WIFI / 4G / 3G / 2G COMMUNICATOR

Installer's Manual

GARNET

TECHNOLOGY

INDEX

Information General

The 4G-MAX-G communicator is designed to report events via three communication paths:

1) Internet connection via a Wifi network
2) Internet connection using mobile data service
3) Sending text messages using the cellular service (SMS)
In residential reports, the communicator prioritises communications through a Wi-Fi connection, therefore, the mobile phone connection or data transmission is used as a backup in the event of a failure or absence of the Wi-Fi network connection.
When reporting to monitoring, communications are organised through the communication scenarios.

Specifications Technical:

WiFi:

• Transmission: Wi-Fi certified 2.4Ghz, IEEE 802.11.
• FCC/CE-RED/IC/TELEC/KCC/SRRC/NCC certificate
• Transmitting power: 20.5 dBm.
• Wi-Fi authentication via WEP, WPA-PSK and WPA2-PSK.
• Antenna: PCB trace type.

Mobile data module:

• Transmission: LTE, UMTS/HSPA+ and GSM/GPRS/EDGE.

LTE Cat 4	EC200A-AU
Región/Operador	Australia, Nueva Zelanda, Latinoamérica
Dimensiones (mm)	29.0 x 32.0 x 2.4
Rango de temperatura	
Rango de temperatura de funcionamiento	-35 °C a +75 °C
Rango de temperatura extendido	-40 °C a +85 °C
Banda de frecuencia	
LTE-FDD	B1/B2/B3/B4/B5/B7/B8/B28/B66
LTE-TDD	B40
WCDMA	B1/B2/B4/B5/B8
GSM/EDGE	B2/B3/B5/B8
GNSS*	-

• Carrier configuration: Automatic.

General specifications

• Two-way WiFi and 4G LTE communication, UMTS/HSPA+ and GSM/GPRS/EDGE
• Compatible with PC-732G / PC-860 / PC-800.
• 1 mobile network recipient and 1 WiFi recipient for monitoring reports

• Allows for own and panel programming with AC4 software
• Allows local and remote programming from Garnet Programmer
• Reports with residential format (event restriction).
• You can use domain names instead of IP addresses.
• Connection with dedicated bus (BUS-C485).
• Allows remote operation of the system via smartphones using the Garnet Control App.
• Communication of Reports using UDP.
• Up to 20 residential users.
• WiFi monitoring period configurable from 1 to 99 minutes.
• Monitoring period for mobile data configurable from 1 to 9999 minutes.
• Two Garnet reporting formats: DC1 and SDC2.
• 9 LED status and signal indicators on the board.
• Does not require its own battery, it shares the battery of the alarm panel.
• Nominal supply voltage: 12VDC (9 to 14VDC).
• Power consumption: 90 ~ 135 mA

Description of the module:

Communication formats:

The 4G-MAX-G Alarm Communicator is designed to send alarm signals and status to monitoring stations receiving events under the DC1 and SDC2 communication protocols.

Panel control modes:

The 4G-MAX-G communicator allows control of the panels via two methods, one method is by using the Garnet Control application, and the other method is via text messages or SMS.

Compatible panels:

The 4G-MAX-G communicator is compatible with the Garnet and DSC panel families.

For Garnet panels, the communicator must be installed on the BUS-C485 data bus (see figure 1), while for DSC panels, the communicator must be installed on the keypad data bus.
(See figure 2).

Compatible Garnet panel models:

PC-732G / PC-860 / PC-800

Models compatible with DSC panels:

PC585, PC1565, PC832, PC1832, PC5015, PC.5010, PC161616

Connections:

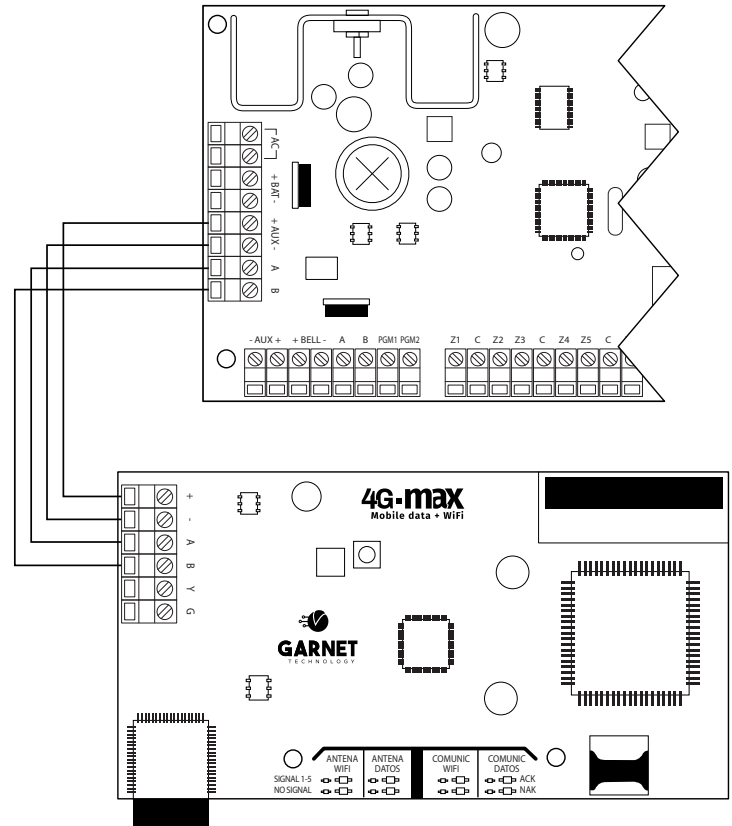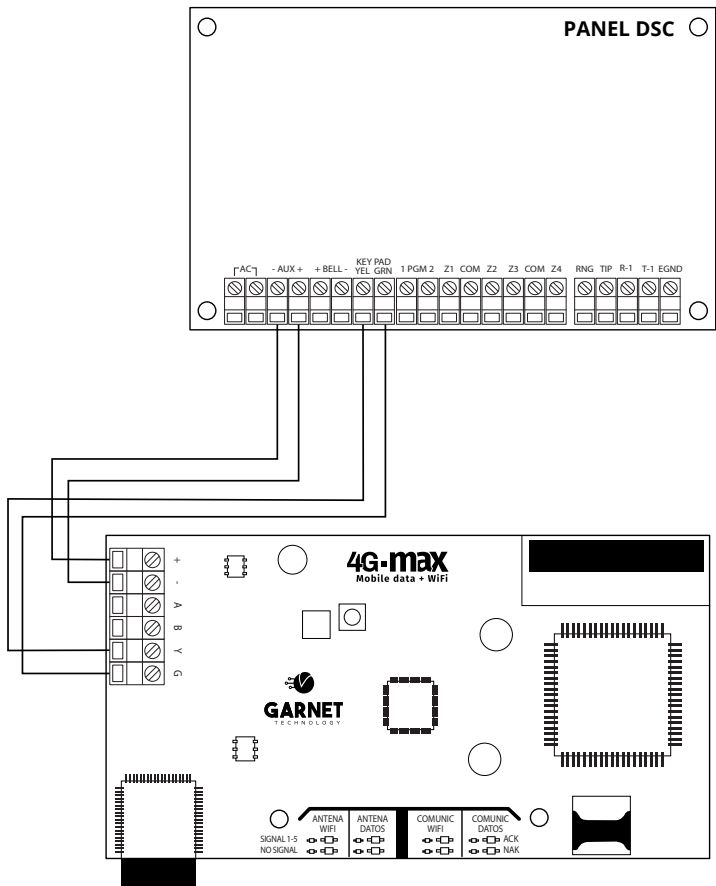### Figure 1 - BUS-C485 mode of operation:

Figure 2 - DSC mode of operation:

Light indications of states

The 4G-MAX-G communicator incorporates a variety of LEDs to indicate different communicator statuses.

LEDs indicate the signal strength of the Wi-Fi network, the Mobile Data network and the results of the reports to the server and the monitoring station.

Explanation of light indications:

	Wifi Antenna	Data Antenna	Comunic Wifi	Comunic Data	
Signal 1-5	☐	☐	☐	☐	**ACK**
No Signal	☐	☐	☐	☐	**NAK**

There are two groups of leds, the ones that inform the signal strength of the Wifi or Data connection and the ones that inform the results of the Wifi and data communications in the mobile network.

Wifi Signal or Mobile Data Network Indicator LEDs

These LEDs indicate whether or not the communicator is connected to a network.

If the communicator is connected to a Wifi network, the blue LED representing the Wifi Antenna will indicate its signal strength by flashing as many times as its signal level.

The number of flashes represents the signal level, with 1 flash for a very low signal level and 5 flashes to indicate the maximum signal level.

If the communicator is not connected to a Wifi network, the red "No Signal" LED will be on indicating that the communicator is not connected to a Wifi network.

The same behavioural pattern is repeated for mobile data antenna indications.

Communication indicator LEDs

The communicator is prepared to communicate through a Wifi connection or through mobile data. In either case, when there is a communication or any kind of report, its result will be indicated by the leds that represent the communications.

When a report is made to the monitoring station or in residential format, the result will be represented by two LEDs, one representing the successful report (ACK) or the one indicating communication failure (NAK).

When the communicator reports a supervision to monitoring or to the server, it will light both LEDs simultaneously.

Status LED

This LED indicates the working mode according to the flashing speed.
If the led flashes slowly (1 time per second), it means that it is configured to work in "DSC" mode, if the flashing is fast (10 times per second), it is configured to work in the BUS-C485.

NET" LED

This LED indicates the status of the mobile data network.

State	Description
200 mS on / 1800 mS off 1800 mS on /	Seeking Idle
1800 mS encendido / 200 mS apagado	Network
200 mS off 125 mS on / 125 mS off	Transferring data

Communicator programming / Alarm panels

Programming of the alarm panel:

In order to configure the Garnet alarm panels via the communicator, the communicator must first be enabled in the panels. To do this, the following steps must be carried out in panel programming:

With Keyboard G-LCD732 / G-LCD732RF / KPD-860 / KPD-860RF

1) Tool key + [5] + [INSTALLER CODE].
2) Program the command [299] with the following values [xxxx11xx].

With Keyboard G-LED732 / KPD-800

1) *8 + [5] + [INSTALLER CODE] + [INSTALLER CODE].
**2)** Program the command [299] with the following values [xxxx11xx].

NOTE: DSC panels cannot be programmed via the communicator and the configuration App.

Programming the Communicator and Panel from the Garnet Programmer app

The communicator is programmed via the "Garnet Programmer" app. This app also allows the Garnet alarm panels to be programmed.

To download the scheduling app, scan the following QR codes as appropriate or search the download shop for the

Garnet Programmer application
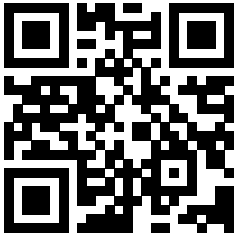
Download App
Click here

Follow the steps below:

1) Press the "AP ENABLE" button on the nameplate.
This will cause the communicator to generate a WiFi network for a period of 5 minutes.

2) Search your phone for available WiFi networks and connect to the WiFi network whose name is "4G-MAX-Gxxxxxx". XXXXXX being the last 6 digits of the communicator mac.

3) Enter the default network password: admin1234.

4) Once the communicator enters programming mode.
The LEDs will behave as follows

	Antenna Wifi	Antena Data	Comunic Wifi	Comunic Data	
Signal 1-5	☐	☐	☐	☐	ACK
No Signal	☐	☐	☐	☐	NAK

If this result is not achieved. Repeat the steps from the beginning.
It is essential that the mobile phone is in "Airplane" mode when connecting to the module's WiFi network.

5) Once ready, open the Garnet Programmer application and follow the instructions you wish to program.

Note: In programming the communicator within the "status" screen you should make a note of the System Number as it will be used in the next step.

Enabling Telephones or Terminals

To enable the phones, you must first ensure that the communicator was previously configured and has a successful connection to the internet through a Wifi connection or by using mobile data.

From your phone shop download the "Garnet Control" User application.
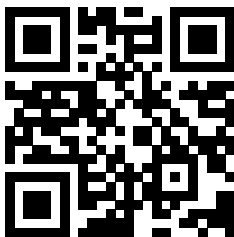
Download App
Click here

Once you have downloaded the application, you must register using your personal data.

Then within the application press the "+" button to add a new system, you must enter the System Number obtained in the previous step, a name that identifies the alarm system that is installed and finally an icon.
You must then initiate the connection to your phone from the communicator. You will need to press the "AP ENABLED" button 3 times in a row, or if you have an LCD keypad press [🔧] + 8 + 7.
Confirmation of successful enablement will be by flashing the top 4 antenna and communications indication LEDs. After this press the "Verify" button on your mobile phone.
In seconds your application will be ready for use.

Note: The Garnet Control application allows up to 20 total users to be associated.

The main user that was associated will be listed as "Administrator". This user will be able to invite the remaining 19 users of the system with two different user categories:

• Main User:
This user can be defined by the administrator in terms of the functions and permissions he/she has over the alarm panel.

For example: You can have a user as a family member who has all the functions of remote control and event reception checked. But I can also have a main user that only allows him to receive events.

• Secondary User:
This user does not allow attribute modifications. Only this user can view system cameras.
To invite users, go to the community tab.

Programming the Communicator / Alarm Panel (DSC) Programming the Communicator and Panel from the Garnet Programmer App

The communicator is programmed via the "Garnet Programmer" app. This app also allows the alarm panels to be programmed.

To download the scheduling app, scan the following QR codes as appropriate or search the download shop for the Garnet Programmer application.
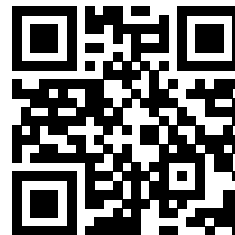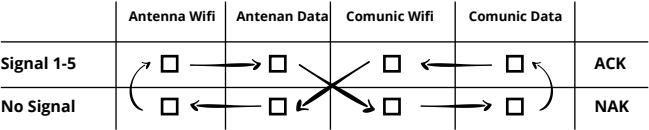

Download App
Click Here

Once the application is downloaded to your mobile phone, it is imperative that you activate the "Airplane" mode on your mobile phone, or switch off mobile data transmission.

Follow the steps below:

1) Press the button on the board that says "AP ENABLE" . This will cause the communicator to generate a WiFi network for a period of 5 minutes.

2) Search your phone for available WiFi networks and connect to the WiFi network named "4G-MAX-Gxxxxxx".

3) Enter the default network password: admin1234 .

4) Once the communicator enters programming mode.
The LEDs will behave as follows

|	Antenna Wifi	Antenan Data	Comunic Wifi	Comunic Data	
Signal 1-5	☐	→ ☐	☐ ←	☐	ACK
No Signal	☐ ←	☐	☐	→ ☐	NAK

If this result is not achieved. Repeat the steps from the beginning. It is essential that the mobile phone is in "Airplane" mode when connecting to the module's WiFi network.

5) Once ready, open the Garnet Programmer application and follow the instructions you wish to program.

Enabling Phones Panels DSC
From your phone shop download the "Garnet Control" User application.
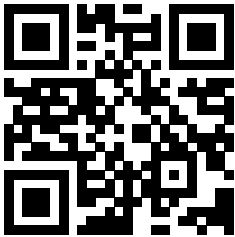
Download App
Click here

Once you have downloaded the application you will need to register using your personal details.

Then within the application press the "+" button to add a new system, you must tick the option that you have a DSC alarm panel.

You must then initiate the connection to your phone from the communicator. You will need to press the "AP ENABLED" button 3 times in a row, or if you have an LCD keypad press [🔧] + 8 + 7.

Confirmation of successful enablement will be by flashing the 4 upper antenna and communications indication LEDs.
Then press the "Verify" button on your mobile phone. In seconds your application will be ready for use.

Note: The Garnet Control application allows up to 20 total users to be associated.

Each user that registers in the app can have a different user code that must be previously loaded in the alarm panel. If
each user is configured with a different code, this will be identified in the event memory, and the user responsible for arming and/or disarming can be identified.

Videos from programming

Garnet Programmer
In the following QR Code you will find all the necessary information for the programming of the communicator and its respective alarm panel. If you are unable to program the equipment, you will be able to see the following intuitive information.
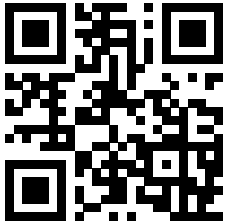
Video Garnet Programmer
Click here

Reset the communicator configuration to the values of factory

To reset the communicator to factory defaults, the "AP ENABLED" button must be pressed for more than 6 seconds, until all antenna and communications LEDs flash together.

Remote Control with Communicators 4G-MAX-G/IP-500G

The above-mentioned models can be controlled by different means. In principle, 4G-MAX-G communicators allow communication via mobile data, WiFi networks and text messages (SMS), while IP-500G communicators allow communication only via WiFi networks.

This allows panels to be controlled via mobile applications and/or SMS (traditional text messaging).

All modes are explained individually in the following sections.

Remote Control with 4G-MAX-G/IP-500G Communicators via APP Garnet Control

The control of the panels will be carried out by any of the above mentioned communicators via the Garnet Control APP using the Internet.

This means that both the 4G-MAX-G/IP-500G communicators must have stable connectivity to the Internet by any possible means of operation as well as your mobile phone.

You should proceed to associate your mobile device with the App, if you are an Administrator or Owner of the panel you should consult the "Enabling Phones" section of the installer's manual or contact your installer and/or monitoring company. If you are an Administrator or Owner and wish to invite more users to control your system, you must go to the Community tab within the application and invite the remaining users.

Remote Control using Communicator 4G-MAX-G via SMS (Text Message)

Control of the panels with the 4G-MAX-G communicators can be done via mobile data, but if the communicator does not have Internet because the chip does not have mobile data, or your phone is in the same situation, the communicators allow control via text messages (SMS).

For this it is important to take into account three parameters:

• Mobile number: We must know the telephone number of the caller in order to be able to send messages.

• Partition key: This key must be recorded in the communicator configuration, depending on which key we use we can manage the different partitions of the system.

• Syntax of the message: We must respect the explicit syntax in the following table in order to send text messages and for the panel to interpret them correctly.

Command format: [s][key][s][command][s][parameter].

Where:
- **[s]** is a space
- **[key]** is the partition key programmed in the communicator.
- **[s]** is a space
- **[command]** is the action we want to execute
- **[s]** is a space
- **[parameter]** is the complement of the action

Action	Command	Parameter
Setting up the system	Assemble	
Disarming the system	Disassemble	
Bypass a zone	Inhibit	See "parameters" section
Desanitise an area	Uninhibit	See "parameters" section
Activate a programmable output/Siren	Activate	See "parameters" section
Desactivate a programmable output	Desactivate	See "parameters" section
Check status	State	
Communicator reset	Reset	
Upgrade the communicator firmware	Upgrade firmware	

Parameters

The possible parameters for the Inhibit and Uninhibit commands are as follows: **z01, z02, z03, z04, z05... z32**

The possible parameters for the Enable and Disable commands are as follows: **siren, pgm1, pgm2, pgm3, pgm4, pgmw1, pgmw2, pgmw3, pgmw4, pgmw1, pgmw2, pgmw3, pgmw4**

Note: Zone parameters must contain two digits, if we want to bypass zone 5 we must enter the command Inhibit z05, bearing in mind that the letter "z" must always be in lower case.

Here are some examples of text messages.

Let's remember the format of the commands:
[s][clave][s][comando][s][parámetro]

Examples:
- 1234 arming
- 1234 uninhibit z05
- 1234 activate siren
- 1234 activate pgmw2
- 1234 reset

NOTES

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NATIONAL WARRANTY: Alonso Hnos. Sirenas S.A. (Garnet Technology) warrants to the original purchaser that, for a period of 18 months from the date of purchase, the product is free from defects in materials and workmanship under normal use. During the warranty period, Alonso Hnos Sirenas S.A., decides whether to repair or replace any defective product. Any replacement or repaired part is warranted for the remainder of the original warranty or ninety (90) days, whichever is longer. The original owner must promptly notify Alonso Sirens Bros.
S.A. in writing that there is a defect in material or workmanship, such written notice must be received in any event prior to the expiration of the warranty period. There is absolutely no warranty of any kind on software. The purchaser assumes all responsibility for the proper selection, installation, operation and maintenance of any product purchased from Alonso Hnos. Sirenas S.A.

INTERNATIONAL GUARANTEE: The guarantee for international customers is the same as for any customer in Argentina, with the exception that Alonso Hnos. Sirenas S.A. will not be responsible for any customs costs, transport and/or taxes or duties that may be applied.

WARRANTY PROCEDURE: To obtain service under this warranty, please return the item(s) in question to the point of purchase. All authorized dealers have a warranty program. Anyone returning items to Alonso Hnos Sirenas S.A. must first obtain an authorization number. Alonso Hnos. Sirenas
S.A. will not accept any return shipment without first obtaining an authorisation number through the RMA process.

FACTORS THAT VOID THE WARRANTY: THIS WARRANTY APPLIES ONLY TO DEFECTS IN MATERIALS AND WORKMANSHIP RELATING TO NORMAL USE. IT DOES NOT COVER:
• Damage incurred in the handling of shipment or transport.
• Damage caused by disasters such as fire, flood, wind, earthquake or lightning, etc...
• Damage due to causes beyond the control of Alonso Hnos Sirenas S.A., such as excessive voltage, mechanical shock or water damage.
• Damage caused by unauthorised attachments, alterations, modifications or foreign objects.
• Damage caused by peripherals (unless the peripherals were supplied by Alonso Hnos. Sirenas S.A.).
• Defects caused by failure to provide a suitable environment for the installation of the products.
• Damage caused by the use of products for purposes other than those for which they were designed.
• Damage due to improper maintenance.
• Damage caused by other abuse, mishandling or improper application of the products.

ITEMS NOT COVERED BY THE WARRANTY
In addition to the items that cancel the Guarantee, the following items will not be covered by the Guarantee:
(I) Freight cost to the repair centre;
(II) Products that are not identified with the Alonso Hnos. Sirenas S.A. product label and its batch number or serial number;
(III) Products that have been disassembled or repaired in a manner that adversely affects performance or does not permit adequate inspection or testing to verify any warranty claim;
(IV) Products not covered by this warranty, or otherwise out of warranty due to age, misuse or damage, will be evaluated and an estimate for repair will be provided. No repair work will be performed until a valid purchase order submitted by the Customer is received and a Return Merchandise Authorization (RMA) number is issued.

Sirenas S.A.'s liability for failure to repair the product under this warranty after a reasonable number of attempts shall be limited to a replacement of the product. In no event shall Alonso Hnos. Sirenas S.A., be liable for any special, incidental or consequential damages based on breach of warranty, breach of contract, negligence, strict liability or any other legal theory. Such damages shall include, but not be limited to, loss of profits, loss of products or any associated equipment, cost of capital, cost of substitutes or replacement equipment, facilities or services, downtime, buyer's time, claims of third parties, including customers, and property damage. The laws of some jurisdictions limit or do not allow the disclaimer of consequential damages. If the laws of such jurisdiction are applicable to any claim by or against Alonso Hnos Sirenas S.A., the limitations and disclaimers contained herein shall be the broadest permitted by law. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above may not apply to you.

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