Manuals

Technical and Programming

NF1002 - NF1004 - NF2000
Conventional / Addressable
Microprocessor-Based Fire Panels

090040786

x

CE

NF1002 - Declaration of Performance 0051 - CPR - xxxx
NF1004 - Declaration of Performance 0051 - CPR - xxxx
NF2000 - Declaration of Performance 0051 - CPR - xxxx
Reference regulations EN54-2 and EN54-4

NITTAN

FOREWORD

FOR THE INSTALLER:

Please follow carefully the specifications relative to electric and security systems realization further to the manufacturer's prescriptions indicated in the manual provided.

Provide the user the necessary indication for use and system's limitations, specifying that there exist precise specifications and different safety performances levels that should be proportioned to the user needs. Have the user view the directions indicated in this document.

FOR THE USER:

Periodically check carefully the system functionality making sure all enabling and disabling operations were made correctly.

Have skilled personnel make the periodic system's maintenance. Contact the installer to verify correct system operation in case its conditions have changed (e.g.: variations in the areas to protect due to extension, change of the access modes, etc…)

....

This device has been projected, assembled and tested with the maximum care, adopting control procedures in accordance with the laws in force. The full correspondence to the functional characteristics is given exclusively when it is used for the purpose it was projected for, which is as follows:

2 / 4 Zones Conventional Fire Panel
12 Zones Conventional Fire Panel + 1 Analogue-Addressable Loop

Panels components have been selected for the purpose intended and they operate according to the technical specifications indicated when the environment conditions outside the panel case correspond to 3K5 class of EN60721-3-3 standard.

Any use other than the one mentioned above has not been forecasted and therefore it is not possible to guarantee the correct functioning of the device. Similarly, any other use of this technical manual other than the one it has been compiled for - that is: to illustrate the devices technical features and operating mode - is expressly prohibited.

The manufacturing process is carefully controlled in order to prevent defaults and bad functioning. Nevertheless, an extremely low percentage of the components used is subjected to faults just as any other electronic or mechanic product. As this item is meant to protect both property and people, we invite the user to proportion the level of protection that the system offers to the actual risk (also taking into account the possibility that the system was operated in a degraded manner because of faults and the like), as well reminding that there are precise laws for the design and assemblage of the systems destinated to these kind of applications.

The system's operator is hereby advised to see regularly to the periodic maintenance of the system, at least in accordance with the provisions of current legislation, as well as to carry out checks on the correct running of said system on as regular a basis as the risk involved requires, with particular reference to the control unit, sensors, sounders, dialler(s) and any other device connected. The user must let the installer know how well the system seems to be operating, based on the results of periodic checks, without delay.

Design, installation and servicing of systems which include this product, should be made by skilled staff with the necessary knowledge to operate in safe conditions in order to prevent accidents. These systems' installation must be made in accordance with the laws in force. Some equipment's inner parts are connected to electric main and therefore electrocution may occur if servicing was made before switching off the main and emergency power. Some products incorporate rechargeable or non rechargeable batteries as emergency power supply. Their wrong connection may damage the product, properties and the operator's safety (burst and fire).

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1. GENERALS

The conventional fire detection panels, NF1002, NF1004 and NF2000, belong to a new family of single micro-processor-based control units, able to manage (respectively):

- **NF1002 - 2 conventional zones + MCP (call points line)**
- **NF1004 - 4 conventional zones + MCP (call points line)**
- **NF2000 - 12 conventional zones + MCP (call points line) + 1 analogue-addressable LOOP**

The handy graphic display shows the operating status of the panels at any moment, and in case of anomaly or alarm events, the display back-light changes its color, displaying and highlighting its status.

A series of keys and LED indicators on the front panel allows an easy reading and fast intervention when panel status control or modification of the parameters become necessary.

Main features of NF2000 series fire panels:

- **2 / 4 / 12 zones, each one consisting of:**
- **1 input for conventional sensor with 4K7 ohm balance resistance**
- **1 line settable as: - open collector output**
  - **input with pull-up for connection to a device with open**
  - **collector output**
  - **balanced input**
  - **4 - 20mA input**
- **1 MCP zone, for call points with 4K7 ohm balance resistance**
- **1 Analogue Adressable Loop, NFEXP20, connection of up to 254 addressable devices (for NF2000 model only)**
- **1 alarm balanced supervised output (AL. REL.), protected by PTC**
- **1 RELAY NO/C/NC output for fault alert (FAULT)**
- **1 RELAY NO/C/NC output for pre alarm alert (PRE AL.)**
- **2 RELAY NO/C/NC outputs, settable, (AUX1 and AUX2)**
- **Acoustic alert with internal buzzer for alarm, pre-alarm and fault**
- **1 x DC 24V output for users, protected by PTC (OUT +24V)**
- **1 x DC 24V resettable output for users, protected by PTC (+24V RES.)**
- **Power supply system with control of battery charge and charge failure**
- **AL2SW24 - 29VDC / 2A internal power supply unit**
- **User interface with multi-color backlit graphic display, keypad and LED indicators**
- **Preset for the connection of :**
  - **MDGSME GSM module (optional)**
  - **NFREL24 relay module (optional)**
  - **EXTING extinguishing module (optional)**
- **1 USB connector**
- **Clock for management of event log (event log up to 2000 entries)**
- **Temperature control of the two optional internal batteries (NTC1 and NTC2)**

Compliance with (UNI) EN 54-2:2007, (UNI) EN 54-4:2007, (UNI) EN 54-21:2006 (in case of GSM dialler installation.)

The NF2000 series fire panels have a special performance certificate indicated on the cover of this manual.

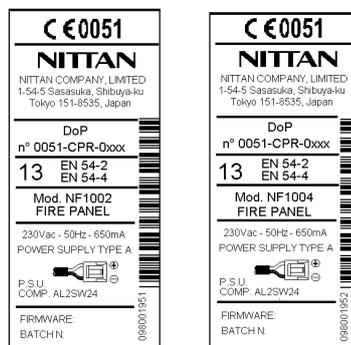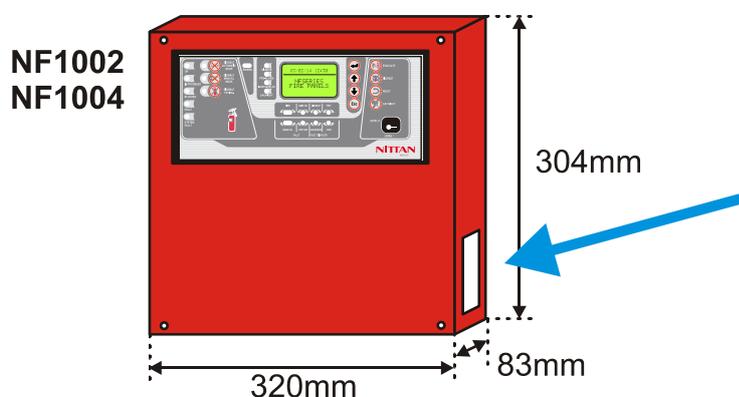| PARTS SUPPLIED |
| --- |
| - AL2SW24 power supply unit |
| - Bracket and screws to fix power supply unit |
| - 2 x 47KOhm + 2 x 4K7 Ohm for NF1002 panel only |
| - 4 x 47KOhm + 6 x 4K7 Ohm for NF1004 and NF2000 panels |
| - Tecnical and programming manual |
| - User manual |
| - CD-Rom with documentation and configuration software |

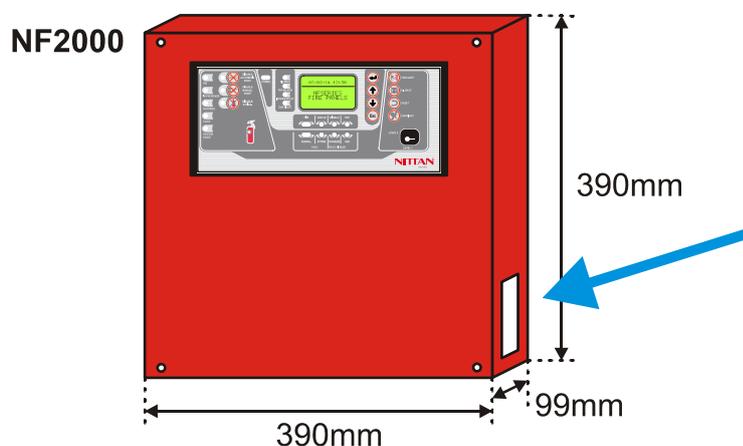| OPTIONAL FUNCTIONS |
| --- |
| - Output for fire devices (GSM, Sounders) |
| - Outputs delay (DAY / NIGHT mode) |
| - Fault signal from points (NF2000 only) |
| - Correlation of alarm signals (Type A and B detection check) |
| - Unavailability of addressable points (Disablements - devices, output modules, acoustic devices - NF2000 only) |
| - TEST condition (Test zones, outputs, loop outputs, loop sounders, display, LED, buzzer) |

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2. TECHNICAL FEATURES

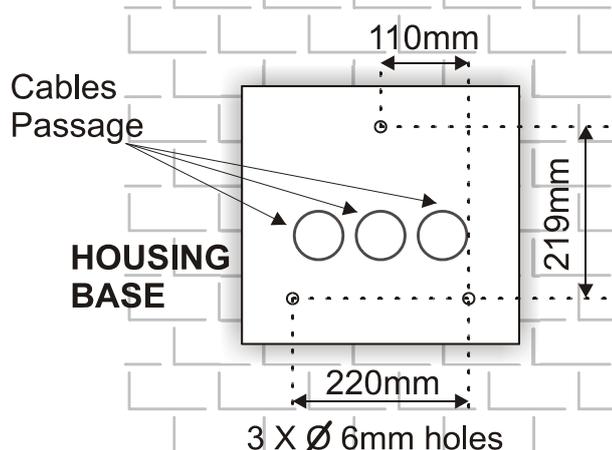| Models	NF1002	NF1004	NF2000
IP protection rate	30		
Power supply	AC230V - +10% / -15%		
Nominal voltage frequency	50 Hz		
Ripple	102 mV (0,37%)		
Max current drawn from mains	650 mA		
Max current drawn by panel (with optional boards) and external loads	1,4 A		
Normal operating range	DC20V to DC30V		
Power consumption: idle status	**30mA**	**40mA**	**80mA**
Idle voltage of power supply unit's power supply	DC29V		
Idle voltage for battery power supply	DC26.6V		
Voltage for battery recharge	DC27.6V		
Voltage for battery disconnection	18V		
Current for battery recharge	600mA		
Battery internal resistance (max)	2,2 Ohm (7Ah)		2,2 Ohm (7Ah) 1,5 Ohm (17Ah)
Circuit for battery disconnection	P10 jumper to control battery disconnection circuit operating mode OPEN = disconnection at 18,2V voltage CLOSED = no disconnection and RE-ARM (non compliant with EN54-4 standard)		
Output voltage at AL. REL terminals	DC27.6V		
Available current at AL. REL terminals	650mA max		
Output available current at OUT+24V terminals	650mA max		
Current supplied by the power unit	2A max		
NFEXP10 max power consumption	---		165 mA
NFEXP20 max power consumption	---		500 mA
EXTING max power consumption	75mA		
MDGSME max power consumption	110 mA		
NFREL24 max power consumption	40 mA		
PRESETS			
Connectors on main board	1 power supply unit, 2 RS-485, 1 GSM module, 2 EXPANSION boards, 1 USB, 1 MINI-DIN		
Connection terminal boards on main board	2 AUX, 1 Fault, 1 Alarm, 1 Pre alarm, 2 x DC 24V, 1 RS-485, 2 NTC, **2 ZONE**	2 AUX, 1 Fault, 1 Alarm, 1 Pre alarm, 2 x DC 24V, 1 RS-485, 2 NTC, **4 ZONE**	
Front displays	Graphic LCD display - Color backlighting		
Front panel indicators	LED indicators		
Functional keys	YES		
Zones	**2** conventional	**4** conventional	**12** conventional **+ 32 An.In.**
Supported devices	---		**254 over LOOP**
Operating temperature	-5°/+40° 93% r.h.		
Recommended batteries	12V - **7Ah**		12V - **17Ah**
Dimensions	**320 X 304 X 83** mm		**390 X 390 X 99** mm
Weight	**4** Kg		**6** Kg
Housing protection class	IP 30		

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3. DIMENSIONS AND INSTALLATION

Panels dimensions are expressed in millimeters and the positioning of the fixing holes on the bottom of the housing are to be reported on the wall. We recommend users to adopt screws and dowels suitable to support the panels weight in order to avoid any detachment of the housings from the wall or the surface to which the panels is to be fixed.
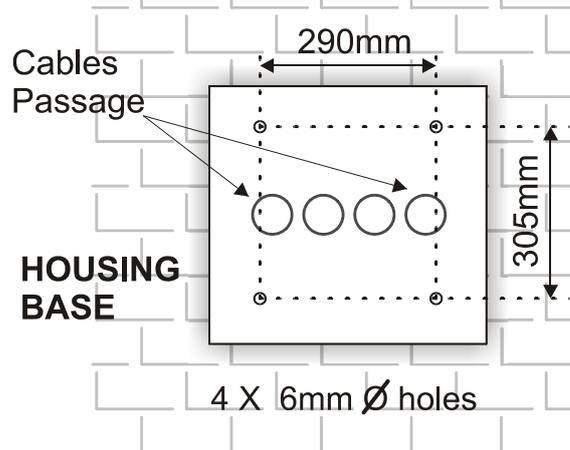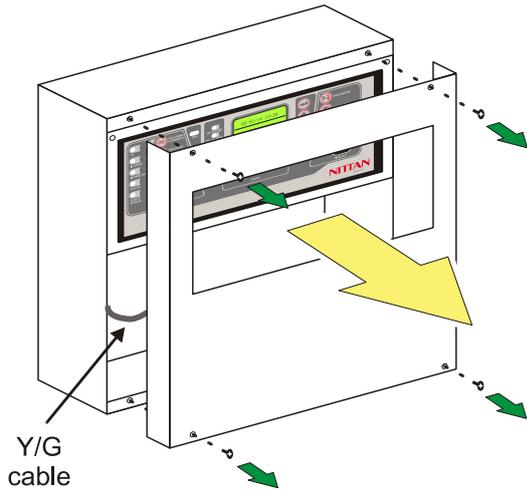

NF1002
NF1004

304mm

320mm   83mm

NF2000

390mm

390mm   99mm

CPR Labels Position

NF1002 - NF1004

Cables Passage

110mm

219mm

HOUSING BASE

220mm

3 X Ø 6mm holes

NF2000

Cables Passage

290mm

305mm

HOUSING BASE

4 X 6mm Ø holes
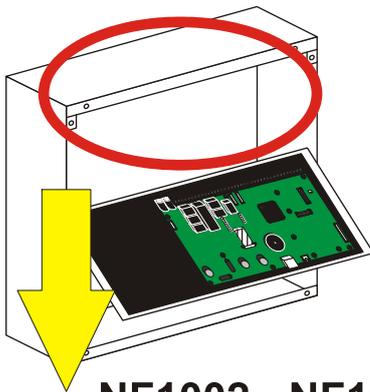
After having drilled the holes, remove the front cover by unscrewing the 4 fixing screws (see following drawing.) You will have access to the panel console and its main board; now, unscrew the two upper screws and rotate the panel forward, where the keypad and board are fixed. Now the 3 (NF1002-NF1004) and 4 (NF2000) internal fixing holes will be visible and accessible, and it will be possible to fix the panel to the wall or to the chosen support.
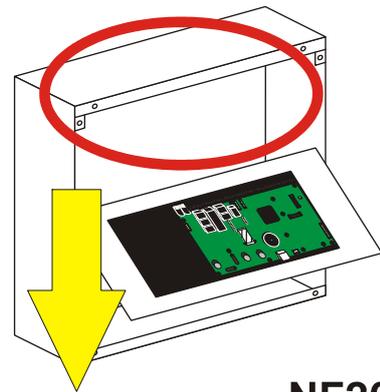
Y/G cable

Remove the 4 fixing screws
holding the front panel
fixed to the control unit housing,
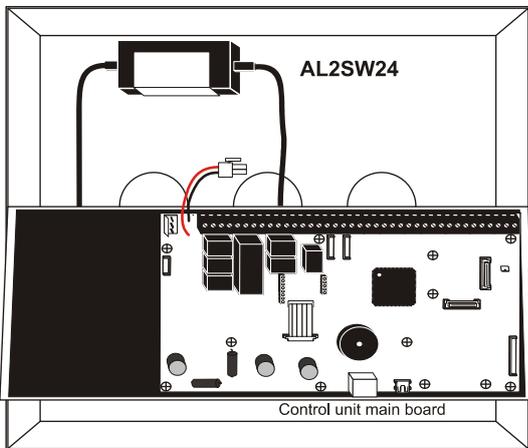disconnect FASTON of YELLOW/GREEN cable

Batteries cables
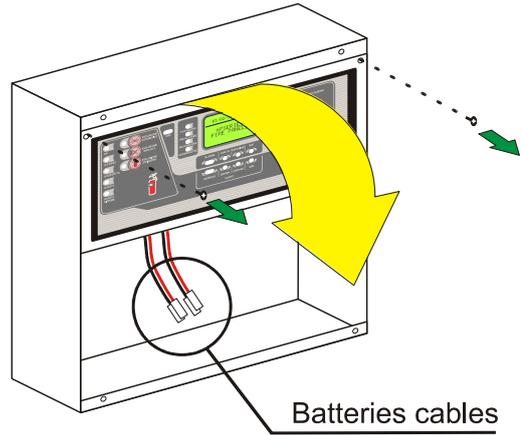
Remove the 2 fixing screws
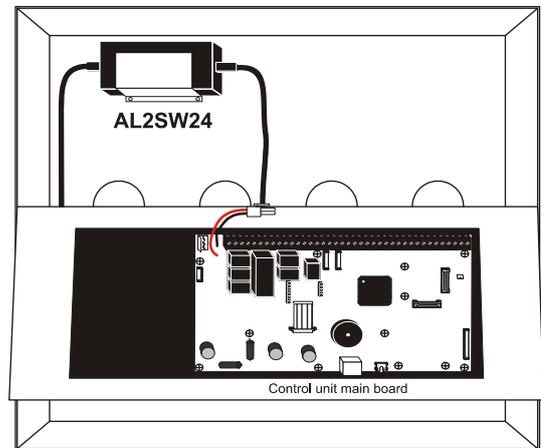holding the display panel
fixed to the housing, then rotate
downwards

NF1002 - NF1004

AL2SW24

Control unit main board

Internal view of housing

NF2000

AL2SW24

Control unit main board

Internal view of housing

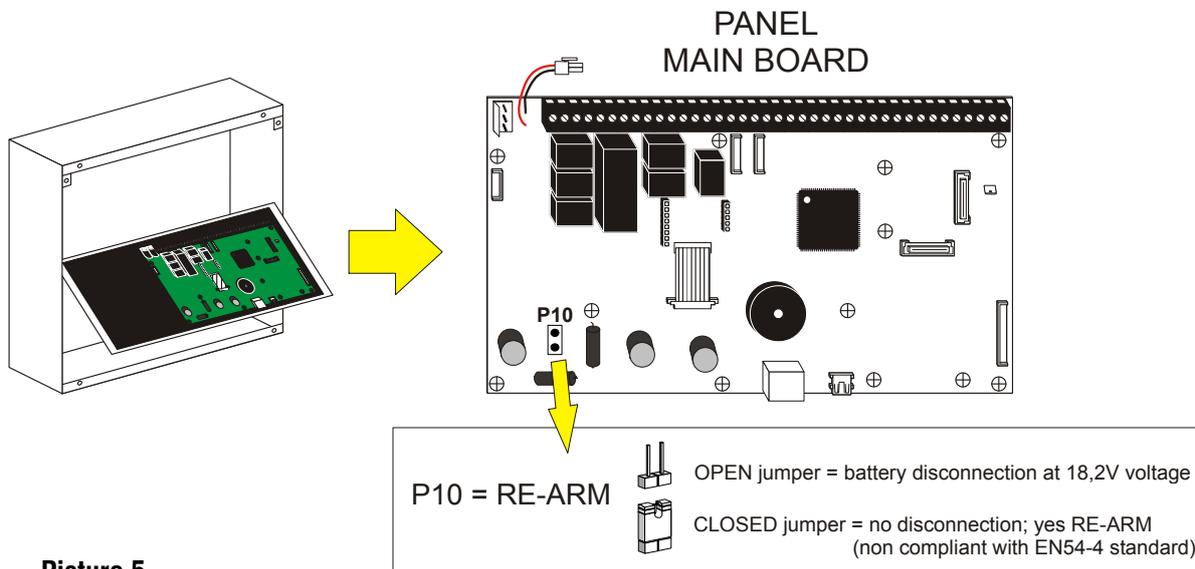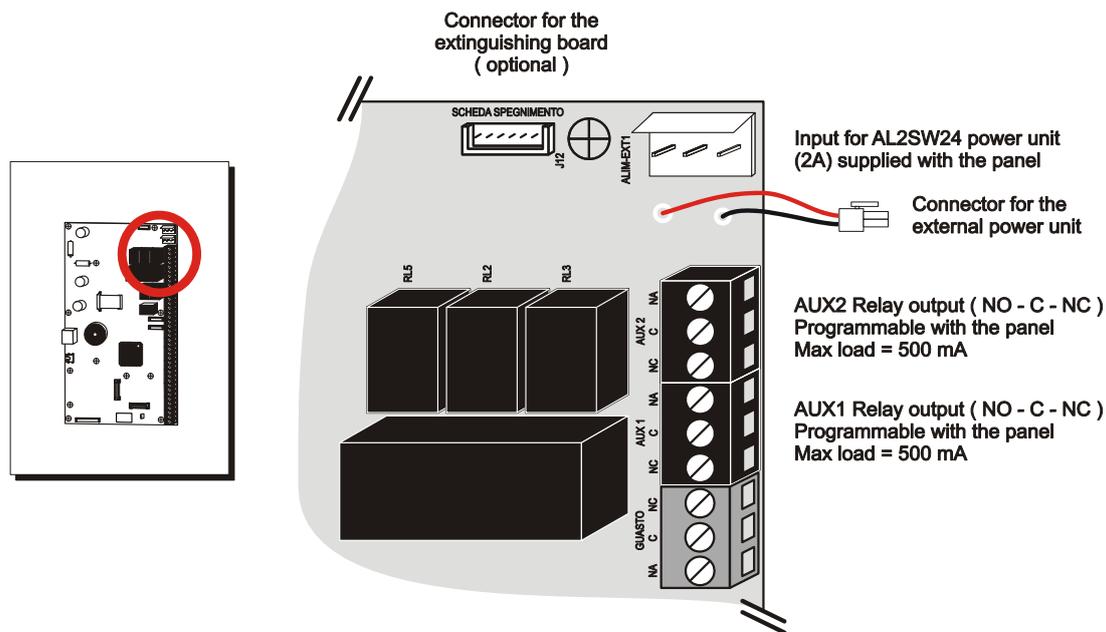**NITTAN**

4. PANEL CONNECTORS AND WIRINGS

4.1 Main board view

After having rotated the plate supporting the display downwards (valid for every control unit model of this series), you will access the back part of the panel main board. On its surface you will find the terminals and connectors to which the components are to be wired: detectors, optional boards, power supply cables and all the devices necessary for a correct operation.

PANEL
MAIN BOARD

P10

P10 = RE-ARM

OPEN jumper = battery disconnection at 18,2V voltage

CLOSED jumper = no disconnection; yes RE-ARM
(non compliant with EN54-4 standard)

Picture 5

4.2 Main board connectors

Connector for the
extinguishing board
(optional)

SCHEDA SPEGNIMENTO

Input for AL2SW24 power unit
(2A) supplied with the panel

Connector for the
external power unit

RL5   RL2   RL3

AUX2 Relay output (NO - C - NC)
Programmable with the panel
Max load = 500 mA

AUX1 Relay output (NO - C - NC)
Programmable with the panel
Max load = 500 mA

GUASTO

Picture 6

FAULT relay output (NO - C - NC)
max. load = 500mA

ALARM supervised output
max. current = 650mA
protected (PTC)

PRE ALARM relay output (NO - C - NC)
max. load = 500mA

24VDC services output, protected (PTC)
max. current = 650mA

24VDC RESETTABLE output
protected (PTC)
Max. current = 650mA

RS-485 for the connection of
remote keypads (up to 2 optional)

Input for 2 NTC for the control
of temperature of the 2 internal
batteries (optional)

Terminals for ZONE 000
CONVENTIONAL devices

Terminals for ZONE 001
CONVENTIONAL devices
+ programmable input / output

Terminals for ZONE 002
CONVENTIONAL devices
+ programmable input / output

Terminals for ZONE 003
CONVENTIONAL devices
+ programmable input / output
(ONLY NF1004 and NF2000)

Terminals for ZONE 004
CONVENTIONAL devices
+ programmable input / output
(ONLY NF1004 and NF2000)

Picture 7

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RS-485 connector for NFEXP20 LOOP board (NF2000)

Connector for NFEXP10 zones expansion board (NF2000)

Picture 8

Connector for MDGSME GSM module (optional)

Connector for NFREL24 realy module (optional)

Connector for MDLAN ETHERNET module (optional)

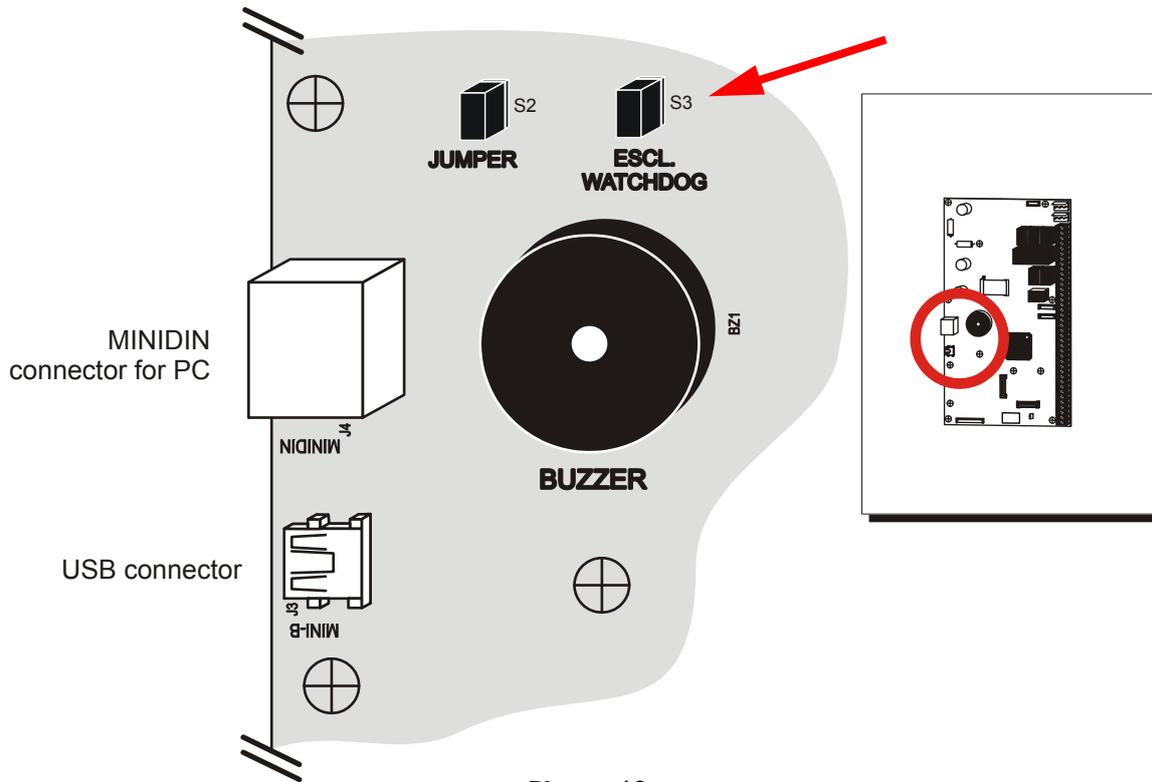**Male FASTON for board ground wiring (GND)**

Picture 9

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NOTE: ETHERNET MDLAN module is not compliant with EN-54 standard.

Picture 10

S2 JUMPER indicated by the red arrow above indicates the sound power of the BZ1 BUZZER:

   - S2 INSERTED = volume **HIGH**

   - S2 NOT INSERTED = volume **LOW**

In order to ensure compliance with **EN 54-2** standard, during panel normal operating mode, **JUMPER S2** shall be **INSERTED** and in case of alarm event the **BZ1 BUZZER** shall sound with **high volume**.

DO NOT TOUCH S3 JUMPER illustrated in *Picture 10*. LEAVE IT "ALWAYS ARMED".

Panels equipped with firmware v.2.0.x (or above) can be configured also using the PC connected with CP8/SER2 cable to the MINIDIN connector as indicated in the above diagram. CP8/SER2 cable shall be purchased separately.

The software can be installed using the CD-Rom supplied.

For the relevant documentation with installation instructions and software details see the files on the CD-ROM provided (PDF format files in *Documents* folder.)

NITTAN

4.3 NFEXP10 zones expansion board (NF2000 panel only)

Connected via RS-485 to the control unit, NFEXP10 expansion board allows to create groups of 8 conventional zones, in addition to the 4 ZONES already provided by the panel. Such configuration allows to connect one NFEXP10 board only, so that a total of 12 conventional zones will be achieved (4 on main board + 8 on NFEXP10 board = 12 CONVENTIONAL ZONES.)

• **View of NFEXP10 expansion board:**
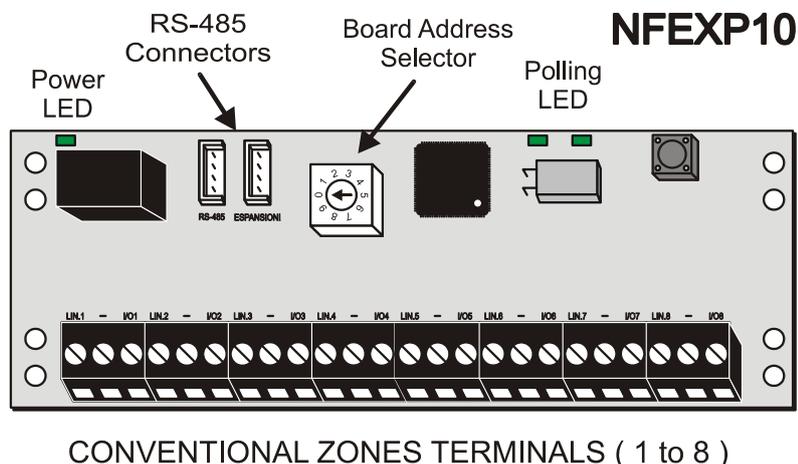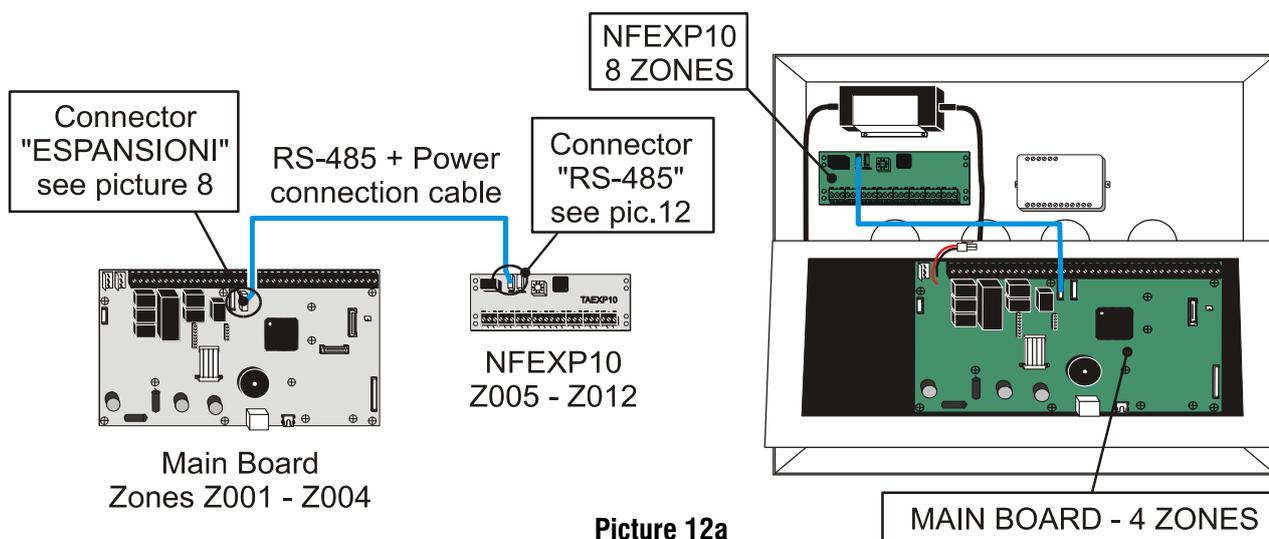

Picture 12

CONVENTIONAL ZONES TERMINALS (1 to 8)

The wiring of detectors and push buttons to the terminal on lower side of the board are similar and operate as the ones of the 4 conventional ZONES already on the control panel. Consequently, electrical wirings must be performed as illustrated in the diagram in picture no. 14.

When the module is connected to the panel via RS-485 serial line (see picture no. 8) the system will set automatically for acknowledging and naming the new 8 zones. For example, if a NFEXP10 module is installed, you will have the usual 4 zones (Z001 to Z004) on the main board, and the new 8 zones will be named from Z005 to Z012. The RS-485 connection cable will allow to power the module.

It is important to remember that the address must be **0**. It will have to be assigned to the module before its installation; for such operation, use the BOARD ADDRESS SELECTOR (see picture no.12).

• **Example of positioning and installation of a NFEXP10 module:**

Picture 12a

On the panel base there are the fixing holes where the plastic small supports shall be placed.

For further details on installation, see the relevant Technical Manual.

IMPORTANT NOTE

To perform all the terminal wirings required (detectors, etc.) we recommend the use of CS/AI5 series cable as lab tests have already been carried out and the following lengths determined:

CS/A50.5 cable	**2x0,5mmq max length 500m**	**CS/AI51.5 cable**	**2x1,5mmq max length 1500m**
CS/AI51 cable	**2x1mmq max length 1000m**	**CS/AI52.5 cable**	**2x2,5mmq max length 2000m**

## 4.4 Wiring of conventional detectors and call-points

These fire detection panels are preset for the connection of conventional devices connectable to the main board (Zones from 001 to 004 - terminals from LIN.1 to LIN.4) or to NFEXP10 expansion boards (Fig. 12); to each zone is associated a line that can be set according to needs, I/O inputs (balanced input, 4-20 mA input, PULL-UP input, open collector output, see picture 15). The connection of the detectors and call-points to such zones is performed through the screw terminals placed on the main board fixed on the rear of the front panel, and access is possible by rotating the fixing plate of the main board downwards (see pictures 3, 4, and 5) or on NFEXP10 expansion boards (see picture 13).

Please note that since ZONES are **supervised**, it will be necessary to apply 4700 Ohm resistances to the terminals if zones are not used.

4.4.1 Detectors wiring diagram

Below are the **diagrams of connections and types of connectable detectors**; we will refer to the terminal of one conventional zone only, reminding users that the 4 zones on the main board and the 8 zones on NFEXP10 module are to be connected in the same way.
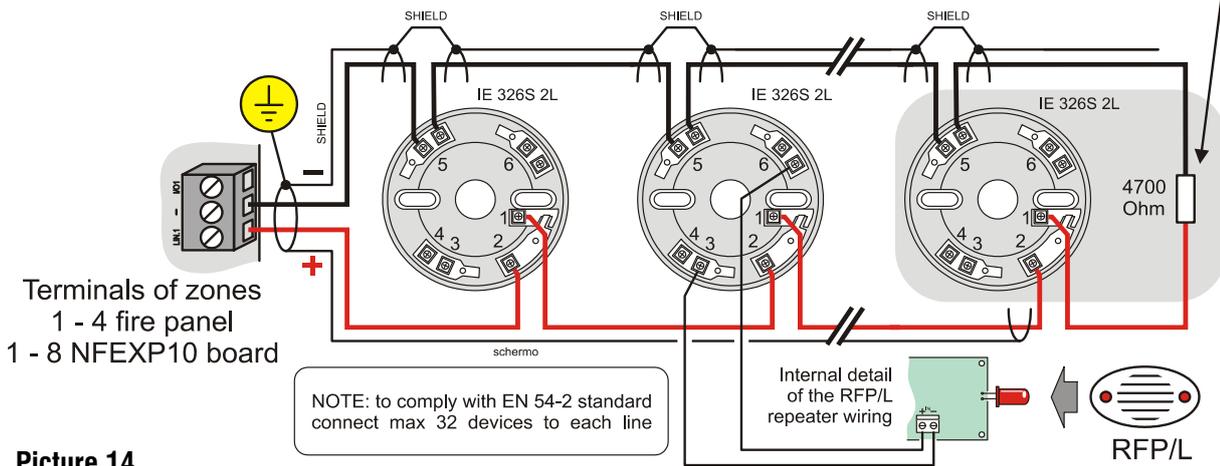
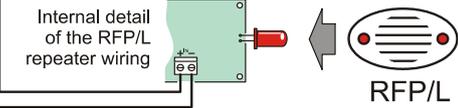For further settings and detector / call points wiring procedure, please see the products' technical manuals.

NITTAN
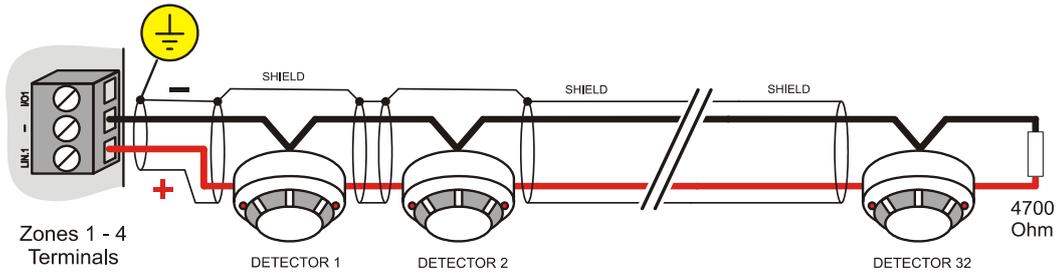
DETECTORS wiring example

Zones 1 - 4
Terminals

DETECTOR 1   DETECTOR 2   DETECTOR 32

4700
Ohm

IMPORTANT
Inside each device it is necessary
to join the connection cable sheath using
a terminal independent from detector base

WARNING: the end-of-line resistor
must be positioned INSIDE the case of
the last detector connected to the zone

Terminals of zones
1 - 4 fire panel
1 - 8 NFEXP10 board

IE 326S 2L   IE 326S 2L   IE 326S 2L

4700
Ohm

schermo

NOTE: to comply with EN 54-2 standard
connect max 32 devices to each line

Internal detail
of the RFP/L
repeater wiring

RFP/L

Picture 14

EVCP wiring diagram (example)

NOTE: to comply with EN 54-2 standard,
connect max 32 devices to each line

IMPORTANT: connect end-of-line
resistor to the last detector of the zone

Terminals of
the panel line
or
the compatible
expansion board

4700
Ohm

BASE
UB4

BASE
UB4

BASE
UB4

EXTERNAL
ALARM
SIGNAL
320mA@24V
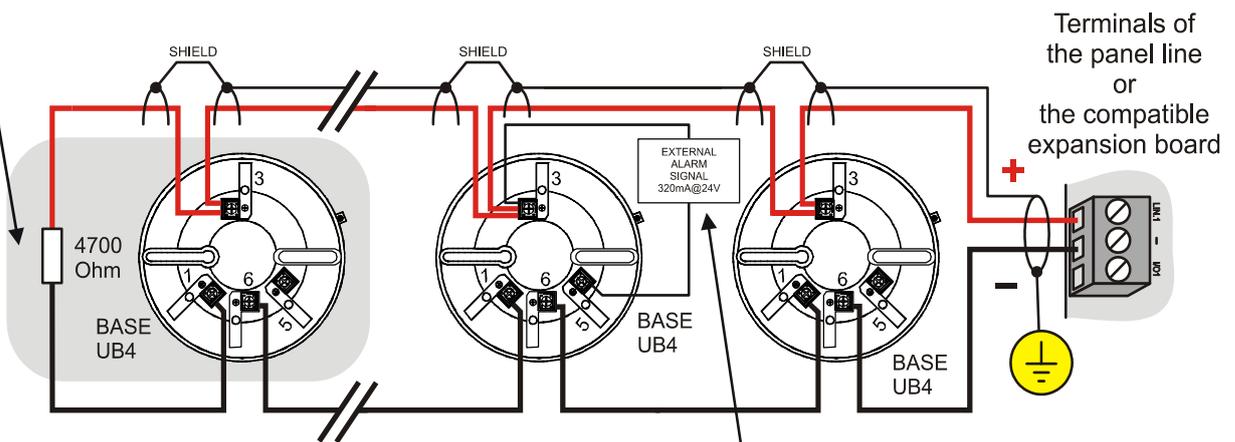
IMPORTANT : inside each device connect
the connection cable shield using a terminal
independent from the detector base

EXTERNAL
ALARM
SIGNAL
320mA@24V

Picture 14b

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4.4.2 Call-points wiring diagram

Below is the **example wiring diagram of a call-point**; we will refer to the terminal of one conventional zone only, reminding users that the 4 zones on the main board and the 8 zones on NFEXP10 module are to be connected in the same way.

The diagram shows an example of how to connect a BRVEN2 call-point: unlike the following examples (picture 15 and 16), the connection of this call-point does not require a 1000Ohm ALARM resistor connected in series to the contact because the use of BRVEN2 call-point 'R' terminal require the previous connection of a 880Ohm resistor inside the call-point connected in series to the NO contact. The resistor also ensures the correct power supply to the front LED indicator.

Please remind that ZONES are supervised, and when they are not used for the system a 4700 Ohm resistor shall be connected to the terminals.

For further settings and wirings, please see the products' technical manuals.

NITTAN

Terminals
Zones 1 - 4

4700
Ohm

Balancing
resistor
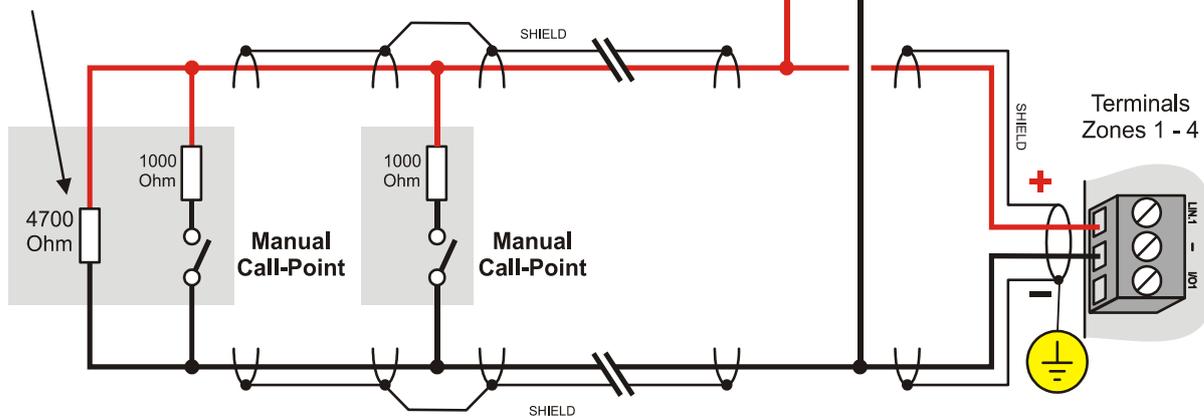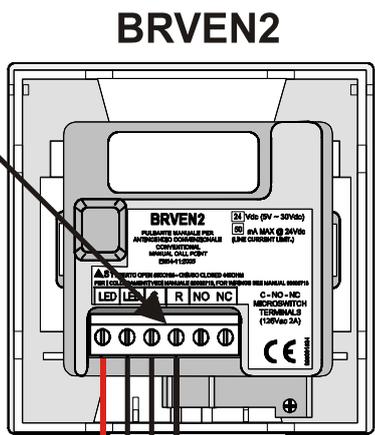
32
CALL-POINT

2
CALL-POINT

1
CALL-POINT
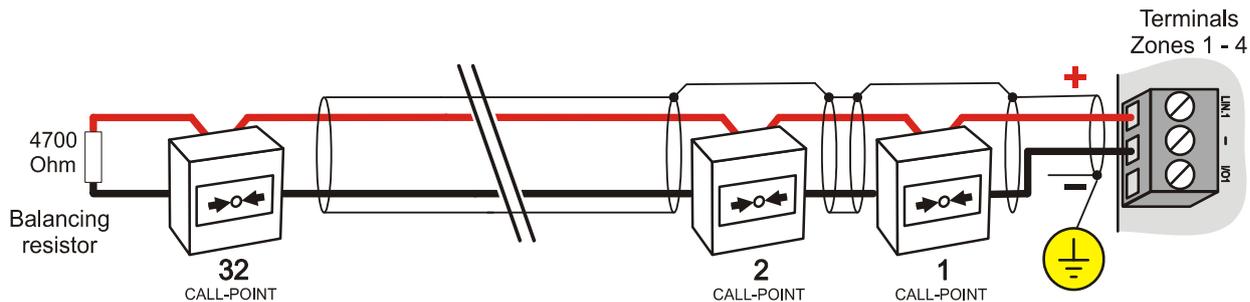
The wiring of BRVEN2 call-point 'R' terminal
requires the previous connection of a 880Ohm
resistor inside the call-point case connected
in series to the NO contact and to the
LOCAL ALARM front LED

BRVEN2

CALL-POINTS
wiring example

NOTE: to comply with EN 54-2 standard
connect max 32 devices to each line

WARNING: the end-of-line resistor
must be positioned INSIDE the case of
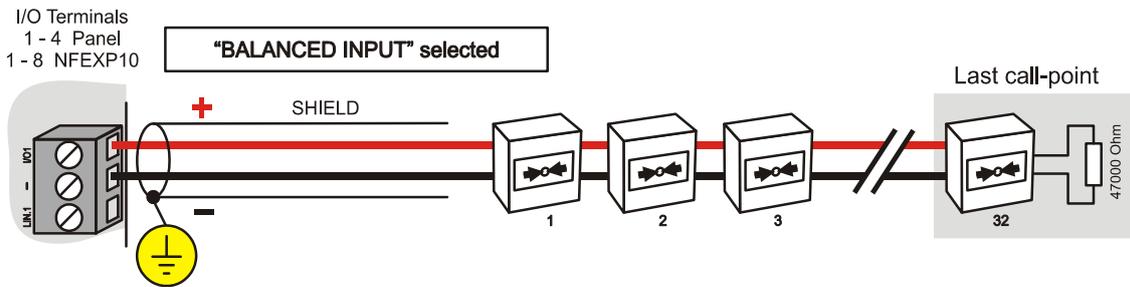the last call-point wired to the zone

SHIELD

1000
Ohm

1000
Ohm

4700
Ohm

**Manual
Call-Point**

**Manual
Call-Point**

SHIELD

Terminals
Zones 1 - 4

SHIELD

Picture 14a

4.4.3 I/O Terminals wiring diagram

Below is the diagram of I/O terminals wiring examples. The diagram refers to the 4 panel zones and the 8 NFEXP10 module zones.The operating mode will be dealt with in consultare il capitolo. "FIRE PANEL CONFIGU-RATION" a pag. 41.

Please remind that I/O ZONES are supervised, and when they are not used for the system a **47000 Ohm** resistor shall be connected to the terminals.
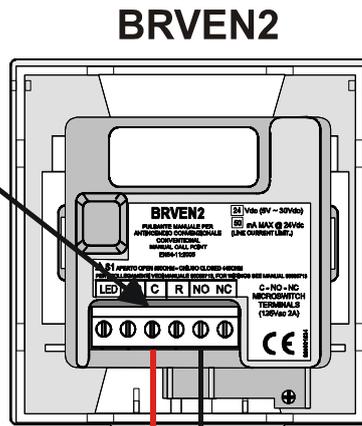
For further settings and wirings, please see the products' technical manuals.

Picture 15a

NITTAN

Selection: *4-20mA input*

NOTE: to comply with EN 54-2 standard connect max 32 devices to each line

Detector terminals internal view

DC24V

S1 S2 S3

+12/24V   OUT
-S SIG   — +   4-20mA

RGLOOP-CO
GAS DETECTOR

I/O Terminals
1 - 4 Panel
1 - 8 NFEXP10

"4-20 mA INPUT" selected

SHIELD

100 Ohm

Picture 15b

Selection: *Open collector output*

+DC24V

"OPEN COLLECTOR OUTPUT" selected

I/O Terminals
1 - 4 Panel
1 - 8 NFEXP10

1N4007

Relay 24V

MAX CURRENT : 30mA

Picture 15c

Selection: *PULL-UP input*

I/O Terminals
1 - 4 Panel
1 - 8 NFEXP10

"PULL-UP INPUT" selected

SHIELD

INPUT
WITH PULL-UP
FOR DEVICES WITH
OPEN COLLECTOR OUTPUT

Picture 15d

4.4.4 Additional line wiring diagram

On the main board there is an additional balanced line (Z000) to which conventional call points can be wired.

The diagram below shows a different way of wiring BRVEN2 call point. Here the 'R' terminal is not used and <u>no resistor is connected between the call point C and NO contacts</u>. Instead, a 1000 Ohm resistor will be used and connected in series to one of the two lines in order to operate as ALARM resistor and limit power supply to the call point front LED.

Please remind that when they are not used for the system a 4700 Ohm resistor shall be connected to the terminals.

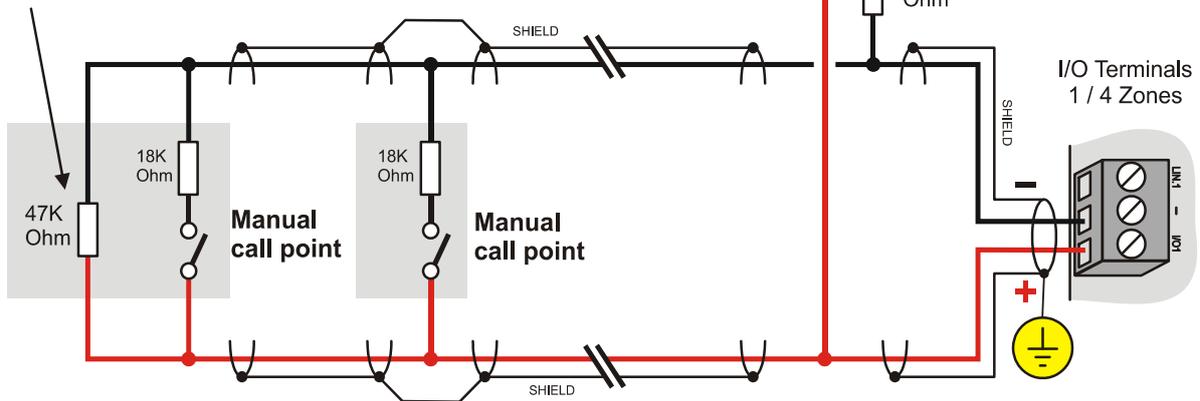<u>For further settings and wirings, please see the products' technical manuals</u>.
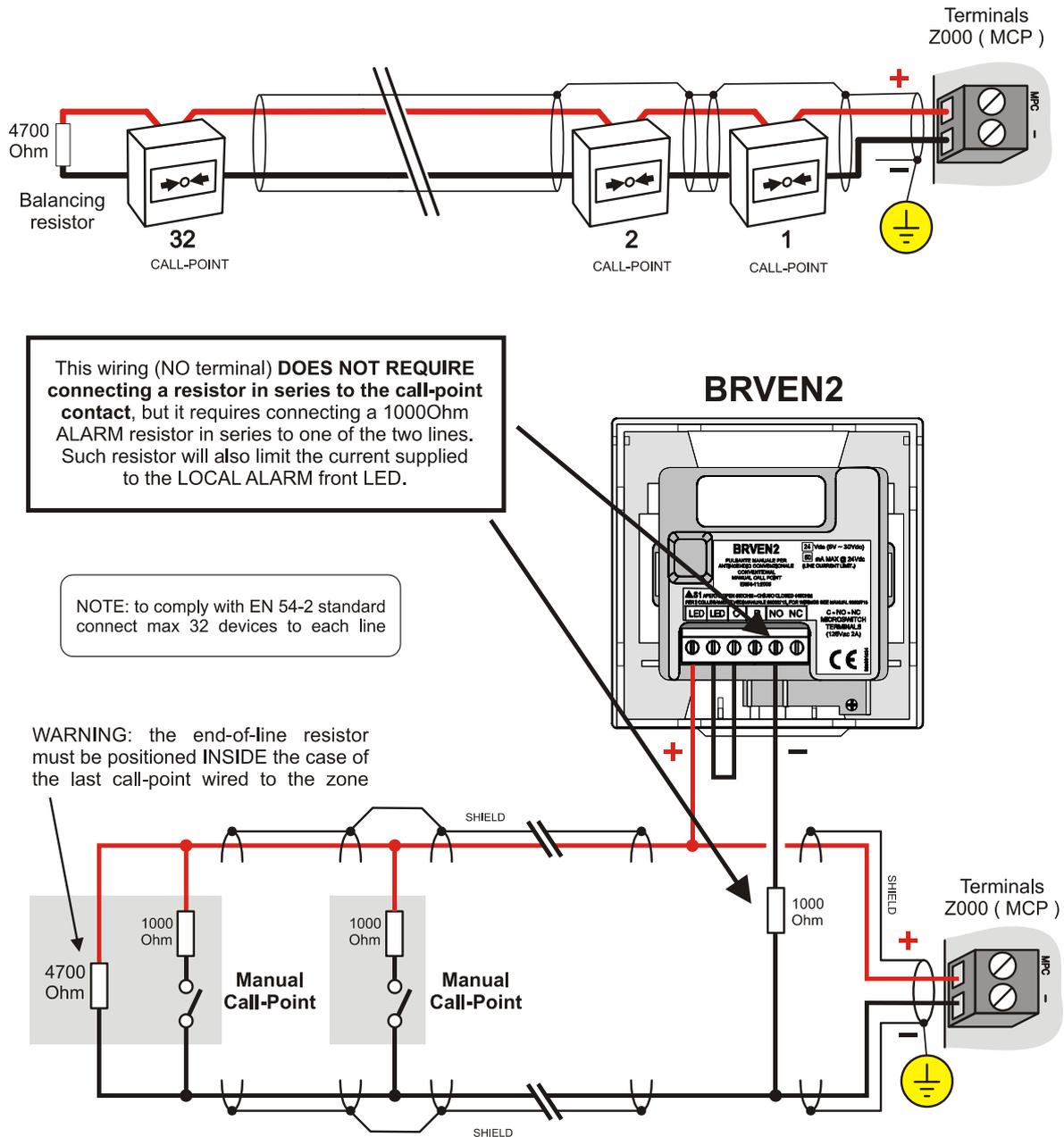
Picture 16

4.5 Wiring diagram of AL.REL. supervised output with PTC protection

The terminal board features a supervised alarm output; such output supports the wiring of optical / acoustic devices that will be triggered in case of panel alarm events.

As it is a supervised output, do connect a 4700 Ohm balancing resistor to the end of the connecting cable. The maximum current draw allowed is 650mA. The output is PTC-protected: it will start operating in case the current draw gets too high. It will be also necessary to connect a 1N4007 diode in series to the POSITIVE contact of the alarm relay in order to avoid damaging the bell during the supervision.

Please remind that when they are not used for the system a 4700 Ohm resistor shall be connected to the terminals.

For further settings and wirings, please see the products' technical manuals.
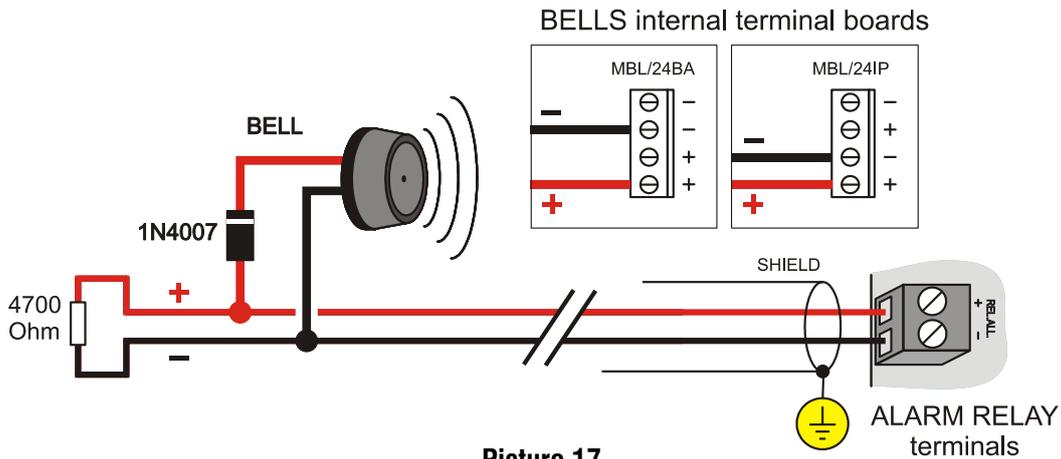
Picture 17

4.6 Wiring diagram of the DC 24V power output with PTC protection

This is a PTC-protected DC 24V output and it is used when it is necessary to power devices requiring DC 24V external power (optical / acoustic alarm devices, detection devices, etc.) The output is PTC-protected: it will start operating in case the consumption gets too high. The maximum current draw allowed is 650mA.

For further settings and wirings, please see the products' technical manuals.
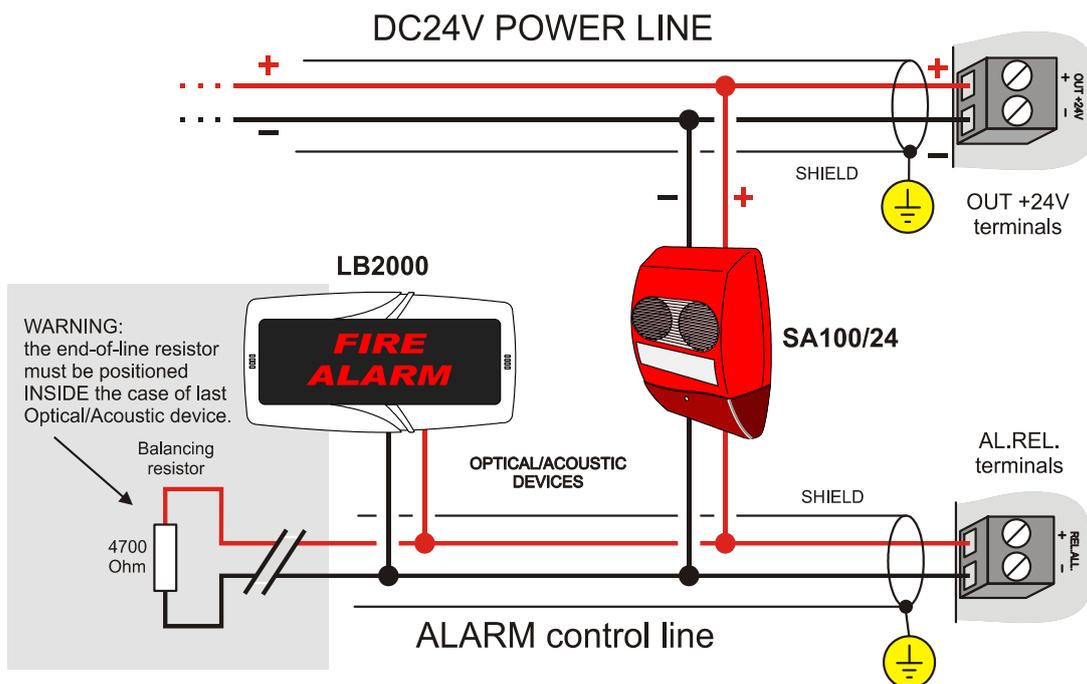
Picture 18

• **Connecting a SA100/24 siren to the 'OUT +24' output: wiring diagram**

For further settings and wirings, please see the products' technical manuals.

POWER SUPPLIED BY AL/AA MODULE
PLACED INSIDE THE SIREN.
WIRINGS PERFORMED BY
THE MANUFACTURER

OUT +24V
terminals

AL.REL.
terminals

**SA100/24 siren
internal wirings**

**Internal wiring of
LB2000
optical / acoustic panel**

4700 Ohm
balancing
resistor
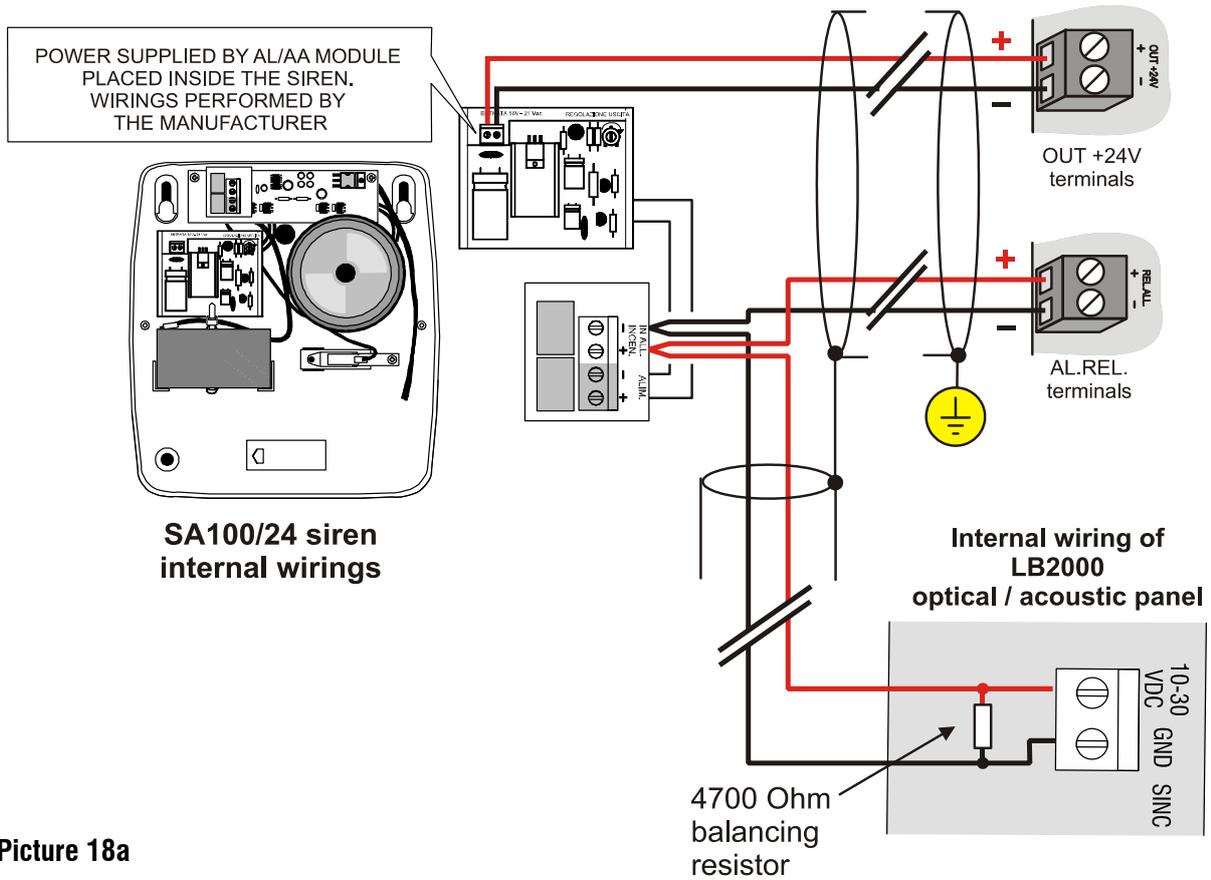
Picture 18a

4.7 Wiring diagram of the DC 24V *resettable* power output with PTC protection

As the output seen at the previous paragraph, this too is a PTC-protected DC 24V output used when it is necessary to power devices requiring DC 24V external power supply. What is peculiar to this output is that it is possible to cut the power supply when resetting the fire panel: the output will disable during reset procedure and re-enable once the procedure is over. Such property allows to reset also connected devices that need to be reset.The maximum current draw allowed is 650mA.

For further settings and wirings, please see the products' technical manuals.

Smoke detector

Zones 1 / 4
terminals

SHIELD

SHIELD

DC24V RESETTABLE power line

Picture 19

+24V RES.
terminals

NITTAN
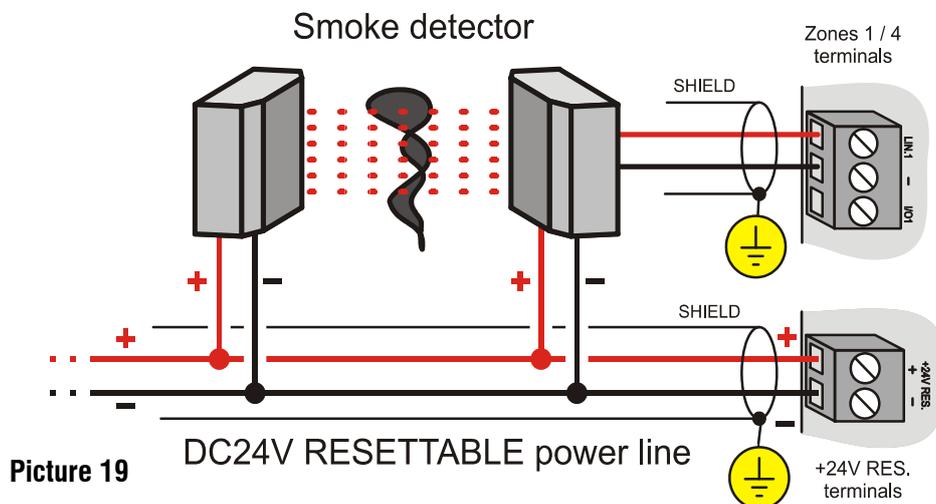
- **'+24RES.' terminals wiring diagram**

Example wiring diagram of '+24 RES.' and panel FIRST ZONE **'LIN.1'** terminals to two standard smoke barriers.

For further settings and wirings, please see the products' technical manuals.
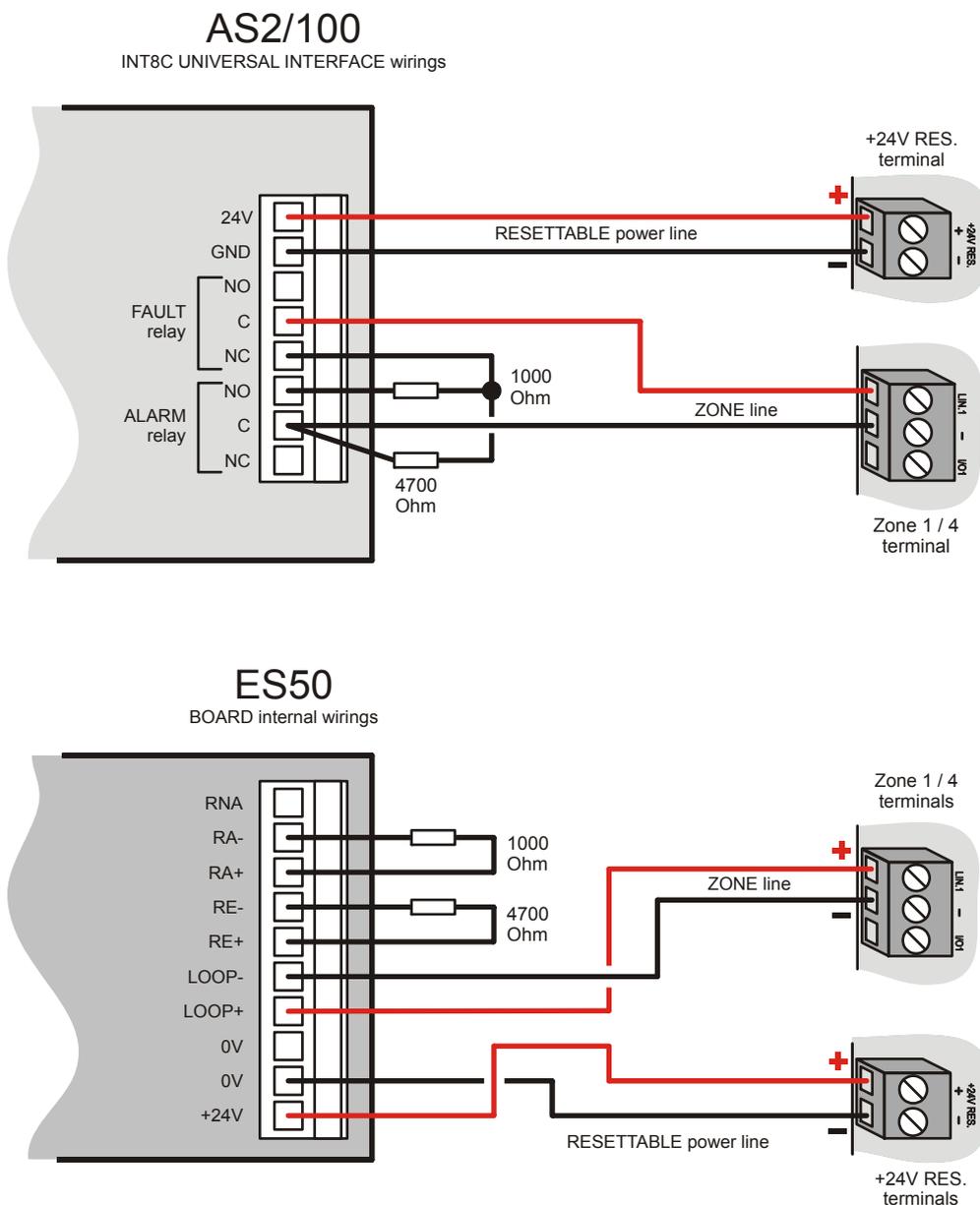
Picture 19a

4.8 Fault output wiring diagram

This is a free-from-potential NC-C-NO relay output that changes its status in case of panel fault events. The fault events will be indicated on the front display too: the backlight will turn to yellow and the event will appear on the display as a text string.

For further settings and wirings, please see the products' technical manuals.

NOTE: in order to comply with EN 54-2 standard, the above outputs shall not be used to control alarm devices, fire alarms and fault events transmission devices, or automatic systems since they are not "C", "E", "J" or "G" type and therefore are not protected against cuts and short circuits.

4.9 AUX 1 and AUX 2 programmable outputs wiring diagram

These are free-from-potential NC-C-NO outputs with independent and programmable relays; the outputs will change status when the event they have been associated to occurs.

The diagram below shows the wiring of a inactive optical/acoustic device to AUX2 output C-NO contact and the connection of a port magnetic retainer (that keeps ports open) to AUX1 output C-NC contact while the panel is in normal operating mode (= no alarms occurrence.) The maximum load is 500mA per contact.

For further settings and wirings, please see the products' technical manuals.

Picture 21

4.10 Pre-alarm output wiring diagram

This is a free-from-potential NC-C-NO relay output that changes its status when a pre-alarm event occurs. The output is to be used to signal and/or display the panel pre-alarm condition or to make preset devices carry out procedures in case of approaching alarm events. The maximum load that can be applied is 500mA.

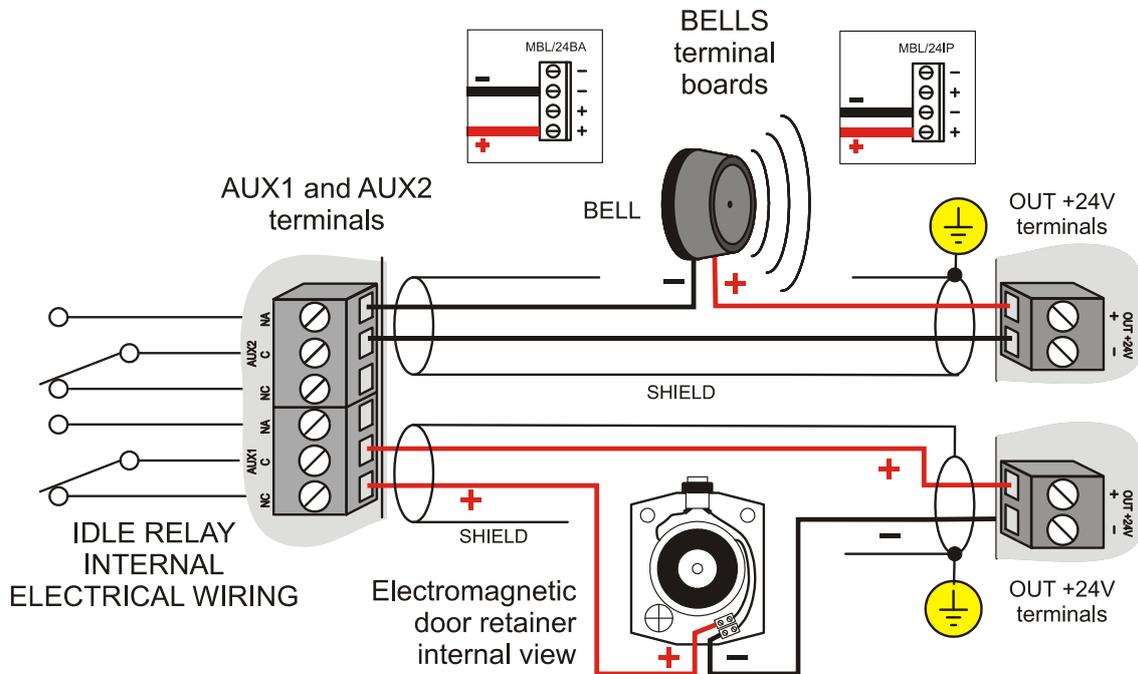For further settings and wirings, please see the products' technical manuals.

NOTE: in order to comply with EN 54-2 standard, the outputs shall not be used to control alarm devices, fire alarms and fault events transmission devices, or automatic systems since they are not "C", "E", "J" or "G" type and therefore are not protected against cuts and short circuits.

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4.11 RS-485 output for external keypads (NFREPEATER v.4.0.0 and above)

Up to 2 remote keypad (NFREPEATER) can be connected to *RS-485 TAST.* terminals. Keypads are to be installed outside the panel.

The keypads will have the same operating mode as the central one: when the LEVEL 2 is selected (with the selection key) at one of the three keypads, the other keypads will automatically be inhibited until the selection key is released and the LEVEL 1 selected again.

The data will be exchanged over RS-485 line and the wired keypads will be powered by the same line.

For further settings and wirings, please see the products' technical manuals.

Picture 23

4.12 Batteries NTC inputs

Connect 2 NTC to these inputs: their bulbs have to be approached to the two rechargeable back up batteries; these will have to be connected to the fire panel main board. The NTC will keep the temperature of the two batteries under control, since they are constantly connected with the internal battery charger that controls its functionality and keeps the correct charge level.
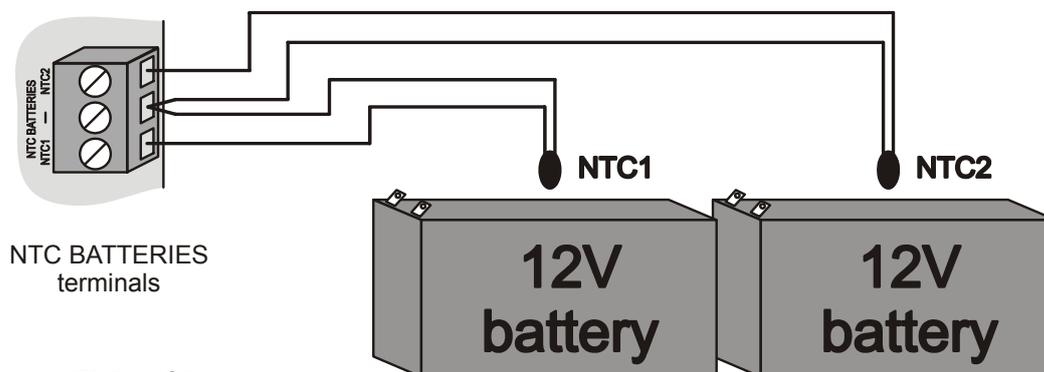
Picture 24

4.13 Power supply units wirings

On the main board of the control panel there is a connector that supplies power to the panel. Only one power supply unit is provided with the control panel: **EXT1 POW.** that supplies 2A current max.

We strongly recommend to verify the total power consumption of the fire panel previously, by calculating the total amount of current required by the devices connected.

If a greater amount of current is required or it is necessary to grant 72h panel autonomy, it is available an additional connector (next to ALIM.EXT1 connector) with two RED/BLACK wires welded to the board: to such connector can be connected one or more DC 24V optional power units.
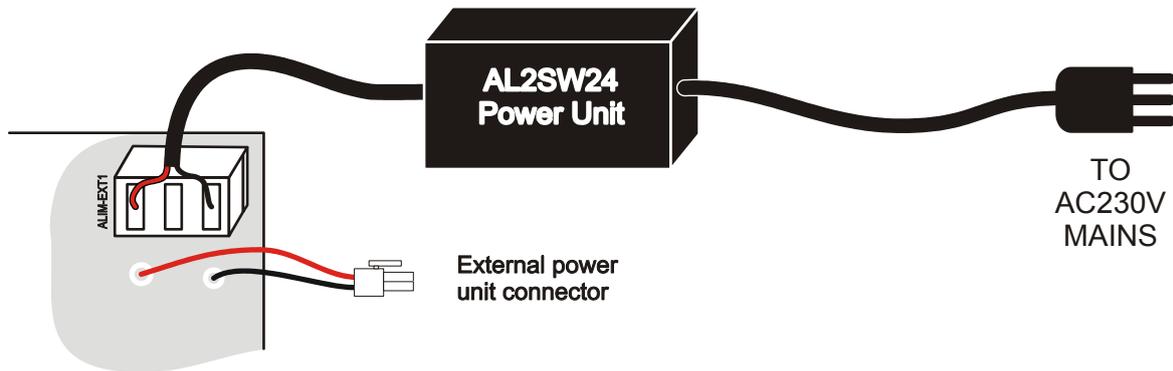
Picture 25

4.14 Back up batteries wiring diagram

The current regulation provides for rechargeable batteries to be mounted on fire detection panels in order to supply power to the panels in case of mains failure events for a time fixed by the same regulation. After having removed the front panel of the fire unit (see picture 3) you will have access to the lower area of the panel housing. The two 12V rechargeable batteries have to be connected with suitable amperage, using the two pairs of RED and BLACK cables directly welded on the main board and coming from the display (see picture 4). Each cable has to be connected to a battery; panel batteries will be placed on the lower area of the panel. The main board will manage batteries operating status through the constant control of the charge and the temperature (see picture 24), and will activate their intervention in case of power/mains failure.

These batteries are not supplied with the panel and have to be purchased separately according to the panel type.

Wires from panel
main board

FASTON
contacts

FASTON
contacts

PAY ATTENTION
TO POLARITY

12V BATTERY

12V BATTERY
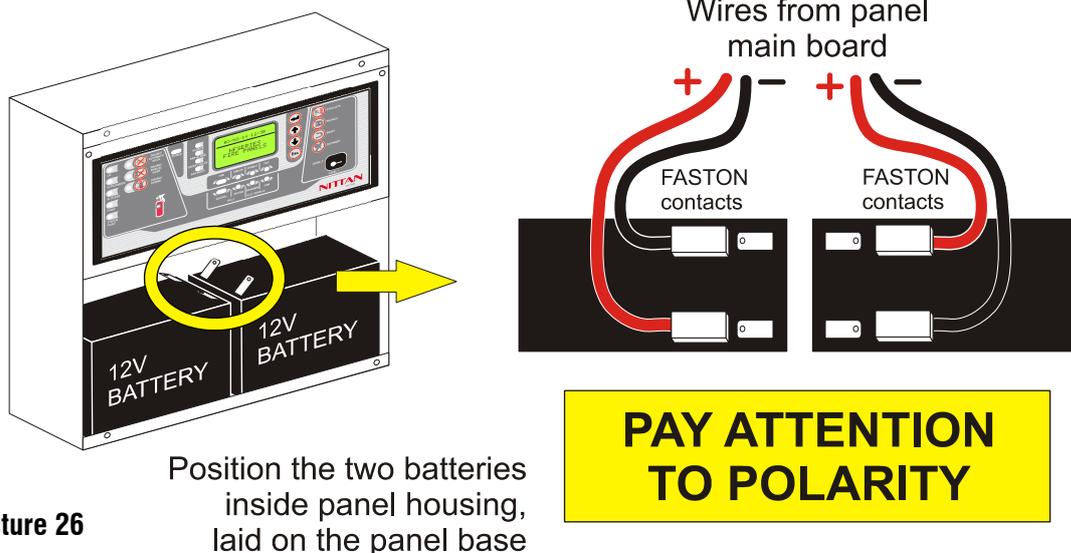
Picture 26

Position the two batteries
inside panel housing,
laid on the panel base

4.15 MDGSME GSM module (optional)

MDGSME is a GSM module that connects to the main board and allows to send preset SMS messages to tele-phone numbers memorized in the control panel by inserting a SIM CARD. Once connected to the panel, the mo-dule is automatically acknowledged and its functions enabled. The GSM module is supplied with a cable that allows to use the connector for the fixing of an external antenna (optional). Cable code is GSMAC90.

If the panel has been installed in areas where the *GSM signal is weak*, it is possible to connect a 15m optional cable (*GSMEXA15*) to the external connector of the panel housing; the cable will allow to connect the antenna outside the building or the area where the panel is installed.

If the panel has been installed in areas where the *GSM signal is standard*, it is possible to use a 2m optional cable (*GSMEXA2*) to install the antenna closer to the panel. If you want to install the antenna directly on panel housing, use *GSMACI kit*. The kit consists of an L-shape bracket and fixing accessories.

For further settings and wirings, please see the products' technical manuals.

MDGSME
module

connector

ETHERNET module
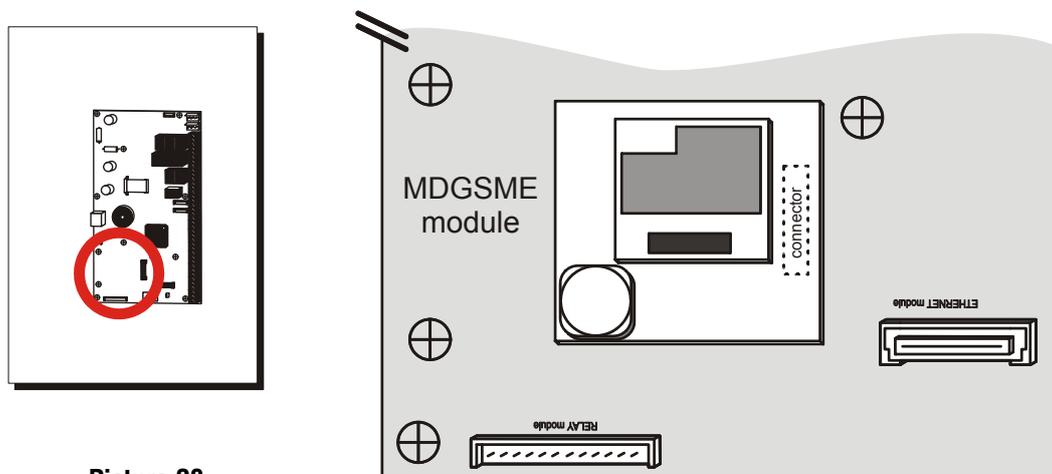
RELAY module

Picture 28

4.16 NFREL24 relay module (optional)

NFREL24 is a relay board that can be connected to the panel using a 10-way cable that allows its power supply and control.

This module enables the panel to manage, when necessary, 4 additional relay outputs, moving to the terminals the corresponding contacts.

Connecting the module to the panel with no further settings (default), all four module relays will activate upon FIRE events.

On the contrary, if you proceed with further settings and access LEVEL 3 of panel configuration, it will be possible to configure each output to activate upon a special event (see paragraph consultare il capitolo. "Output line" a pag. 55.)

The max. applicable current is 500 mA per contact.

For further settings and wirings, please see the products' technical manuals.

NFREL24

NOTE: in order to comply with EN 54-2 standard, the outputs shall not be used to control alarm devices, fire alarms and fault events transmission devices, or automatic systems since they are not "C", "E", "J" or "G" type and therefore are not protected against cuts and short circuits.

Connector for
RELAY MODULE (optional)

10-way cable

WARNING
This connector can be placed in one way only!

Picture 29

NF1002 / NF1004

Power unit

NFREL24

Panel Main Board

Inside view

NF2000

Power unit

NFREL24

Panel Main Board

Inside view

Picture 29a

26

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4.17 EXTING Extinguishing module (optional - only v. 3.0.0 and above)

EXTING optional module, duly connected and configured, ensures to the panel the possibility to extinguish a fire automatically, using powders or foam.

The module can be installed inside NF1002, NF1004, and the two models of NF2000 panels (see image below); on the front labels there are already all the indications for the signalling LEDs and the control buttons of the module.

The NF2000 series fire panels support the connection of only ONE extinguishing module connected as per following image.

CONTROL UNIT HOUSING

MAIN BOARD

EXTINGUISHING BOARD
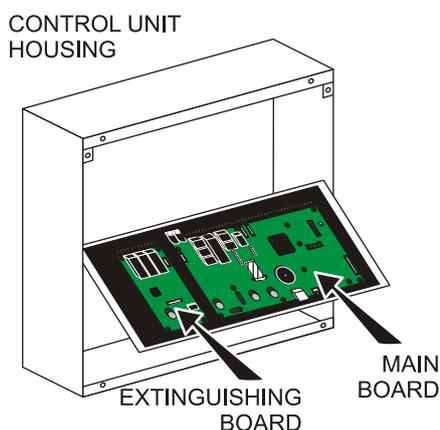
The module is connected to the main board via a 4-wire cable through which the module is also powered and receives the control signals over RS-485 line.

The panel will consequently control the extinguishing module directly and receive and display messages and signals the module transmits to the panel.

Similarly to other modules, also EXTING module, once connected to the panel, will be acknowledged automatically and can be configured as required.

EXTING module can be managed by panels version 3.0.0 or above.

For further settings and wirings, please see the products' technical manuals.

EXTING
Extinguishing Module
(OPTIONAL)

PANEL
MAIN BOARD

CONNECTION
CABLE
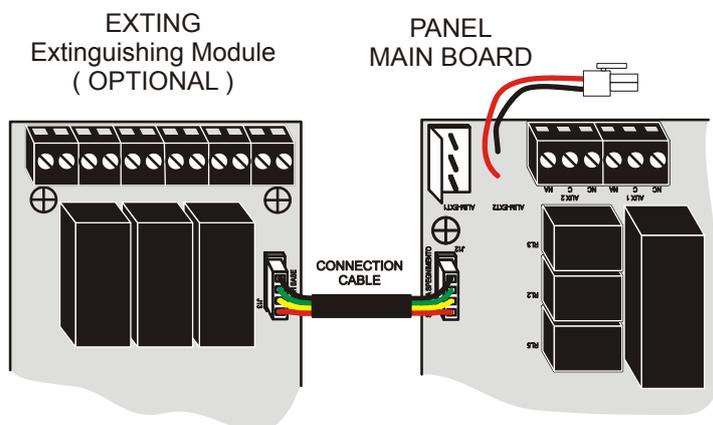
4.18 NFEXP20 - 1 AS LOOP Module (only NF2000 panel v.2.0.0 and above)

NFEXP20 module allows to add to the panel one AS LOOP for analogue-addressable devices. It allows to connect and manage up to 254 addressable devices connected to the LOOP. Such devices can be distributed over 32 additional zones. NF2000 panel will then be able to manage 4 conventional zones on the main board + 8 conventional zones on NFEXP10 board + 32 analogue-addressable zones on NFEXP20 board.

For further settings and wirings, please see the products' technical manuals.
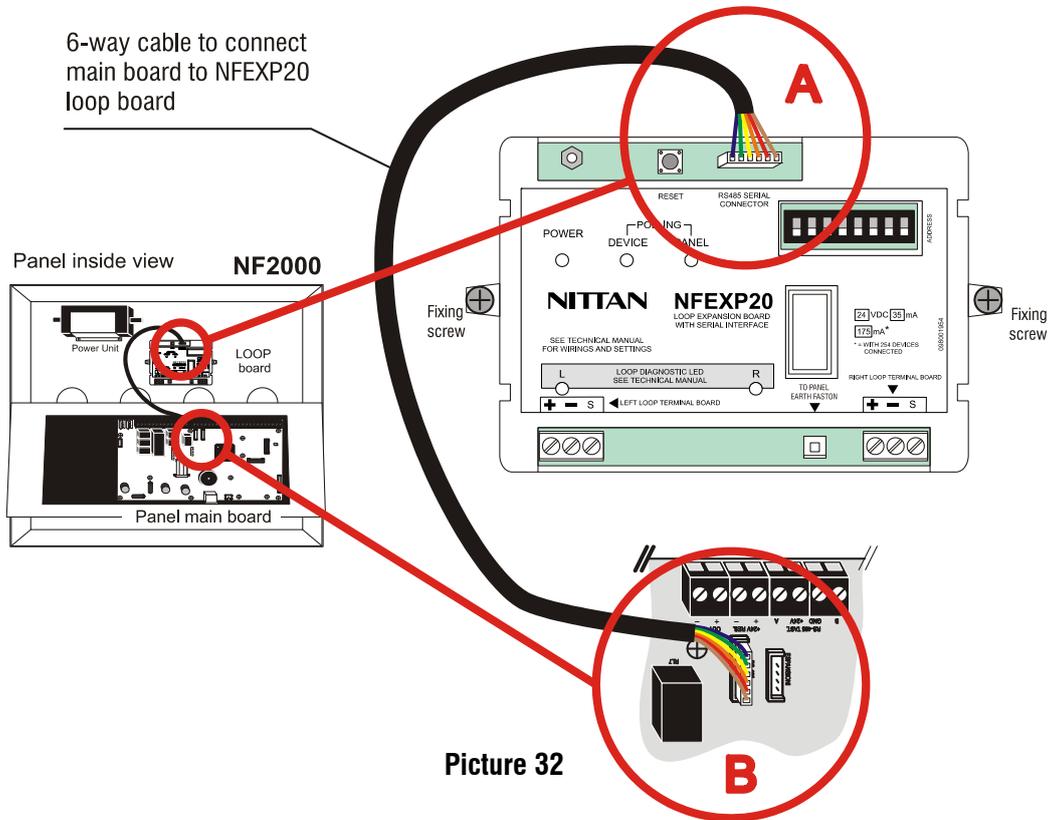
Picture 32

The following operations must be carried out only by qualified technicians and with system and devices disconnected from power supplies.

1 - Install the expansion board to the panel base

Insert the two M3 screws supplied through the two holed hinges on the two sides of the plastic case; then fix it to the base with washers and nuts.

2 - Wire NFEXP20 module to the NF2000 series panel main board

For such wiring the 6-way cable supplied with NFEXP20 kit shall be used. Connected it to the panel RS485 6-way male connector (position A on picture 32 or 8) and to the NFEXP20 module 6-way male connector (position B on picture 32.) The cable allows the communication of RS485 serial signals between panel and module; it also allows module power supply.

3 - Connect FX-SNUBBER filter

The filter is supplied with the kit and will improve immunity against electromagnetic noise.

The NFEXP20 module features an hexagonal metal self-tapping support to which has to be fixed one of the eyelet terminals of the filter yellow/green cable with one of the two M3 screws (and the washer) supplied with the kit (**A**) The other end of the yellow/green cable has to be fixed to the panel base (**B**) using the second screw; use one of the available holes and fix the eyelet terminal using nut and washers or the self-tapping screw.

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Once the two filter cable ends have been fixed, secure the filter case to the panel base using both-sides-adehesive tape and plastic clamps as illustrated in the following picture:

Picture 32a

FX-SNUBBER filter

A   **B**

Panel inside view   **NF2000**

Power Unit

NFEXP20

Panel main board

RESET   RS485 SERIAL CONNECTOR

POWER ┌ POLLING ┐
DEVICE   PANEL

Fixing screw   Fixing screw

NITTAN   **NFEXP20**
LOOP EXPANSION BOARD WITH SERIAL INTERFACE

24 VDC 35 mA
175 mA*
* = WITH 254 DEVICES CONNECTED

SEE TECHNICAL MANUAL FOR WIRINGS AND SETTINGS

LOOP DIAGNOSTIC LED SEE TECHNICAL MANUAL
L   R
RIGHT LOOP TERMINAL BOARD
+ – S ◄ LEFT LOOP TERMINAL BOARD   TO PANEL EARTH FASTON   + – S

D   **C**

YELLOW/GREEN CABLE partly unshielded, to be connected to the screw terminal on the panel EARTH wiring

L=150mm

Kit EARTH wiring   Female FASTON   Male FASTON

WARNING
For the proper module operation, all the dipswitch must be in OFF.

4.18.1 NFEXP20 module EARTH wiring

The module bottom area (picture 32a, position **C**) features a male FASTON terminal welded to the printed circuit.

To such male terminal has to be connected the insulated female FASTON terminal supplied with NFEXP20 module.

The other end of the cable (picture 32a, position **D**) will be partially non-insulated in order to allow its connection to the screw terminal of the panel EARTH wiring.

• **NFEXP20 LED indicators: name, colour and function**

RESET   RS485 SERIAL CONNECTOR

POWER ┌ POLLING ┐
DEVICE   PANEL

NITTAN   **NFEXP20**
LOOP EXPANSION BOARD WITH SERIAL INTERFACE

24 VDC 35 mA
175 mA*
* = WITH 254 DEVICES CONNECTED

SEE TECHNICAL MANUAL FOR WIRINGS AND SETTINGS

LOOP DIAGNOSTIC LED SEE TECHNICAL MANUAL
L   R
RIGHT LOOP TERMINAL BOARD
+ – S ◄ LEFT LOOP TERMINAL BOARD   TO PANEL EARTH FASTON   + – S

Picture 32b

LED Name	Colour	Status OFF	Status BLINKING	Status ON
POWER	Green	No Power	---	Power OK
POLLING DEVICE	Green	No Communication to Devices	Communication OK	---
POLLING PANEL	Yellow	No Communication to Panel	Communication OK	---
-- L --	Yellow	'L' line short-circuited	LOOP open	OK
-- R --	Yellow	'R line short-circuited	LOOP open	OK

4.18.2 AS LOOP standard diagram
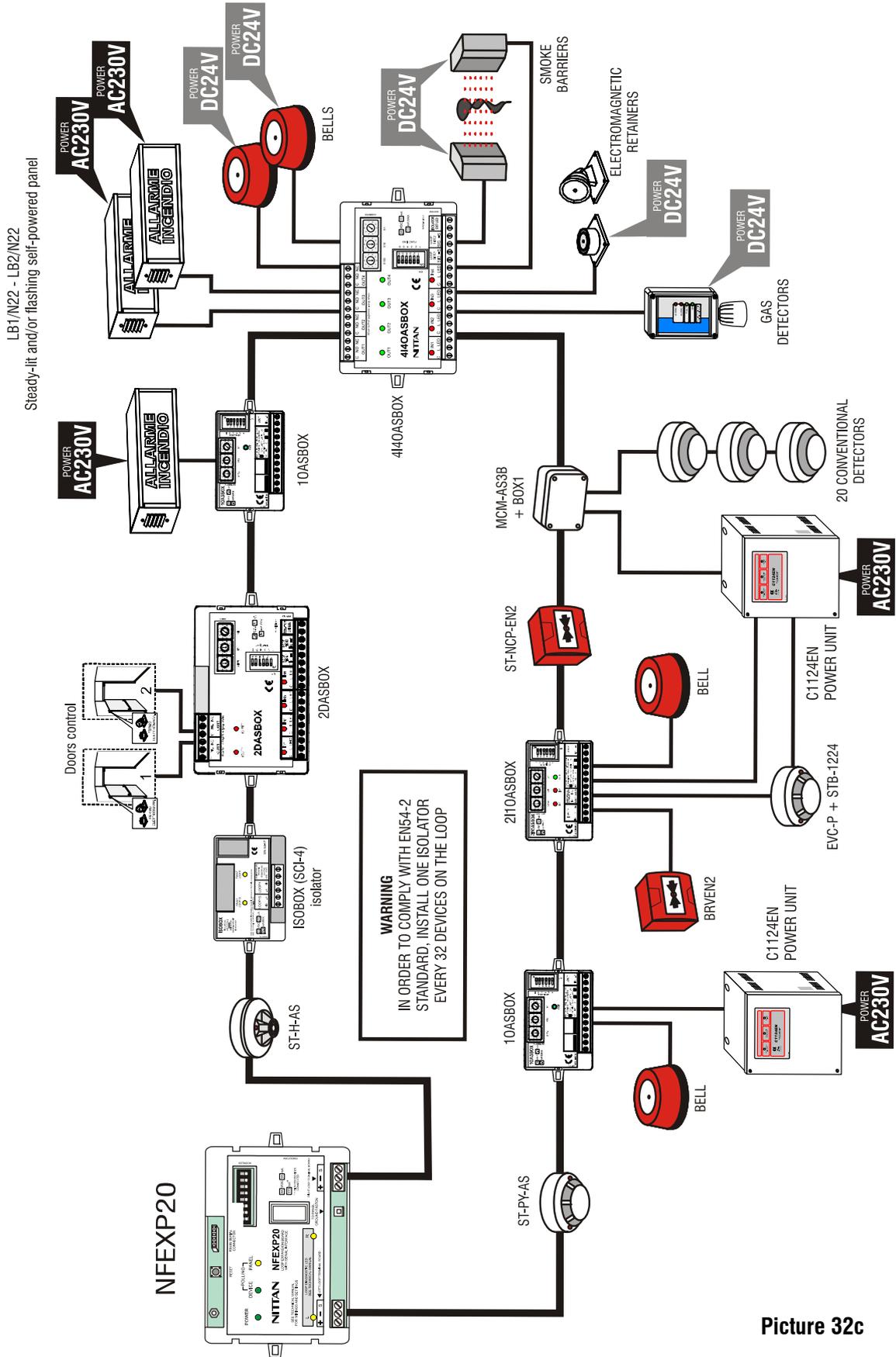
Picture 32c

4.18.3 Analogue-addressable devices wired to the the panel loop

• **ST-NCP-EN2 call-point wiring diagram**

For further settings and wirings, please see the product technical manual.

Picture 32d

• **UB-4 bases wiring diagram**

Connection of two UB-4 bases.

Picture 32e

4.18.4 Table of NFEXP20 module compatible AS devices

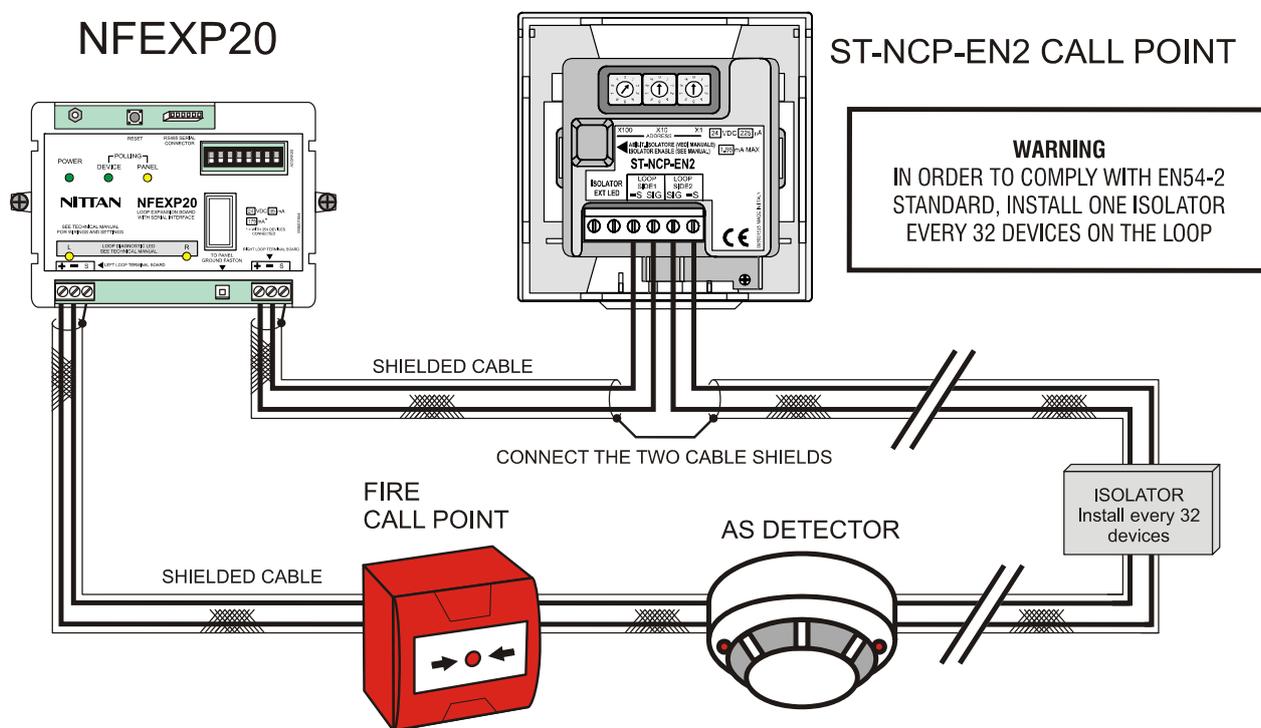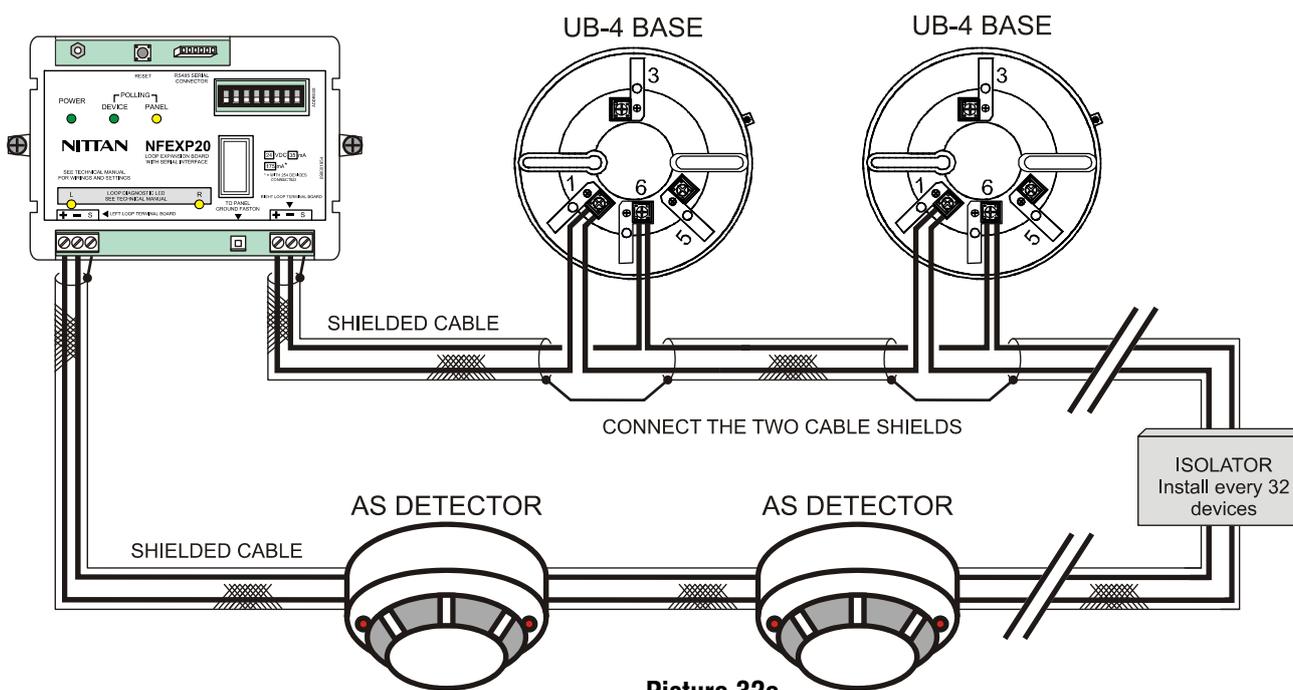| PRODUCT CODE	PRODUCT DESCRIPTION
ISOBASE (SCI3)	Line isolator module that can be installed on the detector's base, for disabling part of the loop in case a short-circuit occurs whilst normal operation is continued on remaining equipment. We recommend installing an isolator every 32 detectors/addresses. DC24V power supplied by the loop. It will replace SCI3.
ISOBOX (SCI4)	Line isolator module for disabling part of the loop in case a short-circuit occurs whilst normal operation is continued on remaining equipment . We recommend installing an isolator every 32 detectors/addresses. Suplied with plastic case. DC24V power supplied by the loop. It will replace SCI4.
ISOSPLITAS	Module allowing the connection of 2 separate loops to the same AS loop board. DC24V power supplied by the loop.
1IASBOX	Analogue-addressable module with ONE balanced / not balanced input to signal alarm and fault alerts (line open / shortcircuited); it allows to connect ONE detector (or other conventional devices) featuring NO output relay contacts to a detection loop. Unit addresses set via rotary switch. DC24V power supplied by the loop. Reduced-size plastic case. (Performance certificate no. 0051-CPR-0276, standard EN54-18.)
4IASBOX	Analogue-addressable module with FOUR balanced / not balanced input to signal alarm and fault alerts (line open / shortcircuited); it allows to connect FOUR detectors (or other conventional devices) featuring NO output relay contacts to a detection loop. Unit addresses set via rotary switch. Terminal board for NO inputs, external LED indicator and serial loop connection. Equipped with line isolator. DC24V power supplied by the loop. Reduced-size plastic case. (Performance certificate no. 0051-CPR-0274, standards EN54-18 and EN54-17.)
1OASBOX	Analogue-addressable module with ONE bistable relay output (C-NO-NC) with 2A/DC30V carrying capacity. Module used to control acoustic, optical-acoustic and other devices with power supplied by external power units. Unit addresses set via rotary switch. Terminal board for external LED indicator, relay output, and serial loop connection. DC24V power supplied by the loop. Reduced-size plastic case. (Performance certificate no. 0051-CPR-0276, standard EN54-18.)
4OASBOX	Analogue-addressable module with FOUR bistable relay outputs (C-NO-NC) with 2A/DC30V carrying capacity. Unit addresses set via rotary switch. Terminal board for external LED indicator, relay outputs, and serial loop connection. Equipped with line isolator. DC24V power supplied by the loop. Reduced-size plastic case. (Performance certificate no. 0051-CPR-0274, standard EN54-18 and EN54-17.)
1I1OASBOX	Analogue addressable module with ONE input and ONE output; the input is balanced / not balanced for alarm and fault alerts (line open / shortcircuited). The module allows to connect 1 detector (or other conventional devices) featuring NO output relay contacts to a detection loop. Unit addresses set via rotary switch . DC24V power supplied by the loop. Terminal board for NO inputs, external LED indicator, relay output, and serial loop connection. 1 bistable relay output (C-NO-NC) with 2A/DC30V carrying capacity used to control acoustic, optical-acoustic and other devices with power supplied by external power units. Reduced-size plastic case. (Performance certificate no. 0051-CPR-0276, standard EN54-18.)
2I1OASBOX	Analogue addressable module with TWO inputs and ONE output; inputs are balanced / not balanced for alarm and fault alerts (line open / shortcircuited). The module allows to connect 2 detectors (or other conventional devices) featuring NO output relay contacts to a detection loop. Unit addresses set via rotary switch . DC24V power supplied by the loop. Terminal board for NO inputs, external LED indicator, relay output, and serial loop connection. 1 bistable relay output (C-NO-NC) with 2A/DC30V carrying capacity used to control acoustic, optical-acoustic and other devices with power supplied by external power units. Reduced-size plastic case. (Performance certificate no. 0051-CPR-0276, standard EN54-18.)
4I4OASBOX	Analogue addressable module with FOUR inputs and FOUR outputs; inputs are balanced / not balanced for alarm and fault alerts (line open / shortcircuited). The module allows to connect 4 detectors (or other conventional devices) featuring NO output relay contacts to a detection loop. Unit addresses set via rotary switch. Terminal board for NO inputs, external LED indicator, relay output, and serial loop connection. 4 bistable relay outputs (C-NO-NC) with 2A/DC30V carrying capacity. Equipped with line isolator. DC24V power supplied by the loop. Reduced-size plastic case. (Performance certificate no. 0051-CPR-0274, standard EN54-18 and EN54-17.)

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PRODUCT CODE	PRODUCT DESCRIPTION
1D1IASBOX	Analogue addressable module for 1 door control. The module features 2 balanced inputs and 1 output, all associated to receive signals from devices or detectors for the control of a door or a fire barrier door and to control their closing with its relay output. The module features also a balanced / not balanced input for alarm and fault alerts (line open / shortcircuited). The module allows to connect 1 detector (or other conventional devices) featuring NO output relay contacts to a detection loop. Unit addresses set via rotary switch. 3-terminal C-NC-NO bistable relay output (2A at DC30V). DC24V power supplied by the loop. Reduced-size plastic case. (Performance certificate no. 0051-CPR-0276, standard EN54-18.)
1DASBOX	Analogue addressable module for ONE door control. The module features 2 balanced inputs and 1 output, all associated to receive signals from devices or detectors for the complete control of a door or a fire barrier door and to control their closing with its relay output. Unit addresses set via rotary switch. 1 bistable relay output (C-NO-NC) with 2A/DC30V carrying capacity. DC24V power supplied by the loop. Electromagnet powered by external power unit. Reduced-size plastic case. (Performance certificate no. 0051-CPR-0276, standard EN54-18.)
2DASBOX	Analogue addressable module for TWO doors control. The module features 4 balanced inputs and 2 outputs, all associated to receive signals from devices or detectors for the complete control of 2 doors or 2 fire barrier doors and to control their closing with its relay output. Unit addresses set via rotary switch. Bistable relay outputs (C-NO-NC) with 2A/DC30V carrying capacity. Electromagnet powered by external power unit. Equipped with line isolator. DC24V power supplied by the loop. Reduced-size plastic case. (Performance certificate no. 0051-CPR-0274, standard EN54-18 and EN54-17.)
4DASBOX	Analogue addressable module for FOUR doors control. The module features 4 balanced inputs and 4 outputs, all associated to receive signals from devices or detectors for the complete control of 4 doors or 4 fire barrier doors and to control their closing with its relay output. Each control relay output is associated with a single input which manages door closed status. Unit addresses set via rotary switch. 3-terminal C-NC-NO bistable relay output (2A at DC30V). Equipped with line isolator. DC24V power supplied by the loop. Reduced-size plastic case. (Performance certificate no. 0051-CPR-0274, standard EN54-18 and EN54-17.)
MCM-AS3B	Control and monitoring module to be connected to the detection loop. The module is used to supervise 20 ST-P conventional detectors or 5 NFD/68P flame detectors. Unit address is set via 8 dip-switches. The module features 2 outputs: 1 open-collector output (10mA at 24V DC), and 1 C/NC/NO relay output (2A at 30V DC.) It can be housed in BOX1 case. DC24V power supplied by the loop. (NO IMQ-SISTEMI DI SICUREZZA certified.)
SCM-AS2B	Module for acoustic alarm devices control to be connected to the detection loop. The module features inputs for local silencing buttons, SYNC type inputs, and for external power supply power drop. It also features 1 supervised output for acoustic devices (1A max. current draw). Unit address is set via 8 dip-switches. It can be housed in BOX1 case. DC24V power supply required. (NO IMQ-SISTEMI DI SICUREZZA certified.)
NAM-AS-G	Analogue addressable interface to connect a 4-20mA gas detector to an analogue addressable detection loop. Detector's operating parameters can be monitored and operating thresholds set. Connectable detectors: TS910EC-S and TS220EC-S for carbon dioxide detection; TS293KG and TS292KG for GPL detection; TS293KM and TS292KM for methane detection. Unit address set via 8 dip-switches. Unit can be housed in BOX3 (optional) IP56. DC24V power supply required. (NO IMQ-SISTEMI DI SICUREZZA certified.)
MTB	Analogue addressable unit for local alarm, can be connected to pull-cord switches, "pull-cord alarms" or for room calls. Unit address set via 8 dip-switches. Dimensions W59 x H40 x D15mm. DC24V power supplied by the LOOP. (NO IMQ-SISTEMI DI SICUREZZA certified.)
AS-ABS	Sounder module for analogue LOOP. It can be installed individually to an analogue loop with VCT-03CPR red cover (optional), or can be mounted on to a STB-4 analogue-addressable detector base (optional.) Sound pressure: 91dB (4 tones.) Unit address set via 8 dip-switches. DC8-35V power supplied by the loop. (NO IMQ-SISTEMI DI SICUREZZA certified.)
UB-4	Standard base for ST-P-AS, ST-H-AS, NHD-G2, 2SC-LS, and VCT-03NTAS detectors. (NO IMQ-SISTEMI DI SICUREZZA certified.)
BOX1	IP55 case for modules. (NO IMQ-SISTEMI DI SICUREZZA certified.)
BOX2	Modules case. (NO IMQ-SISTEMI DI SICUREZZA certified.)
BOX3	IP56 case for modules. (NO IMQ-SISTEMI DI SICUREZZA certified.)
RFP-AS2B	Optical-acoustic alarm device for AS analogue-addressable loop. Can be directly connected to the LOOP. (NO IMQ-SISTEMI DI SICUREZZA certified.)

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PRODUCT CODE	PRODUCT DESCRIPTION
ST-PY-AS	Analogue-addressable smoke detector with Tyndall-effect based operation mode. Thresholds adjustable during control panel's setup. Alarm signal from OMNIVIEW360° luminous ring. Internal automatic compensation for dust contamination. IP 42 protection class. Supplied without base. Compatible base: UB-4. DC24V power supplied by loop. EN54-7 LPCB and CPD 89/106/EEC certified. MTM-E detector address programmer required.
MTM-E	Programmer for ST-PY-AS detector address setup and identification. Detector address is set via software from keypad by hooking the detector to the programmer. Shoulder belt included. Requires 2 batteries: 9V 6LF22, 6LR61 or MN1604 (not supplied.) (NO IMQ-SISTEMI DI SICUREZZA certified)
ST-NCP-EN2	Call point for analogue-addressable fire detection control panels. Manual alarm generated by pressing the center of the front glass. Line isolator included. P24D indoor protection class. Case open and panel reset key included. DC24V power supplied by loop. (Performance certificate no. 0051-CPR-0309, EN54-11 and EN54-17 standards.)
ST-NCP-IP	Outdoor analogue-addressable glassbreak fire alarm call point. IP67 protection class. Features film for protection against injuries, test key, and operating LED indicators. Internal dip-switch to set addresses. DC24V power supplied by loop. EN54-11 standard compliant. (NO IMQ-SISTEMI DI SICUREZZA certified)
RFP-AS2B	Optical-acoustic repeater module directly connectable to AS analogue-addressable loops of fire systems with no need of further control devices. Sounds and LEDs operating mode are user-adjustable. NO IMQ-SISTEMI DI SICUREZZA certified)

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5. INSTALLATION AND SETUP OF EXPANSION BOARDS

Following diagrams show the available configurations for all NF-series panels illustrated in this manual. They indicate the maximum number of expansion boards that can be wired to panels and boards position inside panel housings.

5.1 NF1002 - NF1004 panels

These panels can be set as follows:

1 x Main Board of 2 - 4 zone panel	1 x MDGMSE GSM board
1 x AL2SW24 power unit	1 x NFREL24 relay module
1 x EXTING extinguishing module	

- **Block diagram of the system**
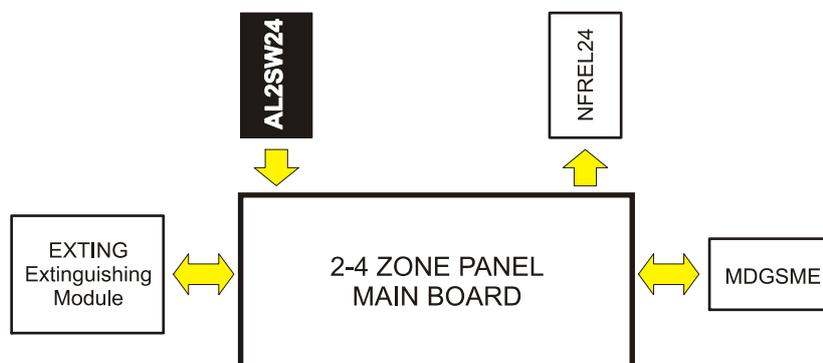
- **Board position inside panel housing**
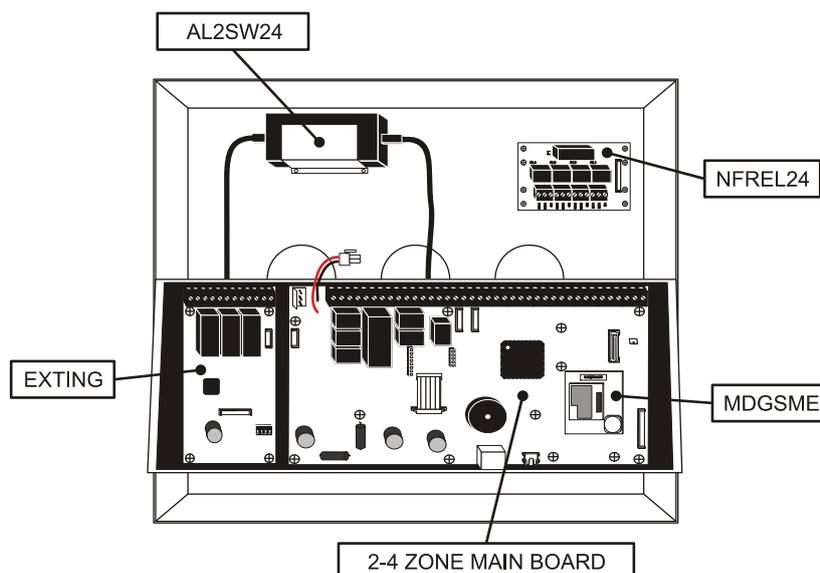
5.2 NF2000 panel (12 conventional zones + 1 LOOP)

These panels can be set as follows:

1 x Main Board of 4-zone panel	1 x MDGMSE GSM board
1 x AL2SW24 power unit	1 x NFREL24 relay module
1 x NFEXP10 8-zone expansion module	1 x NFEXP20 loop module
	1 x EXTING extinguishing module

• **Block diagram of the system**

• **Boards position inside panel housing**

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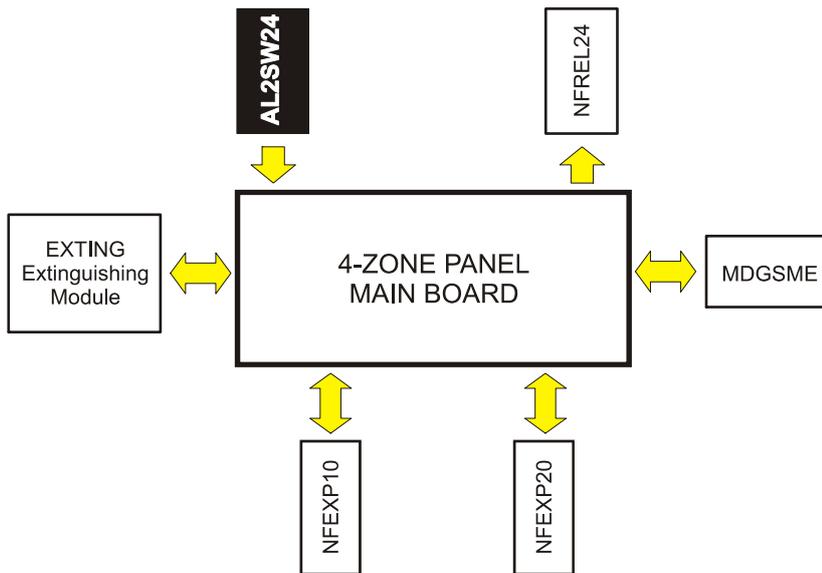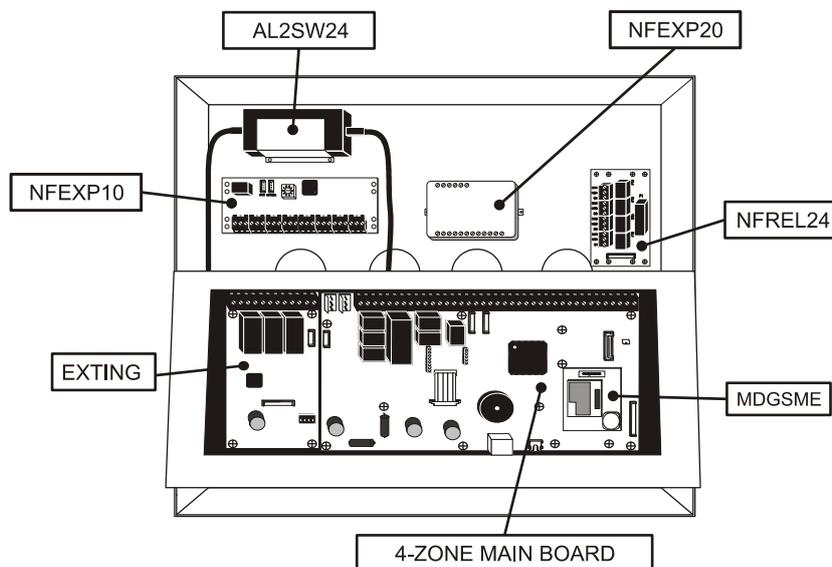
6. PANEL DISPLAYS AND KEYS

Below is the front label; all functions and states of the control panels are shown by and managed using the graphic display and they are indicated by coloured LED indicators. The control keys of the many panel functions make panel control and programming operations extremely easy and user-friendly.
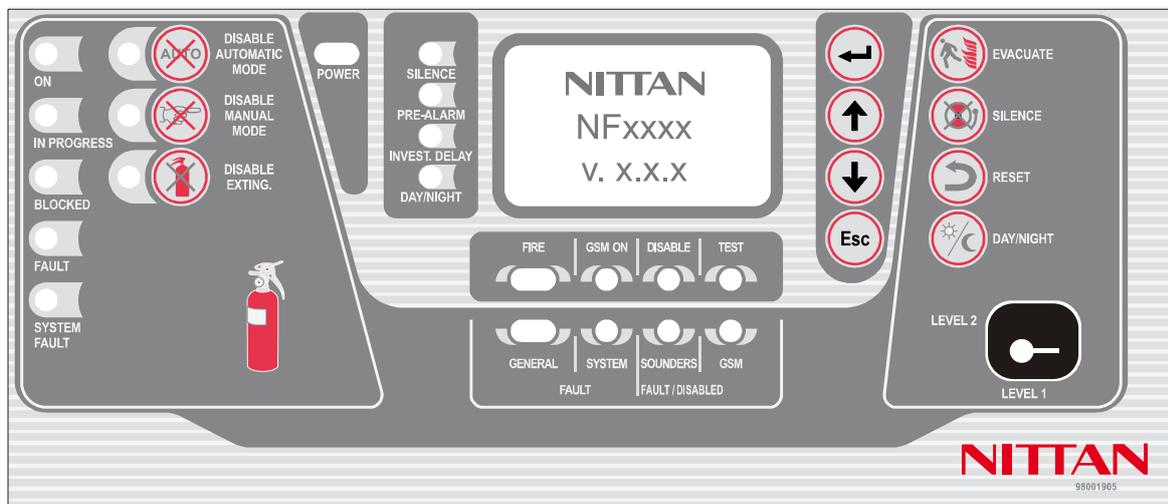
One of the features of the new graphic display is the option of changing the backlighting colour according to the status of the control unit. During normal operation, the display backlight will be GREEN, YELLOW in case of fault or anomaly, RED in case of alarm events. When the control unit is being programmed or set, the backlight will be WHITE.

**Normal operation mode
GREEN**

**Alert for anomaly or wrong connection
YELLOW**

**Alarm alert
RED**

**Setup mode
WHITE**
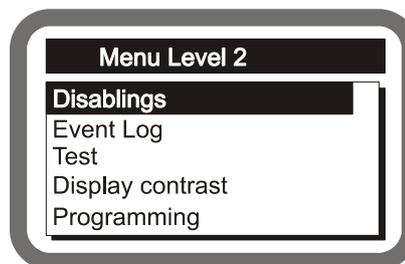
6.1 Panel LED indicators
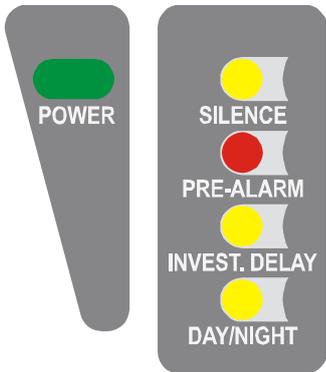
LED name	Colour	Indication
POWER	GREEN	230V Power
SILENCE	YELLOW	Acoustic devices silenced
PRE-ALARM	RED	Alarm check + pre-alarm ON
INVEST. DELAY	YELLOW	Acknowledgment timer or Investigation timer active
DAY / NIGHT	YELLOW	Day / Night mode
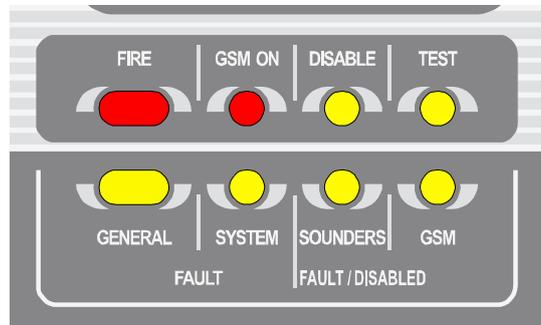
LED name	Colour	Fixed Light	Blinking
FIRE	RED	Alarm event(s) ON with silenced sounder	Alarm events ON
GSM ON	RED	Telephone dialler ON	Waiting a confirm
DISABLE	YELLOW	Disabled elements	-----
TEST	YELLOW	System element(s) is / are being tested	-----
GENERAL FAULT	YELLOW	Fault events ON with silenced buzzer	Fault events ON
SYSTEM FAULT	YELLOW	CPU fault with silenced buzzer	CPU fault
SOUNDERS FAULT / DISABLED	YELLOW	Sounders disabled	Sounders fault
GSM FAULT / DISABLED	YELLOW	GSM disabled	GSM fault

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6.2 Panel function keys

	Level 1 Function	Level 2 Function	Level 3 Function
	----	Enters the selected menu / Confirms data	Enters the selected menu / Confirms data
	Scrolls events UP	Moves the selection upwards	Moves the selection upwards
	Scrolls events DOWN	Moves the selection downwards	Moves the selection downwards
	Displays fault events, if at the same time alarm events are present	Returns to previous menu / Delete operation	Returns to previous menu / Deletes operation

Key name	Level 1 Function	Level 2 / 3 Function
EVACUATE	During panel acknowledgment or investigation time it resets panel delay time intervals and sets the panel to alarm condition	During panel idle status, it generates an "evacuate" event and sets the panel to alarm condition. During panel acknowledgment or investigation time it operates as seen at level 1. **At level 3 the key is disabled.**
SILENCE	Silences the buzzer	During panel alarm or fault condition. it silences acoustic devices. If pressed again, it re-activates such devices. During Day/Night mode acknowledgment time it sets the panel to investigation mode
RESET	-----	During panel alarm or fault condition, it resets the panel.
DAY / NIGHT	-----	It enables / disables day/night mode. **At level 3 the key is disabled.**

To access LEVEL 2:
insert the special key supplied with the fire panel into the level selector and rotate it: you will switch from LEVEL 1 to LEVEL 2.

To access LEVEL 3:
once at level 2, scroll the menu and insert a PASSWORD for the PROGRAMMING section.

WARNING
To restore the alarm viewing, you must access to the Level 2 by turning the key and pressing the ESC button.

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7. FIRE PANEL CONFIGURATION

Before proceeeding with panels configuration, consider that there are different access levels (ref. EN54-2 standard and Appendix A.)
Access levels of these panel series are 4, and they allow to perform different functions.

LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4
UNRESTRICTED ACCESS	USER ACCESS	MAINTENANCE ACCESS	MANUFACTURER ACCESS

ACCESS LEVEL #1
This is the first access level. When the panel is switched on, it sets to LEVEL 1. This level has no restrictions and can be used for panel general monitoring.

ACCESS LEVEL # 2
To access Level 2, insert the special key supplied with the fire panel into the level selector and rotate it from Level 1 to Level 2.
The level will be accessible for people with special responsibility (eg. building surveillance people.)
The level 2 allows the standard operating mode, that is, it will allow detecting alarms and faults.
To go back to Level 1, turn the key and set it to LEVEL 1.
If the panel is not used for 15 minutes (no operations performed and no keys pressed), the display backlight will start blinking and the last line of the panel display will show the message: PANEL ON LEVEL 2.
If a key is pressed, the line will disappear for 15 minutes but the blinking will go on until the panel goes back to Level 1.

ACCESS LEVEL #3
Once at level 2, insert a 4-figure PASSWORD to access LEVEL 3.
Level 3 can be accessed only by authorized personnel trained to setup and verify panel status (eg. the installer.)
The installer can set up to 3 password for level 3 and for each password a descriptive string can be set.
Passwords can be changed if necessary; password characters will be hidden during digitation and a double confirmation is required.
To go back to level 2, press ESC key. The panel returns automatically to level 2 after a 5-minute timeout,
The timeout starts each time a key is pressed.

7.1 Level 2 menu

To access LEVEL 2 menu, insert the key supplied with the panel into the plastic lock on the front of the fire panel housing (seeconsultare il capitolo. "Panel function keys" a pag. 39) then turn it and set it to LEVEL 2 position.
Display backlight will turn white and LEVEL 2 menu will be displayed as per following image.
Use ▲,▼, ENTER and ESC keys to browse Level 2 Menu.
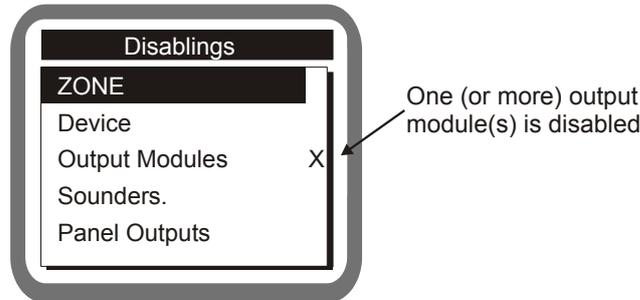
Level 2 menu starting display:
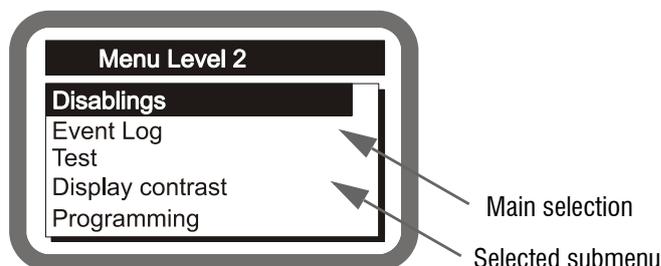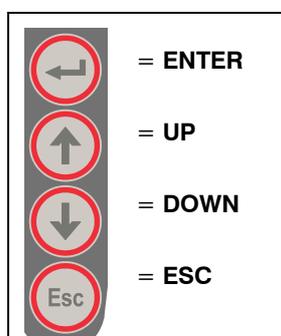
7.1.1 Disablements

This menu displays lists of zones, devices, and modules that can be disabled, their current status and items already disabled.

The display below is typical of this menu.

When on the right of an item the "x" symbol appears, it indicates that one (or more) of such item(s) is disabled (see *Output Modules* in the example.)

For more details on the item(s) disabled, please enter the relevant submenu using the **arrows** and **ENTER** key.

```
        Disablings
  ZONE
  Device
  Output Modules      X
  Sounders.
  Panel Outputs
```

One (or more) output module(s) is disabled

Disablements - ZONE

Go to **LEVEL 2 MENU > DISABLEMENTS > ZONE**
   - A list of zones will display (zones displayed depends on panel model and setup)
   - Use ▲ (**UP**) and ▼ (**DOWN**) keys to select the zone(s) to disable.
   - To disable the zone selected press **ENTER** (an 'X' will appear on the right).
   - To re-enable the zone, press **ENTER** again (the 'X' on the right will disappear).
   - To go back to **LEVEL 2 MENU**, press **ESC** twice.

NOTE: when all the addressed devices connected to the same zone are disabled, such ZONE will appear as disabled in the menu above ("x" symbol on the right.) When such zone is re-enabled, all the addressed devices connected to such zone will be re-enabled.

Disablements - DEVICE (enabled if NFEXP20 - LOOP module is installed)

Go to **LEVEL 2 MENU > DISABLEMENTS > DEVICE**
   - A list of the addresses of the self-learnt devices will be displayed.
   - Use ▲ (**UP**) and ▼ (**DOWN**) keys to select the device (address) to disable.
   - To disable the device selected press **ENTER** (an 'X' will appear on the right).
   - To re-enable the device, press **ENTER** again (the 'X' on the right will disappear).
   - To go back to **LEVEL 2 MENU**, press **ESC** twice.

Disablements - OUTPUT MODULES (enabled if NFEXP20 - LOOP module is installed)

Go to **LEVEL 2 MENU > DISABLEMENTS > OUTPUT MODULES**
   - A list of the addresses of the output modules will be displayed.
   - Use ▲ (**UP**) and ▼ (**DOWN**) keys to select the module (address) to disable.
   - To disable the module selected press **ENTER** (an 'X' will appear on the right).
   - To re-enable the module, press **ENTER** again (the 'X' on the right will disappear).
   - To go back to **LEVEL 2 MENU**, press **ESC** twice.

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Disablements - SOUNDERS (enabled if NFEXP20 - LOOP module is installed)

Go to **LEVEL 2 MENU > DISABLEMENTS   > SOUNDERS**
    - A list of the addresses of the sounders will be displayed.
    - Use ▲ (**UP**) and ▼ (**DOWN**) keys to select the sounder (address) to disable.
    - To disable the sounder selected press **ENTER** (an 'X' will appear on the right).
    - To re-enable the sounder, press **ENTER** again (the 'X' on the right will disappear).
    - To go back to **LEVEL 2 MENU**, press **ESC** twice.

Disablements - PANEL OUTPUTS

Go to **LEVEL 2 MENU > DISABLEMENTS   > PANEL OUTPUTS**
    - The list of ZONES, AUX1 and AUX2 outputs, and SOUNDERS output will be displayed.
    - Use ▲ (**UP**) and ▼ (**DOWN**) keys to select the output to disable.
    - To disable the output selected press **ENTER** (an 'X' will appear on the right).
    - To re-enable the output, press **ENTER** again (the 'X' on the right will disappear).
    - To go back to **LEVEL 2 MENU**, press **ESC** twice.

Disablements - EXTINGUISHING MODULE

Go to **LEVEL 2 MENU > DISABLEMENTS   > EXTINGUISHING MODULE**
    - To disable the extinguishing module press **ENTER** (an 'X' will appear on the right).
    - To re-enable the extinguishing module, press **ENTER** again (the 'X' on the right will disappear).
    - To go back to **LEVEL 2 MENU**, press **ESC** twice.

Disablements - GSM

Go to **LEVEL 2 MENU > DISABLEMENTS   > GSM**
    - To disable the GSM module, press **ENTER** (an 'X' will appear on the right).
    - To re-enable the GSM module, press **ENTER** again (the 'X' on the right will disappear).
    - To go back to **LEVEL 2 MENU**, press **ESC** twice.
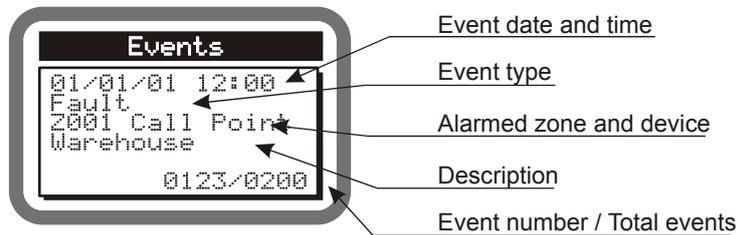
Disablements - REPEATER

Go to **LEVEL 2 MENU > DISABLEMENTS   > REPEATER**
    - To disable the REPEATER module, press **ENTER** (an 'X' will appear on the right).
    - To re-enable the REPEATER module, press **ENTER** again (the 'X' on the right will disappear).
    - To go back to **LEVEL 2 MENU**, press **ESC** twice.

7.1.2 Events

Go to *LEVEL 2 MENU > DISABLEMENTS > EVENTS*
- The panel events log will be displayed.
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to browse panel events.
- To go back to **LEVEL 2 MENU**, press **ESC** key.

Events

01/01/01 12:00 ← Event date and time
Fault ← Event type
2001 Call Point ← Alarmed zone and device
Warehouse ← Description

    0123/0200 ← Event number / Total events

7.1.3 Devices (with NFEXP20 -LOOP installed)

Go to *LEVEL 2 MENU > DEVICES*
- The display will show the address of the first devices self-learn to the loop.
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to browse registered addresses.
- Press ENTER to display the type of device connected to the address in use.
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to browse memorized devices and display their:

                    Address - Type - Description - Zone - Group (if present)
- To exit press **ESC** key.

7.1.4 Test

This menu allows to test panel outputs and zones.

Test - ZONES

Go to *LEVEL 2 MENU > TEST > ZONES*
- The list of zones will be displayed (zones will be displayed according to panel model and setup.)
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select the zone to be tested.
- To start testing the zone selected, press **ENTER** (an 'X' will appear on the right).
  Now the zone has to be alarmed by triggering a detector or the zone emergency call point. The panel will trigger AL.REL. alarm
  output signalling the detection of the sensor or the call point; it will disable the output after 10 seconds.
- To stop testing this zone, press **ENTER** again (the 'X' on the right will disappear).

Test - OUTPUTS

Go to *LEVEL 2 MENU > TEST > OUTPUTS*

- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select **SOUNDER** option.
- To enable SOUNDER (or AL.REL.) output, press **ENTER** (an 'X' will appear on the right).
- To disable the output, press **ENTER** again (the 'X' on the right will disappear).

- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select **ZONE 1** (valid for all zones connected).
- To enable ZONE 1 output, press **ENTER** (an 'X' will appear on the right).
- To disable the output, press **ENTER** again (the 'X' on the right will disappear).

[OUTPUTS are: relay outputs of optional NFREL24 board + digital outputs of panel I/O terminals, if setup]

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- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select **FAULT** option.
- To enable FAULT output, press **ENTER** (an 'X' will appear on the right).
- To disable the output, press **ENTER** again (the 'X' on the right will disappear).

- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select **AUX 1** option.
- To enable AUX 1 relay, press **ENTER** (an 'X' will appear on the right).
- To disable the relay, press **ENTER** again (the 'X' on the right will disappear).

- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select **AUX 2** option.
- To enable AUX 2 relay, press **ENTER** (an 'X' will appear on the right).
- To disable the relay, press **ENTER** again (the 'X' on the right will disappear).

Test - LOOP OUTPUTS (with NFEXP20 -LOOP installed)

Go to *LEVEL 2 MENU > TEST > LOOP OUTPUTS*
- The list of addresses of output modules self-learnt to the loop will be displayed.
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select the address of the output to be tested.
- To enable the selected output, press **ENTER** (an 'X' will appear on the right).
- To disable the output, press **ENTER** again (the 'X' on the right will disappear).
- To exit test mode and go back to TEST menu press ESC key.

Test - LOOP SOUNDER (with NFEXP20 -LOOP installed)

Go to *LEVEL 2 MENU > TEST > LOOP SOUNDERS*
- The list of addresses of SOUNDERS modules self-learnt to the loop will be displayed.
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select the address of the module to be tested.
- To enable the selected sounder, press **ENTER** (an 'X' will appear on the right).
- To disable the sounder, press **ENTER** again (the 'X' on the right will disappear).
- To exit test mode and go back to TEST menu press ESC key.

Test - DISPLAY and BACKLIGHT

Go to *LEVEL 2 MENU > TEST > DISPLAY*
- A vertical bar will start displaying from the left side of the graphic display and will switch on all the pixels of the display.
- At the same time, the display backlight will change colour every second in sequential mode.
- To exit test mode and go back to TEST menu press ESC key.

Test - LED

Go to *LEVEL 2 MENU > TEST > LED*
- The LEDs on the panel front cover will switch on for 2 seconds all at the same time.
- The panel will return to TEST menu after 2 seconds automatically.

Test - BUZZER

Go to *LEVEL 2 MENU > TEST > BUZZER*
- The panel buzzer will be enabled for 5 seconds.
- The panel will return to TEST menu after 5 seconds automatically.

7.1.5 Display contrast

Go to **LEVEL 2 MENU > DISPLAY CONTRAST**
   - Press ▲ (**UP**) and ▼ (**DOWN**) keys repetedly to increase / decrease the percentage of the displayed contrast.
   - Press ENTER to save the new settings.
   - Press ESC to exit without saving and go back to LEVEL 2 menu.

7.1.6 Programming

Go to **LEVEL 2 MENU > PROGRAMMING**
   - Key-in the 4-figure PASSWORD (default 0000).
   - Press ▲ (**UP**) and ▼ (**DOWN**) keys repetedly to increase / decrease a number.
   - Press ENTER to move to the following figure.
   - Once the fourth figure has been digited, and the password is correct, press ENTER to access LEVEL 3 menu.

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7.2 <u>Level 3 menu</u>

Items of level 3 menu: Version, Loop, Extinguishing unit, Peripherals, Zones, Panel Outputs, GSM, Network & Supervision, Logic Statements, Day/Night Mode, Delete Progr., Settings, Service Info, Cable Test.

7.2.1 Version

Go to *LEVEL 3 menu > VERSION*
   - The panel firmware version will be displayed, and also the version of NFEXP20 loop module, NFEXP10 expansion board, and EXTING and NFREPEATER modules.
   - Press ESC key (or ENTER key again) to exit the menu.

7.2.2 Loop

Loop item will be available only if a NFEXP20 module has been installed on to the panel (see picture 32.)
This menu allows to set options and functions of all the analogue addressable devices connected to the NFEXP20 module, according to the single device properties.
When the NFEXP20 is installed for the first time, only the SELF-LEARNING item will display.

   - Go to SELF-LEARNING and press ENTER.
   - All the analogue addressable devices connected to the loop and previously addressed and powered will be self-learnt.
     For further setup and wirings data, please see the devices technical manuals.

When the self-learning procedure is over, a list of the detected devices will be displayed indicating also the quantity.

Now press ENTER and select:
   YES + ENTER = to save the devices detected
    NO + ENTER = to exit without saving

NOTE: the selected option is the one with the black background.

IMPORTANT : if the connected devices are not detected, the message 'NO DEVICE CONNECTED' will appear.
              Check power lines and wirings, then repeat self-learning procedure.

When the list of self-learnt devices is saved, two new items will be displayed under SELF-LEARNING menu: *Devices Prog*. and *Loop Restart*.

>> *Devices Programming*
This menu allows to setup the options of all connected devices. The system acknowledges the type of connected devices automatically; it will display the device and will enable / disable setup options that appear individually for each device in *Devices Prog*. menu.

   - Use ▲ (**UP**) and ▼ (**DOWN**) keys to select **DEVICES PROG.** then press ENTER.
   - The line ADDRESS will appear and will be followed by the first address self-learnt during self-learning procedure (ex. 001)
   - Use ▲ (**UP**) and ▼ (**DOWN**) keys to browse all self-learnt addresses with a device currently connected (001,..., 254)
   - To check the device that is connected to a specific address, move the selection to the address then press ENTER.
   - The display that will appear will be similar to the following picture (call-point address 001, wired and self-learnt for the first time to the loop):

Address ———
Device Type ———
Description ———
Zone ———

```
        Loop
I:001
Call Point
Reception
Z:013
```
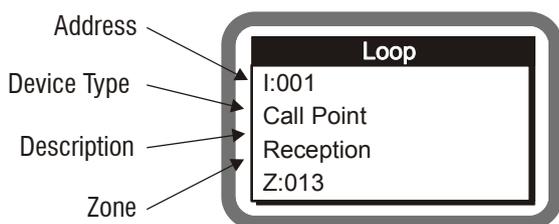
Address: device address.

Device type: type of device connected.

Description: 16-character max row for device details (ex: output, reception, etc.)

Zone: zone to which the device is associated (default 013.)

It is a new address, so the line DESCRIPTION will show no information and the zone to which it will be associated by default is no. 013.
To change zone number, just add text to the description line, or modify other parameters.
Th enter device setup section, press ENTER again.

The example above shows the connection of an analogue-addressable call point to a loop.
Options can be enabled according to the type of device connected.
The following table shows which options can be enabled for the various devices (and will therefore be displayed in the device setup area):

	Call Point	Temper. Detect.	GAS Detect.	Smoke Detect.	Output Module	Input Module	Zone Module	Sounder
Zone	X	X	X	X	X	X	X	X
Description	X	X	X	X	X	X	X	X
Type			X		X	X		
Sensitivity		X	X	X				
Generated Event	X					X		
Alarm Logic Event	X	X	X	X		X	X	
Pre-alarm Logic Event		X	X	X				
Activation Event					X		X	X
Logic Activation Event					X		X	X
Mode								X
Zone Group					X		X	X
Double Knock					X		X	X
LED Switch ON	X	X	X	X				

Description of table options:

• **Option: ZONE**

Option to set the ZONE of the device.

Go to ZONE and press ENTER
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select the zone to be associated (13 to 44)
- Press ENTER to save and exit
- Press ESC to exit without saving.

• **Description**

Option to set the DESCRIPTION of the device (16 characters max)

Go to DESCRIPTION and press ENTER
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select the character (with black background)
- Press ENTER to confirm and move right to the next character (on black background)
- At the 16th character, when ENTER is pressed, the system will save the description and exit the menu.

• **Type**

Option available only for GAS detectors, that can operate as GAS SENSORS and SMOKE SENSORS.

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• Sensitivity

Option to set device sensitivity. The option has three settings:

Standard Threshold : sensitivity of the device during operating mode. Values selectable: Low, Middle, High.
Hour Phase Threshold : sensitivity of the operating device during a defined time schedule. Values selectable: Low, Middle, High.
Hour Phase : time schedule of the threshold control. Values selectable: 0 = no schedule, 1 to 8 = number of the schedule set.

• Generated event

This menu allows to select the event to be generated upon device alarm. The event can be chosen from a list displayed according to the device type. For the complete list of events, see APPENDIX 1.

- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select the event.
- Press ENTER to save the selection and exit the menu.
- Press ESC to exit without saving.

• Alarm logic event

This menu allows to associate a logic event between 0 and 255 to the device (default = 0 - no logic event). The event will be generated upon device alarm. It can also be used in logic equations (when used.)

- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select a value between 0 and 255.
- Press ENTER to save the selection and exit the menu.
- Press ESC to exit without saving.

• Pre-alarm logic event

This menu allows to associate a logic event between 0 and 255 to the device (default = 0 - no logic event). The event will be generated upon device pre-alarm. It can also be used in logic equations (when used.) The event can be selected only for devices able to generate pre-alarm events.

- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select a value between 0 and 255.
- Press ENTER to save the selection and exit the menu.
- Press ESC to exit without saving.

• Activation Event

This menu allows to activate the event that will trigger the device activation. The event can be selected from the list in APPNEDIX 2.

- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select the event (see APPENDIX 2.)
- Press ENTER to save the selection and exit the menu.
- Press ESC to exit without saving.

• Logic Activation Event

This menu allows to associate a logic event between 0 and 255 to the device (default = 0 - no logic event). The event will trigger the device activation. It can also be used in logic equations (when used.)

- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select a value between 1 and 255.
- Press ENTER to save the selection and exit the menu.
- Press ESC to exit without saving.

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• Mode

This option is available only for acoustic modules (sounders and conventional sounders interfaces.) It sets the operating mode of the sounders.

- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select one of the following options:
  - ON = continuous tone (default)
  - Pulse = pulsed tone
  - 1-8 tone = defined by the user
- Press ENTER to save the selection and exit the menu.
- Press ESC to exit without saving.

• Zone group

This menu allows to set the zone group to which the device is associated. The device will be activated when the activation event comes from one of the zones belonging to the zone group set.

- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select a value between 1 and 40.
- Press ENTER to save the selection and exit the menu.
- Press ESC to exit without saving.

• Double Knock

This menu allow to set the activation of the device only after two alarm signals.

- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select YES (Activated) or NO (Disabled.)
- Press ENTER to save the selection and exit the menu.
- Press ESC to exit without saving.

• LED ON

This menu allows to switch ON and OFF the device LED manually for service needs.

- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select ON (Activated) or OFF (Disabled.)
- Press ENTER to save the selection and exit the menu.
- Press ESC to exit without saving.

>> *Loop Restart*
If necessary, **go to Loop Restart and select ENTER**.
The NFEXP20 LOOP module will be restarted.

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7.2.3 Zones

Go to **LEVEL 3 MENU > ZONES**
In ZONE menu, use ▲ (**UP**) and ▼ (**DOWN**) keys to select the number (address) of the zone, indicated on the right, then press ENTER.

Setup of ZONE 000 (MCP terminals)

Use ▲ (**UP**) and ▼ (**DOWN**) keys to select ADDRESS 000, then press ENTER.

The section entered refers to ZONE 000.

- **Description**

- Use ▲ (**UP**) and ▼ (**DOWN**) keys to go to DESCRIPTION, then select ENTER.
- Here users can set a message of max 16 characters to be displayed when the zone enters the alarm condition.
  By defult there are no messages set; the line will show 16 empty small squares.
  At first, the cursor will be on the first square; use ▲ (**UP**) and ▼ (**DOWN**) keys to browse available characters.
- Press ENTER to confirm the selection and move to the next position on the right.
- Press ESC to exit.

- **Sensor Input**

Go to **SENSOR INPUT > GENERATED EVENT**
- The window in the bottom area displays the event type.
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select the event.
- Press ENTER to save the selection and exit the menu.
- Press ESC to exit without saving.
  For the complete list of events, please see APPENDIX 1.

Go to **GENERATED LOGIC EVENT** using ▲ (**UP**) and ▼ (**DOWN**) keys.
- You will enter *Sensor Input > Generated logic event* section, the window in the bottom area displays the set value.
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to increase / decrease the value (255 max)
- Press ENTER to save the selection and exit the menu.
- Press ESC to exit without saving.

Setup of CONVENTIONAL ZONES (from Z001 to Z012)

Use ▲ (**UP**) and ▼ (**DOWN**) keys to select the ADDRESS, then press ENTER.

The section entered refers to the ZONE selected.

- **Description**

- Use ▲ (**UP**) and ▼ (**DOWN**) keys to go to DESCRIPTION, then select ENTER.
- Here users can set a message of max 16 characters to be displayed when the zone enters the alarm condition.
  By defult there are no messages set; the line will show 16 empty small squares.
  At first, the cursor will be on the first square; use ▲ (**UP**) and ▼ (**DOWN**) keys to browse available characters.
- Press ENTER to confirm the selection and move to the next position on the right.
- Press ESC to exit.

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• Confirm Alarm

Go to **CONFIRM ALARM > TYPE.**
The window in the bottom area displays the type of confirm set.

- Use ▲ (**UP**) and ▼ (**DOWN**) keys and ENTER key to select:

> **OFF** : all signals from detectors or call points connected to whatever zone triggers an alarm event.
> **CONFIRM ALARM** : the panel awaits a further alarm signal from the same zone that has sent the first signal. Press ENTER to confirm the selection and the window will go back to the previous menu where the item *Time Checking* will now be displayed. Use *Confirm Alarm* option to set the time interval within which the alarm confirmation shall arrive (1 to 30 mins, 1-min steps.) No messages will appear on the display and no outputs will be activated. If the alarm signal ends, the panel will go back to normal operating mode. If it does not, the panel will enter the alarm condition.
> **CONFIRM +PREALARM** : the panel awaits a further alarm signal from one of the zones assigned to the group defined in the relevant menu, the same zone that has sent the first signal. In addition:
> - the panel buzzer activates;
> - the zone that has triggered the signal appears on the display as "PREALARM ZONE";
> - the PRELARM LED switches on;
> - the PREALARM relay output activates;
Press ENTER to confirm; the window will go back to the previous menu that will display:
- TIME CHECKING item, where you can set the time interval within which the alarm confirmation shall arrive (1 to 30 mins, 1-min steps);
- GROUP menu, where you can set the zone group from which the alarm confirmation shall arrive.

• Sensor Input

Go to **SENSOR INPUT > GENERATED EVENT**
- The window in the bottom area displays the event type.
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select the event.
- Press ENTER to save the selection and exit the menu.
- Press ESC to exit without saving.
  For the complete list of events, please see APPENDIX 1.

Go to **SENSOR INPUT > GENERATED LOGIC EVENT**
- You will enter *Sensor Input > Generated logic event* section, the window in the bottom area displays the set value that can be use in logic equations if necessary.
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to increase / decrease the value (255 max)
- Press ENTER to save the selection and exit the menu.
- Press ESC to exit without saving.

• I/O Line

I/O lines can be configured both as input and output lines.
The parameters to set will vary according to the setup. The line can be set to 4 modes: 4-20mA Input, Balanced Input, Pull Up Input, Output.

1. I / O Line > 4-20mA Input

This option allows to connect a sensor providing output current between 4 and 20 mA.

Settings of 4-20mA input:
Go to ZONES > ADDRESS 001 > I/O LINE > TYPE
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select 4-20mA INPUT.
- Press ENTER to save.
- The display will return to ZONE 001

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Now, using ▲ (**UP**) and ▼ (**DOWN**) keys, it will be possible to setup the following items:

GENERATED EVENT
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select the event.
- Press ENTER to save.
- Press ESC key to exit without saving.
For the complete list of events, please see Appendix 1.

GENERATED LOGIC EVENT
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to increase or decrease the value (255 max.)
- Press ENTER to save.
- Press ESC key to exit without saving.
The value can also be used for logic equations.

PRE-ALARM SENSITIVITY
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to increase or decrease the pre-alarm threshold: from 4 to 20mA.
- Press ENTER to save.
- Press ESC key to exit without saving.

ALARM SENSITIVITY
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to increase or decrease the alarm threshold: from 4 to 20mA.
- Press ENTER to save.
- Press ESC key to exit without saving.

2. I / O Line > Balanced Input

This option allows to set the I/O line as a balanced input to which conventional call points can be connected. Being a balanced line, it will require a 47K Ohm resistor connecte dto the last call point on the line.

Settings of Balanced Input:

Go to ZONES > ADDRESS 001 > I/O LINE > TYPE
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select BALANCED INPUT.
- Press ENTER to save.
- The display will return to ZONE 001

Now, using ▲ (**UP**) and ▼ (**DOWN**) keys, it will be possible to setup the following items:

GENERATED EVENT
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select the event.
- Press ENTER to save.
- Press ESC key to exit without saving.
For the complete list of GENERATED EVENTS, please see Appendix 1.

GENERATED LOGIC EVENT
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to increase or decrease the value (255 max.)
- Press ENTER to save.
- Press ESC key to exit without saving.
The value can also be used for logic equations.

3. I / O Line > PULL UP Input

This option allows to set the I/O line as PULL-UP INPUT to which it is possible to connect deviced providing digital signals.

Settings of Pull-Up Input:

Go to ZONES > ADDRESS 001 > I/O LINE > TYPE
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select PULL-UP INPUT.
- Press ENTER to save.
- The display will return to ZONE 001

Now, using   ▲ (**UP**) and ▼ (**DOWN**) keys, it will be possible to setup the following items:

GENERATED EVENT
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select the event.
- Press ENTER to save.
- Press ESC key to exit without saving.
For the complete list of GENERATED EVENTS, please see Appendix 1.

GENERATED LOGIC EVENT
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to increase or decrease the value (255 max.)
- Press ENTER to save.
- Press ESC key to exit without saving.
The value can also be used for logic equations.

NOTE: the use of I/O line as Pull-Up Input does not comply with EN54-2 standard.

4. I / O Line > Output

This option allows to set the I/O line as an OUTPUT.

Settings of Output option:

Go to ZONES > ADDRESS 001 > I/O LINE > TYPE
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select OUTPUT.
- Press ENTER to save.
- The display will return to ZONE 001

Now, using   ▲ (**UP**) and ▼ (**DOWN**) keys, it will be possible to setup the following items:

ACTIVATION EVENT
This option allows to set the event upon which the output / device will activate. The list includes also events defined as 'ANY' ('Any alarm', 'Any fault', etc.) By selecting such events, the output / device will activate upon all events defined, for example, 'alarm' (fire alarm, bomb alarm, gas leakage alarm, etc.) The same is valid for all event defined as 'fault' in case of 'Any Fault' selection.
For further details on such events, please see Appendix 2.

- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select the event.
- Press ENTER to save.
- Press ESC key to exit without saving.

ACTIVATION LOGIC EVENT
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to increase or decrease the value (255 max.)
- Press ENTER to save.
- Press ESC key to exit without saving.
The value can also be used for logic equations.

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DOUBLE KNOCK
This option allows to set the output to activate only upon multiple alarms, that is, alarm events generated by more than one zone assigned to the associated GROUP OF ZONE.
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select YES or NO.
- Press ENTER to save.
- Press ESC key to exit without saving.

INVERTED
This option allows to set the status of this output when the panel is in idle status:
                                enabled: YES=ON, INVERTED   or   disabled: NO=OFF, NON INVERTED
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select YES or NO.
- Press ENTER to save.
- Press ESC key to exit without saving.

GROUP OF ZONES
This option allows to associate the output activation to a preset group pf zones.
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to browse group of zones (1 to 40.)
- Press ENTER to save.
- Press ESC key to exit without saving.

     NOTE: in order to comply with EN 54-2 standard, the above outputs shall not be used to control alarm devices, fire alarms and fault events transmission devices, or automatic systems since they are not "C", "E", "J" or "G" type and therefore are not protected against cuts and short circuits.

• Output line

This menu allows to set the intervention mode of the 4 alarm relay outputs of NFREL24 optional module (if installed.)

Below you will see how to set parameters of relay 1 output (RL1) of NFREL24 module. The other three outputs shall be set similarly.

Go to ZONES > ADDRESS 001 > OUTPUT LINE

Now, using   ▲ (**UP**) and ▼ (**DOWN**) keys, it will be possible to setup the following items:

ACTIVATION EVENT
This option allows to set the event upon which the output / device will activate. The list includes also events defined as 'ANY' ('Any alarm', 'Any fault', etc.) By selecting such events, the output / device will activate upon all events defined, for example, 'alarm' (fire alarm, bomb alarm, gas leakage alarm, etc.) The same is valid for all event defined as 'fault' in case of 'Any Fault' selection. <u>For further details on such events, please see Appendix 2</u>.

- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select the event.
- Press ENTER to save.
- Press ESC key to exit without saving.

ACTIVATION LOGIC EVENT
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to increase or decrease the value (255 max.)
- Press ENTER to save.
- Press ESC key to exit without saving.
The value can also be used for logic equations.

DOUBLE KNOCK
This option allows to set the output to activate only upon multiple alarms, that is, alarm events generated by more than one zone assigned to the associated GROUP OF ZONE.
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select YES or NO.
- Press ENTER to save.
- Press ESC key to exit without saving.

INVERTED
This option allows to set the status of this output when the panel is in idle status:
                              enabled: YES=ON, INVERTED   or   disabled: NO=OFF, NON INVERTED
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select YES or NO.
- Press ENTER to save.
- Press ESC key to exit without saving.

GROUP OF ZONES
This option allows to associate the output activation to a preset group pf zones.
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to browse group of zones (1 to 40.)
- Press ENTER to save.
- Press ESC key to exit without saving.

NOTE: in order to comply with EN 54-2 standard, the above outputs shall not be used to control alarm devices, fire alarms and fault events transmission devices, or automatic systems since they are not "C", "E", "J" or "G" type and therefore are not protected against cuts and short circuits.

• **Analogue-addressable zones setup (Z013 to Z044 if NFEXP20 - LOOP module installed)**

- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select the ADDRESS, then press ENTER.
The section of the selected zone will display.

• **Confirm alarm (Z013 to Z044)**

This section will display only zones to which one or more devices have been associated.

Go to CONFIRM ALARM > TYPE
The window in the bottom area displays the type of confirm set.

- Use ▲ (**UP**) and ▼ (**DOWN**) keys and ENTER key to select:

> **OFF** : all signals from detectors or call points connected to whatever zone triggers an alarm event.
> **CONFIRM ALARM** : the panel awaits a further alarm signal from the same zone that has sent the first signal. Press ENTER to confirm the selection and the window will go back to the previous menu where the item *Time Checking* will now be displayed. Use *Confirm Alarm* option to set the time interval within which the alarm confirmation shall arrive (1 to 30 mins, 1-min steps.) No messages will appear on the display and no outputs will be activated. If the alarm signal ends, the panel will go back to normal operating mode. If it does not, the panel will enter the alarm condition.
> **CONFIRM +PREALARM** : the panel awaits a further alarm signal from one of the zones assigned to the group defined in the relevant menu, the same zone that has sent the first signal. In addition:
        - the panel buzzer activates
        - the zone that has triggered the signal appears on the display as "PREALARM ZONE"
        - the PRELARM LED switches on
        - the PRELARM relay output activates
Press ENTER to confirm; the window will go back to the previous menu that will display:
        - TIME CHECKING item, where you can set the time interval within which the alarm confirmation shall arrive (1 to 30 mins, 1-min steps)
        - GROUP menu, where you can set the zone group from which the alarm confirmation shall arrive.

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- **Panel Outputs**

>>> Go to LEVEL 3 MENU > Panel Outputs > AUX 1

ACTIVATION EVENT AUX1

Go to AUX 1 > ACTIVATION EVENT
  This option allows to set the event upon which the output / device will activate. The list includes also events defined as 'ANY' (?Any alarm', 'Any fault', etc.) By selecting such events, the output / device will activate upon all events defined, for example, 'alarm' (fire alarm, bomb alarm, gas leakage alarm, etc.) The same is valid for all event defined as 'fault' in case of 'Any Fault' selection.
  For further details on such events, please see Appendix 2.

  - Use ▲ (**UP**) and ▼ (**DOWN**) keys to select the event.
  - Press ENTER to save.
  - Press ESC key to exit without saving.

ACTIVATION LOGIC EVENT AUX1

Go to AUX 1 > ACTIVATION LOGIC EVENT
  - Use ▲ (**UP**) and ▼ (**DOWN**) keys to select the value (255max).
  - Press ENTER to save.
  - Press ESC key to exit without saving.
  - The value can be used for logic equations if necessary.

GROUP OF ZONES AUX1
This option allows to associate the output activation to a preset group pf zones.

Go to AUX 1 > GROUP OF ZONES
  - Use ▲ (**UP**) and ▼ (**DOWN**) keys to browse group of zones (1 to 40.)
  - Press ENTER to save.
  - Press ESC key to exit without saving.

>>> Go to LEVEL 3 MENU > Panel Outputs > AUX 2

For AUX 2 setup, follow AUX 1 procedure above.

NOTE: in order to comply with EN 54-2 standard, the above outputs shall not be used to control alarm devices, fire alarms and fault events transmission devices, or automatic systems since they are not "C", "E", "J" or "G" type and therefore are not protected against cuts and short circuits.

7.2.4 GSM Setup

• **GSM > Settings**

Go to LEVEL 3 MENU > GSM > Settings
Here it is possible to set all *Settings* items.

DOUBLE KNOCK

This option allows to set GSM module to activate only upon multiple alarms, that is, alarm events generated by more than one zone assigned to the associated GROUP OF ZONE.

- Go to GSM > DOUBLE KNOCK
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select YES (enabled) or NO (disabled.)
- Press ENTER to save.
- Press ESC key to exit without saving.

NO REG DELAY

This menu allows to enable the delay in signalling a non-registered SIM card fault.

- Go to GSM > NO REG DELAY
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select YES (10 minutes) or NO (1 minute.)
- Press ENTER to save.
- Press ESC key to exit without saving.

FIRE BRIGADE

This menu allows to select fire stations phone numbers previously registered. The panel will be remotely controlled only by the number(s) selected.

- Go to GSM > FIRE BRIGADE
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select the number.
- Press ENTER to enable the number selected (an 'X' will appear on the right.)
- Press ENTER **again** to disable the number selected (the 'X' on the right will disappear.)
- Press ESC key to exit.

SIM MONTH EXPIRE

This menu indicates the time interval (in months) at which the panel will check the credit of the SIM card installed on the panel GSM module.

- Go to GSM > SIM MONTH EXPIRE
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to increase or decrease the months, from 0 to 5.
- Press ENTER to save.
- Press ESC key to exit.

SENDER NUMBER (FORWARDING NUMBER)

This menu allows to select the memorized number (1 to 8) to which received unknown or wrong SMS texts will be forwarded (max 5 a day.)

- Go to GSM > SENDER NUMBER
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select a forwarding number, from 1 to 8.
- Press ENTER to save.
- Press ESC key to exit .

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SMS HEADING
This menu allows to define the heading of the SMS text that will be sent to the number(s) selected.

- Go to GSM > SMS HEADING
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to browse available characters.
- Press ENTER to confirm the selection and move to the next position on the right.
- Repeat the steps to set the text.
- Press ESC to exit.

SMS 1 - SMS 8 Setup
This menu allows to digit and memorize a text to be sent upon a specific event occurrence.

- Go to GSM > SMS (1 - 8)
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to browse available characters.
- Press ENTER to confirm the selection and move to the next position on the right.
- Repeat the steps to set the text.
- Press ESC to exit.

PHONE NUMBER 1 - 8
This menu allows to set phone numbers to be used by the module to send SMS texts or anomaly alerts.

- Go to GSM > PHONE NUMBER (1 - 8)
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to browse numbers: 0 to 9.
- Press ENTER to confirm the selection and move to the next position on the right.
- Repeat the steps to set the number.
- Press ESC to exit.

CREDIT END THRESHOLD
This menu allows to set the minimum threshold of remaining credit (in euros) below which the panel will send an SMS to the set number asking for SIM credit top up to be done.

- Go to GSM > CREDIT END THRE.
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to browse numbers: 0 to 9.
- Press ENTER to confirm the selection and move to the next position on the right.
- Repeat the steps to set the credit amount.
- Press ESC to exit.

• GSM > Event Manager

This menu lists all activation events. For all events it is possible to set the number to which it has to be sent and the message. Message number 9 will set the event automatically. The maximum number of messages per day is 10; if such number is exceeded, the event SMS DAY LIMIT will be moved to the historic file. Alarm events will be sent even in case the number is exceeded.

• GSM > Logic Event

This menu allows to set:
Activation logic event: range from 0 (=no event) to 255.
Call number: number(s) to which the message has to be sent (1 to 8).
Message: memorized message to be sent (1 to 8).

• GSM > GSM Status

This menu allows to see the level of the GSM signal, the provider used, and the remaining SIM credit (if setup.)

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7.2.5 Day/Night Mode Setup

This menu allows to setup the parameters of DAY (delayed) and NIGHT (non-delayed) modes.

Go to LEVEL 3 menu > DAY&NIGHT MODE

• Acknowledgment Timer

This parameter define the maximum time within wich the liable operator should approach to the control unit, in case of alarm signaling, to check the real presence of the alarm signal, will then lead the status of the control unit from AKNOWLEDGMENT to INVESTIGATION (bringing the control unit to "**Level 2**" press before the "ESC" key and then the SILENCE key on the front of the console, fig. 37). During AKNOWLEDGMENT timer running, the panel buzzer will be active. If no action is taken during AKNOWLEDGMENT time and the timer runs out, the fire panel will enter the alarm condition.

Go to DAY&NIGHT MODE > ACK'MENT TIMER
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select a value between 0 and 600 seconds.
- Press ENTER to confirm the selection.
- Press ESC to exit.

• Investigation Timer

This timer indicates the maximum **time interval** allowed to the system responsible operator for verifying the real presence of an alarm event **after the acknowledgment** of the alarm signal.
During the investigation time the operator will verify the real existence of the alarm condition either by checking from a remote device the position that has generated the alarm or by directly going to such position.
If no action is taken during INVESTIGATION time and the timer runs out, the fire panel will enter the alarm condition.
During INVESTIGATION timer running, the panel buzzer will be active.

Go to DAY&NIGHT MODE > INVESTIGATION TIMER
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select a value between 0 and 600 seconds.
- Press ENTER to confirm the selection.
- Press ESC to exit.

• Linked Timer

This option allows to set the timer the panel will refer to when automatically switching from DAY to NIGHT mode.
For the creation and setup of timers, please see TIME SCHEDULE section further on.

Go to DAY&NIGHT MODE > LINKED TIMER
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select a timer between 1 and 8.
- Press ENTER to confirm the selection.
- Press ESC to exit.

• Enabled Zones

This option allows to enable and disable the delayed mode for ZONES connected to the fire panel.

Go to DAY&NIGHT MODE > ENABLED ZONES
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to position the cursor on the zone to enable/disable.
- Press ENTER to enable the delayed mode for the selected zone (an 'X' will appear on the right.)
- Press ENTER again to disable the delayed mode for the selected zone (the 'X' on the right will disappear.)
- Press ESC to exit.

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7.2.6 Delete Programmation

Use this menu to reset the panel system to default settings. All changes and new settings will be reset.

Go to LEVEL 3 menu > DELETE PROGR.
    - Use ▲ (**UP**) and ▼ (**DOWN**) keys to select YES or NO.
    - Press ENTER to confirm the selection, ESC to exit without saving.
    - Press ESC to exit.
    NOTE: the EVENT LOG file will not be deleted.

7.2.7 Settings

This menu allows to set panel language, date&time, passwords, time schedules, ringing tones, sensitivity, group of zones, maintenance, options.

Go to LEVEL 3 menu > SETTING.

• Language

Go to SETTING > LANGUAGE
    - Use ▲ (**UP**) and ▼ (**DOWN**) keys to select the panel system language.
    - Press ENTER to confirm the selection.
    - Press ESC to exit.

• Date and Time

Go to SETTING > DATE and TIME
    - Use ▲ (**UP**) and ▼ (**DOWN**) keys to increse/decrease selected value.
    - Press ENTER to pass on to the next value
     The sequence displayed will be: day - month - year - hour - minute - day - ...
    - Press ESC to exit.

• Password

This menu allows to define and save the 3 passwords ensuring the access to panel LEVEL 3.
Below you will find how to set one password. To set the other passwords, use the same procedure.

Go to SETTING > PASSWORD > PASSWORD **1**
    - Insert the OLD PASSWORD 1.
    - Use ▲ (**UP**) and ▼ (**DOWN**) keys to select the characters.
    - Press ENTER key.

    - Use ▲ (**UP**) and ▼ (**DOWN**) keys to select DESCRIPTION
    - Define a description for the password 1 (if needed.)

    - Use ▲ (**UP**) and ▼ (**DOWN**) keys to select CODE.
    - Insert the OLD PASSWORD 1, then press ENTER.
    - Insert the NEW PASSWORD 1, then press ENTER.
    - The new password will be saved.
    - Press ESC repeatedly to exit or modify the other passwords.

 • **Time Schedules**

This menu allows to setup 4 weekly schedules and 4 periodic schedules that can be used for functions requiring scheduling.
It also allows to set up to 20 holidays, or holiday periods, during which the schedules set may be enabled or disabled.
Each *weekly schedule* can be set with 2 daily schedules, set on a day-base.
For *periodic schedules* it is possible to set:
 - 2 schedules
 - day-month-year of schedule activation.
 To indicate any day, month or year, leave hyphens instead of precise numbers.
 Example: **DAY = -- , MONTH = 03 , YEAR = 10** means that the schedule will be active during all days of March 2010.
The schedule can also be enabled / disabled during the whole single day.
Each schedule can be set to activate during holidays / holiday periods.

- TIMER (from 1 to 4)
The procedure of timer setup illustrated below refers to TIMER number 1. The other timers follow the same setup mode.
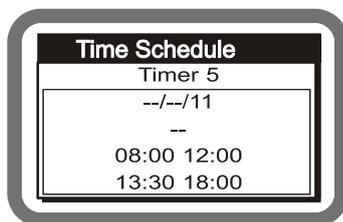
Go to SETTING > TIME SCHEDULE > TIMER > TIMER **1**

 - Use ▲ (**UP**) and ▼ (**DOWN**) keys to select *HOLIDAY*, then press ENTER.
 - This option allows to enable / disable TIMER 1 during HOLIDAYS.
 - Use ▲ (**UP**) and ▼ (**DOWN**) keys to select YES / NO.
 - Press ENTER to confirm the selection.
 - Press ESC to exit.

 - Use ▲ (**UP**) and ▼ (**DOWN**) keys to select *DAY*, then press ENTER.
 - A list with the weekdays will appear.
 - Use ▲ (**UP**) and ▼ (**DOWN**) keys to select a day (ex. Monday), then press ENTER.
 - Use ▲ (**UP**) and ▼ (**DOWN**) keys to select one of the 3 different options:
     ON = ENABLED for the day selected
     OFF = DISABLED for the day selected
     SET = available two time intervals for the day selected.

     Go to SET , then select ENTER.
     The following display will appear:
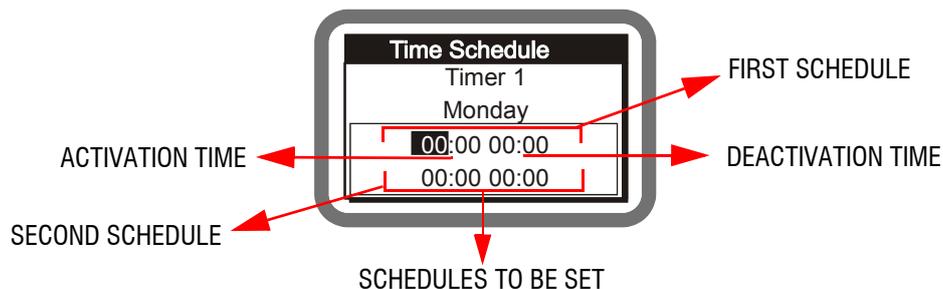
To edit time (hours and minutes), position the cursor (black square) to the time you want to edit using ENTER key.
 - Use ▲ (**UP**) and ▼ (**DOWN**) keys to select the hour and minutes needed in the selected position.
 - Press ENTER key repeatedly to pass on to the next positions in sequence. At the end, the cursor will retur to the stating position.
 - Press ESC to save changes and exit.

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Example:


```
Time Schedule
    Timer 1
    Monday
  08:00 12:00
  13:30 18:00
```

The schedule is set to be active on Mondays from 8 am to 12 pm and from 1.30 pm to 6 pm.

Monday schedule has to be set as shown in the image on the left.

If such schedule needs to be set also for other weekdays, write the same times to the other days following the instructions above.

- TIMER (from 5 to 8)
The procedure of timer setup illustrated below refers to TIMER number 5. The other timers follow the same setup mode.
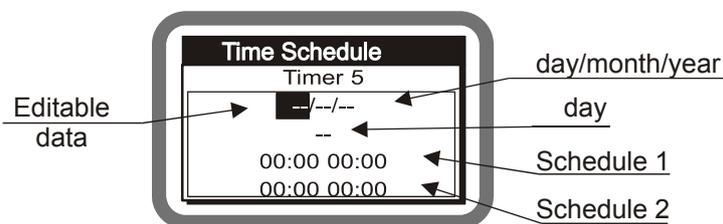
Go to SETTING > TIME SCHEDULE > TIMER > TIMER **5**

- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select *HOLIDAY*, then press ENTER.
- This option allows to enable / disable TIMER 1 during HOLIDAYS.
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select YES / NO.
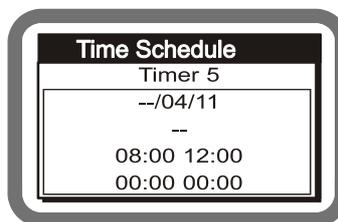- Press ENTER to confirm the selection.
- Press ESC to exit.

- Use ▲ (**UP**) and ▼ (**DOWN**) keys to select *SEASON*, then press ENTER.

Unlike the first 4 timers, these timers define the validity time period of the time schedules saved (day and/or month and/or year and/or weekday.)
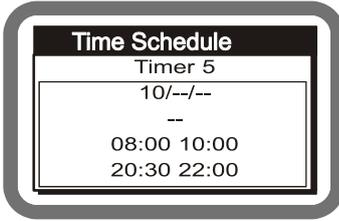
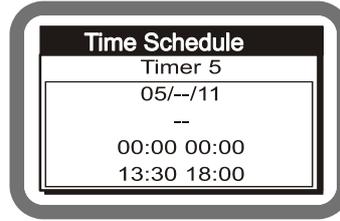For a better understanding of these timers, here are some examples:

Editable data

```
Time Schedule
    Timer 5
  --/--/--
    --
  00:00 00:00
  00:00 00:00
```

day/month/year
day
Schedule 1
Schedule 2


```
Time Schedule
    Timer 5
   --/--/11
    --
  08:00 12:00
  13:30 18:00
```

During all days and months of 2011

From 8:00 to 12:00
From 13:30 to 18:00


```
Time Schedule
    Timer 5
   --/04/11
    --
  08:00 12:00
  00:00 00:00
```

During April 2011

From 8:00 to 12:00

```
┌─────────────────────┐
│    Time Schedule    │
│       Timer 5       │
│      10/--/--       │
│         --          │
│     08:00 10:00     │
│     20:30 22:00     │
└─────────────────────┘
```

The 10th of any month and any year

From 8:00 to 12:00
From 20:30 to 22:00

```
┌─────────────────────┐
│    Time Schedule    │
│       Timer 5       │
│      05/--/11       │
│         --          │
│     00:00 00:00     │
│     13:30 18:00     │
└─────────────────────┘
```

The 5th of all months of 2011

From 13:30 to 18:00

```
┌─────────────────────┐
│    Time Schedule    │
│       Timer 5       │
│      25/04/--       │
│         --          │
│     08:00 12:00     │
│     00:00 00:00     │
└─────────────────────┘
```
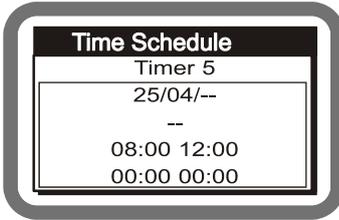
The 25th April of any year

From 8:00 to 12:00

```
┌─────────────────────┐
│    Time Schedule    │
│       Timer 5       │
│      --/--/11       │
│      Tuesday        │
│     03:00 06:00     │
│     14:00 18:00     │
└─────────────────────┘
```
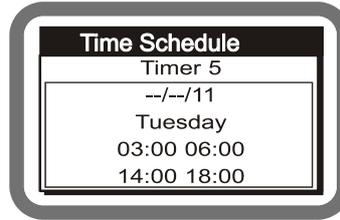
All tuesdays of 2011

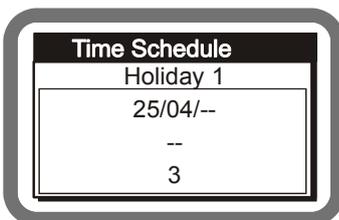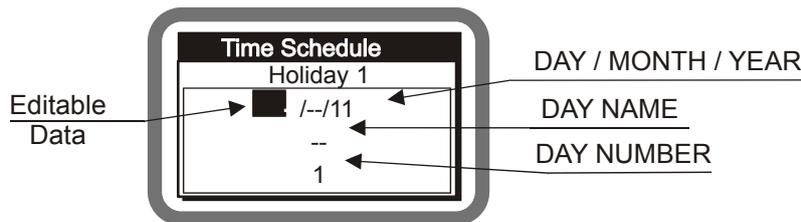From 03:00 to 06:00
From 14:00 to 18:00

- HOLIDAYS

This menu allows to set up to 20 holidays per year.

Go to HOLIDAY and press ENTER.
A list containing 20 days will be displayed.
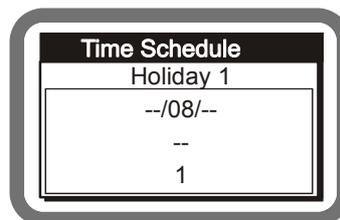Go to HOLIDAY 1, then press ENTER.

Insert day/month/year on the first row, the specific day on the second row, and the holiday duration (1 to 365) included the selected day.

NOTE: The holiday duration time is <1> by default. Pay attention to set the correct number. If you set <0> the holiday will not be applied.
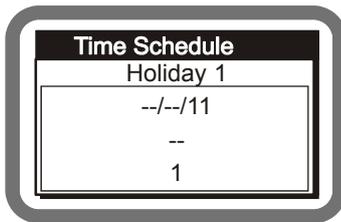
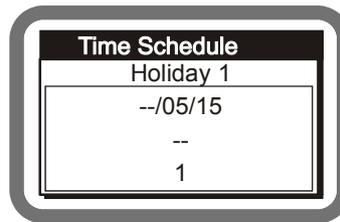For a better understanding of HOLIDAYS, here are some examples:

Editable Data

```
┌─────────────────────┐
│    Time Schedule    │
│       Holiday 1     │
│      ■  /--/11       │
│         --          │
│          1          │
└─────────────────────┘
```

DAY / MONTH / YEAR

DAY NAME

DAY NUMBER

```
┌─────────────────────┐
│    Time Schedule    │
│       Holiday 1     │
│      25/04/--       │
│         --          │
│          3          │
└─────────────────────┘
```

Valid on the 25th April of any year for 3 days: from 25th to 27th

```
┌─────────────────────┐
│    Time Schedule    │
│       Holiday 1     │
│      --/08/--       │
│         --          │
│          1          │
└─────────────────────┘
```

Valid on all days of August on any year

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```
┌─────────────────────┐
│    Time Schedule    │
│      Holiday 1      │
│  ┌───────────────┐  │
│  │    --/--/11   │  │
│  │               │  │
│  │       --      │  │
│  │        1      │  │
│  └───────────────┘  │
└─────────────────────┘
```
Valid on 2011

```
┌─────────────────────┐
│    Time Schedule    │
│      Holiday 1      │
│  ┌───────────────┐  │
│  │    --/05/15   │  │
│  │               │  │
│  │       --      │  │
│  │        1      │  │
│  └───────────────┘  │
└─────────────────────┘
```
Valid on all days of May 2015
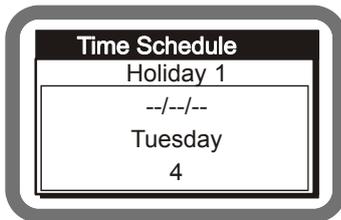
```
┌─────────────────────┐
│    Time Schedule    │
│      Holiday 1      │
│  ┌───────────────┐  │
│  │    --/--/--   │  │
│  │    Tuesday    │  │
│  │        4      │  │
│  └───────────────┘  │
└─────────────────────┘
```
Valid on tuesdays of any month of any year and for the 3 subsequent days
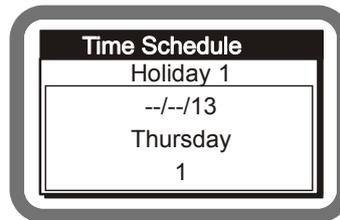
```
┌─────────────────────┐
│    Time Schedule    │
│      Holiday 1      │
│  ┌───────────────┐  │
│  │    --/--/13   │  │
│  │    Thursday   │  │
│  │        1      │  │
│  └───────────────┘  │
└─────────────────────┘
```
Valid on thursdays of any month of 2012

• **Ringing Tones (only with NFEXP20 loop module installed)**

Ringing tones can be associated to sounders connected to the loop.

Go to SETTING > RINGING STYLES
The list of tones will be displayed: 1 to 8.
   - Use ▲ (**UP**) and ▼ (**DOWN**) keys to select the tone, then press ENTER.
   - For each tone it is possible to set:
        Phase 1 Style: ON (default) = continuous mode - PULSE = pulsed mode.
        Phase 1 Period: range 0-600 seconds. Default 60 seconds.
        Phase 2 Style: ON (default) = continuous mode - PULSE = pulsed mode.

• **Group of Zones**

This series of panels offer the possibility to set up to 49 GROUP of ZONES that can be associated:

   - to the ZONES -> to verify alarm + prealarm
   - to PANEL and LOOP OUTPUTS -> for activation modes
   - to the CONVENTIONAL ZONES -> to activate the outputs
   - to the GSM module -> for activation modes (optional)

   For a better understanding of GROUP of ZONES, see the following diagram.
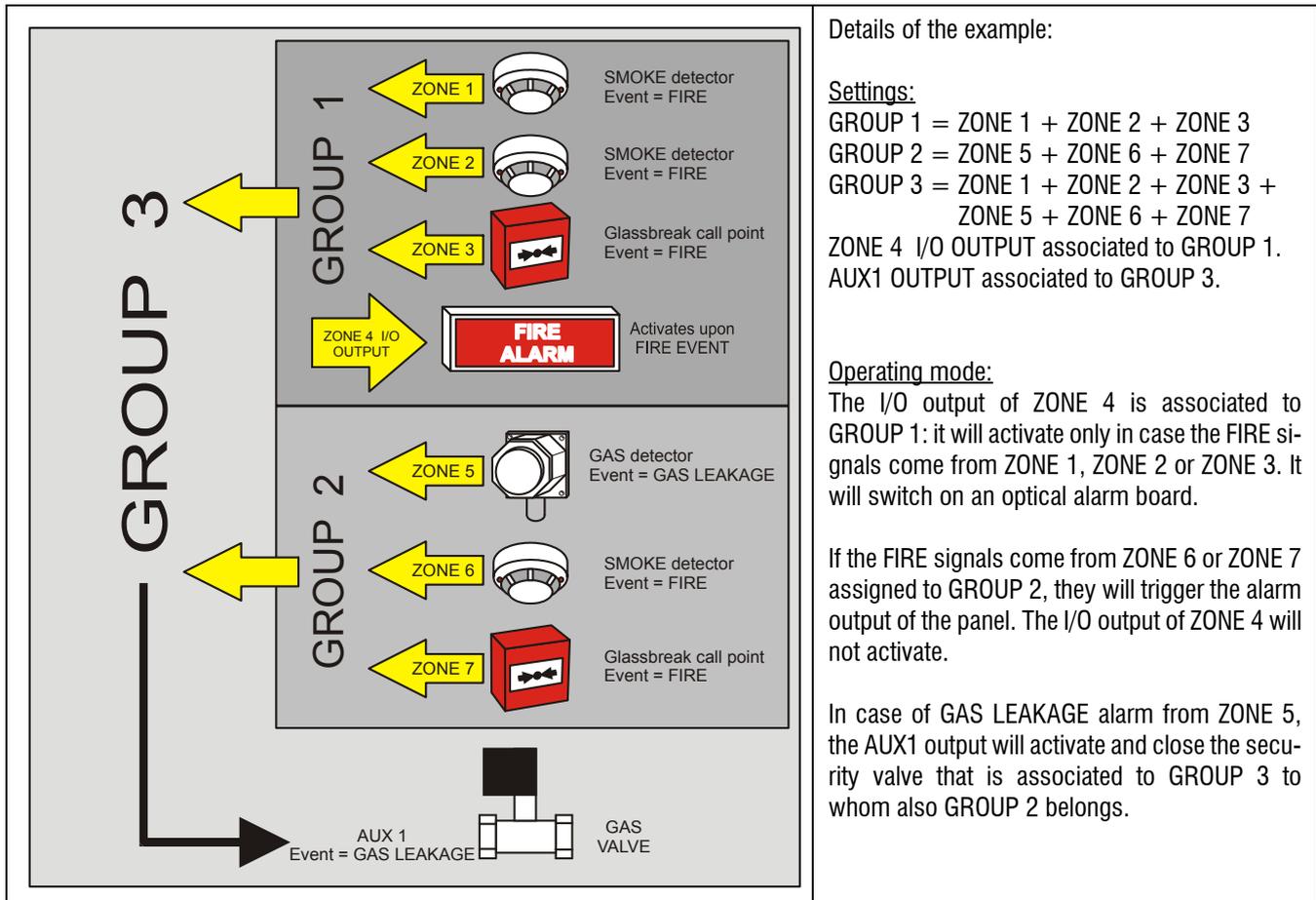
Details of the example:

Settings:
GROUP 1 = ZONE 1 + ZONE 2 + ZONE 3
GROUP 2 = ZONE 5 + ZONE 6 + ZONE 7
GROUP 3 = ZONE 1 + ZONE 2 + ZONE 3 +
          ZONE 5 + ZONE 6 + ZONE 7
ZONE 4 I/O OUTPUT associated to GROUP 1.
AUX1 OUTPUT associated to GROUP 3.

Operating mode:
The I/O output of ZONE 4 is associated to GROUP 1: it will activate only in case the FIRE signals come from ZONE 1, ZONE 2 or ZONE 3. It will switch on an optical alarm board.

If the FIRE signals come from ZONE 6 or ZONE 7 assigned to GROUP 2, they will trigger the alarm output of the panel. The I/O output of ZONE 4 will not activate.

In case of GAS LEAKAGE alarm from ZONE 5, the AUX1 output will activate and close the security valve that is associated to GROUP 3 to whom also GROUP 2 belongs.

Procedure to assign zones to a GROUP of ZONES
(Only GROUP 1 will be illustrated. For other groups the same procedure is valid.)

Go to SETTING > GROUP of ZONES
  - Use ▲ (**UP**) and ▼ (**DOWN**) keys to select GROUP 1, then press ENTER.
  - A list with all panel zones will appear.
  - Use ▲ (**UP**) and ▼ (**DOWN**) keys to select a ZONE.
  - Press ENTER to assign the selected ZONE to GROUP 1 (an 'X' will appear on the right.)
  - Press ENTER again to delete the selected ZONE from GROUP 1 (the 'X' on the right will disappear.)
  - Press ESC to exit.

 • **Options**

Go to SETTING > OPTIONS

  - In OPTIONS menu, use ▲ (**UP**) and ▼ (**DOWN**) keys to select **EARTH FAULT**, then press ENTER.
  - Here you can set the panel to intervene / ignore FAULT alerts from **EARTH** wiring,
  - Use ▲ (**UP**) and ▼ (**DOWN**) keys to select YES / NO.
  - Press ENTER to save the selection, ESC to exit.

  - In OPTIONS menu, use ▲ (**UP**) and ▼ (**DOWN**) keys to select **DISPLAY MESSAGE 1**, then press ENTER.
  - Define a 16-character message to be displayed on the first row of the display when the panel is in normal operating mode. By
    default there are no messages defines, and a row with 16 empty squares will display. The first square on the left will be blinking.
  - Use ▲ (**UP**) and ▼ (**DOWN**) keys to select one of the available characters.
  - Press ENTER key to confirm the character. The selection will move to the next positions in sequence.
  - Press ESC to save changes and exit.
    Message 2 and Message 3 are set in the same way, but they will be displayed on the display second and third row respectively.

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- In OPTIONS menu, use ▲ (**UP**) and ▼ (**DOWN**) keys to select **MAIN PWR DELAY**, then press ENTER.
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to increase / dicrease the time interval (from 1 to 30 minutes) that refers to the delay with which the panel displays a MAINS failure.
- Press ENTER key to confirm the selection, ESC to exit.

- In OPTIONS menu, use ▲ (**UP**) and ▼ (**DOWN**) keys to select **BATTERY DELAY**, then press ENTER.
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to increase / dicrease the time interval (from 1 to 15 minutes) that refers to the delay with which the panel displays a BACK UP BATTERY POWER SUPPLY failure.
- Press ENTER key to confirm the selection, ESC to exit.

- In OPTIONS menu, use ▲ (**UP**) and ▼ (**DOWN**) keys to select **T on at Reset**, then press ENTER.
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to increase / dicrease the time interval (from 5 to 60 seconds) after which the loop outputs go back to idle mode after the activation upon **RESET** event.
- Press ENTER key to confirm the selection, ESC to exit.

- In OPTIONS menu, use ▲ (**UP**) and ▼ (**DOWN**) keys to select **RE-SOUND BELLS**, then press ENTER.
- Use ▲ (**UP**) and ▼ (**DOWN**) keys to set bells reactivation (YES).
- Press ENTER key to confirm the selection, ESC to exit.

8. APPENDIX #1

Table of GENERATED EVENTS selectable:

GENERATED EVENTS	LOOP INPUT MODULE	LOOP CALL POINT	CONVENTIONAL ZONES Z001 - Z012	CONVENTIONAL ZONE Z000 (MCP)
FIRE ALARM (**)	X	X	X	X
BOMB (*)	X	X	X	X
ALARM (*)	X		X	
SAFETY (*)	X		X	
S.O.S. (*)	X		X	
GAS LEAK (*)	X		X	
WATER LEAK	X		X	
EXTINGUISHMENT ON	X		X	
NO MAIN POWER	X			
NO BATTERY	X			
BATTERY OVERVOLT	X			
LOW BATTERY	X			
BATT. 1 FAULT	X			
BATT. 2 FAULT	X			
BATTERY HIGH RES	X			
CPU FUSE FAULT	X			
LOAD FUSE FAULT	X			
OVERVOLTAGE	X			
SHORT EARTH-POS	X			
SHORT EARTH-GND	X			
UNDERVOLTAGE	X			
BATTERY DISCONNECTION	X			
NO 24V	X			
PSU FAULT	X		X	

(*) : such events do not comply with EN54-2 standard.
(**) : SENSOR INPUT line, I/O LINE (Balanced Input, PULL UP input, and Output) *have to be managed as FIRE events.*

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9. APPENDIX #2

Table of ACTIVATION EVENTS selectable and modules and outputs to which they can be associated:

ACTIVATION EVENT	ACTIVATION EVENT FOR			
	Panel OC and Relay Outputs	GSM	Output Modules on Loop	Sounder Modules on Loop
ANY ALARM	X	X	X	X
FIRE ALARM	X	X	X	X
BOMB	X	X	X	X
ALARM	X	X	X	X
SAFETY	X	X	X	X
S.O.S.	X	X	X	X
GAS LEAK	X	X	X	X
WATER LEAK	X	X	X	X
EVACUATION	X	X	X	X
PREALARM	X	X	X	X
PREALARM END	X	X	X	X
EXTINGUISHMENT ON	X	X	X	X
ANY FAULT		X	X	X
ANY FAULT TO DEVICES		X	X	X
ANY FAULT TO ZONES		X	X	X
ANY FAULT TO POWER UNITS		X	X	X
GSM FAULT			X	X
EXTING LOST		X	X	X
EV. FAULT		X	X	X
NO MAIN POWER		X	X	X
SILENCE		X	X	X
RESET		X	X	X
ACKNOLEDGEMENT		X	X	X
INVESTIGATION		X	X	X
EXT'ING ON		X	X	X
EV. ON		X	X	X
EXT'ING CONFIRM		X	X	X
NO BATTERY	X	X	X	X
BATTERY OVERVOLT	X	X	X	X
LOW BATTERY	X	X	X	X
BATT. 1 FAULT	X	X	X	X
BATT. 2 FAULT	X	X	X	X
BATTERY HIGH RES	X	X	X	X
LOAD FUSE FAULT	X	X	X	X
CPU FUSE FAULT	X	X	X	X
OVERVOLTAGE	X	X	X	X
UNDERVOLTAGE	X	X	X	X
BATTERY DISCONNECTION	X	X	X	X
NO 24V	X	X	X	X
PSU FAULT	X	X	X	

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10. MAINTENANCE

**See to the maintenance of systems regularly and according to
the law in force in the country where the products are installed.**

11. DISPOSAL INSTRUCTIONS

Dispose of NF1002 - NF1004 - NF2000 panels in compliance with current city regulations and by leaving the devices in a dumping ground authorized for the disposal of electronic products. If required, please contact the appropriate city office for additional information.

In case of destruction or irreparable damage of the product or its end of life, remove the Lithium battery from PCB, cutting the rheophores and put it in the appropriate containers for used batteries. The product, instead, must be disposed as indicated previously.

Warnings and disposal instructions for internal batteries:

To operate correctly, NF1002 - NF1004 - NF2000 panels must be connected to a back up battery and the system has to be equipped with auxiliary power supply boxes, accessories, and optical-acoustic alarm devices, all equipped with back up batteries.

Make sure that once batteries are replaced with suitable ones, old batteries are disposed of in a dumping ground authorized for batteries collection. The materials used for this product are very harmful and polluting. Do not disperse them in the environment.

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12. CONTENTS

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