

TFA1-298 - TFA2-596 - TFA4-1192

Addressable fire alarm systems



PC based configuration

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Configuration and operation manuals of the systems TFA1-298 - TFA2-596 - TFA4-1192		
Code	Product	Type of manual
21ISTR09815	TFA1-298	Installation manual
21ISTR08995	TFA2-596 TFA4-1192	Installation manual
21ISTR08994	TFA1-298 TFA2-596 TFA4-1192	User manual
21ISTR08992	TFA1-298 TFA2-596 TFA4-1192	PC based configuration manual

CONFORMITY

The listed products are in accordance with the standards:

Control panel EN 54-2:1997 + A1:2006

Power Supply EN 54-4: 1997 + A1:2002 + A2:2006

List of products:

Control panel TFA1-298 - Certification 0051-CPR-0444

Control panel TFA2-596 - Certification 0051-CPR-0389

Control panel TFA4-1192 - Certification 0051-CPR -0388

The declarations of conformity can be found at: www.tecnofire.com



Certificato di Costanza delle prestazioni
0051 – CPR – 0444

In conformità al Regolamento 305/2011/UE del Parlamento Europeo e del Consiglio del 9 marzo 2011 (Regolamento Prodotti da Costruzione e CPR), questo certificato si applica al prodotto da costruzione

Centrale di controllo e di segnalazione con apparecchiatura di alimentazione integrata

Designazione: TFA1-298
Marca: Tecnofire

Altre caratteristiche: vedere ALLEGATO

costruito da:
TECNALARM S.r.l.
Via Cirié 38 – 10099 San Mauro Torinese (TO)

nella Fabbrica:
PI.0000TG

Questo certificato attesta che tutte le disposizioni riguardanti la valutazione e la verifica della costanza della prestazione e le prestazioni descritte nell'Allegato ZA della norma

EN 54-2:1997 + A1:2006
EN 54-4:1997 + A1:2002 + A2:2006

nell'ambito del sistema **1** sono applicate e che

il prodotto soddisfa tutti i requisiti prescritti di cui sopra.

Questo certificato è stato emesso per la prima volta il 16/07/2015 e ha validità sino a che i metodi di prova e/o i requisiti del controllo della produzione in fabbrica stabiliti nella norma armonizzata, utilizzati per valutare la prestazione delle caratteristiche dichiarate, non cambiano, e il prodotto e le condizioni di produzione nello stabilimento non subiscano modifiche significative.

Milano, 2015-07-16

Questo Certificato è rilasciato dall'IMQ S.p.A. quale organismo notificato per Regolamento 305/2011/UE. Il numero identificativo dell'IMQ S.p.A. quale organismo notificato è: 0051.

Mod. 727CPR/0

IMQ S.p.A. Società con Socio Unico - I-20138 Milano - Via Quintano 45 - tel. 02/277111 - fax 02/2981932 - info@imq.it - www.imq.it
REA MI 105984 - Registro Imprese MI 1388410159 - C.F. 01513880159 - Capitale Sociale 4.000.000 euro

Certificato di Costanza delle prestazioni
0051 – CPR – 0389

In conformità al Regolamento 305/2011/UE del Parlamento Europeo e del Consiglio del 9 marzo 2011 (Regolamento Prodotti da Costruzione e CPR), questo certificato si applica al prodotto da costruzione

CENTRALE DI CONTROLLO E DI SEGNALAZIONE CON APPARECCHIATURA DI ALIMENTAZIONE INTEGRATA

Designazione: TFA 2-596
Marca: TECNALARM

Altre caratteristiche: vedere ALLEGATO

costruito da:
TECNALARM S.r.l.
Via Cirié 38 – 10099 San Mauro Torinese (TO)

nella Fabbrica:
PI.0000TG

Questo certificato attesta che tutte le disposizioni riguardanti la valutazione e la verifica della costanza della prestazione e le prestazioni descritte nell'Allegato ZA della norma

EN 54-2:1997 + A1:2006
EN 54-4:1997 + A1:2002 + A2:2006

nell'ambito del sistema **1** sono applicate e che

il prodotto soddisfa tutti i requisiti prescritti di cui sopra.

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Milano, 2014-09-03

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Certificato di Costanza delle prestazioni
0051 – CPR – 0388

In conformità al Regolamento 305/2011/UE del Parlamento Europeo e del Consiglio del 9 marzo 2011 (Regolamento Prodotti da Costruzione e CPR), questo certificato si applica al prodotto da costruzione

CENTRALE DI CONTROLLO E DI SEGNALAZIONE CON APPARECCHIATURA DI ALIMENTAZIONE INTEGRATA

Designazione: TFA 4-1192
Marca: TECNALARM

Altre caratteristiche: vedere ALLEGATO

costruito da:
TECNALARM S.r.l.
Via Cirié 38 – 10099 San Mauro Torinese (TO)

nella Fabbrica:
PI.0000TG

Questo certificato attesta che tutte le disposizioni riguardanti la valutazione e la verifica della costanza della prestazione e le prestazioni descritte nell'Allegato ZA della norma

EN 54-2:1997 + A1:2006
EN 54-4:1997 + A1:2002 + A2:2006

nell'ambito del sistema **1** sono applicate e che

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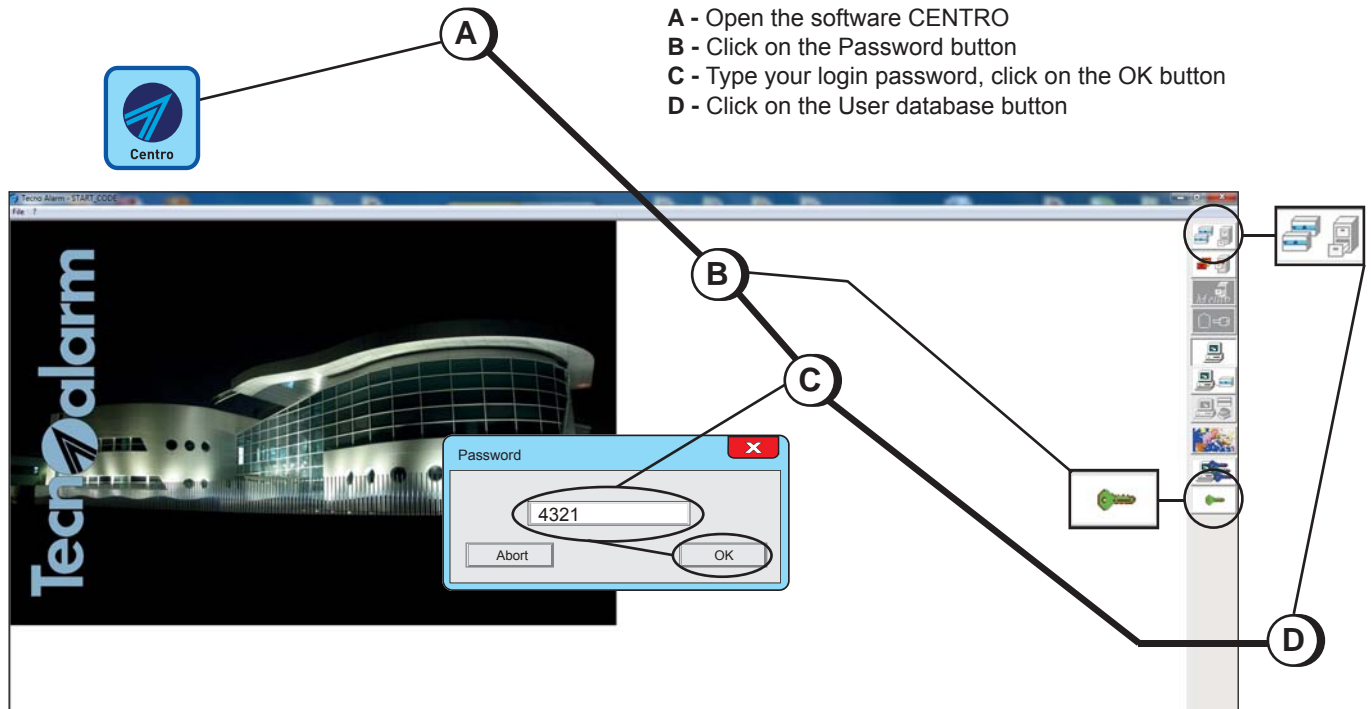
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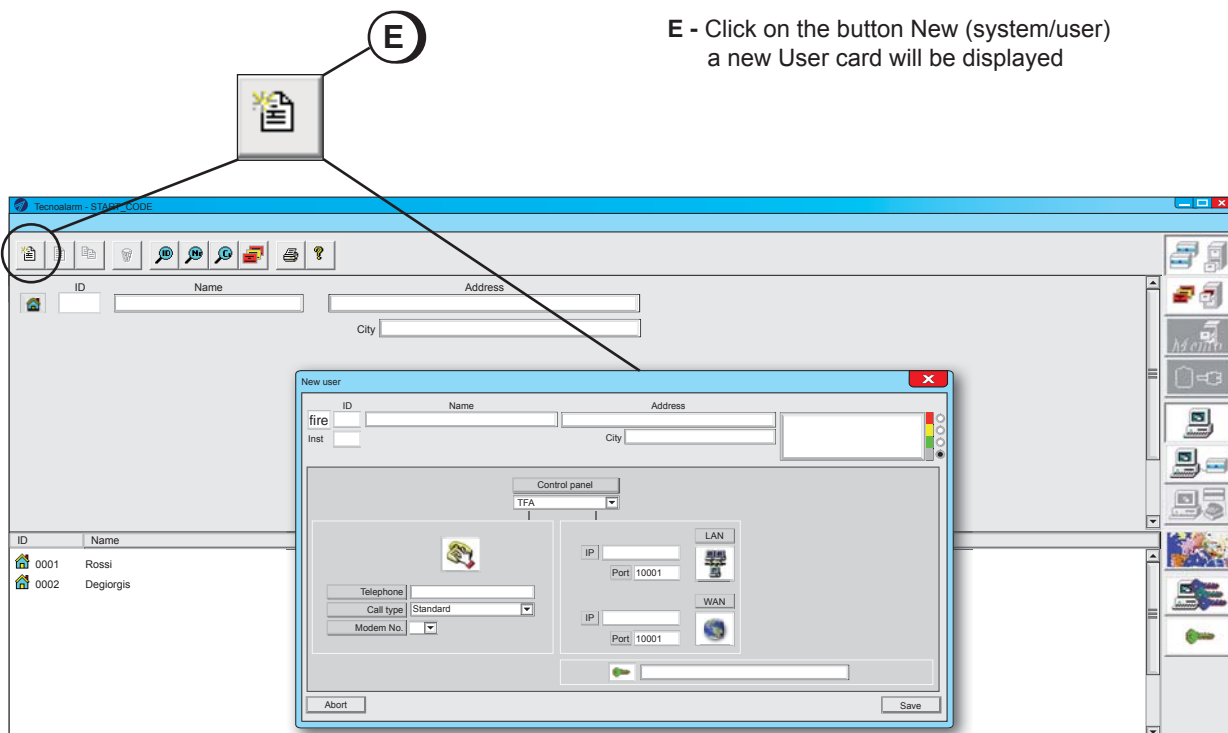
CONFIGURATION OF A NEW SYSTEM WITH THE SOFTWARE "CENTRO"

Opening the software CENTRO

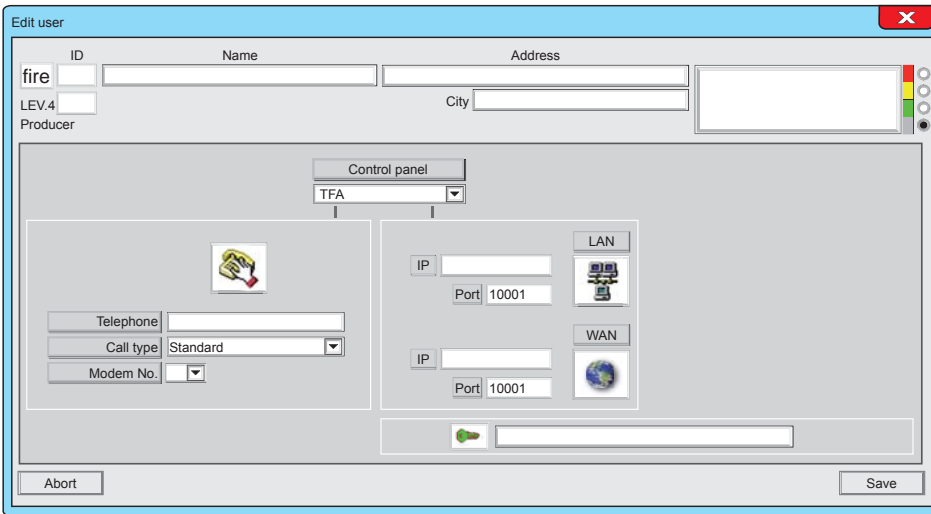
The software Tecnoalarm CENTRO allows to configure and manage via PC the systems in a comprehensive manner. The systems are managed by means of a database which collects all the Users and Systems. To set up a new system and be able to manage it, please fill the User Card that identifies the system. To do this, follow the next steps



The database screen will be displayed. The bottom area lists any System/User already managed. To create a new system/user you must fill the card.

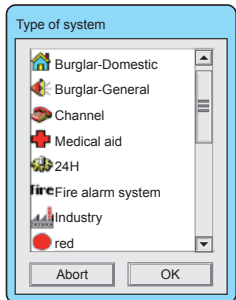


Configuration of the user card



1 - Type of system

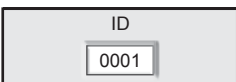
The system type is a classification that allows to provide the system with a consistent category. Each category is identified by an icon, which has the purpose to facilitate the visual identification of the systems belonging to the different categories.



Clicking on the icon opens a window which displays the categories allowed for selection.

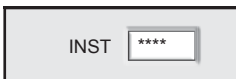
Click on the desired category. To validate the choice click on the "OK" button otherwise click on the "Abort" button

It is not mandatory to fill in the "Type of system" field.



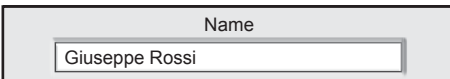
2 - ID

System identification code. The code is numeric and is composed of 4 digits. The identification code is used by the software CENTRO as a validation to perform all the remote servicing operations, uploading and downloading between CENTRO and the system.



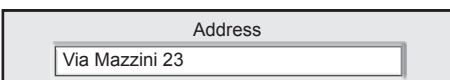
3 - INST

Identification code of the installer. The code is numeric and is composed of 4 digits. For security reasons, the code is never openly displayed.



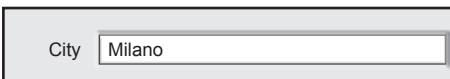
4 - Name

First and last name of the user who is the owner of the system or the reference individual.



5 - Address

Address of the site where the system is installed



6 - City

City where the system is installed



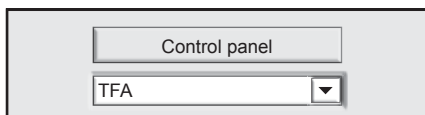


7 - Notes field

The notes field can be filled freely. You can enter notes and warnings regarding the operational management of the system. The field can contain a maximum of 78 alphanumeric characters. The background colour of the field is customisable.

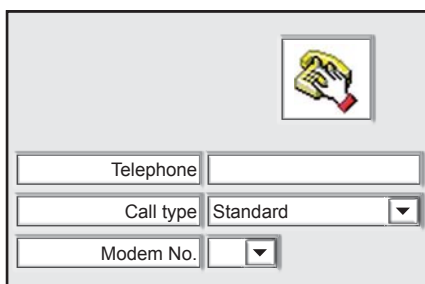
To enter the notes, click on the window to choose the background colour. Click on the right side of the bar on the dot corresponding to the selected colour.

The notes field is displayed by the software CENTRO, when the operator selects the system and on reception of any event concerning the system.



8 - Control panel

Field to select the model of the control panel. Click on the pull-down menu and select the model TFA

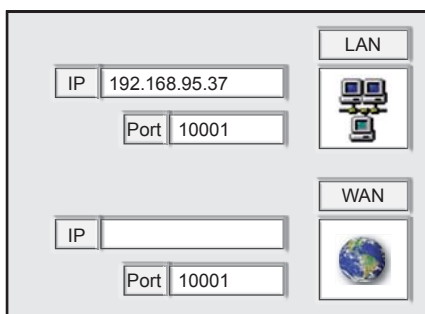


9 - Telephone communication

Telephone
Preferred control panel telephone number for communications.

Call type
Choose the type of call, depending on the type of communication that you want to use:
If you communicate via a land line number select the "Standard" mode
If you communicate via a GSM-data number, select the "GSM data" mode
If you communicate via an ISDN address select "ISDN data"

Modem No.
Tecnoalarm CENTRO can handle up to 4 modems. In this field it is mandatory to indicate the number of the modem that you want to use to redirect the Call Back.



10 - IP connections

The control panel can be connected directly to the network through the Ethernet interface. Configuration of the LAN and WAN addresses, and of the communication ports to be used to reach the control panel from the local area network (LAN) and remotely (WAN).

LAN
If the control panel is connected to a node on a local area network (LAN), enter the IP address of the local network to which the control panel is connected.

WAN
WAN with static address
If the control panel is connected to a static IP address, enter the address.

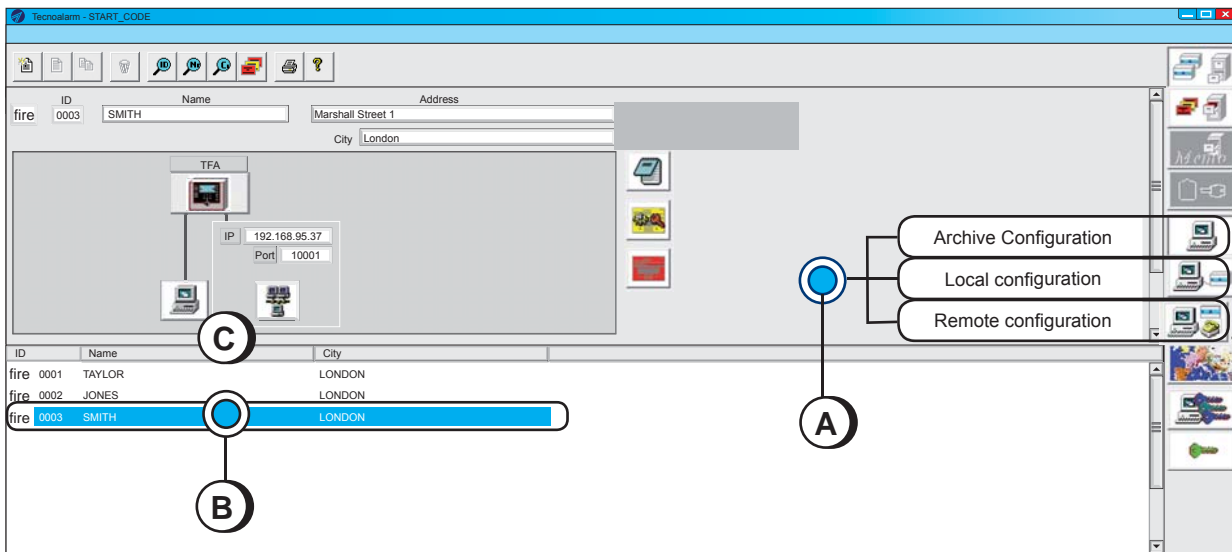
WAN with dynamic address
If the control panel is connected to a dynamic IP address, enter the address of the DNS server used, or use the same address as the router if it implements a DNS service.



The user card is filled in
To confirm and save the data entered click the **Save** button
To cancel the User card click on the **Abort** button

Access to the control panel configuration

After saving the User card, the new system is added to the list of systems/users managed by the software CENTRO. The selected row corresponding to the new system is highlighted by a blue bar.



- A - Select the configuration mode, click on the relevant button
- B - Access the control panel, click on the relevant row
- C - Select the connection mode, click on the relevant icon

TFA

Archive Configuration

In the "Archive Configuration" mode, you are not connected to the control panel, but it is still possible to set and store a configuration file that can then be transferred to the control panel at any time.

TFA

IP 192.168.95.37

Port 10001

C

Local configuration

In the "Local configuration" mode, you are locally connected to the control panel. This mode provides two connection options: the first provides a physical connection between the computer and the control panel via the USB connector. In the second configuration mode, the connection between computer and control panel takes place using IP via the LAN. The second configuration mode will be available only if a LAN IP address has been programmed in the user card.

TFA

IP 192.168.95.37

Port 10001

C

Remote configuration

In the "Remote configuration" mode the connection to the control panel is realized from a remote station, via WAN (IP connection). The two connection options are only available if the telephone/modem number and the WAN IP address were programmed in the user card.

1 - TFA SYSTEM

1-1 - Introduction to the system

Fields of application

The Control panels TFA1-298, TFA2-596 and TFA4-1192 allow to set up analog systems for the automatic detection of fire, able to cover any needs, from small/medium-sized plants up to installation of large systems with network configurations including up to 16 control panels. The maximum configuration allows to control over 8,000 detectors (limit imposed by the EN 54 standard).

Network of control panels

With the TFA control panel (with the exception of model TFA1-298) you can set up a complex system, defined as a Network of control panels.

The system can be composed of two or more control panels, up to a maximum of 16 addressed units, connected together in a network by means of a supervised RS485 bus. The control panel network infrastructure can employ copper or fibre optic cables. The network hierarchy is designed for one Master (main) control panel and multiple Slave control panels.

The Master control panel has complete control over the Slave control panels. All the information and alerts generated by the Slave control panels are conveyed to the Master control panel. The network operation of the control panels complies with the applicable standard EN 54-13.

Expansion devices

Each control panel can be connected up to 16 expansion devices (5 in the case of the TFA1-298). The devices may be: repeaters, synoptic repeaters and/or telephone dialers. The expansion devices are connected to the control panel by means of a supervised RS485 bus.

Interfaces for connecting external devices.

The control panel has a USB interface dedicated to the connection of a Personal Computer with which it is possible to perform, depending on the access level, all the configurations and the system firmware update. The serial interface allows to connect a serial printer via the interface PROG32.

PC based configuration

The Tecnofire Fire System can also be configured by means of a personal computer, locally, via the USB interface available on the CPU card of the control panel.

The logical configuration structure of the software CENTRO

The logical structure of the software CENTRO divides the system configuration in two sections: System Configuration and control panel Configuration.

System Configuration

Through the configuration system section, it is possible to define the composition of the system, that is, the number of control panels included (the system may be composed of one or more control panels, up to a maximum of 16 units).

In this section it is possible to define all common elements of the control panels in the system.

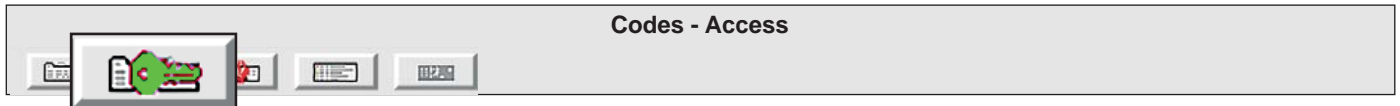
Control panel Configuration

In this section it is possible to configure the operating parameters for each unit in the system.

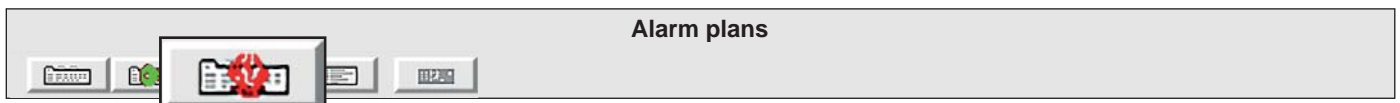
1-2 - System configuration



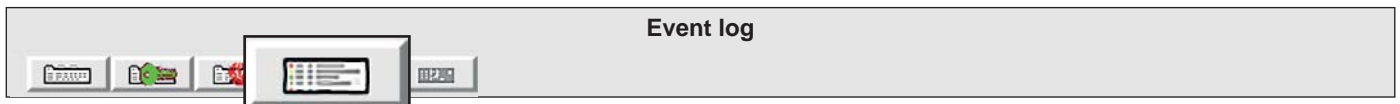
This menu allows to configure the system by defining its composition: only local control panel, or more networked control panel connected in Master/Slave mode through RS485 bus. In case of multiple networked units, it is possible to define for each slave unit the number of lines, the signalling mode and the reset mode.



This menu allows to set 10 enabling codes associated to access levels. The access levels define the possibility of managing the functions and the operation of the unit. The unit allows 4 levels of access interlocked to 10 codes.



This menu allows the compilation of alarm plans to associate with each fire Zone. In the event of an alarm, the system displays the alarm plan associated with the Zone, to inform the operators about the behaviour and the measures to be taken to deal with the alarm in progress.



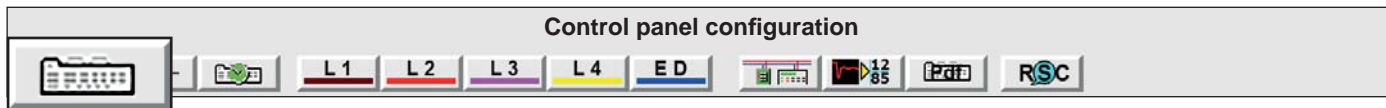
Viewing/consultation, searching, printing and saving the data stored in the unit log. The events stored in the history file are accompanied by date and time. The consultation of the event history file allows to check, in a detailed and chronological manner, the use and operation of the system.

- | | |
|-------------|--|
| n. | n.
Search key for event number, log search by registration number. |
| Date - Time | Date - Time
Search key, log search by date and time of recording. |
| Description | Description
Search key, log search by event classification. |
| Save file | Save file
Filtered events can be saved to a text or PDF file. |
| Print | Print
Filtered Events can be printed. |



This menu allows to upgrade the firmware of the unit and the repeaters in the system. To perform the upgrade, you will need to connect the PC locally to the devices to update, via USB cable.

1-3 - Control panel configuration



Description

Description

This menu allows to define the name of the unit and/or of the installation site. The description can be textual and/or by voice synthesis.

Zones

Zones

Menu to display and configure the detection Zones. The description and composition of each zone is provided.

Virtual Zones

Virtual zones

Menu to display and configure the Virtual zones. The description and composition of each virtual zone is provided.

Formulas

Formulas

Menu for displaying and setting the formulas associated to the output and signalling modules. The boolean formulas determine the behaviour rules affecting the operation of the devices, on the basis of the dynamic behaviour of the system.

Options

Options

This menu allows to adjust the volume of the acoustic signals of the unit. With this menu it is also possible to enable or disable various diagnostic, signalling and operating options.

Outputs

Outputs

This menu allows to set the operation of the available unit outputs. For each output, it is possible to customise its operations and its logic state.



The unit TFA1-298 does not have an Ethernet node.

Ethernet channels

Ethernet channels

Menu for setting the operating parameters of the 8 phone communicators and the Call Back. Each communicator can be associated with a main IP Address, a spare IP address, a communication protocol and an identification code.

Ethernet

Ethernet

Setting the network parameters. Setting the communication ports and the access restrictions to the local and remote server. Enabling and defining the communication ports for the Tecnoserver and the Call Back.

Security

Security

Setting Menu for the Passphrase used by communicators to encrypt the communications. The Passphrase is an encryption key that the communicator uses to encrypt the sent data.

Report codes

Report codes

Report codes setting menu. The control panel can transmit through its 8 channels all the events that affect its operation. Each communicator can be associated with the desired events.



Time settings

Time settings

This menu allows to configure all the delays of activation concerning the alarms and the prealarm of the unit. Setting the maximum time of early prealarm for the zones set with Dual Consensus. Enabling and setting the operating parameters of the Server cyclic test.

Access periods

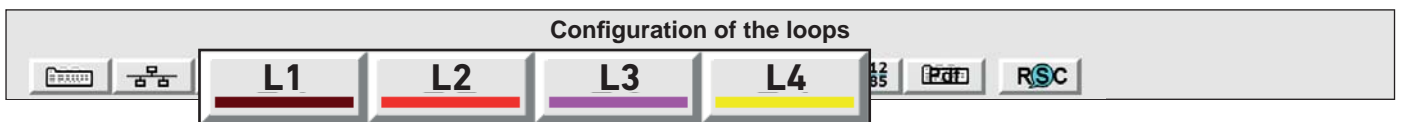
Access periods

Configuration menu for 32 access periods. The control panel uses access periods as operands within formulas controlling the operation of the modules: Output, Siren, Optical and Acoustic alarm.

Customization Year

Customization Year 1,2,3 and 4

Customization menu of the year calendars. The control panel is equipped with a four-year calendar which can be customized to control all the automatic operations controlled by the clock. By customizing the yearly calendars it is possible to define (for each one of them) weekdays, holiday eves, holidays, null days and automatic Daylight Saving Time setting.



Detectors 1 - 100

Detectors 1 - 100

Synoptic table of detectors with addresses, from number 1 to 100. This chart displays address and description of each detector. Detector configuration can be accessed through the synoptic panel.

Detectors 101 - 199

Detectors 101 - 199

Synoptic table of detectors with addresses, from number 101 to 199. This chart displays address and description of each detector. Detector configuration can be accessed through the synoptic panel.

Modules

Modules

Synoptic table of the modules, with addresses from number 1 to 99. This Synoptic table displays address and description of each module. Module configuration can be accessed through the synoptic panel.

Options

Options

Configuration Menu for the line operating options. Line operation enabling. Enable LED flashing on polling. Definition of the loop connection mode, open or closed.



Configuring and enabling the expansion devices. Each Control panel can be connected to expansion devices that can indifferently be: repeaters, synoptic panels, dialers. The maximum number of devices that can be connected is 16.

Repeater

Repeater

Control Console for the remote management of the Control panel.

Signaling panel

Signaling panel

Control Console for the remote management of the Control panel. It enables the management of 32 interactive maps.

Telephone communicator

Telephone communicator

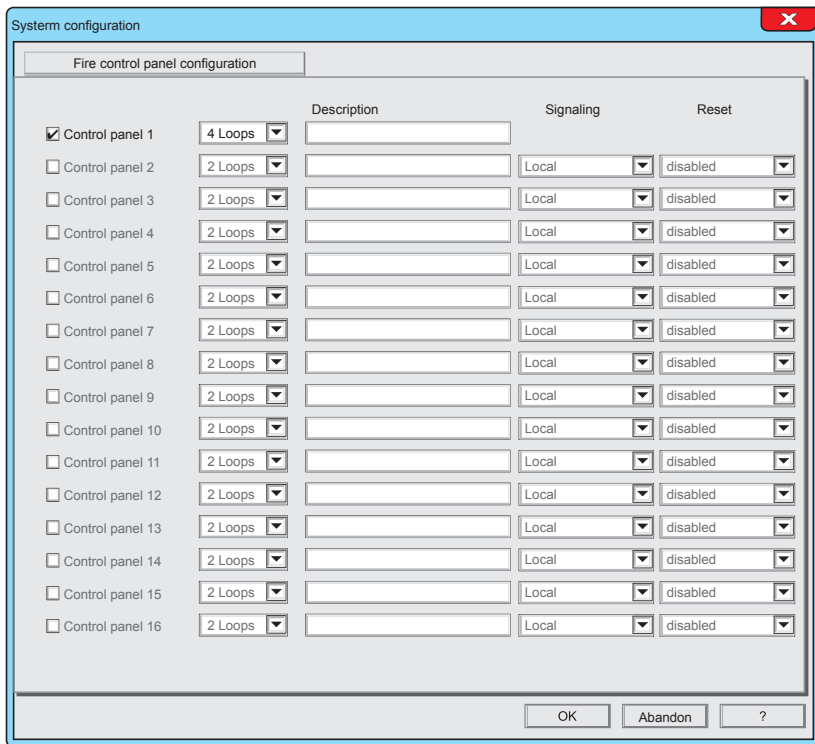
Telephone dialer TFCOM, equipped with 8 multi-protocol communicators used to send alarm and reporting notifications.

2 - SYSTEM CONFIGURATION



This menu allows to configure the system by defining its composition: only local unit or multiple units, networked via RS485 bus. In the latter case, the address 1 is the Master unit, while the other addresses are given to the Slave units. The table shows the three configuration options of the system.

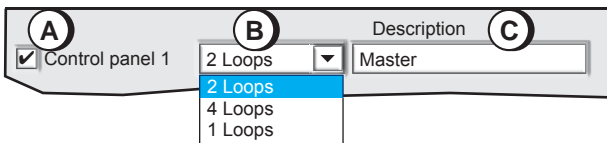
Local control panel	Address 1	Local unit, set as Master	Unit not connected to a network with other units
Master	Address 1	Network of units, set as Master	It implies the existence of Slave units, routed from 2 to 16
Slave	Address from 2 to 16	Network of units, set as Slaves	It implies the existence of 1 Master units and multiple Slave units



Warning:

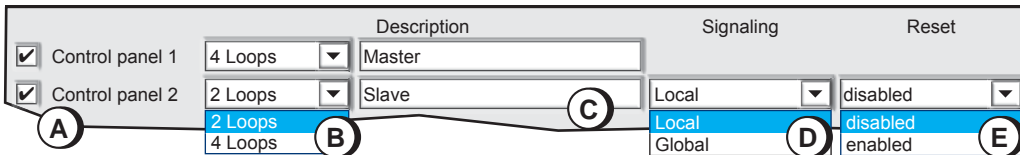
The control panel TFA1-298 can not be used to configure any networks of units. Therefore the system configuration screen of the Unit TFA1-298 displays only one control panel

Number of available loops	
TFA1-298	1
TFA2-596	2
TFA4-1192	4



1 - Master configuration

- A - Enable control panel 1
- B - Define the number of lines, according to the control panel model
- C - Click on the Description field and assign a name to the control panel



2 - SLAVE CONFIGURATION

- A - Enable control panel 2
- B - Define the number of lines, according to the control panel model
- C - Click on the Description field and assign a name to the control panel
- D - Signalling mode. Local or Global. By choosing Global, the control panel displays the signals from all the networked control panels. By choosing Local, the Control panel displays only its own reports.
- E - Reset via the Local control panel or via the Master control panel. Choosing Disabled, a reset operation can only be carried out via the Master control panel

Repeat the same settings for any other Slave control panels



The Fire control panel configuration menu is completed

To confirm the configurations, click **OK**
To cancel the configurations, click **Abandon**.

2A - ADDITIONAL INFORMATION - SYSTEM CONFIGURATION



2A-1 - Control panels and expansion devices

1 - Control panel

The control panel can be set according to 3 operating modes

Local Mode

The control panel in local mode is a stand-alone unit, without network connections to other (slave) Units,

Master Mode

The Control panel in Master mode is networked with one or more slave units (up to 15 slave units). The control panel manages the Slave Units, collecting and displaying all the system indications. The network of control panels is managed in accordance with the standard EN 54-13:2005

Slave Mode

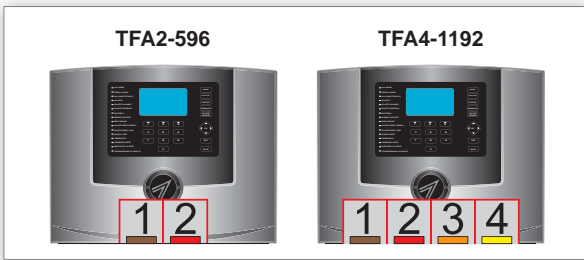
The control panel in Slave mode is connected via network to a Master Unit. The Slave control panel can share the same network with other 14 Slave Units. In the network hierarchy, all the slave control panels are slave to the same Master unit.



2 - Detection loop

The control panel is available in 3 models: TFA1-298, featuring 1 detection loop, TFA2-596 featuring 2 detection loops, and TFA4-1192 with 4 detection loops.

On each detection loop is it possible to connect up to 199 detectors and up to 99 modules.



3 - Expansion devices

Each control panel can be connected to expansion devices that can indifferently be: repeaters, synoptic panels, dialers. The maximum number of devices that can be connected is 16 (5 devices on TFA1-298).

Repeater

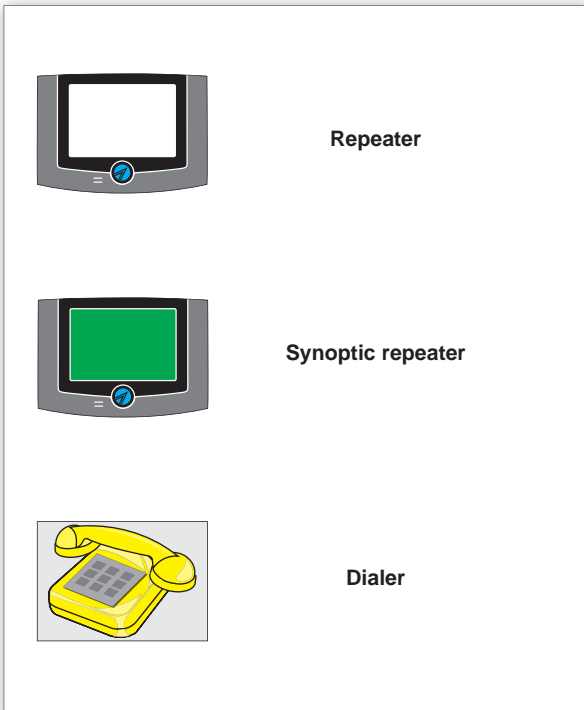
Control Console for the interactive remote management of the control panel. Using the keyboard, it is possible to access any functionality granted to user access levels 1 and 2. In accordance with the EN 54.2 standard, the configuration menus of the control panel are not accessible via the keyboard.

Synoptic

The console monitor displays the items for which it was programmed, typically graphic maps, up to a maximum of 32. The maps can be made interactive through advanced configuration. The advanced configuration allows to place on each map up to 32 interactive icons, freely programmable. The use of advanced configuration is not compliant with EN 54-2 standard.

Dialer

Telephone dialer PSTN GSM/GPRS, equipped with 8 multi-protocol communicators used to send alarm and reporting notifications. The dialer allows to monitor the system remotely, in compliance with the EN 54-21 standard.





2A-2 - System BUS

1 - Master BUS - Slave BUS

The unit is equipped with 2 serial RS485 connection BUS: the Master BUS and the Slave BUS.

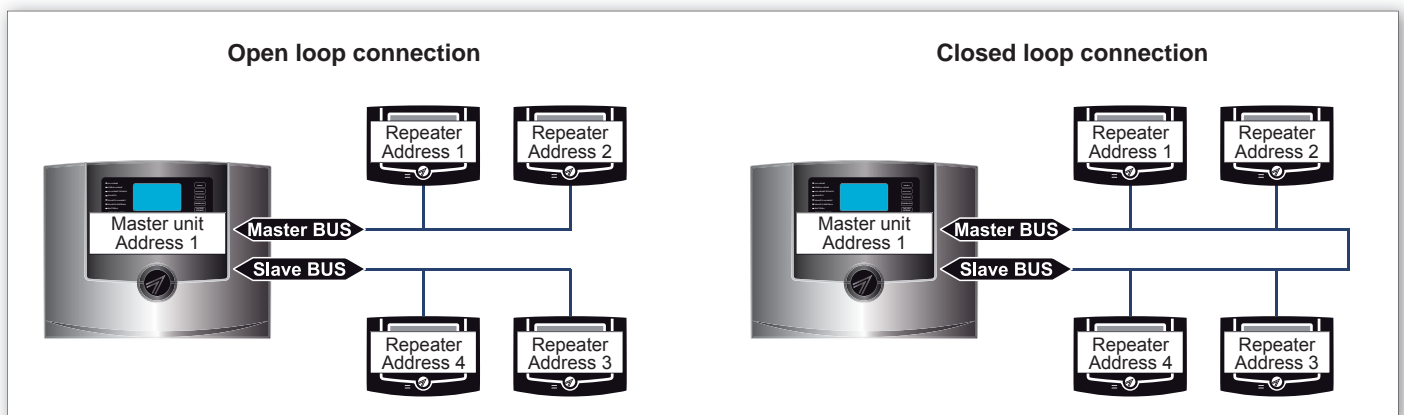
The BUS are used to expand the system, by connecting expansion devices (up to 16 units) and/or other networked units (2 to 16 units in total). The control panel TFA1-298 is equipped with only one BUS.



2 - Open loop or closed loop connection BUS

The two system bus can be connected in open or closed loop mode. In closed loop it is possible to enable the closed loop control option, capable to detect and signal any interruption, while still maintaining the normal operation of the network.

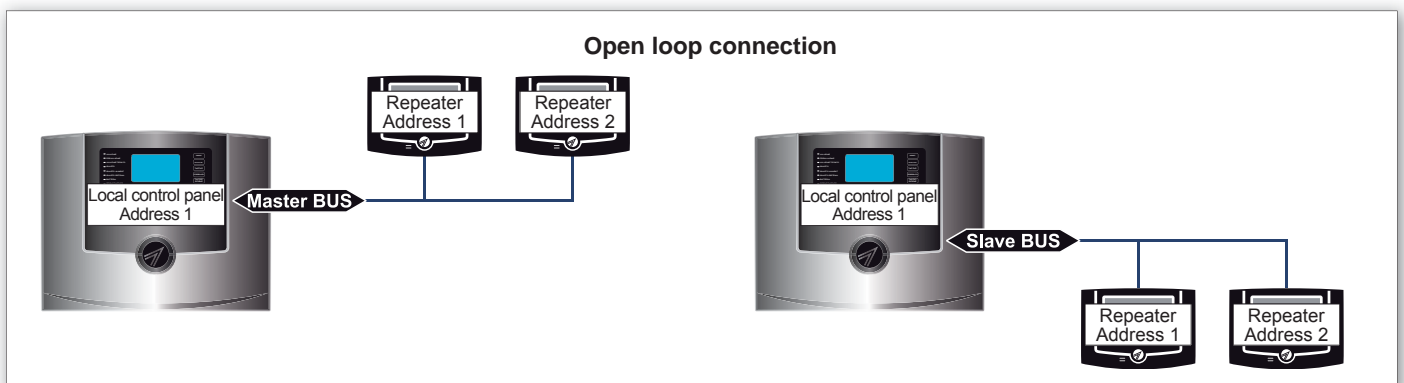
Depending on the unit operation mode (Local, Master, Slave) specific restrictions and obligations for the BUS connection must be followed.



3 - Connecting the control panel in Local mode

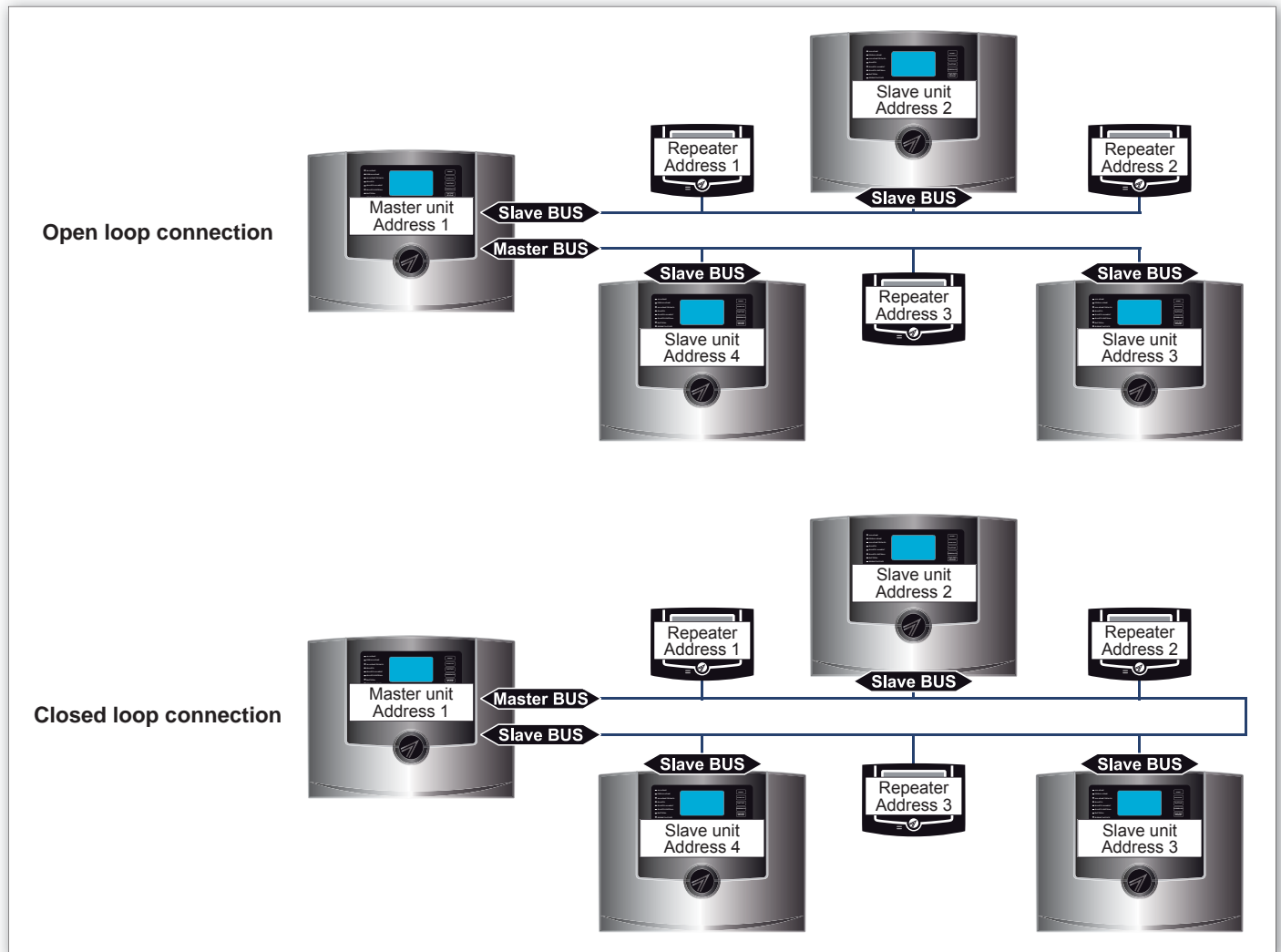
Control panel in Local mode

In this mode, expansion devices can be connected indifferently on the Master BUS or Slave BUS, in open loop or closed loop.



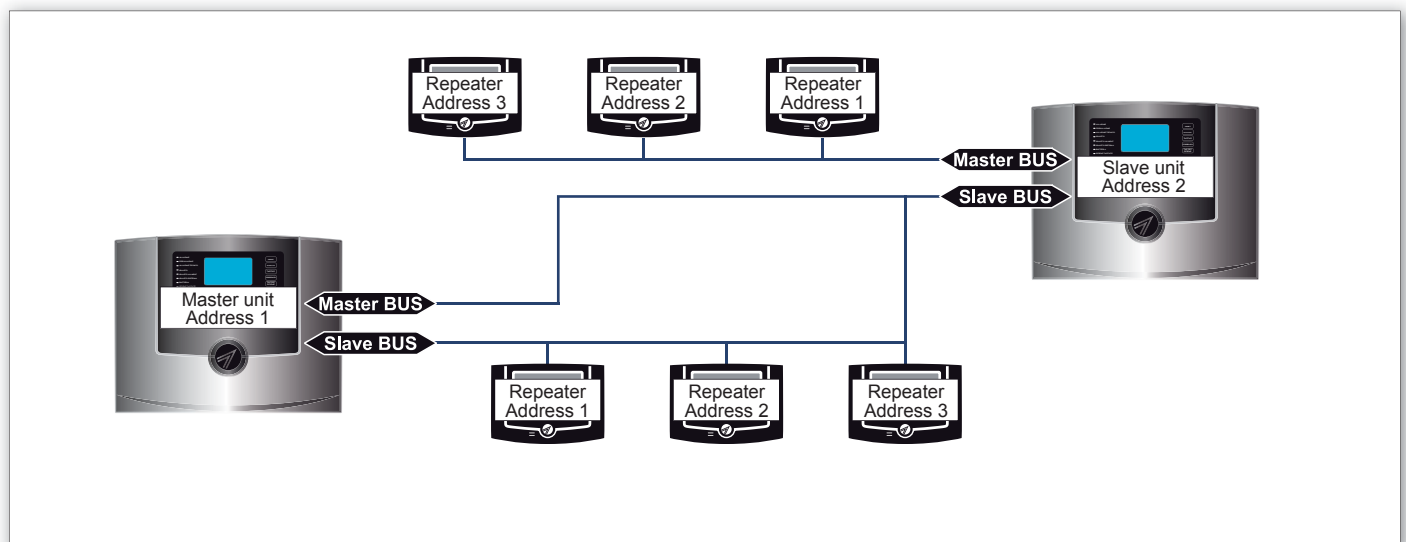
4 - Connecting the control panel in Master mode

In this mode, expansion devices and slave units can be connected indifferently on the Master BUS or Slave BUS, in open loop or closed loop.



5 - Connecting the control panel in Slave mode

The control panel in Slave mode are connected to the Master Unit through their Slave BUS. Expansion devices of the Slave Unit must be connected on the master BUS in Open line mode.





2A-3 - Controls and signals of networked devices

1 - Master control panel

The Master control panel controls and displays the following functions:

- Collects and displays events of all the control panels
- Performs the muting of all the network events
- Resets the entire network
- Sends the sirens muting/reset command throughout the entire network
- Performs the evacuation command on the entire network
- Enable/disable the "Manned system" function

LED Indicators

The LEDs indicating ALARM, PREALARM, TECHNICAL ALARM, FAILURE, EXCLUSION and MANNED summarise the status of the entire network. All the other LEDs refer exclusively to the status of the Master control panel.

Outputs

The outputs (both fixed and programmable) of SIREN, ALARM, PREALARM, TECHNICAL ALARM, FAILURE, SYSTEM FAILURE, EXCLUSION and MANNED summarise the status of all the units. All the other outputs refers exclusively to the status of the Master unit.

2 - Slave control panel

The Slave control panels controls and displays the following functions:

- Views events of all the control panels, if the option "global reports" is enabled; otherwise only displays its own local events.
- Performs the muting of its own local events

Resets globally its own events (if the "Reset" option is enabled). The local Reset results in a partial reset on the Master control panel.

Performs the muting and resets only the local sirens

Performs only the local evacuation command

If Reset Disabled is set, a local reset will be performed only in case of network loss.

Enable/disable the function "Manned system", only in case of network loss.

LED Indicators

If the signalling of the control panel is set as "Global", the following LEDs: ALARM, PREALARM, TECHNICAL ALARM, FAILURE, SYSTEM FAILURE, EXCLUSION, MANNED SYSTEM summarise the status of all units.

All the other LEDs refer exclusively to the status of the Local control panel.

If the reporting of the control panel is set as "Local", all LEDs refer only to the local control panel, with the exception of the MANNED SYSTEM signal.

Outputs

If the reporting of the control panel is set as "Global", the following outputs: SIREN, ALARM, PREALARM, TECHNICAL ALARM, FAILURE, SYSTEM FAILURE, EXCLUSION, MANNED SYSTEM summarise the status of all the units. All the other outputs refer to the status of the specific control panel.

If the reporting of the control panel is set as "Local", all the other outputs refer to the state of the local control panel, with the exception of the MANNED SYSTEM LED Indicator.

3 - Expansion devices

Expansion devices are an extension of the control panel to which they are connected, therefore they control and report the following functions:

Repeater

The repeaters connected to a Master control panel perform the same functions of the Master control panel at level 1 and 2, with the exception of the access to the configuration menus and devices exclusion.

The repeaters connected to a Slave control panel perform the same functions of the Master control panel at level 1 and 2, with the exception of the access to the configuration menus and devices exclusion.

Moreover if the signals from a Slave unit are set as "Global", the Repeater displays the global reports.

Synoptic

This console monitor displays the items for which it was programmed, typically graphic maps, up to a maximum of 32.

The maps can be made interactive through advanced configuration. The advanced configuration allows to place on each map up to 32 interactive icons, freely programmable. The use of advanced configuration is not compliant with EN 54-2 standard.

Dialer

Telephone dialer PSTN GSM/GPRS, equipped with 8 multi-protocol communicators used to send alarm and reporting notifications, according the EN 54-21 standard.



3 - ACCESS CODES



This menu allows to set 10 enabling codes associated to access levels. The access levels define the possibility of managing the functions and the operation of the unit. The access codes are numerical only, composed of 5 digits. The unit allows 4 levels of access interlocked to 10 codes, classified as follows:

Access to Level 1 allows limited operations, and hence it is not protected by codes.

Access to Level 2 is reserved to users authorised to operate on the system (8 codes).

Access to Level 3 is reserved to installation and maintenance personnel (1 code).

Access to Level 4 is reserved to authorised personnel or the manufacturer (1 codes).

In case of networked units, codes are common to all the units in the network, but the codes can only be changed on the Master unit. The changed code will then be propagated to the slave units in the network.

Access codes

	Name	Code	Automatic channel abort
Producer	Level 4 (producer)	5	<input type="checkbox"/>
Installer	Level 3 (installer)	12345	<input type="checkbox"/>
1	Level 2 (user)	11111	<input type="checkbox"/>
2	Level 2 (user)	00000	<input type="checkbox"/>
3	Level 2 (user)	00000	<input type="checkbox"/>
4	Level 2 (user)	00000	<input type="checkbox"/>
5	Level 2 (user)	00000	<input type="checkbox"/>
6	Level 2 (user)	00000	<input type="checkbox"/>
7	Level 2 (user)	00000	<input type="checkbox"/>
8	Level 2 (user)	00000	<input type="checkbox"/>

	Name	Code	Automatic channel abort
Producer	Level 4 (producer) Jones	5	<input checked="" type="checkbox"/>
Installer	Level 3 (installer) Taylor	00000	<input checked="" type="checkbox"/>
1	Level 2 (user) Smith	00000	<input type="checkbox"/>

1 - Codes setting

- A** - Name or number of the code
- B** - Level classification attributed to the code
- C** - Configurable descriptive field name.
Click on field to enter the name (maximum 16 characters)
- D** - Configurable field code. Click on field to enter the code (5 digits required).
- E** - Field for enabling the automatic muting of the calls.
With this function enabled, in case of reset, any alarm phone call is automatically blocked when such code is entered.

The Access codes menu is completed
To confirm the configurations, click **OK**
To cancel the configurations, click **Abandon**.

3A - ADDITIONAL INFORMATION - ACCESS CODES



3A-1 - Levels and enabling codes

The control panel provides 4 access levels and 10 access codes.
 The levels are: Level 1, Level 2, Level 3 and Level 4.
 The table shows the sequence of keys to type to access the levels
 Access key to the level + Code + Confirmation Key.

Users who are granted a low level of operation	Level 1	The access to the level is not protected by a code								
User 8 Codes	Level 2	↑ 1	+	↑ 1	↑ 1	↑ 1	↑ 1	↑ 1	+	OK
Installer / maintainer 1 Code	Level 3	↑ 2	+	↑ 1	↑ 2	↑ 3	4	5	+	OK
Personnel authorized by the manufacturer 1 Code	Level 4	↑ 3	+	5	4	↑ 3	↑ 2	↑ 1	+	OK

The table shows factory pre-set access codes



Level 1

The control panel provides access to the functions reserved to Level 1. Without having to enter a code, you can perform the following operations:

- A - Access the upper levels with the keys: 1 or 2 or 3 and the relevant code (password)
- B - Acknowledge the alarm pressing the MUTE key
- C - Display the previously acknowledged ongoing alarms, stored in the event categories folders.

Level 2

It is possible to access Level 2 by pressing the key 1 and entering the relevant User Code.
 At level 2, it is possible to perform all the operations of the previous level plus the following operations:

- A - Reset the unit pressing the RESET key.
- B - Switch the unit operating state: Manned to Unmanned and vice versa.
- C - Manually activate an Evacuation alarm.
- D - Access the list of menus reserved to Level 2.

Level 3

It is possible to access Level 3 by pressing the key 2 and entering the relevant "Installer/maintainer" code of the staff authorized to edit important operating parameters. At level 3 it is possible to perform all the operations of the previous levels and to access the menus reserved to Level 3 (System configuration menu):

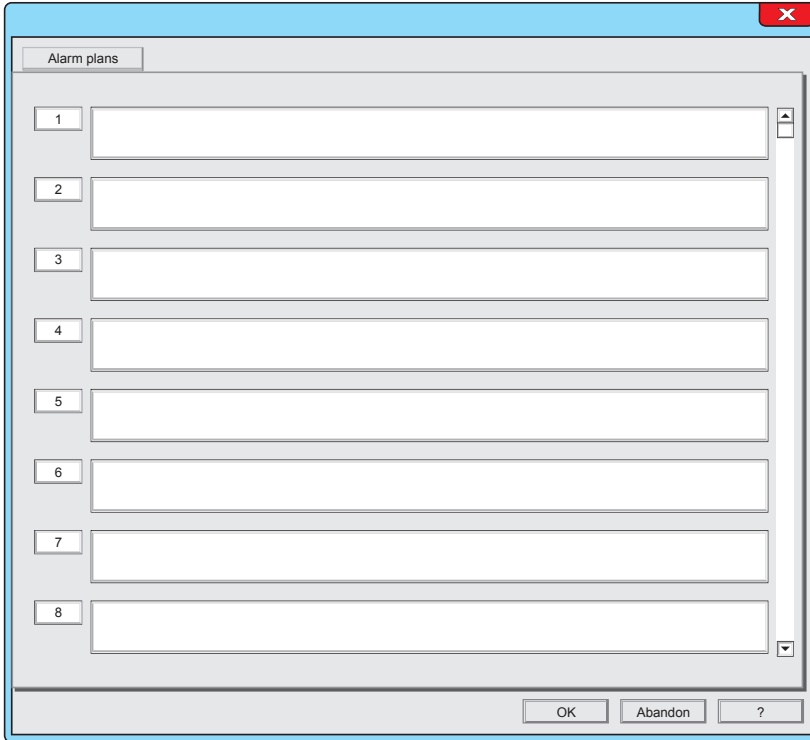
Level 4

It is possible to access Level 4 by pressing the key 3 and entering the code of the "Staff authorized by the manufacturer", highly qualified personnel authorised by the manufacturer to carry out technical services of special importance.
 At level 4 it is possible to perform all the operations of the previous levels and to access the menus reserved to Level 4.

4 - ALARM PLANS

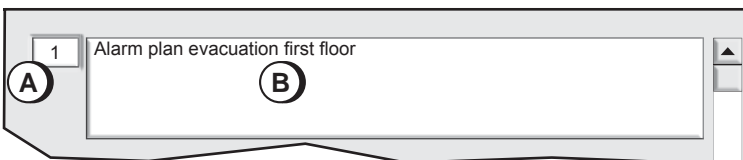


This menu allows to configure the alarm plans. Alarm plans shall be associated with fire Zones. The alarm signals of the Zones are supported by the display of the associated alarm plan. The alarm plan informs the operators about the behaviour and the measures to be taken to deal with the alarm in the specific Zone.



Number of available alarm plans	
TFA1-298	50
TFA2-596	100
TFA4-1192	200

Warning:
For systems including multiple control panels connected by a network. If the Master control panel is a model TFA4-1192, and all Slave units are models TFA2-596, only the alarm plans from 1 to 100 can be used.



1 - Filling an alarm plan

Choose the identification number of the alarm plan, in the field A. Click on the field B and write the text description of the alarm plan.

250 characters are available for writing the text.

It is recommended to give a title to the alarm plan, in order to simplify the identification when matching the Zone to its Alarm plan.



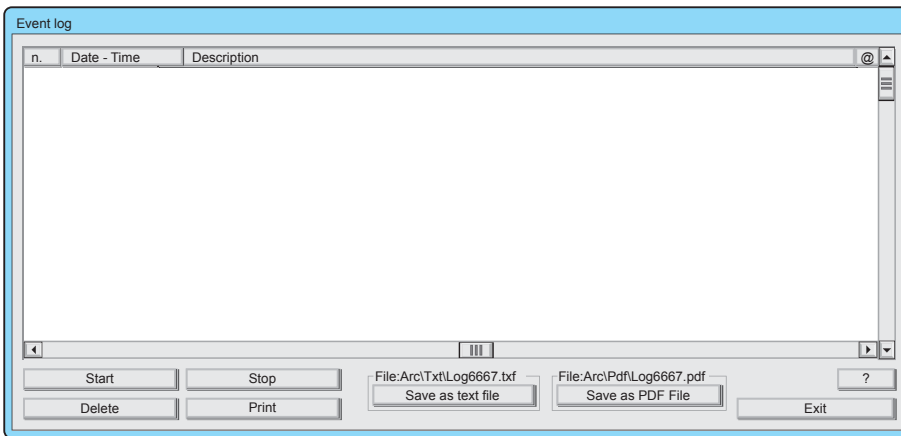
The Alarm plans Menu is completed

To confirm the configurations, click **OK**
To cancel the configurations, click **Abandon**.

5 - EVENT LOG



All the events that affect the system operation are recorded into the log file. The events are recorded sequentially, each one with date and time. The events are classified into fire prealarm, fire alarm, technological alarm, failure alarm etc. In the event memory, every access, device, zone, telephone event is identified by its number and name, and all possible functional conditions are recorded for each of them. To display the event history, connect to the control panel locally or remotely, via the software CENTRO. Checking the logs allows to draw useful information relating to the operation of the system. The storage capacity of the TFA Systems memory is 4096 events.



On the first connection with the control panel, the screen is empty. To update the Event Log (download from the control panel) click on the Start button.

The software CENTRO stores on dedicated files the event log of the managed control panels. Each downloading operation of the control panel Event Log increases the size of the file that is stored by the software CENTRO. The file size of the software CENTRO is unlimited, while the size of the Event Log of the control panel is limited to 4096 events. When this threshold is reached, the oldest event is deleted to make room for the latest one.

n.	Date - Time	Description
1	26/01/14 17:03:48	Access device via TCPIP
2	26/01/14 17:03:48	Access code received Control panel [TECNOFIRE] by installer code
3	26/01/14 17:03:48	Access device 3f8f
4	26/01/14 16:17:11	Reset Control panel [TECNOFIRE] by master code
5	26/01/14 16:16:59	Reset [TECNOFIRE]
6		

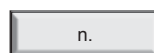
1 - Displaying

Events are displayed in chronological order. The event classified as number 1 is the latest. Each event is accompanied by date/time and description. When the number of recorded events exceeds the maximum capacity of the control panel (4096 events), the new event is recorded by automatically deleting the oldest one.

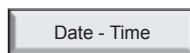
n.	Date - Time	Description
----	-------------	-------------

2 - Selection search keys

The header row in the event table encloses the event search and selection keys. The scroll bar on the right speeds up the sequential consultation of the event table.



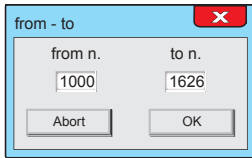
The key "n." allows to search events by numeric index



The key "Date-time" allows to search events by Date and Time



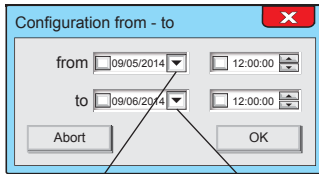
The "Description" key allows to search events by type



n.

3 - Search by numeric index

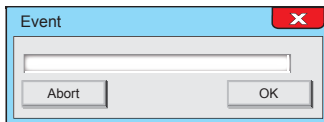
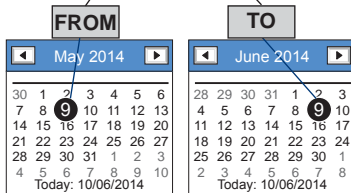
- 1 - Enter in the field "from n." the number of the first event to display.
- 2 - Enter in the field "to n." the number of the last event to display.
- 3 - To start the search click on the OK button.
- 4 - To cancel the search click Abort.



Date - Time

4 - Search by Date-Time

- 1 - Click in the "From" field, enter the start date, or to view the calendar click on the button on the pull-down menu, click on the arrow keys to select the month and year, and then click on the day from which you want to start the event display.
- 2 - Click in the field "To", repeat the same steps to set the search end date.
- 3 - If in the search criteria you also want to indicate the search start and end time, click on the clock field, then click on the first numeric pair, choose the time by clicking on the arrow keys (up or down). Repeat the same steps for the selection of minutes and seconds.
- 4 - To start the search click on the OK button.
- 5 - To cancel the search click Abort.



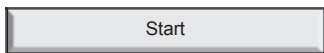
Description

5 - Search by Reason/Description

- 1 - Click in the empty field and enter the name or the initial letter of the searched events.
- 2 - To start the search click on the OK button.
- 3 - To cancel the search click Abort.

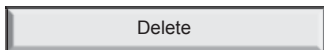
Searching notes.

The search is case sensitive: it is carried out according to the uppercase or lowercase initial letter used.
The search is not nested, hence the compound words or words nested within sentences will not be found.



6 - Start and stop keys

The "Start" button starts the event download from the control panel.
The "Stop" button stops the event download from the control panel.



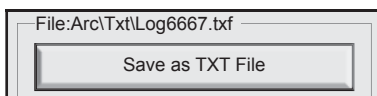
7 - Delete button

The Delete button clears the list displayed in the window.
(It does not delete the relevant events stored in the control panel)



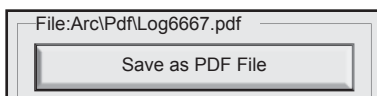
8 - Print button

The Print button starts the print of the selected list, displayed in the window.
Obviously the system must be equipped with its own printer, connected to the serial port.



9 - Save button

The keys "Save as TXT file" and "Save as PDF file" allow to save the selected event list.
The files are saved as text or in PDF format.
The file can be useful to provide the customer with a report on the recorded events.
The name of the file and the storage directory are shown above the relevant keys.



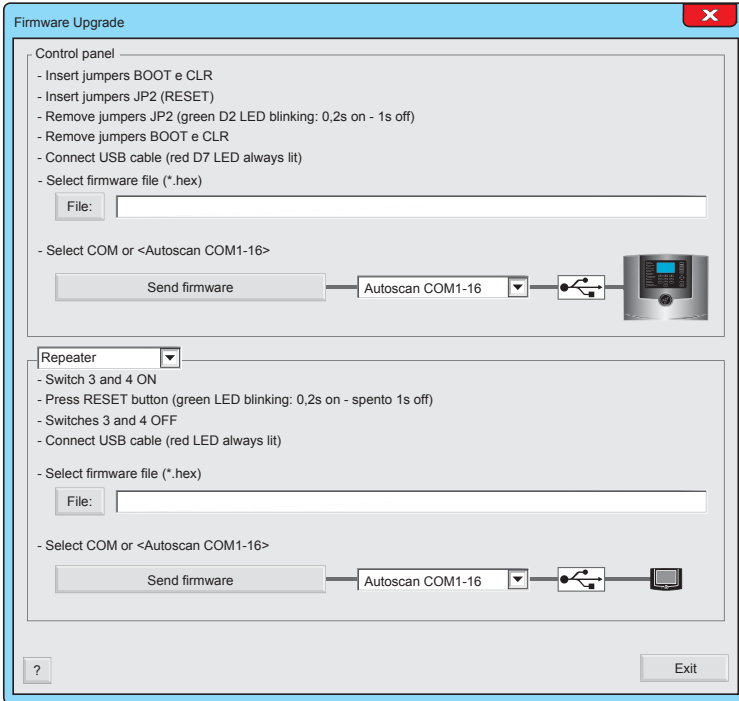
At the end of the query, exit from the menu by clicking on the **Exit** button

6 - FIRMWARE UPGRADE

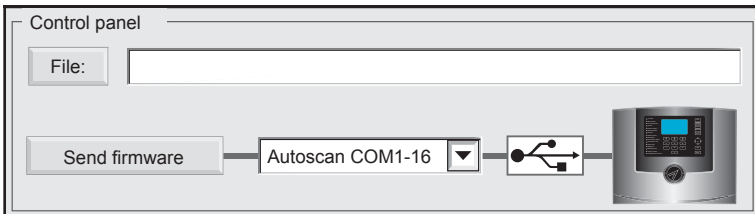


This menu allows to upgrade the firmware of the unit and the expansion devices of the system. All the operations to perform for carrying out the updates are shown step by step.

Warning: Before proceeding please be sure that the file required for the update are already available.



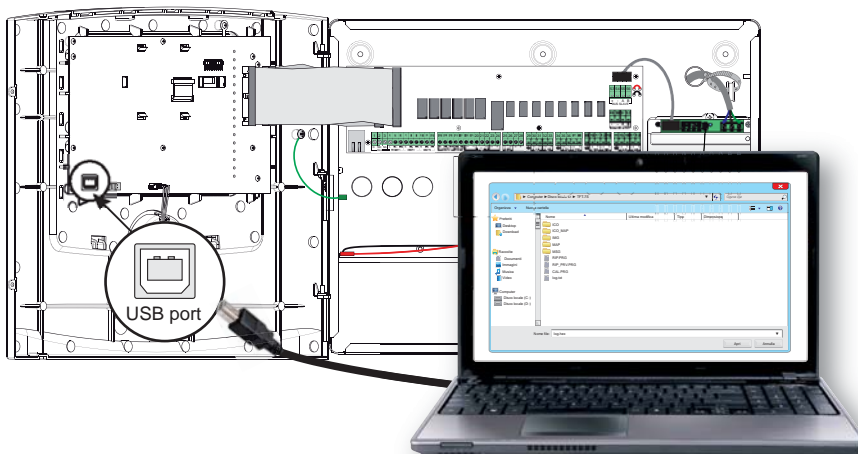
The menu screen is divided into two sections: the top section is for the control panel, the lower section is dedicated to the upgrade of the expansion devices.

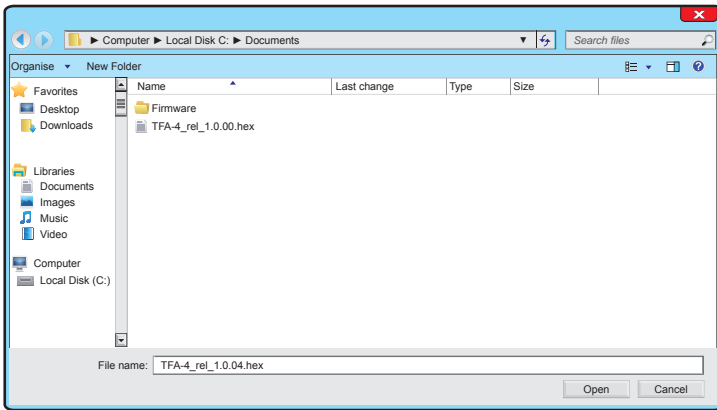


1 - Control panel upgrade

To update the control panel see the following instructions:

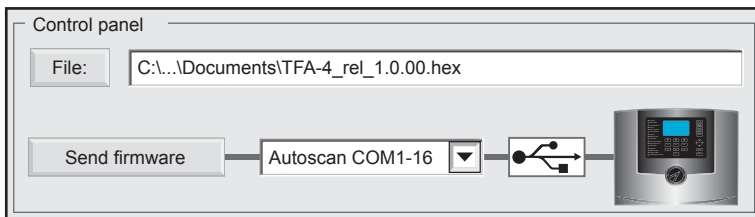
- 1 - Insert the jumpers BOOT and CLR
- 2 - Insert the Reset Jumper
- 3 - Remove the Reset jumper (green LED flashes)
- 4 - Remove the jumpers BOOT and CLR
- 5 - Connect the USB cable (red LED always on)





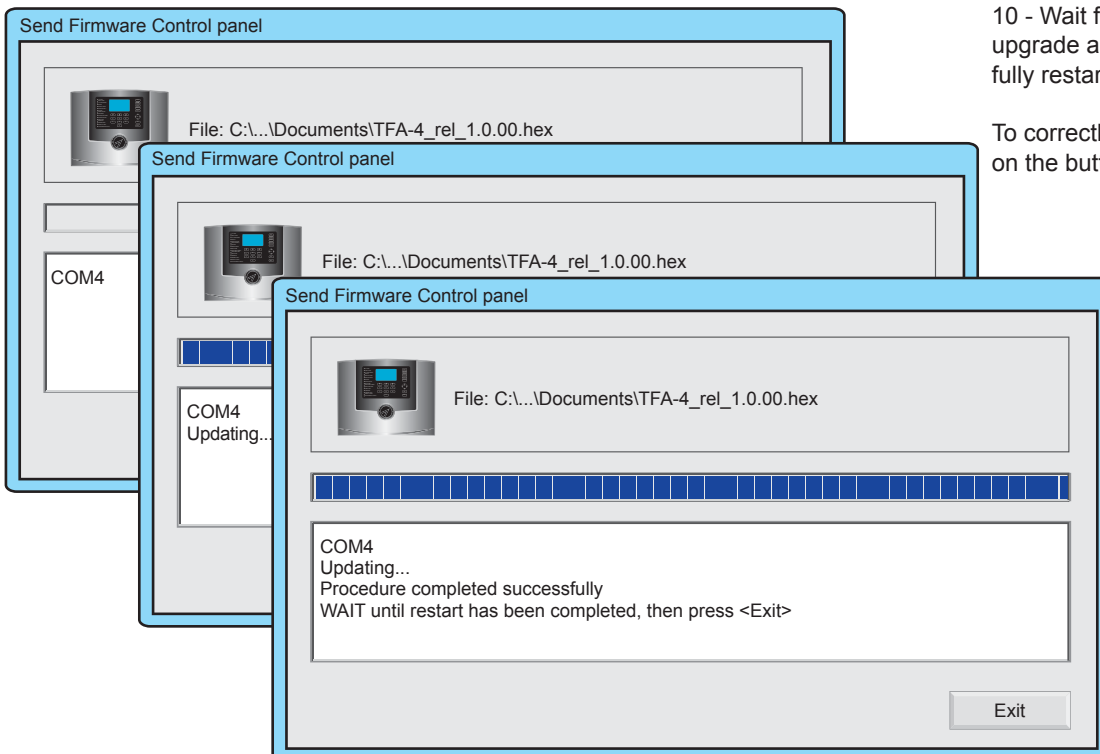
6 - Click on the key

7 - Select the firmware file (*.hex) then click on the button



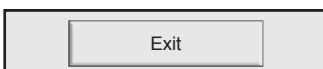
8 - Click the pull-down menu and choose the COM port number on the PC, or choose the option Autoscan to find the used port automatically.

9 - To start the update of the firmware click on the button

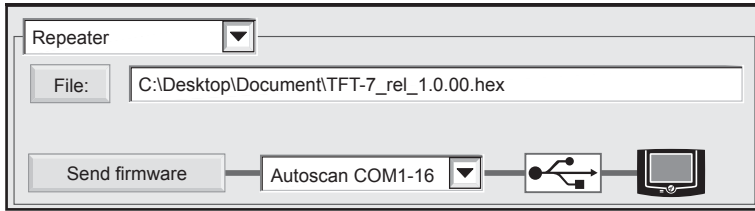


10 - Wait for the completion of the upgrade and wait until the Repeater is fully restarted.

To correctly end the procedure click on the button



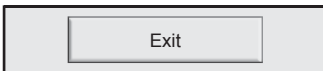
At the end of the update, exit from the menu by clicking on the **Exit** button



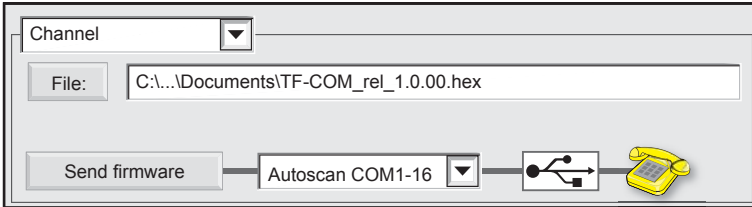
2 - Repeater Upgrade

Click on the pull-down menu and choose Repeater. Proceed to the upgrade by following the instructions:

- 1 - Set the switches 3 and 4 to position ON
- 2 - Press the Reset button (green LED flashes)
- 3 - Set the switches 3 and 4 to position OFF
- 4 - Connect the USB cable (red LED always on)
- 5 - Click on the File key
- 6 - Select the file (*.hex), then click the Open button
- 7 - Click the pull-down menu and choose the COM port number on the PC, or choose the option Autoscan to find the used port automatically.
- 8 - To start the firmware update click on the Send Firmware key
- 9 - Wait until the completion of the upgrade and wait until the Repeater is fully restarted.



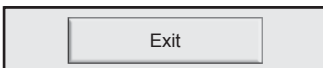
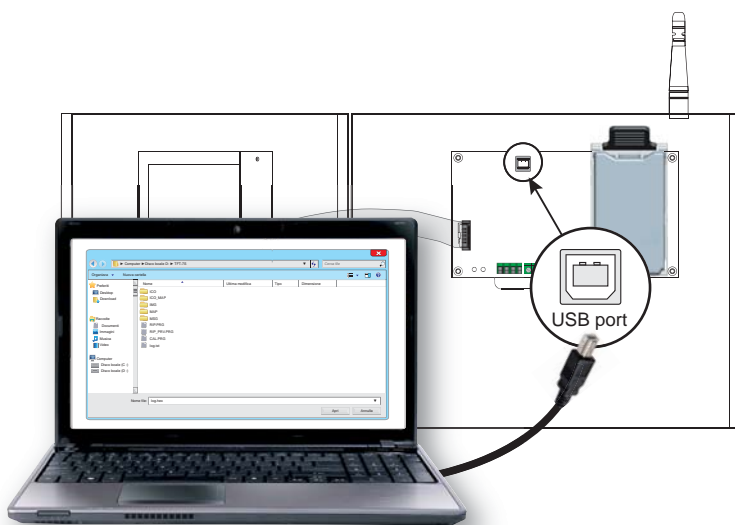
At the end of the update, exit from the menu by clicking on the **Exit** button



3 - Dialer Upgrade

Click on the pull-down menu and choose Dialer. Proceed to the upgrade by following the instructions:

- 1 - Insert the BOOT Jumper
- 2 - Insert the Reset Jumper
- 3 - Remove the Reset jumper (green LED flashes)
- 4 - Remove the BOOT Jumper
- 5 - Connect the USB cable (red LED always on)
- 6 - Click on the File key
- 7 - Select the file (*.hex), then click the Open button
- 8 - Click the pull-down menu and choose the COM port number on the PC, or choose the option Autoscan to find the used port automatically.
- 9 - To start the firmware update click on the Send Firmware key
- 10 - Wait until the completion of the upgrade and wait until the Dialer is fully restarted.



At the end of the update, exit from the menu by clicking on the **Exit** button

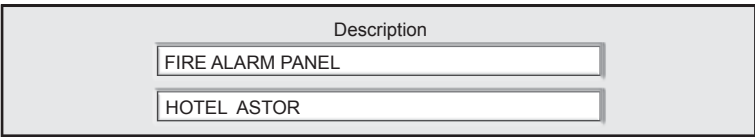
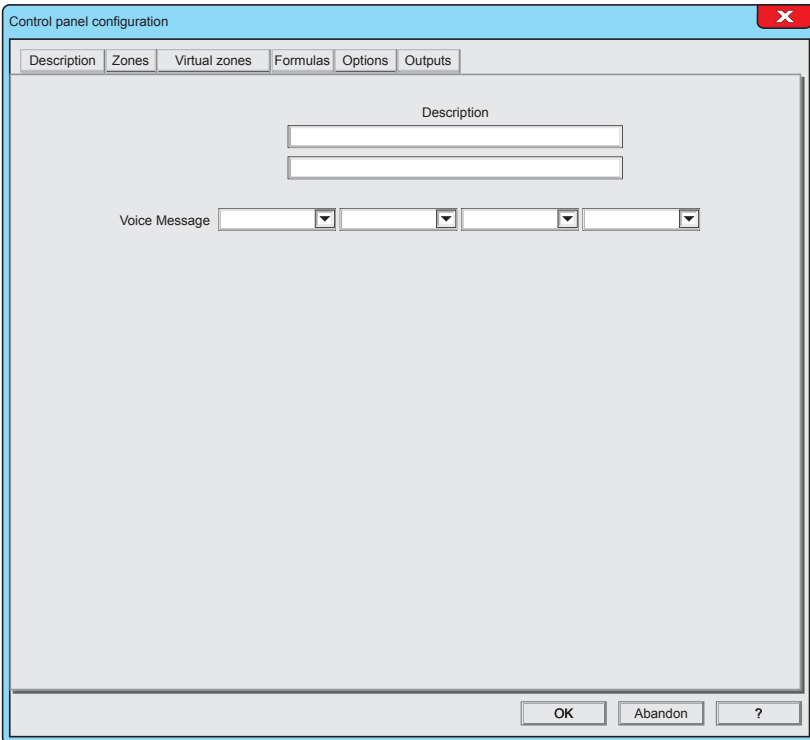
7 - CONFIGURATION OF THE CONTROL PANEL



7-1 - Description

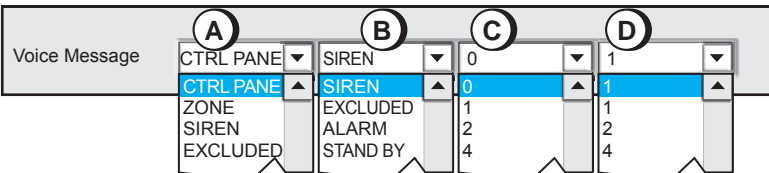


The Description menu allows to define the name of the unit and/or of the installation site. The description can be: Textual, with two descriptive text lines displayed on the unit screen, and/or Vocal, with four words chosen among those available in the dictionary of the unit.



1 - Description

Select and fill the two description fields. By means of the description fields, it is possible to designate with alphanumeric characters the unit and/or the installation site. 24 characters per line are available. The description text is displayed on the control panel screen.



2 - Voice Message

Select the pull-down menus A,B,C,D and choose the words for the voice description. The four words A+B+C+D form the voice message associated with the control panel. The voice message will be played back from the control panel and from the console of the fire protection system



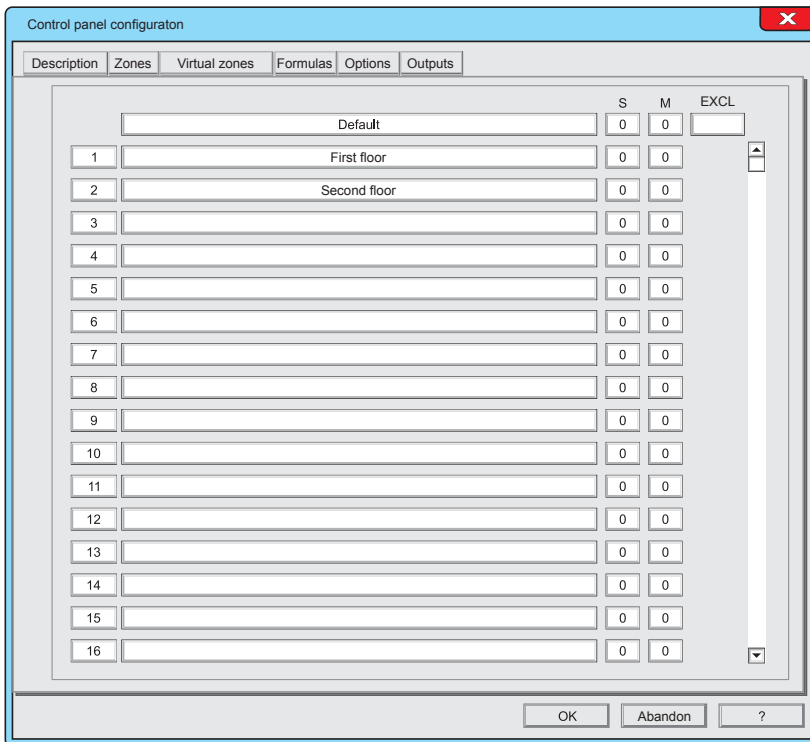
The Description menu is completed

To confirm the configurations, click **OK**
To cancel the configurations, click **Abandon**.

7-2 - Zones



The menu shows the synoptic panel of the detection zones. The synoptic panel displays the description and the composition of the zone, number of detectors and modules. Through the synoptic panel it is possible to access to the zone configuration window. A zone is an abstract set that includes the detecting and/or actuating devices, typically detectors and modules. The zones type can be Fire or Technology.



Number of available zones	
TFA1-298	150 + 1 Default zone
TFA2-596	200 + 1 Default zone
TFA4-1192	300 + 1 Default zone

About the Default Zone	
1	The Default Zone is not programmable. It s a fire zone with single consent.
2	The Default Zone gathers all programmed devices not assigned to Zones.
3	The composition of the Default Zone is not directly editable.

Zone configuration rules	
1	Each Zone can include only detector devices
2	Each Zone can include only Modules devices
3	Each Zone can include detectors and modules.
4	Each Zone <u>cannot</u> share its devices with other Zones
5	Each Zone must include at least one device
6	Each zone can include a maximum of 32 devices (this limitation is valid only for fire zone)

		S	M	EXCL
	Default	36	21	
1	First floor	0	0	
2	Second floor	0	0	

The example shown indicates that were 36 detectors and 20 modules have been set and that zone 1 and 2 are not yet associated with any device.

1 - Zones Synoptic Panel

The synoptic panel provides all the general information on the Zones: their number and identification name, their devices, the number of detectors and modules, its functional status (active or excluded Zone). To access the zone configuration window, click on its description field.

Zones - Description of the information provided by the synoptic panel	
A	Column of the numerical identification of the zone
B	Column of the identification of the zone according to the given name (alphanumeric description)
C	Column indicating the number of detectors in the zone
D	Column indicating the number of modules in the zone
E	Column indicating if the zone is active or excluded (if the zone is excluded the field shows the letter X)

2 - Zone configuration

It displays the Zone configuration screen

3 - Function

Click on the pull-down menu and choose Zone Type.

4 - Description

Select and fill the description field. With the field description it is possible to design the zone with 24 alphanumeric characters. When necessary the description will be shown by the system display.

5 - Voice Message

Select the pull-down menus A,B,C,D and choose the words for the voice description. The four words A+B+C+D form the voice message associated with the zone. When needed, the voice message will be played back from the control panel and from the system console

Consensus

6 - Consensus

Click on the pull-down menu and choose the Consensus mode, needed for generating the alarm signal of the zone.
 With Single Consensus the signal from one device generates an alarm.
 With Dual Consent, the signal from the first device generates a prealarm in the zone, while the signal from the second device generates an alarm in the zone.

Number of alarm plan to be viewed

7 - Number of the alarm plan to be viewed

This option is available only for Fire type zones.
 Click on the pull-down menu and choose the alarm plan to associate with the zone. In case of an alarm in the zone, the alarm plan will be shown by the system display according to the system procedure.
 Alarm plans can be filled in the menu "Alarm Plans"

Follows device status

8 - Follows device status

This option is available only for Technological type zones.
 Click on the pull-down menu and choose whether to enable or disable this function.
 If enabled, when normal operating conditions are restored (reset of the alarm condition in the technological zone) signals are automatically muted.

L1 L2 L3 L4

Detectors

Modules

A - Click on the Line button

Detectors 1-100 Detectors 101-199 Modules

<input checked="" type="checkbox"/>	1 - Room 101 environment	<input type="checkbox"/>	25 -
<input checked="" type="checkbox"/>	2 - Room 101 false ceiling	<input type="checkbox"/>	26 -
<input checked="" type="checkbox"/>	3 - Room 101 raised floor	<input type="checkbox"/>	27 -

B - Click on the Panel button

9 - Associate devices to Zone

To pair the devices to the zone, choose the relevant Line, then choose the Detectors or Modules panel. Click on the devices to associate or dissociate, and validate your choices by clicking on OK.
 Repeat the same procedure for the other panels and then for the other lines.

Warning: You can associate only programmed devices.

L1 L2 L3 L4

Detectors

Modules

L1 001 [Room 101 environment]
 L1 002 [Room 101 false ceiling]
 L1 003 [Room 101 raised floor]

L1 001 [Room 101 call point]
 L1 002 [Room 101 siren]
 L1 003 [Room 101 optical acoustic alarm device]

D - Click on OK to validate

OK

Associated devices are displayed in the window (detectors or modules)
 In the example, 3 detectors have (001, 002 and 003) and 3 modules (001, 002 and 003) been associated, all belonging to the Line 1.

	S	M	EXCL
Default	33	18	
1 First floor	3	3	
2 Second floor	0	0	

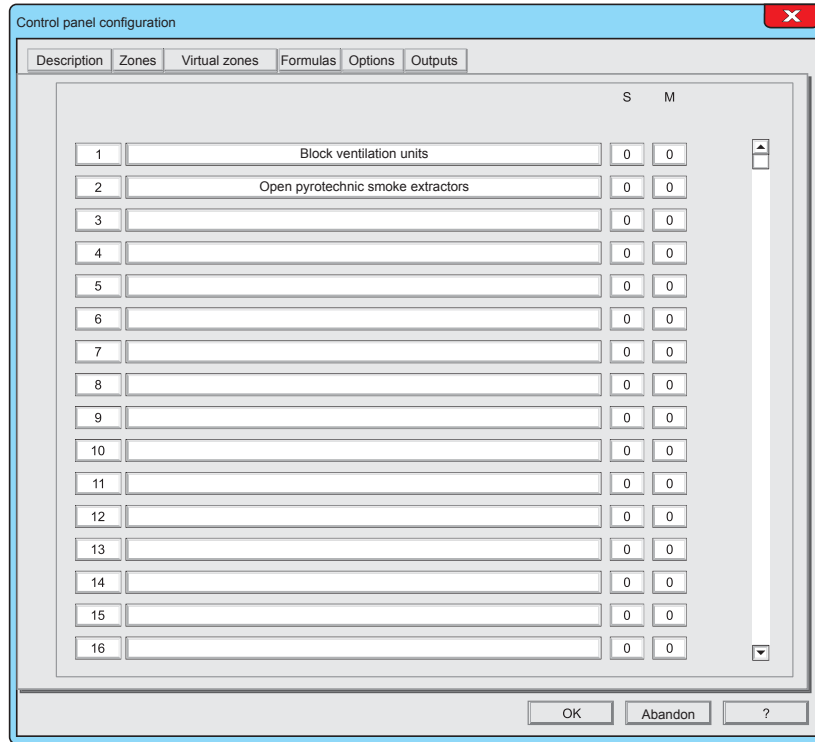
The synoptic panel of the Zone is updated on the basis of the configuration shown in example, i.e.: 3 detectors and 3 modules have been associated to the Zone 1, subtracted from the Default zone.

The Zones menu is completed
 To confirm the configurations, click **OK**
 To cancel the configurations, click **Abandon**.

7-3 - Virtual zones

Description
Zones
Virtual zones
Formulas
Options
Outputs

The menu shows the synoptic view of virtual zones, indicating the description and composition for each of them (quantity of detectors and modules). Through the synoptic panel it is possible to access to the virtual zone configuration window. A virtual zone is an abstract set that includes the detecting and/or actuating devices, typically detectors and modules.

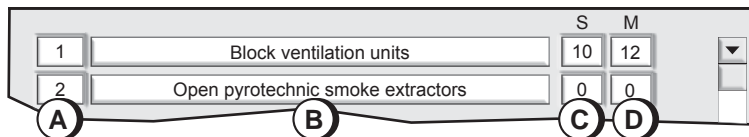


Warning:

The virtual zones do not report any type of alarm signal.
The virtual zones can be recalled by formulas.

Number of virtual zones available	
TFA1-298	100
TFA2-596	100
TFA4-1192	100

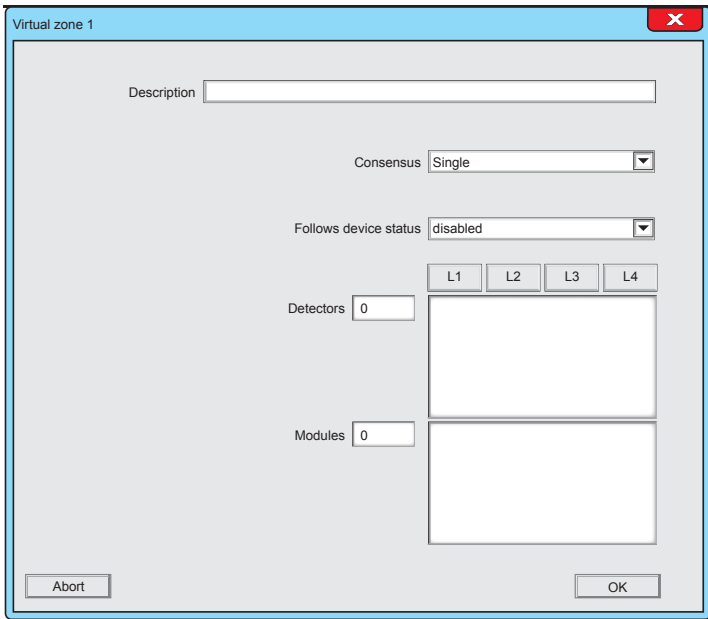
Virtual Zone configuration rules	
1	Each Virtual Zone can include detector devices
2	Each Virtual Zone can include Module devices
3	Each Virtual Zone can include detectors and modules.
4	Each Virtual Zone must include of at least one device
5	Each Virtual Zone may include an unlimited number of devices
6	Each Virtual Zone may include devices of the Default Zone, that is, not associated with Zones
7	Each Virtual Zone may also include devices belonging to different Lines.
8	Each Virtual Zone can include devices already used in other Zones



1 - Virtual zones synoptic panel

The synoptic panel provides all the general information on the virtual zones: their number and identification name, their zones, number of detectors and modules. To access the Virtual zone configuration window, click on its description field.

Virtual Zones - Description of the information provided by the synoptic panel	
A	Column of the numerical identification of the Virtual zone
B	Column of the identification of the Virtual zone according to the given name (alphanumeric description)
C	Column indicating the number of detectors in the Virtual zone
D	Column indicating the number of modules in the Virtual zone



2 - Virtual zones configuration

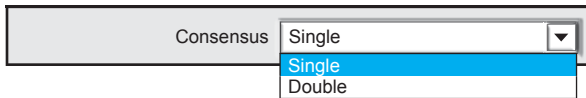
It displays the screen for configuring the Virtual zone



3 - Description

Select and fill the description field.

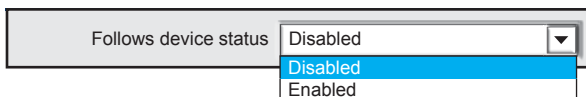
With the field description it is possible to design the Virtual Zone with 24 alphanumeric characters.



4 - Consensus

Click on the pull-down menu and choose the Consensus mode, needed for generating the alarm signal of the zone.

With Single Consensus the signal from one device generates an alarm. With Dual Consensus the signal from the first device generates a prealarm in the Virtual Zone, while the signal from the second device generates the alarm in the Virtual Zone.



5 - Follows device status

Click on the pull-down menu and choose whether to enable or disable the automatic alarm muting function for the Virtual Zone.

If enabled, when normal operating conditions are restored (reset of the alarm condition in the virtual zone) signals are automatically muted.

Detectors 0

Modules 0

L1 L2 L3 L4

6 - Associate devices to the Virtual Zone

To pair the devices to the Virtual Zone, choose the relevant Line, choose the panel detectors or Modules. Click on the devices to associate or dissociate, and validate your choices by clicking on OK. Repeat the same procedure for the other panels and then for the other lines.

Warning: You can associate only programmed devices.

A - Click on the Line button

B - Click on the Panel button

C - Click on devices - Click on OK

Detectors 1-100	Detectors 101-199	Modules
<input checked="" type="checkbox"/> 1 - Technical Room 1 pipe detector	<input type="checkbox"/> 25 -	
<input checked="" type="checkbox"/> 2 - Technical Room 2 pipe detector	<input type="checkbox"/> 26 -	
<input checked="" type="checkbox"/> 3 - Technical Room 3 pipe detector	<input type="checkbox"/> 27 -	

Detectors 3

Modules 3

L1 L2 L3 L4

L1 001 [Technical Room 1 pipe detector]
L2 002 [Technical Room 2 pipe detector]
L3 003 [Technical Room 3 pipe detector]

L1 001 [Technical Room 1 fire damper]
L2 002 [Technical Room 2 fire damper]
L3 003 [Technical Room 3 fire damper]

OK

D - Click on OK to validate

Associated devices are displayed in the window (detectors or modules)
In the example, 3 detectors have (001, 002 and 003) and 3 modules (001, 002 and 003) been associated, belonging to different Lines.

1	Block ventilation units	S	M
		3	3
2	Open pyrotechnic smoke extractors	0	0

A B C D

The synoptic view of the Virtual Zone is updated on the basis of the programming shown in example, i.e.: 3 detectors and 3 modules have been associated with the Virtual Zone 1.

OK Abandon

The Virtual zones menu is completed
To confirm the configurations, click **OK**
To cancel the configurations, click **Abandon**.

7-4 - Formulas

Control panel configuration tabs: Description, Zones, Virtual zones, **Formulas**, Options, Outputs

The menu allows to program the "Intermediate Formulas". The intermediate formulas can be used as complex logical operators, inside the formulas that rule the behaviour of module signal outputs. The menu shows the synoptic panel that displays the numeric list of Formulas and their description. Through the synoptic display it is possible to view and/or program the boolean formulas. The formulas affect the operation of the output and signalling modules to which each formula is associated (output modules, sirens, optical/acoustic panels connected to the detection lines). The formulas determine the rules of behaviour affecting the operation of the devices, on the basis of the dynamic behaviour of the system.

Click a number - or the adjacent descriptive field - to access the Formula window.

Number of available Formulas	
TFA1-298	100
TFA2-596	400
TFA4-1192	400

1 - Formula Window

The window displays the description field of the formula, the formula, the key used to check the syntax, the keys used to enter the logical operators, the keys used to select the operands and the fields for configuring the time parameters.

Description

The description field allows to assign to the Formula an alphanumeric description capable of explain the function of the Formula. The description can include up to 40 alphanumeric characters.

The mode used for the description of the formulas is particularly important. A good description simplifies their subsequent identification and their function.

Formula

This field displays the programmed formula

CHECK

This button allows to check the syntax of the Formula

Warning:

Syntax checking does not guarantee the operational functionality of the Formula.

Structure of the Formula	
((A & B)!C)	Example of a theoretical Formula
	A, B and C are operands
	& ! are operators
((AL1S5 & AL1S6)!GS)	For the control panel, the formula becomes
	A = Alarm Line 1 Detector 5
	B = Alarm Line 1 Detector 6
	C = System Fault

2 - Structure of the Formula

The Formulas use the syntax typical of boolean algebraic formulas.

The table on the side shows in the first row a theoretical formula that uses the generic operands (A, B, C).

The second row shows the same formula where the generic operands were replaced with operands of the control panel.

Table of the operators			
NOT !	NOT Operator Example: If the operand A is equal to 0, by means of the NOT operator it becomes equal to 1, and vice versa (that is, its value is negated)	A	NOT A
		0 (False)	1 (True)
OR 	Operator who submits the operands to the function of logical sum Example: if the operands are A and B the expression OR is satisfied when at least one operand is true (i.e. when its value is 1)	1 (True)	0 (False)
		A	B
		0 0	0 (False)
		0 1	1 (True)
AND &	Operator who submits the operands to the function of logical product Example: if the operands are A and B the expression OR is satisfied when both operands are true (i.e. when both their values are 1)	1 0	1 (True)
		1 1	1 (True)
		A	B
		0 0	0 (False)
(The open and close parenthesis delimit a mathematical expression that must be performed or calculated before all the other expressions not enclosed in parentheses.	0 1	0 (False)
		1 0	0 (False)
)		1 1	1 (True)

3 - Composition of the Formula

The formula is composed by operators and operands. The execution of the formula is subject to time parameters.

While writing the formula, parentheses can be used to enclose expressions (calculations) that must be executed before other expressions.

Operators

Logical operators allow to provide the formula with calculation functions and a correct logical development, ruled by the appropriate sequence and combination of the logical operators AND, OR, NOT.

Operands

The operands which can be used in the formulas are grouped in 11 categories. Each category corresponds to a key, used to access the window that lists the operands of that category.

Through one or more successive selections it is possible to identify and choose the desired operand for a Formula.

For an easy identification of the operands, each one is associated to an alphanumeric description.

Warning: Only the operands that have been programmed are displayed.

Satisfaction of the formula

A Formula is satisfied or true, when all operands satisfy the conditions dictated by the logical operators.

Time Parameters

The time parameters applied to the formula define the switching delay and the actuation time with which the output module controlled by the formula will be managed.

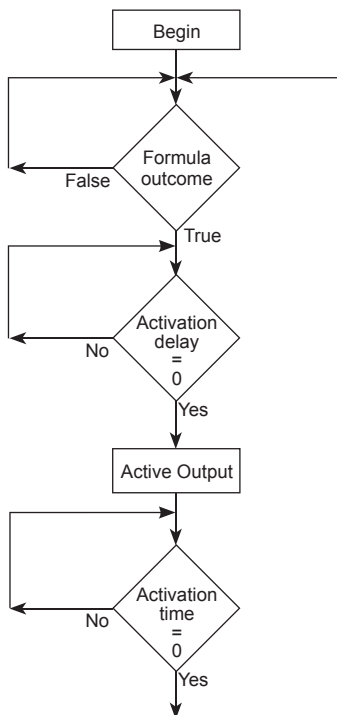
Intermediate formulas: what and what for

The intermediate formulas can be recalled in the compilation of the formula that rules the behaviour of the output signal of an output module.

The intermediate formulas can be recalled as complex logical operators within other intermediate formulas.

The intermediate formulas are useful to create "macros" that can be used by formulas.

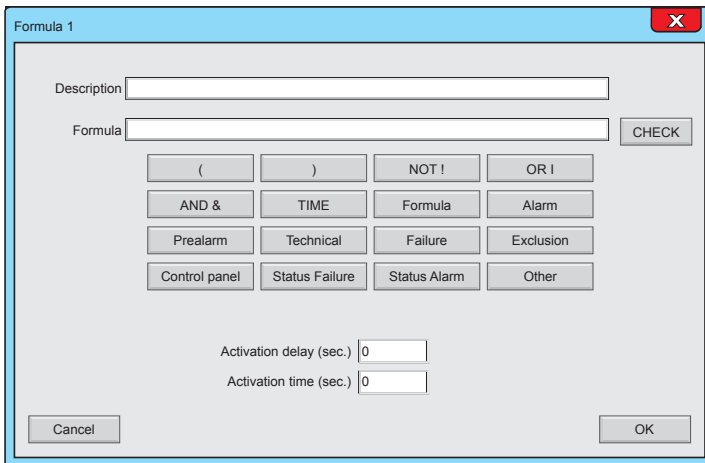
Intermediate formulas can also invoke themselves, recursively.



Operands table			
TIME	Category that groups the programmed access periods		
Access periods			
Formula	Category that groups the programmed intermediate Formulas		
Formula			
Alarm	Category that groups the fire alarms		
Zone	Detector	Module	Virtual zone
Prealarm	Category that groups the fire prealarms		
Zone	Detector	Module	Virtual zone
Technical	Category that groups the technological alarms		
Zone alarm	Detector alarm	Module alarm	
Zone prealarm	Detector prealarm	Module prealarm	
Failure	Category that groups the failure signals		
Zone	Detector	Module	Control panel
Device			
Exclusion	Category that groups the exclusions (N.B. The exclusion of a control panel interrupts any communication between such unit and the other units in the network)		
Zone	Detector	Module	Control panel
Device	Line		
Control panel	Category that groups intermediate Formulas of another control panel of the network N.B. This operand must be used with great caution. The loss of communication between the units, can make unusable the formula that uses this operand.		
Control panel			
Status Failure	Category that groups the devices in a status of fault signalling.		
Detector	Module	Control panel	Device
Status Alarm	Category that groups the devices in a status of alarm signalling.		
Detector	Module		
Other	Category that groups a list of statuses of the control panel (the same statuses which can be associated with the programmable outputs)		
Alarm: Fire alarm	Alarm: Fire prealarm	Alarm: Technical alarm	Alarm: Delayed alarm
Alarm: General fault	Alarm: Device under test	Alarm: System fault	Status: Evacuation
Alarm: Battery low	Alarm: Battery failure	Alarm: Power failure	Alarm: Power supply failure / battery charger failure
Alarm: Ground leakage	Alarm: Sirens tamper	Status: Configuration key inserted	Status: Battery
Status: Battery failure	Status: Power failure	Status: Power supply failure / battery charger failure	Status: Ground leakage
Status: Sirens tamper	Status: Exclusion of at least one item (including outputs)	Status: Exclusion of control panel outputs	Status: At least one zone under test
Status: Control panel under maintenance	Status: Communication with device in progress	Status: Control panels network connected and running	Status: Ethernet connection ON
Status: System OK	Status: LOOP BUS open	Status: Manned control panel	Status: Configuration enabled
Control panel reset in progress	Alarm: Technical Prealarm		

Warning: The word Status refers to the momentary physical status of the device. The device can be in Active or Off state (the Status is not a memorised condition).





4 - Writing a Formula

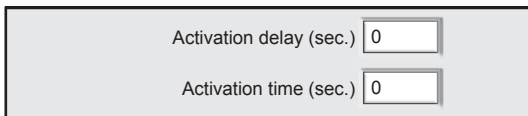
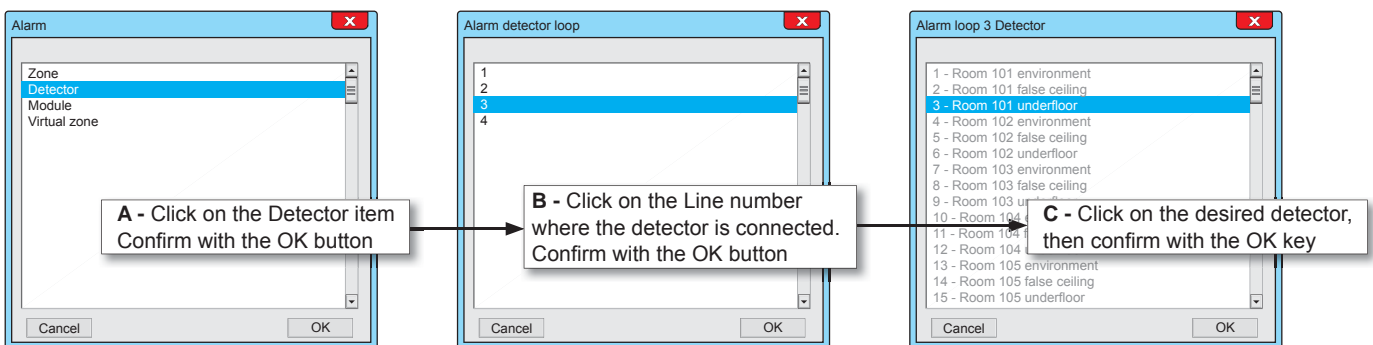
To write a formula use the operators and operands keys.

Typing a key that brings together a category of operands, opens an additional window that lists the operands of the category.

Choose an item in the list by clicking on it and then confirm the selection by clicking on OK.

If the category is composed of several sub-categories - such as for example the category "Alarm" - repeat the same operations to select and confirm the next choices.

For instance, to choose a detector in the alarm category follow the points A, B



Warning:

If an Activation Delay and/or a Duration are set in the used Formula, it is recommended to avoid programming on the module any Activation Delay or Activation Time.

5 - Time Parameters

The execution of every Formula - an intermediate formula or a formula associated with an output module - can be linked by two timers: the first timer defines the activation delay, the second timer defines the activation time of the module output.

The programmable time on the two Timer goes from 0 to 600 sec.

Activation delay

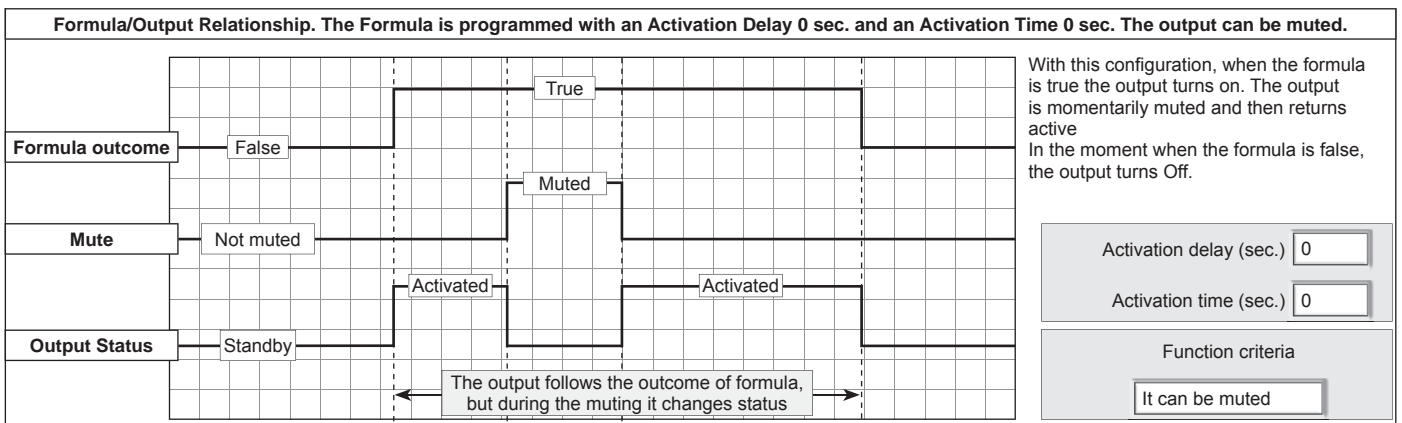
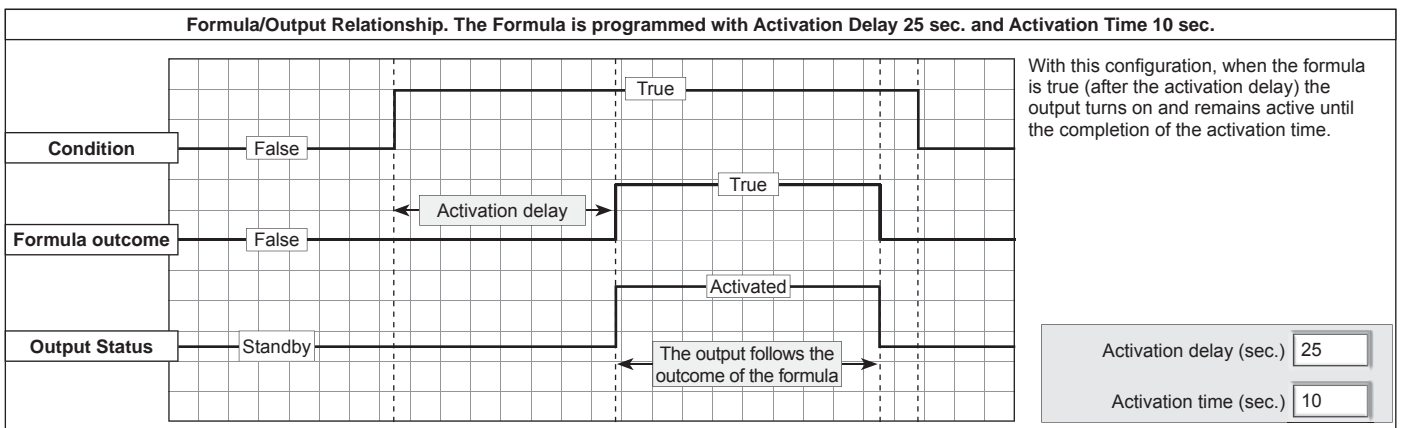
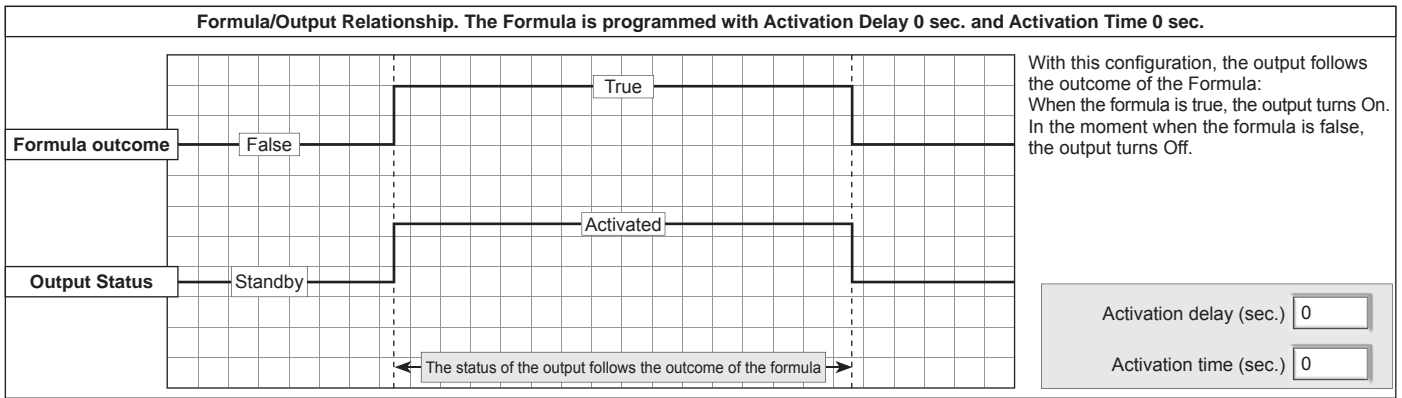
If the activation delay is applied, the timer starts when the formula is validated, and the output is activated when the delay time ends.

Activation time

The timer starts when the formula is validated or at the end of the Activation Delay (if it is set). The timer sets the maximum activation time of the device associated with the formula.

Behaviour of outputs associated with the Formulas

The behaviour of the formulas differs according to the set time parameters. It is also important to take into account that the amount of devices connected to the LOOP and their polling priority may introduce a further small delay between the logic activation (i.e. when the conditions of the formula are true) and the actual activation of the output. In any case the times Activation Delay and Activation Time may be slightly higher, but never lower than the programmed values.



Formula/Output Relationship. The Formula is programmed with an Activation Delay 25 sec. and an Activation Time 10 sec. The output can be muted.

With this configuration, when the formula is true (after the activation delay) the output turns on and remains active until the completion of the activation time. The output follows the muting, if any.

Activation delay (sec.)

Activation time (sec.)

Function criteria

Formula/Output Relationship. The Formula is programmed with an Activation Delay 10 sec. and an Activation Time 25 sec. The output can be muted.

With this configuration, when the formula is true output turns on after the activation delay. The output is momentarily muted and then returns active until the completion of the activation time.

Activation delay (sec.)

Activation time (sec.)

Function criteria

Formula/Output Relationship. The formula is programmed with an Activation Delay of 10 sec. - but before the expiry of the 10 sec. the formula is again false.

With this configuration, to enable the output the formula must be true even at the end of the delay time - if the formula turns false within the delay time the output will not be activated.

Activation delay (sec.)

Activation time (sec.)

Function criteria

The Formulas menu is completed
 To confirm the configurations, click **OK**
 To cancel the configurations, click **Abandon**.

Formulas, examples of use

The table "Formulas, examples of use" shows, for each category of operands, the practical application of a Formula. For each formula, it provides the category of the subject used in the formula. The column "formula is true when" provides a key for reading the formula. In the column "Syntax" the formula is broken down and analysed from the syntactical point of view. To simplify the understanding of the examples, each formula uses only one category of operands. However, in the practical use there are no limitations in the use of operators and operands, also from different categories.

Formulas, examples of use			
Subject	Formula	The formula is true when	Syntax
TIME	AP1	The access period 1 is active	APx = access period number x
Formula	FO2	The formula 2 is valid	FOx = Formula x
Alarm	AZ7 AL3S3	The Zone 7 is in an alarm condition, or the detector 3 of the line 3 is in alarm condition	AZx = Alarm Zone x OR ALySx = Alarm Detector x of the line y
Prealarm	PZ8	The zone 8 is in prealarm condition	PZx = Prealarm Zone x
Technical	TL1M15	The Module 15 of the Line 1 is in an Alarm condition (Technological Alarm)	TLyMx = Technological Alarm Module x of the line y
Failure	FD1&FL2S14	The Expansion Device 1 and the Detector 14 of Line 2 are in a Failure condition	FDx = Faulty Expansion Device x AND FLySx = Failure on Detector x of the Line y
Exclusion	EW3	The Line 3 is excluded	EWy = Exclusion of Line y
Control panel	CF2F8	The Formula 8 of the control panel Slave 2 is valid	CFxFy= Formula y of the control panel x
Status failure	fL2M3	The Module 3 of the Line 2 is in a Failure condition	fLyMx = Failure of the Module x of the line y
Status Alarm	aL2M3	The Module 3 of the Line 2 is in a Alarm condition	aLyMx = Alarm of the Module x of the line y
Other	(BB&RT) (ST&CM)	Low Battery and Power failure indications are active. Or else, it is active the signal of Ground Leakage and the control panel is under maintenance	BB = Battery low AND RT = Power failure OR ST = Dispersion status AND CM = Control panel under maintenance
NOT !	!OK&FC3	The System Status is not OK and the Slave control panel 3 is under a condition of failure prealarm	NOT OK = System OK AND FCx = Faulty Slave control panel x
	((FC3&FO6)&!EV)	The Slave control panel 3 is in fault signalling and the Formula 6 is true if an evacuation is not in progress	FCx = Faulty Slave control panel x AND FOx = Formula x AND NOT EV = Evacuation in progress
	(!EV&(FC3&FO6))	No evacuation in progress and Slave control panel 3 is in failure prealarm condition and Formula 6 is true	NOT EV = Evacuation in progress AND FCx = Faulty Slave control panel x AND FOx = Formula x

Symbols used in the Formulas

The table "Syntax of operators and operands" lists, in alphabetical order, the symbols and the syntax of all the available operators and operands. In order to be recognized by the control panel, operands must be written according to a precise syntax. To avoid errors, it is recommended to select the operands via the formula compilation keys, which give access to the lists of categories. Each item in such lists includes also an alphanumeric description of the operand in use. The use of lists helps to avoid syntax errors, and allows an easier identification of the devices through their alphanumeric description. The symbols of the categories grouping multiple elements - as: Control panels, Zones, Detectors, Modules, Expansion devices, Access periods, Formulas - include a numerical extensions that identifies in a unique way the specific device.

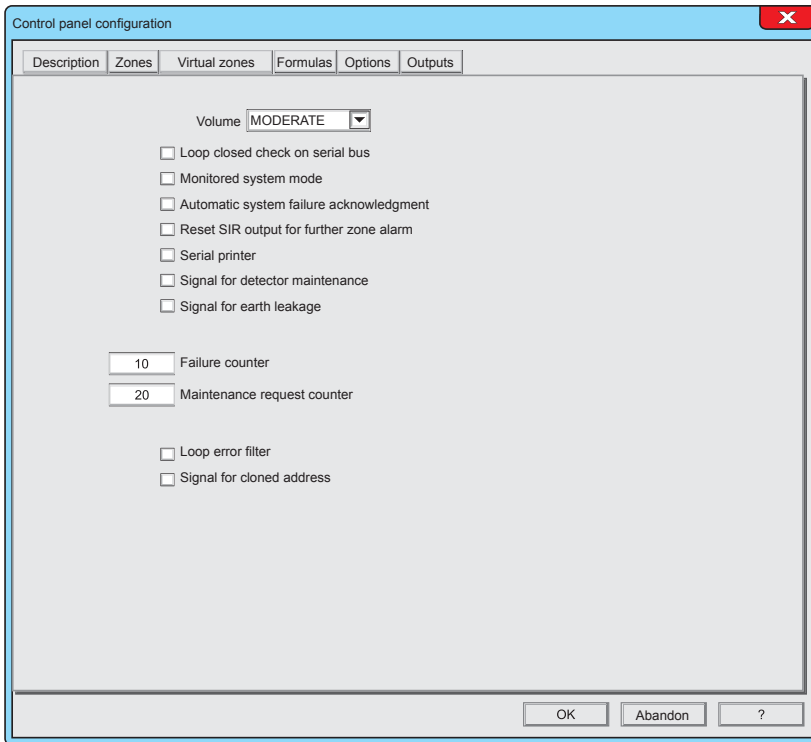
For example, the generic symbol **ALySx** indicates "The alarm of the Detector x belonging to the Line y". In the real formula syntax, in place of the letters x and y, there are the identification numbers of the physical devices. For example, to indicate the alarm of the Detector 124 of the Line 2 the symbol becomes **AL2S124**.

Syntax of the operators and of operands					
Symbol	Meaning	Extensions	Symbol	Meaning	Extensions
!	NOT		FLyMx	Module fault	Line y - Module xx
(Left bracket		fLyMx	Module fault status	Line y - Module xx
)	Right bracket		FLySx	Detector fault	Line y - Detector xx
&	AND		fLySx	Detector fault status	Line y - Detector xx
	OR		FOx	Formula	Formula xxx
AG	Fire alarm		FZx	Zone fault	Zone xxx
ALyMx	Module alarm	Line y - Module xx	GA	Alarm power supply KO or battery charge fault	
aLyMx	Module alarm status	Line y - Module xx	GB	Battery fault alarm	
ALySx	Detector alarm	Line y - Detector xx	GF	Ground leakage alarm:	
aLySx	Detector alarm status	Line y - Detector xx	GG	General failure	
APx	Access period	Access period xx	GS	System fault	
AT	Timed alarm		KP	Configuration key inserted	
AZx	Zone alarm	Zone xxx	LO	Open BUS loop	
BB	Battery low		NT	Control panel network connected and running	
CK	Alarm of device under test		OK	System OK	
CLyMx	Module Test	Line y - Module xx	PG	Fire prealarm	
CLySx	Detector test	Line y - Detector xx	PLyMx	Module prealarm	Line y - Module xx
CM	Control panel under maintenance		PLySx	Detector prealarm	Line y - Detector xx
CO	Ongoing communication		PR	configuration enabled	
CP	Manned control panel		PZx	Zone prealarm	Zone xxx
CZx	Zone test	Zone xxx	RS	Control panel reset in progress	
ECx	Control panel exclusion	Control panel xx	RT	Power failure alarm	
EDx	Device exclusion	Device xx	SA	Power supply / battery charging Fault Status	
EG	Exclusion of at least one item (including outputs)		SB	Battery status	
ELyMx	Module exclusion	Line y - Module xx	SG	Battery failure status	
ELySx	Detector exclusion	Line y - Detector xx	SR	Power failure status	
ER	Exclusion of control panel outputs		SS	SIR output status	
ET	Ethernet connection ON		ST	Ground leakage state	
EV	Evacuation in progress		TG	Technical alarm	
EZx	Zone exclusion	Zone xxx	TLyMx	Module technological alarm	Line y - Module xx
FCx	Control panel fault (communication lost)	Control panel xx	TLySx	Alarm detector technology	Line y - Detector xx
fCx	Control panel fault status (communication lost)	Control panel xx	TS	SIR output failure	
FDx	Device Fault (communication lost)	Expansion device xx	TZx	Zone technological alarm	Zone xxx
fDx	Device fault status (communication lost)	Expansion device xx	ZT	At least one zone under test	

7-5 - Options

Description Zones Virtual zones Formulas **Options** Outputs

This menu allows to adjust the volume of the acoustic signals of the unit. With this menu it is also possible to enable or disable various diagnostic, signalling and operation options.



Volume MODERATE

1 - Volume

Adjusting the volume of the control panel speaker, for the diffusion of the acoustic signals and speech synthesis. The table shows the behaviour according to the selected option.

Behaviour Configuration	Acoustic alarm notifications	Voice synthesis notifications	Generic acoustic notifications
LOW	The acoustic signals relating to prealarm, alarm and technological alarm events are emitted with high volume.	Emitted with low volume	Emitted with low volume
MEDIUM		Emitted with medium volume	Emitted with medium volume
HIGH		Emitted with high volume	Emitted with high volume
MUTE		No voice notification	Emitted with low volume

Loop closed check on serial bus

2 - Loop closed check on serial bus

Enables or disables the check of the loop closing on the BUS485 line, dedicated to the connection of the system repeaters

Monitored system mode

3 - Monitored system mode

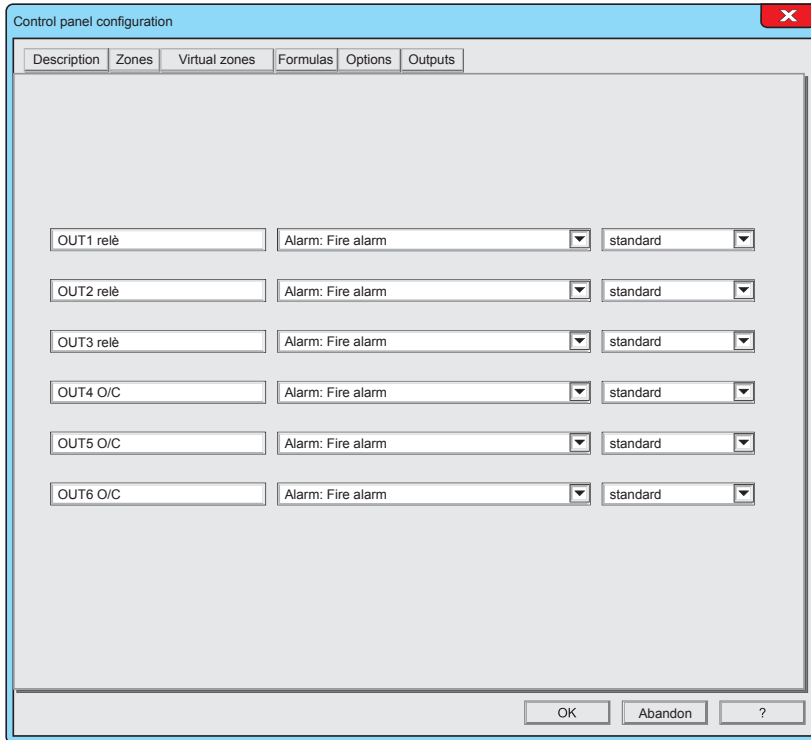
This option enables or disables the Manned Control panel function. When this function is enabled, it is possible to activate the operating mode Manned control panel.

<input checked="" type="checkbox"/> Automatic system failure acknowledgment	<p>4 - Automatic system failure acknowledgment Enables or disables the automatic muting of system failures in the control panel. By enabling the function, when normal operating conditions are restored, the fault signalling is reset automatically</p>
<input checked="" type="checkbox"/> Reset SIR output for further zone alarm	<p>5 - Reset SIR output for further zone alarm Enables or disables the reset of the siren signal in case of a new alarm</p>
<input checked="" type="checkbox"/> Serial printer	<p>6 - Serial printer Enables or disables the immediate transfer of the event to the serial printer connected to the control panel.</p>
<input checked="" type="checkbox"/> Signal for detector maintenance	<p>7 - Signal for detector maintenance Enables or disables the indication that maintenance is required. The alarm is generated by the optical detectors, when their self test function detects a deterioration of their detection capability, due to impurities deposited inside the analysis chamber.</p>
<input checked="" type="checkbox"/> Signal for earth leakage	<p>8 - Signal for earth leakage Enables or disables the signal of electrical leakage toward the ground electric potential</p>
<input type="text" value="10"/> Failure counter	<p>9 - Failure counter Setting of the fault notifications counter. The control panel reports the condition of failure only after a given number of fault detection. In case of 2 concurrent failures, the control panel manages 2 counters. These counters are reset upon each system reset. The maximum number that can be set is 255.</p>
<input type="text" value="20"/> Maintenance request counter	<p>10 - Maintenance requests counter Setting of the counter of the signals needed to display the Maintenance Required automatic alert. The control panel sends a maintenance request only when the counter reaches the set number of signals. The maximum number that can be set is 255.</p>
<input checked="" type="checkbox"/> Loop error filter	<p>11 - Loop error filter Enables or disables the line communication noise rejection function. Enable this function when electrical disturbances generate communication errors in the detection lines. Warning: The use of this function slows the reactivity of the Loop.</p>
<input checked="" type="checkbox"/> Signal for cloned address	<p>12 - Signal for cloned address Enables or disables the indication of the detection of duplicate addresses. This option, when enabled, signals the possible existence of devices with the same identification address. (Consider that the current legislation does not allow the use of devices with the same address)</p>
<input type="button" value="OK"/> <input type="button" value="Abandon"/>	<p>The Options menu is completed To confirm the configurations, click OK To cancel the configurations, click Abandon.</p>

7-6 - Outputs

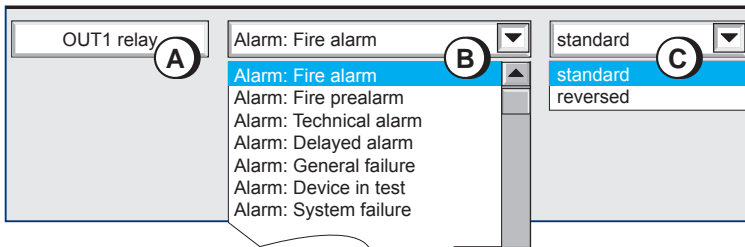
Description	Zones	Virtual zones	Formulas	Options	Outputs
-------------	-------	---------------	----------	---------	----------------

With the menu Outputs it is possible to configure the operation of the programmable control panel outputs. For each output, it is possible to customise its operations, by choosing between the available ones. It is also possible to program the logical condition of the output, when idle, as Normal or Reversed.



The 6 available outputs are displayed on six rows. Each row includes a descriptive field and two programmable fields.

Number and type of available outputs		
Control panel	Relay Outputs	Outputs O/C
TFA1-298	-	2
TFA2-596	3	3
TFA4-1192	3	3



1 - Output configuration

- A - Descriptive field, the name of the physical output of the module is indicated.
- B - Programmable field, click on the pull-down menu and choose the specialization of the output.
- C - Programmable field, click on the pull-down menu and choose the logical state of the output, in idle condition.

Outputs - Operating specializations		
Alarm: Fire alarm	Alarm: Ground leakage	Status: Control panel under maintenance
Alarm: Fire prealarm	*Alarm: Sirens Tamper	Status: Communication with device in progress
Alarm: Technical alarm	Status: Configuration key inserted	Status: Control panels network connected and running
Alarm: Delayed alarm	Status: Battery	Status: Ethernet connection ON
Alarm: General fault	Status: Battery failure	Status: System OK
Alarm: Device under test	Status: Power failure	Status: LOOP BUS open
Alarm: System fault	Status: Power supply failure / battery charger failure	Status: Manned control panel
Status: Evacuation	Status: Ground leakage	Status: Configuration enabled
Alarm: Battery Low	*Status: Sirens Tamper	Control panel reset in progress
Alarm: Battery failure	Status: Exclusion of at least one item (including outputs)	Alarm: Technical Prealarm
Alarm: Power failure	Status: Exclusion of control panel outputs	* The signals Siren tamper alarm and Siren alarm status refer to the resistance of the controlled output.
Alarm: Power supply failure / battery charger failure	Status: At least one zone under test	



The Outputs menu is completed
To confirm the configurations, click **OK**
To cancel the configurations, click **Abandon**.



7A - ADDITIONAL INFORMATION - OUTPUTS



7A-1 - Outputs of the control panel

1 - Management of the control panel outputs

The control panel is equipped with auxiliary outputs to control the external devices.

There are 4 outputs with fixed specialization (not programmable) and 6 programmable outputs, for which it is possible to allocate a special operation, to be chosen among the available ones.

2 - Outputs with fixed specialization

Alarm output

Output with relay with free contact (dry contact).

In the idle state the relay is not energized

The output is activated when a fire type zone signals an alarm. The output follows the status of the alarm LED located on the panel of the control panel. In case of alarm, such output remains signalling until the control panel has been reset or the sirens have been muted.

Fault output

Output with relay with free contact (dry contact).

In the idle state the relay is energized

The output is activated when any device of the system reports a fault. The output follows the status of the LEDs located on the panel of the control panel: Failure, Power Supply Fault, System Fault. In case of fault, such output remains signalling until the control panel has been reset.

Reset Output

Output with relay NO-NC (the common is referred to 24V).

In the idle state the relay is not energized

The output is activated for 5 seconds each time when the control panel is reset (by pressing the reset button located on the panel of the control panel). The output is used to reset the status of the external devices.

Siren output (evacuation alarm)

Output controlled with relay for reversing the polarity of the supply.

The output makes available on its terminals a voltage supply. When activated, the output polarity is reversed.

The siren output follows the alarm output, but it is delayed according to the time Evacuation Siren Delay.

The delay is set to zero when the evacuation is activated from the control panel keyboard or any other system keyboard.

The evacuation alarm output remains active until muted.

3 - Customizable outputs

OUT1, OUT2, OUT3

Outputs with free contact relay(dry contact). In the idle state the relay is programmable (direct or reverse activation).

The output function is programmable (see table "Outputs specialization").

OUT4, OUT5, OUT6

Open collector outputs (negative or high impedance). In the idle state is programmable (direct or reverse activation).

The output function is programmable (see table "Outputs specialization").

8 - ETHERNET CONFIGURATION



8-1 - Ethernet channels



In this menu it is possible to define the operating parameters of the Ethernet communicators and the Call back. The control panel has 8 Ethernet communicators (A, B, C, D, E, F, G, H). Each of them can be associated with an IP address, a main IP number, a secondary IP number, a communication protocol and an identification code.

Warning:
This configuration menu is not available for the Control panel TFA1-298

A	
IP 1	126-126-256-12
IP 2	26-26-26-126
Format	192 TCPIP
ID	1212

1 - Configuring the communicators

A - Header, name that identifies the communicator.

IP 1 - Main IP Address, the first IP address that the communicator calls in its cycle of calls. To enter the address, click on the field. 24 digits are available.

IP 2 - Reserve IP Address, the second IP address that the communicator calls in its cycle of calls. To enter the address, click on the field. 24 digits are available.

Format - Choice of the communication protocol. The protocol identifies the transmission mode. Each protocol has its own peculiarities, typically the mode and the communication carrier to be used (the control panel uses only IP as the communication carrier)

ID - identification code of the communicator (maximum length of the code 6 digits). Through the identification code, the Teleservice centre identifies the communicator, and hence the control panel from which the alarms come. If this field is not filled, the control panel ID is sent automatically.

8-2 - Ethernet

Ethernet channels

Ethernet

Security
Report codes

In this menu it is possible to set the network operating parameters, the communication ports and the access restrictions for the local server and remote server. The operation is enabled and the communication ports used by Tecnoserver and Call Back are defined.

Warning:
This configuration menu is not available for the control panel TFA1-298

IP address

1 - IP address

The network address is the first identification parameter of the dialer.
Warning: Only one static IP address can be used.
(or else use a DNS service)

Ethernet line check

2 - Ethernet line check

Box that enables the Ethernet connection check. To enable or disable the check, click on the box.
The check is enabled when the check mark is present.
Warning: If the check is not activated, the failure signals of the Ethernet channel are not expressed.

Subnet mask

3 - Subnet mask

The Subnet mask is the second parameter for the identification of the dialer. The Subnet mask identifies the range of the dialer inside the IP subnet.

Gateway

4 - Gateway

In home local networks the Gateway is usually handled by the router, therefore in this field it is sufficient to enter the IP address of the router.

Summary table of communication channels				
Channel	Channel name	Modes	Port (default)	Function
1	LOCAL SERVER TECNOALARM	Server	10000	This channel is used for the connection to the control panel through the local area network (LAN).
2	REMOTE SERVER TECNOALARM	Server	10001	This channel is used for the connection to the control panel through an external geographic network (WAN or VPN).
3	TECNOSERVER TECNOALARM	Client	10000	This channel is used by the control panel communicators for sending alarm and failure signals to remote IP addresses.
4	CALL BACK TECNOALARM	Client	10001	This channel is used by the control panel Call Back communicator to send the TCP/IP network cyclic test

LOCAL SERVER TECNOALARM

Port

White list

5 - Tecnoalarm local and remote server

Configuration of the operating parameters of the Tecnoalarm local and remote server

Enabling

To enable or disable the Server operation, click on the box.
The server operation is enabled when the check mark is present.

Port

Setting the communication port of the Server. The port set will be used by the Clients to access the Server.

Warning: To access the Server also from an external network (WAN), the port number of the Server should also be set on the Port Forwarding of the home router.

White List

The White List is an editable list that contains the list of IP addresses of the Clients which are authorized to access and make requests to the Server.

The list is composed of one to three IP addresses that correspond to the Clients authorized to access the Server.

Warning: The IP addresses must be static. If the list is not filled (empty addresses or with zeros), there is no restriction on access. As a result, the Server will accept incoming connections from any network node.

REMOTE SERVER TECNOALARM

Port

White list

TECNOSERVER TECNOALARM

Alarm Port

6 - Tecno server and Tecnoalarm Call Back

Configuration of the communication port reserved for the communication with the Tecnoserver and Tecnoalarm Call back

Enabling

To enable or disable the Server operation, click on the box.
The server operation is enabled when the check mark is present.

Port

Setting the communication port of the Server. The port set will be used by the Clients to access the Server.

Warning: To access the Server also from an external network (WAN), the port number of the Server should also be set on the Port Forwarding of the home router.

CALLBACK TECNOALARM

Call back Port

Warning: The channel CALL BACK TECNOALARM is used also by the Cyclic Server function

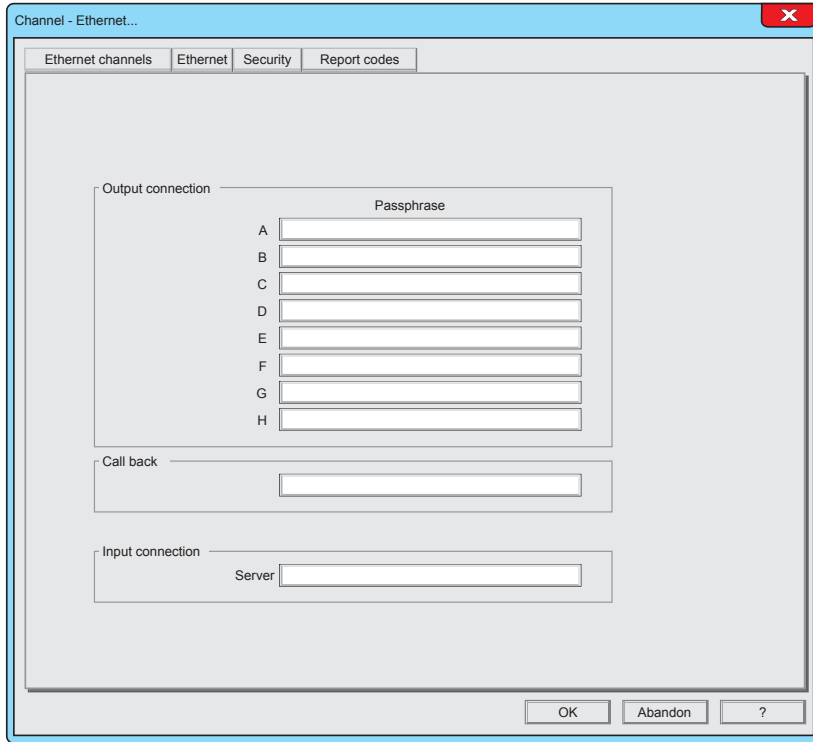
The Ethernet menu is completed

To confirm the configurations, click **OK**
To cancel the configurations, click **Abandon**.

8-3 - Security



Configuration Menu for the Passphrase used by communicators to encrypt the communication data. The Passphrase is an encrypting key that the communicator uses to encrypt its communication, and hence to increase the security level of the communication. The transmitted data may be decoded and interpreted only by the recipient with which the Passphrase was agreed.



Warning:
This configuration menu is not available for the control panel TFA1-298

Output connection

Passphrase

A

B

C

D

E

F

G

H

Call back

Input connection

Server

1 - Passphrase

To each communicator (outbound communications) it is possible to assign an encryption Passphrase.

Syntax rules

The table shows the syntax rules to follow in order to create the Passphrase.

Passphrase syntax rules		
Number of characters	→	16 characters maximum number
Type of characters	→	Alphanumerics, numbers or letters
Type of letters	→	Recognizes uppercase and lowercase letters
What to avoid	→	Characters other than numbers and letters

Also for inbound communications from the server, it is possible to assign an encryption passphrase.

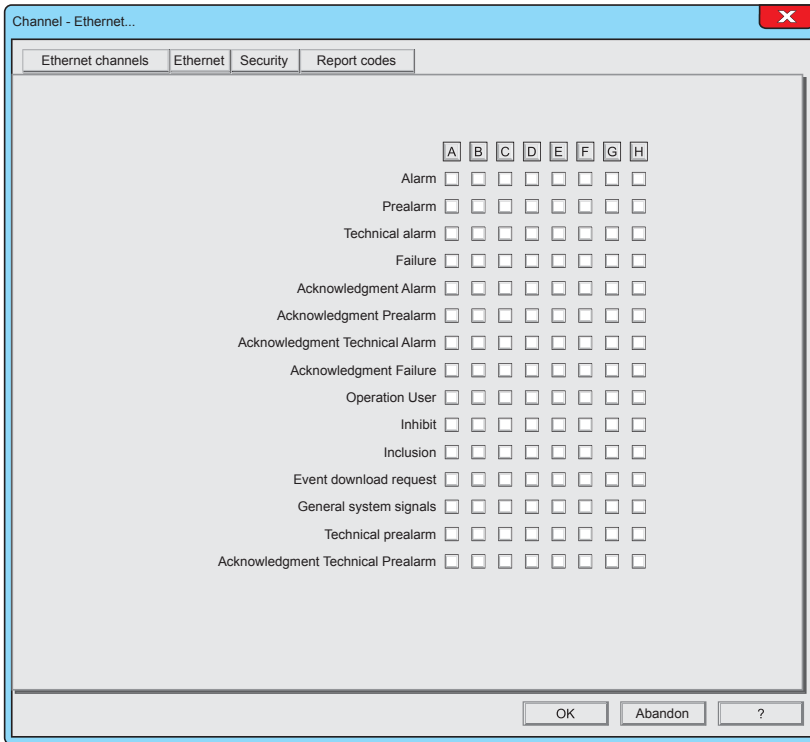


The Security menu is completed

To confirm the configurations, click **OK**
To cancel the configurations, click **Abandon**.

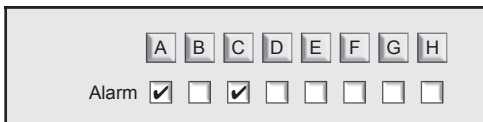
8-4 - Report codes

Configuration menu of the report codes. The control panel can transmit through its 8 channels all the events that affect its operation. To each communicator can be assigned a category of events to convey. Events can be transmitted only if they are enabled. The events are transmitted by each communicator according to the protocol assigned in the Ethernet Communicators menu.



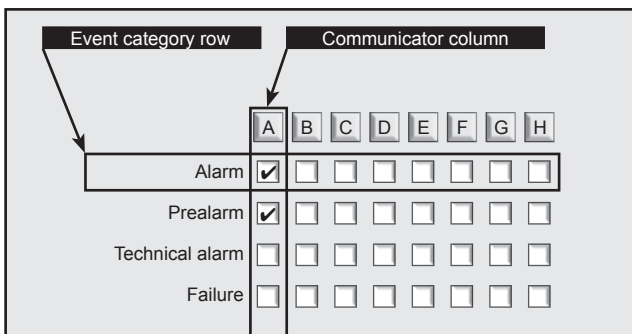
Warning:
This configuration menu is not available for the control panel TFA1-298

Each item in the list Report codes (Transmittable events) represents a category of events. Enabling an item in the list, you enable all the events grouped in such category. For example, the Alarm category groups alarm events of all detectors, modules and zones.



1 - Pairing channels and events

The available channels are 8, each channel is distinguished by a letter of the alphabet from A to H. The event categories are shown in the table "Transmittable events". Each category has a row with 8 boxes, and each box represents a communicator. Clicking on the letter of one communicator, you enable or disable the communicator to transmit any category of events. To enable or disable only the desired categories, click on the checkbox relevant to the communicator selected for notification.



Event category row

The row event is highlighted in horizontal, including the name of the category and 8 boxes, for the 8 communicators.

Communicator column

The column of the communicator is highlighted in vertical, with a box for each event row.



The Report codes menu is completed

To confirm the configurations, click **OK**
To cancel the configurations, click **Abandon**.

8A - ADDITIONAL INFORMATION - ETHERNET CONFIGURATION

8A-1 - Additional information - Channels



1 - Ethernet channels

For sending alarm notifications, the control panel uses the integrated Ethernet dialer.

The dialer uses a dedicated transmission channel in Client Mode.

The dialer operates 8 independent Ethernet communicators, identified with the letters A to H.

The alarm notification forwarding priorities are managed by the control panel according to a priority criterion based on the alphabetical identification of each communicator (the communicator A has the highest priorities, while the communicator H has the lowest priority).

It is therefore necessary that the more important notifications are associated with the highest priority communicators, privileged in sending the notifications, in order: A, B, C, D, E, F, G and H (where H has the lowest priority).

The communicators are logical units which manage the communication according to the following procedure:

Dial the IP address of the recipient of the notification

Carry out the communication, and possibly repeating the attempt according to the rules (prescribed by the notification cycle)

Log the outcome of the communication

Manage the signalling LED "Transmission successful"

Report any failures related to its operation

2 - Operating parameters

The eight communicators share the communication carrier and the assigned Ethernet channel. For the rest, their operation is independent. In fact each communicator forwards alert notifications on the basis of its own operating parameters.

The programmable parameters are:

Communicator identifier

Numeric code (max 6 figures), by which the recipient (alarms receiving centre) identifies the origin of the notification.

If the identifier is not programmed, the communicator sends the identification code of the control panel.

Protocol

Communication mode of the notification. The protocol should be agreed with the recipient receiving centre.

See table of the available protocols.

Addresses

The addresses No.1 and No.2 are the IP addresses of the recipients of the notified events, typically the alarms receiving centre.

The second address is called only if the communication toward the first address has failed.

For the syntax of the IP addresses, writing mode can be used: only the address or address plus communication port:

Only IP Address - The IP address is formed by 4 numeric fields, divided by a point or dash.

In this case the dialer uses the port set for the client channel TECNOALARM TECNOSERVER.

Address IP plus the communication port. In this case, append to the 4 numeric fields of the IP address a fifth numeric field that defines the port. The 5 fields must be separated by the dot or dash character.

Notification cycle

The communicators perform the alarm notification calls according to precise functional rules defined by the notification cycle.

The notification cycle is structured according to the following sequence:

Address No.1 (main) is contacted. If this address is not reachable, Address N.2 (reserve) is contacted. If both numbers don't answer, any next communicator associated with the event is activated. If the communicator fails to notify the event to both the addresses, it performs a maximum number of 4 attempts for each one of the 2 addresses.

The minimum pause time between the attempts is 6 seconds.

Each communicator has its own pause time counter, then if the subsequent attempt takes place on another communicator the pause time is zero.

IP carrier protocol table							
Carrier	Number	Name	Description	Modes	Encryption	Timestamp	Backup
IP	123	SIA-IP	SIA-IP Reporting [TCP-2007]	DATA			
	124	SIA-IP-T	SIA-IP-T Reporting [TCP-2007]	DATA		✓	
	125	C.ID-IP	C.ID-IP Reporting [TCP-2007]	DATA			
	126	C.ID-IP-T	C.ID-GPRS-T Reporting [TCP-2007]	DATA		✓	
	192	TCPIP	Tecnoalarm TCPIP	DATA	AES 128 BIT ENCRYPT		



8A-2 - Additional information - Ethernet

1 - Ethernet dialer

The control panel integrates an Ethernet 803.2 dialer, capable of transmitting in full and half duplex, 10Mbit to 100Mbit. The dialer uses a stack of TCP/IP protocols. The dialer uses 4 dedicated communication channels.

To each channel is assigned a task and each channel manages one communication at time.

The control panel supervises the management of Ethernet channels, to avoid opening a channel and keeping it locked.

In case of lack of two-ways communication for more than 10 seconds, the control panel closes the communication.

All the communication channels support 128bit AES encryption.

The Ethernet dialer schedule managing is protected by a specific CRC. If, at the end of a local or remote configuration, such portion is changed, the Ethernet manager is restarted.

2 - Communication channels

Channel 1 - LOCAL SERVER TECNOALARM

Communication modes: SERVER

Default communication port: 10000

Proprietary communication protocol TECNOALARM TCP/IP (192)

This channel is used for the connection to the control panel through the local area network (LAN).

Channel 2 - REMOTE SERVER TECNOALARM

Communication modes: SERVER

Default communication port: 10001

Proprietary communication protocol TECNOALARM TCP/IP (192)

This channel is used for the connection to the control panel through an external geographic network (WAN or VPN).

Channel 3 - TECNOSERVER TECNOALARM

Communication modes: CLIENT

Default communication port: 10000

This channel is used by the control panel communicators for sending alarm and failure signals to remote IP addresses.

Various communication protocols (those set for each communicator).

Channel 4 - CALL BACK TECNOALARM

Communication modes: CLIENT

Default communication port: 10001

This channel is used by the control panel Call Back communicator to send the TCP/IP network cyclic test

Proprietary communication protocol TECNOALARM TCP/IP (192)

3 - Server channels access restrictions

For all server type communication channels, it is possible to set a white list of 3 acceptable addresses.

If the 3 addresses are programmed as 0.0.0.0, all communications from any network address will be accepted.

Otherwise, communications from addresses not added to the white list will be rejected.

4 - Fault management of the Ethernet dialer

The anomalous operation of the dialer generates precise fault messages. When the option Automatic faults muting is enabled, the end of the fault automatically resets the signal and the cancellation of the events from the phone queue.

The types of monitored failure for the Ethernet interface are:

Faulty communication interface - When the control panel finds any anomaly in the operation of the Ethernet interface hardware. An interface fault is reported.

Lack of connection - when the control panel finds any lack of connection at the physical level with the Ethernet network for more than 60 seconds, the fault Line KO is reported. Such check occurs only if the channel TECNOALARM TECNO SERVER is enabled.

Any enabled communicator that is not carrying a communication for a time greater than 24 hours is automatically urged by the control panel to perform a Cyclic Test call on that communicator. If the communicator does not respond, the error Missing Communicator is reported.

Alarm notification failed - When an alarm notification fails, the fault "Communicator without answer" is generated at the end of the cycle.

5 - Regulatory compliance

Warning: Please note that the Ethernet dialer is compliant with the regulations, but not certified.

The communication with the Ethernet carrier is accepted by the rules only inside a local area network (LAN).

The client channel TECNOSERVER TECNOALARM can send alarms and faults notifications also to a remote receiver (WAN).

This kind of use/performance should be considered as optional. Its usage does not affect the normal operation of the control panel mandatory functions.

The communication channels: LOCAL SERVER TECNOALARM, REMOTE SERVER TECNOALARM and CALL BACK TECNOALARM are used to connect the control panel to a monitoring system and/or to update the programs.

N.B. Regarding the remote update of the programs, the standard prescribes that it should be carried out only by a level 3 or 4 operator, who should locally enable the update operation.





8A-3 - Additional information - Report codes

1 - Categories of report codes

The event categories are shown in the table "Transmittable events". For each category it shows the transmission priority and the details of the its items (events).

To simplify the configuration, the events have been collected into homogeneous categories. Enabling a category, you enable the transmission of all the events grouped in it.

2 - Event queue

When an event that falls within one of the report codes categories occurs, the control panel checks whether its category is associated with a communicator. If so, the event enters in the "event queue". The event queue can contain up to 64 elements.

The event queue is processed on the basis of the following rules:

Communicator - Priority order of the communicators, from A, the highest priority to H, the lowest.

Priority - Priority order of the Transmittable event categories

History - Chronological order; in case of equal priority, the event chronologically older is performed

The reporting priorities are:

Priority 1 - High transmission priority

Priority 2 - Normal transmission priority

Priority 3 - Low transmission priority

When an event of higher priority is detected, with respect to the managed queue, the current call is aborted to manage the event with higher priority. The aborted call will be handled as soon as possible.

The communicator sends in the same communication session any other associated event, but only if there is no need transmit events coming from other communicators with higher priority.

Transmittable events categories				
Alarm Priority 1 (high)	Detector alarm	Operation User Priority 3 (low)	Reset	
	Module alarm		Evacuation	
	Beginning Zone Alarm		Manned station activation	
Prealarm Priority 1 (high)	Detector prealarm		Manned station deactivation	
	Module prealarm		Sirens muting	
	Zone prealarm		Sirens reset	
Technical alarm Priority 3 (low)	Detector technical alarm		Inhibit Priority 3 (low)	Prealarm self-muting
	Module technical alarm			Detector exclusion
	Beginning technical zone alarm			Module exclusion
Failure Priority 2 (low)	Detector fault			Inclusion Priority 3 (low)
	Module fault	Control panel repetition exclusion		
	Device failure	Zone exclusion		
	Zone fault	Detector inclusion		
	System failure	Module inclusion		
	Timer reset	Device inclusion		
	Failure auto-reset	Control panel repetition inclusion		
	System failure auto-reset	Zone inclusion		
Acknowledgment Alarm Priority 3 (low)	Alarm category muting	Event download request Priority 3 (low)	Events memory download request	
Acknowledgment Prealarm Priority 3 (low)	Prealarm category muting	General system signals Priority 3 (low)	Cyclic test	
Acknowledgment Technical alarm Priority 3 (low)	Technical alarm category muting		Technical prealarm Priority 1 (high)	Reset lines
				Detector technical prealarm
Acknowledgment Failure Priority 2 (low)	Fault category muting	Acknowledgment Technical prealarm Priority 3 (low)		Module technical prealarm
			Zone technical prealarm	
			Technical prealarm category muting	

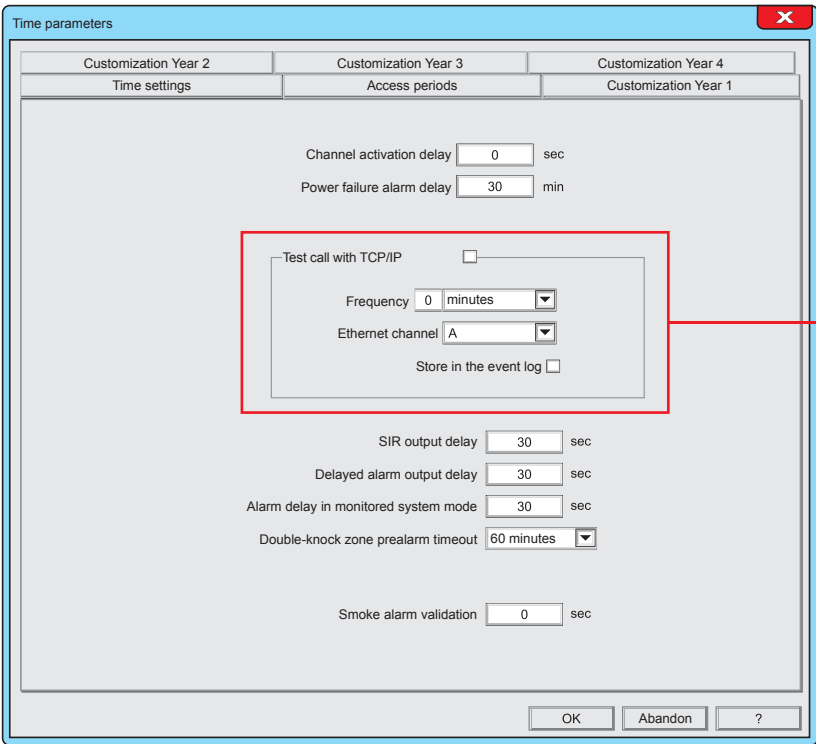
9 - TIME PARAMETERS



9-1 - Time settings

Time settings	Customization Year 3	Customization Year 4
	Access periods	Customization Year 1

This menu allows to configure all the delays of activation concerning the alarms and the prealarms of the unit. Setting the maximum time of early prealarm for the zones set with Dual Consensus. Enabling and setting the operating parameters of the Server cyclic test.



Warning:
The configuration is not managed for the control panel TFA1-298.

Channel activation delay sec

1 - Channel activation delay
Setting the delay time at the activation of the telephone communicators for forwarding notifications concerning fire alarms. The programmed delay does not act on all the other categories of prealarm.
0 to 600 seconds

Power failure alarm delay min

2 - Power failure alarm delay
Setting the delay of the power failure signal (primary power supply). If the mains voltage is off for a period of time longer than the scheduled time, the report is forwarded. If the mains voltage is off for a period of time shorter than the scheduled time, the report is not forwarded.
0 to 600 minutes

Test call with TCP/IP

Frequency minutes

Ethernet channels

Store in the event log

3 - Test call with TCP/IP

The server cyclic test allows the automatic periodic check of the presence of network connection between the control panel and the centre. The communication is via Ethernet and a TCP/IP protocol is used for communication.

Server cyclic test enabling - The server cyclic only runs if it is enabled. To enable, click the Enable box

Frequency - Setting of the numerical value of the interval (frequency); click on the box and enter the value (1 to 255). Click on the pull-down menu and choose the unit of measurement of the frequency value: minutes, hours or days.

Ethernet channel - One of the telephone communicators is used for communication. Click on the pull-down menu and choose a telephone communicator to use for this function.

Warning: The chosen communicator must be paired with one of the following protocols data: Tecnoalarm TCP/IP (192), SIA-IP (123), SIA-IP-T (124), C.ID-IP (125), C-ID-IP-T (126).

Store in the event log -When this function is enabled, all "Server Cyclic Test" events are stored in the log file.

Warning: If you are using a testing frequency, with a cycle too short there is a risk of saturating the event log without need.

If this function is not enabled, only events with negative outcome are recorded.

SIR output delay sec

4 - SIR output delay

Setting the activation time delay for the SIR control panel output, for the alarm and/or evacuation signal. (output with polarity inversion). 0 to 600 seconds

Delayed alarm output delay sec

5 - Delayed alarm output delay

Setting the activation time delay for the specialised output "Alarm: delayed alarm". 0 to 600 seconds

Alarm delay in monitored system mode sec

6 - Alarm delay in monitored system mode

Delay when converting a prealarm signal into an alarm signal. When, in a manned plant, a prealarm signal is not reset before the end of the set delay time, the prealarm signal is converted into an alarm signal. 0 to 600 seconds

Double-knock zone prealarm timeout minutes

7 - Double-knock zone prealarm timeout

Setting the maximum time of early prealarm for the zones set with Dual Consensus (the first consensus triggers a prealarm, the second consensus in the same zone activates the alarm signal). When a zone switches to prealarm state, the timer is initialized. If the zone is still in prealarm state when the time expires (i.e. the second consensus has not arrived) and the detector that generated it is again in standby mode, the prealarm is automatically cleared. From inactive to 60 minutes

Smoke alarm validation sec

8 - Smoke alarm validation

The minimum time of smoke persistence detected by an optical detector necessary to validate the alarm. 0 to 10 seconds

The Time settings menu is completed

To confirm the configurations, click **OK**

To cancel the configurations, click **Abandon**.

9-2 - Access periods

Customization Year 2	Access periods	Customization Year 4
Time settings		Customization Year 1

Configuration menu for 32 access periods. The Control panel uses access periods as operands within formulas controlling the operation of the modules: Output, Siren, Optical and Acoustic alarm.

The access period invoked within a formula performs the operation requested by the associated operand for the programmed access period.

Number of access periods available	
TFA1-298	8
TFA2-596	32
TFA4-1192	32

1 - Row of the access period
Access periods are identified by a number.

The access period is delimited by 2 time parameters - the beginning and the end.

Starting access period - Click on the pull-down menu and choose the day or the day type, then click on the fields hh and mm and write the hour and minutes of the starting access period.

Ending access period - Click on the pull-down menu and choose the day or the day type, then click on the fields hh and mm and write the hour and minutes of the ending access period.

OK	Abandon
----	---------

The Access periods menu is completed
To confirm the configurations, click **OK**
To cancel the configurations, click **Abandon**.

9-3 - Customization Year 1 - 2 - 3 and 4

Customization Year 2	Customization Year 3	Customization Year 1
Time setting	Access periods	

Customization menu of the year calendar. The control panel is equipped with a customizable four-year calendar used by the control panel to manage all the automatic operations controlled by the clock. By customizing the yearly calendars it is possible to define weekdays, holidays, holiday eves, null days and automatic Daylight Saving Time setting.

The screenshot shows a 'Time parameters' window with a calendar for 2016. At the top, there are tabs for 'Customization Year 2', 'Customization Year 3', and 'Customization Year 4'. Below these are sections for 'Time settings', 'Access periods', and 'Customization Year 1'. The main area is a calendar grid with days of the week and dates. A legend at the bottom identifies symbols for Working day, Bank holiday, Holiday eve, Void, Winter Time, and Summer time (DST). Buttons for 'OK', 'Abandon', and '?' are at the bottom right.

2016

1 - Year selection

To choose the year, click on the button up arrow or down arrow. Depending on the choice of the year, the corresponding calendar is displayed.

Working day/holiday eve/holiday

- Summer time (DST)
- Winter time

2 - Customization

Using the customization attributes, it is possible to introduce the variations that modify the calendar, according to the specific needs of the user. Click on the pull-down menu and choose the variation operator on the basis of the desired change to the calendar. The attributes are:

Working day/holiday eve/holiday - This operator allows to change the original type of day into a working day, holiday eve, or holiday.

Summer time (DST) - Operator that allows to specify the day of introduction of daylight saving time (typically the last Sunday of the month of March).

Winter time - Operator that allows to specify the day of reintroduction of winter time (typically the last Sunday of the month of October).

JAN	FEB	MAR	APR	MAY
1 F	1 M	1 T	1 F	1 S
2 S	2 T	2 W	2 S	2 M
3 S	3 W	3 T	3 S	3 T
4 M	4 T	4 M	4 M	4 W
5 T	5 F	5 S	5 T	5 T
6 W	6 S	6 S	6 W	6 F
7 T	7 S	7 M	7 F	7 S
8 F	8 M	8 T	8 F	8 S
9 S	9 T	9 W	9 S	9 M
10 S	10 W	10 T	10 S	10 T

3 - Customization of the calendar

- 1 - Select the year
- 2 - Choose the attribute to change
- 3 - Move the mouse pointer over the box of the desired day, and then click on it one or more times until you see the desired variation or indication (see colour legend).

<input type="checkbox"/> Working day
<input checked="" type="checkbox"/> Holiday eve
<input checked="" type="checkbox"/> Bank holiday
<input checked="" type="checkbox"/> Void
<input checked="" type="checkbox"/> Winter time
<input checked="" type="checkbox"/> Summer time (DST)

5 - Legend of colours and symbols used

Type of day - the day type is identified on the basis of the colour of the box. The sections of the days can have the following colours:

- White** - Colour that indicates a working day
 - Dark red** - Colour that indicates a holiday eve
 - Light red** - Colour that indicates a holiday
 - Blue** - Colour that indicates a void day Void day is used to modify the functionality of a timer that performs operations on days marked with an attribute as working day, holiday eve, or holiday.
- Winter time/Summer time (DST)** - The symbols of winter time/daylight saving time are:
- Yellow circle** - Indicates the return of winter time
 - Yellow circle crossed out** - Indicates the start of daylight saving time

OK	Abandon
----	---------

The menu Calendar (1st year) is completed

To confirm the configurations, click **OK**
To cancel the configurations, click **Abandon**.

Repeat the same procedure for the customization of the second, third and fourth year

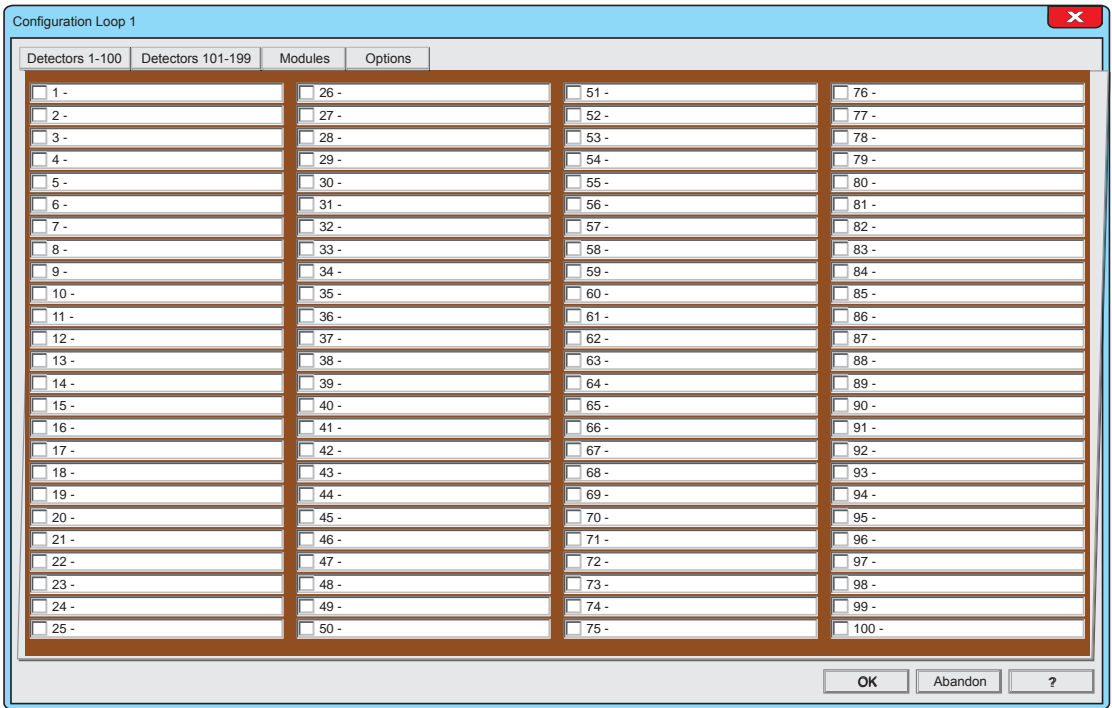
10 - CONFIGURATION OF THE LOOPS



10-1 - Detectors



It is displayed a synoptic panel of detectors with addresses, number from 1 to 100. The synoptic panel allows direct access for configuring the detector at the given address. The synoptic panel of addresses is not editable.



Available Loops	
TFA1-298	1
TFA2-596	2
TFA4-1192	4



1 - Signaling panel of the addresses

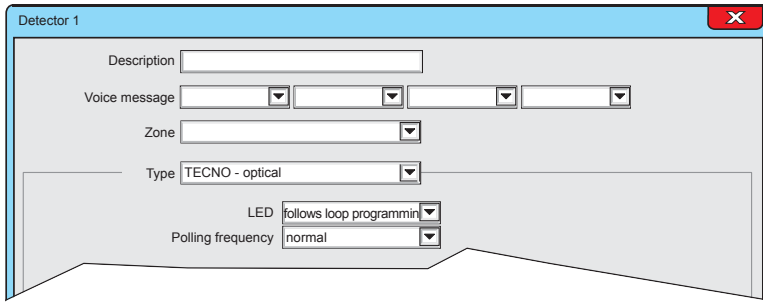
The menu displays the overview of the first 100 addresses reserved to the detectors of the line 1. The synoptic panel depicts for each address a box that indicates the configuration status of the relevant detector, flanked by a field that displays the alphanumeric description assigned to that detector.

Interpretation rules for the of the signaling panel

1. The displayed numbers are the addresses of the detectors
2. The check marks near the address numbers indicate that the relevant detectors are activated.
3. The address numbers displaying only the alphanumeric description don't show the detector setting, but only that a description has been assigned to the detector.

2 - Access to detector configuration

To access the detector configuration window, click on descriptive field.



3 - Configuration Menu

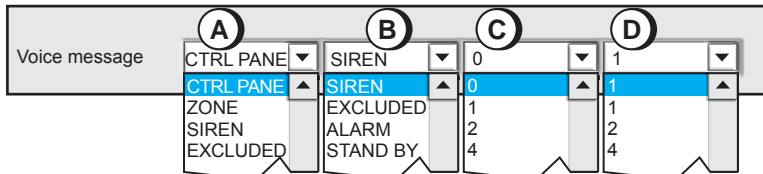
It displays the screen for the detector configuration



4 - Description

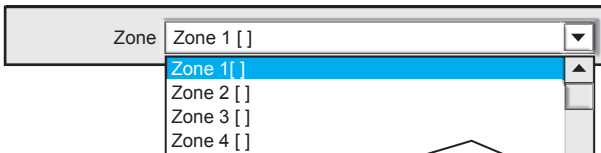
Select and fill the description field. The description field allows to assign an alphanumeric description to the detector (Maximum length 24 characters).

The alphanumeric description is shown on the system display for every type of signalling generated by the detector. The alphanumeric description must uniquely identify the detector.



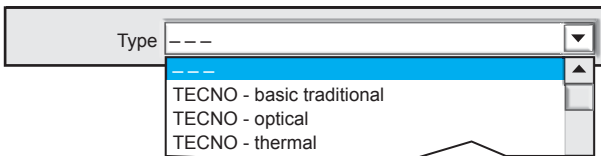
5 - Voice message

Select the pull-down menus A,B,C,D and choose the words for the voice description. The four words A+B+C+D, form the voice message which identifies the detector. The voice message will be played back from the control panel and from the console of the fire protection system.



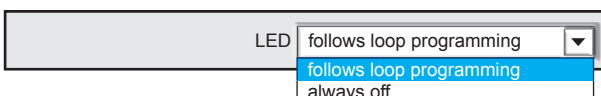
6 - Zone

Assignment of the detector to the zone. Click on the pull-down menu and choose the zone to which assign the detector. **Warning:** The zones names are factory set with a progressive number. The name of the zones can be changed by programming the specific zone menu.



7 - Type

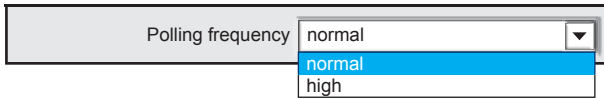
Selection of detector type. Click on the pull-down menu and choose the type of detector. The menu offers all types of detector among which it is possible to choose the desired one. The choice of the type of detector defines the specific parameters to display and set.



8 - LED

Enables or disables the flashing of the LEDs when the detector is polled by the control panel.

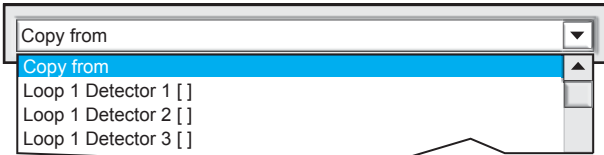
Warning: The configuration of the item "LED flashing active" in the menu "Line Configuration > Options" has the priority with respect to this item.



9 - Polling frequency

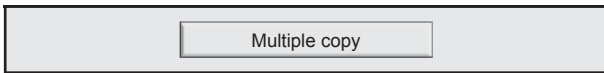
Selection of the polling frequency, high or normal. A detector with an high polling frequency is queried 10 times more often than a detector with normal polling frequency

Warning: It is advisable to program the high priority to a maximum of 10 detectors per line, with consecutive addresses, and all belonging to the same decade. Example: addresses from 11 to 20.



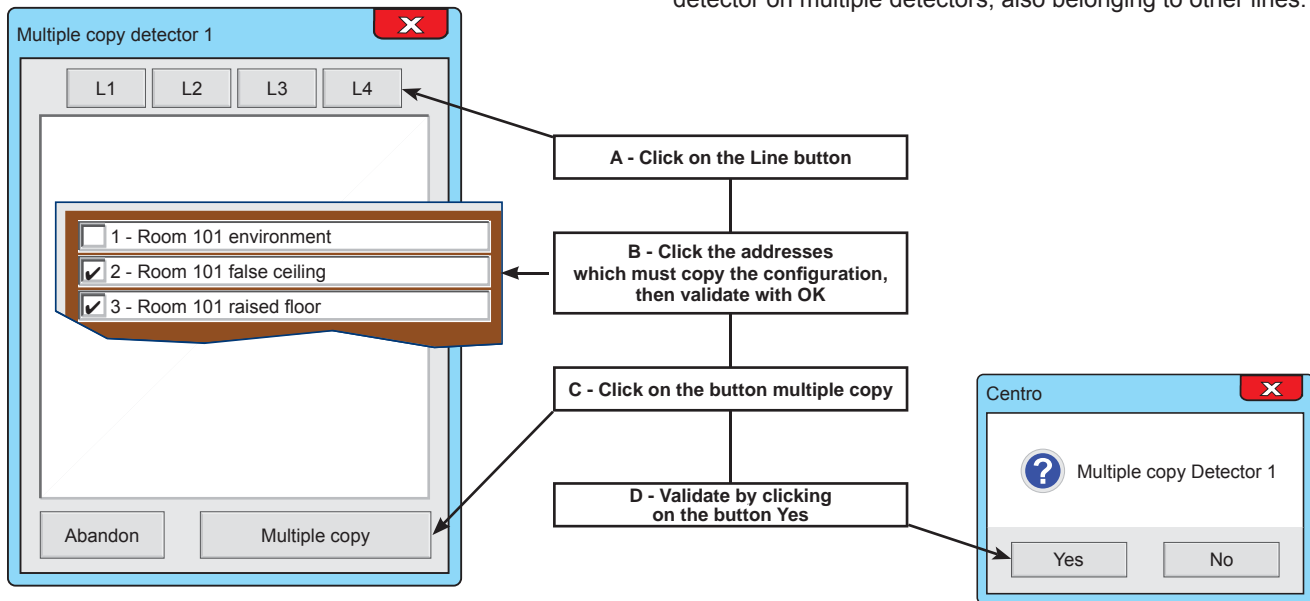
10 - Copy from

The copy function allows to quickly configure a detector by copying the settings from another detector already programmed. Click on the pull-down menu, then click on the name of the detector from which the configuration should be copied.



11 - Multiple copy

The multiple copy function allows to copy the configuration of a detector on multiple detectors, also belonging to other lines.



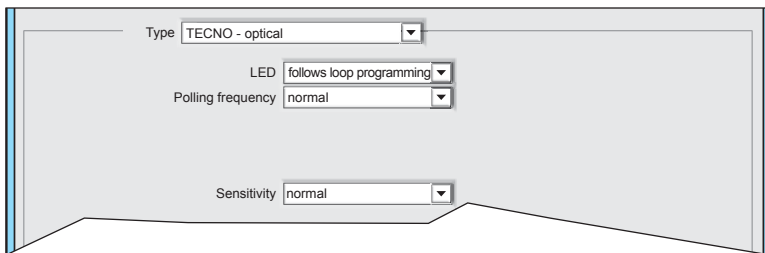
The following pages explain the specific setting for each type of detector

10-2 - Detector configuration

The range of Tecnofire detectors includes devices that use different detection technologies. Combo detectors combine multiple detection technologies. The table "Detector Classification" shows name, description and type of each model. For Combo detectors are given also the detection technologies employed.

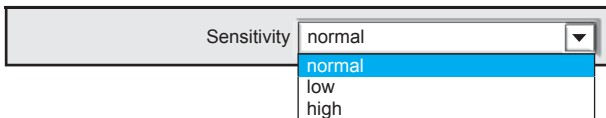
DETECTOR CLASSIFICATION							
NAME	DESCRIPTION	TYPE	DETECTION TECHNOLOGY				
			OPTICAL	THERMAL	THERMAL-KINETIC	CO	FLAME
TFDA-S1	Optical detector	TECNO - OPTICAL	✓				
TFDA-TR1	Thermal Detector	TECNO - THERMAL		✓	✓		
TFDA-STR1	Combined detector with 2 technologies	TECNO COMBO - 2T	✓	✓	✓		
Not Available	Combined detector with 3 technologies	TECNO COMBO - 3T	✓	✓	✓	✓	
Not Available	Combined detector with 4 technologies	TECNO - COMBO 4T	✓	✓	✓	✓	✓
Not Available	Flame detector	TECNO - FLAME					✓
Not Available	Linear optical detector	TECNO - OPTICAL / LINEAR	✓				
TFMC1	Conventional detectors interface	TECNO - CONVENTIONAL BASE					

TECNO - OPTICAL



1 - Type

Selection of the detector type. Select TECNO - Optical



2 - Sensitivity

Selection of the detector sensitivity level (optical section). Set the sensitivity for the most appropriate level suitable to the environment to be monitored.

Warning: To maintain the EN 54 conformity, the sensitivity level of the detector must be programmed as normal.



The detector configuration is completed

To confirm the configurations, click **OK**
To cancel the configurations, click **Abort**.

TECNO - THERMAL

Type: TECNO - thermal

LED: follows loop programming

Polling frequency: normal

Thermal suffix: None

Thermal class: Class A1/A2 58°/68°

1 - Type

Selection of the detector type.
Select TECNO - Thermal

Type: TECNO - thermal

Thermal suffix: None

- None
- Suffix R
- Suffix S

2 - Thermal suffix

Configuration of the Thermal suffix of the detector.
The Thermal suffix is a specification of the detector.
To set the correct suffix refer to the detector manual.

THERMAL SUFFIX	
SUFFIX	DESCRIPTION
R	Thermal function active. The detectors are activated for temperature increases that occur even at temperatures which are lower than the detector class temperature.
S	The detectors are insensitive below the minimum static response temperature threshold. These detectors are indicated for example in the control of premises such as kitchens, thermal power stations, etc.
No suffix	Operation called Static thermal or Maximum thermal. The detector is activated when the temperature reaches the nominal detector class temperature.

N.B. The above definitions are given by the EN 54-5 standard. Please refer to the standard for further details.

Thermal class: Class A1/A2 58°/68°

- Class A1/A2 58°/68°
- Classe B 78°
- Classe C (unused)
- Classe D (unused)
- Classe E (unused)
- Classe F (unused)
- Classe G (unused)
- Disabled

3 - Thermal class

Configuration of the Thermal class of the detector.
The Thermal class is a specification of the detector.
To set the correct class refer to the detector manual.

THERMAL CLASS		
CLASS	MINIMUM STATIC RESPONSE TEMPERATURE	MAXIMUM STATIC RESPONSE TEMPERATURE
A1/A2	54°C	65°C/ 70°C
B	69°C	85°C
C	84°C	100°C
D	99°C	115°C
E	114°C	130°C
F	129°C	145°C
G	144°C	160°C

Abort OK

The detector configuration is completed
To confirm the configurations, click **OK**
To cancel the configurations, click **Abort**.

TECNO - COMBO 2T

Type TECNO - COMBO 2T

LED follows loop programmin

Polling frequency normal

Prealarm disabled

Optical detector enabled

Sensitivity normal

Thermal suffix None

Thermal class Class A1/A2 58°/68°I

1 - Type

Selection of the detector type.
Select TECNO COMBO - 2T

Type TECNO - COMBO 2T

Prealarm disabled

2 - Prealarm

Enabling/disabling of the prealarm notification.
When this function is enabled, the alarm detection of one of the two sections of the detector generates the prealarm signal. With the function disabled, the alert signal is not generated.

Optical detector enabled

3 - Optical detector

Enabling / Disabling the optical detection section of the detector.

Sensitivity normal

4 - Sensitivity

Selection of the detector sensitivity level (optical section).
Set the sensitivity for the most appropriate level suitable to the environment to be monitored.

EN 54 **Warning:** To maintain the EN 54 conformity, the sensitivity level of the detector must be programmed as normal.

Thermal suffix None

5 - Thermal suffix

Configuration of the Thermal suffix of the detector.
The Thermal suffix is a specification of the detector. To set the correct suffix refer to the detector manual.

Thermal class Classe A1/A2 58°/68°

Class A1/A2 58°/68°

Class B 78°

Class C (unusued)

Class D (unusued)

Class E (unusued)

Class F (unusued)

Class G (unusued)

Disabled

6 - Thermal class

Configuration of the Thermal class of the detector.
The Thermal class is a specification of the detector. To set the correct class refer to the detector manual.

Abort OK

The detector configuration is completed

To confirm the configurations, click **OK**
To cancel the configurations, click **Abort**.

TECNO - COMBO 3T

Type:

LED:

Polling frequency:

Prealarm:

Detection criterion:

Optical detector:

Sensitivity:

Thermal suffix:

Thermal class:

CO detector:

WARNING: THIS DEVICE IS NOT YET AVAILABLE

1 - Type
 Selection of the detector type.
 Select TECNO COMBO - 3T

Type:

Prealarm:

2 - Prealarm
 Enabling/disabling of the prealarm notification.
 When this function is enabled, the alarm detection of one of the two sections of the detector generates the prealarm signal.
 With the function disabled, the alert signal is not generated.

Detection criterion:

3 - Detection criterion
 Currently this function is not managed
 Configuration is irrelevant

Optical detector:

4 - Optical detector
 Enabling / Disabling the optical detection section of the detector

Sensitivity:

5 - Sensitivity
 Selection of the detector sensitivity level (optical section).
 Set the sensitivity for the most appropriate level suitable to the environment to be monitored.

Warning: To maintain the EN 54 conformity, the sensitivity level of the detector must be programmed as normal.

Thermal suffix:

6 - Thermal suffix
 Configuration of the Thermal suffix of the detector.
 The Thermal suffix is a specification of the detector.
 To set the correct suffix refer to the detector manual.

Thermal class:

7 - Thermal class
 Configuration of the Thermal class of the detector.
 The Thermal class is a specification of the detector.
 To set the correct class refer to the detector manual.

CO detector:

8 - CO detector
 Enabling / Disabling the CO detection section of the detector.

The detector configuration is completed
 To confirm the configurations, click **OK**
 To cancel the configurations, click **Abort**.

TECNO - COMBO 4T

Type TECNO - COMBO 4T

LED follows loop programmin

Polling frequency normal

Prealarm disabled

Detection criterion Criterion 1

Optical detector disabled

Sensitivity normal

Thermal suffix None

Thermal class Class A1/A2 58°/68°

CO detector enabled

Flame detector enabled

WARNING: THIS DEVICE IS NOT YET AVAILABLE

1 - Type

Selection of the detector type.
Select TECNO COMBO - 4T

Type TECNO - COMBO 4T

Prealarm disabled

2 - Prealarm

Enabling/disabling of the prealarm notification.
When this function is enabled, the alarm detection of one of the two sections of the detectors generates the prealarm signal.
With the function disabled, the alert signal is not generated.

Detection criterion Criterion 1

3 - Detecting mode

Currently this function is not managed
Configuration is irrelevant

Optical detector enabled

4 - Optical detector

Enabling / Disabling the optical detection section of the detector

Sensitivity normal

5 - Sensitivity

Selection of the detector sensitivity level (optical section).
Set the sensitivity for the most appropriate level suitable to the environment to be monitored.

EN 54 **Warning:** To maintain the EN 54 conformity, the sensitivity level of the detector must be programmed as normal.

Thermal suffix None

6 - Thermal suffix

Configuration of the Thermal suffix of the detector.
The Thermal suffix is a specification of the detector.
To set the correct suffix refer to the detector manual.

Thermal class Class A1/A2 58°/68°

8 - Thermal class

Configuration of the Thermal class of the detector.
The Thermal class is a specification of the detector.
To set the correct class refer to the detector manual.



CO detector

- enabled
- disabled

9 - CO detector

Enabling / Disabling the CO detection section of the detector

Flame detector

- enabled
- disabled

10 - Flame detector

Enabling / Disabling the flame detection section of the detector

The detector configuration is completed

To confirm the configurations, click **OK**
To cancel the configurations, click **Abort**.

TECNO - FLAME

Type

LED

Polling frequency

Detection criterion

WARNING: THIS DEVICE IS NOT YET AVAILABLE

1 - Type

Selection of the detector type.
Select TECNO - Flame

Type

Detection criterion

- Criterion 1
- Criterion 2
- Criterion 3
- Criterion 4

2 - Detection mode

Currently this function is not managed
Configuration is irrelevant

The detector configuration is completed

To confirm the configurations, click **OK**
To cancel the configurations, click **Abort**.

TECNO - OPTICAL / LINEAR

WARNING: THIS DEVICE IS NOT YET AVAILABLE

1 - Type

Selection of the detector type.
Select TECNO - optical linear

2 - Detection mode

Currently this function is not managed
Configuration is irrelevant

The detector configuration is completed

To confirm the configurations, click **OK**
To cancel the configurations, click **Abort**.

TECNO - BASIC TRADITIONAL

1 - Type

Selection of the detector type.
Select TECNO - conventional base

Warning: Notes on the device TECNO - basic traditional

This device is an interface module for conventional detectors, but it is considered by the control panel as a detector, consequently the device address belongs to the category of the detectors. The range of available addresses for this device goes from 1 to 99. On this module, it is possible to interface only conventional detectors. The function "prealarm by single detector" can only be used with Tecnofire detectors.

2 - Prealarm

Enabling/disabling of the prealarm notification.
When this function is enabled, the alarm detection of just one detector generates the prealarm signal.
With the function disabled, the alert signal is not generated.

The detector configuration is completed

To confirm the configurations, click **OK**
To cancel the configurations, click **Abort**.

10-3 - Modules

Detectors 1-100	Detectors 101-199	Modules	Options
-----------------	-------------------	----------------	---------

It is displayed a signaling panel of modules with addresses, numbers from 1 to 99. The signaling panel allows direct access to the configuration of the module at the given address. The synoptic panel of addresses is not editable.

<input checked="" type="checkbox"/> 1 - Room 101 call point	<input type="checkbox"/> 25 -
<input type="checkbox"/> 2 - Room 101 siren	<input type="checkbox"/> 26 -
<input type="checkbox"/> 3 - Room 101 optical/acoustic alarm device	<input type="checkbox"/> 27 -

1 - Signaling panel of the addresses

The menu displays the overview of the 99 addresses reserved to the modules of the line 1.

The synoptic panel depicts for each address a box that indicates the configuration status of the relevant module, flanked by a field that displays the alphanumeric description assigned to that module.

Interpretation rules for the of the signaling panel

1. The displayed numbers are the addresses of the modules
2. The check marks near the address numbers indicate that the relevant modules are activated.
3. The address numbers displaying only the alphanumeric description don't show the module setting, but only that a description has been assigned to the module.

2 - Access to detector configuration

To access the module configuration window, click on its description field.

3 - Configuration Menu

It displays the screen for configuring the module

Description

The alphanumeric description is shown on the system display for every type of signalling generated by the module.
The alphanumeric description must uniquely identify the module.

4 - Description

Select and fill the description field.
The description field allows to assign an alphanumeric description to the module (Maximum length 24 characters).

Voice message

A	B	C	D
CTRL PANE	SIREN	0	1
CTRL PANE	SIREN	0	1
ZONE	EXCLUDED	1	1
SIREN	ALARM	2	2
EXCLUDED	STAND BY	4	4

5 - Voice Message

Select the pull-down menus A,B,C,D and choose the words for the voice description.
The four words A+B+C+D, form the voice message which identifies the module.
The voice message will be played back from the control panel and from the console of the fire protection system.
To listen to the message click on the button E.

Zone

- Zone 2 []
- Zone 3 []
- Zone 4 []
- Zone 5 []

6 - Zone

Assignment of the module to the zone. Click on the pull-down menu and choose the zone to which assign the module.
Warning: The zones names are factory set with a progressive number. The name of the zones can be changed by programming the specific zone menu.

Type

-
- TECNO - call point
- TECNO - output
- TECNO - input

7 - Type

Selection of module type. Click on the pull-down menu and choose the type of module. The menu offers all types of modules among which it is possible to choose the desired one.
The choice of the type of module defines the specific parameters to display and set.

LED

- follows loop programming
- always off

8 - LED

Enables or disables the flashing of the LEDs when the module is polled by the control panel.

Warning: The configuration of the item "LED flashing active" in the menu "Line Configuration > Options" has the priority with respect to this item.

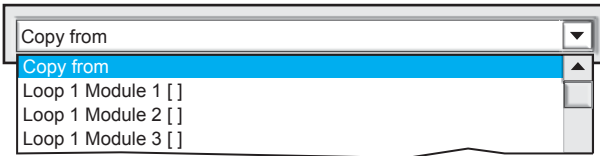
Polling frequency

- normal
- high

9 - Polling frequency

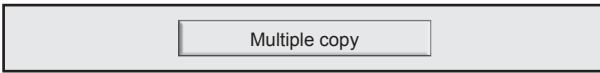
Selection of the polling frequency, high or normal.
A module with an high polling frequency is queried 10 times more often than a module with normal polling frequency

Warning: It is advisable to program the high priority to a maximum of 10 modules per line, with consecutive addresses, and all belonging to the same decade. Example: addresses from 11 to 20.



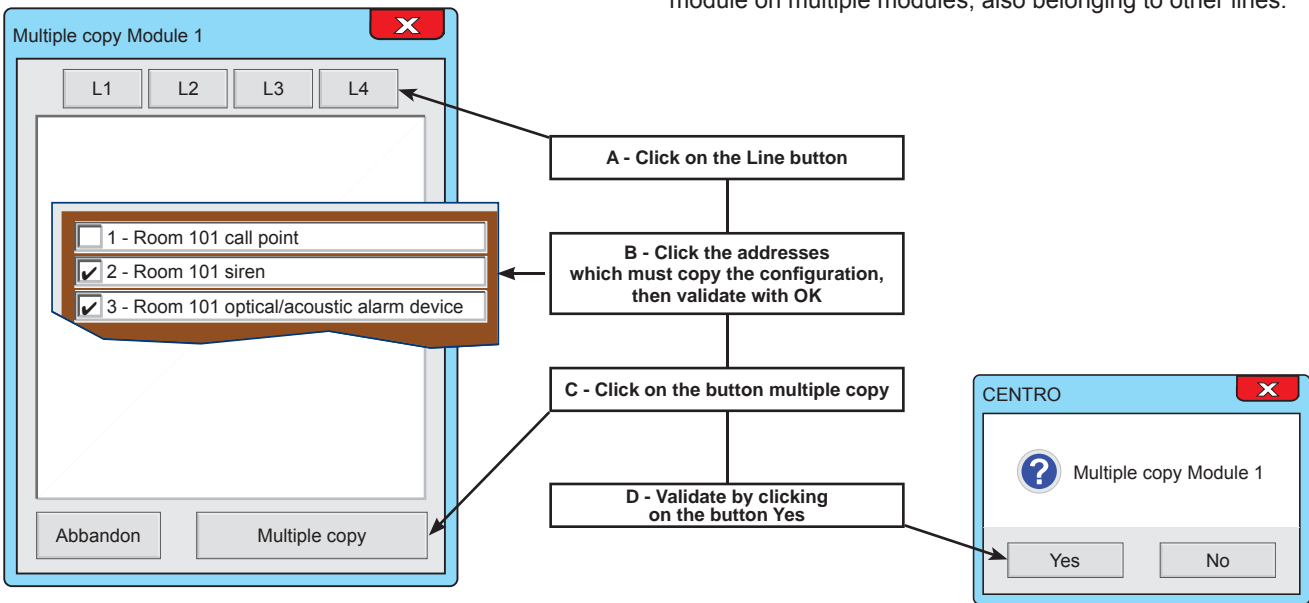
10 - Copy from

The copy function allows to quickly set a module by copying the configuration from another module already programmed. Click on the pull-down menu, then click on the name of the module from which the configuration should be copied.



11 - Multiple copy

The multiple copy function allows to copy the configuration of a module on multiple modules, also belonging to other lines.



The following pages explain the specific setting for each type of module

10-4 - Module configuration

The range of Tecnofire modules includes different types of devices. The table "MODULE CLASSIFICATION" shows name, description and type of each device. For multifunction it is given also the internal functional composition.

MODULE CLASSIFICATION						
NAME	DESCRIPTION	TYPE	COMPOSITION			
			Inputs	Outputs	Siren	Siren alias
TFM10	1 input module microswitch	TECNO - INPUT	1			
TFM20	2-input module	TECNO - INPUT	2			
TFM50	5-input module	TECNO - INPUT	5			
TFM21	2 inputs 1 output module	TECNO - INPUT + TECNO - OUTPUT	2	1		
TFM01	Module 1 output	TECNO - OUTPUT		1		
TFM05	5-output module	TECNO - OUTPUT		5		
TFM420MA	Module interface 4-20 mA	TECNO - INPUT 4-20 mA	2 (4-20 mA)			
TFMCP01	Button Module	TECNO - BUTTON				
TFIS01	Siren module	TECNO - SIREN			1	1
TFPS-5	Power supply module	TECNO - POWER SUPPLY				

10-5 Configuration notes for TFM20 and TFM21

The Tecnofire systems involve the use of multi-function modules, i.e. devices including multiple functional units. Each functional component is an independent module, identified by its own address number and equipped with the related configuration screens.

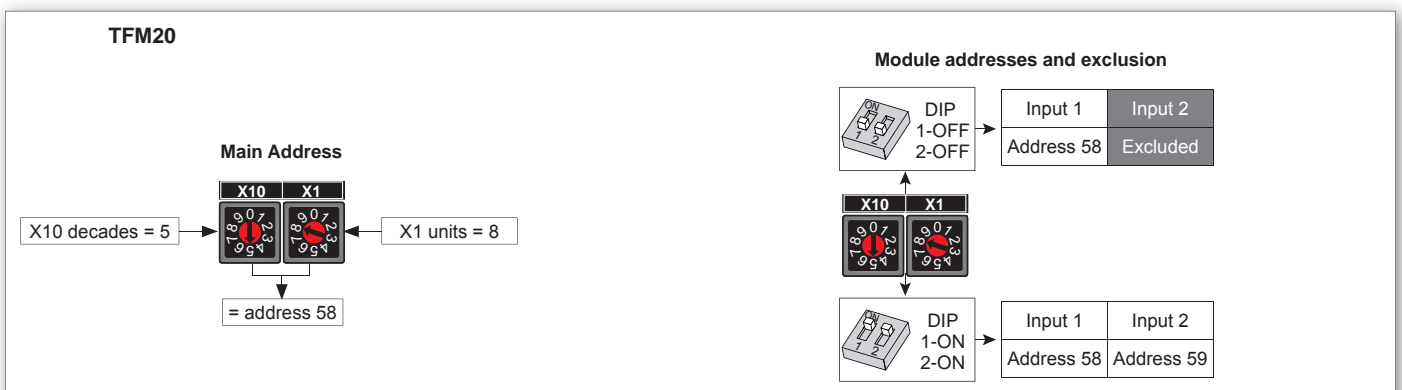
The addressing of the multifunctional modules needs a main code, set physically on the device through its rotary switches. The configuration of the main physical code automatically generates the address numbers of the other functional modules included in the device.

For example, the device TFM20 is composed of 2 independent input modules, called input 1 and input 2.

The primary address of the input 1 is set via the module rotary switches, the address of the input 2 is automatically generated by adding a unit to the physical address.

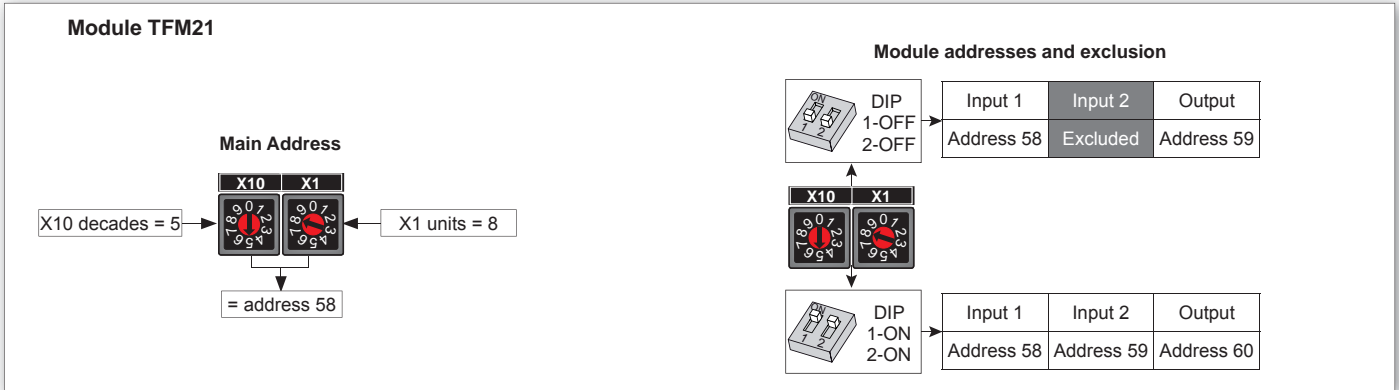
TFM20 - 2 Inputs		
MODULE COMPOSITION	Input 1	Input 2
CONFIGURATION SCREEN	TECNO-INPUT	TECNO-INPUT
MODULE ADDRESSES	*Main	*Main + 1
MODULE ADDRESSES WITH INPUT 2 EXCLUDED	*Main	Excluded

* The main address is the address set physically on the module rotary switch. The main address + 1 is given to the module automatically. For example, if the main address is set to 58, the Main + 1 is 59.



TFM21 - 2 Inputs 1 Outputs			
MODULE COMPOSITION	Input 1	Input 2	Output
CONFIGURATION SCREEN	TECNO-INPUT	TECNO-INPUT	TECNO-OUTPUT
MODULE ADDRESSES	*Main	*Main + 1	*Main + 2
MODULE ADDRESSES WITH INPUT 2 EXCLUDED	*Main	Excluded	*Main + 1

* The main address is the address set physically on the module rotary switch. The addresses Main +1 and Main + 2 are attributed to the module automatically. For example, if the main address is set to 58, the Main +1 is 59 and the Main +2 is 60.



10-6 - Configuration notes for FM05 and TFM50

The Tecnofire systems involve the use of multiple modules, i.e. devices including multiple functional units.
 Module TFM05 including 5 output modules
 Module TFM50 including 5 input modules
 Each functional unit is an independent module, identified by its own address number and equipped with the related configuration screens.
 The addresses of the multiple modules are set via the ten-position rotary selector and the Dip Switch 6.
 Both are visible on the outside of the box, top left position.

Setting the rotary selector

The Rotary switch sets the decade (ten) to which the address sequence of the inputs belongs.

Setting the Dip Switch 6

The Dip Switch 6 sets the range of the numeric sequence of the units:
 With the Dip 6 set to OFF you set the low unitary sequence X0 to X4.
 With the Dip 6 set to ON you set the high unitary sequence X5 to X9. The primary address of the input 1 is set via the module rotary switches, the address of the input 2 is automatically generated by adding a unit to the physical address.

MODULO TFM50 - 5 Inputs						Rotary	Dip 6	Unit/Address match				
MODULE COMPOSITION	Input A	Input B	Input C	Input D	Input E			A	B	C	D	E
INPUTS EXCLUSION DIP x = INPUT x	Dip 1 - OFF Excludes Input A	Dip 2 - OFF Excludes Input B	Dip 3 - OFF Excludes Input C	Dip 4 - OFF Excludes Input D	Dip 5 - OFF Excludes Input E	0	OFF	*	01	02	03	04
CONFIGURATION SCREEN	TECNO-INPUT							Warning: The address 00 is not managed				
MODULE ADDRESSES	5 addresses, minus the number of excluded inputs. The excluded addresses remain available to other modules in the detection loop					1	ON	10	11	12	13	14
The address of the units included in the module is physically set using the rotary switches (for tens) and the Dip 6 (for units). For example, with the rotary switch in position 1 and the Dip 6 in position ON, the addresses are: A=15, B=16, C=17, D=18, E=19								15	16	17	18	19
Module TFM05 - 5 outputs						2	ON	20	21	22	23	24
MODULE COMPOSITION	Output A	Output B	Output C	Output D	Output E			25	26	27	28	29
OUTPUTS EXCLUSION DIP x = OUTPUT x	Dip 1 - OFF Excludes Output A	Dip 2 - OFF Excludes Output B	Dip 3 - OFF Excludes Output C	Dip 4 - OFF Excludes Output D	Dip 5 - OFF Excludes Output E	3	OFF	30	31	32	33	34
CONFIGURATION SCREEN	TECNO-OUTPUT							35	36	37	38	39
MODULE ADDRESSES	5 addresses, minus the number of excluded outputs. The excluded addresses remain available to other modules in the detection loop					4	ON	40	41	42	43	44
The address of the units included in the module is physically set using the rotary switches (for tens) and the Dip 6 (for units). For example, with the rotary switch in position 1 and the Dip 6 in position OFF, the addresses are: A=10, B=11, C=12, D=13, E=14								45	46	47	48	49
MODULO TFM50 - 5 Inputs						5	OFF	50	51	52	53	54
INPUTS EXCLUSION DIP x = INPUT x	Dip 1 - OFF Excludes Input A	Dip 2 - OFF Excludes Input B	Dip 3 - OFF Excludes Input C	Dip 4 - OFF Excludes Input D	Dip 5 - OFF Excludes Input E			55	56	57	58	59
CONFIGURATION SCREEN	TECNO-INPUT					6	ON	60	61	62	63	64
MODULE ADDRESSES	5 addresses, minus the number of excluded inputs. The excluded addresses remain available to other modules in the detection loop							65	66	67	68	69
MODULO TFM50 - 5 Inputs						7	OFF	70	71	72	73	74
INPUTS EXCLUSION DIP x = INPUT x	Dip 1 - OFF Excludes Input A	Dip 2 - OFF Excludes Input B	Dip 3 - OFF Excludes Input C	Dip 4 - OFF Excludes Input D	Dip 5 - OFF Excludes Input E			75	76	77	78	79
CONFIGURATION SCREEN	TECNO-INPUT					8	ON	80	81	82	83	84
MODULE ADDRESSES	5 addresses, minus the number of excluded inputs. The excluded addresses remain available to other modules in the detection loop							85	86	87	88	89
MODULO TFM50 - 5 Inputs						9	OFF	90	91	92	93	94
INPUTS EXCLUSION DIP x = INPUT x	Dip 1 - OFF Excludes Input A	Dip 2 - OFF Excludes Input B	Dip 3 - OFF Excludes Input C	Dip 4 - OFF Excludes Input D	Dip 5 - OFF Excludes Input E			95	96	97	98	99

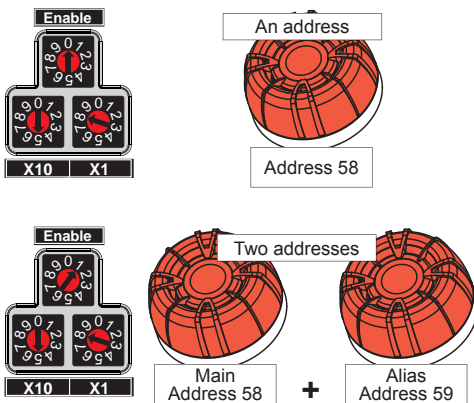
10-7 - Configuration notes for the Siren TFSI01

The siren module TFSI01 can handle two differential operating modes, defined "Main Identity" and "Alias". The second operating mode (Alias) must be enabled via the rotary switch dedicated to this function. The two operating modes are independent. The priority is managed only in case of simultaneous activation. Each operating mode is identified by an address number, which correspond to two specific configuration screens. The addressing of the siren module needs a main code, set physically on the device through its rotary switches. The configuration of the main physical code automatically generates the address number of the Alias Siren. That is, the address of the Siren (main identity) is set via the rotary switch, while the address of the Siren (Alias) is automatically generated by adding one unit to the physical address.

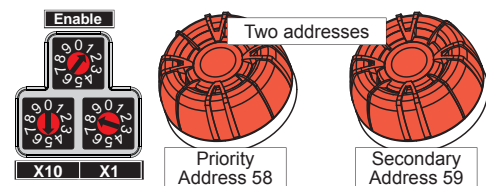
TFSI01 - Siren		
MODULE COMPOSITION	Siren (Main Identity)	Siren (Alias)
CONFIGURATION SCREEN	TECNO-SIREN	TECNO-SIREN
MODULE ADDRESSES	*Main	*Main + 1
*The main address is the address set physically on the siren module rotary switch. The main address + 1 is given to the siren module automatically. For example, if the main address is set to 58, the Main + 1 is 59.		

Siren module TFSI01

Addressing the siren module



Priority of operation



TECNO - INPUT

Type: TECNO - input

LED: follows loop programmin

Polling frequency: normal

Functioning criteria: Generate alarm

Contact type: ACTIVATE ALARM

1 - Type

Selection of module type
Select TECNO - input

Type: TECNO - input

Functioning criteria: Generate alarm

- Generate alarm
- None
- Generate acknowledgment (no EN
- Generate reset (no EN 54)

2 - Functioning criteria

Selection of operating criterion to be attributed to the input.
See operating criteria table for the module TECNO-input

Operating criteria table for the module TECNO-input		
Mode name	Action	Actuation
Generates alarm	The activation of the input generates an alarm.	It switches the output relay "Alarm" to the signalling status
None	The activation of the input causes no direct action	This operand can be used in algebraic formulas
Generates muting (not as per EN 54)	The activation of the input mutes (knowledges) the ongoing event.	It switches the relay "Alarm output" to its idle status
Generates reset (not as per EN 54)	The activation of the input causes the system reset	Impulsive switching of the relay "Reset output"

Contact type: ACTIVATE ALARM

- ACTIVATE ALARM
- EOL RESISTOR (FAILURE)

3 - Contact type

Selection of the event triggered by the activation of the connected input.

Abort OK

The module configuration is completed

To confirm the configurations, click **OK**
To cancel the configurations, click **Abort**.

TECNO - OUTPUT

Type TECNO - output

LED follows loop programmin

Polling frequency normal

Functioning criteria cannot be acknowledge

Output type clean contact

Activation delay (sec.) 0

Activation time (sec.) 0

FORMULA

1 - Type

Selection of module type
Select TECNO - Output

Type TECNO - output

Functioning criteria cannot be acknowledged

cannot be acknowledged

can be acknowledged

2 - Functioning criteria

Selection of the functioning criteria for the output. If the output is set as "can be acknowledged" then the Mute command sent by the control panel will mute also the output of the module. If the output is set as "cannot be acknowledged" then the output follows only the operating mode defined by the formula.

Output type clean contact

clean contact

checked loop

3 - Output type

Choice of the operating mode for the output: simple contact or line with controlled termination.

Activation delay (sec.) 0

4 - Activation delay

The output activation delay is managed by the formula assigned to the module. As soon as the formula is true, the programmed activation delay starts.
Programmable delay time, 0 to 600 sec.

Activation time (sec.) 0

5 - Activation time

The output activation time is managed by the formula assigned to the module. As soon as the formula is true, and after the activation delay is expired, if any, the output is switched for the defined time.
Programmable activation time, 0 to 600 sec.

FORMULA

6 - Formula

Field for recalling or writing the formula that manages the operation of the module output
To write or recall the formula click on field
Warning: For the compilation of the formulas refer to the specific chapter.

Warning:
If an "Activation Delay" and/or a "Activation time" are set for the used Formula, it is recommended to avoid programming on the module any "Activation Delay" or "Activation Time".

Abort OK

The module configuration is completed

To confirm the configurations, click **OK**
To cancel the configurations, click **Abort**.



TECNO - CALL POINT

Type TECNO - call point

LED follows loop programmin

Polling frequency normal

Functioning criteria Generate alarm

1 - Type

Selection of module type
Select TECNO - call point

Type TECNO - call point

Functioning criteria

- Generate alarm
- Generate alarm
- None
- Generate acknowledgment (no EN
- Generate reset (no EN 54)

2 - Functioning criteria

Choice of the functioning criteria for the module button.
The functioning criteria define the of the button.
Generate alarm. Its activation generates an alarm signal.
Generate acknowledgment. The activation triggers the Muting function.
Generate reset. The activation triggers a Reset.
None. This button has no function

EN 54 **WARNING: LIMITATIONS OF USE**
According to EN 54-2, only the configuration "Generates alarm" is allowed
The other configuration options should be considered as ancillary functions,
not provided by the regulations concerning the automatic fire detection systems.

Abort OK

The module configuration is completed
To confirm the configurations, click **OK**
To cancel the configurations, click **Abort**.

TECNO - OPTICAL / ACOUSTIC ADVISOR

Type TECNO - optical / acoustic advisor

LED follows loop programmin

Polling frequency normal

Functioning criteria cannot be acknowledge

Enabling of message enabled

Message type 1

Activation delay (sec.) 0

Activation time (sec.) 0

Formula

WARNING: THIS DEVICE IS NOT YET AVAILABLE

1 - Type

Selection of module type
Select TECNO - Optical/acoustic advisor

TECNO - optical / acoustic advisor

Functioning criteria

- Generate alarm
- Generate alarm
- None
- Generate acknowledgment (no EN
- Generate reset (no EN 54)

2 - Functioning criteria

Selection of the functioning criteria for the module. If the module is set as "It can be muted" then the Mute command sent by the control panel will mute also the Optical/Acoustic advisor. If the module is set as "It can be muted" then the advisor follows only the functioning criteria defined by the formula.

Enabling of message

- enabled
- enabled
- disabled

3 - Enabling of message

Enables or disables the voice message.

Message type

- 1
- 1
- 2
- 3
- 4

4 - Message type

Selection of the voice message emitted by the panel when signalling. It is possible to select a message among the 32 available messages.

Activation delay (sec.) 0

5 - Siren delay

The activation delay of the Optical/Acoustic advisor is managed by the formula assigned to the advisor. As soon as the formula is true, the programmed activation delay starts. Programmable delay time, 0 to 600 sec.

Activation time (sec.) 0

6 - Activation time

The activation time of the Optical/Acoustic advisor is managed by the formula assigned to the advisor. As soon as the formula is true, and after the activation delay is expired, if any, the output is switched for the defined time. Programmable activation time, 0 to 600 sec.

Formula

7 - Formula

Field for recalling or writing the formula that manages the operation of the Optical/Acoustic advisor. To write or recall the formula click on field

Warning:
If an "Activation Delay" and/or a "Activation time" are set for the used Formula, it is recommended to avoid programming on the module any "Activation Delay" or "Activation Time".

Abort OK

The module configuration is completed
To confirm the configurations, click **OK**
To cancel the configurations, click **Abort**.



TECNO - SIREN

1 - Type

Selection of module type
Select TECNO - siren

2 - Functioning criteria

Selection of the operating mode for the module. If the module is set as "It can be muted" then the Mute command sent by the control panel will mute also the Optical/Acoustic advisor. If the module is set as "It can be muted" then the advisor follows only the functioning criteria defined by the formula.

3 - Flashing status

Enables or disables the flashing light of the siren.

4 - Sound type

Selection of the siren sound. It is possible to select a sound among the 64 available sounds.

5 - Volume

Selection of the of sound intensity (signalling volume).

6 - Siren delay

The activation delay of the Optical/Acoustic advisor is managed by the formula assigned to the advisor. As soon as the formula is true, the programmed activation delay starts. Programmable delay time, 0 to 600 sec.

7 - Activation time

The activation time of the Optical/Acoustic advisor is managed by the formula assigned to the advisor. As soon as the formula is true, and after the activation delay is expired, if any, the output is switched for the defined time. Programmable activation time, 0 to 600 sec.

8 - Formula

Field for recalling or writing the formula that manages the operation of the Optical/Acoustic advisor. To write or recall the formula click on field

Warning:

If an "Activation Delay" and/or a "Activation time" are set for the used Formula, it is recommended to avoid programming on the module any "Activation Delay" or "Activation Time".

The module configuration is completed

To confirm the configurations, click **OK**
To cancel the configurations, click **Abort**.

TECNO - INPUT 4-20mA

1 - Type

Selection of module type
Select TECNO - input 4-20mA

2 - Prealarm

Enabling/disabling of the prealarm notification.
When this function is enabled, the prealarm detection threshold of the detector generates the prealarm signal.
When this function is disabled, the prealarm threshold signal is not generated.

3 - Functioning criteria

Selection of the operating mode for the module.
Generates alarm. The module generates an alarm signal.
None. This button has no function.

4 - Prealarm threshold

Setting the maximum current value attributed to the alert threshold.

5 - Alarm threshold

Setting the maximum current value attributed to the alarm threshold.

The module configuration is completed

To confirm the configurations, click **OK**
To cancel the configurations, click **Abort**.

TECNO - POWER SUPPLY

Type

LED

Polling frequency

Delay of power failure signal (min.)

1 - Type

Selection of module type
Select TECNO - power supply

Type

Delay of power failure signal (min.)

- 0
- 1
- 2
- 3

2 - Delay of power failure signal

Setting the maximum time of mains power outage.
If the mains voltage is off for a period of time longer than the scheduled time, the signalling is generated.
If the mains voltage is off for a period of time shorter than the scheduled time, the signalling is not generated.
Programmable time, 0 to 30 min.

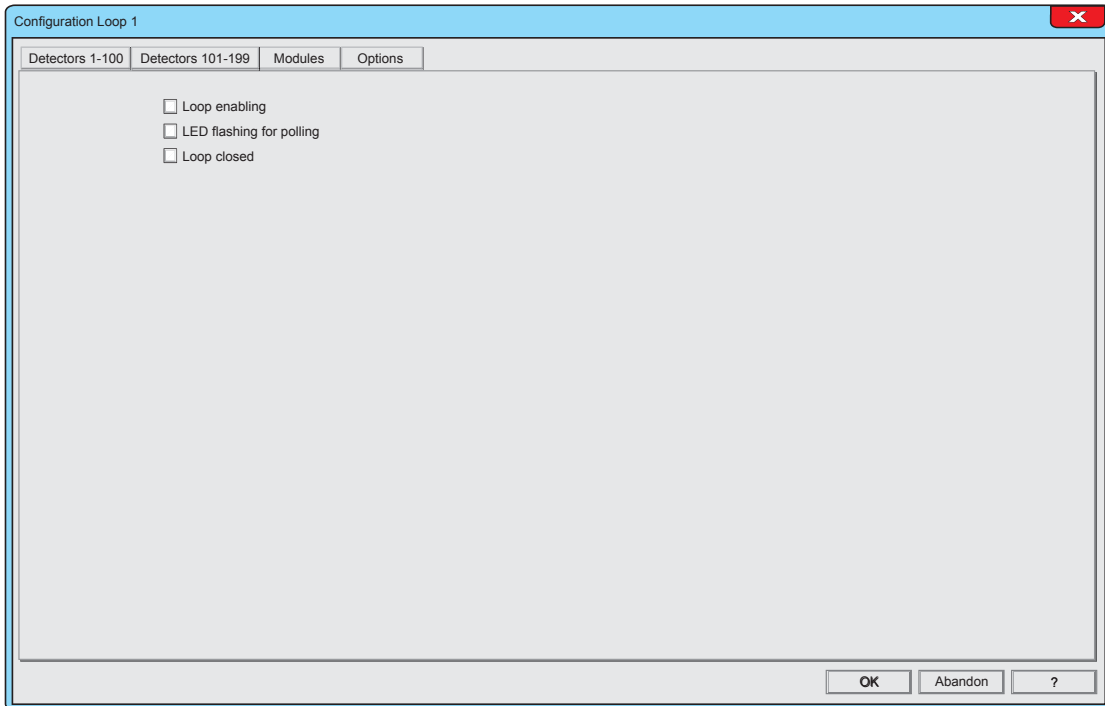
The module configuration is completed

To confirm the configurations, click **OK**
To cancel the configurations, click **Abort**.

10-8 - Options



Configuration Menu for the loop operating options. Line operation enabling. Enable LED flashing on polling. Definition of the loop connection mode, open or closed.



1 - Loop enabling

Enabling box for the loop operation.
To enable or disable the loop, click on the box. The loop is enabled when the check mark is present. A missing check mark indicates that the loop is disabled or is out of service.
Warning: A disables Line is de-energized.



2 - LED flashing for polling

Enabling box for the flashing LED when polling the devices connected to the loop.
To enable or disable such flashing, click on the box.
When the check mark is present, the devices polling LEDs are enabled. When the check mark is not present, the flashing LED when polling is disabled or out of service.
Warning: The alarm signal is still active.



3 - Loop closed

Box for defining the connection modes of the loop, open loop or closed loop.
Enter the check mark only if the loop is connected in Closed Loop mode.
Warning: In Open Loop mode it is not possible to connect more than 32 devices per branch.



The menu Loop 1 Options is completed
To confirm the configurations, click **OK**
To cancel the configurations, click **Abandon**.



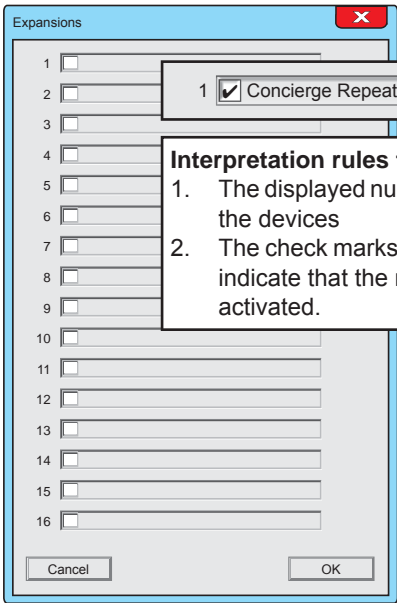
11 - EXPANSION DEVICES



11-1 - Configuration of the expansion devices

It displays the synoptic panel showing the expansion devices which can be connected via the RS485 bus. The synoptic panel shows sixteen lines, numbered from 1 to 16. Each row depicts the enabling status of each device and its alphanumeric description. Each identification number matches the serial identification physical address of the expansion device. Through the synoptic panel it is possible to access the configuration screen of the device to be matched to each address.

Managed expansion devices	
TFA1-298	5
TFA2-596	16
TFA4-1192	16



Interpretation rules for the of the synoptic

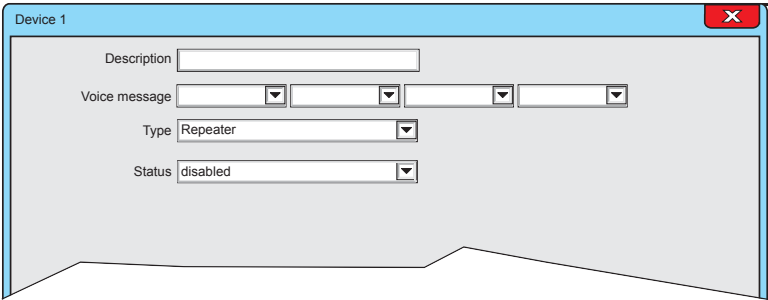
1. The displayed numbers are the addresses of the devices
2. The check marks near the address numbers indicate that the relevant devices are activated.

1 - Synoptic panel of the addresses

The menu displays the overview of the 16 addresses reserved to the expansion devices. The synoptic panel depicts for each address a box that indicates the enabling status of the relevant device, flanked by a field that displays the alphanumeric description assigned to that device.

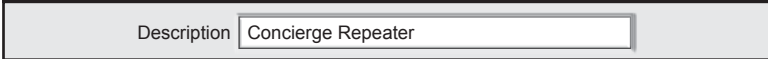
2 - Access to detector configuration

To access the expansion device setting window, click on its description field.



3 - Configuration Menu

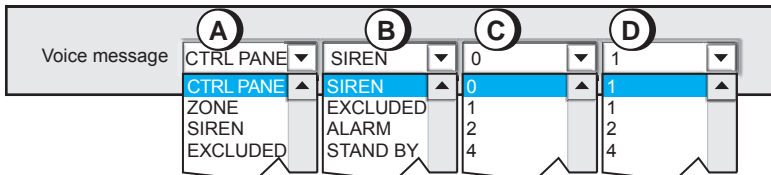
It displays the screen for configuring the expansion device



4 - Description

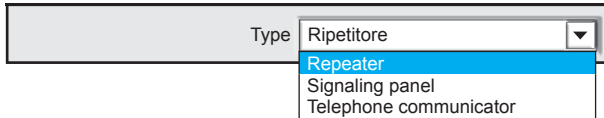
Select and fill the description field. The description field allows to assign an alphanumeric description to the device (Maximum length 24 characters).

The alphanumeric description is shown on the system display for every type of signalling generated by the module. The alphanumeric description must uniquely identify the module.



5 - Voice message

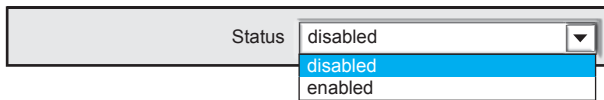
Select the pull-down menus A,B,C,D and choose the words for the voice description. The four words A+B+C+D, form the voice message which identifies the module. The voice message will be played back from the control panel and from the console of the fire protection system



6 - Type

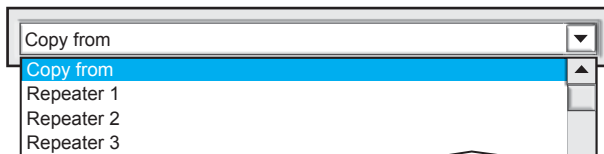
Device selection Click on the pull-down menu and choose the type of device to associate with the address.

Device Type	Function	Further configuration
Repeater	Interactive control console for the remote management of the control panel, limited functionality to user access levels 1 and 2.	This device does not require any other configuration
Synoptic	Monitor console, used to display graphic maps. The maps can be made interactive through advanced configuration.	The configuration of the device must be completed by the work plan
Dialer	Telephone dialer PSTN GSM/GPRS, equipped with 8 multi-protocol communicators used to send alarm and reporting notifications.	The configuration of the device must be completed by the work plan



7 - Status

Enabling or disabling the device. The synoptic panel indicates the enabling status of the device, by means of check mark in the box located next to the identification number.



8 - Copy from

The copy function allows to quickly configure a device by copying the configuration of another device already configured. Click on the pull-down menu, then click on the name of the device from which the configuration should be copied.

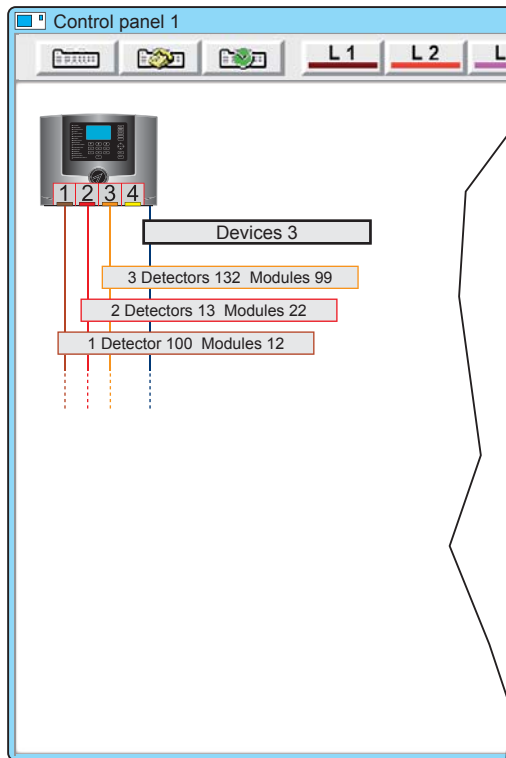


The configuration of the synoptic panel for the expansion devices is completed. The configuration of the Synoptic and Dialer can be completed in the main selection screen menu of the control panel

To confirm the configurations, click **OK**
To cancel the configurations, click **Abort**.

11-2 Main screen of the control panel

The main screen, from which it is possible to select the configuration menu of the control panel, has a large white area on which the software CENTRO positions the graphical depiction of the devices of the fire protection system.

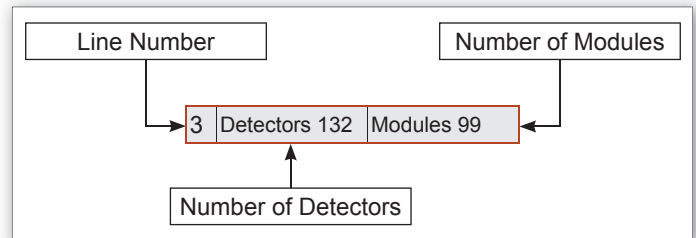


The screen displays the icon of the control panel where the detection lines and the BUS line converge.

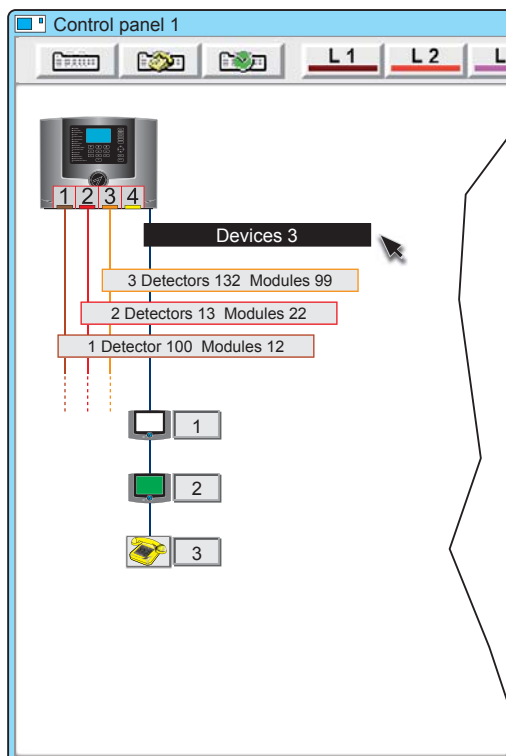
Warning: Only the connections of the Lines which have configured devices are shown.

Each connecting Line is identified by a label, which shows, in case of detecting Lines, the identification number of the Line, the number of detectors and the number of configured modules. The label of the BUS Line shows only the number of enabled devices.

The labels are buttons. By clicking on them it is possible to access the display of the relevant devices.



11-3 - Display the expansion devices



To view the expansion devices, click on the label of the devices (Bus Line).

The depiction of the BUS Line can be enlarged to display the icons of the expansion devices. Each icon is flanked by a number that indicates the identification address of the device.

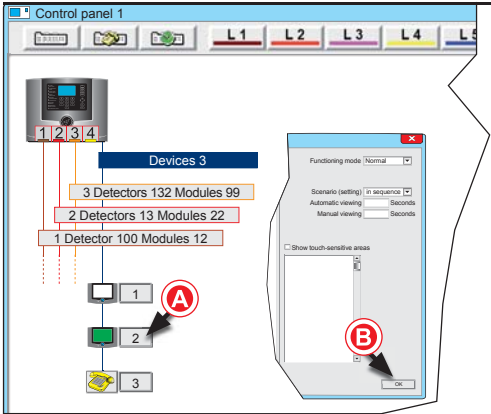
Each type of expansion device is distinguished by its own identification icon, see table "Expansion Devices".

Expansion devices			
Icon / Device Type		Configuration	
	Repeater TFT-7	Repeater Icon Grey	Basic functions with custom local menu
	Synoptic TFT-7S	Synoptic Icon Green colour	Basic functions with custom local menu. Synoptic functions, only with software CENTRO
	Dialer TFCOM	Dialer Icon Yellow	Only with the software CENTRO

12 - SYNOPTIC REPEATER TFT-7S

The synoptic repeater TFT-7S is a customizable synoptic display device. Therefore before proceeding to its configuration it is necessary to arrange the elements to customise.

12-1 - Preparation for the configuration



1 Creating MAP and ICO_MAP folders

A - Click on the Synoptic device icon. The program opens the TFT-7S device configuration window. After that, the software CENTRO automatically creates folders MAP and ICO_MAP (The two folders contain some default files).

B - Close the window by clicking on the OK button.

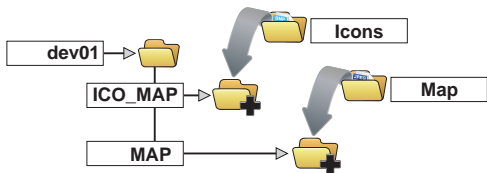


2 - Preparation of the necessary files

Prepare the image files, following the requirements indicated in detail at page 129.

Archive the new files in two folders, one for the Maps and one for the Icons.

Warning: Prepare the Icon folder only if you want to change the default icons.



3 - Upload files to Centro folders

Follow the given path, locate and open the device folder, Devxx. Move the contents of the folders - icon, images and maps - into the relevant destination folders.

- Move the files in the icon folder to the folder ICO_MAP.
- Move the files in the Map folder to the folder MAP.

See more details on page 129.

Warning: Replace the Icon folder only if you want to change the default icons.

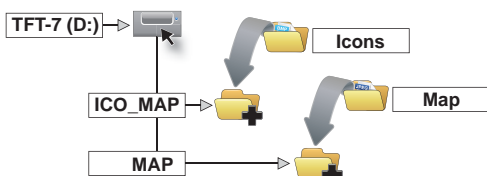
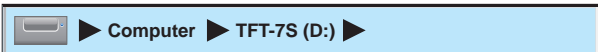


4 - Connect the device to the computer

Connects the computer to the device TFT-7S via a USB cable.

The computer will see such device as an external disk drive.

See more details on page 100.



5 - Upload files to Device folders

Open the TFT-7S device disk (D:)

Move the contents of the folders - icon, images and maps - into the relevant destination folders.

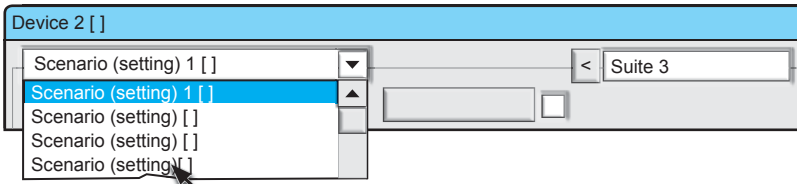
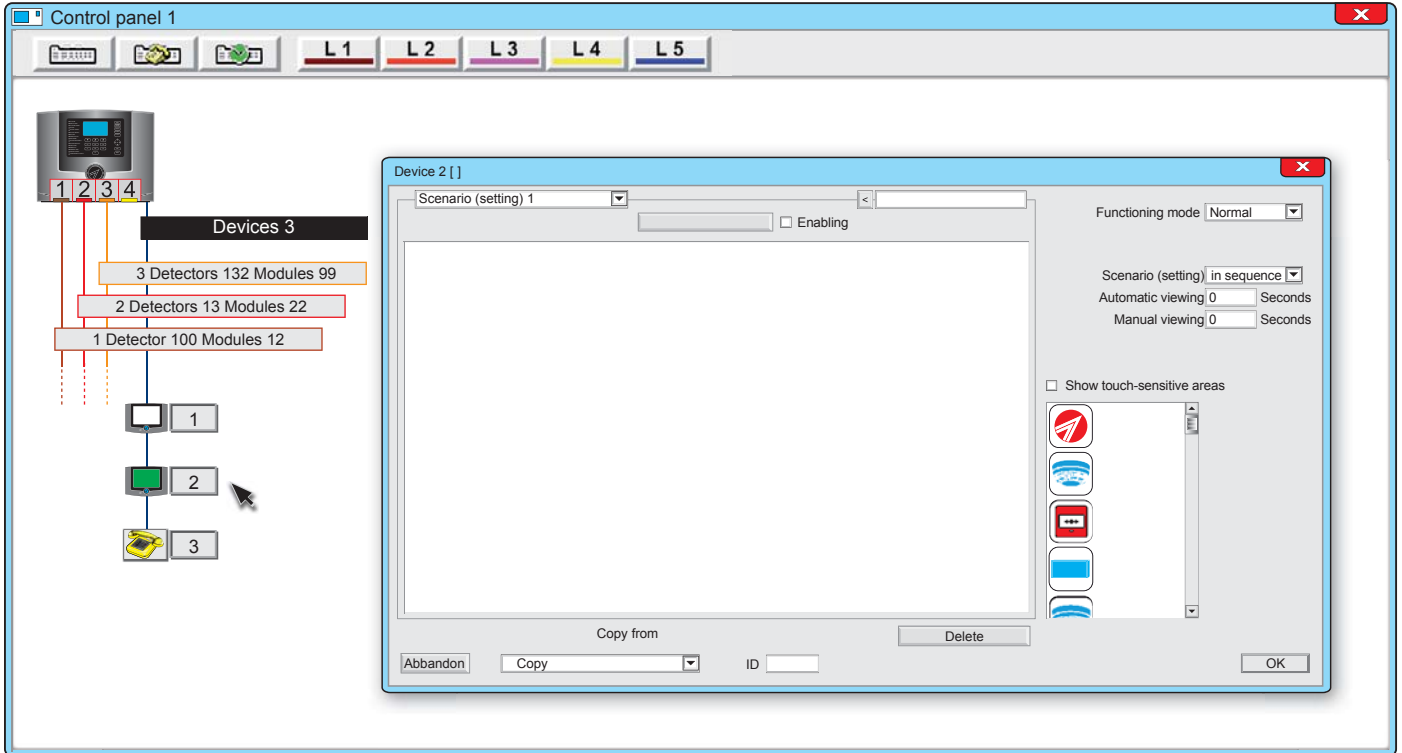
- Move the files in the icon folder to the folder ICO_MAP.
- Move the files in the Map folder to the folder MAP.

Repeat all the above steps for each device TFT-7S.

12-2 Configuring the repeater TFT-7S

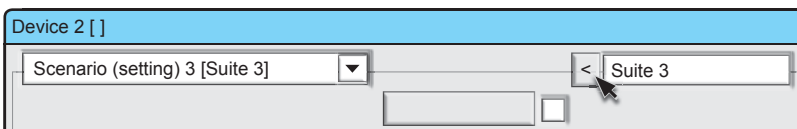
1 - Access to detector configuration

Click on the Synoptic device icon. The program opens the TFT-7S device configuration window. The window allows to program all the operating parameters of the synoptic device: enable and designate the 32 scenarios, associate maps, place icons on the maps.



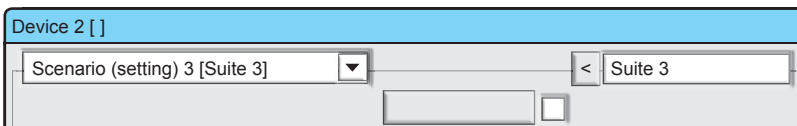
2 - Selecting the scenario

Click on the pull-down menu and choose the scenario to schedule among the 32 available scenarios



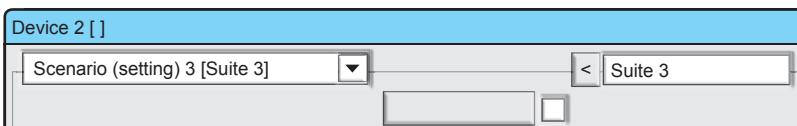
3 - Naming the scenario

Write the name of the scenario (maximum 24 alphanumeric characters) then match the name to the scenario by clicking on the arrow key



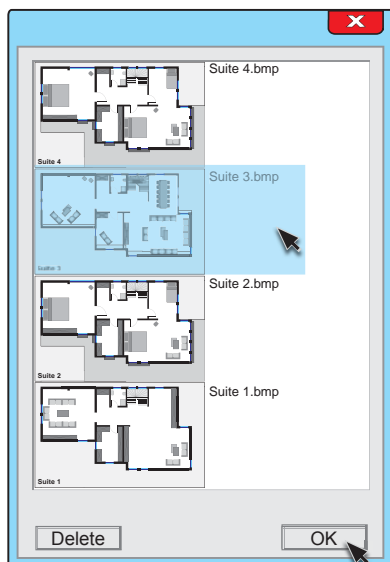
4 - Enabling the scenario

To view the scenario, enable it by clicking on the check box. The check mark indicates that the scenario is enabled.



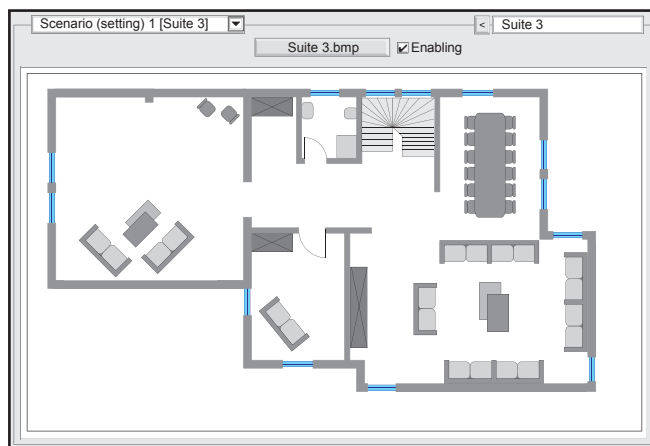
5 - Selecting the map

To view the map selection window, click on the selection key.



6 - Associate the map

Select the map to match to the scenario. Click on the desired map, then confirm by pressing the OK key. The file name of the selected map remains displayed on the key. The selected map is displayed in the white box.

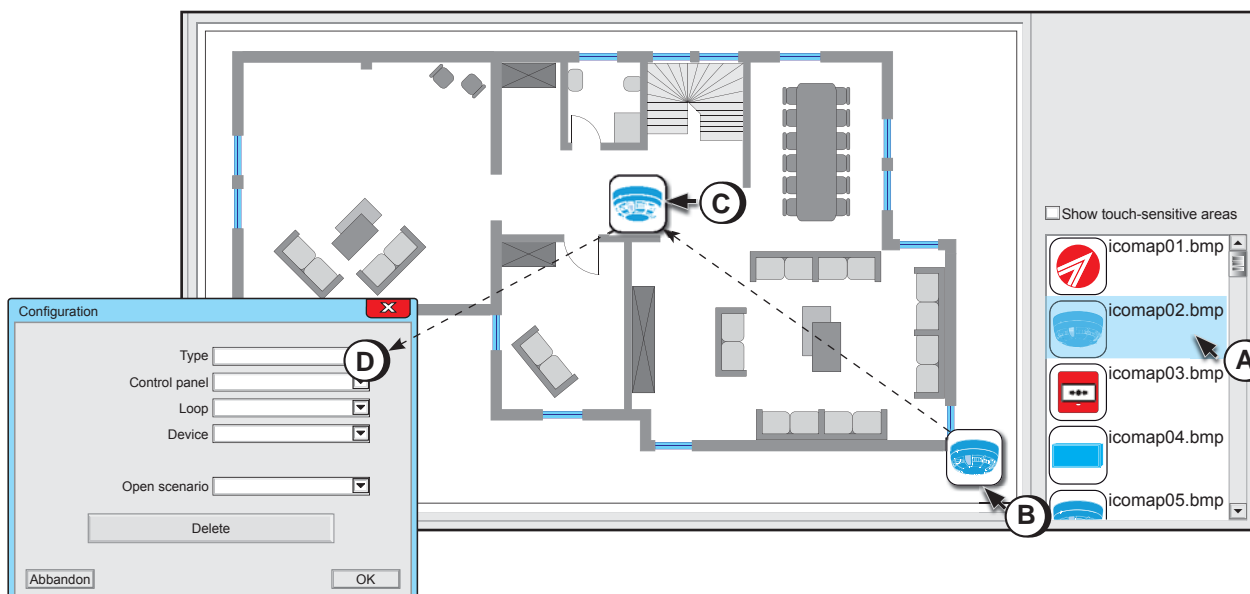


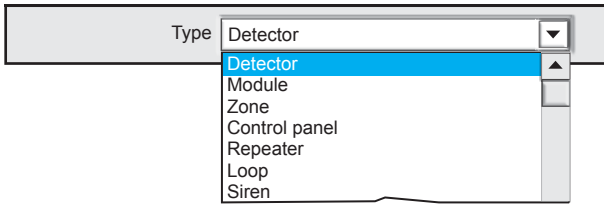
7 - Features of the icons

It is possible to place up to 32 icons above each map. The position of each icons is free. For each icon it is possible to associate one of the system devices. During the normal operation it is possible to display the device identification data, by tapping the icon representing the device. In case of an alarm, such information is completed with the information relating to the alarm. The icons can also be used as buttons, to access directly the screens of other scenarios. To prevent possible confusions, it is recommended to avoid associating icons (buttons) to Device Type.

8 - Choice and placement of the icons

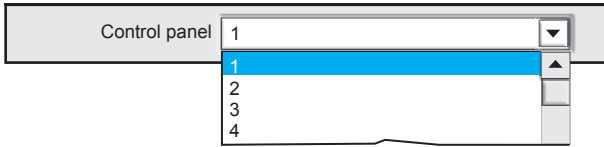
- A - Select the icon to be associated to the scenario. Load an icon on the map by double clicking it.
- B - Click on the icon and drag it to the desired position.
- C - Open the Configuration window (D), by double clicking on the icon.





9 - Type

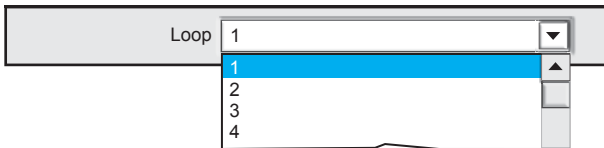
Selection of the Device Type represented by the icon



10 - Control panel

Selection of the control panel from which the device depends. The number points to the network address of the control panel. In case of a single control panel, select 1.

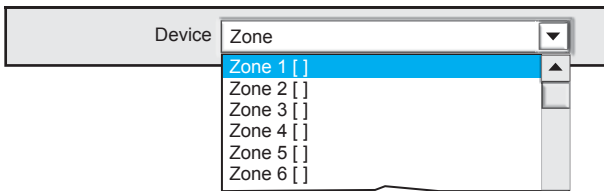
In case of a network of control panels, select 1 for the Master and the other addresses for the Slaves.



11 - Loop

Selection of the loop on which the device is connected. The displayed number is the number that identifies the loop on which the device is connected.

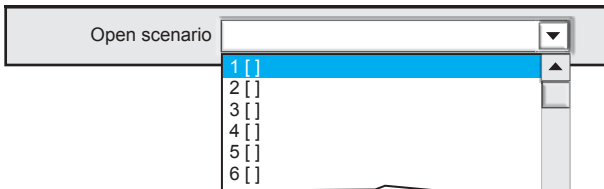
Warning: This configuration field is only available if the Type field you selected Detector, Module or Loop



12 - Device

Selection of the relevant Device number: For the Zone, select the relevant Zone name or number. For the Repeater, select the relevant repeater name or number.

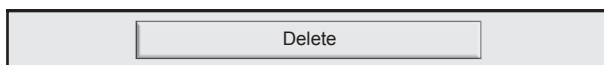
Warning: This configuration field is only available if the Type field you selected Zone or Repeater.



13 - Opening a Scenario

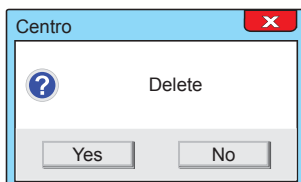
Selection of the scenario to associate with the icon.

Warning: To prevent possible confusions, it is recommended to avoid associating icons (buttons) to Device Type.



14 - Delete

The Delete button allows to delete the relevant icon from the map. Typing the Delete key, a window appears asking to confirm the cancellation.



15 - Confirming the configuration

To confirm the icon configuration, click OK. To cancel the icon configuration, click Abandon.

Repeat the same operations to configure the other icons located on the map.

Functioning mode

- Normal
- Interactive

16 - Functioning mode

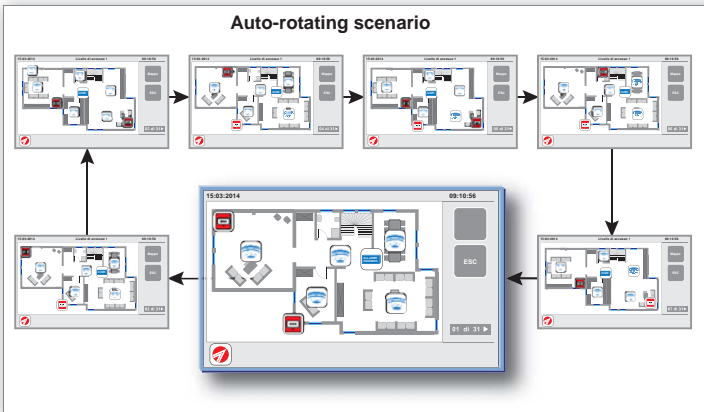
Selection of the detection logic. When the normal mode is selected, the device can only view maps. When Interactive is selected in the device, it is also possible to mute and reset the system.

Scenario (setting)

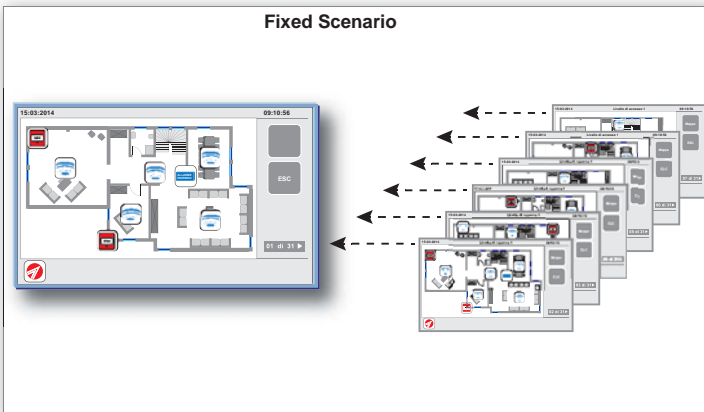
- in sequence
- fix

17 - Scenario

Selection of the map display mode.



Rotation - In this mode, the synoptic displays the maps in sequence, according to an automatic rotation, controlled by the time "Automatic Display". If an event is reported, the automatic sequence is interrupted when another scenario should report an event.



Fixed - With this mode, in idle conditions, the synoptic shows the scenario selected by the user. When an event is reported, the relevant scenario is automatically displayed.

Automatic viewing Seconds

18 - Automatic viewing

Setting the display time of the scenario, before its replaced by the next scenario. This parameter is valid only for the use the Auto rotating display.

If the time that is being set is equal to zero, a default time of 10 seconds is used instead.

Manual viewing Seconds

19 - Manual viewing

Setting the interruption time for of the sequential automatic rotation of maps.

When, for any reason, the operator touches the screen, the sequential automatic rotation cycle is halted until the set manual display time is elapsed.

If the time that is being set is equal to zero, a default time of 60 seconds is used instead.

Show touch-sensitive areas

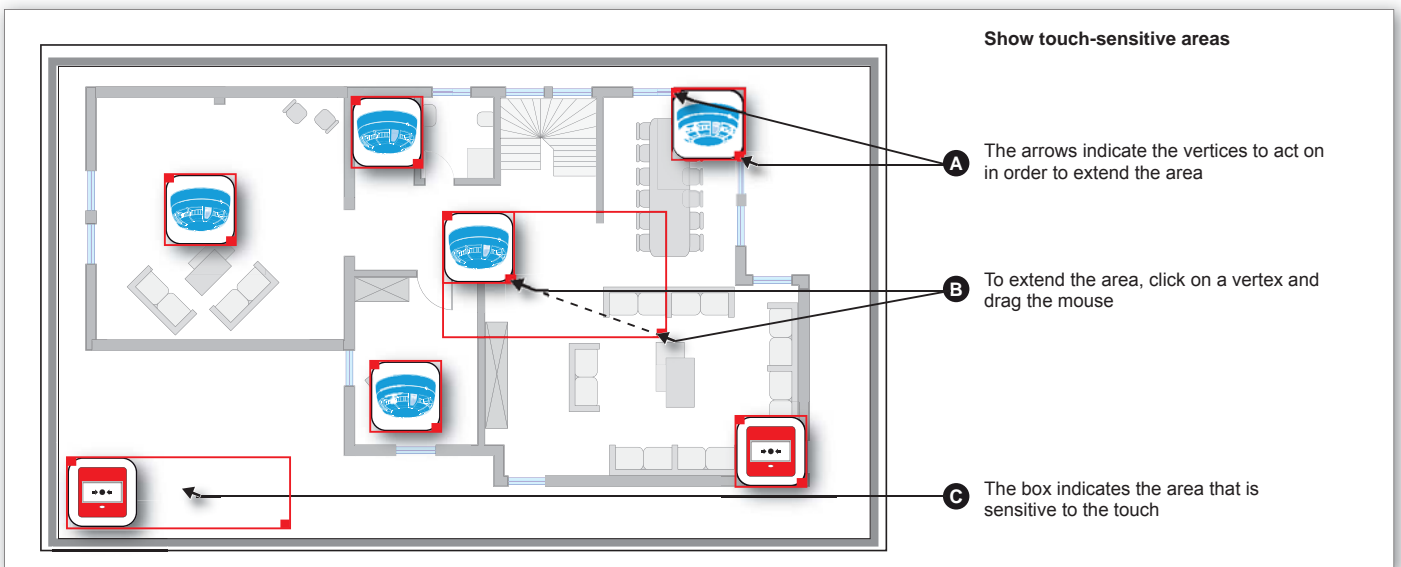
20 - Show touch-sensitive areas

When the function "Show touch-sensitive areas" is enabled, the touch sensitivity area of each icon will be displayed. When the function "Show touch-sensitive areas" is enabled, the sensitivity area will be enclosed inside the red box displayed around each icons. The sensitivity areas can be extended, to enlarge area of sensitivity of the icon.

To extend the sensitivity area, click and drag with the mouse the vertices of the red box.

Warning: It is important to avoid that the sensitive areas of two or more icons overlap. It is recommended to maintain between them a space sufficient to avoid annoying interference.

N.B. The sensitivity areas are displayed only on the PC, never on the console display.



Copy from

Copy

- Copy
- Scenario (setting) 1 []
- Scenario (setting) 2 []
- Scenario (setting) 3 []

21 - Copy from

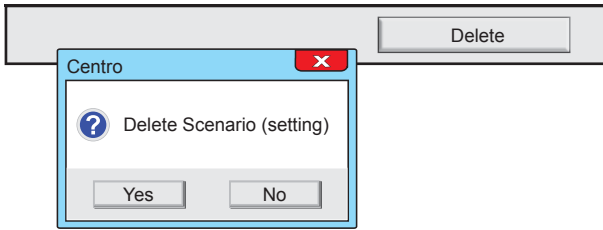
The Copy button allows to speed up the configuration of a scenario, by copying a scenario already set onto the current Synoptic, or by copying all the scenarios set from another Synoptic, that can belong to other control panels of the same system (network of control panels). Click on the pull-down menu and select the scenario or scenarios that you want to copy.

ID

The ID field allows to copy scenarios belonging to another system. Type the ID identifier with which the program Centro identifies the system from which you want to copy the scenarios.

The scenarios of the system identified by the given ID code will be available for selection from the pull-down menu "Copy".

Copy Scenarios - Methods of selection			
Scenarios belonging to the same repeater	Scenarios belonging to another repeater on the same control panel	Scenarios belonging to repeaters of another control panel of the same system	Scenarios belonging to another system
ID <input type="text"/>	ID <input type="text"/>	ID <input type="text"/>	ID <input type="text" value="1122"/>
Scenario xx <input type="text"/>	Scenarios repeater xx <input type="text"/>	Scenarios repeater xx Control Unit xx <input type="text"/>	Scenario xx <input type="text"/>
			Scenarios repeater xx <input type="text"/>
			Scenarios repeater xx Control Unit xx <input type="text"/>



22 - Delete

The Delete button allows to clear the displayed scenario. Typing the Delete key, a window appears asking to confirm the cancellation.

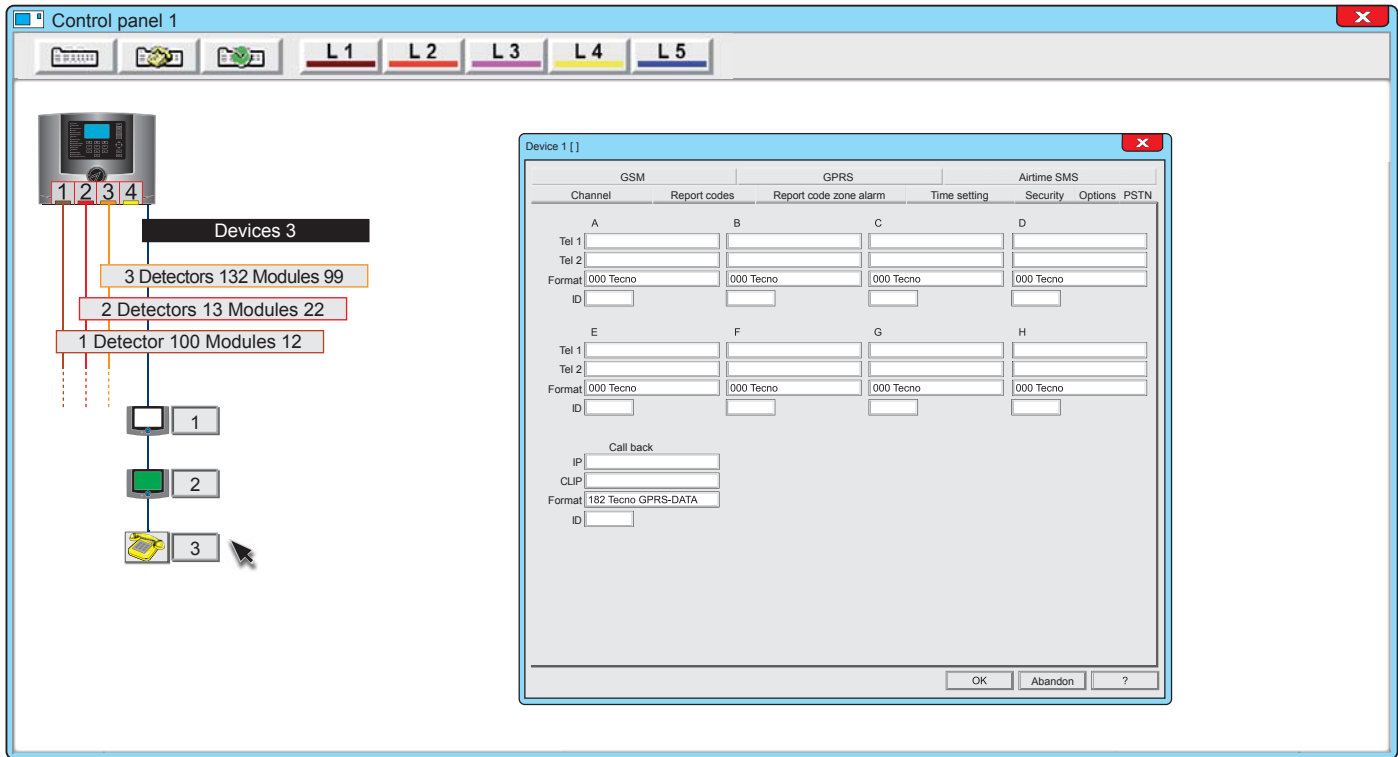


The configuration of the Synoptic scenarios is completed.
To set the other modules, repeat the same operations
To confirm the configurations, click **OK**
To cancel the configurations, click **Abandon**.

13 - CONFIGURING THE TFCOM DIALER

13-1 - Access to configuration

Click on the Dialer icon; the program displays a window which groups the TFCOM configuration menus.



Dialer Configuration						
GSM		GPRS			Airtime SMS	
Channel	Report codes	Report code zone alarm	Time settings	Security	Options	PSTN
Channel	Configuration menu for the 8 Telephone and Call Back communicators. Each communicator can be associated with a main phone number, a spare phone number, a communication protocol and an identification code.					
Report codes	This menu allows to associate the telephone communicators with the report codes used by the dialer to notify the events related to the system operation to the programmed telephone numbers.					
Report code zone alarm	This menu allows to associate the telephone communicators with the zones report codes . Such association is free, every zone managed by the control panel can be associated to one or more communicators.					
Time settings	Configuring the time settings: activation of communicators delay and lack of network signal delay.					
Security	Configuring the passphrases used by the communicators to encrypt the communications.					
Options	Activations: automatic muting of system failures, global muting of the dialer, opening voice message. Disable: Forwarding over GPRS, forwarding over IP.					
PSTN	Configuring functional parameters pertaining to the phone carrier PSTN. Enabling: answering function, selection mode, line test, enabling the answering and control panel tones.					
GSM	Enabling the GSM module, enabling the answering function, programming the number of rings at the answer, configuring the headers for the SMS messages.					
GPRS	Configuring the GPRS carrier, setting the network accessing parameters.					
Airtime SMS	Configuring the credit query modes for prepaid SIM cards.					

13-2 - Telephone dialer

Channel	GPRS		Airtime SMS		
	Report code zone alarm	Time settings	Security	Options	PSTN

Menu for configuring the operating parameters of the phone communicators and the call back.
 The dialer has 8 communicators (A, B, C, D, E, F, G, H). Each of them can be associated with a main telephone number, a secondary telephone number, a communication protocol and an identification code.

A	
Tel 1	333356245
Tel 2	330121212
Format	001 Vocal
ID	1212

1 - Configuring the communicators

A - Header that identifies the communicator.

Tel 1 - Main Phone number or IP Address, the first number that the communicator calls in its cycle of calls. For entering the number/address, click on the field, (max 24 characters).

Tel 2 - Reserve Phone number or IP Address, the second number that the communicator calls in its cycle of calls. For entering the number, click on the field, (max 24 characters).

Format - Choice of the communication protocol.
 The protocol identifies the transmission mode. Each protocol has its own peculiarities, typically the mode and the communication carrier to be used. The Dialer uses PSTN as the communication carrier (GSM is optional).

ID - identification code of the communicator (maximum length of the code 6 digits). Through the identification code the Teleservice centre identifies the communicator and as a result the system from which the alarms come.



Communication protocols and carriers

The protocol is the transmission method of the telephonic notification. Each protocol encloses its own operation rules, regarding the way of communicating the message (how do I say it?) and the means of communication with which to forward the message to the recipient, communication carrier (with what do I send it?). The choice of a communication protocol must then be made as a function of the communication carrier that you want to use (I send it with!), and of the recipient to whom you want to send the message (I say it this way!).

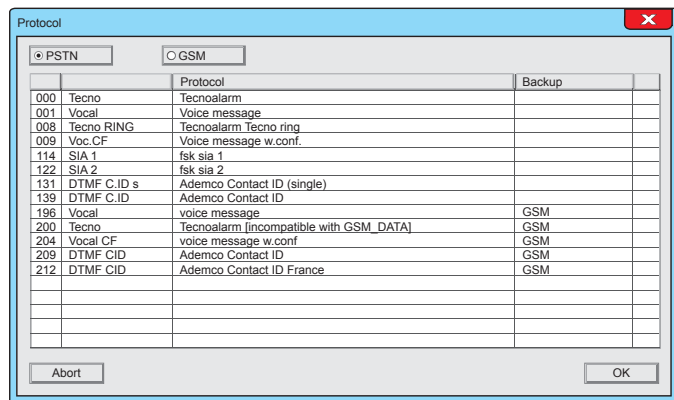
Communication carriers

The communication carriers are the transmission media through which the notifications are sent to the recipient, according to the modality defined by the communication protocol.

The TFA systems communication carriers can be four. Three of them are provided by the TFCOM dialer directly or through expansions. The TFA systems may use multiple TFCOM dialers. The available carriers are:

- IP** IP node for Ethernet LAN/WAN networks, basic equipment of control panels TFA2-596 e TFA4-1192.
- PSTN** Switched telephone line, basic equipment of TFCOM telephone dialer.
- GSM** Telephone module GSM-GPRS, optional expansion for the TFCOM telephone dialer.
- GPRS** Telephone module GSM-GPRS, optional expansion for the TFCOM telephone dialer.

Format



2 - Format

To select the protocol, click on the field Format.

It displays the choice of the protocol for the channel being programmed.

At the top of the window, the two selection keys are visible, one key for each available communication module.

Click on the button relative to the carrier to be used. Select from the list the desired protocol then click the OK button

PSTN Protocol selection for the module/carrier PSTN

GSM Protocol selection for the GSM carrier module, carriers GSM and GPRS

Backup protocols

Some communication protocols are specialized to operate in Backup mode.

The Backup protocols use 2 communication carriers: the primary carrier and the secondary carrier.

As backup protocols, the TFCOM dialer uses PSRN as the primary communication carrier, and the GSM module (GSM carrier) as secondary communication carrier.

With the Backup protocols, the notification cycle is normally carried out by the primary carrier but when, for any reason, the primary carrier fails to notify the alarms to the specified numbers, the dialer will forward the notifications using the secondary carrier.

ID

3 - ID Identification code of the communicator (maximum length of the code 6 digits). Through the identification code the Teleservice centre identifies the communicator and as a result the system from which the alarms come.

Call back	
IP	90.90.120.100
CLIP	322121256
Format	182 Tecno GPRS

Warning:

The Call Back can be carried out only through the GPRS channel of the optional telephone module TFESP GSM-GPRS

4 - Call back

Call Back is the function that requests to the dialer to call the centre.

In the Call Back, the dialer calls the centre, hence the control panel pays the call. Call Back is one of the remote configuration/management methods.

The section to the left enables the configuration of the operating parameters.

IP - Main Call Back IP Address. It is the IP address that the communicator calls as a result of a request for call back from Centro modem. To enter the address, click on the field, (extension 24 characters).

CLIP - Call with GPRS CLIP

To enable this function it is necessary to write in the CLIP field the phone number enabled to launch the call back.

For the setting rules refer to page 126.

Detection logic

1 - The Centro modem calls the dialer on the GSM channel.

2 - The dialer checks and compares the calling number with the number set in the CLIP field.

3 - If the calling number is equal to the CLIP number, the dialer closes the communication and activates the Call Back through its GPRS channel.

Format - Communication protocol used for the Call back.

This communicator supports only the digital protocol 182 Tecno GPRS -DATA - Tecnoalarm GPRS-DATA.

OK	Abandon
----	---------

The Channel menu is completed

To confirm the configurations, press **OK**

To cancel the configurations, press **Abandon**.

13-3 - Report codes

GSM	Report codes		Airtime SMS		
Channel		Time settings	Security	Options	PSTN

Menu for associating the report codes categories to the communicators. The dialer uses the report codes to notify the set telephone number about the system functional events. Notifications are sent from each communicator using the communication protocol set for that communicator in the menu "Channel".

Each item in the list "Report codes" (Transmittable events) represents a category of events. Enabling an item in the list, you enable all the events grouped in such category. For example, the category "Alarm zones" groups alarm events of all the fire zones of control panel.

Warning:
If the "Zone report codes" are used, do not associate to communicators also the relevant notifications contained in this menu "Report codes". The notifications which must be associated with only one of such two menus are:

- Alarm Zones
- Prealarm Zones
- Technical alarm Zones
- Failure Zones
- Acknowledgment Technical alarm

If the same notifications are associated in both menus, always and only the notifications associated in the menu "Report codes" will prevail.

A	B	C	D	E	F	G	H
Alarme Zones	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1 - Pairing channels and events

The available channels are 8, each channel is distinguished by a letter of the alphabet from A to H. The event categories are shown in the table "Transmittable events". Each category has a row with 8 boxes, and each box represents a communicator. Clicking on the letter of one communicator, you enable or disable the communicator to transmit any category of events. To enable or disable only the desired categories, click on the checkbox relevant to the communicator selected for notification.

Event category row
The row event is highlighted in horizontal, including the name of the category and 8 boxes, for the 8 communicators.

Communicator column
The column of the communicator is highlighted in vertical, with a box for each event row.

OK	Abandon
----	---------

The Report codes menu is completed
To confirm the configurations, click **OK**
To cancel the configurations, click **Abandon**.

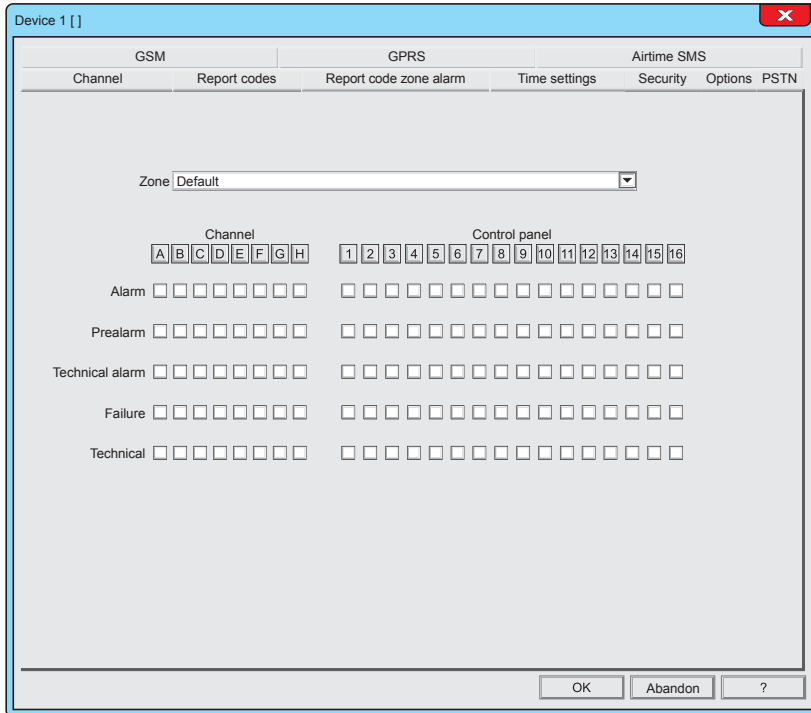
13-4 - Report code zone alarm



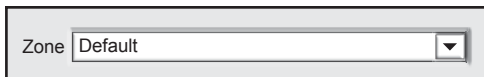
This menu allows to associate the telephone communicators with the zones report codes . Such association is free, every zone managed by the control panel can be associated to one or more communicators. When the system is composed of several control panels, it is possible to select the control panels and freely associate its zones to the communicators.

Warning:

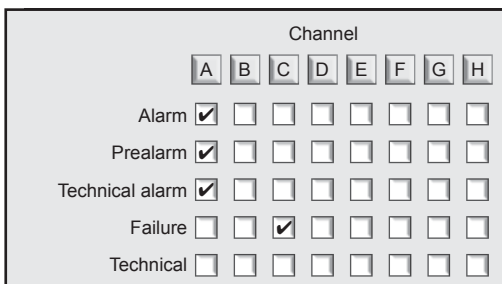
If the communicators are associated to the notifications contained in the menu "Report code zone alarm", never associate also the notifications contained in the menu "Report codes". If the same notifications are associated in both menus, always and only the notifications associated in the menu "Report codes" will prevail.



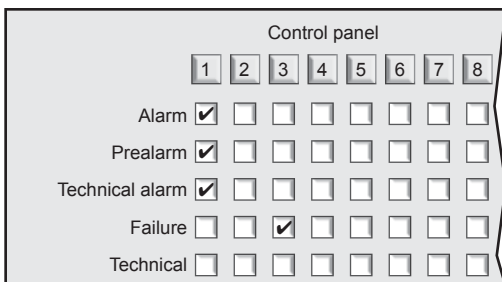
For further details see the additional information on page 123



1 - Zone
Zone selection



2 - Channel
Combination of communicators to notifications: Alarm, prealarm, Technical Alarm and Failure of the selected zone.

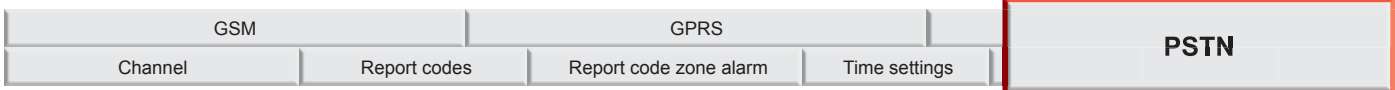


3 - Control panel
Selection of the control panel to which the number of the zone selection refers

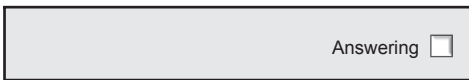
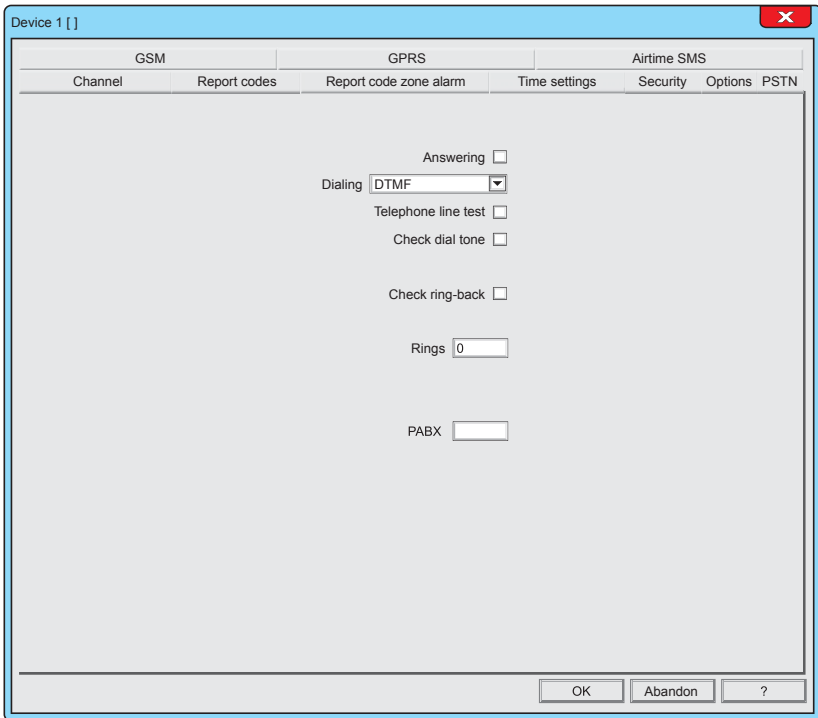


The Report code zone alarm menu is completed
To confirm the configurations, press **OK**
To cancel the configurations, press **Abandon**.

13-5 - PSTN

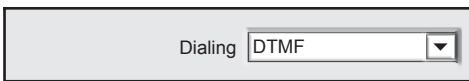


Configuration Menu of the operating parameters of the telephone carrier PSTN.



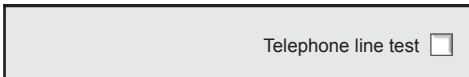
1 - Answering

Enables the PSTN carrier to answer incoming calls. With the response option enabled, in the case of incoming call, after the preset number of rings, the PSTN carrier answers introducing you onto the guided telephone menu. This function is also valid for incoming call from Tecnomodem.



2 - Dialing

Selection of the telephone dialling mode, DTMF or PULSE. The choice must be made on the basis of the infrastructure (phone switchboard) to which the system is connected.
Pulse - decadic dialling (the composition of the number is slow)
DTMF - tone dialling (the composition of the number is fast)



3 - Telephone line test

It enables the dialer to check the telephone line. If enabled, the control of the presence of the telephone line is continuous. The test is continuous, but only if the line is not engaged.



4 - Check dial tone

It enables the dialer to check the tone of free line on the telephone switchboard before dialling the number. With the feature disabled, the dialer dials the telephone number without verifying the presence of the dial tone.

Check ring-back

5 - Check ring-back

It enables the dialer to check the telephone answering tone of the recipient. With this feature enabled, the dialer issues the voice message only upon verification of the correct telephone answering tone.

With the feature disabled the dialer issues the message without checking the answering tone.

Rings

6 - Rings

Number of rings after which the carrier PSTN answers to the incoming calls (3 to 15).

PABX

7 - PABX

Telephone switchboard. If the dialer is connected to a telephone switchboard (PABX), enable this option by entering in the field the output number required by the PBX to access the selection of the external line.

The field enables to enter 1 to 16 digits.

OK

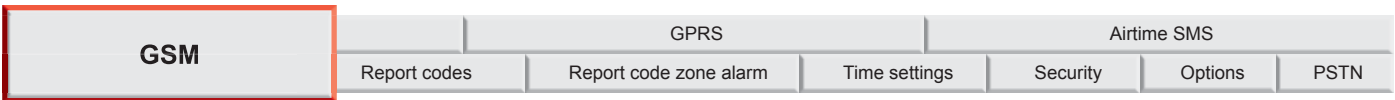
Abandon

The PSTN menu is completed

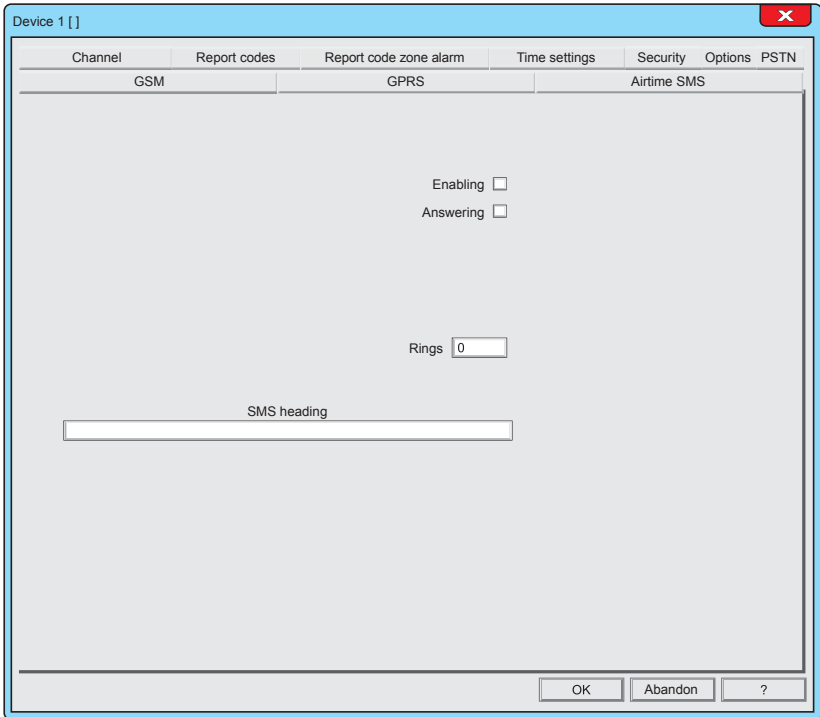
To confirm the configurations, press **OK**

To cancel the configurations, press **Abandon**.

13-6 - GSM



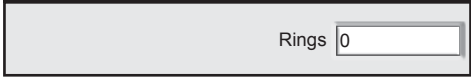
Configuration menu of the operating parameters of the telephone carrier TFESP GSM-GPRS (GSM optional).



1 - Enabling
It enables the operation of the GSM module



2 - Answering
It enables the GSM carrier to answer incoming calls. With the response option enabled, in the case of incoming call, after the preset number of rings, the GSM carrier answers introducing you onto the guided telephone menu. This function is also valid for incoming call from Tecnomodem.



3 - Rings
Number of rings after which the GSM carrier answers to incoming calls (3 to 15)



4 - SMS heading
All SMS messages sent by the dialer contain a standard text, dynamically composed as a function of the event. To distinguish the origin of the messages, you can set the header of the SMS messages (sender). For the header text, 40 alphanumeric characters are available.
Warning: In the text you cannot use accents.

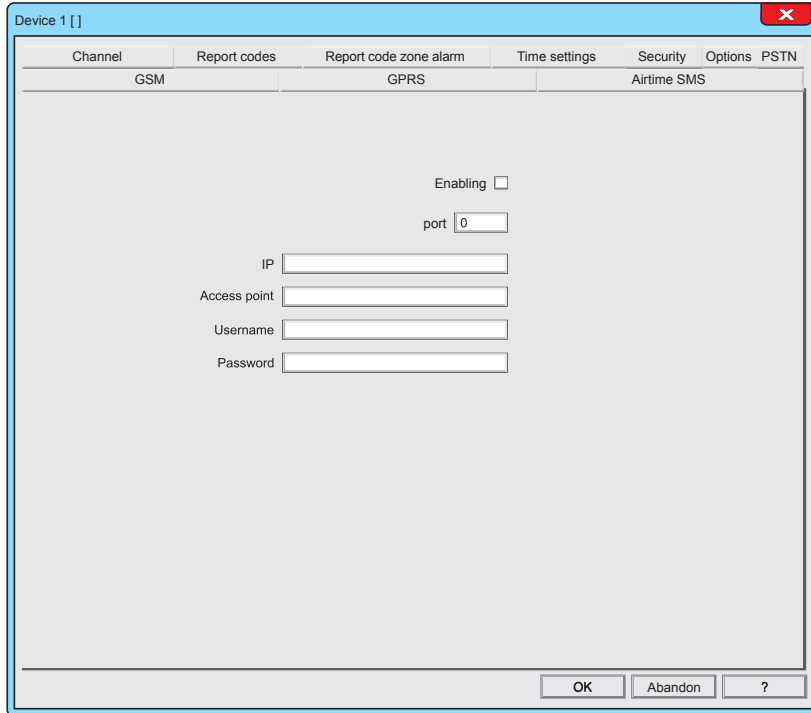


The GSM menu is completed
To confirm the configurations, press **OK**
To cancel the configurations, press **Abandon**.

13-7 - GPRS



Configuration menu of the operating parameters for the channel GPRS of the telephone carrier TFESP GSM-GPRS



Warning:

The service access parameters indicated in the table may change according to the telephone operator. For further information please contact the telephone operator.

Operators Parameters to set			
Port	Port of "Tecnoalarm Centro" Default port 10001		
IP (DNS)	0.0.0.0	0.0.0.0	0.0.0.0
Access point	ibox.tim.it	web.omnitel.it	internet.wind
Username	Your telephone number	Empty	Empty
Password	IBOX	Empty	Empty

*Warning: The service is subject to limitations according to the available coverage
N.B. The names and trademarks shown are the property of their respective companies

Enabling

1 - Enabling

Enabling of the GPRS channel of the GSM telephone module

port

IP

2 - Port

Communication Port and IP address of the GPRS network Tecnoalarm centre access door.

The communication port number can also be written in the queue at the IP address <IP Address + communication port>.

Access point

Username

Password

3 - Access parameters to the GPRS network

The GPRS connection is not a point to point connection, as for the telephones. The GPRS connection is comparable to the Ethernet connection, it takes place through the Internet.

Then you need to access to the network using an access point (AP). The access parameters are provided by the telephone operator.

The GPRS menu is completed

To confirm the configurations, press **OK**
To cancel the configurations, press **Abandon**.



13-8 - Security

GSM		GPRS		Security
Channel	Report codes	Report code zone alarm	Time settings	

Configuration Menu for the Passphrase used by communicators to encrypt the communication data. The Passphrase is an encrypting key that the communicator uses to encrypt its communication, and hence to increase the security level of the communication. The transmitted data may be decoded and interpreted only by the recipient with which the Passphrase was agreed.

Warning:

By filling the fields Passphrase you customize the encryption key of the communication. If the fields passphrase are not filled, the communicators use the default encryption key specific for the communication protocol used.

Tecno GPRS/SIA.ID Encrypt	Passphrase
A	<input type="text" value="aaFGJH1213142356"/>
B	<input type="text" value="HSD56G7E4Wvb416"/>
C	<input type="text" value="987jjjhhFF45789"/>
D	<input type="text" value="aaFGJH1213142356"/>
E	<input type="text" value="aaFGJH1213142356"/>
F	<input type="text" value="aaFGJH1213142356"/>
G	<input type="text" value="aaFGJH1213142356"/>
H	<input type="text" value="aaFGJH1213142356"/>

1 - Passphrase

To each communicator (outbound communications) it is possible to assign a customised encryption passphrase.

Syntax rules

The table shows the syntax rules to follow in order to create the Passphrase.

Passphrase syntax rules		
Number of characters	→	32 characters maximum number
Type of characters	→	Alphanumerics, numbers or letters
Type of letters	→	Recognizes uppercase and lowercase
What to avoid	→	Characters other than numbers and letters

GPRS	Passphrase
	<input type="text" value="aaFGJH1213142356"/>

Also communications on the Call-back channel (GPRS carrier) can have a custom encryption through a Passphrase.

<input type="button" value="OK"/>	<input type="button" value="Abandon"/>
-----------------------------------	--

The Security menu is completed

To confirm the configurations, click **OK**
To cancel the configurations, click **Abandon**.

13-9 - Airtime SMS

GSM		GPRS		Airtime SMS
Channel	Report codes	Report code zone alarm	Time settings	

If the GSM module uses a prepaid Calling Card, you can query the value of the residual telephone credit via an SMS message or a simple call (these services are offered only by the major mobile telephony operators), the menu allows you to set the parameters required by telephone operators to perform such service.

Warning:

The service access parameters indicated in the table may change according to the telephone operator. For further information please contact the telephone operator.

Operators Parameters to set			
Enabling	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Credit Number	40196	404	*123#
SMS Text	PRE CRE SIN	Empty (no text)	Empty (no text)

N.B. The names and trademarks shown are the property of their respective companies

Airtime request by SMS

1 - Airtime request by SMS

Enable or do not enable the function, according to the telephone operator See table "Operator parameters to set". To enable or disable such parameter, click on the box.

Provider no. for airtime request

2 - Provider no. for airtime request

Write the phone number indicated by your telephone operator. See table "Operator parameters to set".

Airtime request SMS

3 - Airtime request SMS

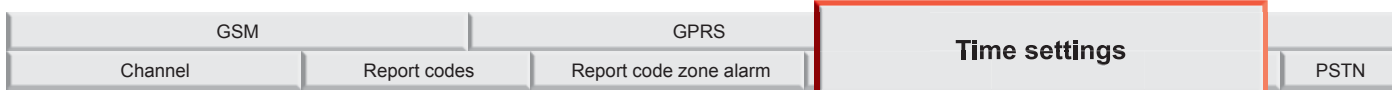
Write the text message indicated by your telephone operator. See table "Operator parameters to set".

The Airtime SMS menu is completed

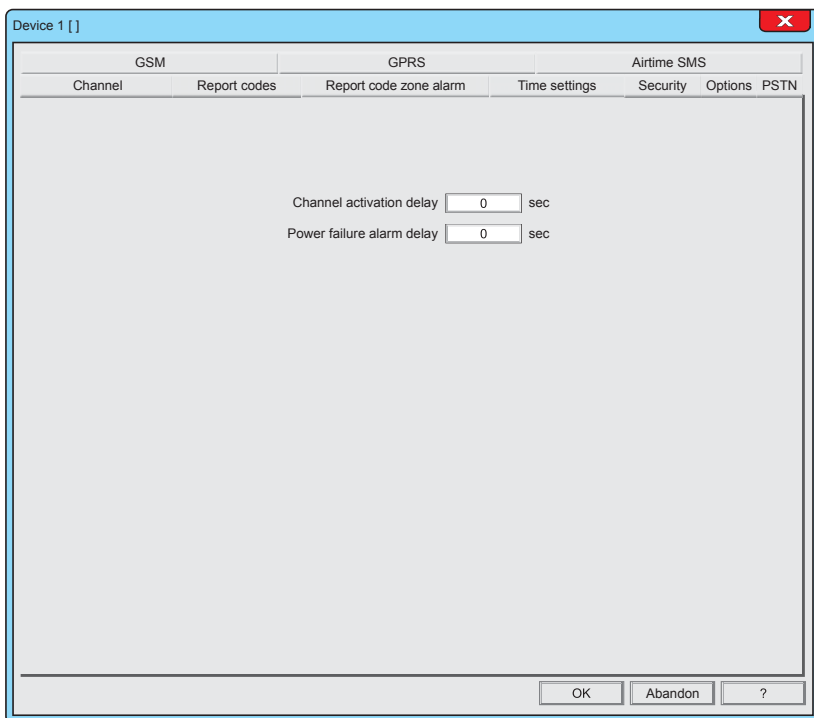
To confirm the configurations, press **OK**
To cancel the configurations, press **Abandon**.



13-10 - Time settings



This menu allows to set the delay times for the activation of the telephone communicators, and the signalling delay for any of lack of dialer external power supply (BUSRS485 line supply).



1 - Channel activation delay

Configuring the delay time at the activation of the telephone communicators for forwarding notifications concerning only fire alarms. 0 to 600 seconds



2 - Power failure alarm delay

Configuration of the delay for signalling a lack of external power supply of the dialer (RS485 Bus Power).
 If the power supply voltage is off for a period of time longer than the scheduled time, the signalling is forwarded.
 If the power supply voltage is off for a period of time shorter than the scheduled time, the timer is rest and the signalling is not forwarded. 0 to 600 minutes



The Time settings menu is completed
 To confirm the configurations, press **OK**
 To cancel the configurations, press **Abandon**.

13-11 - Options

GSM	GPRS		Options
Channel	Report codes	Report code zone alarm	Time settings

Device 1 [] ✕

GSM	GPRS	Airtime SMS	
Channel	Report codes	Report code zone alarm	Time settings Security Options PSTN

Automatic system failure acknowledgment

Global acknowledgment telephone communicator

Opening message

Disable redirection via 2G/3G

Disable redirection via IP

Emergency call Channel A

<input type="checkbox"/> Automatic system failure acknowledgment	<p>1 - Automatic system failure acknowledgment When this function is enabled, the system failures related to the TFCOM dialer are automatically reported and muted.</p>
--	--

<input type="checkbox"/> Global acknowledgment telephone communicator	<p>2 - Global acknowledgment telephone communicator When this function is enabled, and a muting command is received, all the communicators in the telephone queue handling the same muted event are also muted.</p>
---	--

<input type="checkbox"/> Opening message	<p>3 - Opening message Enables the release of the opening initial telephone message that is played by the communicators, as an opening of all voice telephone notifications.</p>
--	---

<input type="checkbox"/> Disable redirection via 2G/3G	<p>4 - Disable redirection via 2G/3G Disable Call Back forwarding on the GPRS channel of the GSM carrier.</p>
--	--

<input type="checkbox"/> Disable redirection via IP	<p>5 - Disable redirection via IP Disabling Call Back forwarding on the control panel IP carrier.</p>
---	--

<div style="border: 1px solid gray; padding: 2px;"> Emergency call Channel A </div>	<p>6 - Emergency call Selection of the communicator to use for the emergency call.</p>
--	---

<div style="border: 1px solid gray; padding: 2px;"> <input type="button" value="OK"/> <input type="button" value="Abandon"/> </div>	<p>The Options menu is completed To confirm the configurations, press OK To cancel the configurations, press Abandon.</p>
---	--

13A - ADDITIONAL INFORMATION - PHONE DIALER



13A-1 - Additional information - Communicators

Telephone communicators

For sending the alarm notifications, the dialer uses the PSTN telephone carrier and, if available, the optional module TFESP GSM-GPRS featuring of the GSM and GPRS carriers.

The dialer operates 8 independent telephone communicators, identified with the letters A to H.

The alarm notification forwarding priorities are managed by the control panel according to a priority criterion based on the alphabetical identification of each communicator (the communicator A has the highest priorities, while the communicator H has the lowest priority).

It is therefore necessary that the more important notifications are associated with the highest priority communicators, privileged in sending the notifications, in order: A, B, C, D, E, F, G and H (where H has the lowest priority).

The communicators are logical units which manage the communication according to the following procedure:

Dial the telephone number of the recipient of the notification.

Carry out the communication, and possibly repeating the attempt according to the rules (prescribed by the notification cycle).

Log the outcome of the communication.

Manage the signalling LED of the dialer "TX NOTIFICATIONS".

Report any failures related to its own operation and the successful outcome of the telephone notification cycle.

Operating parameters

The eight communicators operate independently, according to their programmed operating parameters:

Phone Numbers

Phone numbers 1 and 2 are the destination addresses of the event notifications (for the GPRS protocols it is possible to schedule the IP address). The first number is the primary recipient, the second number is called only if the communication toward the first delivery failed.

For the syntax of the IP addresses, writing mode can be used: only the address or address plus communication port:

Only IP Address - The IP address is formed by 4 numeric fields, spaced by a character, a point or an indent. In this case the dialer uses the set port for the TECNOALARM client channel.

Address IP plus the communication port. In this case, append to the 4 numeric fields of the IP address a fifth numeric field that defines the port. The 5 fields must be separated by the dot or dash character.

ID (identifier)

Numeric code (max 6 figures), by which the recipient (alarms receiving centre) identifies the origin of the notification.

If the identifier is not programmed, the communicator sends the identification code of the control panel.

Protocol

Communication mode of the notification. The communication protocol can be phonic or digital. The use of digital protocols must be agreed with the receiving recipient centre. See table of the available protocols.

Report codes

The dialer notifies any system events by sending the report codes. The TFCOM dialer handles two types of report codes. The first type is called "Report codes" and collects into homogeneous categories all system events. By enabling a category you enable the transmission of all the events grouped into it. The second type of reporting code is called "Report code zone alarm" and collects only Zone-related events. It offers the possibility of freely associating any event of each zone and each control panel to the telephone communicators.

The report codes categories are shown in the table "Transmittable events". For each of them category are listed the grouped events, their description and their transmission priority.

To simplify the configuration, the events have been collected into homogeneous categories.

Enabling a category, you enable the transmission of all the events grouped in it.

The communicator sends in the same communication session all events associated with it. The telephone cycle is momentarily interrupted in case of events with higher priority which must be transmitted by other communicators.

Event queue

When an event occurs, the dialer checks whether the event is associated with a communicator. If the event is associated it becomes an element of the "Event queue". The event queue can contain up to 64 elements. The event queue is processed on the basis of the following rules:

Communicator - Order of priority of the communicators, from A, with the highest priority to H, the lowest.

Forwarding priority - The priority order of the transmittable event categories: 1 High priority, 2 Medium priority, 3 Low priority.

History - Chronological order; in case of equal priority, the event chronologically older is performed

When an event of higher priority is detected, with respect to the managed queue, the current call is aborted to manage the event with higher priority. The aborted call will be queued and handled as soon as possible.

The communicator sends in the same communication session all the queued events associated with it.

Notification cycle

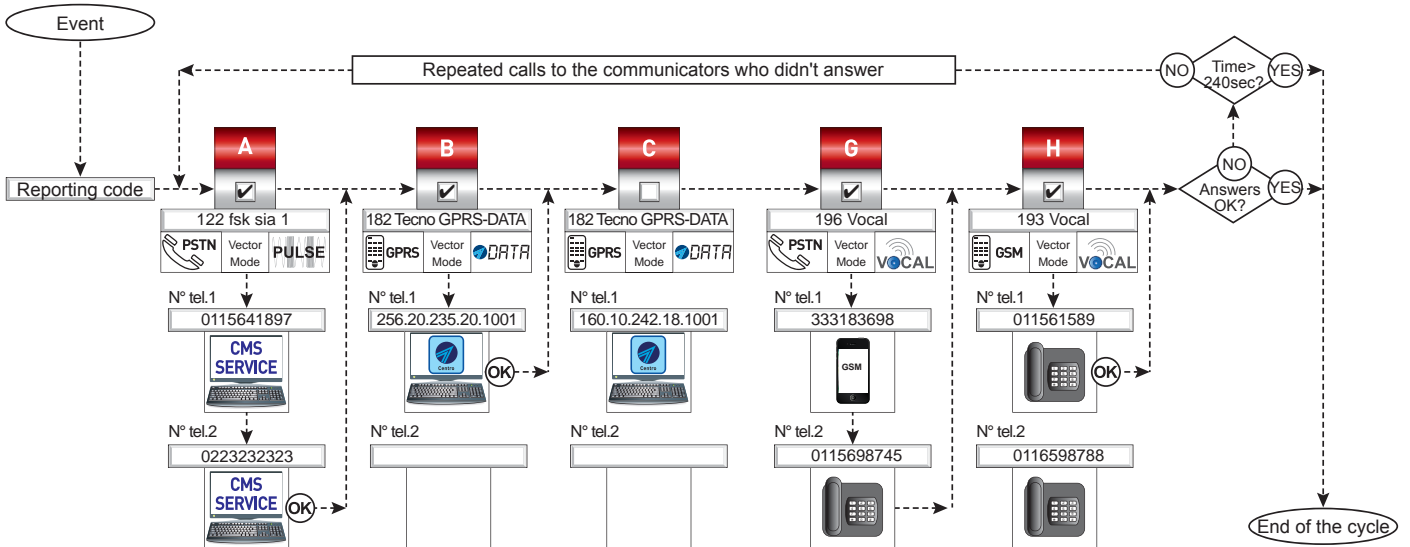
The telephone notification cycle is managed with a maximum execution time of 240 seconds. Within this time span, the callings in progress must be terminated. Exceeding the maximum allowed time, the phone cycle is interrupted and a Communication Fault is reported.

The communicators perform the alarm notification calls according to precise functional rules defined by the notification cycle.

The notification cycle is carried out according to the following rules:

Address No.1 (main) is contacted. If this address is not reachable, Address N.2 (reserve) is contacted. If both the contacts don't answer, the dialer selects the possible next communicator assigned to the event, repeating the calls. If also this communicator fails to notify the events to all the associated numbers within 240 seconds, the control panel reports a Communication Fault. Such fault is also recorded in the event log of the control panel.

Warning: The time limit for telephone cycle is prescribed by EN 54-21:2006 standard. In order to avoid unnecessary communication faults signals due to a long telephone cycle, it is advisable to limit its duration by avoiding to associate events with too many telephone communicators.



Muting

The recipients of the calls, whether they are users or automatic alarm receiving devices, can block the ongoing call in progress by means of specific commands.

Muting by the alarm receiving centre

All the alarm receiving centres, following a call, automatically send the muting command to the dialer.

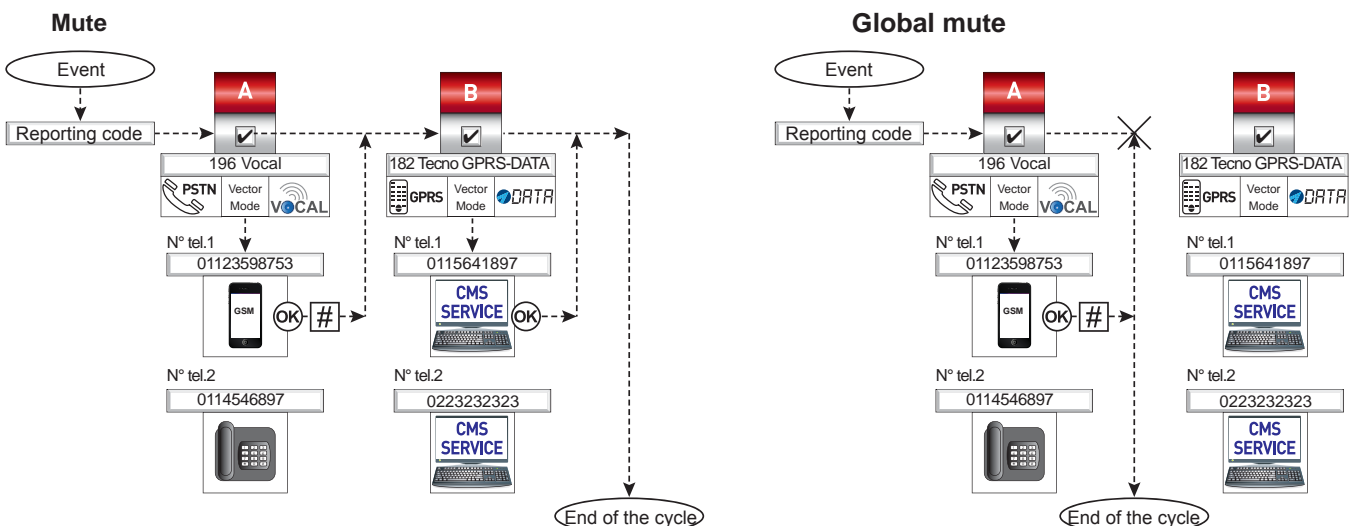
Voice Calls

For voice calls, it is the online user who sends the muting command. During the call, after listening to the message, the user can mute the communicator by typing on the telephone keyboard key (*) or (#).

Global muting of communicators

The muting can also be set as global, enabling from the menu options the function "Global muting of the dialer".

In this case, a muting command interrupts the call in progress and blocks all subsequent calls of all the communicators associated with the muted event.



13A-2 - Report codes, Table

Transmittable events categories						
CR and CRZ	Zone alarm Priority 1 (high)	Zone alarm	CR	General system reports Priority 3 (low)	Lines reset	
CR	Module detectors alarm Priority 1 (high)	Detector alarm	CR	System Failure Priority 2 (low)	System fault	
		Module alarm			Reset system fault	
CR and CRZ	Zone prealarm Priority 1 (high)	Zone prealarm	CR	Zone Exclusion Priority 3 (low)	Reset zones lines exclusion	
CR	Module detectors prealarm Priority 1 (high)	Detector prealarm	CR	Zone inclusion Priority 3 (low)	Zone inclusion	
		Module prealarm				
CR and CRZ	Technical zone alarm Priority 3 (low)	Technical zone alarm	CR	Device Exclusion (BUS485) Priority 3 (low)	Device exclusion	
CR	Module detectors technical alarm Priority 3 (low)	Detector technical alarm	CR	Device Inclusion (BUS485) Priority 3 (low)	Device inclusion	
		Module technical alarm				
		Reset the detector technical alarm	CR		Control panel repetition exclusion Priority 3 (low)	Repetition exclusion
		Reset the modules technical alarm				
CR and CRZ	Zone Fault Priority 2 (low)	Zone Fault	CR	Control panel repetitions inclusion Priority 3 (low)	Repetitions inclusion	
CR	Module detectors fault Priority 2 (low)	Detector fault	CR	Manned Priority 3 (low)	Manned station activation	
		Module fault			Manned station deactivation	
CR	Faulty Devices (BUS485) Priority 2 (low)	Device failure	CR	Sirens Priority 3 (low)	Sirens muting	
		Timer reset			Sirens reset	
		Reset device failure	CR		Reset Priority 3 (low)	Reset
CR	Alarm muting Priority 3 (low)	Alarm category muting	CR	Evacuation Priority 3 (low)	Activate evacuation	
CR	Prealarm muting Priority 3 (low)	Prealarm category muting	CR	Cyclic test Priority 3 (low)	Cyclic test	
CR	Technical alarm muting Priority 3 (low)	Technical alarm category muting	CR and CRZ	Zone Technical prealarm Priority 3 (high)	Zone Technical prealarm	
CR	Failure muting Priority 2 (low)	Fault category muting			Reset zone Technical prealarm	
CR	User operations Priority 3 (low)	Prealarm automatic muting	CR	Module detectors technical prealarm Priority 3 (high)	Detector technical prealarm	
CR	Module detectors exclusion Priority 3 (low)	Detectors exclusion			Module technical prealarm	
		Modules exclusion			Reset detectors technical prealarm	
		Detectors inclusion			Reset module technical prealarm	
CR	Modules detectors inclusion Priority 3 (low)	Modules inclusion	CR	Technical prealarm muting Priority 3 (low)	Technical prealarms category muting	
CR	Download events request Priority 3 (low)	Download event memory				

Report codes classification - acronyms CR and CRZ indicate code class membership: **CR** = Report codes - **CRZ** = Zone Report codes)
N.B. The Report codes of the Zones functional status can be associated to the communicators in the following modes: General Association and/or Punctual Association.
General Association - To define the General Association use the software CENTRO, configuration screen "Report codes".
Punctual Association - To define the Punctual Association use the software CENTRO, configuration screen "Zone Report codes".
 With the general association, the communicators are associated just to the type of event, for all the zones of all the control panels.
 With the punctual association, events of each zone of each control panel in the system can be freely associated to communicators.

General Association - Report codes	Punctual Association - Zone Report codes
<p>Example - The report code "Zones Alarm" that collects alarms from all the zones is associated with the communicators A and B. The two communicators transmit the Zone Alarm telephone notifications indifferently to the associated telephone numbers.</p>	<p>Example - The report code "Alarm" in zones 1, 2, 3 and 4 are independently associated to communicators, A, B, G and H. Each communicator transmits the Alarm telephone notification of the zone or zones associated with it.</p>

13A-3 - Protocol tables

The tables list the communication protocols available for each carrier. For each protocol are given: numeric identification code, name, description, transmission mode, encryption, timestamp (when available) and the information that the protocol is a backup protocol.

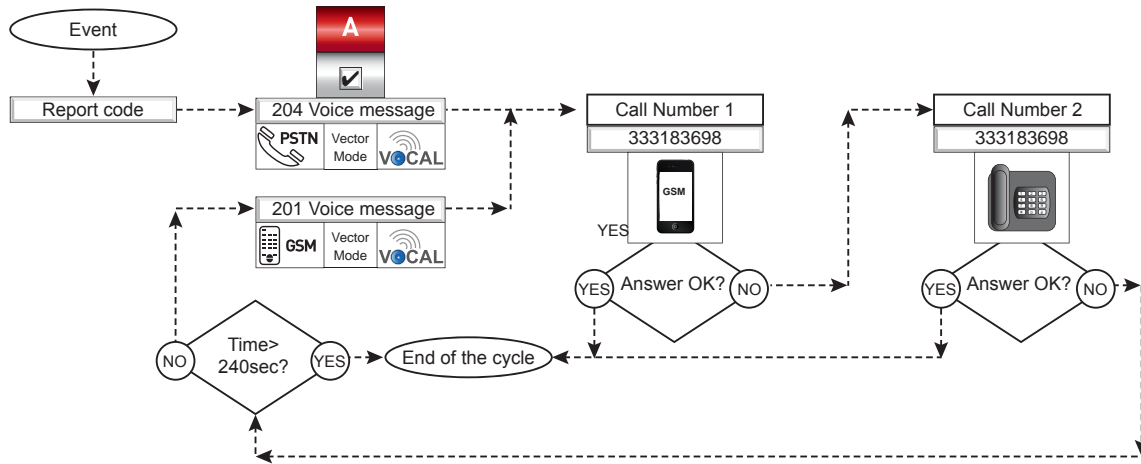
PSTN carrier protocols table							
Carrier	Number	Name	Description	Modes	Encryption	Timestamp	Backup
PSTN	000	Tecno	Tecnoalarm				
	001	Vocal	Voice message				
	008	Tecno RING	Tecnoalarm Tecno ring				
	009	Voc.CF	Voice message w.conf.				
	114	SIA 1	fsk sia 1				
	122	SIA 2	fsk sia 2				
	131	DTMF C.ID s	Ademco Contact ID (single)				
	139	DTMF C.ID	Ademco Contact ID				
	196	Vocal	Voice message				GSM (193)
	200	Tecno	Tecnoalarm [incompatible with GSM_DATA]				GSM (160)
	204	Vocal CF	Voice message w.conf				GSM (201)
	209	DTMF CID	Ademco Contact ID				GSM (208)
212	DTMF CID	Ademco Contact ID France				GSM (211)	

GSM carrier protocols table							
Carrier	Number	Name	Description	Modes	Encryption	Timestamp	Backup
GSM	166	SMS	SMS				
	167	SMS RING	SMS with ring				
	175	Tecno GSM-DATA	Tecnoalarm GSM-DATA				
	183	SMS Credit	SMS with airtime request				
	190	Tecno RING GSM	Tecno GSM DATA Ring				
	193	Vocal	Voice message				
	201	Vocal CF	Voice message w.conf				
	208	DTMF CID	Ademco Contact ID				
	211	DTMF CID	Ademco Contact ID France				

GPRS carrier protocols table							
Carrier	Number	Name	Description	Modes	Encryption	Timestamp	Backup
GPRS	115	SIA-GPRS-T	SIA-GPRS-T Reporting [TCP-2007]	DATA		✓	
	116	C.ID-GPRS-T	C.ID-GPRS-T Reporting [TCP-2007]	DATA		✓	
	117	SIA-GPRS128b	SIA-GPRS Encrypt 128 [TCP-2007]	DATA	AES 128 BIT ENCRYPT		
	118	C.ID-GPRS 128b	C.ID-GPRS Encrypt 128 [TCP-2007]	DATA	AES 128 BIT ENCRYPT		
	156	SIA-GPRS 256b	SIA-GPRS Encrypt 256	DATA	AES 256 BIT ENCRYPT		
	157	C.ID-GPRS 256b	C.ID-GPRS Encrypt 256	DATA	AES 256 BIT ENCRYPT		
	182	Tecno GPRS-DATA	Tecnoalarm GPRS-DATA	DATA	AES 128 BIT ENCRYPT		

13A-4 - Backup Protocol

A backup protocol normally carries out its telephone cycle using the PSTN carrier. If for any reason the PSTN carriers fails to notify the event, the backup protocol automatically activates the GSM carrier and (using a protocol compatible with such carrier) repeats the attempt to carry out the notification cycle.



13A-5 - Telephone credit request

If you use a SIM Prepaid Card, it is necessary to periodically check its remaining residual credit. To perform this function, enable in the menu SMS-Credit the function "Credit Request via SMS" and set the number of the service and the specific request message needed by the telephone operators.



- N.B.** The message is accepted and managed only obeying the two following syntax rules.
1. The message is composed of the single word "CREDIT"
 2. The message can contain upper case or lower case letters.

13A-6 - IP Address format

The IP address is formed by 4 numeric fields, divided by a point or dash. The IP address can be completed by adding a fifth numeric field that indicates the communication port. Such fifth field is not mandatory.

Warning:

This note is valid only for Call Back redirection
 The address can end with the letter "G". The termination in "G" tells to the control panel that the IP address must be carried out using the GPRS carrier.

13A-7 - Call back

Standard mode via TECNOMODEM

TECNOMODEM allows to carry out the call back request via PSTN communications carriers (Standard Call Type) or GSM (GSM-DATA call type).

The call back request is carried out in assisted mode. The communication employs a DTMF protocol.

TFCOM receives the request and activates the Call Back via the GPRS carrier with protocol 182 GPRS-DATA.

Warning: For this operating mode the number of the employed modem must be set into the user card.

CLIP mode 2G/3G via TECNOMODEM

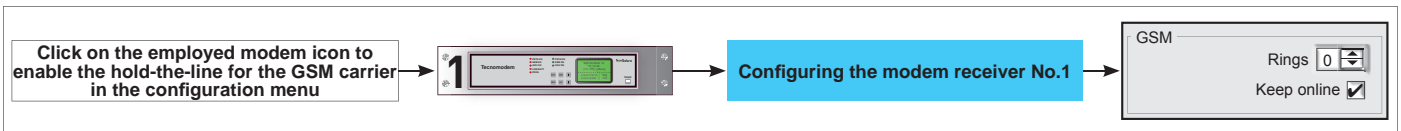
TECNOMODEM allows to carry out the call back request in CLIP mode. The call back request is forwarded to the TFCOM dialer by means of the communication carrier PSTN (Standard Call Type) or GSM (GSM-DATA call type).

TECNOMODEM forwards the call back request to the TFCOM in assisted mode. The TFCOM dialer verifies the calling number, and if it is equal to the number set in the CLIP field of its Call back Communicator it activates the call back through the GPRS carrier via the communication protocol 182 GPRS-DATA.

CLIP mode 2G/3G from any phone

Tecnoserver (TCP/IP Remote Management) allows to make the call back request in CLIP mode. The call back request can be forwarded to the TFCOM dialer through any telephone, provided that its number is equal to the number set in the CLIP field of its call back communicator. The TFCOM dialer verifies the calling number, and if it is equal to the CLIP number, it activates the call back through the GPRS carrier via the communication protocol 182 GPRS-DATA.

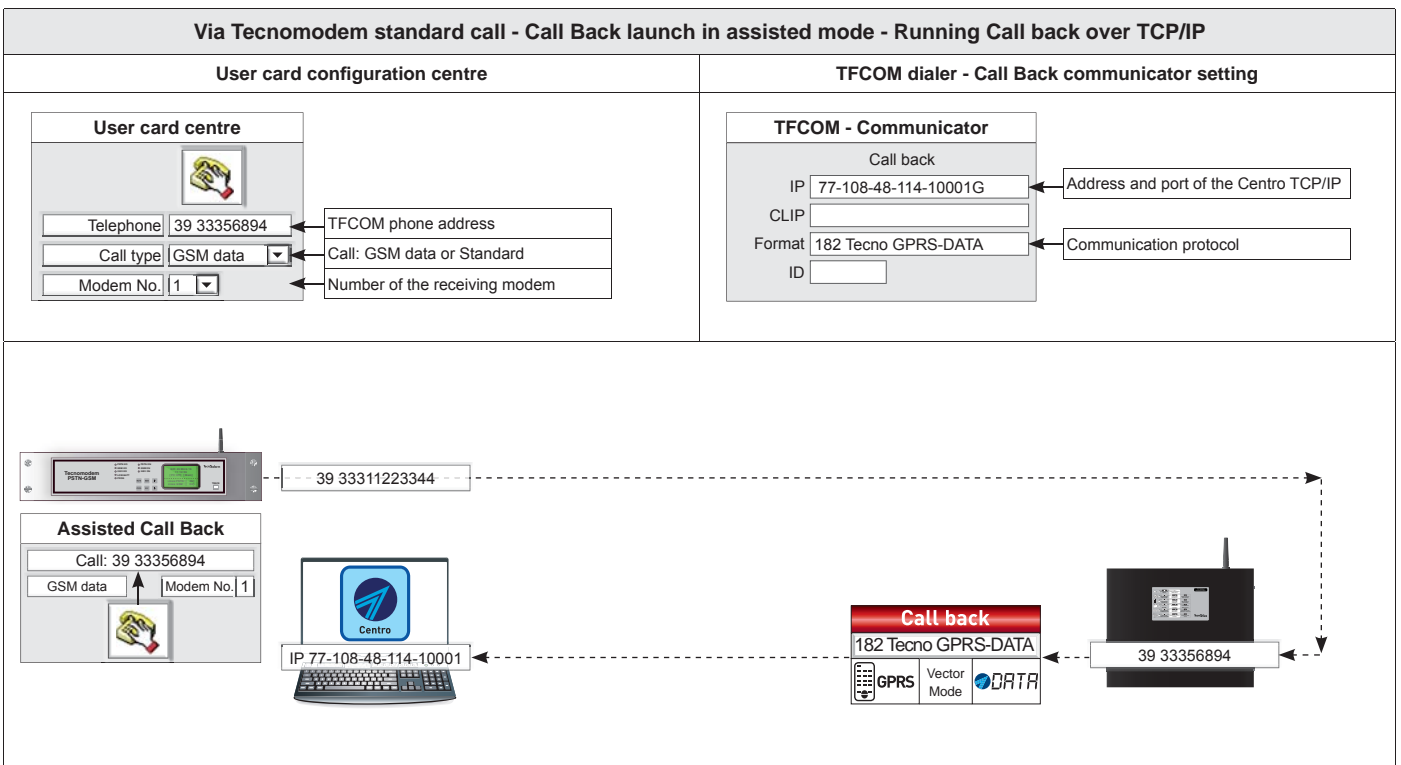
Warning: For this operating mode, the employed modem must be set in hold-the-line mode.

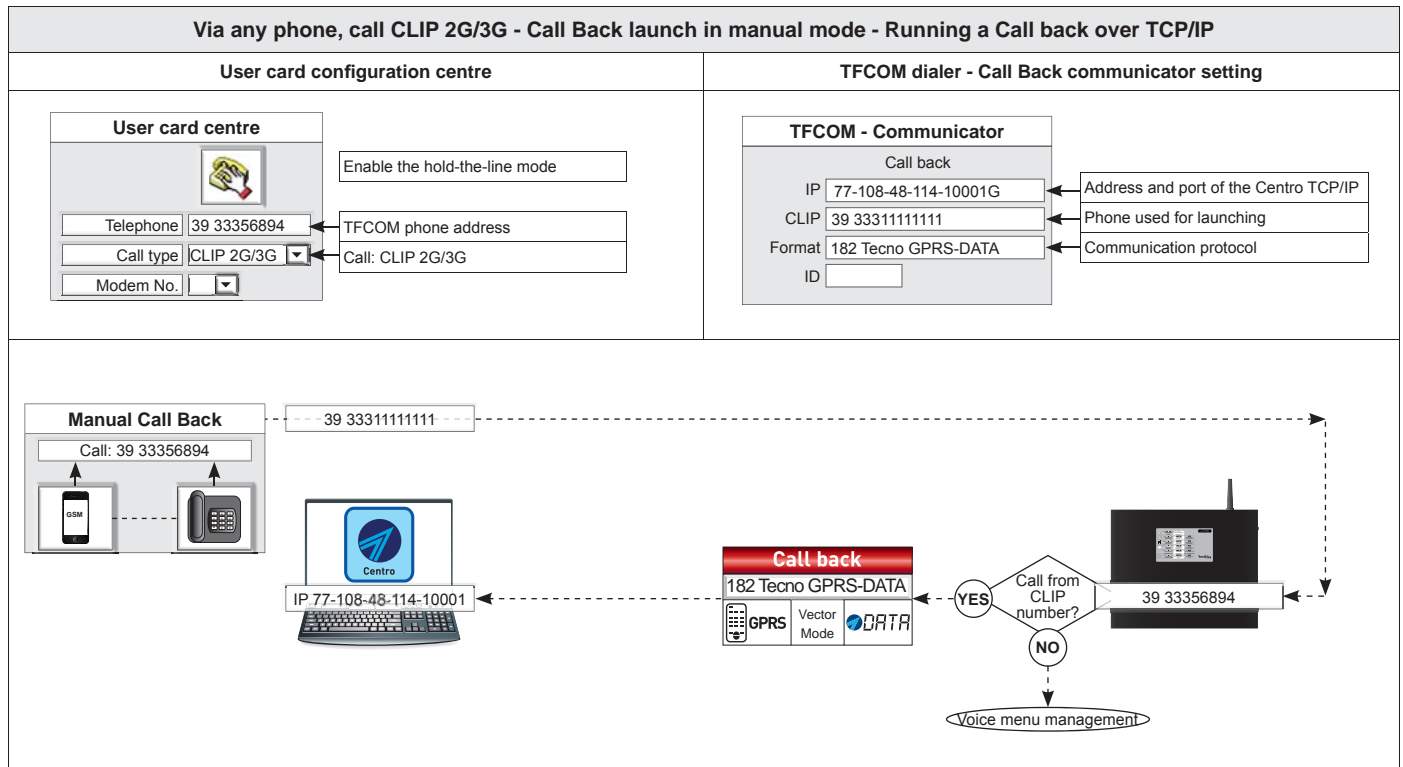
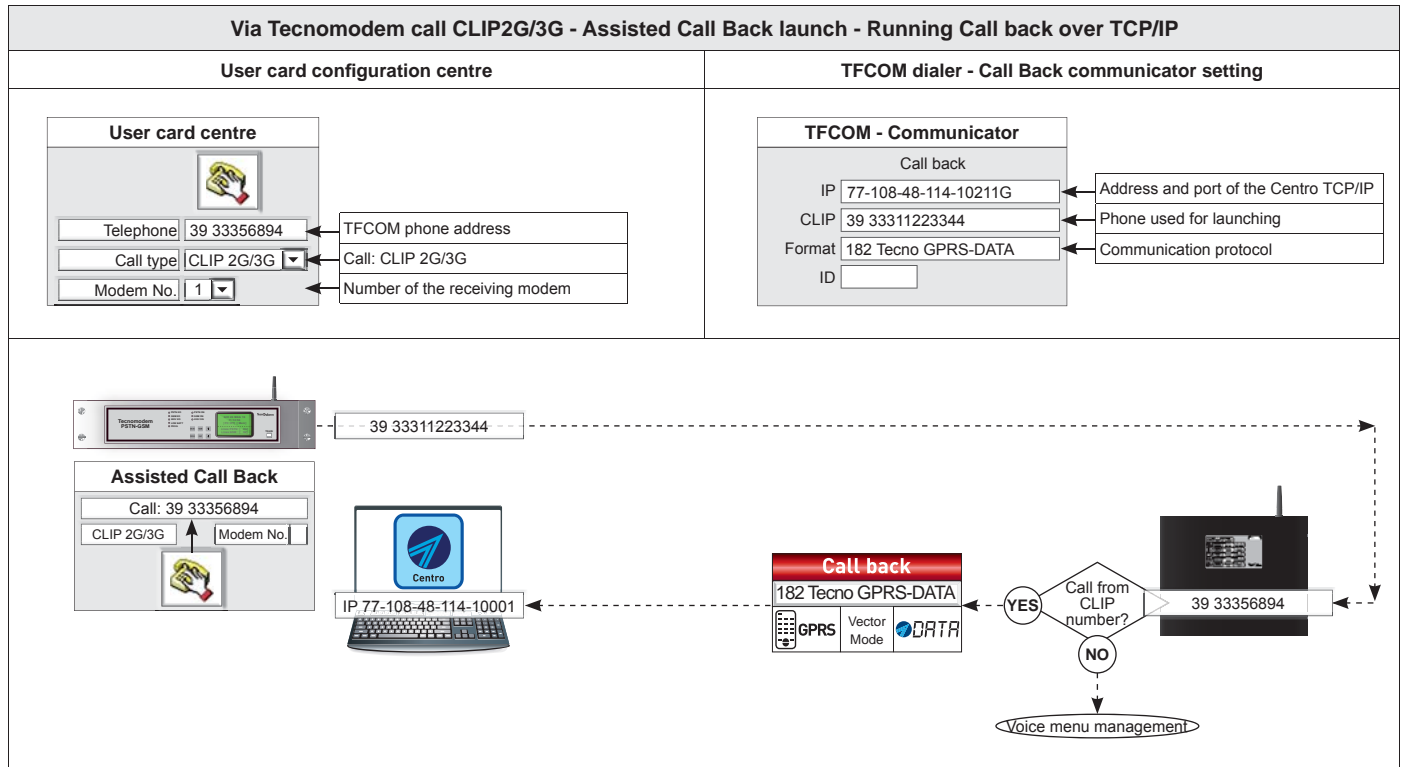


Rules for entering the CLIP number

To allow the TFCOM dialer to recognize the CLIP number, such number must be entered precisely according to the following rules: The CLIP number must be preceded by the international prefix without the + character or the double zero.

If for example the CLIP number is	333 2356948	Add the international prefix and write	39 333 2356948
-----------------------------------	-------------	--	----------------





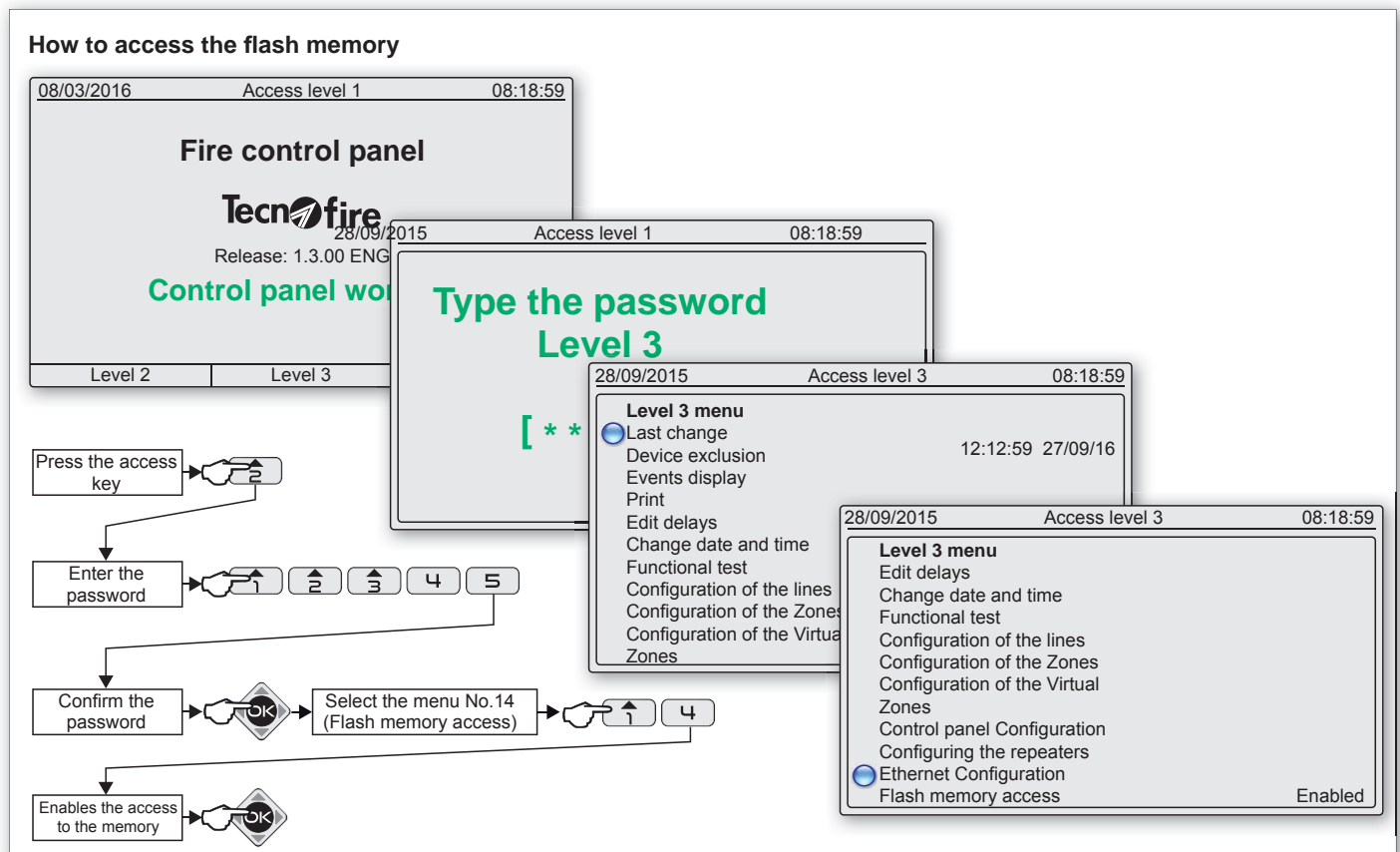
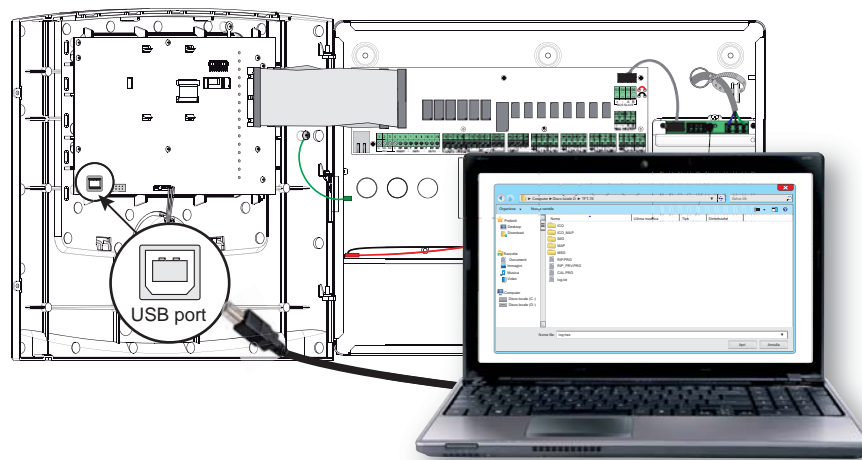
14 - FLASH MEMORY OF THE DEVICES

14-1 - Flash memory of the control panel

The centre is equipped with a non-volatile Flash memory, capacity about 128Mbyte. To view and manage the contents of such memory, enable the access to its data.
 To enable the access to the flash memory, plug the connector CN1 of the control panel via a USB cable to a computer and access the menus of the control panel with a user level 3 or 4 code. Then select and enable the menu "Flash memory access".
 The computer sees the control panel memory as an external drive. To disconnect the disk, exit from the configuration menu of the control panel.

Warning: Before disconnecting the USB cable from the repeater, disconnect the drive using the procedure for the safe removal of the hardware.

If you run any modification on the files contained in the flash memory, restart the control panel.

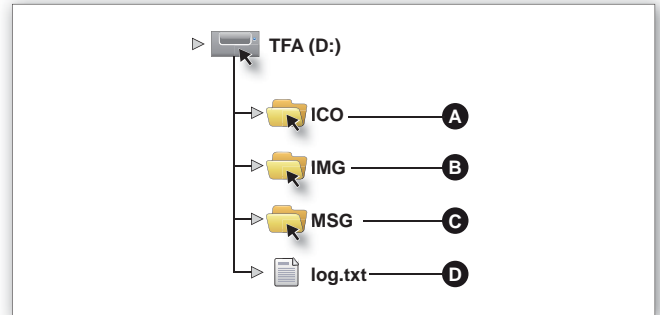


Storage structure of the disc

The drawing depicts the data storage structure in the control panel disc.

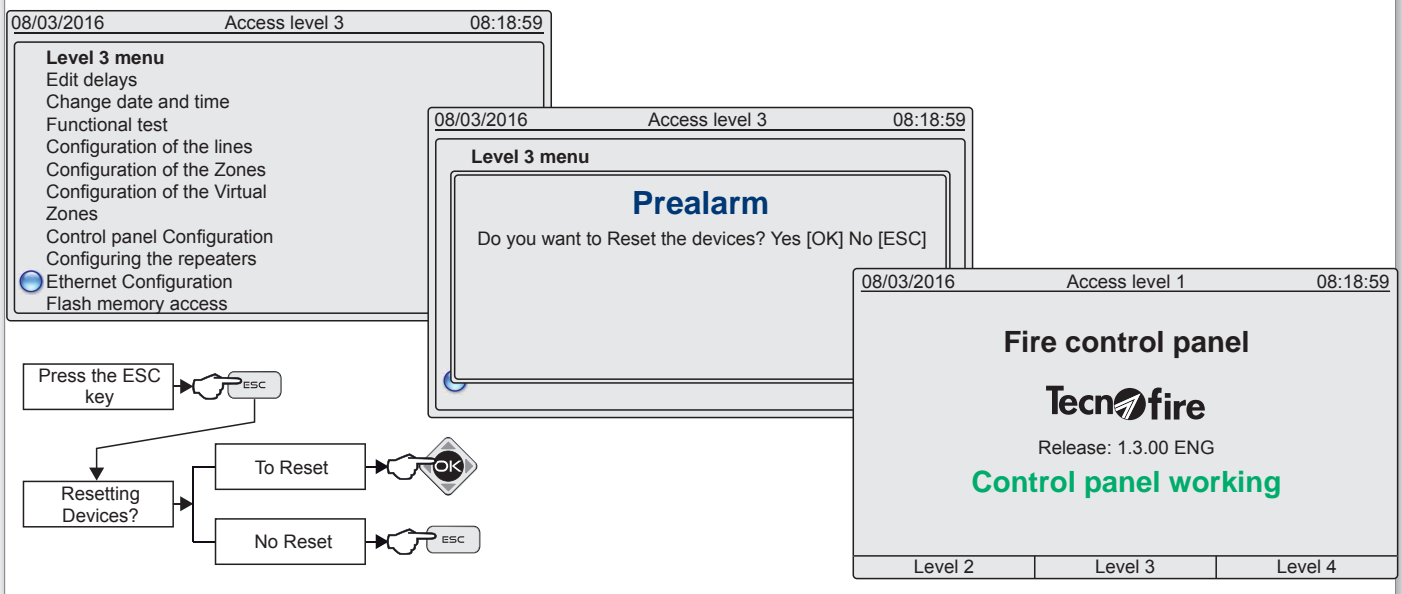
The following table summarizes the features and content of the files and folders contained in the control panel data disk.

The following table summarizes the features and content of the files and folders contained in the control panel data disk.



Folder - File	Function description	Specific notes and warnings
ICO	The folder contains the icons and images used by the control panel to indicate the functional states of the system.	Warning: To avoid issues on the interpretation of the symbols and discrepancies in the display modes between the various devices of the System, it is forbidden to change the names and the contents of the ICO folder
IMG	The folder contains the full screen pictures that the display of the control panel shows during the start-up and during the display test.	Warning: To avoid malfunctions and discrepancies of the display modes in the various devices of the System, it is forbidden to change the contents of the folder and/or the file names of the IMG folder
MSG	The folder contains the files for text management and for speech synthesis	str.bin (text strings) font.bin (font used) msg.bin (dictionary)
log.txt	Initialization log file, the control panel at each startup generates a file called log.txt. The file includes any startup errors, typically missing or corrupt files. The log file is overwritten on each startup, so when you examine the file, you need to take into account that the data refer only to the last startup.	
Warning	To activate any changes made on the folders or files in the memory of the control panel, restart the device.	

Exit procedure (disconnection of the flash memory)



14-2 - Flash memory of the Repeaters and Synoptic Repeaters

The Repeater has a non-volatile Flash memory, capacity about 128Mbyte. To access and view the contents of such memory, connect a computer to the USB port of the Repeater, via a USB cable.

The computer sees the repeater's memory as an external drive.

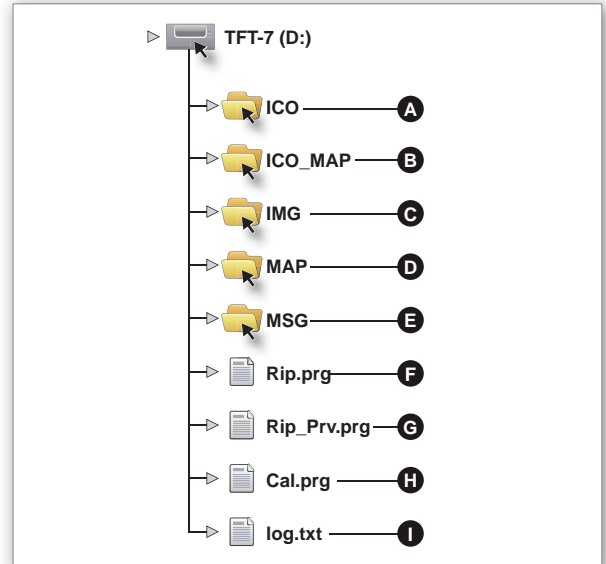
Warning: Before disconnecting the USB cable from the Repeater, disconnect the drive using the procedure for hardware safe removal.

Storage structure of the disc

The drawing depicts the data storage structure in the internal disc of the Synoptic Repeater.

The following folders are not managed in a Repeater device:
B (ICO_MAP) and D (MAP).

The following table summarizes the features and content of the files and folders contained in the Repeaters and Synoptic Repeaters data disc.



Folder - File	Function description	Specific notes and warnings
A ICO	The folder contains the icons and images used by the repeater to indicate the functional states of the system.	Warning: To avoid issues on the interpretation of the symbols and discrepancies in the display modes between the various devices of the System, it is forbidden to change the names and the contents of the ICO folder
B ICO_MAP	The folder contains the icons used for the creation of the graphical maps, viewable from the device "Synoptic Repeater"	The icons in the folder ICO_MAP depict graphically the devices and the functional elements accompanying the graphical maps. You can add customized icon files to the folder, the files must meet the requirements of the table "File requirements in the folder ICO_MAP"
C IMG	The folder contains the background images, the drawings of the keys and of all the functional elements used by the system to graphically display all the functional states on the repeater.	Warning: To avoid malfunctions and discrepancies of the display modes in the various devices of the System, it is forbidden to change the contents of the folder and/or the file names of the IMG folder
D MAP	The folder contains the image files that the device "Synoptic repeater" uses to display the graphical maps.	The files in the MAP folder depict the background images used for the construction of the graphical maps. You can add image files to the folder. The files must meet the requirements of the table "File requirements in the folder MAP".
E MSG	The folder contains the files for text management and for speech synthesis. The Repeater can handle two languages chosen among the available ones. The repeater works in mono or dual language mode, based on the keyboard configuration.	
F RIP.PRG	System file (for Repeater functions) Backup of the configuration data managed by the control panel.	Warning: Customization file managed by the repeater. The file should not be renamed or edited manually
G RIP_PRIV.PRG	System file (for Repeater functions) Backup of the local configuration data for the repeater.	Warning: Customization file managed by the repeater. The file should not be renamed or edited manually
H CAL.PRG	System file (for Repeater functions) File with calibration data of the touch screen. If the file is missing, on startup the repeater prompts to perform the calibration procedure.	Warning: Customization file managed by the repeater. The file should not be renamed or edited manually
I log.txt	Initialization log file, the Repeater at each startup generates a file called log.txt. The file includes any startup errors, typically missing or corrupt files. The log file is overwritten on each startup, so when you examine the file, you need to take into account that the data refer only to the last startup.	

Warning: Any change made to the files and folders contained in the memory of the repeater become operational after restarting the device. Restarting the device occurs automatically when sending the configuration to the control unit, or when pressing the repeater Reset button.

Requirements of the files in the folder ICO_MAP	
Image Format	Images must be in Bitmap format, with .BMP file extension
Image Size	The image size must be 48x48 pixels (width x height)
Image Depth	The depth of the images must be 24 bit
Transparency image	To obtain a transparency effect, set for the background of the image the colour magenta
File name	The file name can be composed of a maximum of 8 alphanumeric characters + 3 extension characters (BMP)
Type of characters	For the name, use numbers or letters, uppercase or lowercase (avoid any other type of character)
Warning	Before adding an image file to the ICO_MAP folder check its compliance with the above requirements

Checking the properties of the image file

A - Select the file, right-click with the mouse
B - Click on Properties

C - Click on Details
D - Check the image properties
E - Check file name and file type

Requirements of the files in the MAP folder	
Image Format	Usable images can be in JPEG format, not progressive (file extension .JPG) or Bitmap (file extension .BMP)
Image Size	The image size must be 640x380 pixels (width x height)
Image Depth	The depth of the images must be 24 bit
File name	The file name can be composed of a maximum of 8 alphanumeric characters + 3 extension characters (JPG or BMP)
Type of characters	For the name, use numbers or letters, uppercase or lowercase (avoid any other type of character)
Warning	Before adding an image file to the MAP folder check its compliance with the above requirements

Checking the properties of the image file

A - Select the file, right-click with the mouse
B - Click on Properties

C - Click on Details
D - Check the image properties
E - Check file name and file type

14-3 - Flash memory of the TFCOM Phone Dialer

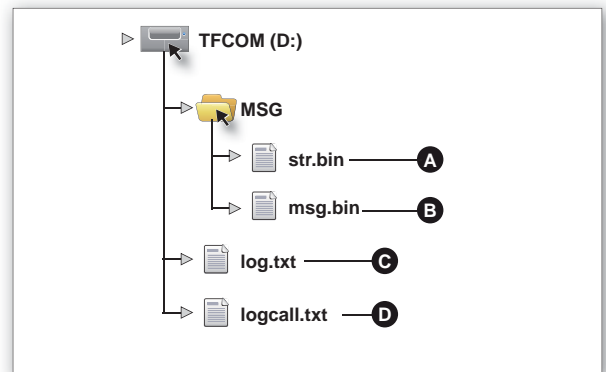
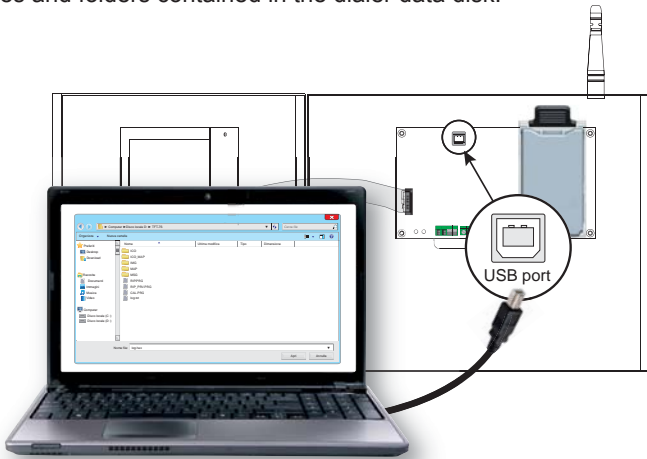
The phone dialer has a non-volatile Flash memory, capacity about 128Mbyte. To access and view the contents of such memory, connect a computer to the USB port of the dialer, via a USB cable.

The computer sees the dialer memory as an external drive.
Warning: Before disconnecting the USB cable from the dialer, disconnect the drive using the procedure for the safe removal of the hardware.

Storage structure of the disc

The drawing depicts the data storage structure in the internal disc of telephone dialer.

The following table summarizes the features and content of the files and folders contained in the dialer data disk.



Folder - File	Description of the function - Notes and special warnings	
MSG	A	str.bin This file contains text strings used for the writing the SMS messages
	B	msg.bin The file contains voice messages used by the dialer to manage the voice synthesis.
C	log.txt	Initialization log file. At each startup, the Dialer generates a file called log.txt. The file includes any startup errors, typically missing or corrupt files. The log file is overwritten on each startup, so when you examine the file, you need to take into account that the data refer only to the last startup.
D	logcall.txt	The logcall file is a temporary file that contains the dialer calling cycles log. It contains the detail of all the steps and logical operations carried out by the dialer to manage every phone call of the telephone cycle. The level of detail recorded in this file is significantly higher than the System Log events. Warning: It is recommended to download and analyse this file only for investigating possible malfunctions relating to the dialer calling cycle. Warning: This file can be displayed only following a procedure aimed to download such files from the internal memory of the dialer. DOWNLOAD PROCEDURE FOR THE LOGCALL FILE 1 - Insert the jumper BOOT on the dialer CPU card 2 - Reset the control panel 3 - Connect a PC to the USB port of the dialer and download the file "LOGCALL.TXT" from the disk (after downloading the file is deleted)
Warning: Any change made to the file "str.bin" and "msg.bin" contained in the memory of the dialer becomes operational after restarting the device. Restarting the device occurs automatically when sending the configuration to the control panel, or when pressing the dialer Reset button.		

15 - SOFTWARE CENTRO - REPEATER FOLDERS

15-1 - MAP and ICO_MAP storage folders

The background images and icons used for the creation of the graphics maps displayed by the Synoptic Repeaters must be stored in the relevant MAP folders (maps storage folder) and ICO_MAP (map icons storage folder) of the program "Centro". The folders MAP and ICO_MAP are generated automatically by the software CENTRO when enabling the repeater device.

Folder - File	Function description	Specific notes and warnings
MAP	The folder contains the image files that the device "Synoptic repeater" uses to display the graphical maps.	The files in the MAP folder depict the background images used for the construction of the graphical maps. You can add image files to the folder. The files must meet the requirements of the table "File requirements in the folder MAP".
ICO_MAP	The folder contains the icons used for the creation of the graphical maps, viewable from the device "Synoptic Repeater"	The icons in the folder ICO_MAP depict graphically the devices and the functional elements accompanying the graphical maps. You can add customized icon files to the folder, the files must meet the requirements of the table "File requirements in the folder ICO_MAP".

Storage Path

Locate on the PC the folder Tecnoalarm. The folder is located inside the folder "Program Files (x86)". The drawing illustrates the path to reach the synoptic repeaters folders, starting from the Tecnoalarm folder. Locate the folder marked by the ID number of the plant. Inside such folder it will be possible to locate the system repeater device folders, named by their serial identification number.

