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PREVIDIA MAX

GameOver

FIRE DETECTION AND EXTINGUISHANT SYSTEM

MANUAL FOR
SYSTEM CONFIGURATION,
COMMISSIONING AND
MAINTENANCE

inim ELECTRONICS

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Chapter 1

General information

1.1 Details of Manufacturer

Manufacturer: INIM ELECTRONICS s.r.l

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Web: www.inim.biz

The persons authorized by the manufacturer to repair or replace the parts of this system have authorization to work on INIM Electronics brand devices only.

1.2 About this manual

Manual code: DCMCINE0PREVIDIA

Version: 120

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

1.2.1 Terminology

Control panel, System, Device: The main supervisory unit or any constituent part of the fire detection system.

Left, Right, Behind, Above, Below: Directions as seen by the operator when directly in front of the mounted device.

Qualified personnel: Persons whose training, expertise and knowledge of the products and laws regarding security systems, are able to create, in accordance with the requirements of the purchaser, the most suitable solution for the protected premises.

Select: Click on a specific item on the interface (drop-down menu, options box, graphic object, etc.).

Press: Push a button/key or tap on a video button on a touchscreen or display.

1.2.2 Graphic conventions

Following are the graphic conventions used in this manual.

Conventions	Example	Description
Text in Italics	Refer to *paragraph 1.2.2 Graphic conventions*	Directs you to the title of a chapter, section, paragraph, table or figure in this manual or other published reference.
<text>	<AccountCode>	Editable field
[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 Max 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 (refer to the Programming Manual)
6. Configuring the parameters (editing data, refer to the Programming Manual)
7. Writing data on the control panel and test (refer to the Programming Manual)
8. Commissioning (operations described in this manual)
9. System handover
10. Maintenance (operations described in this manual)

Chapter 2

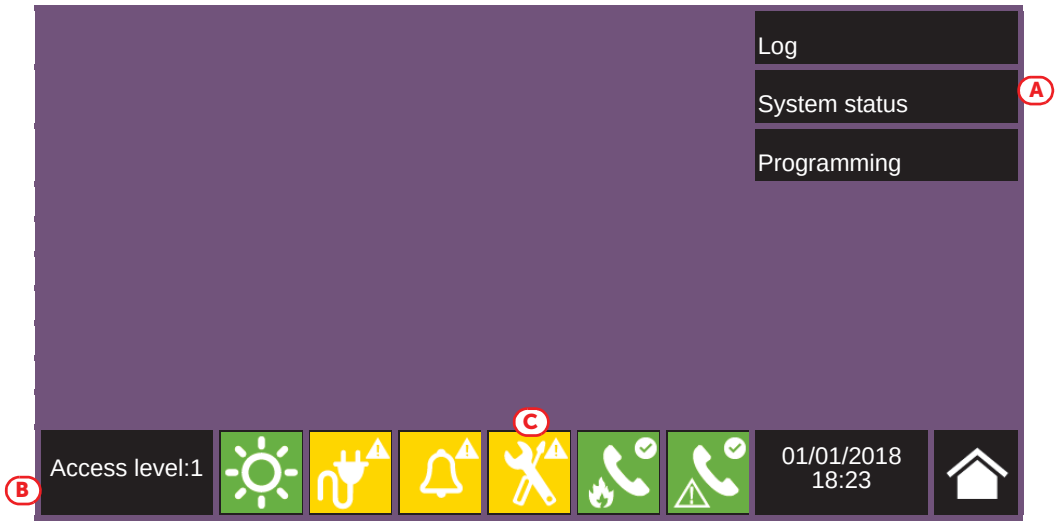
Configuration

Once the installation and cabling procedures have been completed (refer to the Installation Manual of the Previdia Max system) the system is ready for the initializing phase.

On first startup it will be necessary to select the system language (see *paragraph 2.10*).

The control panel screen will be as follows:

[A]	Buttons to access the events logs, system status and programming.
[B]	Status bar (always present) shows essential information regarding the system.
[C]	Configuration status icon (system configuration and faults)



In this condition the control panel has no acquired configuration, all the modules connected to the CAN drive bar or front plate have the same address and are not included in the configuration.

The configuration status icon on the status bar indicates a fault condition, due to the fact that modules have been detected but are not present in the configuration saved in the memory.

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

1. Access programming (*paragraph 2.1*)
2. Set the IP network address (*paragraph 2.2*)
3. Access the configuration menu (*paragraph 2.3*)
4. Assign addresses to the system modules (*paragraph 2.4*)
5. Enroll loop devices on IFM2L modules and respective troubleshooting procedure (*paragraph 2.7*)
6. Set the defined configuration (*paragraph 2.8*)
7. Check eventual signalling and search for faults (*paragraph 2.9*)
8. Set the date and time (*paragraph 2.11*)

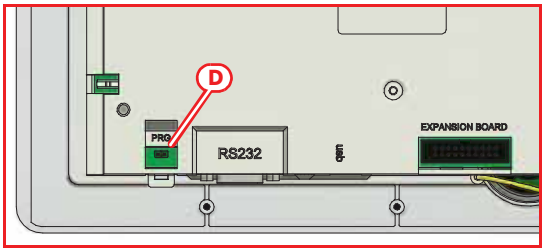
Note:

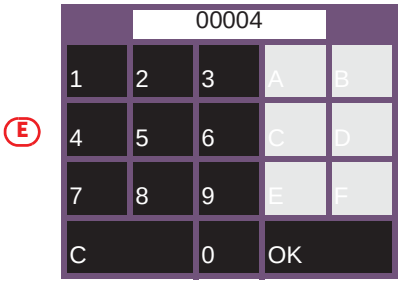
Once the configuration operations have been completed correctly, the control panel will be ready to operate.
The control panel is configured to consider each input point (detector, module, terminal) as a fire-alarm point. Therefore, in the event of a fire alarm it will activate all the outputs available on its loops or terminals.
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.
Refer to the Programming manual.

2.1 Access to programming

In order to access the programming session of the Previdia Max control panel, it is necessary to work through the following procedure:

1. Insert the programming jumper on the back of the FPMCPU module (see opposite, *[D]*).
2. Tap on the **Programming** button on the 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. The accessed programming menu will provide the following options:
   - Configuration
   - Network
   - Factory data

2.2 Setting the IP network address

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 done for anyone of the following devices:

- the Previdia Max control panel, via the main FPMCPU module
- the backup FPMCPU module, via the FPMCPU module itself
- the FPMCPU repeater module, when connected to an Ethernet network, via the FPMCPU module itself

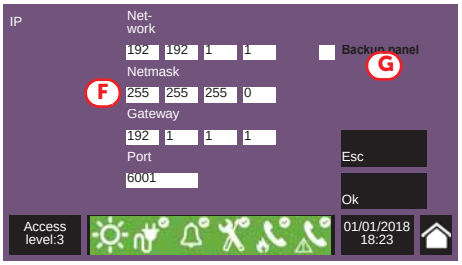
In order to set the network parameters, it is first necessary to access the programming phase of the control panel (*paragraph 2.1*) and then tap on the **Network** button which appears on the screen.

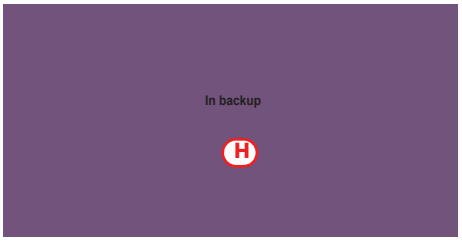
The network parameters template will be shown *[F]*.

Beside these there is the **Backup panel** option *[G]*. If enabled, the FPMCPU module you are using will be set as control panel backup CPU unit. In this case, the network parameters must be the same as the parameters set for the main FPMCPU module.

Once set, it will be necessary to tap on the **Ok** button and save the data.

Once the module is set as backup CPU unit, the will show the template you see beside *[H]*.





2.3 Accessing the configuration menu

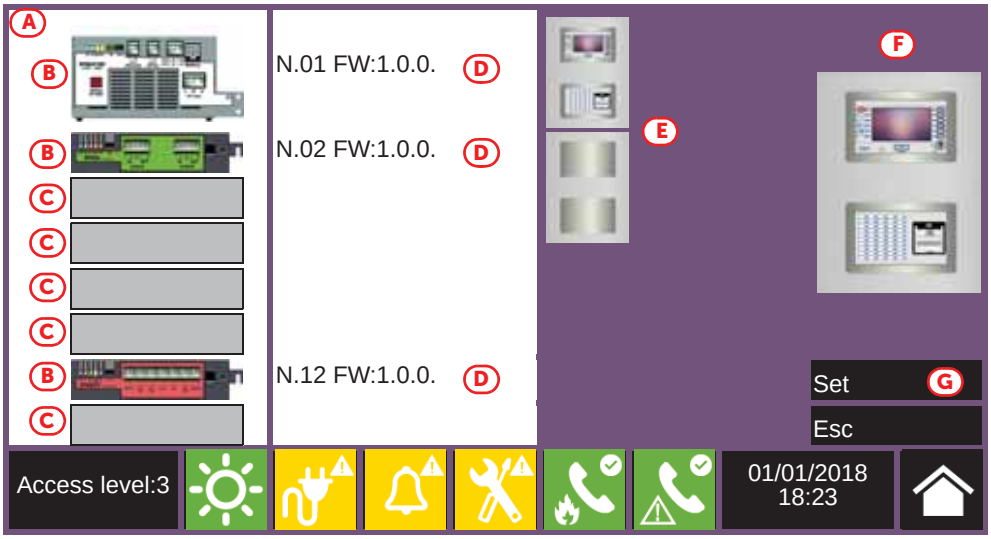
To access the configuration menu it is necessary to first access the programming phase of the control panel (*paragraph 2.1*) and then tap on the **Configure** button which appears on the screen.

Alternatively, it is possible to tap directly on the configuration status icon (see above, *[C]*).

Entry of a valid access code is necessary In both cases.

Once the configuration menu has been accessed, the control panel screen will provide a layout of the control panel and its parts.

[A]	Internal layout of the selected cabinet
[B]	Internal module detected
[C]	Position empty
[D]	Address and firmware revision of detected module
[E]	Layout of the entire control panel
[F]	Layout of the selected cabinet
[G]	Buttons to carry out setting changes or to exit without saving



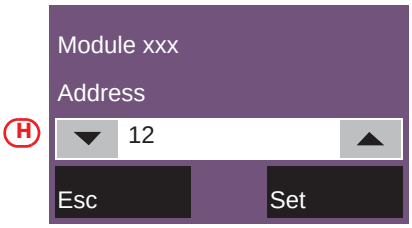
Selection of one of the cabinets from the control panel layout (*[E]*) will show it both on the left (*[A]*), where the installed IFM modules with their addresses and firmware revision are shown, and on the right (*[F]*), where the installed FPM external modules are shown. From this section you can access the configuration phase of each module by tapping on the icon which represents it.

2.4 Addressing IFM and FPM modules

In order for the control panel to identify each module individually, it is necessary to assign an address to each one. It is possible to assign the same address to modules of different types, however, modules of the same type must have different addresses.

To assign an address to a module, it is necessary to tap on the module shown in the section it belongs to (internal IFM modules on the left *[A]*; FPM front-plate modules on the right *[F]*).

A window will open (*[H]*), select the desired address in the programming field, then tap on **Set**.



Note: *Addresses which exceed the maximum number of modules supported by the control panel will not be considered valid.*

Following is a table containing the addresses allowed for each type:

FPM Module	Maximum number	Address	
		from	to
FPMLED	7	1	7
FPMLEDPRN	1	/	
FPMEXT	5	1	5

IFM Module	Maximum number	Address	
		from	to
IFM24160	4	1	4
IFM2L	8	1	8
IFM4R	16	1	16
IFM4IO	16	1	16
IFMDIAL	1	/	
IFM16IO	4	1	4
IFMNET	1	/	
IFMLAN	1	/	
IFMEXT	24	1	24

Due to the fact that each FPMEXT front plate module is associated automatically with 5 internal IFMEXT modules at precise addresses, the FPMEXT modules must have an address which respects the IFMEXT - FPMEXT module association table which follows:

Addressing the Extinguishment module

IFMEXT	FPMEXT	IFMEXT	FPMEXT	IFMEXT	FPMEXT
1	1	11	3	21	5
2	1	12	3	22	5
3	1	13	3	23	5
4	1	14	3	24	5
5	1	15	3		
6	2	16	4		
7	2	17	4		
8	2	18	4		
9	2	19	4		
10	2	20	4		

On returning to the control-panel configuration section, the assigned address (*[D]*) will be shown at the side of the previously selected internal module.

2.5 Setting the Hornet+ network address (IFMNET)

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

Select the IFMNET module in the section on the left containing the internal layout of the cabinet (*[A]*). In the section which appears, enter the network address and the bit rate.

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

2.6 Addressing the repeaters

The procedure to configure the FPMCPU modules as repeaters depends on the type of connection between the modules and the control panel.

Connection via Ethernet network

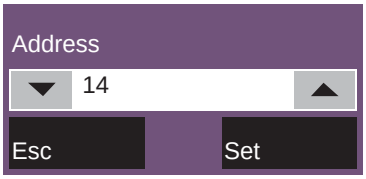
The Ethernet connection needs network parameters setting. The procedure must be done via the display of the module itself, following the indications described in the *paragraph 2.2 Setting the IP network address*.

Connection via RS485 BUS

The BUS connection needs the addressing of any repeater in configuration, in order for the control panel to identify each module individually.

To assign an address to a repeater, it is necessary to enter the configuration procedure starting from the display of the module itself, as described in the *paragraph 2.3*.

A window will open, select the desired address in the programming field, then tap on **Set**. The available addresses are from 1 to 14.

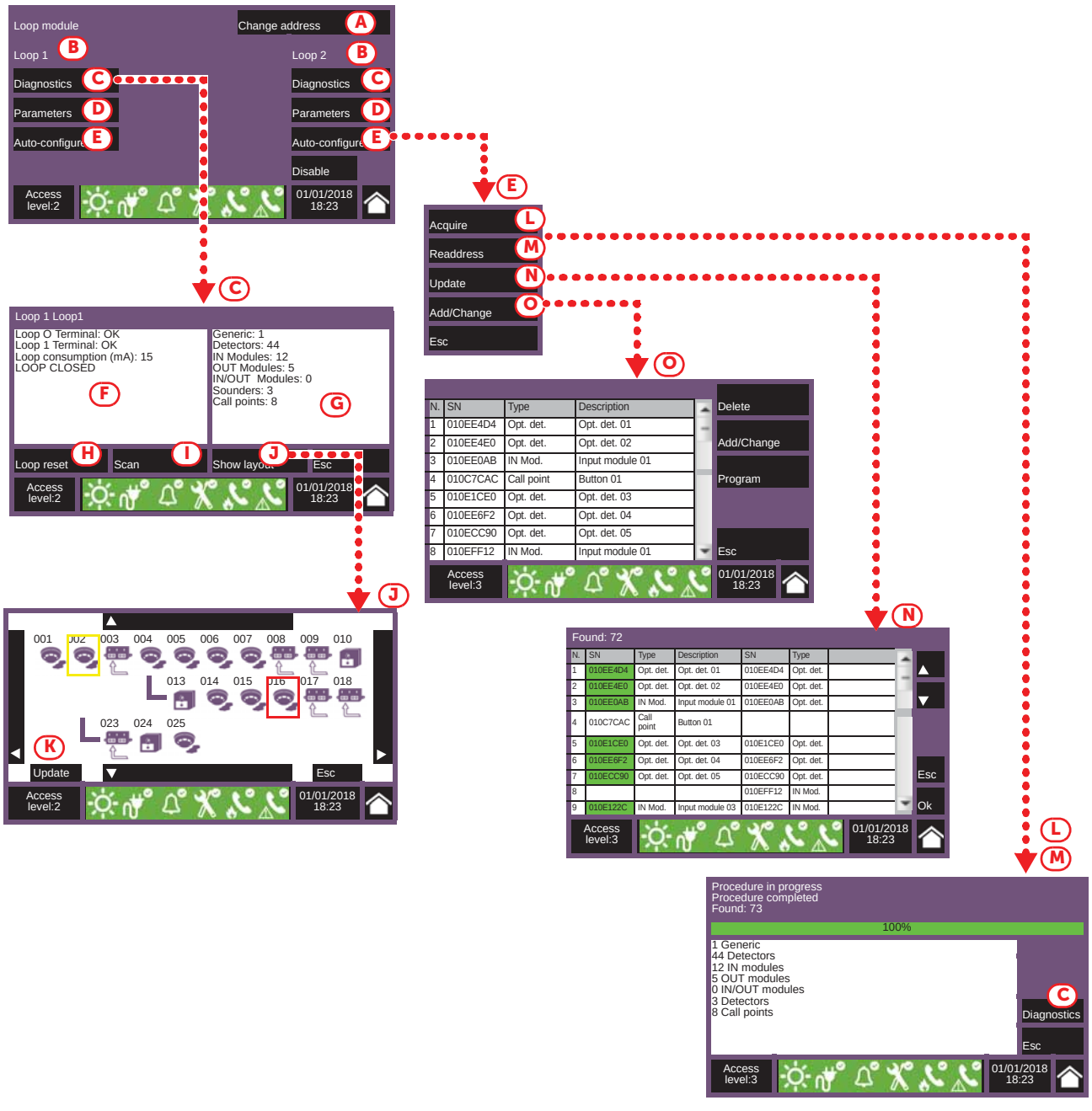


Attention: *The "0" address is reserved to the main FPMCPU module. Do not use.*

2.7 Enrolling loop devices (IFM2L)

The operations required for the configuration of the IFM2L network modules involve the configuration of the devices connected to the loops.

The selection of the module from the internal layout section of the cabinet (*paragraph 2.1 Access to programming, [A]*) will access the configuration section which, in addition to providing the change address button (at the top) also provides two identical sections for each of the two loops (connected to the Loop-A and Loop-B terminals). The present document describes the operations necessary for the configuration of a single loop, however, it is implicit that the operations be repeated for each of the two loop.



[A]	Change address	Button to access the section for IFM2L module address assignment (*paragraph 2.4 Addressing IFM and FPM modules*).
[B]	Sections containing the configuration menu of individual loops Section on the left for the loop connected to the Loop-A terminals, on the right for the Loop-B terminals.	
[C]	Diagnostics	Button to access the section for loop diagnosis.

[D]	Parameters	Button to access the section for the selection of the type of devices installed on the loop. It provides a check box for option selection "**4 wires**" (if the cabling has been completed as a ring circuit, as required by the fire control standards). Tap on **Ok** to confirm and exit.
[E]	Auto-configure	Button to access the automatic loop-configuration procedure.
[F]	Section which provides data regarding the electrical status of the loop circuit: - **Loop status**: indicates whether the loop is a closed ring circuit or open - **Loop O Terminal**: indicates eventual short-circuits or anomalies immediately on the "OUT" terminals - **Loop I Terminal**: indicates eventual short-circuits or anomalies immediately on the "IN" terminals - **Loop Consumption**: indicates the voltage draw of the loop - **Cable resistance**: indicates the cable resistance value	
[G]	Section which provides the number and type of devices currently in the configuration.	
[H]	Loop reset	Button to rearm the loop and reassess the status. In the event of a "Loop open" fault, it will be necessary to tap on this button in order to check whether or not the interruption has been cleared.
[I]	Scan	Button to start a check on an already enrolled loop. The procedure verifies whether there are any connected devices which are not in the configuration, if devices have been lost or if there are any other anomalies. The result of the scan can be viewed in the section on the right (*[G]*).
[J]	Show layout	Button which passes to the layout of the devices in the configuration of the enrolled loop. The layout shows all the devices which are connected to the loop and how they are connected to one another. Any devices in alarm or fault status will be outlined in red or yellow. The selection of a device will access its management page (refer to the Device management section in the Installation manual).
[K]	Update	Button to refresh the screen by updating the alarm and fault indications of the devices shown (restored fault events will not be shown).
[L]	Acquire	Button to perform a scan which will search the loop for devices and their serial numbers and place those found in the configuration. A report of the devices will be shown when the scan terminates. The "Diagnostics" button will allow you to pass to the technical report, as shown in the previously (*[C]*). For loops operating with Inim or Argus protocol, it is possible to use this procedure only after completion of an automatic or manual addressing procedure by means of a programmer (EDRV1000 for Inim loops and VPU100 for Argus).
[M]	Readdress	Button to perform a scan which will search the loop for devices and their serial numbers and assign automatically an address to each of those found in order of their connection to the loop. This operation may take some minutes depending on the size and composition of the loop. A report of the devices will be shown when the scan terminates. The "Diagnostics" button will allow you to pass to the technical report, as shown in the previously (*[C]*). For Apollo devices, where the address is assigned by means of the microswitch on the device, these operations coincide with those previously described ("Acquire").
[N]	Update	Button to start the procedure which is to be performed after changes have been carried out on a previously configured loop (add, remove or replace devices). The control panel will provide a table with the previously acquired configuration in the columns on the left, and the newly detected configuration in the columns on the right. Positions in which changes have not been detected will be outlined in green. Changes will be indicated in white. This operation may take some minutes depending on the size and composition of the loop. The **OK** button will allow you to accept the new configuration which will become the configuration saved to the memory. Procedure available for loops with Inim protocol only.

[O]	Add/Change	Button to access a section which will allow you to select a specific address and change, remove or add a device manually. At the side of the loop device list are a series of buttons which will allow you to work on the device selected by a screen tap gesture, as follows: - **Delete**: button to delete the selected device. - **Add/Change**: button to change or add a device manually. After completing the connection of a new device or replacing an old device, it is necessary to select the address involved then tap on the **Add/Replace** button. When using Inim protocol, it is necessary to enter the serial number of the new device. - **Program**: button to access a section where it is possible to change some of the device parameters. Once this operation has been completed the control panel will communicate with the new device. The appearance of the type of device detected is the confirmation of its acquisition.
	◀ ▶	Arrow buttons
	Esc	Button to step back

2.8 Acquiring the configuration

Once the previously described operations have been completed, it will be necessary to save the defined configuration to the control panel memory. This operation can be done via the configuration template, by means of the "**Set**" button (*paragraph 2.3 - [G]*).

A progress bar will confirm data saving in course.

Once this operation has been completed and valid addresses have been assigned to all the devices, the configuration status icon will turn green. Any successive changes to the hardware configuration (for example, the loss of a module or addition of a new module) will turn the icon yellow to signal that the control panel configuration is different to the one saved to the memory.

2.9 Signal check and fault search

Once the configuration setup has been completed, the control panel will check the status of the devices and input/output terminals.

Eventual faults on these elements will be shown on the screen. In the event of faults or anomalies, it is necessary to find and remove the cause. Once any problems have been solved the screen will return to the homepage (refer to the Installation manual of the Previdia Max system).

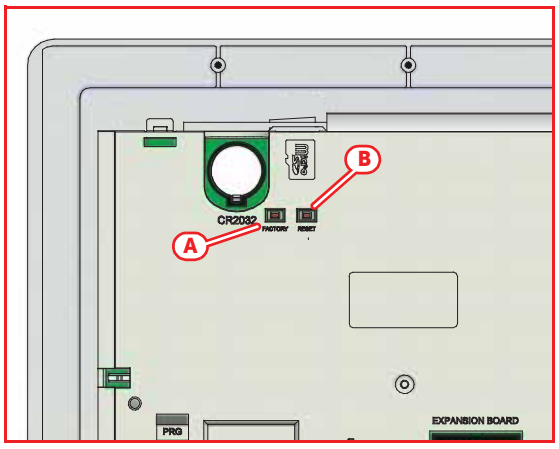
2.10 Reset Factory data

The **Factory data** button from the programming menu (*paragraph 2.1*) deletes all the configuration data and resets the control panel to the factory default settings.

As an alternative to using the Factory data button, it is possible to reset the factory default settings by means of the buttons on the back of the FPMCPU front-plate module. Press and hold the "Factory data" button *[A]* and press and release the "Reset" button *[B]*.

After a request of confirmation, a template will be shown where you can choose the control panel language.

A progress bar will confirm factory data resetting in course.



2.11 Setting the date and time

When setting this parameter, it is necessary to tap on the respective field in the bottom right-hand corner of the template, enter an access code with either supervisor or installer capabilities then, by means of the scroll keys, navigate through the programming fields and set the desired date and time.

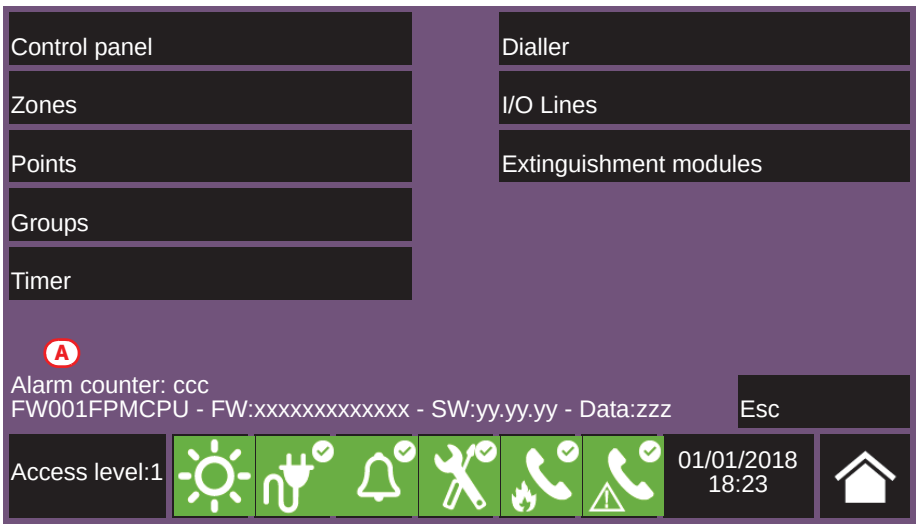
2.12 Firmware revision

The installer of Previdia Max system can see the firmware revision of each control panel module in order to facilitate any upgrade or configuration procedure.

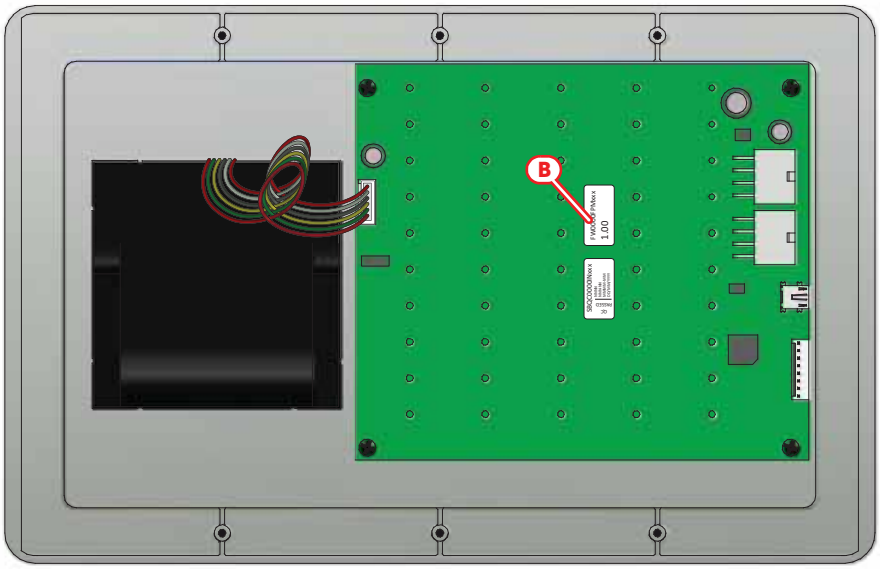
Such information can be achieved depending on the type of the module:

FPMCPU front-plate module: the **System status** button (accessible at standby home page of the display) accesses a template which allows you to view the status of the various system elements.
In the lower left corner of this section *[A]* you can see:

- counter of the number of alarms starting from system installation
- firmware version of the FPMCPU module (FW, both the main and the emergency backup CPU.)
- minimum required revision of Previdia/ STUDIO configuration software (SW)
- site specific data release (Data), progressive number of system configuration upgrades

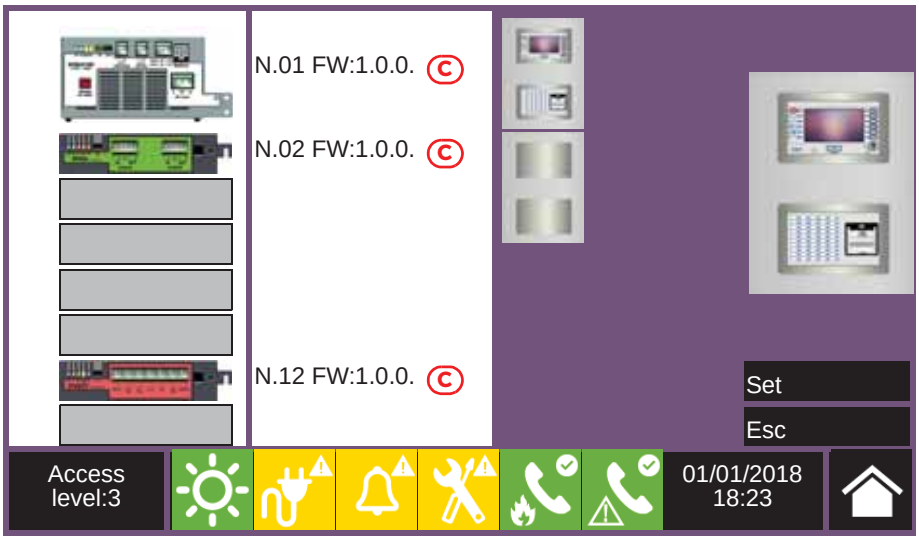


FPMLED, FPMPRN, FPMEXT front-plate modules: the module firmware revision is written on a label on the back of the module *[B]*; the label can be seen by opening the cabinet door when the module is already installed.



IFM internal modules: the firmware of each internal module (already installed)can be seen by accessing to the configuration menu (*paragraph 2.3*).

The address and the firmware revision of the detected modules are shown in the proper section *[C]*.



Chapter 3

Commissioning

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

Ensure the test and verification procedures are performed only after securing 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 preventively informed.

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

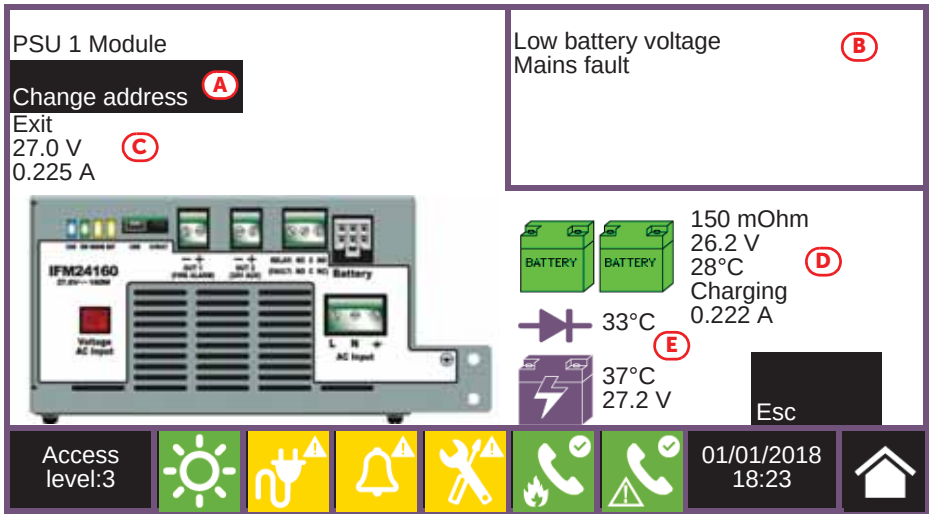
3.1 Testing the Control panel

It is necessary to check the functionality status of the front plate 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 control panel current draw. The power-supply parameters can be checked by accessing the configuration menu (refer to *paragraph 2.3 Accessing the configuration menu*) and selecting the configured IFM24160 modules.

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

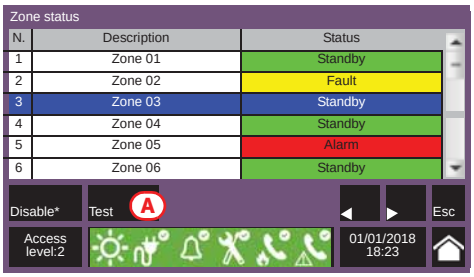
[A]	Button for addressing the module
[B]	Section containing a list of current faults
[C]	Voltage and output current of the IFM24160 module
[D]	Battery parameters (internal resistance, voltage, status and current)
[E]	Internal temperature and battery charge voltages



3.2 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** button of the control panel (*[A]*) on the "Zone status" template, accessible via the "System status" menu on the homepage.



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.

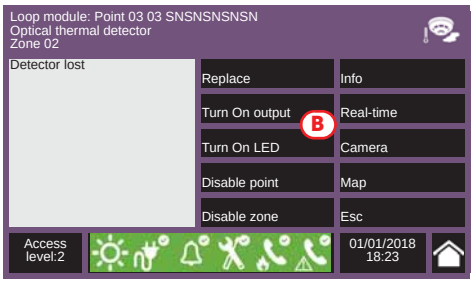
The activation of a point which belongs to a zone in test status will be recorded in the events log. Therefore, on completion of the test on all the zone devices, the operator can check the congruence of the various indications by means of the log.

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

3.3 Testing signalling and activations

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

It is possible to test such devices by activating the relative LEDs and outputs manually at the control panel via the respective management page (*[B]*).



To reach this page you must access the "Points" section via the "System status" menu on the homepage. Select the desired loop and point to be tested from the lists shown then, by means of the relative **View** buttons go to the respective management template where you will find the **Turn On output** and **Turn On LED** buttons.

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.*

3.4 Testing the extinguishment system

Particular attention must be paid to the testing of eventual fire extinguishment 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-extinguishment procedures in accordance with the requirements of the executive project.

3.5 Maximum time settings. Normative restrictions

During programming via the Previdia/STUDIO software you can set the time length or delay of many control panel functions. The normative reference standards require maximum duration for the following parameters:

- **Prealarm time**, the maximum delay time is 10min (EN 54-2 - clause 7.11.1 (c)).
- **Verification OFF time (s)**, if an input device has the alarm verification option enabled, the disablement time after the first activation cannot exceed 60 seconds (EN 54-2 - clause 7.12.1 (b)).
- **Verification time (s)**, if an input device has the alarm verification option enabled, the maximum verification time is 30 minutes (EN 54-2 - clause 7.12.1 (c)).
- **Lock reset time after released (min)**, the maximum time is 30 minutes (EN 12094-1:2003 - clause 4.12.2).
- **Pre-extinction time on automatic/manual activation**, the maximum time is 60 seconds (EN 12094-1:2003 - clause 4.17.2).
- **Valve ON time**, the maximum time is 300 seconds (EN 12094-1:2003 - clause 4.21).

Refer to the Previdia/STUDIO software programming manual for more details about the parameters listed above.

Chapter 4

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 herein.

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.

4.1 Testing the control panel

Work through the steps for control-panel test procedure as described in the commissioning section (*paragraph 3.1 Testing the Control panel*).

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

4.2 Testing the detectors

As well as the tests which must be performed during the commissioning phase (*paragraph 3.2 Testing to detectors and manual activations*), it is also necessary to check the contamination level in smoke detectors.

The management and configuration software provides a loop diagnostic function which allows you to gather the contamination values of the various devices in such a way to decide when cleaning is necessary.

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

4.3 Manual activation test

Work through the same tests as recommended in the commissioning section (*paragraph 3.2 Testing to detectors and manual activations*).

4.4 Testing signalling and activations

Work through the same tests as indicated in the commissioning section (*paragraph 3.3 Testing signalling and activations*).

ISO 9001 Quality Management
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