segment)**

This location contains the report destination for report control 6. See location 1.

LOCATION 22 **BACKUP DESTINATION SELECTION FOR REPORT CONTROL 6 (1 segment)**

This location contains the backup report destination for report control 6. See location 2.

LOCATION 23 **REPORT DELAY FOR REPORT CONTROL 6 (1 segment)**

The delay in seconds before the NX-7002 GPRS module reports to report control 6. See location 3.

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LOCATION 24 **EVENT SELECTION FOR REPORT CONTROL 6 BY PARTITION (16 segments, feature selection data)**

All events for report control 6 are disabled by default. See location 4.

LOCATION 25 **PRIMARY REPORTING FLAG FOR REPORT CONTROLS (1 segment)**

The NX-7002 contains up to six report controls. Turn on the relevant option to enable primary reporting for that report control. Turn off the option to enable secondary reporting for that report control. When secondary reporting is enabled, the report control acts as a backup for the control panel.

Segment 1

1 = On: Report Control 1 acts as Primary Reporting;
Off: Report Control 1 acts as Secondary Reporting
2 = On: Report Control 2 acts as Primary Reporting;
Off: Report Control 2 acts as Secondary Reporting
3 = On: Report Control 3 acts as Primary Reporting;
Off: Report Control 3 acts as Secondary Reporting
4 = On: Report Control 4 acts as Primary Reporting;
Off: Report Control 4 acts as Secondary Reporting
5 = On: Report Control 5 acts as Primary Reporting;
Off: Report Control 5 acts as Secondary Reporting
6 = On: Report Control 6 acts as Primary Reporting;
Off: Report Control 6 acts as Secondary Reporting
7-8 Reserved

LOCATION 26 – LOCATION 31 **RESERVED**

LOCATION 32 **PPP (dial-up account) USER ID, characters 1 - 16 (16 segments)**

Optional if using TCP/IP reporting. Contact the network provider to confirm if a PAP login is required and to obtain the user ID and password.

LOCATION 33 **PPP (dial-up account) USER ID, characters 17 - 32 (16 segments)**

See location 32.

LOCATION 34 **PPP (dial-up account) PASSWORD, 16 characters (16 segments)**

See location 32.

LOCATION 35 – LOCATION 59 **RESERVED**

LOCATION 60 **NAME OF GPRS ACCESS POINT - APN, characters 1 - 16 (16 segments)**

This is a mandatory setting if using TCP/IP reporting. Contact the network provider to obtain the GPRS access point name.

LOCATION 61 **NAME OF GPRS ACCESS POINT - APN, characters 17 - 32 (16 segments)**

See location 60.

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LOCATION 62 **NAME OF GPRS ACCESS POINT - APN, characters 33 - 48 (16 segments)**

See location 60.

LOCATION 63 **NAME OF GPRS ACCESS POINT - APN, characters 49 – 64 (16 segments)**

See location 60.

LOCATION 64 - LOCATION 100 **RESERVED**

LOCATION 101 **DHCP ASSIGNED IP ADDRESS (4 segments)**

When the NX-7002 logs into the GPRS network, it is automatically assigned to an IP address. This location is a read-only location.

LOCATION 102 **IP ADDRESS FOR TCP/IP RECEIVER 1 (4 segments)**

If using TCP/IP reporting, enter in this location the IP address of the receiver 1.

LOCATION 103 **IP ADDRESS FOR TCP/IP RECEIVER 2 (4 segments)**

If using TCP/IP reporting, enter in this location the IP address of the receiver 2.

LOCATION 104 – LOCATION 118 **RESERVED**

LOCATION 119 **RECEIVER ALARM AND POLL PORT (4 segments)**

The number of the TCP/IP port to which polling and alarms are reported. The default port is 9999 and under normal circumstances should not be changed.

LOCATION 120 – LOCATION 138 **RESERVED**

LOCATION 139 **TCP/IP 1 ACCOUNT NUMBER (8 segments)**

The SIA or Contact ID account number used for reporting towards the TCP/IP receiver. SIA account numbers are 6 digits long. Contact ID account numbers are 4 digits long. Add leading zeros to create an 8-digit number.

LOCATION 140 **TCP/IP 1 RECEIVER NUMBER (4 segments)**

The phone line receiver number associated with the TCP/IP 1 account.

LOCATION 141 **TCP/IP 1 LINE NUMBER (4 segments)**

The line number associated with the TCP/IP 1 account. Enter the account number and destination number for the receiver.

LOCATION 142 **TCP/IP 2 ACCOUNT NUMBER (8 segments)**

See location 139.

LOCATION 143 **TCP/IP 2 RECEIVER NUMBER (4 segments)**

See location 140.

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LOCATION 144 **TCP/IP 2 LINE NUMBER (4 segments)**

See location 141.

LOCATION 145 **SMS 1 ACCOUNT NUMBER (8 segments)**

The SIA account number used for SMS reporting. SIA account numbers are 6 digits long. Enter the first digit of the SIM PIN code in segment 3 (segment 1 and 2 are not used). Press ***** to move to the next segment. Continue in this way until all digits are programmed.

LOCATION 146 **SMS 2 ACCOUNT NUMBER (8 segments)**

See location 145.

LOCATION 147 – LOCATION 153 **RESERVED**

LOCATION 154 **ACCOUNT NUMBER FOR PARTITION 1 (8 segments)**

The account code sent when partition 1 is reported. Use when a different account code for each partition is required. When there is also an account code set for each report destination (see location 139/142/145/146), the partition account code takes precedence.

LOCATION 155 **ACCOUNT NUMBER FOR PARTITION 2 (8 segments)**

See location 154.

LOCATION 156 **ACCOUNT NUMBER FOR PARTITION 3 (8 segments)**

See location 154.

LOCATION 157 **ACCOUNT NUMBER FOR PARTITION 4 (8 segments)**

See location 154.

LOCATION 158 **ACCOUNT NUMBER FOR PARTITION 5 (8 segments)**

See location 154.

LOCATION 159 **ACCOUNT NUMBER FOR PARTITION 6 (8 segments)**

See location 154.

LOCATION 160 **ACCOUNT NUMBER FOR PARTITION 7 (8 segments)**

See location 154.

LOCATION 161 **ACCOUNT NUMBER FOR PARTITION 8 (8 segments)**

See location 154.

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LOCATION 162 TIMERS AND COUNTERS (16 segments, numerical data)

Location 162 contains the duration of various system timing functions.

Segment 1 Max Number of network attempts
The number of report attempts the NX-7002 GPRS module makes to send a report. This can be from 0 to 15.

Segment 2 Report attempts for FTC
The number of attempts that can be made to a specific report destination before the Fail to Communicate condition is set. This can be from 1 to 15.

Segment 3 Maximum reports in 24 hours
The NX-7002 GPRS module stops reporting messages when the number of messages in a 24-hour time frame exceeds this number. This can be from 1 to 255. If set to 0, there is no limitation.

Segment 4 Time in seconds for overall network attempt
The maximum length of time for each attempt by the NX-7002 to report to each receiver. If the report is not successful during this time, the attempt is abandoned. This can be from 0 to 255 seconds.

Segment 5 Reserved

Segment 6 TCP/IP Polling time in minutes
This setting must match the TCP/IP polling time set on a TCP/IP receiver. The setting on the TCP/IP receiver is determined by the speed of the GPRS network and cost of data transmission. This can be from 1 to 255. If set to 0, the setting is disabled.

Segment 7 Reserved

Segment 8 Reserved

Segment 9 Reserved

Segment 10 Baud rate for CSD/GSM download
This setting must match the baud rate set on the PC modem. 4=2400 Baud, 5=4800 Baud, 6=9600 Baud.

Segment 11 GSM line fault RSSI threshold
The acceptable level of the RSSI signal. If the signal falls below this level for the amount of time set in segment 12, a line fault is generated. This can be from 1 to 31. If set to 0, the setting is disabled.

Segment 12 GSM line fault time
The length of time the RSSI signal must be below the RSSI threshold before a line fault is generated. This can be from 0 to 255 seconds.

Segment 13 Control reporting timeout for secondary reporting
The maximum time during which the control panel must report an event. If the NX-7002 report control (SMS or TCP/IP report control) is set for secondary reporting and the control panel does not report the event during this time, the report control reports the event. This can be from 1 to 255 seconds. If set to 0, the setting is disabled.

Segment 14 Reserved

LOCATION 163 SMS 1 PHONE NUMBER (20 segments)

The phone number to which SMS reports are sent. This phone number is independent from the phone numbers programmed in the control panel. "14" indicates the end of the phone number. Program "11" to insert "*" in the phone number, program "12" to insert "#" and program "13" to insert "+". It is recommended to add the country prefix before the number. For example, +32 followed by the phone number.

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LOCATION 164 **SMS 1 FORMAT (1 segment)**

The communicator format used to transmit to the SMS 1 report destination from the NX-7002 GPRS module. Consult the instructions for your central station receiver to determine which format is compatible. SIA reporting over SMS can be set to one of three modes:

DATA	FORMAT
0	SIA Separate Events
1	SIA Combined Events
2	SIA with Area Modifier

If "0" (Separate Events) is selected, messages are sent using the syntax:

>aaaaaa eennn [eennn ...].

For example, >123456 BA001

If "1" (Combined Events) is selected, messages are sent using the syntax:

>aaaaaa eennn [eennn ...] [/aaaaaa eennn [eennn ...]...] .

For example, >123456 BA001/987654 YT000/345678 TA030

If "2" (Area Modifier) is selected, messages are sent using the syntax:

>aaaaaa eennn[/Rin] [eennn[/Rin] ...].

For example, > 987654 BA001/Ri1 BA003/Ri1 YT000 TA030/Ri3.

Syntax Description :

>	The message opening character.
aaaaaa	A six-digit account code.
ee	A two-digit SIA code.
nnn	A three-digit number, e.g. zone number.
Rin	Area modifier, 'Ri' is literal, n is the area or partition number.
.	The message closing character.
/	Separator
[X]	X is optional
[X ...]	X is optional and may be repeated one or more times.

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LOCATION 165 **SMS 2 PHONE NUMBER (20 segments)**

See location 163.

LOCATION 166 **SMS 2 FORMAT (1 segment)**

See location 164.

Note: By default, not more than 20 SMS messages will be transmitted in a 24 hour time period. If needed, this number can be changed (see location 162 segment 3).

LOCATION 167 **SMS SERVICE CENTRE NUMBER (20 segments)**

This number is mandatory when SMS reporting is used. Usually the SIM card automatically dials this number. "14" indicates the end of the phone number. Program "11" to insert "*" in the phone number, program "12" to insert "#" and program "13" to insert "+". It is recommended to add the country prefix before the number. For example, +32 followed by the number.

LOCATION 168 **UPLOAD/DOWNLOAD PHONE NUMBER (FOR CSD GSM) (20 segments)**

This number is mandatory if up/downloading via the NX-7002 is required using the call-back feature. An Up/download call will use the data channel. Contact your network provider to make sure your SIM card supports the data channel.

Program the call-back number in this location. "14" indicates the end of the phone number. Program "11" to insert "*" in the phone number, program "12" to insert "#" and program "13" to insert "+".

LOCATION 169 **GSM SIM PIN CODE (8 segments)**

Enter the SIM pin code in this location. A "10" indicates the end of the code.

LOCATION 170 **GSM OPERATOR SELECTION (6 segments)**

The network operator ID code. Set this to 00000 to allow the SIM card automatically select a network operator. Alternatively, enter an operator ID code in this location to manually select a network operator. If using a 5-digit code, enter 'A' or '10' after the code. Appendix 2 lists all network operators and ID codes. An invalid selection or unreachable network will prevent location 174, segment 3 turning on.

LOCATION 171 **CURRENT GSM OPERATOR (READ ONLY) (1 segment)**

This location will show the name of the automatically or manually selected GSM network operator. This location is read only and only valid when the NX-7002 is logged into the GSM network. See *Appendix 2: Operator ID Codes* for a detailed list of operators.

LOCATION 172 **CURRENT GSM RSSI (READ ONLY) (1 segment)**

This location will show the RSSI (Received Signal Strength Indicator) value. The RSSI value is periodically updated when logged into the network. RSSI values range from 0 to 31 with 99 as unknown. See *Testing the RSSI value* for more information.

LOCATION 173 **CURRENT GPRS BIT ERROR RATE % (READ ONLY) (1 segment)**

This location will show the BER (Bit Error Rate) value in %. The BER value is periodically updated when logged into the network. BER values range from 0 to 7 with 99 as unknown.

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LOCATION 174 **DEVICE STATUS FLAGS (2 segments)**

This location contains specific status information of the GSM/GPRS module. If the option is "On", the status condition is true.

Segment 1

1 = On: Communication with GSM modem OK
2 = On: SIM card PIN is OK
3 = On: Logged in to the GSM network
4 = On: Sending SMS
5 = On: Using GSM audio connection
6 = On: Using GSM CSD connection
7 = On: Connected to GPRS network
8 = On: SIM card PUK code required

Segment 2

1 = On: Battery voltage failure
The NX-7002 measures and monitors battery voltage. It shares a battery with the control panel.
2 = On: GSM PSU voltage failure
The main battery creates a 3.8 V power supply for the GPRS modem.
3 = On: Bus voltage failure
The bus supplies a 13.8 V voltage to the NX-7002.
4 = On : Communication channel failure
5 = On : Up/download session in progress
6 = On : Up/download session starting
7 = On : Reporting in Progress
8 = On : RSSI level at acceptable level

LOCATION 175 **GSM MODEM MANUFACTURER (READ ONLY) (16 segments)**

This location displays the manufacturer of the GSM/GPRS modem used on the NX-7002.

LOCATION 176 **GSM MODEM MODEL (READ ONLY) (16 segments)**

This location displays the model of GSM/GPRS modem used on the NX-7002.

LOCATION 177 **GSM MODEM SOFTWARE REVISION (READ ONLY) (16 segments)**

This location displays the software revision of the GSM/GPRS modem used on the NX-7002.

LOCATION 178 **GSM MODEM SERIAL NUMBER (READ ONLY) (16 segments)**

This location displays the serial number of the GSM/GPRS modem used on the NX-7002.

LOCATION 179 – LOCATION 215 **RESERVED**

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NX-7002 FOR PRIMARY OR BACKUP REPORTING

NX-7002 for primary reporting

The NX-7002 can be configured to be the primary transmitter. In this case, the NX-7002 acts as the main alarm reporting device.

If the NX-7002 fails, for example, if there is no GSM coverage or there is jamming, if the network of the provider is down or there are technical problems on the receiver side, another device (the onboard dialler of the panel or an auxiliary dialler) can be configured to act as backup. In this case, set location 2 to 255 (Other dialler) as backup for the NX-7002.

If another dialler is used as the backup device:

- Enable the Autotest report options in that dialler.
- Ensure that the reporting format used in the backup device is the same as the reporting format used in the NX-7002.

If the NX-7002 fails to report over the GPRS network to the IP receiver, you can use a second report control from the NX-7002 as backup. For example, use SMS reporting as the backup report control. In this case, set location 1 to 1 (TCP/IP1) and location 2 to 5 (SMS1).

NX-7002 for backup reporting

The NX-7002 can be configured to transmit events only when the primary dialler (control panel, auxiliary dialler) fails to do so. In this case, the NX-7002 acts as the backup reporting device.

The NX-7002 can be configured as the backup device of the control panel in two ways:

1. Backup reporting using a report control (TCP/IP or SMS)

Select the desired report control in location 1 and set the corresponding report control as a secondary (backup) report control in location 25.

2. Backup reporting using the GSM voice channel

In this case, the NX-7002 acts as a transparent backup device for the control panel. No programming in the NX-7002 is required, except for the SIM PIN code in location 169. All event reporting is programmed in the control panel.

The phone number must be programmed twice in the control panel:

- Program phone number 1 as usual. For example, 011234567.
- Enter a "10" in front of phone number 2. For example, **10**011234567. This forces the NX-7002 to dial the phone number instead of the control panel.
- The special audio cable (included) must be stuffed between the NX-7002 and the control panel. See *NX-7002 layout and description* for more information.

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The NX-7002 can be configured as the backup device of an auxiliary dialler (NX-590 TCP/IP module or NX-570 ISDN module):

- Select the desired report control in location 1.
- Enable the Autotest report options.
- Ensure that the reporting format used with the auxiliary dialler is the same as the reporting format used in the NX-7002.

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NX-7002 PROGRAMMING WORKSHEETS

(Factory defaults are in ***bold italic*** text)

LOC	PG	DESCRIPTION		DEFAULT	PROGRAMMING DATA
0	13	MODE OF OPERATION FEATURE SELECTION			
		Segment 1 (Circle Numbers To Program)		**Segment 2** (Circle Numbers To Program)	
		1	***Enable site initiated downloading (*98 from a keypad)***	1	Use SIA DCS as backup format (Contact ID if off)
		2	***Enable remote initiated downloading***	2	Reserved
		3	Remote initiated download must be from known source	3	Reserved
		4	Enable remote download at test time	4	Reserved
		5	Enable auto-answer incoming CSD GSM download call	5	Reserved
		6	Callback required for incoming CSD GSM download call	6	Reserved
		7	Use V.110 for site-initiated CSD GSM calls	7	Reserved
		8	Use non-transparent mode for site initiated CSD GSM calls	8	Reserved
	13	**Segment 3** (Circle Numbers To Program)		**Segment 4** (Circle Numbers To Program)	
		1	Reserved	1	Reserved
		2	Polling enable (for UL AA)	2	Reserved
		3	Reserved	3	Reserved
		4	Reserved	***4***	***TCP/IP Reporting in SIA (Contact ID if off)***
		5	Reserved	5	Reserved
		6	Reserved	6	Reserved
		7	Reserved	7	Reserved
		8	Reserved	8	Reserved
1	14	DESTINATION SELECTION FOR REPORT CONTROL 1		***0***	
2	14	BACKUP DESTINATION SELECTION FOR REPORT CONTROL 1		***0***	
3	14	REPORT DELAY FOR REPORT CONTROL 1		***0***	
4	15	EVENT SELECTION FOR REPORT CONTROL 1 (BY PARTITION)			
		Segment 1	Alarms and Restores	***1-2-3-4-5-6-7-8***	
		Segment 2	Open/Close	***1-2-3-4-5-6-7-8***	
		Segment 3	Bypass	***1-2-3-4-5-6-7-8***	
		Segment 4	Zone Trouble	***1-2-3-4-5-6-7-8***	
		Segment 5	Power Trouble (AC Failure / Low Batt.)	***1-2-3-4-5-6-7-8***	
		Segment 6	Siren & Telephone Fault	***1-2-3-4-5-6-7-8***	
		Segment 7	Test Reports	***1-2-3-4-5-6-7-8***	
		Segment 8	Program, Download, & Log Full	***1-2-3-4-5-6-7-8***	
		Segment 9	Tampers (zones and box)	***1-2-3-4-5-6-7-8***	
		Segment 10	Short Circuit	***1-2-3-4-5-6-7-8***	
		Segment 11	Sensor Lost	***1-2-3-4-5-6-7-8***	
		Segment 12	Sensor Low Battery	***1-2-3-4-5-6-7-8***	
		Segment 13	Expander Trouble (incl. keypad)	***1-2-3-4-5-6-7-8***	
		Segment 14	Failure To Communicate	***1-2-3-4-5-6-7-8***	
		Segment 15	Zone Activity Monitoring	***1-2-3-4-5-6-7-8***	
		Segment 16	Reserved	***1-2-3-4-5-6-7-8***	
5	15	DESTINATION SELECTION FOR REPORT CONTROL 2		***0***	
6	15	BACKUP DESTINATION SELECTION FOR REPORT CONTROL 2		***0***	
7	15	REPORT DELAY FOR REPORT CONTROL 2		***0***	

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LOC	PG	DESCRIPTION		DEFAULT	PROGRAMMING DATA
8	15	EVENT SELECTION FOR REPORT CONTROL 2 (BY PARTITION)			
		Segment 1	Alarms and Restores	***0-0-0-0-0-0-0-0***	
		Segment 2	Open/Close	***0-0-0-0-0-0-0-0***	
		Segment 3	Bypass	***0-0-0-0-0-0-0-0***	
		Segment 4	Zone Trouble	***0-0-0-0-0-0-0-0***	
		Segment 5	Power Trouble (AC Failure / Low Batt.)	***0-0-0-0-0-0-0-0***	
		Segment 6	Siren & Telephone Fault	***0-0-0-0-0-0-0-0***	
		Segment 7	Test Reports	***0-0-0-0-0-0-0-0***	
		Segment 8	Program, Download, & Log Full	***0-0-0-0-0-0-0-0***	
		Segment 9	Tampers (zones and box)	***0-0-0-0-0-0-0-0***	
		Segment 10	Short Circuit	***0-0-0-0-0-0-0-0***	
		Segment 11	Sensor Lost	***0-0-0-0-0-0-0-0***	
		Segment 12	Sensor Low Battery	***0-0-0-0-0-0-0-0***	
		Segment 13	Expander Trouble (incl. keypad)	***0-0-0-0-0-0-0-0***	
		Segment 14	Failure To Communicate	***0-0-0-0-0-0-0-0***	
		Segment 15	Zone Activity Monitoring	***0-0-0-0-0-0-0-0***	
		Segment 16	Reserved	***0-0-0-0-0-0-0-0***	
9	16	DESTINATION SELECTION FOR REPORT CONTROL 3		***0***	
10	16	BACKUP DESTINATION SELECTION FOR REPORT CONTROL 3		***0***	
11	16	REPORT DELAY FOR REPORT CONTROL 3		***0***	
12	16	EVENT SELECTION FOR REPORT CONTROL 3 (BY PARTITION)			
		Segment 1	Alarms and Restores	***0-0-0-0-0-0-0-0***	
		Segment 2	Open/Close	***0-0-0-0-0-0-0-0***	
		Segment 3	Bypass	***0-0-0-0-0-0-0-0***	
		Segment 4	Zone Trouble	***0-0-0-0-0-0-0-0***	
		Segment 5	Power Trouble (AC Failure / Low Batt.)	***0-0-0-0-0-0-0-0***	
		Segment 6	Siren & Telephone Fault	***0-0-0-0-0-0-0-0***	
		Segment 7	Test Reports	***0-0-0-0-0-0-0-0***	
		Segment 8	Program, Download, & Log Full	***0-0-0-0-0-0-0-0***	
		Segment 9	Tampers (zones and box)	***0-0-0-0-0-0-0-0***	
		Segment 10	Short Circuit	***0-0-0-0-0-0-0-0***	
		Segment 11	Sensor Lost	***0-0-0-0-0-0-0-0***	
		Segment 12	Sensor Low Battery	***0-0-0-0-0-0-0-0***	
		Segment 13	Expander Trouble (incl. keypad)	***0-0-0-0-0-0-0-0***	
		Segment 14	Failure To Communicate	***0-0-0-0-0-0-0-0***	
		Segment 15	Zone Activity Monitoring	***0-0-0-0-0-0-0-0***	
		Segment 16	Reserved	***0-0-0-0-0-0-0-0***	
13	16	DESTINATION SELECTION FOR REPORT CONTROL 4		***0***	
14	16	BACKUP DESTINATION SELECTION FOR REPORT CONTROL 4		***0***	
15	16	REPORT DELAY FOR REPORT CONTROL 4		***0***	

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LOC	PG	DESCRIPTION		DEFAULT	PROGRAMMING DATA
16	16	EVENT SELECTION FOR REPORT CONTROL 4 (BY PARTITION)			
		Segment 1	Alarms and Restores	***0-0-0-0-0-0-0-0***	
		Segment 2	Open/Close	***0-0-0-0-0-0-0-0***	
		Segment 3	Bypass	***0-0-0-0-0-0-0-0***	
		Segment 4	Zone Trouble	***0-0-0-0-0-0-0-0***	
		Segment 5	Power Trouble (AC Failure / Low Batt.)	***0-0-0-0-0-0-0-0***	
		Segment 6	Siren & Telephone Fault	***0-0-0-0-0-0-0-0***	
		Segment 7	Test Reports	***0-0-0-0-0-0-0-0***	
		Segment 8	Program, Download, & Log Full	***0-0-0-0-0-0-0-0***	
		Segment 9	Tampers (zones and box)	***0-0-0-0-0-0-0-0***	
		Segment 10	Short Circuit	***0-0-0-0-0-0-0-0***	
		Segment 11	Sensor Lost	***0-0-0-0-0-0-0-0***	
		Segment 12	Sensor Low Battery	***0-0-0-0-0-0-0-0***	
		Segment 13	Expander Trouble (incl. keypad)	***0-0-0-0-0-0-0-0***	
		Segment 14	Failure To Communicate	***0-0-0-0-0-0-0-0***	
		Segment 15	Zone Activity Monitoring	***0-0-0-0-0-0-0-0***	
		Segment 16	Reserved	***0-0-0-0-0-0-0-0***	
17	16	DESTINATION SELECTION FOR REPORT CONTROL 5		***0***	
18	16	BACKUP DESTINATION SELECTION FOR REPORT CONTROL 5		***0***	
19	16	REPORT DELAY FOR REPORT CONTROL 5		***0***	
20	17	EVENT SELECTION FOR REPORT CONTROL 5 (BY PARTITION)			
		Segment 1	Alarms and Restores	***0-0-0-0-0-0-0-0***	
		Segment 2	Open/Close	***0-0-0-0-0-0-0-0***	
		Segment 3	Bypass	***0-0-0-0-0-0-0-0***	
		Segment 4	Zone Trouble	***0-0-0-0-0-0-0-0***	
		Segment 5	Power Trouble (AC Failure / Low Batt.)	***0-0-0-0-0-0-0-0***	
		Segment 6	Siren & Telephone Fault	***0-0-0-0-0-0-0-0***	
		Segment 7	Test Reports	***0-0-0-0-0-0-0-0***	
		Segment 8	Program, Download, & Log Full	***0-0-0-0-0-0-0-0***	
		Segment 9	Tampers (zones and box)	***0-0-0-0-0-0-0-0***	
		Segment 10	Short Circuit	***0-0-0-0-0-0-0-0***	
		Segment 11	Sensor Lost	***0-0-0-0-0-0-0-0***	
		Segment 12	Sensor Low Battery	***0-0-0-0-0-0-0-0***	
		Segment 13	Expander Trouble (incl. keypad)	***0-0-0-0-0-0-0-0***	
		Segment 14	Failure To Communicate	***0-0-0-0-0-0-0-0***	
		Segment 15	Zone Activity Monitoring	***0-0-0-0-0-0-0-0***	
		Segment 16	Reserved	***0-0-0-0-0-0-0-0***	
21	17	DESTINATION SELECTION FOR REPORT CONTROL 6		***0***	
22	17	BACKUP DESTINATION SELECTION FOR REPORT CONTROL 6		***0***	
23	17	REPORT DELAY FOR REPORT CONTROL 6		***0***	

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LOC	PG	DESCRIPTION		DEFAULT	PROGRAMMING DATA
24	17	EVENT SELECTION FOR REPORT CONTROL 6 (BY PARTITION)			
		Segment 1	Alarms and Restores	***0-0-0-0-0-0-0-0***	
		Segment 2	Open/Close	***0-0-0-0-0-0-0-0***	
		Segment 3	Bypass	***0-0-0-0-0-0-0-0***	
		Segment 4	Zone Trouble	***0-0-0-0-0-0-0-0***	
		Segment 5	Power Trouble (AC Failure / Low Batt.)	***0-0-0-0-0-0-0-0***	
		Segment 6	Siren & Telephone Fault	***0-0-0-0-0-0-0-0***	
		Segment 7	Test Reports	***0-0-0-0-0-0-0-0***	
		Segment 8	Program, Download, & Log Full	***0-0-0-0-0-0-0-0***	
		Segment 9	Tampers (zones and box)	***0-0-0-0-0-0-0-0***	
		Segment 10	Short Circuit	***0-0-0-0-0-0-0-0***	
		Segment 11	Sensor Lost	***0-0-0-0-0-0-0-0***	
		Segment 12	Sensor Low Battery	***0-0-0-0-0-0-0-0***	
		Segment 13	Expander Trouble (incl. keypad)	***0-0-0-0-0-0-0-0***	
		Segment 14	Failure To Communicate	***0-0-0-0-0-0-0-0***	
		Segment 15	Zone Activity Monitoring	***0-0-0-0-0-0-0-0***	
		Segment 16	Reserved	***0-0-0-0-0-0-0-0***	
25	17	PRIMARY REPORTING FLAGS FOR REPORT CONTROL 1 TO 6			
		Segment 1 (Circle Numbers To Program)			
		1	***On*** = Report Control 1 is Primary Reporting Flag / Off = Report Control 1 is Backup for control panel		
		2	***On*** = Report Control 2 is Primary Reporting Flag / Off = Report Control 2 is Backup for control panel		
		3	***On*** = Report Control 3 is Primary Reporting Flag / Off = Report Control 3 is Backup for control panel		
		4	***On*** = Report Control 4 is Primary Reporting Flag / Off = Report Control 4 is Backup for control panel		
		5	***On*** = Report Control 5 is Primary Reporting Flag / Off = Report Control 5 is Backup for control panel		
		6	***On*** = Report Control 6 is Primary Reporting Flag / Off = Report Control 6 is Backup for control panel		
		7	Reserved		
		8	Reserved		
26 - 31	17	RESERVED			
32	18	PPP (dial-up account) user ID (chars 1 - 16)		[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]	
33	18	PPP (dial-up account) user ID (chars 17 - 32)		[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]	
34	18	PPP (dial-up account) password		[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]	
35 – 59	18	RESERVED			
60	18	Name of GPRS access point - APN (chars 1 - 16)		[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]	
61	18	Name of GPRS access point - APN (chars 17 - 32)		[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]	
62	18	Name of GPRS access point - APN (chars 33 - 48)		[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]	
63	18	Name of GPRS access point - APN (chars 49 - 64)		[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]-[ ]	
64 - 100	18	RESERVED			
101	19	NX-7002 assigned IP address (DHCP)		***0.0.0.0***	
102	19	IP address for TCP/IP receiver 1		***0.0.0.0***	
103	19	IP address for TCP/IP receiver 2		***0.0.0.0***	
104-118	19	RESERVED			
119	19	Receiver alarm and poll port		***9.9.9.9***	
120-138	19	RESERVED			
139	19	TCP/IP 1 Account number		***0-0-0-0-1-0-0-0***	
140	19	TCP/IP 1 Receiver number		***0-0-0-1***	
141	19	TCP/IP 1 Line number		***0-0-0-1***	
142	19	TCP/IP 2 Account number		***0-0-0-0-1-0-0-0***	
143	19	TCP/IP 2 Receiver number		***0-0-0-1***	
144	19	TCP/IP 2 Line number		***0-0-0-1***	
145	20	SMS 1 Account number		***0-0-0-0-0-0-0-0***	
146	20	SMS 2 Account number		***0-0-0-0-0-0-0-0***	
147-153	20	RESERVED			

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LOC	PG	DESCRIPTION		DEFAULT	PROGRAMMING DATA	
154	20	Account number partition 1		*0-0-0-0-0-0-0-0*		
155	20	Account number partition 2		*0-0-0-0-0-0-0-0*		
156	20	Account number partition 3		*0-0-0-0-0-0-0-0*		
157	20	Account number partition 4		*0-0-0-0-0-0-0-0*		
158	20	Account number partition 5		*0-0-0-0-0-0-0-0*		
159	20	Account number partition 6		*0-0-0-0-0-0-0-0*		
160	20	Account number partition 7		*0-0-0-0-0-0-0-0*		
161	20	Account number partition 8		*0-0-0-0-0-0-0-0*		
162	21	TIMERS AND COUNTERS				
		Segment 1	Max Number of network attempts		*8*	
		Segment 2	Report attempts for Fail To Communicate		*4*	
		Segment 3	Maximum reports in 24 hours		*20*	
		Segment 4	Time in seconds for overall network attempt		*80*	
		Segment 5	Reserved			
		Segment 6	TCP/IP Polling time in minutes for PPP connections		*20*	
		Segment 7	Reserved			
		Segment 8	Reserved			
		Segment 9	Reserved			
		Segment 10	Baud rate for CSD/GSM download		*6*	
		Segment 11	GSM line fault RSSI threshold		*5*	
		Segment 12	GSM line fault time in seconds		*20*	
		Segment 13	Control reporting timeout in seconds for secondary reporting		*180*	
		Segment 14	Reserved			
		Segment 15	Reserved			
		Segment 16	Reserved			
	22	SMS 1 Phone number		*14-14-14-14-14-14-14-14-14-14-14-14-14-14-14-14-14-14-14-14*		
164	22	SMS 1 Format		*0*		
165	22	SMS 2 Phone number		*14-14-14-14-14-14-14-14-14-14-14-14-14-14-14-14-14-14-14-14*		
166	22	SMS 2 Format		*0*		
167	23	SMS service centre address (phone number)		*14-14-14-14-14-14-14-14-14-14-14-14-14-14-14-14-14-14-14-14*		
168	23	U/D call-back phone number (for CSD GSM)		*14-14-14-14-14-14-14-14-14-14-14-14-14-14-14-14-14-14-14-14*		
169	23	GSM SIM PIN code		*10-10-10-10-10-10-10-10*		
170	23	GSM operator selection		*0-0-0-0-0-A*		
171	23	Current GSM operator (read only)		*(name of operator)*		
	23	Current GSM RSSI (read only)		*99*		
173	23	Current GPRS Bit Error Rate % (read only)		*99*		

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LOC	PG	DESCRIPTION		DEFAULT	PROGRAMMING DATA
174	24	DEVICE STATUS FLAGS (read only)			
		Segment 1			
		1	***On = Communication with GSM modem OK***		
		2	***On = SIM card PIN is OK***		
		3	***On = Logged in to the GSM network***		
		4	On = Sending SMS		
		5	On = Using GSM audio connection		
		6	On = Using GSM CSD connection		
		7	On = Connected to GPRS network		
		8	On = SIM card PUK code required		
		Segment 2			
		1	On = Battery voltage failure		
		2	On = GSM PSU voltage failure		
		3	On = Bus voltage failure		
		4	On = Communication channel failure		
		5	On = U/D session in progress		
		6	On = U/D session starting		
		7	On = Reporting in progress		
		8	***On = Good RSSI Level***		
		Segment 3			
		1	On = Max reports in 24h limit reached		
		2-8	Reserved		
175	24	GSM modem manufacturer (read only)		***(name of manufacturer)***	
176	24	GSM modem model (read only)		***(name of model)***	
177	24	GSM modem software revision (read only)		***(software revision)***	
178	24	GSM modem serial number (read only)		***(serial number)***	
179-215	24	RESERVED			

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INSTALLATION GUIDELINES

- Avoid installing the module:
  - Where temperatures exceed 49°C or fall below 0°C.
  - In the immediate vicinity of electronic equipment.
  - In humid rooms. The module is not hermetically sealed and excess moisture on the circuit board can eventually cause an electrical fault.
- Keep the antenna within 2 m of the panel.
- Before permanently mounting the module, test it at the intended location to ensure that the remote alarm receiver can receive signal transmissions. There may be blind or non-operational locations within the installation. Normally these can be overcome by moving the antenna.

Note: To test the signal strength at the intended location, insert the SIM card into a mobile phone and check the strength indicator on the mobile phone.

MOUNTING THE NX-7002

Inside the can, several 2-holed insertion points have been constructed. This allows for either vertical or horizontal placement of the modules. Notice that each insertion point has two sizes of holes -a larger hole and a smaller hole.

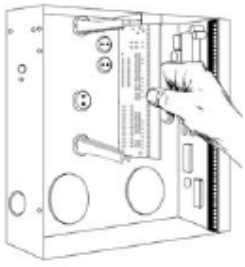
Diagram 1: The black plastic PCB guides are grooved on one edge where the PC board will be seated. The end with the half-moon protrusion fits into the larger hole. The smaller hole is for the screw.



Diagram 2: 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. Insert one of the provided screw into the smaller hole (from inside 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. The *second* PBC guide should be positioned opposite the first (grooved edge up) and placed in the lower insertion point, using the same procedures described above. Once mounted, screw it in securely.

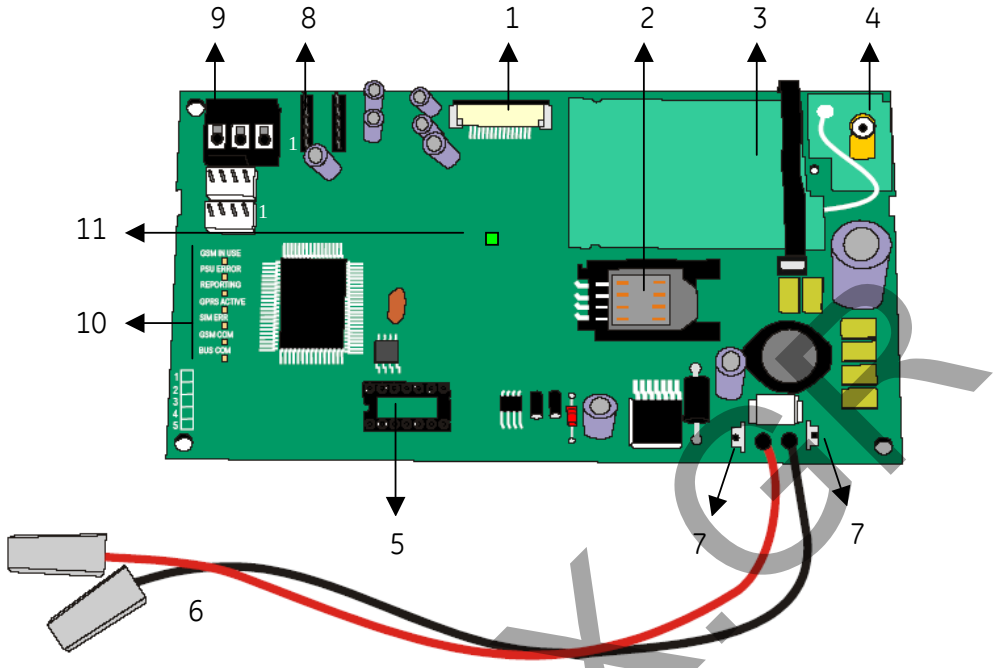


Diagram 3: The module should slide freely in the grooves of both guides.



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NX-7002 LAYOUT AND DESCRIPTION



	DESCRIPTION
1	Future use (VVMIQ)
2	SIM card holder
3	GPRS modem
4	Connect antenna to this connector
5	Header for software upgrade
6	Connect to battery
7	Connect main panel battery leads to these connectors
8	Audio tap connector (CON5) **If the NX-7002 uses the voice channel for event reporting, the special audio cable (included) needs to be stuffed between this connector of the NX-7002 and the Audio Tap connector of the control panel.**
9	Keypad bus terminals
10	Status LED's **GSM in use**: ON when events are send over the voice or data channel (Up/download) **PSU error**: ON when the modem power source is to low **Reporting**: ON when data is reported to the IP receiver or Mobile phone (SMS) **GPRS active**: ON when the module is connected to the GPRS network and the first event is send. It turns OFF when the module uses the voice channel **SIM error**: ON when an incorrect PIN code is entered **GSM com**: reserved **Network OK**: reserved **Bus com**: flashes when communicating on the NetworX bus
11	**Green LED**: ON when connected to TCP/IP receiver

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TECHNICAL SPECIFICATIONS

Technical specifications NX-7002

Power supply voltage	12Vdc
Current consumption	
- Nominal	30mA at 13.8Vdc
- Maximum	up to 2 Amps peak
Battery	max. 12V/7.2Ah
Operating temperature	0 - 49° C
Humidity	Max 93% non condensating
Dimensions (PCB board only) WxHxD	102 x 97 x 24 mm
Weight (PCB board only)	115 g

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APPENDIX 1: REPORTING FIXED CODES IN CONTACT-ID AND SIA

The table below lists the event codes sent for the following reports (if enabled) when using Contact ID or SIA formats.

REPORT	CONTACT ID	SIA
MANUAL TEST	601	RX
AUTOTEST	602	RP
OPEN (User Number)	401	OP
CLOSE (User Number)	401	CL
CANCEL (User Number)	406	OC
DOWNLOAD COMPLETE	412	RS
START PROGRAM	627	LB
END PROGRAM	628	LX
RECENT CLOSE (User Number)	401	CR
EXIT ERROR (User Number)	457	EE
EVENT LOG FULL	605	JL
FAIL TO COMMUNICATE	354	RT
EXPANDER TROUBLE (device number)	333	ET
EXPANDER RESTORE (device number)	333	ER
TELEPHONE FAULT	351	LT
TELEPHONE RESTORE	351	LR
SIREN TAMPER	321	YA
SIREN RESTORE	321	YH
AUX POWER OVERCURRENT (device number)	312	YP
AUX POWER RESTORE (device number)	312	YQ
LOW BATTERY (device number)	309	YT
LOW BATTERY RESTORE (device number)	309	YR
AC FAIL (device number)	301	AT
AC RESTORE (device number)	301	AR
BOX TAMPER (device number)	137	TA
BOX TAMPER RESTORE (device number)	137	TR
KEYPAD TAMPER	137	TA
KEYPAD PANIC (audible)	120	PA
KEYPAD PANIC (silent)	121	HA
DURESS	121	HA
KEYPAD AUXILIARY 1	110	FA
KEYPAD AUXILIARY 2	100	MA
RF SENSOR LOST (zone number)	381	*T
RF SENSOR RESTORE (zone number)	381	*R
SENSOR LOW BATTERY (zone number)	384	XT
SENSOR BATTERY RESTORE (zone number)	384	XR
ZONE TROUBLE (zone number)	380	*T
ZONE TROUBLE RESTORE (zone number)	380	*R
ZONE TAMPER (zone number)	137	TA
ZONE TAMPER RESTORE (zone number)	137	TR
ZONE BYPASS (zone number)	570	*B
BYPASS RESTORE (zone number)	570	*U
EARLY OPEN / LATE CLOSE	451	OK

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REPORT	CONTACT ID	SIA
FAIL TO CLOSE	454	CI
ZONE ACTIVITY FAULT	391	NA
ZONE ACTIVITY RESTORE	391	NS
RF JAMMING	344	XQ
RF JAMMING RESTORE	344	XH
SMOKE DETECTOR CLEAN ME	393	YX
SMOKE DETECTOR CLEAN ME RESTORE	393	YZ

THE NUMBER IN PARENTHESES FOLLOWING THE EVENT IS THE NUMBER THAT WILL BE REPORTED AS THE ZONE NUMBER. IF THERE ARE NO PARENTHESES, THE ZONE WILL BE "0". * The character transmitted in this slot will be the first character from the event code of the zone that is bypassed or in trouble.

SPECIAL REPORTS	CONTACT ID	SIA
FAIL TO COMMUNICATE TCP/IP or SMS	354	RT002
GSM network failure (RSSI value to low)	354	RT078

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APPENDIX 2: OPERATOR ID CODES

This appendix provides a list of operator codes and the associated operator name.

Operator name	Network name	ID code	On mobile phone
Belgium			
Proximus Belgacom Mobile	Proximus	20601	BEL PROXIMUS
Mobistar	Mobistar	20610	B Mobistar
Base	Base	20620	Base
Denmark			
TDC Mobil A/S	TDC Mobil	23801	DK TDC
Sonofon	SONOFON	23802	SONO
Hi3G Denmark ApS	3 DK	23806	3 DK
Telia A/S Denmark	TELIA DK	23820	TELIA
Orange A/S	Orange	23830	Orange
France			
Orange France	Orange F	20801	F-FT
SFR	SFR	20810	SFR
Bouygues Telecom	Bouygues Telecom	20820	BOUYGTEL
Germany			
T-Mobile Deutschland GmbH	D1	26201	TMO D
Vodafone D2 GmbH	Vodafone	26202	
E-Plus Mobilfunk GmbH	E-Plus	26203	E-Plus
O2 (Germany) GmbH & Co	OHG O2(Germany) GmbH & Co. OHG	26207	o2 - de
Italy			
Telecom Italia Mobile	Telecom Italia Mobile	22201	TIM
Vodafone Omnitel N.V	Vodafone	22210	voda IT
Wind Telecomunicazioni SpA	Wind Telecomunicazioni SpA	22288	I WIND
H3G	H3G	22299	3ITA
Ireland			
Vodafone Ireland Plc	Vodafone	27201	IRL Voda, Eircell, Eir Gsm
O2 Communications (Ireland) Ltd	O2 Communications (Ireland) Ltd	27202	O2 - IRL
METEOR	METEOR	27203	METEOR
Jersey, Guernsey and Isle of Man			
Jersey Telecom	JT GSM	23450	JT GSM
Cable & Wireless Guernsey Ltd	Cable & Wireless Guernsey	23455	C&W
Manx Telecom	Pronto GSM	23458	Pronto
Netherlands			
Vodafone Libertel N.V	Vodafone	20404	voda NL
KPN Mobile The Netherlands BV	KPN Mobile The Netherlands BV	20408	NL PTT, NL KPN
TELFORT B.V.	TELFORT B.V.	20412	NL Tlfrt
T-Mobile Netherlands	T-Mobile NL	20416	TMO NL
Orange Nederland N.V.	Orange Nederland N.V.	20420	Orange
Norway			
Telenor Mobil	TELENOR	24201	TELENOR
NETCOM AS	NetCom	24202	N COM
Poland			
Polkomtel S.A	PLUS GSM	26001	PL-PLUS
Polska Telefonia Cyfrowa	Era	26002	Era
PTK Centertel	IDEA	26003	IDEA, PL IDEA or PL 03
Portugal			
Vodafone Portugal	Vodafone	26801	voda P
Optimus Telecomunicacoes, S.A	OPTIMUS	26803	P03, P OPTIMUS, OPTIMUS
Telecomunicacoes Moveis Nacionais S.A	TMN	26806	P TMN, P TELEMOVEL

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Operator name	Network name	ID code	On mobile phone
Spain			
Vodafone Espana S.A.	Vodafone	21401	E VODAF
Retevision Movil S.A	AMENA	21403	RET MOV, E 03, AMENA
Telefonica Moviles Espana S.A.	MOVISTAR	21407	MSTAR
Sweden			
TeliaSonera Mobile	TELIA MOBILE	24001	TELIA
HI3G Access AB	3	24002	3
Tele 2 AB	COMVIQ	24007	IQ
Vodafone Sverige AB	Vodafone	24008	voda SE
Swefour AB	Swefour AB	24010	Spring
United Kingdom			
O2 (UK) Limited	O2	23410	O2 -UK
Vodafone Ltd	Vodafone	23415	Voda
Hutchison 3G UK Ltd	3	23420	3 UK
T-Mobile (UK) Limited	T-Mobile UK	23430	TMO UK
T-Mobile (UK) Limited	T-Mobile UK	23431	TMO UK
T-Mobile (UK) Limited	T-Mobile UK	23432	TMO UK
Orange PCS Ltd	Orange	23433	Orange

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