PREVIDIA|MICRO

CONVENTIONAL FIRE-DETECTION CONTROL PANEL,
FIRE EXTINCTION CONTROL PANEL, ALARM
TRANSMISSION AND REMOTE FAULT SIGNALLING AND
WARNING EQUIPMENT
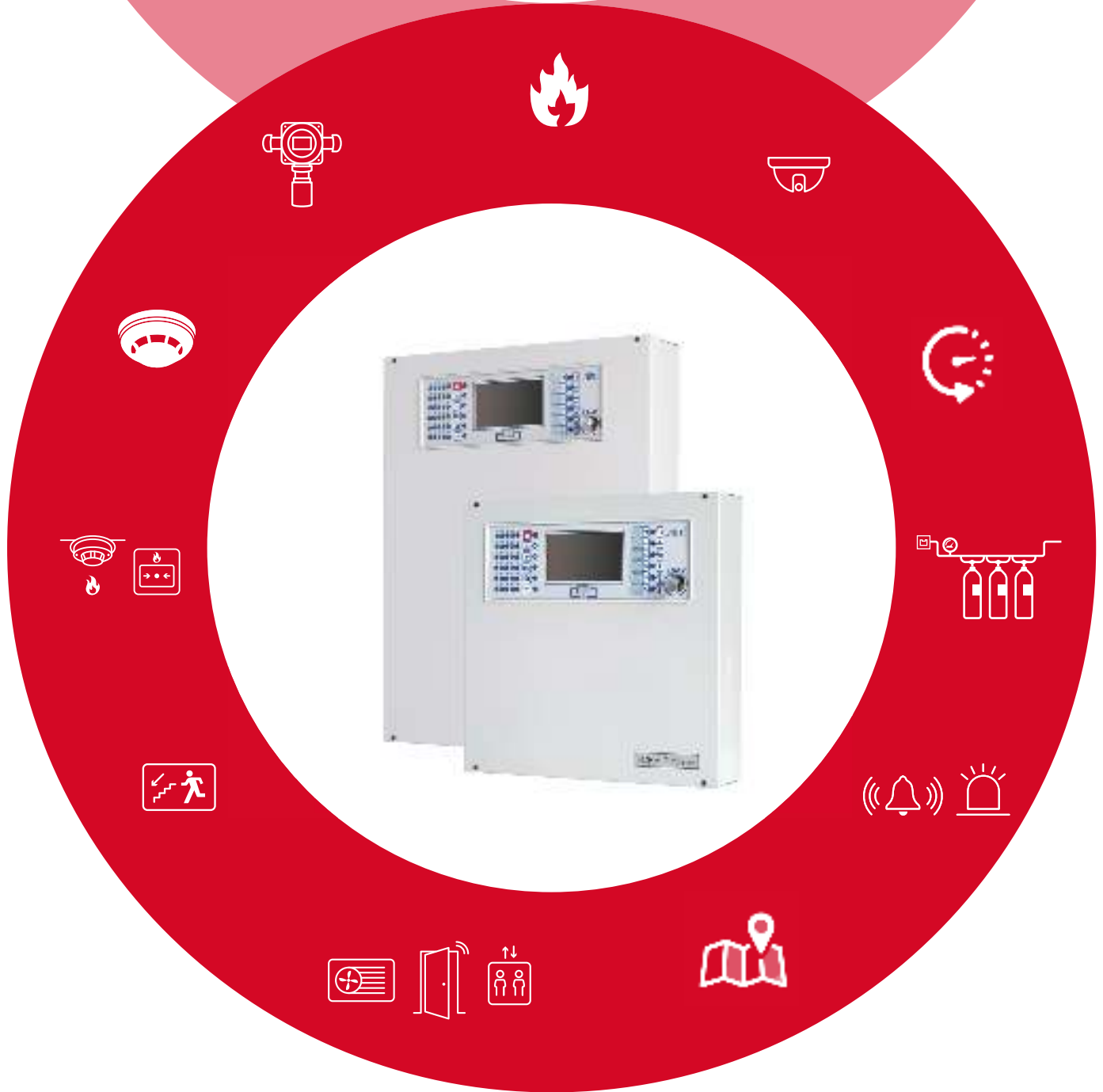
MANUAL FOR SYSTEM
CONFIGURATION, COMMISSIONING
AND MAINTENANCE

inim®

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- Damage caused by fire, flood, wind or lightning;
- Vandalism;
- Fair wear and tear.

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Chapter 1

General information

1.1 Manufacturer's details

Manufacturer: INIM ELECTRONICS S.R.L.

Production plant: Centobuchi, via Dei Lavoratori 10

Municipality: 63076, Monteprandone (AP), Italy

Tel.: +39 0735 705007

Fax: +39 0735 704912

E-mail: info@inim.it

Web: www.inim.it

The personnel authorized by the manufacturer to repair or replace the parts of this system, hold authorization to work only on devices marketed under the INIM Electronics brand.

1.2 About this manual

Manual code: DCMCINE0PREVIDIAM

Revision: 1.00

This manual describes the procedures for the configuration, commissioning and maintenance of the Previdia Micro fire-detection system.

1.2.1 Graphic conventions

Following are the graphic conventions used in this manual.

Conventions	Example	Description
Text in italics	Refer to *paragraph 1.2.1 Graphic conventions*	Directs you to the title of a chapter, section, paragraph, table or figure in this manual or other published reference.
[Uppercase letter] or [number]	[A] or [1]	Reference relating to a part of the system or video object.

Note: *The notes contain important information relating to the text.*

Attention: *The "Attention" prompts indicate that total or partial disregard of the procedure could damage the device or its peripherals.*

1.3   Description of the configuration and programming procedures

Following is a flow chart which summarizes the operations to be carried out during the installation and commissioning phases of the Previdia Micro system and indications regarding the manuals to refer to for each operation:

1. Installation and cabling (refer to the Installation Manual)

2. Initializing (refer to the Installation Manual)

3. Configuration from the front plate (operations described in this manual)

4. Troubleshooting (operations described in this manual)

5. Connection to a PC and reading (optional)

6. Configuration of parameters (editing data, optional)

7. Writing on control panel and testing (optional)

8. Commissioning (operations described in this manual)

9. System handover

10. Maintenance (operations described in this manual)

1.4   Operator classification - Access Levels

The control panel has 4 distinct access levels:

Level 1: Public level - this is the normal access level of the control panel and is the access level for building inhabitants who are neither authorized to use the system nor instructed in its use.

At this level it is possible to view the information on the display and on the signalling LEDs, as well as to interact using the buttons and the touch screen to scroll through the information. Level 1 allows the following operations only:

- mute buzzer
- test signalling LEDs
- activate alarm signalling when an early-warning process is running

Level 2: Authorized users - this access level is for the system supervisors and is for authorized personnel who are adequately instructed in the use of the system and its functions.

Access requires the use of a key or entry of a valid access code with sufficient access rights. In addition to the operations described for level 1 it is also possible to carry out the following operations:

- mute alarm signalling devices
- rearm the control panel
- activate alarm signalling devices manually
- disable control panel elements
- place in test status one or more of the system elements
- bypass and activate objects which require this specific level.

The system provides two additional sub-levels of authorized user:

- **Superuser level**, las for the previous one, with the added possibility of registering control panels to their account with the Inim Cloud service
- **Maintenance operator level**, same as the previous level with the added possibility of stopping the valve pulse for those models that support extinction functions

Level 3: Programming - this access level is for specialized technical operators who carry out system configuration, commissioning and maintenance.

Access requires entry of a valid access code with sufficient access rights after inserting a jumper which enables programming. Refer to the manual for system configuration, commissioning and maintenance.

ONLY authorized technicians, appointed by the Manufacturer can, by means of special tools, carry out repair work on the motherboard.
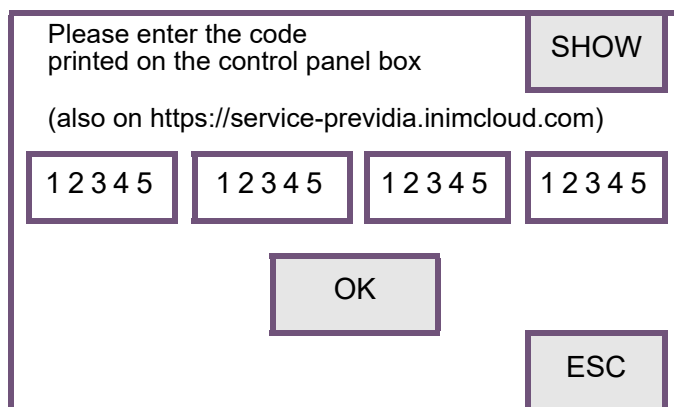
Level 4: only authorized technicians, appointed by the Manufacturer can, by means of special tools, carry out repair work on the motherboard.

Chapter 2

Configuration

2.1   First startup

Once the installation and cabling procedures have been completed (refer to the Installation Manual of the Previdia Micro system) the system is ready for first startup.

In the case of first startup and after having performed the procedure to set the factory data, it is necessary to enter the unlocking code:

```
Please enter the code                          SHOW
printed on the control panel box

(also on https://service-previdia.inimcloud.com)

1 2 3 4 5      1 2 3 4 5      1 2 3 4 5      1 2 3 4 5

                        OK

                                               ESC
```

This is a code printed on a special label, affixed to the cardboard box containing the control panel. Alternatively, it can be found at the following Internet address (the serial number of the control panel will be requested, once provided the unlocking code will be supplied):

https://service-previdia.inimcloud.com

After entering the unlocking code, selection of the control panel languages is required (a mandatory main language and an optional second language).

The control panel screen will be as follows:

[A]	Buttons to access the events logs, system status and programming.	Log / System Status / Programming / 01/01/23 18:23 (A)
[B]	Status bar (always present) shows essential information regarding the system.	(B) L:1 (D) ... (C)
[C]	"Home" button	
[D]	Button for changing the language of the control panel, if a secondary language is provided	

In the case of faults or other types of events, the latter will be shown on the display. You can retrieve the home screen at any time by tapping on the respective icon on the status bar *[C]*.

In order to configure the Previdia control panel it is necessary to work through the following procedure:

1.   Access programming (*paragraph 2.2*)

2.   Access the configuration menu (*paragraph 2.3*)

3.   Set up the control panel parameters (*Chapter 3, System Parameters*)

4.   Check eventual signalling and search for faults (*paragraph 5.3*)

5.   Set the date and time (*paragraph 3.13*)

Note: *Once the configuration operations have been completed correctly, the control panel will be ready to operate.*
The control panel is configured to enter alarm status on activation of one of the "Lx" terminals configured automatically as a detection zone by activating the "I/O1" output.
At this point it is necessary to proceed with eventual changes to the configuration data for the distribution of points in zones, edit descriptions of the various system elements, define specific activation sequences, etc.

2.2   Access to programming

To access the programming phase of the Previdia Micro control panel, it is necessary to work through the following procedure:

1.   Insert the programming jumper (see opposite, *[D]*).

2.   Press the **Programming** button on the stand-by screen (see above, *[A]*).
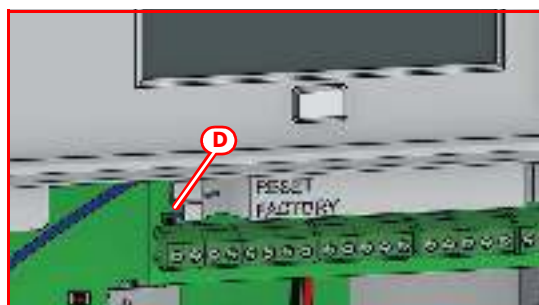
3.   A keypad will appear (see opposite, *[E]*) for the entry of a code with installation privileges.

Note: *The default access code to level 3 is "00004".*

4.   You access the programming menu, where the following items are available:
  - Configuration (refer to *paragraph 2.3*)
  - Modify (refer to *paragraph 2.4*)
  - Factory default settings (refer to *paragraph 2.5*)
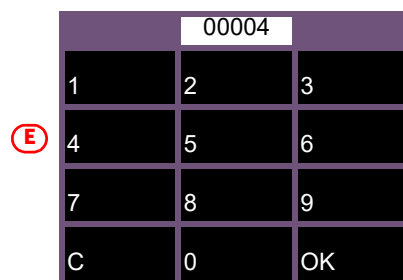
2.3   Accessing the configuration menu

The configuration menu allows you to set the modes of each element of the control panel:
- operating mode of the "Lx" terminals
- operating mode of the "Tx" terminals
- operating mode of the "I/Ox" terminals
- configuration of the optional modules (PREVIDIA-C-DIAL, PREVIDIA-C-COM, PREVIDIA-M-EXP)
- setting the network address
- setting the IP address, etc.

To access the configuration menu it is necessary to first access the programming phase of the control panel (*paragraph 2.2*) and then tap on the **Configuration** button which appears on the screen. Once inside the Configuration menu, the control panel screen will show an image of the control panel front plate highlighting the access buttons to the configuration sections.

Icon	Function buttons	Display
	Access to the configuration of the general parameters of the control panel. Refer to *paragraph 3.1*	
	Access to the configuration of the general parameters of the Inim Cloud service. Refer to *paragraph 3.2*	
	Access to the configuration of the extinction channel. Refer to *paragraph 3.12*	
	Access to the configuration of the terminals of the PREVIDIA-M-EXP expansion cards. Refer to *paragraph 3.6*	
	Access to the configuration of the Ethernet network. Refer to *paragraph 3.3*	
	Access to the configuration of the Hornet+ network. Refer to *paragraph 3.4*	
	Access to the configuration of the terminals of the detection lines (L1, L2, L3, L4). Refer to *paragraph 3.7*	
	Access to the configuration of the T1, T2, T3, T4 terminals. Refer to *paragraph 3.8*	
	Access to the functions provided by the SD card. Refer to *paragraph 3.5*	
	Access to the configuration of the inputs and outputs provided by the control panel terminals. Refer to *paragraph 4.3*	
	Access to the configuration of the control panel access codes. Refer to *paragraph 3.10*	
	Access to the configuration of the general parameters of the remote communicator. Refer to *paragraph 3.11*	
	Access to the configuration of the power supply. Refer to *paragraph 5.1*	

2.4   Access to the device modification menu

Once the Previdia Micro system has been configured it is necessary to set the parameters, or change the default programming of the functional elements of the control panel, either individually or as a group.

The Previdia Micro control panel provides a direct programming option on the control panel for its connected devices and their logical groups (zones and output groups) without need of accessing the "Configuration" section (*paragraph 2.3*). To access it, you must access the programming phase of the control panel (*paragraph 2.2*) and then press the **Modify** button on the menu that appears on the screen.

The section you access will show the list containing the access buttons to the programming subsections:

- Zones (refer to *paragraph 4.1*)
- Output groups (refer to *paragraph 4.2*)
- I/O Lines (refer to *paragraph 4.3*)

Pressing one of these buttons will allow you to view the list of the respective elements. The list shows the index, description and status of each element, by tapping on one of the lines you will be able to program the parameters of the individual element.

2.5   Resetting factory default data

The resetting of the factory default data and consequent deletion of the configuration data on the Previdia Micro control panel can be done in two ways:

- By selecting the **Factory data** option from the programming menu (refer to *paragraph 2.2*).
- Using the buttons available on the plastic support of the electronic boards, as shown in the figure *[A]*:

1. Press the **FACTORY** button.

2. While holding down the **FACTORY**, button, press the **RESET** button then release it.
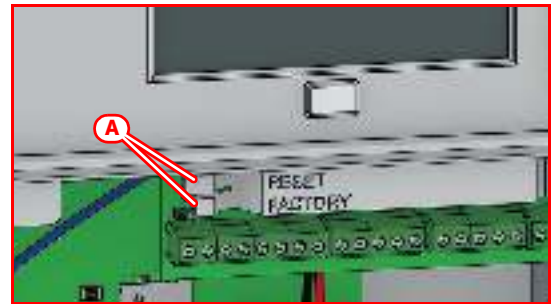
After confirmation of the request for reset to factory default data, the control panel will carry out the same operations as at first startup, described at the beginning of this manual.

A progress bar will confirm factory data resetting in course.

Chapter 3

System Parameters

The configuration of the Previdia Micro control panel, its interfaces and external connections provides for the settings of a series of parameters reachable from the control panel by accessing control panel programming (*paragraph 2.2*) and then pressing the **Configuration** button on the menu shown on the screen.

Once inside the Configuration menu (*paragraph 2.3*), the control panel screen will show an image of the control panel front plate highlighting the access buttons to the configuration sections.
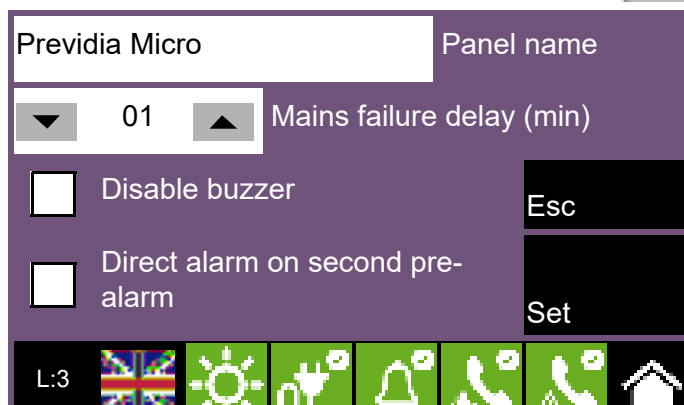
3.1   General parameters of the control panel

Tapping on the appropriate icon inside the control panel configuration screen accesses the configuration section of some of the control panel parameters.

The available parameters are:

- **Panel name**, editable field for the description of the control panel
- **Mains failure delay,** field for the delay (expressed in minutes) which must pass between detection of mains failure by the control panel and mains failure signalling
- **Disable buzzer**, option that, if activated, disables the control panel buzzer
- **Direct alarm on second pre-alarm**, option that, if activated, generates an alarm signal as soon as two detectors go into pre-alarm status, regardless of the zone they belong to. Otherwise the alarm condition will activate at the end of the first pre-alarm time.

The **Esc** and **Set** buttons will allow you to exit the section without changing the programming or saving it.

3.2   Configuration of the Inim Cloud fire service

Tapping on the appropriate icon inside the control panel configuration screen accesses the configuration section of the Inim Cloud service.

A window opens containing the following buttons:

- **Parameter**, for the modification of some parameters related to the Cloud
- **Enroll**, for the registration procedure of the control panel to the installer account (refer to *paragraph 3.2.1 Registration of the control panel to Inim Cloud*)
- **Network diagnostics**, for the process that checks the various network functions required to communicate with the Cloud and obtain useful information in the event of problems.
  The information obtained is displayed in the box to the left of the section that opens.

The "Parameters" section provides:

- **Get date and time**, check box that allows you to set and update the date and time of the control panel from the Cloud, in accordance with the time zone selected by pressing the dedicated button and setting the area and zone

- **Ethernet**, check box that enables the Ethernet channel to communicate with the cloud

- **Cloud failure delay**, check box that allows you to set the time interval, indicated below, after which, in the event of lack of communication with the Cloud, the relative fault will be reported

- **Backup ports**, check box that allows you to use the backup TCP/IP ports (505, 506) instead of the ports already used (110, 143).

The **Esc** and **Set** buttons will allow you to exit the section without changing the programming or saving it.
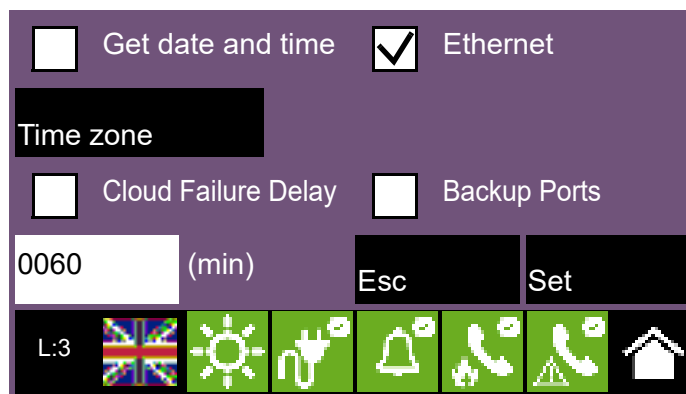
3.2.1 Registration of the control panel to Inim Cloud

The registration of a control panel is an operation that allows its accessibility to all Inim Cloud service users. It is therefore necessary that the registration is carried out first by the installer, registered with the Inim Cloud service, so that later users can add the already registered control panel to their own account.

1. Access control panel programming (*paragraph 2.2*) and then tap the "Cloud" icon in the control panel configuration screen.

2. Access the "Enroll" section

3. Enter the 8-digit ID-installer number contained in the confirmation email received during registration to the Cloud as an installer.

In this section you can activate the "Installer Property" option. If activated, the installer reserves the management of accesses to the system by the Cloud. If not activated, this property is assigned to the first user enrolled

4. Press the **Enroll** button. The control panel will carry out the registration of the control panel on the Cloud and the display will show the "WAIT" message.
   If the control panel date/time differs by more than 15 minutes from the exact date/time, the registration process may result negative.

5. The screen will show the outcome of the procedure via one of the following messages:

- "Account created!": the control panel has been successfully registered to Cloud
- "Communicat.Error": generic communication error.

  The possible causes may be:
  - no Internet connection
  - date of manufacture of the control panel is earlier than dd/mm/yyyy
  - date/time of control panel different, ahead of or behind the exact date/time by more than 15 minutes
- "Already enrolled": the control panel is already registered to Cloud
- "Panel notEnabled": the control panel cannot be registered to Cloud.

3.3 Configuring the Ethernet network

If an Ethernet network connection is used, it will be necessary to set up the IP address and parameters of the network.

This operation must be carried out for each of the Previdia control panels and repeaters connected to the Ethernet network via LAN cable.

To set the network parameters you must enter the programming phase of the control panel (*paragraph 2.2*) and then tap on the appropriate icon inside the control panel configuration screen.

The available parameters are:

- IP address
- Netmask
- Gateway
- Communication port
- **DNS Server**, IP address of the DNS server to be used to access the Cloud (default: 8.8.8.8)

The **Esc** and **Set** buttons will allow you to exit the section without changing the programming or saving it.
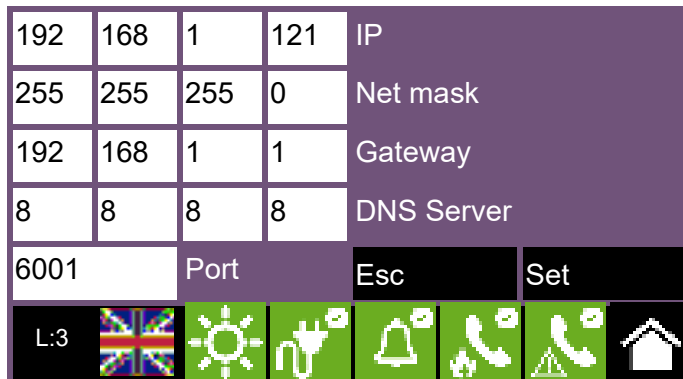
192	168	1	121	IP
255	255	255	0	Net mask
192	168	1	1	Gateway
8	8	8	8	DNS Server
6001	Port		Esc	Set

L:3

3.4 Configuring the Hornet+ network

If the installation has control panels connected in a Hornet+ network, it will be necessary to assign the network address to each control panel.

To set the network parameters you must enter the programming phase of the control panel (*paragraph 2.2*) and then tap on the appropriate icon inside the control panel configuration screen.
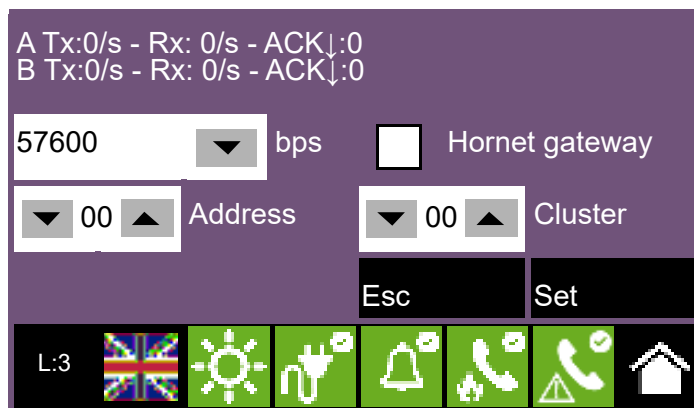
For each Hornet port ("A" and "B") the section above shows the data packets transmitted per second ("Tx"), the data packets received per second ("Rx") and the data packets not acknowledge ("ACK").

The available configurable parameters are:

- Bit rate (bps)
- Network Address
- Cluster
- **Hornet gateway**, option that, if activated, will set the control panel as the gateway to the network

Note:	*Only one point can be set as the gateway to a Hornet+ network.*

Each control panel in the same Hornet+ network must be set with the same bit rate and univocal address.

A Tx:0/s - Rx: 0/s - ACK↓:0
B Tx:0/s - Rx: 0/s - ACK↓:0

57600 ▼	bps		Hornet gateway
▼ 00 ▲	Address	▼ 00 ▲	Cluster
		Esc	Set

L:3

The **Esc** and **Set** buttons will allow you to exit the section without changing the programming or saving it.

3.5 SD card functions

Tapping on the appropriate icon inside the control panel configuration screen accesses some of the functions available on the SD card.

A list with the following buttons will appear:

- **Save Program Data**, saves the control panel programming data to the SD card in a .dat file, the name of which coincides with the serial number of the control panel.
- **Save Log**, saves the contents of the events log to the SD card in a file named "xxxx_log.csv", where "xxxx" is the serial number of the control panel.
  You can import the data contained in the file into a spreadsheet
- **Read Program Data**, if there is a .dat file on the SD card whose name coincides with the serial number of the control panel, the programming data contained in it will overwrite that currently used.
- **Read Display Config.** if the "Desktop.Bin" file is on the SD card, the data contained in it (images, buttons and labels to be displayed in the stand-by screen) will overwrite that currently used. If the previously-mentioned file is not present on the SD card, and there is the file "Logo. bmp" file is, the image contained in it (260x222 pixel) will be shown on the stand-by screen.

The **Esc** and **Set** buttons will allow you to exit the section without changing the programming or saving it.

3.6   Functions of the PREVIDIA-M-EXP expansion board

Tapping on the appropriate icon inside the control panel configuration screen accesses the configuration of the PREVIDIA-M-EXP accessory expansion boards connected inside the control panel during programming.

The following buttons are shown:

- **Enroll**, starts the automatic procedure which once completed includes in the configuration all the boards installed in the control panel and connected to the motherboard.
- **Configuration**, shows the list of boards enrolled via the procedure previously started by the button indicated above.

By selecting one of the boards in the list, you access the selection of the terminals of the board to program.

- **L**, for the configuration of the "LINE1, … LINE8" terminals of the board for the detection lines (*paragraph 3.7*).
- **T**, for the configuration of the "T1, … T6" terminals of the board (*paragraph 3.8*).
- **I/O**, for the configuration of the "I/O" terminals of the board (*paragraph 3.9*).

The **Esc** and **Set** buttons will allow you to exit the section reached without changing the programming or saving it.

3.7   Configuration of detection line terminals

The terminals for the detection line are available on the control panel mother board ("L1, … L4") and on any PREVIDIA-M-EXP boards eventually installed ("LINE1, … LINE8") and can be configured in the same way.

Tapping on the appropriate icon inside the control panel configuration screen accesses the configuration section of the devices connected to the "L1, … L4" terminals of the motherboard.

Tapping on the icon relating to the PREVIDIA-M-EXP expansion board accesses the configuration section of the devices connected to the "LINE1, … LINE8" terminals of the expansion board.

The configuration of the terminals for the detection lines requires specification of the type of devices connected to them:

- **Not used**
- **Input**
- **Zone**, the terminal is used as a "detection zone" (fire or gas detection).
  If used as a fire detection zone, it is possible to connect aspirating detectors, call points or dry contacts to this terminal.

If defined as "input" or "zone", the details must be specified in the section reached via the **Modify** button (refer to *paragraph 2.4*).

3.8   Configuring the Tx terminals

The "Tx" terminals are available on the control panel motherboard ("T1, … T4") and on any PREVIDIA-M-EXP boards eventually installed ("T1, … T6") and can be configured in the same way.

Tapping on the appropriate icon inside the control panel configuration screen accesses the configuration section of the devices connected to the "T1, … T4" terminals of the motherboard.
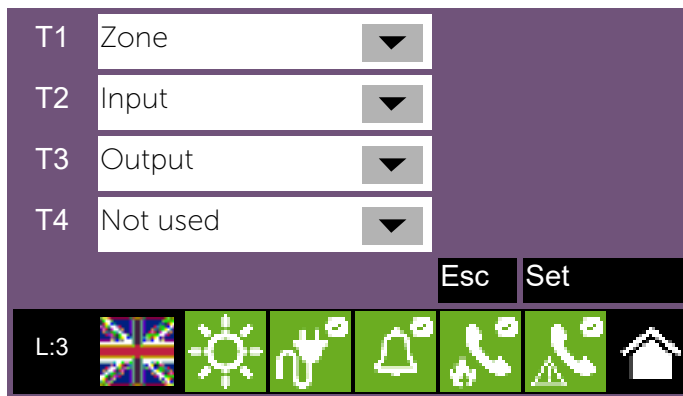
Tapping on the icon relating to the PREVIDIA-M-EXP expansion board accesses the configuration section of the devices connected to the "T1, … T6" terminals of the expansion board.

The configuration of the "Tx" terminals requires specification of the type of devices connected to them:

- **Not used**
- **Input**
- **Output**
- **Zone**, the terminal is used as a "detection zone" (fire or gas detection).
  If used as a fire detection zone, it is possible to connect call points or dry contacts only to this terminal, but not aspirating detectors.

If defined as "input", "output" or "zone", the details must be specified in the section reached via the **Modify** button (refer to *paragraph 2.4*).

T1	Zone ▼
T2	Input ▼
T3	Output ▼
T4	Not used ▼

3.9 Configuring the I/O input/output terminals

The input/output terminals are available on the control panel motherboard ("I/O1", "I/O2" and "AUX") and on any PREVIDIA-M-EXP boards eventually installed ("I/O") and can be configured in the same way.

Tapping on the appropriate icon inside the control panel configuration screen accesses the configuration section of the devices connected to the "I/O1, I/O2" and AUX" terminals of the motherboard.

Tapping on the icon relating to the PREVIDIA-M-EXP expansion board accesses the configuration section of the "I/O" terminal of the expansion board.

The configuration of the input/output terminals requires specification of the type of devices connected to them:

- **Not used**
- **Input**
- **Output**
- **Zone**, the terminal is used as a "detection zone" (fire or gas detection).
  If used as a fire detection zone, it is possible to connect call points or dry contacts only to this terminal, but not aspirating detectors.

If defined as "input", "output" or "zone", the details must be specified in the section reached via the **Modify** button (refer to *paragraph 2.4*).

I/O1	Zone ▼
I/O2	Input ▼
AUX	Output ▼
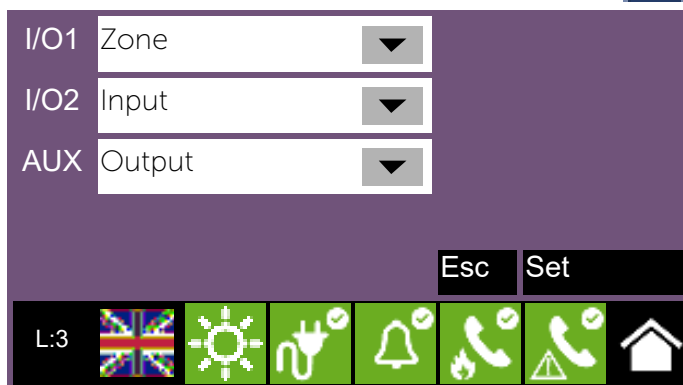
3.10 Configuring the users

Tapping on the appropriate icon inside the control panel configuration screen accesses the configuration section of the control panel access codes.

This section provides the list of available codes.

Once a code is selected, you can remove it from the system by pressing the **Delete** button.

Instead the **Program** button will allow you to set its parameters:

- **Description**, label that identifies the user and that is shown in the relative events.
- **PIN**, 5-figure number that identifies the user, thus allowing access to the system.
- **Type**, determines the set of operations the user can control. The following values are possible (refer to *paragraph 1.4* and the *User manual*):

No.	Type	Description
1	User level	Code 1
2	Superuser level	Code 2
3	Maintenance level	Code 3
4	Installer level	Code 4
5	No code	Code 5
6	No code	Code 6
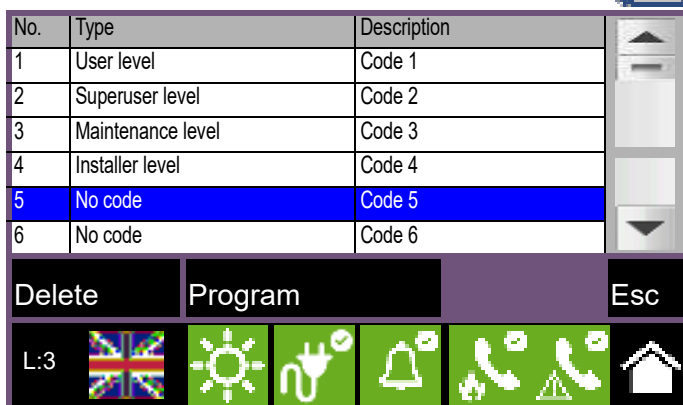
- **No code**, code not enabled to access the system.
- **User level**, coincides with "Level 2" (authorized user)
- **Superuser level**, las for the previous one, with the added possibility of registering control panels to their account with the Inim Cloud service
- **Maintenance operator level**, same as the previous level with the added possibility of stopping the valve pulse for those models that support extinction functions
- **Installer level**, coincides with "Level 3" (authorized user)

Previdia Micro control panels are supplied at default with the first 4 codes already pre-set:
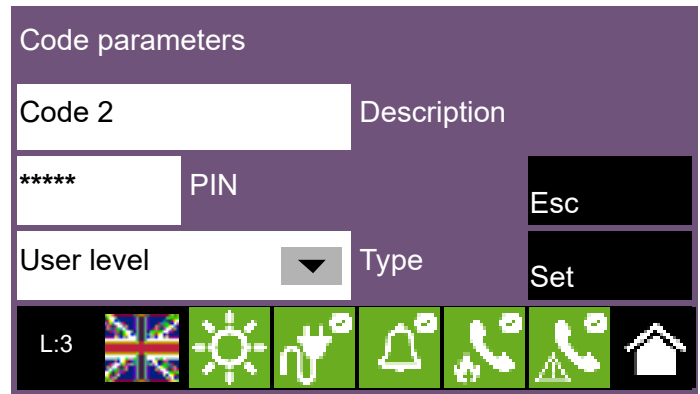
Code number	Code type	Default PIN
1	User level	00001
2	Superuser level	00002
3	Maintenance level	00003
4	Installer level	00004
5, ...	No code	/

3.11   Configuring the communicator

To set the network parameters you must first enter the control panel programming phase (*paragraph 2.2*) and then tap on the appropriate icon inside the control panel configuration screen.

The boxes marked *[A]* will allow you to select the communication channels you want to use:

- **Ethernet**, for transmission of events with the SIA-IP protocol over Ethernet cable
- **PREVIDIA-C-DIAL**, for transmission through the optional communicator of the Previdia Micro. If selected, the following channels will also become available:
- **SIM (SIA-IP)**, for transmission of events with the SIA-IP protocol over 3G
- **SIM (Voice/SMS)**, for transmission of events with Contact-ID protocol, of voice messages or SMS texts over 3G
- **PSTN**, transmission of events with Contact-ID protocol or voice messages over the landline
- **PREVIDIA-C-COM**, transmission through the optional serial and IP interface module. If selected the relative **Program** button will activate (refer to *paragraph 3.11.1*).
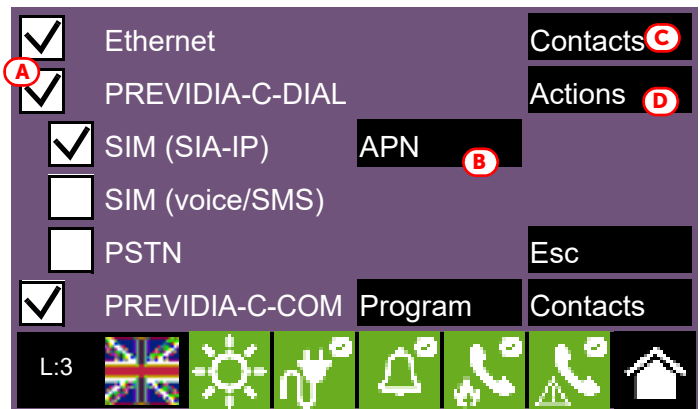
The **APN** button *[B]* provides access to a section for the parameters required for the connection to the mobile network.

The **Contacts** button *[C]* accesses the phone book programming phase.

After selecting a contact, you will be able to configure it by pressing the **Program** button.

If you are configuring an "SMS" or "PSTN" type channel, the communication protocol will be requested:

- SIA-IP
- Contact ID
- Voice call
- SMS

The parameters made available in the successive section for the programming of the selected contact vary depending on the set protocol.

Pressing the **Actions** button *[D]* on the communicator configuration screen will access the list of communication operations set on the control panel. Selecting one of them and then pressing the **Program** button accesses the configuration screen.

The "Type" parameter allows you to specify which events will trigger the action (alarm, fault, etc.).

Note: *For the first two actions (alarm and system failure), the "Description" and "Type" fields are not editable.*

The **Associated contacts** button accesses a screen that allows you to specify to which contacts the event communication will be sent.

If the case in which the presence of the Previdia-C-DIAL communicator or the PREVIDIA-C-COM board, set by means of the option above, is different from that detected by the control panel, the appropriate icon inside the control panel configuration screen will change status and appear in yellow

3.11.1 Configuration of the PREVIDIA-C-COM module

The configuration of the PREVIDIA-C-COM module involves the selection of the protocol to be enabled on each of the 4 available ports thanks to the terminals on board the module.
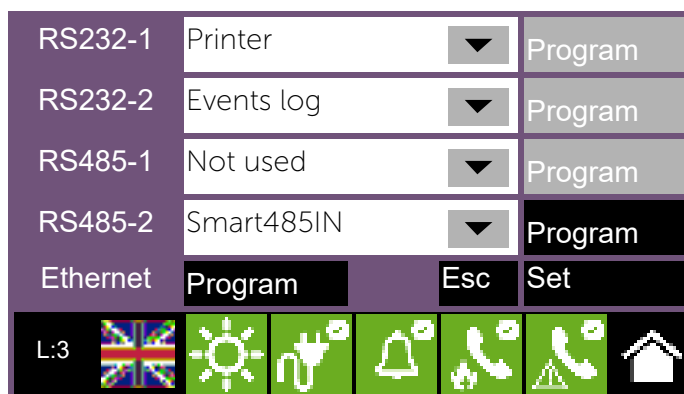
By tapping the communicator configuration icon on the control panel configuration screen, it is then necessary to enable the PREVIDIA-C-COM module and access to the relative programming via the Program button.

For each port (RS232-1, RS232-2, RS485-1, RS485-2) it is necessary to choose the protocol to be enabled on the relevant port and, if required, program the related parameters by pressing the **Program**. button.

If a PREVIDIA-C-COM-LAN is configured, the "Ethernet" channel is also available.
By pressing the relevant **Program** button you will be able set the parameters for communication with the module via this port and thus access the specific functions of the PREVIDIA-C-COM-LAN (web server, email, cameras, BacNet).

RS232-1	Printer	▼	Program
RS232-2	Events log	▼	Program
RS485-1	Not used	▼	Program
RS485-2	Smart485IN	▼	Program
Ethernet	Program	Esc	Set

3.12   Configuring the extinction channel

The parameters of the extinction channel, for control- panels that provide one, can be accessed through the control-panel programming section (*paragraph 2.2*), by simply tapping on the relevant icon on the configuration screen.
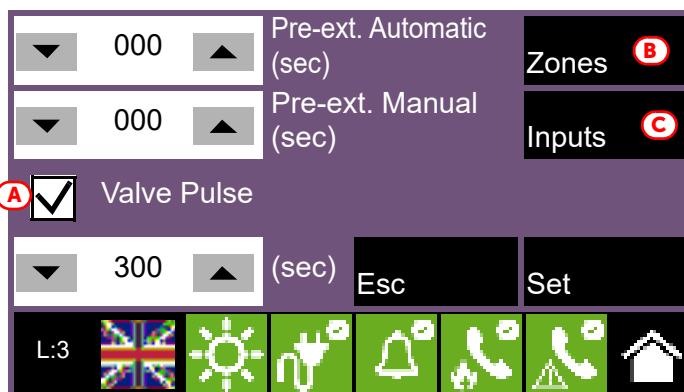
The successive sections provide the various programmable parameters (refer to the extinction flowchart and the table of extinction-terminal functions in the installation manual).

3.12.1 Extinction times

The following parameters can be set on the extinction-channel configuration page:

- **Automatic pre-extinction time**: duration of pre-extinction time, in seconds, when triggered by fire-fighting devices connected to the control panel.
- **Manual pre-extinction time**: duration of pre-extinction time, in seconds, when triggered by input devices programmed for manual-extinction (refer to following sections).
- **Valve Pulse** (option 4.21 "Control of flooding time" of EN 12094-1): duration of release time, in seconds. Leaving the respective box *[A]* empty removes all time limitations.

| ▼ 000 ▲ | Pre-ext. Automatic (sec) | Zones Ⓑ |
▼ 000 ▲	Pre-ext. Manual (sec)	Inputs Ⓒ
Ⓐ ☑	Valve Pulse	
▼ 300 ▲	(sec)	Esc Set

3.12.2 Trigger zones

Tapping on the **Zones** button *[B]* accesses a screen that allows you to select, from the zones available, which of them can activate extinction when alarm status is reached.

After selecting the zones *[D]* from the list on the right, by tapping them, it is possible to indicate the number of alarms *[E]* that must be verified at the same time in order to trigger extinction.

The image at the side shows how to configure the system so that the extinction channel is activated when two zones, from the three available, are in alarm status at the same time.
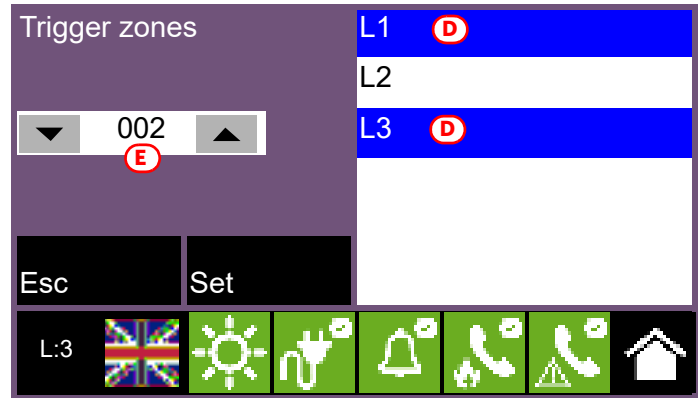
3.12.3 Extinction input

The **Inputs** button *[C]* will allow you to configure the control-panel input points to activate the extinction functions.

The list of available inputs appears. By selecting one it is possible to change its programming, via the **Program** key, or to delete completely the set parameters (**Delete**).

The programming of the input involves the parameters:

- assigned group (terminals "I/O", "L" o "T" *[F]*)
- the device that activates, selectable from the list that appears after tapping on the check box *[G]*
- the extinction function *[H]* performed by the point

Selecting "--" for the assigned group disables the related function type.
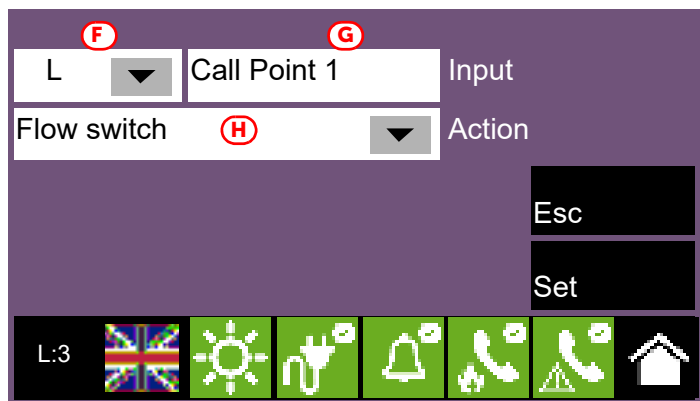
EN12094-1:   To ensure compliance with EN 12094-1, the inputs in use must be on-board I/O or supervised inputs.
It is not possible to connect more than 32 devices to each of the selected input terminals.
It is necessary to specify the input associated with the "Manual Extinction" function (the others are optional).

The extinction functions of the points are:

- Manual extinction, the point activates the release of the fire extinguishing agent in accordance with the programmed pre-extinction time.
- Deactivation, the point has the function of stopping extinction. Stop extinction has 4 different modes:
  - **Stop Extinct. ABORT** (Option 4.27 "Emergency interruption device" of EN 12094-1): stops the extinction procedure definitively
  - **Stop Extinct. HOLD** (Option 4.20 "Emergency hold device" of EN 12094-1): stop the extinction procedure until reset (the pre-extinction time-counter will not be altered)
  - **Stop Extinct. ADD** (Option 4.20 "Emergency hold device" of EN 12094-1): stops the extinction procedure until reset (which restarts the pre-extinction time)
  - **Stop Extinct. EXTERN** (Option 4.19 "Monitoring the status of components" of EN 12094-1): same as "Stop Extinc. Hold", but activated without human intervention (for example by a door contact that inhibits the release of gas)

EN12094-1:   If the "Stop Extinction ABORT" function is utilized with a Previdia Micro control panel, the "Stop Extinction HOLD" and "Stop Extinction ADD" functions cannot be associated with inputs, and vice versa.

- Bypass, the point has the function of disabling extinction. Disable extinction has 3 different modes:
  - **Disab. Extinction**: disables all the extinction functions
  - **Disab. Man. Extinc.**: disables the inputs programmed for manual activation of extinction
  - **Disab. Aut. Extinc.** (option 4.23 "Manual only mode" of EN 12094-1): disables the automatic-activation of the extinction procedure
- Flow/Pressure, the point has the function of "Pressure switch", "Confirm release from pressure switch" or "Flow switch":
  - **Pressure switch** (option 4.19 "Monitoring of the status of components" of EN 12094-1): input for the connection of a pressure valve that activates in the event of low pressure in the cylinders
  - **Flow switch** (option 4.18 "Signal representing the flow of the extinguishing agent" EN 12094-1): input for the connection of a flow sensor, the activation of which signals the release of the fire-extinguishing gas

- **Press. switch Confirm**: input for the connection of a device used to verify the release condition of the fire-extinguishing gas by means of the pressure switch

3.12.4 Extinction outputs

In order to configure an output for the extinction function, you must associate it with one of the default groups prepared for this purpose, and described below.

EN12094-1: You must use on-board I/O outputs.

You must provide outputs associated with the following functions (the others are optional):
-Electrovalve
-Pre-extinction
-Release

The "Electrovalve" function can only be associated with the output corresponding to the "I/O 4" terminal on the motherboard of the control panel.

The default "Pre-Extinction" function is associated with the output corresponding to the "I/O 3" terminal on the motherboard of the control panel.
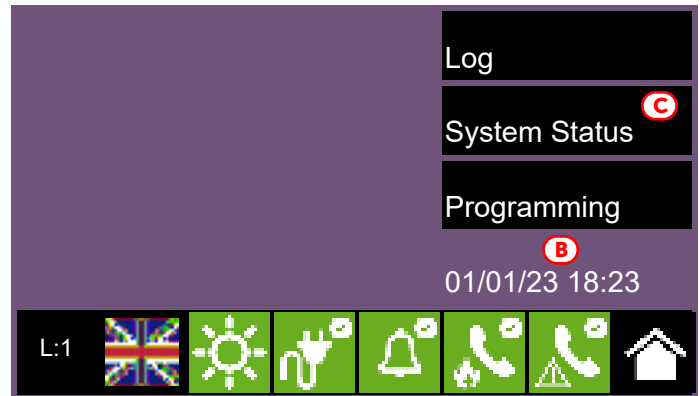
The Previdia Micro control panel has pre-configured default output groups with specific extinction functions:

	Outputs group	Activation	EN 12094-1	Associated extinction function
3	**Extinguishing**	Group that activates the release of the gas.		Release
4	**Pre-Extinguishing**	Group that goes into prealarm status during the pre-extinction time and into alarm status during the release phase.	By programming a different tone pattern (or sound) for the pre-alarm and alarm conditions of an output associated with this group, this output will implement option 4.30 ("Activation of alarm devices with different signals ").	Pre-Extinguishing
5	**Automatic Extinction**	Group that activates during pre-extinction and release conditions, if they are triggered by automatic activations (e.g. two alarms in a specific zone).		
6	**Manual Extinction**	Group that activates during pre-extinction and release conditions, if they are triggered by inputs programmed for manual extinction activation.		
7	**Manual block of extinction**	Group that follows the activation of inputs programmed as "Stop extinction Abort", "Stop extinction Hold" or "Stop extinction Add".	Options 4.27 "Emergency abort device" and 4.20 "Emergency hold device"	
8	**Stop By Device**	Group that follows the activation of the inputs programmed as "Stop extinction External".	4.19 "Monitoring of the status of components"	
9	**Disab. Manual Extinction**	Group that activates in the event of the disabling of automatic activation (e.g. two alarms in a specific zone) of extinction	4.19 "Monitoring of the status of components"	
10	**Extinction Fault**	Group that is activated in the event of a fault on any component of the system with extinction functions (an extinction input or an output set as "Fire Protection System").		
11	**Activate Extinction**	Group whose activation starts the automatic pre-extinction time count.		

EN12094-1: The previous groups can be associated with supervised outputs connected to other devices, internal or external to the fire extinguishing system, thus creating options 4.24 "Triggering signals to equipment within the system" and 4.26 "Triggering of the equipment outside the system" of standard EN 12094-1.

3.13 Setting the date and time

Proceed with the time and date setting by selecting the time and date pane in the lower-right corner of the start page [B] and, after entering an access code, set the individual fields using the scroll arrows.

3.14 Firmware revision

The installer of the Previdia Micro system may access the firmware revision of each control panel module in order to facilitate any updating or configuration procedure.

The **System status** button on the home page in stand-by [C] accesses a section where you can view the status of the various system components.

Pressing the **Revision** button visualizes the following information:

- Firmware revision of the CPU unit (UI)
- File System (FS) Revision
- Firmware revision of the I/O (IO), PREVIDIA-C-DIAL and PREVIDIA-C-COM units
- Minimum revision required for the configuration software (SW)
- Revision of the technical data viewing configuration data, that is the progressive number of system configuration upgrades
- Serial number of the control panel (SN)
- Control panel MAC address
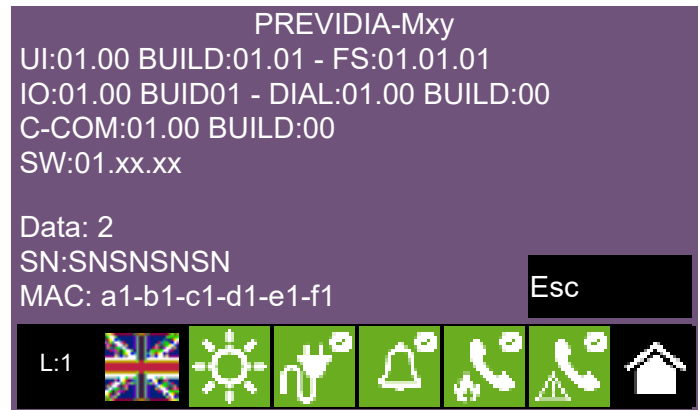
Chapter 4

Parameters of devices and their groupings

The configuration of the devices connected to the terminals of the Previdia Micro control panel or to installed PREVIDIA-M-EXP expansion boards requires setting of the parameters of the devices, which vary depending on whether the device is an input or output device, as well as their grouping (zones for the points and output groups for the outputs).

The operations that can be performed are:

- **via the "Configuration" menu** (*paragraph 2.3*), by selecting the section relative to the connection type (detection line, "Tx" or "I/Ox") and by accessing the programming sections to select the device concerned, you can define the device function (input, output, zone or not used).
- **via the "Modify" menu** (*paragraph 2.4*), for the direct programming of the devices for which their function has been defined.
  From this menu you can also program the logical groupings (zones and output groups):
- Zones
- Groups
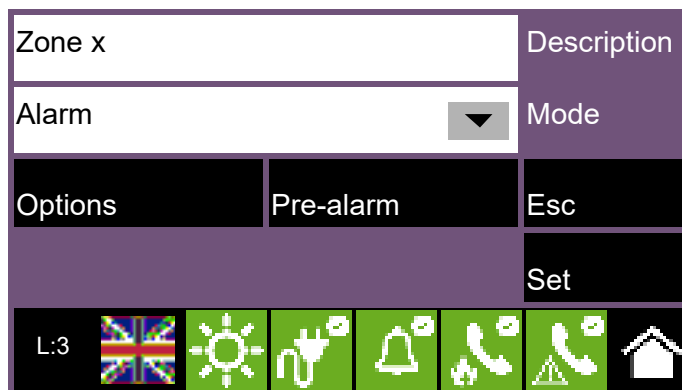- I/O Lines

4.1   Zone parameters

Tapping on the **Zone** button in the "Modify" menu (*paragraph 2.4*), visualizes the list of all the control panel zones and their statuses.

Selecting a zone enables the **Program** button to set the parameters, and the **Copy on...** button to copy the settings of the selected zone (refer to *paragraph 4.4 Replicate programming procedure*).

The **Program** button allows you to access the programming menu:

- **General settings**
  - **Description**, this is the label, editable by tapping on the appropriate keypad, which identifies the zone and is indicated in any events relating to it.
  - **Mode**, determines the type of zone:
    - detection zone
    - gas 4-20mA
    - gas relay
  - **Options**, button that opens a list where you can activate or not the options of the type of zone indicated
  - **Timing**, button that opens a list where you can set the timing of the intervals which determine the functions of the zone.
    These intervals can be set by tapping on the parameter and entering the interval by means of the numeric keypad that is shown.

- **Input parameters**
  - **Activated group**, indicates the outputs group that will activate following input activation
  - **Prealarm**, determines, for the detection zones, when activation of the input will start the associated prealarm time.
    The possible values are: "Never", "In day mode" and "Always".

  - ▶, for the 4-20mA gas zone, this button accesses a section where you can set the unit of measurement and the scale of measurement of the device.
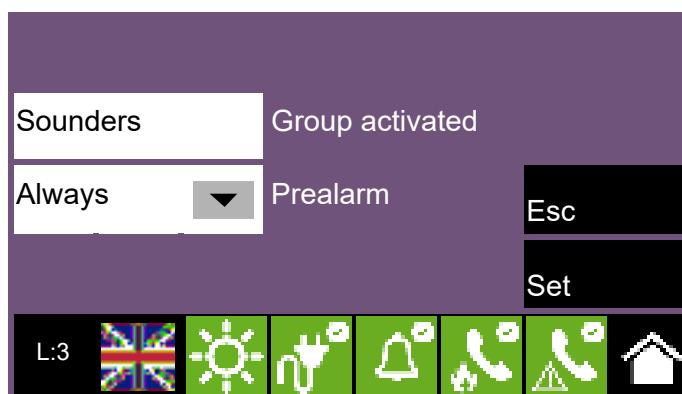
4.2   Output group parameters

Tapping on the **Group** button on the "Modify" menu (*paragraph 2.4*) visualizes the list of all the control panel output groups and their statuses. The list is navigable by means of arrow buttons.

Selecting a group enables the **Program** button to set the parameters, and the **Copy on...** button to copy the settings of the selected group (refer to *paragraph 4.4 Replicate programming procedure*).

The parameters available for programming the group are:

- **Description** of the group, editable by means of the keypad which subsequently appears.
- **Delay (sec)**, duration of the delay (in seconds) before activation of the outputs belonging to the group after the activation of the group itself
- **Pulse**, option that determines that pulse signals will activate the group of outputs (once the group has been activated, the outputs associated with it will remain active for the specified time and then return to the stand-by status).
  If activated, you must specify the duration of the pulse activation signal (in the box at the bottom)

Output group x	Description
0001	Delay (sec)
☑ Pulse	Esc
0030	Length (sec)
	Set
L:3	

4.3   Parameters of I/O terminals

Tapping on the **I/O Line** button on the "Modify" menu (*paragraph 2.4*) visualizes the list of all the input/output terminals of the control panel and of the PREVIDIA-M-EXP expansion boards and their statuses.

The terminals are grouped on different pages in accordance with their type and can be navigated by means of the arrow buttons:

- "I/O"
- relay
- Tx
- Lx

The programming of parameters varies depending on the type of wireless terminal.

The **Program** button is available for each terminal and allows access to the input/output programming menu:

- **General settings**
  - **Description**, this is the label, editable by tapping on the keypad which subsequently appears and identifies the I/O terminal and is shown in any events relating to it
  - **Mode**, determines whether the terminal is an input or output type.
  - **Options**, this button opens a list where you can activate or not the options relative to the type of terminal indicated.
  - **Timing**, this button opens a list where you can set the timing of the intervals which determine the functions of the terminal.
    These intervals can be set by tapping on the parameter and entering the interval by means of the numeric keypad that is shown.

I/O x Line		Description
Alarm	▼	Mode
Options	Pre-alarm	Esc
		Set
L:3		

- **Input parameters**
 - **Group activated**, indicates the group that will activate following input activation.

|	
Sounders	Group activated
	Esc
	Set
L:3	
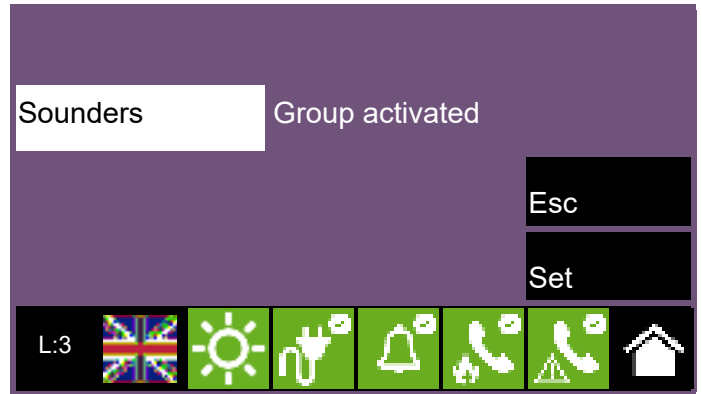
- **Output parameters**
  - **Group activating the output**, group whose activation determines the activation of the output
  - **Pattern**, pressing this button accesses the successive screen, which allows you to set the activation pattern for each output status.
  The available output statuses are "Stand-by", "Warning", "Prealarm" and "Alarm".

Alarm ▼	Type
Generic alarm	Group activating the output
☐ Silenceable	☐ Follow Input — Esc
Pattern	Set
L:3	
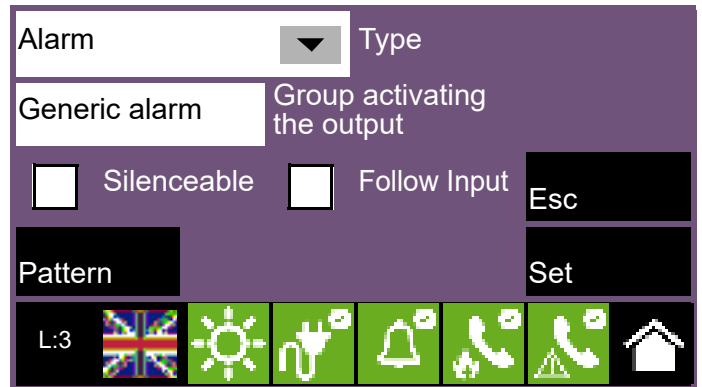
- **Activation Mask**

This section is shown only for the terminals set up as outputs and allows you to select a combination of conditions which in the event of activation of any one of these will activate the output being programmed.
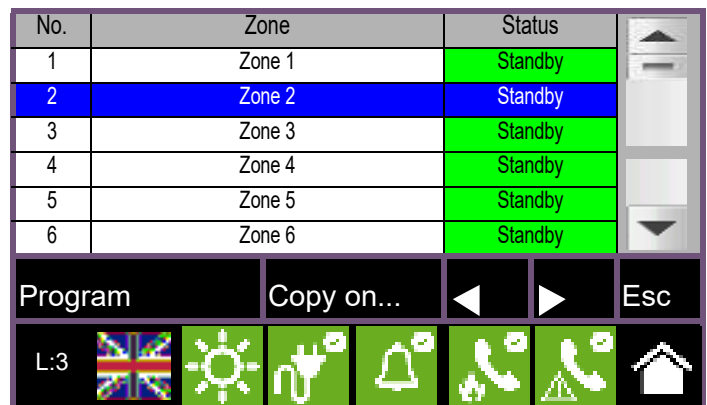
The conditions to combine are selectable by means of the check boxes and involve the control panel, the zones and the terminals.

Activation Mask	☐ Alarm	☐ L1
	☐ Prealarm	☐ L2
Zones ▼	☐ Early Warning	☐ L3
	☐ Fault	☐ L4
	☐ Disable	
Esc	OK	
L:3		
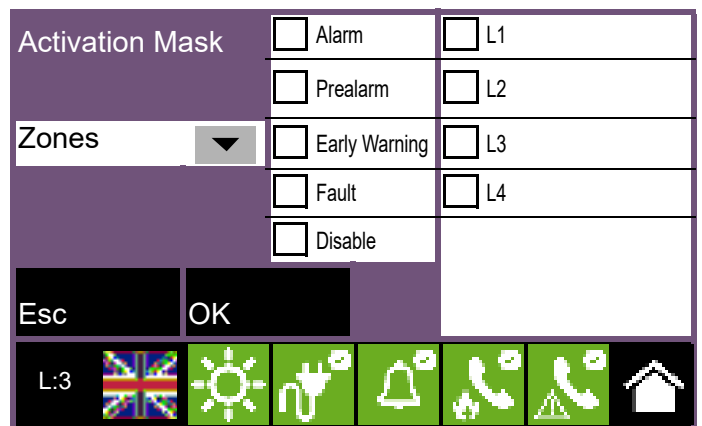
4.4   Replicate programming procedure

The Previdia Micro control panel allows you to copy the programming of a single element (point, zone, group) and replicate it on other elements in its category and group.

Accessing the screen of the group of elements undergoing programming (in index order) and selecting one of them enables the **Program** button to modify the parameters, and the **Copy on...** button to copy the programming.

No.	Zone	Status	
1	Zone 1	Standby	▲
2	Zone 2	Standby	▬
3	Zone 3	Standby	
4	Zone 4	Standby	
5	Zone 5	Standby	
6	Zone 6	Standby	▼
Program	Copy on...	◄ ►	Esc
L:3			

The **Copy on...** button opens a window that provides three options:

- **Single item**, if activated, the programming will be replicated on the element with the index indicated in the box next to it.

- **Range**, if activated the programming will be replicated on the elements whose indexes belong to the interval indicated in the boxes at the side.

- **All**, if activated the programming will be replicated in all the elements of the same group of which the selected element is part

☑ Single element	0002	Index
☐ Range	From	A
	0001	0002
☐ All	Esc	Set

Following the selection of one of these options and after pressing the **Set** button, all copied settings, except the description, will be applied to the programming of the desired elements.

Chapter 5

Commissioning

The commissioning phase is a set of tests and inspections which are necessary to ensure the full efficiency and proper functioning of the system as specified in the system project. This phase is essential and must be performed in a scrupulous way in accordance the regulatory requirements of the country where the system is installed and in full respect of the recommendations in the following section.

Ensure the test and inspection procedures are performed only after checking the safety of the system and after having verified that any device activations controlled by the system will not cause any conditions of danger, and that all the building occupants who can be reached by the audible and visual signalling have been informed.

Ensure that the person who is responsible for the security of the building where the tests and inspections are to be carried out has taken countermeasures to avoid any situations of panic or distress for the building occupants.

5.1   Testing the Control panel

It is necessary to check the functionality status of the frontplate by first checking the information supplied on the screen and LEDs and then by inspecting the efficiency of the command devices (user-interface buttons, access keys, etc.):

- Check the functionality status of the screen and ensure that the information provided is clear.
- Ensure that the descriptions of the various zones, points and system elements entered during the data-entry phase are correct, and that the information provided on the screen clearly indicates any detectable conditions of danger.
- Check that there are no indications present of faults, alarms or anomalies of any type whatsoever. In the event of such indications, proceed with the removal of the causes of faults and anomalies.
- Check the status the functionality of the LEDs and buzzer. The front panel provides a button for the simultaneous activation of all the LEDs and buzzer thus allowing evaluation of their efficiency (refer to the description of the User Interface).
- Check the efficiency of the front-plate buttons and keys.
- Check the status of the power-supply sources (mains and batteries) and the consumption conditions of the control panel.

For control of the power-supply parameters you can:

- access the configuration menu (refer to *paragraph 2.3*) and touch the appropriate icon on the configuration screen of the control panel.
- tap on the power grid icon on the status bar

The sections show the voltages, currents and temperatures of the various elements:

[A]	Internal temperature and battery charge voltages	
[B]	Section containing a list of current faults	
[C]	Battery parameters (internal resistance, voltage, status and current)	
[D]	Voltage and output current of the power supply	
[E]	Button, available only for Access Level 3 (installer), allows immediate battery tests (which normally runs every 10 minutes)	

5.2   Testing to detectors and manual activations

All the installed detectors must be tested during the commissioning phase. It is necessary to check the capacity of each detector to react to a simulated condition of fire, and to check the precision of the signals transmitted to the control panel in response to its activation (description of the point and zone).

For this purpose it is possible to use the **Test** function provided by the control panel (*[E]*), in the "Zone" section, accessible via the "System status" menu on the homepage (*paragraph 2.1*).

By tapping this button it is possible to place one or more zones in test status. The activation of a detector which belongs to a zone in test status will not generate any alarm signalling or activate the outputs or signalling devices. However, the control panel will activate the signalling LEDs on the detectors and will perform automatic reset after a few seconds without any need of further intervention by the operator on the control panel.

No.	Zone	Status	
1	Zone 1	Standby	▲
2	Zone 2	Standby	
3	Zone 3	Standby	
4	Zone 4	Standby	
5	Zone 5	Standby	
6	Zone 6	Standby	▼

Disable	Test Ⓔ	View	Esc

L:3

The activation of a point which belongs to a zone in test status will be recorded in the events log. Therefore, on completion of the test on all the zone devices, the operator can check the congruence of the various indications by means of the log.

The activation of all the manual call points (alarm buttons) must be tested in the same way as described for the detectors.

5.3   Testing signalling and activations

The functionality and efficiency of all the signalling devices must be checked thoroughly.

To reach this page you must access the "Points" section via the "System status" menu on the homepage (*paragraph 2.1 First startup*).

By selecting the device to be tested and by pressing the respective **View** buttons, you reach the management section where the buttons for the test functions are available.

Generic alarm	<->
I/O1	Disable
Analog value: xxx Ohm Voltage: yyy mV	Turn on output
	Esc

L:3

Note: *Testing devices by means of manual activation does not test functionality and efficiency of the cause/ effect association which determines their activation (programming coherence of groups), therefore, it is necessary to perform real functionality tests.*

5.4   Extinction system test

Particular attention must be paid to the testing of eventual fire extinction systems.

Special attention must be paid to the functionality and safety of the extinguishing-agent release devices before proceeding with the testing of all activation and stop-extinction procedures in accordance with the requirements of the executive project.

Chapter 6

Maintenance

For correct and efficient management of the system it is necessary to carry out periodic maintenance in accordance with the regulatory requirements of the country where the system is installed and in full respect of the recommendations contained in this section.

For the frequency of the maintenance operations it is necessary to adhere to the applicable regulations. However, the manufacturer recommends that tests are performed on each point, component and element of the system at least once a year.

6.1   Testing the control panel

Work through the steps for control-panel test procedure as described in the commissioning section (*paragraph 5.1 Testing the Control panel*).

Additionally, consult the events log and check for the presence of fault or alarm conditions which must be investigated.

6.2   Testing the detectors

As well as the tests which must be performed during the commissioning phase (*paragraph 5.2 Testing to detectors and manual activations*), it is also necessary to check the contamination level in smoke detectors.

Refer to the Programming manual for details regarding the diagnostic function and the detector manual for the instructions regarding cleaning operations.

6.3   Manual activation test

Work through the same tests as recommended in the commissioning section (*paragraph 5.2 Testing to detectors and manual activations*).

6.4   Testing signalling and activations

Work through the same tests as indicated in the commissioning section (*paragraph 5.3 Testing signalling and activations*).

6.5   Testing the extinction system

Work through the same tests as recommended in the commissioning section (*paragraph 5.4 Extinction system test*).

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