



 **NOTIFIER**[®]
by Honeywell



Series AM Programming Manual

Analog Fire Panel

AM-2000-N software version 0.13c
AM-4000 software version 1.66c
AM-6000-N software version 019c

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ATTENTION: This manual refers to all the functions available in the software revision indicated in the cover

DEFINITIONS

LINE: Physical line where sensors, addressed sirens, possible input addressed modules for contacts and output addressed modules are connected.

POINTS: they are the addressed modules and sensors that can be connected to the control unit.

ZONES: they are point groups. They are used as basic indications to identify the position of an event. The maximum number of zones can be 150. A maximum of 32 points can be installed in each zone.

GROUPS: A group is a software set of devices that can perform associations. The control unit is provided with 400 GROUPS

FRONT PANEL CONTROLS AND SIGNALLINGS



AM-2000



AM-4000



AM-6000



EVACUATION: Control for the activation of the Siren output and of all output modules programmed through TYPE ID = HORN in the absence of alarms and breakdowns. If you press this button once more all the previously activated outputs will be deactivated. You must know the **level 2 password** to perform this operation.



RE-SET DELAYS: This button is active only in case of alarm if the immediate activation of the siren outputs in the exclusions menu has been excluded. The control unit delays the activation of the above-mentioned outputs for the programmed times in the programmed menu. (Prog) Sist\AI. Output Timing). During the delay time the Active Delay led flashes and it is possible to re-set the current delay through the Delay Re-set key.



BUZZER SILENCING: by pressing this key, the operator can silence the control unit buzzer and can perform a RESET.



SIREN OUTPUT SILENCING: In case of alarm the following devices are activated:

Control unit Siren Output
Output modules programmed through Type-ID **HORN**
All the output modules activated for CBE associations

By pressing this key, you can de-activate the following devices:

Control unit Siren Output
Output modules programmed through Type-ID **HORN** enabled to the silencing
All output modules activated through CBE associations and enabled for silencing



SIREN OUTPUT RE-ACTIVATION: If the “SIREN OUTPUT SILENCING” control has been previously performed, by pressing this key you re-activate the following devices:

Control unit Siren Output
Output modules programmed through Type-ID **HORN**
All the output modules de-activated by the silencing control



RESET: the pressure of this key deletes the alarm or breakdown memory of the current points. It de-activates the siren and turns off all light signalings of sensors in alarm. To perform this operation you must know the **level 2 password**.

Keys to be used: DURING THE PROGRAMMING or
TO ENTER THE PASSWORDS



ARROWS: they are used to perform some selections

NOTE: by pressing and holding one of these keys for more than 1 second, you obtain the key automatic repetition.



ENTER: after performing a selection, it confirms the entered datum



ESCAPE: “it goes back”, that is, it deletes the last entered datum, or it has the menu exit function



FUNCTION KEYS: These keys activate the corresponding functions on the display in the status bar.

These functions change according to the selected menus.

Example: in the **system status** display, these keys allow the access to the Programming, Utilities, Exclusion menus or the Test menu.

LIGHT SIGNALLINGS OF THE FRONT PANEL

ALARM (Red):

It flashes if there is at least one device in alarm and it has not been recognized yet.
It is permanently lit if all alarm events have been recognized.

ACTIVE REMOTE ALARM (Red):

It is permanently lit if the output towards the fire alarm transmission devices (telephone dial) has been activated.

ACTIVE DELAYS (Yellow):

It is lit if the exclusion relevant to the immediate output activation has been performed; they are applied to type C outputs (siren output) and type E (alarm transmission through telephone dial). Through this active exclusion, in case of alarm the control unit delays the above mentioned outputs for the programmed times. During the delay time the led flashes and it is possible to reset the current delay through the delay re-set key operating at level 1.

EXCLUSIONS (Yellow):

It is lit when there is at least exclusion in the control unit. The exclusions are all those which can be operated in the exclusions menu.

TEST (Yellow):

It is lit during walk test

VOLTAGE ON (Green):

It is permanently lit if the control unit is powered (by 230Vac or by batteries).

BREAKDOWNS (Yellow):

It flashes if there is at least one breakdown of any type and it has not been recognized yet.
It is on if all breakdowns have not been recognized.

SYSTEM (Yellow):

It is lit if there is at least a system breakdown (watch dog breakdown, limited memory error, etc.)

POWER SUPPLIES (Yellow):

It is lit if there is a power supply breakdown.

EARTHING DISPERSION (Yellow):

It is permanently lit when the positive or negative is earthed.

SIREN (Yellow):

It is lit if the siren output is excluded.
It flashes when the siren output is in breakdown condition

BREAKDOWN TRANSMISSION (Yellow):

It is lit if the breakdown transmission output is excluded (telephone dial).
It flashes when the breakdown transmission output is in breakdown condition.

ALARM TRANSMISSION (Yellow):

It is lit if the alarm transmission is excluded (telephone dial).
It flashes when the alarm transmission output is in breakdown condition

FIRE-FIGHTING CONTROL (Yellow):

It is lit if the output towards the automatic fire-fighting systems is excluded
It flashes when the fire-fighting control output is in breakdown condition

SILENCED SIRENS (Yellow):

It is lit after the Siren Silencing control is performed.

USER INTERFACE DESCRIPTION

□ **Function List**

Functions	EN.54 Level	Factory default password
Alarm and breakdown display	Level 1	none
Alarm and breakdown recognition	Level 1	none
Delay Re-set (appropriate button)	Level 1	none
Excluded Zones/Points display	Level 1	none
Exclusions menu	Level 2	22222
Test Menu	Level 2	22222
Utility Menu	Level 3	33333
Programming menu	Level 4	44444 + Internal jumper (refer to note)

Note. The reading in the non-volatile memory depends on the J1 jumper position (hardware key) on the back of the front side (display).

□ **Description of the keyboard operation to enter data in the programming folders:**

Through the arrows ◀ ▶ you can enter the adjacent folders (displays)

Through the arrows ▲ ▼ you can scroll the fields inside the folder (the selected field is displayed with the characters in REVERSE.)

If the folder has an index field, the first two function keys appear through which you can scroll

The selected field can be changed by entering in editing mode through the enter key ✓.

According to the type of datum there are different editing modes:

- **String entering (CBE, readings to be associated with: devices, etc.)** function keys

F1 F2 F3 F4 are used (F1 capital/small letter selection, F2 letters/numbers/symbols selection, F3 enter, F4 deletes) through the arrows ▲ ▼ you can select the character for the current position through the arrows ◀ ▶ you can shift inside the string.
To enter the alphanumeric characters use the keyboard.

- **Label entering (TYPE-ID, YES, NO, etc..)** : through the arrows ▲ ▼ all the selectable labels are scrolled in sequence

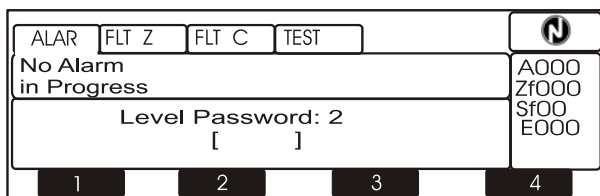
- **Addresses:** simultaneous editing of two numerical fields which are not editable for each single figure

The datum is stored through the enter key ✓, if you do not want to store the changes use the escape key ✕

To quit the folder system use the escape key ✕.

To enter the passwords, when they are requested, select the required figure through the function keys

F1 F2 F3 F4 and confirm the entered password by pressing the enter key ✓.



If an invalid password is entered the following message will be displayed:

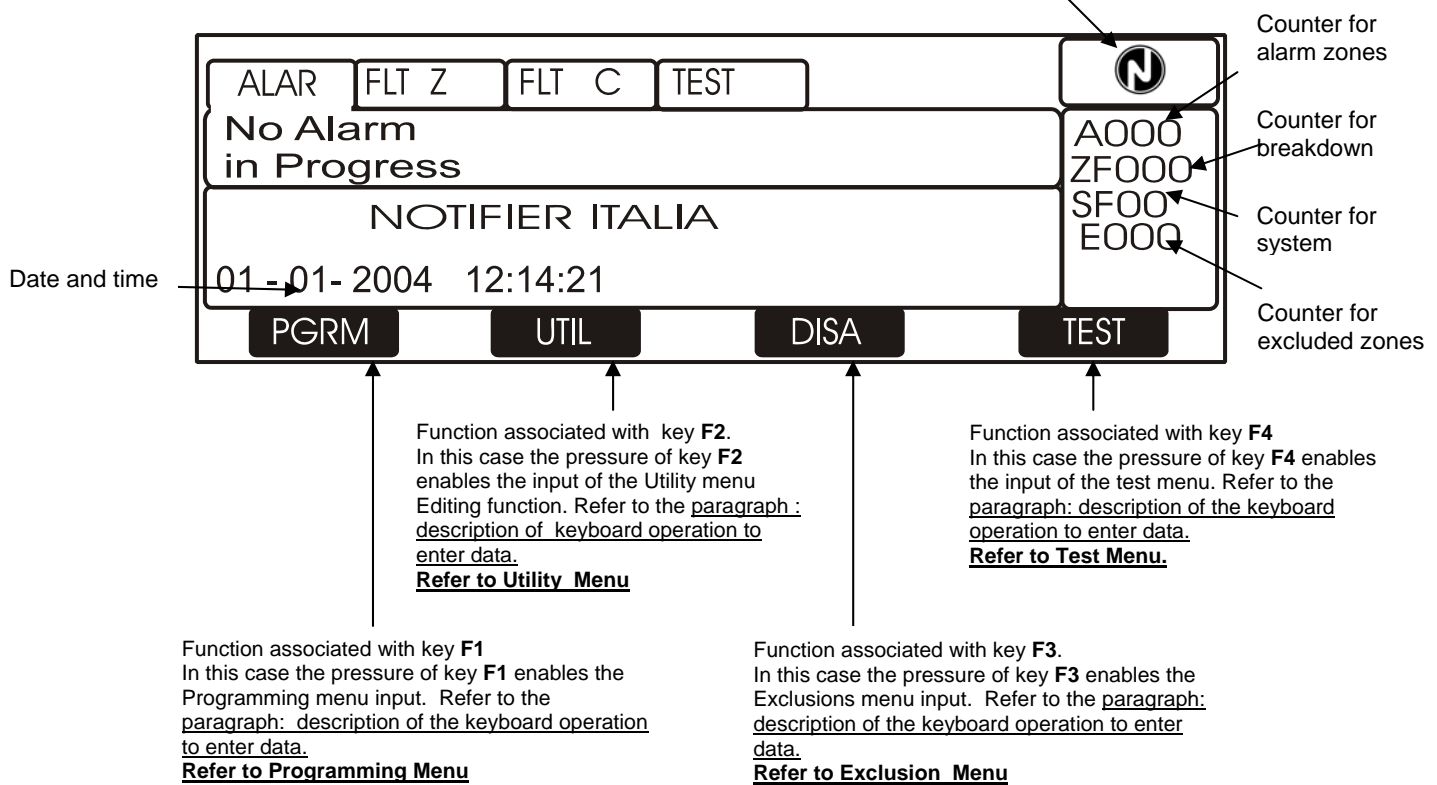
“Invalid password!: xxxxx” where **“xxxxx”** is a 5-character code

This code is used to obtain the password in case it has been forgotten, by signalling this code to **NOTIFIER** technical servicing.

□ **Normal condition**

The following is displayed when the control unit is in normal operation (**System state**):

Icon which signals the control unit state. The symbol of the NOTIFIER brand appears in the absence of alarms and breakdowns.
 If there are excluded points or zones an exclamation point (!) is displayed.
 If there are alarms the Fire symbol is displayed
 If there are breakdowns the Triangle symbol is displayed.
N.B. The alarm state prevails if there are alarms and breakdowns in the control unit



RECOMMENDED SEQUENCE TO PERFORM THE CONTROL UNIT PROGRAMMING

NOTE: BEFORE PERFORMING ANY PROGRAMMING OPERATION AT LEVEL 4 IT MUST BE ENABLED BY SHIFTING THE J1 JUMPER (PROGR. HARDWARE KEY) LOCATED ON THE DISPLAY BOARD, WHICH CAN BE REACHED BY OPENING THE CONTROL UNIT FRONT PANEL.


The following operation sequence is recommended to perform the initial programming of the control unit, to prevent mistakes and consequent loss of time.

The details of each operation are pointed out in the following pages.

Make some copies of the programming sheet that can be found at the end of this manual and record on these sheets the necessary information for ALL sensors, modules, software zones, CBE and groups.

Perform the wiring of the control unit lines and perform the appropriate tests as described in the installation manual before powering the control unit.

- From the **Main Programming** menu select the “**System**” menu.
- From the **System** menu select the “**Line**” item and program the type of connection (open loop = NORM or closed loop = LOOP) which has been performed on the installed lines.

- From the **Main Programming** menu select the **Point Programming** menu
- From the **Point Programming** menu select the **Self-Programming** item, and press the enter key  and subsequently enter the number of lines for which the procedure must be started. Through this operation all the devices installed on the lines are loaded in the control unit memory according to their TYPE ID and with the default data. At the end of the procedure check that the devices detected by the control unit during the self-programming are those really installed, and subsequently enter the data storing confirmation control.

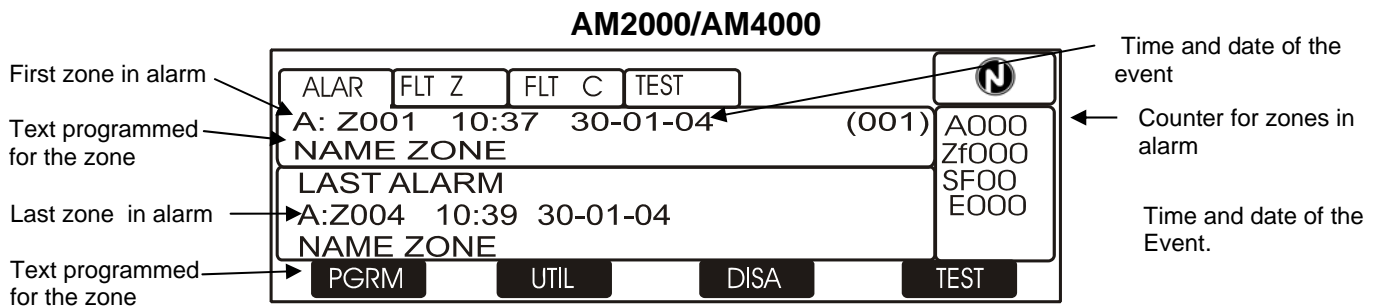
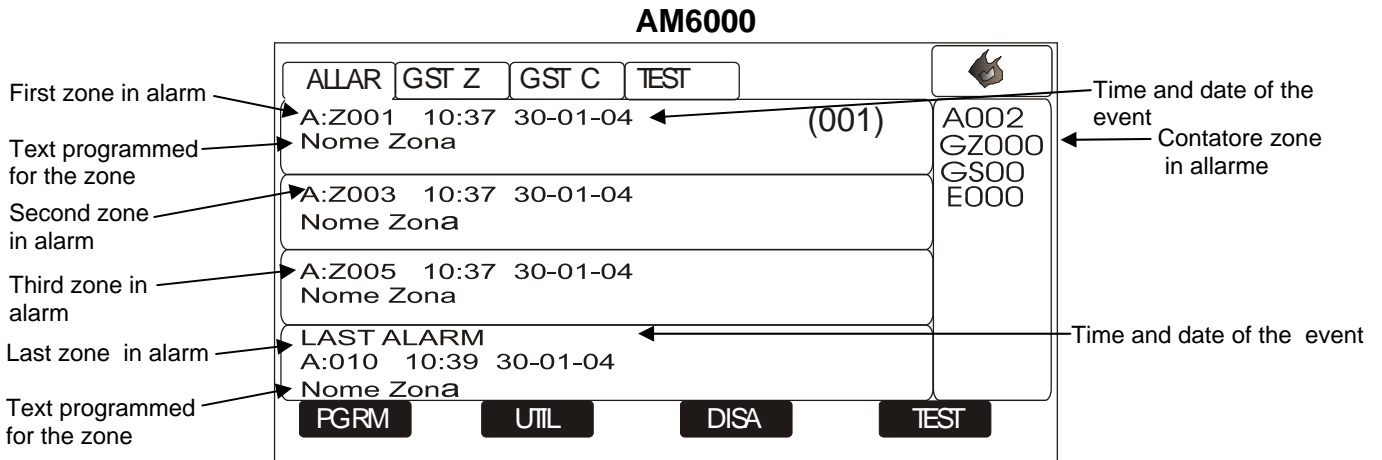
- From the **Point Programming** menu select the “**Sensors**” item and program the Type-ID (if it is different from the default), to associate the sensors with the zones and their CBEs, consult the “**Sensors**” programming paragraph.

- From the **Point Programming** menu select the “**Modules**” item and program the Type-ID (if it is different from the default), to associate the sensors with the zones and their CBEs, consult the “**Modules**” programming paragraph.

At the end of the programming the control unit is ready to manage the system displaying the line state with the information which are described in the following paragraphs.

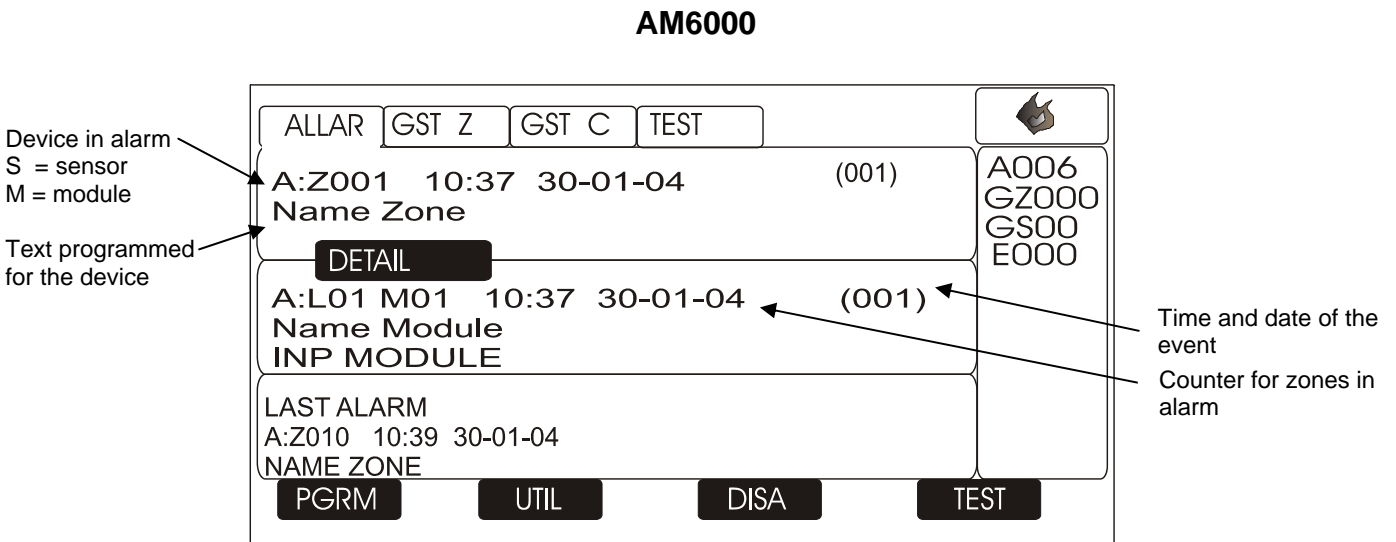
❑ **Condition with alarm zone events**

The following display appears when the control unit is in condition of zone alarm.

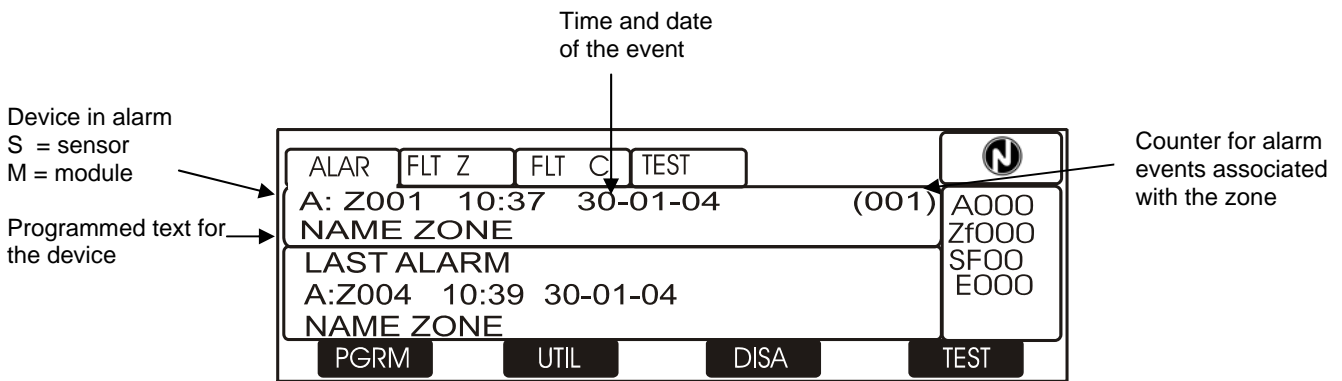


Through the arrow keys ▼ you can scroll the list of the breakdown zones.

By pressing the enter key ✓ you can access the list of point in alarm of the zone selected on the display, through the arrow keys ▲ ▼ you can scroll the list of the devices in alarm.



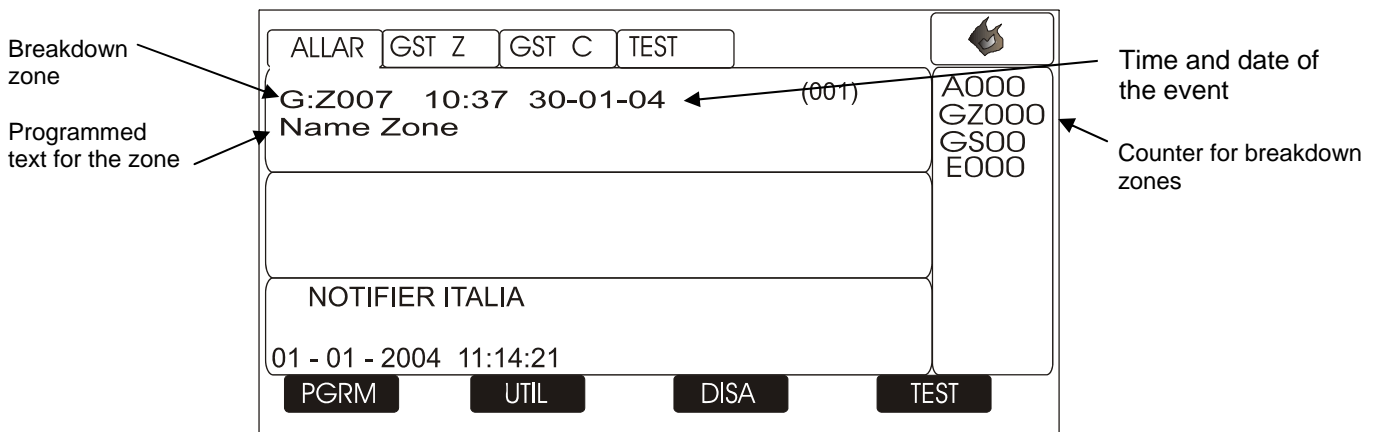
AM2000/AM4000



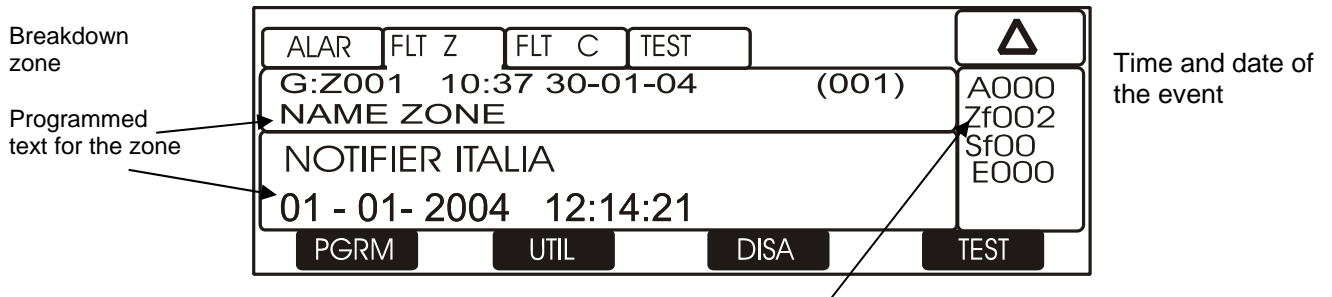
□ Condition with breakdown zone events

The following display appears when the control unit is in condition of zone breakdown. Breakdown events are also initially displayed for zone.

AM6000



AM2000/AM4000



Through arrow keys ▲ ▼ you can scroll the list of the breakdown zone

Through a first pressure of the enter key ✓ you can display the list of devices with the indication of the point name; refer to the following figure:

AM6000

ALLAR	GST Z	GST C	TEST	▲			
G:Z007 10:37 30-01-04 (001)				A000 Gz001 GS00 E000			
Name Zone							
DETAIL							
G:L01 M01 10:37 30-01-04 (001)							
Name Module							
Invalid Replay							
Inp Module							
NOTIFIER ITALIA							
01 - 01 - 2004 14:14:21							
PGRM		UTIL		DISA		TEST	

Breakdown device
Description of the
breakdown type

AM2000/AM4000

ALAR	FLT Z	FLT C	TEST	▲			
G:L02D01 10:37 30-01-04 (001)				A000 Zf002 Sf00 E000			
NAME ZONE							
NOTIFIER ITALIA							
01 - 01 - 2004 12:14:21							
PGRM		UTIL		DISA		TEST	

Breakdown device
Description of the
breakdown type

Through further pressures of the enter key ✓ the display of the point name alternates with one of the breakdown detail, refer to the following figure:

ALAR	FLT Z	FLT C	TEST	▲			
G:L02D01 10:37 30-01-04 (001)				A000 Zf002 Sf00 E000			
Invalid Replay							
NOTIFIER ITALIA							
01 - 01 - 2004 12:14:21							
PGRM		UTIL		DISA		TEST	

Breakdown device
Description of the
breakdown type

By pressing the escape key ✕ or by keeping the keyboard inactive for 15 sec. you return to the list of the breakdown zones

□ **Condition with system breakdown events (control unit)**

The breakdown events relevant to the control unit are defined as “system breakdowns” (ex. discharged battery, no mains, etc.). The system breakdowns are already displayed with the maximum detail level.

AM6000

The screenshot shows the AM6000 control unit interface. At the top, there are menu options: ALLAR, GST Z, GST C, and TEST. A warning triangle icon is in the top right. The main display area shows the event details: "30-01-04 10:37 Battery Disconnected". To the right of this text is a counter for system breakdowns: "A000 Gz001 GS00 E000". Below the event details is the text "NOTIFIER ITALIA" and the date "01 - 01 - 2004 14:14:21". At the bottom, there are four buttons: PGRM, UTIL, DISA, and TEST. Callouts point to the date and time of the event, the description of the type of system breakdown, and the counter for system breakdowns.

AM2000/AM4000

The screenshot shows the AM2000/AM4000 control unit interface. At the top, there are menu options: ALAR, FLT Z, FLT C, and TEST. A warning triangle icon is in the top right. The main display area shows the event details: "30-01-04 09:08 (01) Battery disconnected". To the right of this text is a counter for system breakdowns: "A000 Zf000 Sf01 E000". Below the event details is the text "NOTIFIER ITALIA" and the date "30 - 01 - 2004 11:14:21". At the bottom, there are four buttons: PGRM, UTIL, DISA, and TEST. Callouts point to the date and time of the event, the description of the type of system breakdown, and the counter for system breakdowns.

□ **Condition with alarm events from a zone under Test**

AM6000

The screenshot shows the AM6000 control unit interface. At the top, there are menu options: ALLAR, GST Z, GST C, and TEST. A bell icon is in the top right. The main display area shows the event details: "G:Z007 10:37 30-01-04 (001) Name Zone". Below this is a "DETAIL" button. Further down, it shows "G:L01 M01 10:37 30-01-04 (001) Name Module Inp Module". To the right of the event details is a counter for system breakdowns: "A000 Gz000 GS00 E000". Below the event details is the text "NOTIFIER ITALIA" and the date "01 - 01 - 2004 14:14:21". At the bottom, there are four buttons: PGRM, UTIL, DISA, and TEST. Callouts point to the alarm event of the zone under test, the date and time of the event, and the counter for system breakdowns.

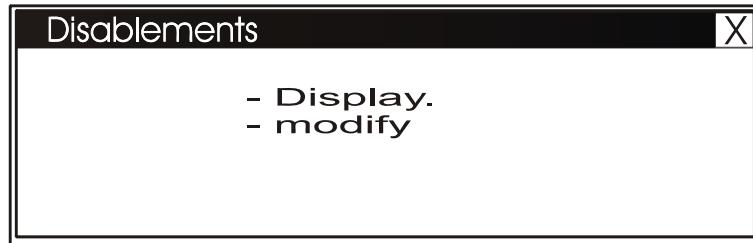
AM2000/AM4000

The screenshot shows the AM2000/AM4000 control unit interface. At the top, there are menu options: ALAR, FLT Z, FLT C, and TEST. A bell icon is in the top right. The main display area shows the event details: "A: Z01 12:00 01 - 01 - 04 (001) Name Detector". Below this is the text "NOTIFIER ITALIA" and the date "01 - 01 - 2004 12:14:21". To the right of the event details is a counter for system breakdowns: "A000 Zf000 Sf01 E000". At the bottom, there are four buttons: PGRM, UTIL, DISA, and TEST. Callouts point to the alarm event of the zone under test, the date and time of the event, and the counter for system breakdowns.

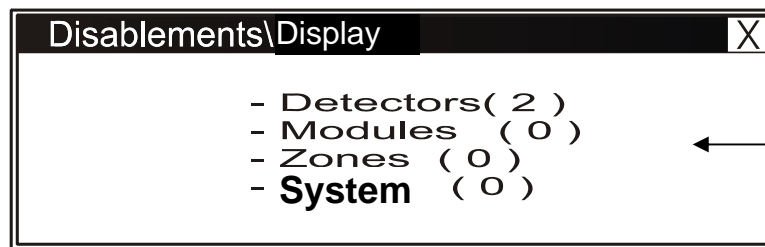
through the arrow keys ▲ ▼ you can scroll the list of the tested devices of the zone.

Displaying of lists of excluded devices and zones




From the main display, by pressing the function “F3” key you can access the main menu:



from which the user can select the “Display” function to access the following display :



Counters which indicate the number of excluded zones and devices

By selecting the typology to be displayed and by pressing the enter key  to confirm the selection you can display the excluded devices, through the arrow keys   you can scroll the list of the excluded devices.

PROGRAMMING MENU

By pressing the function **F1** key you can access the programming menu, to perform the initial configuration of the system and make possible changes to the programming.

To access the menu you must enter the Level 4 password (**4444** is the default password) by enabling the programming hardware key on the control unit front board (**J1** Jumper in position **A** refer to the installation manual Chapter "**Front board Topography**").

To enter the password consult the editing function previously described in the paragraph: description of the keyboard operation to enter data.

The following menu is displayed:

Refer to **System Menu** paragraph

Refer to **Point Programming** paragraph

Refer to **Technological Range Programming** paragraph in the manual of the **LCD-6000T** panel

Refer to **Group Programming** paragraph

Refer to **Zone Programming** paragraph

Refer to **Up/Download** paragraph

Refer to **LCD6000 Programming** paragraph

Refer to **Program Cancellation** paragraph

□ System menu

By selecting the sub-menu "**System**" you can configure the generic parameters which are valid for all the control unit, refer to the following figure:

Refer to **Line** paragraph

Refer to **Timing** paragraph

Refer to **Password** paragraph

Refer to **System** paragraph

Where:

- Line

Style: (4 = NORNAL, 6 = LOOP)

This function allows to change (in memory) the type of line connection, according to the NFPA coding (NORMAL = style 4, LOOP = style 6) and the scan priority of the devices connected to it.

Press key **F1** to program the previous line

Press key **F2** to program the subsequent line

Through a first pressure of the enter key **↵** the editing function is activated, through the arrow keys **▲ ▼**

select the line style (NORMAL - LOOP) press the enter key to confirm the programming.
Press the right arrow keys to change the scan priority parameters, refer to the following paragraph:

Through the arrow key select the item to be changed (“Last – “Adr.” or “Seq.- no.”) through the pressure of the enter key the editing function is activated.
Through the arrow keys data are entered and through the enter key entered data are confirmed.
By pressing the **escape** key you can quit the menu.

“**Last – Adr.**” (Last – Address, the admitted values are included from 0 to 99) programs the module number (starting from the address “0”) on which the priority scan is required.
The number “**Seq.- no.**” (**Sequence – number** , the admitted values are the following : 10, 20 , 30) is a parameter which determines the frequency by which the control unit interrogates the modules. For example, by inserting number 20, the control unit will interrogate the modules enabled to the SCAN PRIORITY every 20 sensors.
The fastest scan of the modules will be performed by entering the value 10.

Last – Adr.	Seq.- no.	INTERROGATION CYCLE
n. 0	n. XX	Normal interrogation (without priority)
n. XX	n. XX	Interrogation by priority cycle

N.B.: the priority scan is valid for all the modules of the selected line, for both input and output modules.

- Timings

In this sub-menu some delay times of the alarm outputs are programmed, the delay time for the sensor alarm check, silencing inhibition, etc.

Alarm outputs

Through the arrow keys select the item which is required to be changed (“Siren” or “Tx Alarm”) through pressure of the enter key the editing function is activated.
Through the arrow keys or through keyboard the data are entered, by pressing the enter key you can confirm entered data.

The “Siren” and “TX Alarms” activation delay timings are active only in case of alarm if the immediate activation of the outputs has been excluded in the exclusions menu (refer to page 32).
The “TX Alarms” function is not implemented in this software revision.

Press the right Arrow key ▶ to change the time of **check for the detectors**:

CHECK TIME allows the control unit to perform a check for all installed sensors, for the set time, before confirming the possible alarm.

N.B. This function will be effective only on the enabled sensors (refer to the Point Programming menu)

Programmings\System\Delays
Alm Out Detect. Silence Faults
Verification (s) : 00
Verif. Enabled : NO

Timings are expressed in seconds, from a minimum of 0 sec. to a max. of 50 sec.

Through the arrow keys ▲ ▼ select the item which is required to be changed (“**Check** “ or “**Check Enabl.**”) through pressure of the enter key ⏎ the editing function is activated.

Through the arrow keys ▲ ▼ data are entered and through the enter key ⏎ entered data are confirmed.

Press the right Arrow key ▶ to change the parameters to manage the **silencing**, refer to the following paragraph:

- **SILENCING INHIBITION TIME** is the time during which the silencing operation of the output modules after an alarm is not allowed.
- **SELF-SILENCING TIME** is the time after which the output modules are re-set, after being activated.

NOTE: the self-silencing function must also be enabled in the Programming of each output module (refer to page 18).

Programmings\System\Delays
Alm Out Detect Silence Faults
Sil. Disab. (s) : 010
Auto-Sil. (s) : 000
Auto-Silence: NO

Timings are expressed in seconds, from a minimum of 0 sec. to a max. of 255 sec.

Timings are expressed in seconds, from a minimum of 1 sec. to a max. of 2040 sec.

By selecting “YES” the self-silencing function is enabled.

Through the arrow keys ▲ ▼ select the item which is required to be changed (“**Sil. Inh.**“, “**Aut. Sil.**“, “**Aut. Sil. Inh.**”) by pressing the enter key ⏎ the editing function is activated.

Through the arrows keys ▲ ▼ data are entered and through the enter key ⏎ entered data are confirmed.

Press the right Arrow key ▶ to change the parameters to manage the **breakdown signalling** :

- **MAINS BREAKDOWN DETECTION TIME** is the minimum time during which Mains Breakdown is signalled if there is no mains supply
- **TX BREAKDOWN DELAY TIME (function not implemented)**

Through the arrow keys ▲ ▼ select the item which is required to be changed (“Mains”, “Tx Breakdowns”) by pressing the enter key ✓ the editing function is activated
 Through the arrow keys ▲ ▼ data are entered and through the enter key ✓ entered data are confirmed.

- Password:

This function allows to change the Password for the three access levels. Each password consists of 5 numerical characters. The available numerical characters to change the passwords are the numbers included from 1 to 4. To enter them use the function keys.

- System:

This function allows to enter a programmable reading having a maximum of 32 characters which is displayed in the absence of alarms and breakdowns

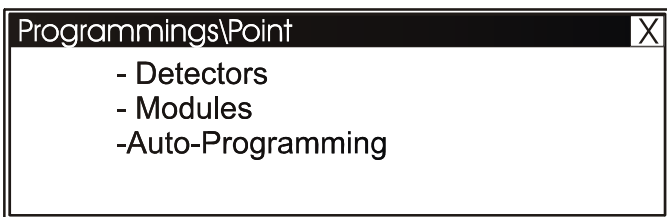
To enter the system name press the enter key ✓ and use the alphanumerical keyboard to enter the text, at the end press the enter key ✓ to store the text.

□ **Point programming**

From the Programming menu;



By selecting the Points item, the display which allows the complete programming of all devices (addressable detectors and modules) installed on the line appears as shown in the following figure.

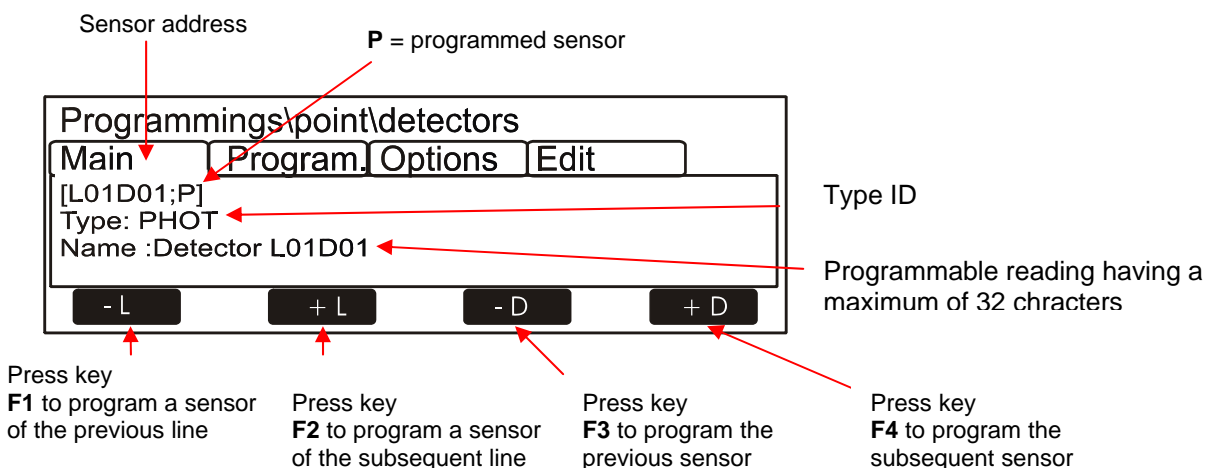


Where:

• **DETECTORS**

By selecting the “DETECTORS” item and by confirming the selection through the enter key you enter the programming procedure complete with sensors. This procedure is composed of 4 programming folders (to access the folders use the arrow keys) where to insert data consult the editing function previously mentioned in the paragraph: description of the keyboard operation to enter data. The display shows by default the first device of the first line. To select another device use the function keys.

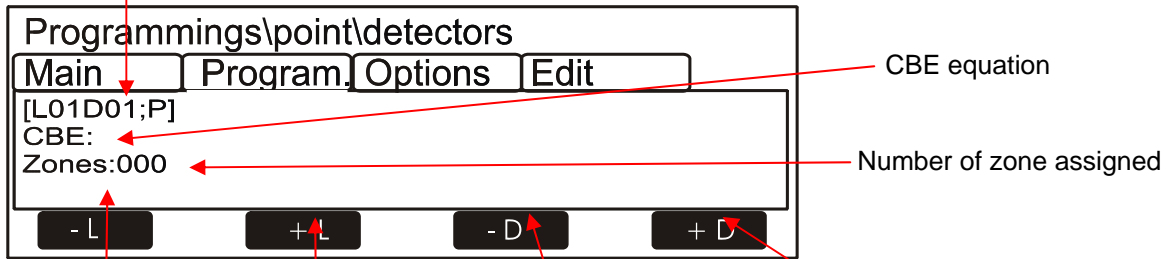
- First folder or Main folder (Progr. of Type ID and reading associated with the sensor)



Type ID Table for Sensors

ABBREVIATION	VISUAL MESSAGE	TYPE OF DEVICE
PHOT	OPTICAL AN.	Smoke optical detector
ION	IONIC AN.	Smoke ionization detector
THER	THERMAL AN.	Thermal detector
PINN	PINNACLE	Smoke detector fitted with “Laser” photo-electronic detection system
OMNI	OMNI	“Omni Sensor” Detector

- o **Second folder or Program folder.** (Progr. of CBE Equations, Zone association)
Sensor address



Press key **F1** to program a sensor of the previous line

Press key **F2** to program a sensor of the subsequent line

Press key **F3** to program the previous line

Press key **F4** to program a sensor of the subsequent line

To change the “CBE” field in this folder select the parameter through the arrow keys \uparrow \downarrow (the selected field characters are in Reverse), press the enter key \checkmark and use the alphanumerical keyboard to enter the data; at the end, press the enter key \checkmark to confirm the datum.

To assign the “Zone” number in this folder to the device select the item through the arrow keys \uparrow \downarrow press the enter key \checkmark and use the arrow keys \uparrow \downarrow to change the zone number; at the end press the enter key \checkmark to confirm the datum.

- o **Third folder or option folder** (progr.of Check , Sensitivity , Daytime/night, Tracking and Led Blink)

Sensor address

By programming “YES” the control unit is allowed to perform a check on the sensor, for the time fixed in the Timing programming, before confirming the possible alarm.

Sensor sensitivity programming
Default values:
Standard sensitivity = 5
Low sensitivity = 1
High sensitivity = 9

By enabling the **tracking** option when the device exceeds the alarm threshold the control unit activates the following indications.

- Output modules associated through CBE
- Buzzer
- Control unit siren output
- Alarm point indication on the display

When the point returns in normal state the **output modules associated through CBE return idle**, while the following signalling are still active:

- Buzzer
- Control unit siren output
- Alarm point indication on the display

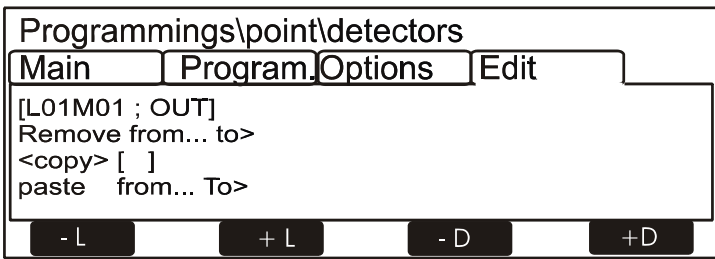
The reset procedure must be performed to clear all signalling.

By selecting “NO” in the” Led Blink” function, the flashing of the led on the sensor is disabled during the line interrogation. This function can be used in some environments such as hospitals, hotels, etc.

Daytime /night function (refer to paragraph HIGH AND LOW SENSIVITY GROUPS)..

To change one or several parameters in this folder select the parameter through arrow keys \uparrow \downarrow (the characters of the selected field are in Reverse), press the enter key \checkmark and use the arrow keys \uparrow \downarrow to change the parameter; at the end press the enter key \checkmark to confirm the datum.

Fourth folder or Edit folder common for all sensors which allows to remove and copy points from... to...



This folder allows the programming of block points.

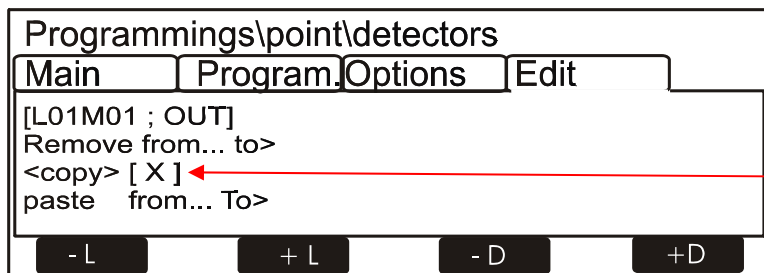
It can be used if the points **have consecutive addresses and have common parameters.**

The "Remove From ...to" function allows to eliminate from the control unit programming an entire consecutive block of points, by entering the start and end addresses.

The Copy and Paste functions allow the programming of the block points and can be used if the devices **of the same line have consecutive addresses and common parameters.**

The procedure to perform the block programming is the following:

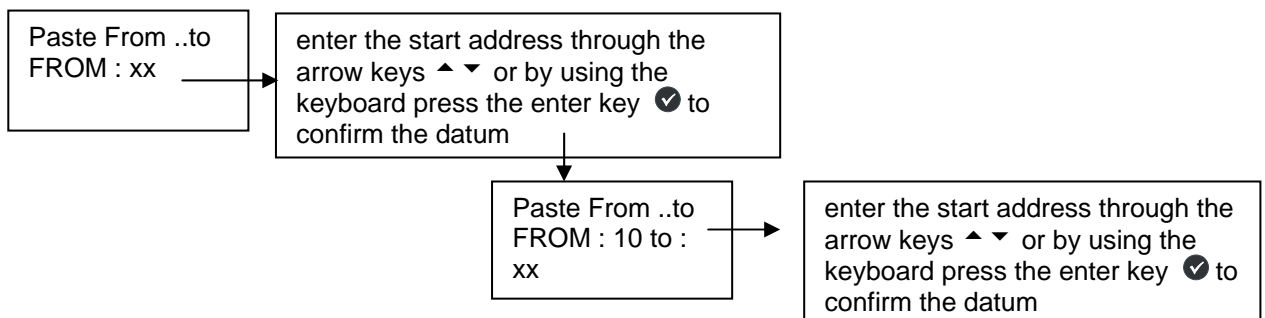
- ❑ Select a device from which the parameters must be copied (Type ID, CBE, etc.).
- ❑ Perform the "**Copy**" control to save all the parameters of the previously selected device (with the exception of the number of "**Zone** to which **000** is assigned) , in a memory support area. When this operation has been performed it is signaled on the display by the character "**X**" which is beside the "**Copy**" control.



The character "X" near < Copy > signals the user that the copy operation has been performed.

- ❑ Perform the "**Paste From ...to**" control for the programming of block points

When the "**Paste From ...to**" control is performed the display shows the following window to enter data



Example of programming of a sensor with Type-Id “OMNI” SDX-751-TEM sensors

First folder or main folder (**Progr. of Type ID and reading associated with the sensor**)

Sensor address: [L01D01;P] (P = programmed sensor)

Programmings\point\detectors

Main Program Options Edit

[L01D01;P]
Type:OMNI
Name: Detectors L01D01

-L +L -D +D

Type ID

Programmable reading max. 32

Second folder or Progr. folder (**Progr. of CBE Equation, Zone association**)

Programmings\point\detectors

Mains Program Options Edit

[L01D01;P]
CBE:
Zones:000

-L +L -D +D

CBE Equation

Number of assigned zone

Third folder or Option folder (**Progr. of Check, Al. Level, Daytime/night, Tracking and Led Blink**)

By programming “YES” the control unit can perform a check on the sensor, for the time set in the Timing programming, before confirming the possible alarm

Alarm Lev.	Darkness percentage of the optical chamber
ALARM 1	1% ft
ALARM 2 - COMP.AUT.	1% -2% ft
ALARM 3	2%ft
ALARM 4 - COMP.AUT.	2% - 3.5% ft (Default)
ALARM 5	3.5% ft

Programmings\point\detectors

Main Program Options Edit

[L01S01;P]
Verify :NO
Alarm Level : ALARM 4 -COMP. AUT
Day\Night : NO
Tracking : NO
LED-Blink :SI

-L +L -D +D

By enabling the **tracking** option when the device exceeds the alarm threshold, the control unit activates the following indications:

- Output modules associated through CBE
- Buzzer
- Control unit siren output
- Indication of the alarm point on the display

When the point returns in normal state the **output modules associated through CBE return idle**, while the following signalling are still active

- Buzzer
- Control unit siren output
- Indication of the point in alarm on the display

The Re-set procedure must be performed to clear all signalings.

By selecting “NO” in the function “Led Blink” the led on the sensor during the line interrogation is disabled

Daytime /night function (refer to paragraph HIGH AND LOW SENSIVITY GROUPS).

Example of programming of a sensor with Type-Id "PINN" PINNACLE 7251 sensors

First folder or main folder (**Progr. of Type ID and reading associated with the sensor**)

Sensor address

P = programmed sensor

Programmings\point\detectors

Mains Program Options Edit

[L01D01;P]

Type:PINN

Name :Detector L01D01

Type ID

Programmable reading max. 32

Second folder or Progr. folder (**Progr. of CBE Equation, Zone association**)

Programmings\point\detectors

Main Program Options Edit

[L01D01;P]

CBE:

Zones:000

CBE Equation

Number of assigned zone

Third folder or Option folder (**Progr. of Check, Al. Level, Daytime/night, Tracking and Led Blink**)

By programming "YES" the control unit can perform check on the sensor, for the time set in the Timing programming, before confirming the possible alarm

Sensitivity	
Assigned value	Darkness percentage of the optical chamber
1	2% ft (Default value for Sens.-LOW)
2	1,5% ft
3	1% ft
4	0,5% ft
5	0,2% ft (Default value for Sens.-STD)
6	0,1% ft
7	0,05% ft
8	0,03% fts
9	0,02% ft (Default value for Sen.-HIG)

Programmings\point\detectors

Main Program Options Edit

[L01D01;P]

Verify: NO

Det. - STD : 5

Det. - LOW : 1

Det. - HIG : 9

Day/Night: NO

Tracking: NO

Led-Blink: Yes

. By selecting "NO" in the function "Led Blink" the led on the sensor during the line interrogation is disabled.

Daytime /night function (refer to paragraph HIGH AND LOW SENSIVITY GROUPS).

By enabling the **tracking** option when the device exceeds the alarm threshold the control unit activates the following indications:




- Output modules associated through CBE
- Buzzer
- Control unit siren output
- Indication of the alarm point on the display

When the point returns in normal state the **output modules associated through CBE return idle**, while the following signallings are still active

- Buzzer
- Control unit siren output
- Indication of the point in alarm on the display

The re-set procedure must be performed to clear all signallings.

MODULES

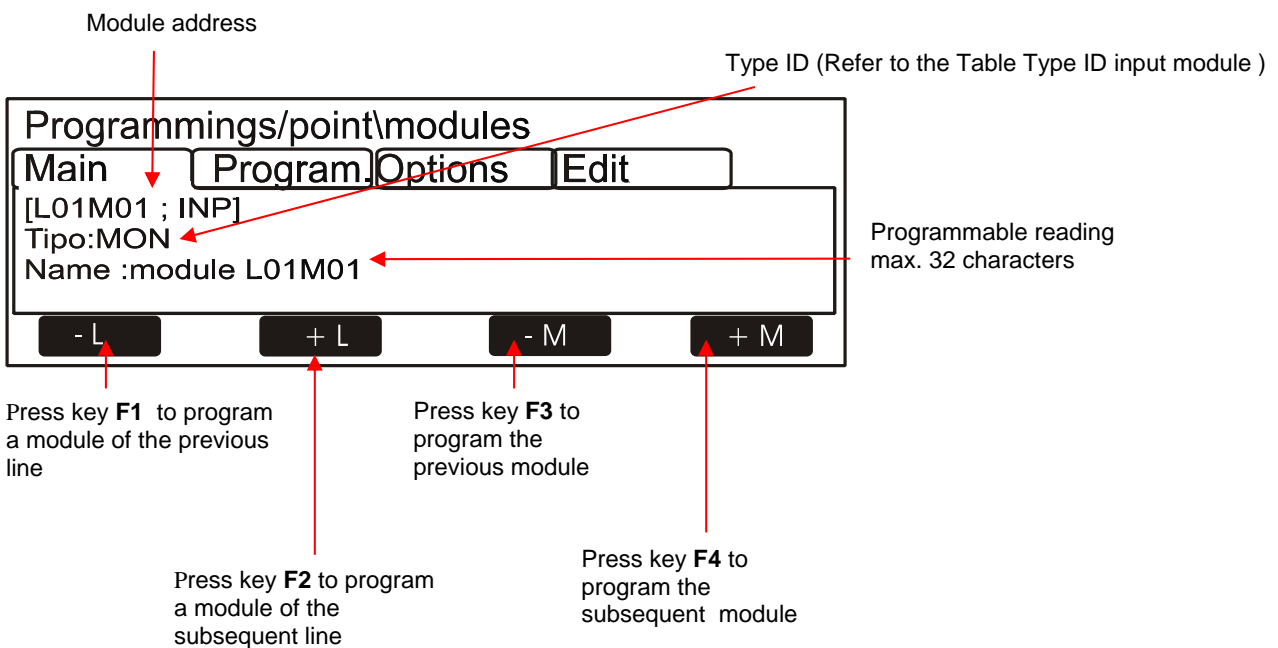
By selecting the “Modules” item and confirming the selection through the enter key  you enter the complete programming procedure. This procedure is made up of 4 programming folders (to access the folders use the arrow keys  ) and to enter data consult the editing function previously described in the paragraph: description of the keyboard operation to enter data.

The display shows by default the first device of the first line. Use the function keys to select another device.

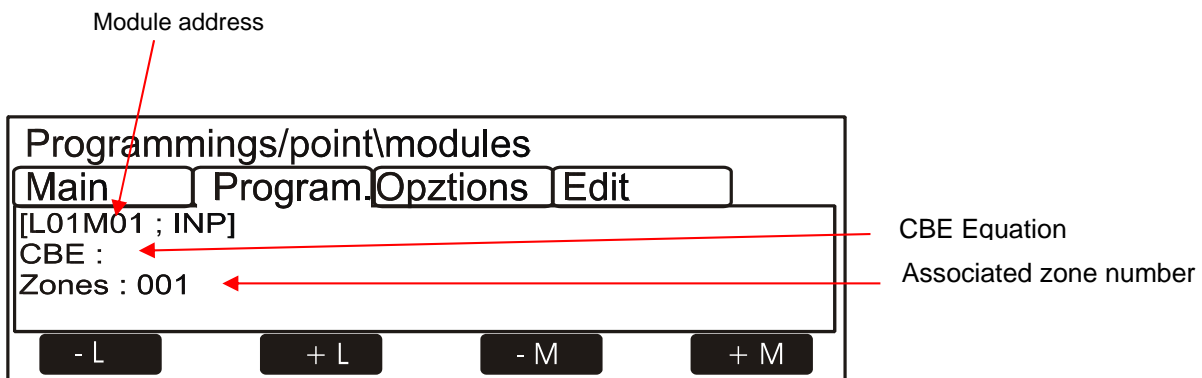
The folders for the INPUT MODULES are described as follows:

- o First folder or Main folder (Progr.of Type ID and reading associated with the module)

The display shows by default the first device of the first line. Use the function keys to select another device.



- o Second folder or Progr. folder (Progr. of CBE Equation, Zone association)



To change the "CBE" field in this folder select the parameter through the arrow keys \uparrow \downarrow (the characters of the selected field are in Reverse), press the enter key \checkmark and use the alphanumerical keyboard to enter data. At the end press the enter key \checkmark to confirm the datum.

To assign the "Zone" number in this folder to the device select the item through the arrow keys \uparrow \downarrow ; press the enter key \checkmark and use the arrow keys \uparrow \downarrow to change the zone number; at the end press the enter key \checkmark to confirm the datum.

o **Third folder or Option folder (Progr.of Tracking and Led Blink)**

Module address

Programmings/point/modules
Main Program Options Edit
[L01M01 ; INP]
Tracking : NO
Led-Blink : Yes
-L +L -M +M

By selecting "NO" in the "Led Blink" function, the flashing of the led on the sensor during the line interrogation is disabled.
This function can be useful in some environments such as hospitals, hotels, etc.

By enabling the tracking option when the device exceeds the alarm threshold the control unit activates the following indications:

- Output modules associated through CBE
- Buzzer
- Control unit siren output
- Indication of the point in alarm on the display

When the point returns in normal state the **output modules associated through CBE return idle**, while the following signalling are still active:

- Buzzer
- Control unit siren output
- Indication of the point in alarm on the display

The Reset procedure must be performed to clear all the signalling.

To change one or several parameters in this folder select the parameter through the arrow keys \uparrow \downarrow (the characters of the selected field are in Reverse), press the enter key \checkmark and use the arrow keys \uparrow \downarrow to change the parameter; at the end, press the enter key \checkmark to confirm the datum.

The folders for the output modules are described as follows:

o **First folder or Main folder (Progr.of Type ID and reading associated with the module)**

The display shows by default the first device of the first line. To select another device use the function keys

Module address

Type ID (Refer to the Table Type ID output modules)

Programmings/point/modules
Main Program Options Edit
[L01M01 ; OUT]
Type:FORC
Name :Module L01M01
-L +L -M +M

Programmable reading max. 32 characters

Press key **F1** to program a module of the previous line

Press key **F2** to program a module of the subsequent line

Press key **F3** to program the previous module

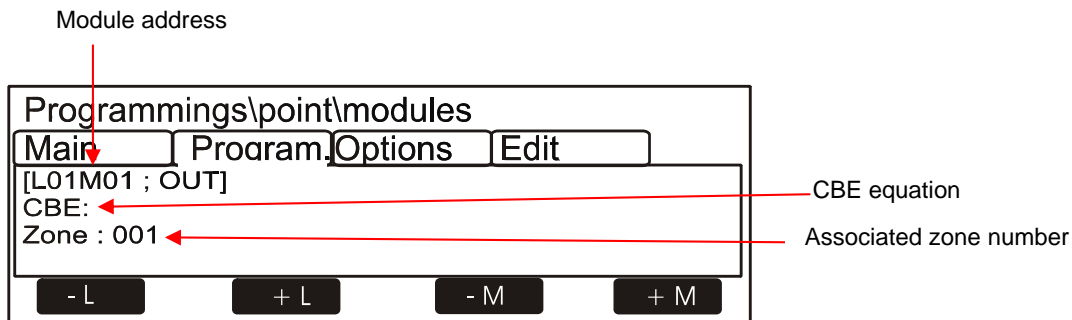
Press key **F4** to program the subsequent module

To assign or modify the **Type-ID** to the device, select the “**Type**” item through the arrow keys $\uparrow \downarrow$; press the enter key \checkmark and use the arrow keys $\uparrow \downarrow$ to select the **Type-ID**; at the end press the enter key \checkmark to confirm the datum.

o **Second folder or Progr. Folder (Progr. of CBE Equation, Zone)**

Press key **F2** to program a module of the subsequent line

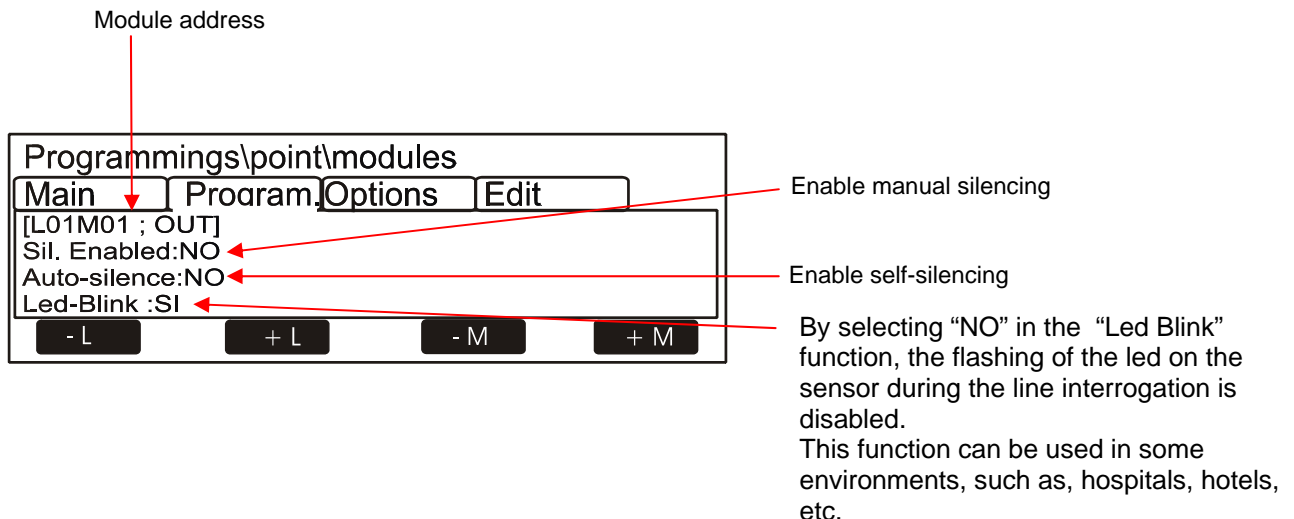
Press key **F4** to program the subsequent module



To change the “CBE” field in this folder select the parameter through the arrow keys $\uparrow \downarrow$ (the characters of the selected field are in Reverse), press the enter key \checkmark and use the alphanumerical keyboard to enter data. At the end, press the enter key \checkmark to confirm the datum.

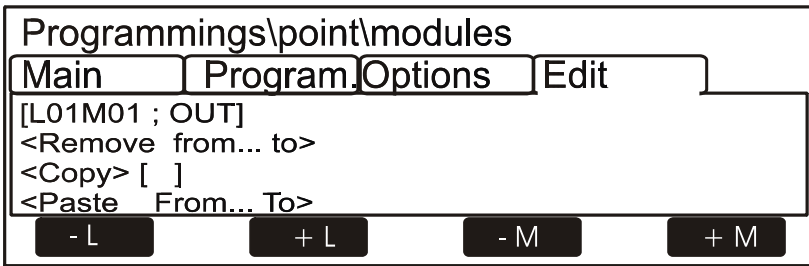
To assign the “Zone” number in this folder to the device select the item through the arrow keys $\uparrow \downarrow$; press the enter key \checkmark and use the arrow keys $\uparrow \downarrow$ to change the zone number, at the end press the enter key \checkmark to confirm the datum.

o **Third folder or Option folder (Progr. for disabled Silencing, Test enabling and Led Blink)**



To change one or several parameters in this folder select the parameter through the arrow keys $\uparrow \downarrow$ (the characters of the selected field are in Reverse), press the enter key \checkmark and use the arrow keys $\uparrow \downarrow$ to change the selected parameter. At the end, press the enter key \checkmark to confirm the datum.

- There is a Fourth folder or Edit folder common to the modules which allows to remove and copy points from ... to ..



This folder enables the programming of block points.

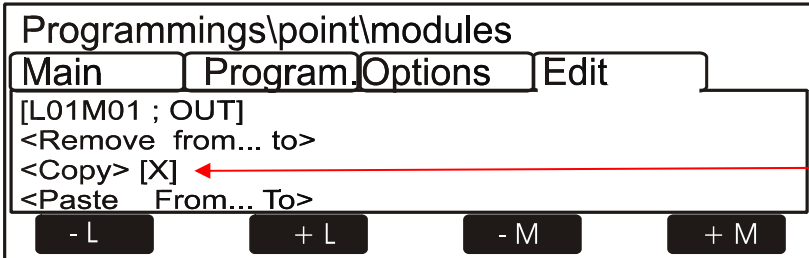
It can be used if the points **have consecutive addresses and common parameters.**

The “Remove From ... to “ function allows to eliminate from the control unit programming an entire consecutive block of points, by entering the start and end addresses.

The Copy and Paste functions allow the programming of the block points and can be used if the devices **have consecutive addresses and common parameters.**

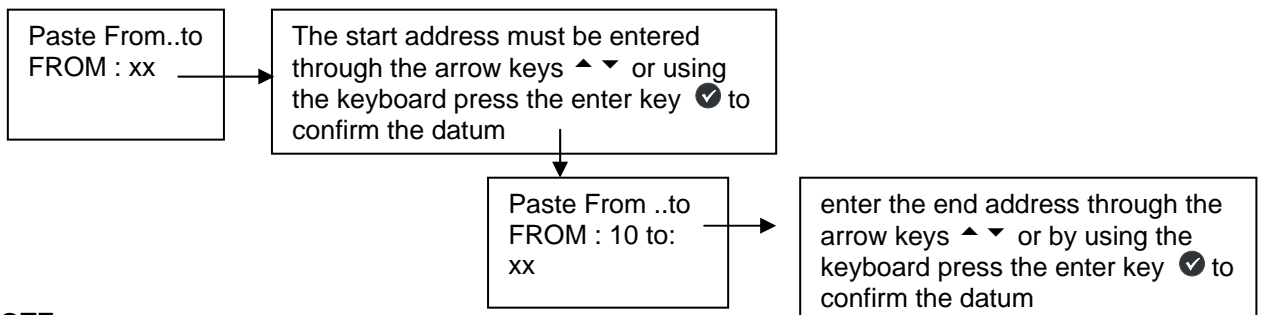
The procedure to perform the block programming is the following:

- Select a device from which the parameters must be copied (Type ID ,CBE , etc.).
- Perform the “**Copy**” control to save all the device parameters (with the exception of the number of **Zone to which “000” is assigned**) which had been previously selected in a memory support area. When this operation is performed it is signalled on the display by the character “**X**” which is beside the “**Copy**” control.



The character “X” which is beside < Copy > signals the user that the copy operation has been performed

- Perform the “**Paste From ...to**” control for the programming of block points
When the “**Paste From ...to**” control is performed the following window is displayed to enter data:




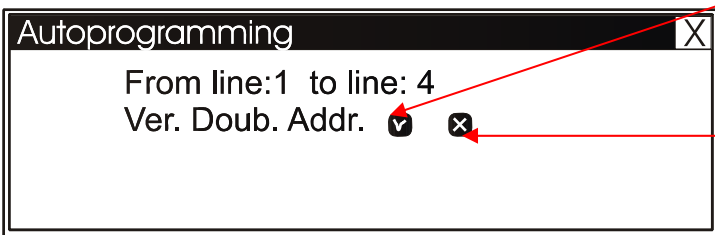
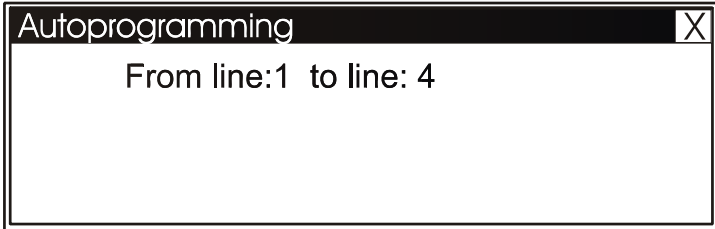
NOTE


When through the “**Paste**” control you try to overwrite some previously programmed devices with Type-Id “**UDS1,UDS2**”, the paste function is suspended and the control unit signals the following indication :


“Protected record”

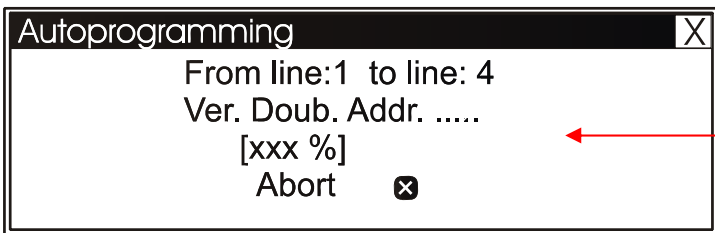
- Self-programming:

From the Points menu, by selecting the “**Self-programming**” item and confirming the selection through the enter key  you enter the self-programming procedure of the devices installed on the line (refer to the following figure).

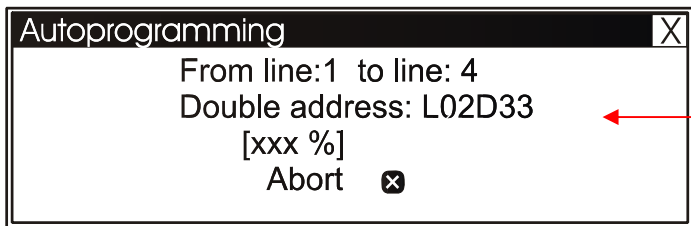


By pressing the **enter** key  the check for the double addresses for the devices installed on the line is activated

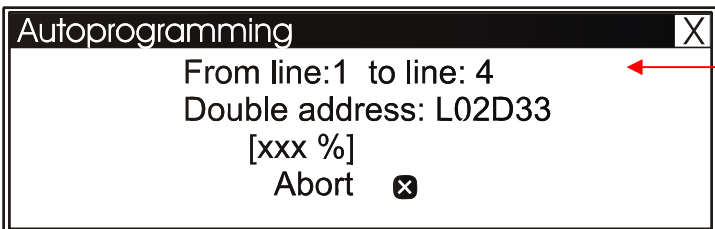
By pressing the **escape** key  check for the double address is not performed and you pass directly to the self-programming procedure.



This display verifies the double addresses which are being performed



When several devices programmed with the same address are found, the message shown in the figure is displayed with the indication of the address. The user will be able to identify the devices with the same address through the activation of the relevant leds.



This display shows the self-programming which is being performed

At the end of the self-programming procedure a summary of the devices found on the line is displayed

NUO = new device found

INC = Devices previously programmed but not coherent with what was detected during the self-protecting procedure

MAN = Devices previously programmed but not detected during the self-programming

TOT = total of devices detected on the line (NUO + INC + correctly programmed devices.)

TYPE ID

TYPE	NEW	INC	TOT	MAN
PHOT	00	00	00	00
ION	00	00	00	00
THER	00	00	00	00
MON	00	00	00	00
FORC	00	00	00	00

Press key **F1** to display the summary of the devices found in the previous line

Press key **F2** to display the summary of the devices found in the subsequent line

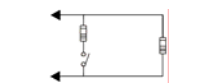
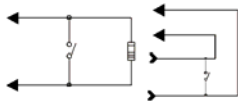
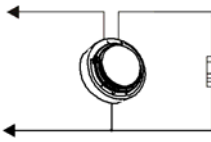
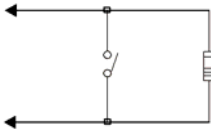
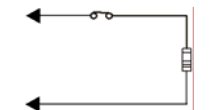
The **CONF** control (key F3) saves the devices detected during the self-programming according to the following mode:

- **NUO and INC** are initialised through the default data.
- **MAN** are removed
- The correctly programmed devices keep the current programming

The data relevant to the initialized devices can be subsequently changed by entering the point programming procedure.

- Summarizing tables of Type ID for modules

INPUT MODULES

CONNECTION TYPE	ABBREVIATION	TYPE OF DEVICE
	MON3	Input module Input module used for N.O. contacts (Connection in conformity with EN54 rule).
	MON	Input module Input module used for N.O. contacts or any device
	SCON	MMX-2 input module
		Input module used for 4- wire conventional smoke detectors not detected during the self-programming. N.B.: this type has a reset time which is longer than the modules programmed as "MONITOR"
	NONA	Input module Input module used to interface with N.O. contact, with alarm when it is closed. The activation of a "NONA" type module, does not generate an Alarm condition, that is: - the alarm LED is not on - "APND" or "GPND" type modules do not activate. Only output modules coupled to CBE are activated
	PULL	Like the MON device; in addition, the "MANUAL BUTTON" reading appears
	STAT	Input module used like the NONA device, but each state change is activated by the buzzer, for one second.
	NCMN	Input module used to check the N.C. inputs When the line is off, an alarm is indicated In case of line short circuit, a BREAKDOWN is indicated

OUTPUT MODULES

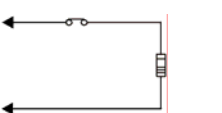
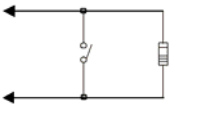
ABBREVIATION	TYPE OF DEVICE
CON	Output module with supervision of the device connection line
FORC	Output module with relay contacts free from voltage

OUTPUT MODULES FOR GENERAL SIGNALLINGS

ABBREVIATION	TYPE OF DEVICE
PWRC	FORC Output module used to temporarily interrupt power supply, during SYSTEM RESET, for the 4-wire conventional smoke sensors, powered by a remote power supply. N.B.: this type SHALL NOT be programmed for the SILENCING
GPND	FORC output module activated at each alarm or breakdown It is reset by ACK.
APND	FORC output module activated at each alarm. It is reset by ACK.
GAC	FORC output module activated at each alarm. It is reset by RESET.
GAS	FORC output module activated at each alarm. It is reset by RESET.
TPND	FORC output module activated at each breakdown. It is reset by ACK or through the breakdown elimination
GTC	FORC output module activated at each breakdown. It is reset by RESET.
GTS	CON output module activated at each breakdown. It is reset by RESET.
TRS	FORC output module activated at each breakdown. It is only reset through the breakdown elimination.
HORN	Output module activated at each alarm and follows the output state of the control unit Siren
ZDIS	Output module activated in case of exclusion of a point or a zone.

N.B.: the output modules used for the above-mentioned functions, do not accept CBE.

INPUT MODULES FOR GENERAL SERVICES

CONNECTION TYPE	ABBREVIATION	TYPE OF DEVICE
	MTRB	Input Module used as a Tamper signalling. Through an alarm input it signals a breakdown
	MACK	Input module used to perform remote ACK (pulse)
	MTAC	Input module used to perform remote SILENCING (pulse)
	MRES	Input module used to perform remote RESET (pulse)

- Type ID for UDS units

For Uds panels two specific Type ID are reserved, UDS1 and UDS2.

UDS units can be installed from the tenth starting address with the exclusion of the decade from 0 to 9, and occupy from a minimum of 2 to a maximum of 6 addresses.

The basic installation, compatible with UDS-1N type units, occupies the first two addresses to which the type-ID UDS1 is assigned; the operation is allowed only on the first address but is automatically extended to the second address.

In the subsequent four addresses the optional modules which have been introduced with the new UDS-2N unit can be installed; to perform this operation just insert the type-ID UDS2.

For a detailed description of the functionalities associated with the interface modules with UDS units consult the relevant manuals.

For UDS modules, the following specific indications are obtained:

Address	Type ID	Description and signalings
1st address (X0)*	UDS1	"ALL1"
2nd address (X1)*	UDS1	"ALL2"
3rd address (X2)*	UDS2	"GEN_FAULT" (General breakdown on UDS-2N)
4th address (X3)*	UDS2	"EXT_FAULT" (Anomaly on the extinguishing line of the UDS-2N panel)
5th address (X4)*	UDS2	"AUT_DIS" (disabling of the UDS-2N panel)
6th address (X5)*	UDS2	"POW_FAULT" (Breakdown for no 230Vac power supply on UDS-2N panel)

N.B. :

* X can have the values from 1 to 9

UDS unit removal

The UDS unit is completely removed (including the optional UDS2 modules possibly installed) by re-setting the type-ID NONE on the first address.

This is also the only system to remove the type-ID UDS 1; UDS2 type modules can be also removed one by one.

Anomaly event signalings from UDS-2N panels connected to the AM4000 control unit

- Key selector on UDS-2N in "Manual" or "Disabled" position in AM4000 control unit; there will be the following signalings:
 Yellow led "**Exclusions**" lit.
 The symbol " ! " is on the control unit state icon.
 In the system exclusion list display there is the indication " **Escl UDS Ind XX**" where XX is the first address assigned to the UDS-2N panel.
- General breakdown on the UDS-2N panel in AM4000 control unit; there will be the following signalings:
 Yellow led "**BREAKDOWNS**" flashing
 The symbol " Δ " on the control unit state icon.
 The display shows the indication "**UDS XX GEN**" where XX is the third address (with description "**GEN_FAULT**") assigned to the UDS-2N panel.
- In case of Anomaly on the extinguishing line of UDS-2N panel in AM4000 control unit; there will be the following signalings:
 Yellow led "**BREAKDOWNS**" flashing
 The symbol " Δ " is on the control unit state icon.
 The display shows the indication "**US XX : BREAKDOWN SPEGN**" where XX is the fourth address (with description "**EXT_FAULT**") assigned to the UDS-2N panel.

In case of no 230 Vac power supply on the USD-2N panel in AM4000 control unit there are the following signallings:

Yellow led “**BREAKDOWNS**” flashing

The symbol “ Δ ” is on the control unit state icon.

The display shows two indications:

“**UDS XX : GUASTO GEN** “ where XX is the third address (with description “**GEN_FAULT**”) assigned to the UDS-2N panel.

“ **UDS XX : GUASTO ALIM.**” where XX is the sixth address (with description “**POW_FAULT**”) UDS-2N

□ Group menu

A group is a set of software devices that can perform associations.

When a sensor or a module (which belong to the group) are in alarm, the group activates.

If an output module is a member of the same group, it will be activated.

This procedure is composed of 3 programming folders where to enter data is applied the editing function previously described in the paragraph: description of the keyboard operation to enter data paragraph.

• First folder (Progr. of the maximum limit of the direct action Group number)

The control unit has 400 groups, which can be programmed as:

D = Direct activation group. It activates what is contained in its CBE equation.

It is activated by direct Inputs/Groups (which have the Group in their CBE equation).

I = Inverse activation group. It is activated by its CBE equation.

It activates inverse Output/Groups (which have the Group in their CBE equation).

The screenshot shows a menu titled "Programming\Group" with three sub-menus: "Limit", "Program", and "Specials". The "Limit" sub-menu is active, displaying "Max Forw: 300". A red arrow points from the text "Enter the maximum number of direct activation Group" to the value "300".

Enter the maximum number of direct activation Group

• Second folder (Progr. of CBE. associated with the Group)

The screenshot shows the "Programming\Group" menu with "Limit", "Program", and "Specials" sub-menus. The "Specials" sub-menu is active, displaying "[G001 ; D]" and "CBE : Double knock. :NQ". Below the text are two buttons: "-G" and "+G". Red arrows point from the text "CBE equation" to the "CBE" field, and from "The parameter 'Double cons.' is valid..." to the ":NQ" value.

CBE equation

To change the “**CBE**” field in this folder, select the parameter through the arrow keys \uparrow \downarrow (the characters of the selected field are in Reverse), press the enter key \checkmark and use the alphanumerical keyboard to enter the data; at the end press the enter key \checkmark to confirm the datum

Press key **F1** to program the previous group

Press key **F2** to program the subsequent group

The parameter “**Double cons.**” is valid if the group is associated in a CBE with the “**XGRP**” operator.

NO = the group is active only when a thermal sensor (type-id “**THER**”) and an optical sensor (type-id “**PHOT**”) associated with the group are in alarm.

YES = the group is active when two devices (sensors or input modules) associated with the group are in alarm.

Default function

- Third folder (Progr of . High and low sensitivity Groups)

HIGH AND LOW SENSITIVITY GROUPS

They can be defined as two groups (**to be chosen among the inverse ones available**), for which a CBE equation must be programmed, by using the **TIM** operator, to make them active only during a set time. These groups are respectively defined as: High Sensitivity Groups and Low Sensitivity Groups. The purpose of this option is to make all installed sensors operate in control unit at high or low sensitivity when the relevant groups are active (this will result in the DAYTIME/NIGHT function).

Enter the number of the high sensitivity Group (Example G301)

Enter the number of the low sensitivity Group (Example G302)

Example: **G301 = TIM (-- 18.00 08.30)** CBE of the high sensitivity group
 G302 = TIM (-- 08.30 18.00) CBE of the low sensitivity group

For the sensors to which this function is to be coupled the parameter “**Daytime/Night = YES** ”(refer to **sensor programming**) must be programmed. In this way the control unit automatically associates the high and low sensitivity groups, so that the following two time bands are obtained:

Daytime band (low sensitivity) from 8.30 to 18. (the sensitivity values assumed by the sensors are those programmed in the “**Sens-Low**” item in the option folder).

Night band (high sensitivity) from 18. to 8.30. (the sensitivity values assumed by the sensors are those programmed in the “**Sens-High**”item in the option folder).

□ Zone Menu

By selecting the “**Zones**” sub-menu you can enter a descriptive reading to be associated with the selected zone.

The control unit locates by default on the first zone.

Zone number

P = Some devices have been associated with the devices, a maximum of 32 devices can be associated with a zone

Programmable reading having a maximum of 32 characters

To enter the reading press the enter key ✓ to enter the editing function.

Through the alphanumerical keyboard enter the zone name; at the end press the enter key ✓ to store the datum.

Press key **F1** to program the previous zone


Press key **F2** to program the subsequent zone

- ❑ **Up/Download:** Through this function you can perform the programming and the saving of the control unit AM4000 configuration data through the use of the PK4000 program. By selecting this function, the control unit displays the following reading:

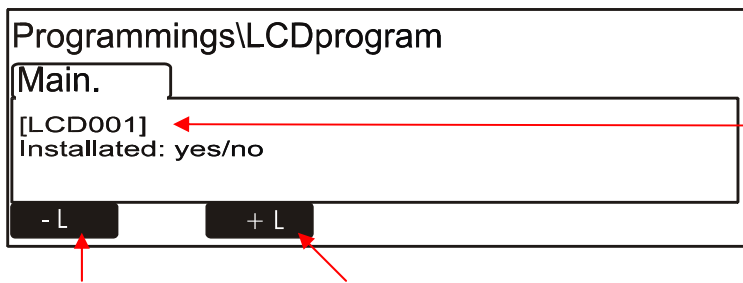
“ PC Stand-by”





which informs the user that the control unit AM4000 is set for Up/Download functionalities. When the loading and downloading of data from the PC is over the control unit will display the following signalling:

“Transfer completed”.

To quit the Up/Download state use the escape key 

- ❑ **LCD6000 Prog.:** This function allows to enable the LCD6000 panels installed on the RS485 serial line in the control unit dedicated to them.

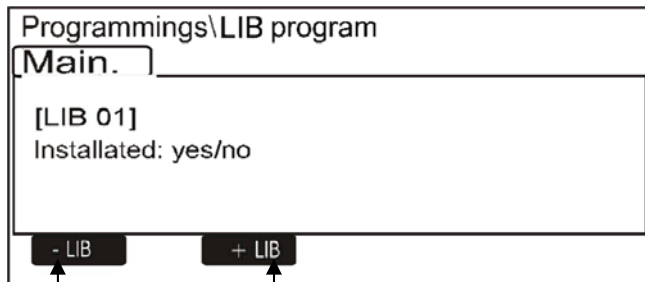






To change the programming press the enter key  and use the arrow keys   to select the parameter (YES or NO); at the end press the enter key  to confirm.

Press key **F1** to program the previous **LCD 6000** terminal

Press key **F2** to program the subsequent **LCD 6000** terminal

- ❑ **Prog. LIB:** This function allow the programming of installed LIB expansions (Only for AM6000 panels).

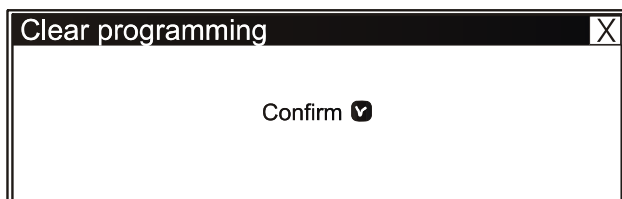



To change the programming press the enter key  and use the arrow keys   to select the parameter (YES or NO); at the end press the enter key  to confirm.

Press key **F1** to program the previous **LIB**

Press key **F2** to program successive **LIB**

- ❑ **Programming cancellation:** By selecting this function the following display will appear



To cancel all the system data contained in the control unit non-volatile memory the user must press the enter key  to confirm the **“Cancel programming”** control.

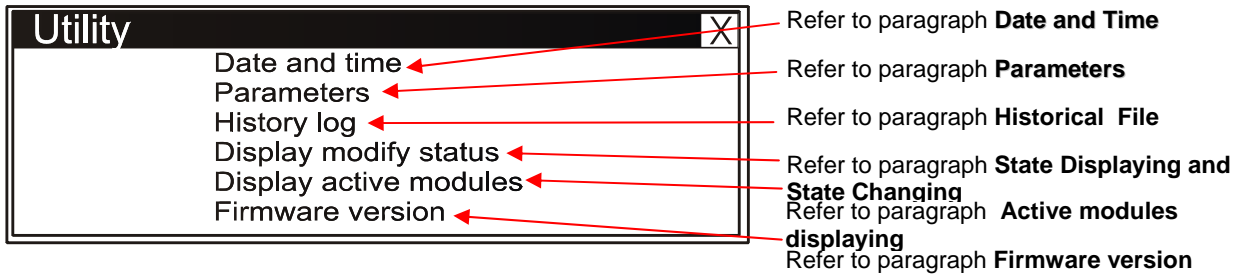
UTILITY MENU

By pressing the function key **F2** from the display of the system state you can access the Utility menu, which includes some functions generally used by servicing personnel

To access the menu, enter the Level 3 Password (**33333** is the default password).

To enter the password consult the editing function previously mentioned in the paragraph description of the keyboard operation to enter data.

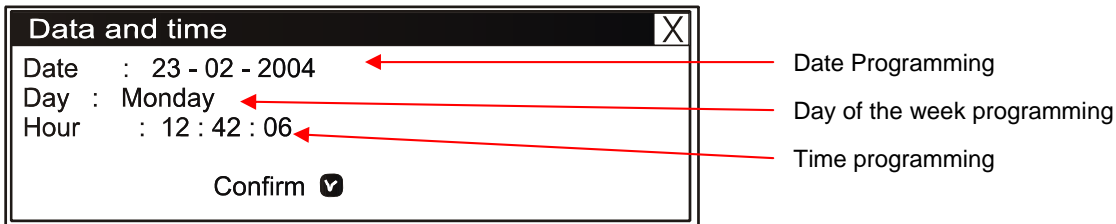
The following menu is displayed



Where:

□ Date and Time

This function allows to program the time and date of the control unit.

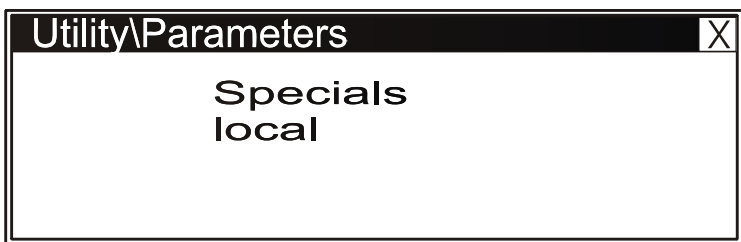


To change one or several data in the “**Date and Time**” programming Form use the arrows ◀ ▶ to select the field to be changed (the characters of the selected field are white on dark background).

Use the arrow keys ▲ ▼ to change the datum; at the end press the enter key ⏎ to store the datum.

□ Parameters

By selecting the “**Parameters**” item, you can perform the configuration of the local and special parameters according to the following figure



Where:

- Local

Utility\parameters\Local

Points

Led Blink :Yes/No

By selecting “NO” in the “Led Blink” function the led flashing is disabled for **all the points** installed during the line interrogation.

This function can be used in some environments such as hospitals, hotels, etc.

N.B. The disabling of the led flashing can also be performed for each point (refer to the Sensor and Module programming paragraphs)

To change the “Led Blink “ function press the enter key ; use the arrow keys  to change the functions; at the end press the enter key  to confirm.

- Special




This procedure is composed of 3 programming folders where the editing function is applied to enter data

- First folder (Progr. of DRIFT WARNING FUNCTION)

Utility\parameters\specials

Drift

Warning: Yes/No

To change the “Drift warning” function press the enter key ; use the arrow keys  to change the parameter; at the end press the enter key  to confirm

DRIFT WARNING FUNCTION - By enabling this function, the control unit generates a signalling when the sensor exceeds 70% of the alarm threshold for more than 5 minutes.

This signalling can be used as a warning to perform a cleaning of the sensor optical chamber. This function is a general enable parameter valid for all the control unit points. The DRIFT WARNING function does not replace the maintenance request signalling, which in any case is always enabled. It is signalled when a sensor detects, for more than 36 consecutive hours, a value higher than 80 % of the alarm threshold.




- Second folder (enabling of the alarm signalling file from modules programmed with Type ID NONA).

Utility\parameters\specials

Drift

Print Log: yes/no

By selecting “NO” the print and storage in historical file of events in alarm from the input modules programmed with Type-ID “NONA” is disabled

To change the “File “ function press the enter key  use the arrow keys  to change the parameter; at the end press the enter key  to confirm .

- o **Third folder (Change of the line reliability parameters)**

Utility\parameters\specials		
Drift	Nona mod	L Param
Inv replay(1 -30 : 5) : 05		
Type-ID(1 -30 : 8) : 08		
Open-C. (1 -30 :10) :10		
Low chamb(1 -30 :20) :20		
maint(1 - 216 :216) :216		

Enter the parameter to signal the breakdown for invalid answer (expressed in number of interrogation polling on the line)
Default value = 05

Enter the parameter to signal Type ID erroneous breakdown (expressed in number of interrogation polling on the line).
Default value = 08

Enter the parameter to signal the off circuits breakdown, (expressed in number of interrogation polling on the line).
Default value= 10

Enter the parameter to signal a breakdown for low chamber value (expressed in number of interrogation polling on the line).
Default value= 20

Enter the parameter to signal the maintenance breakdown, (expressed in minutes) Default value = 216

To change one or several parameters in this folder select the parameter through the arrow keys **▲ ▼** (the characters of the selected field are in Reverse), press the enter key **↵** and use the arrow keys **▲ ▼** to change the parameter; at the end press the enter key **↵** to confirm the datum.

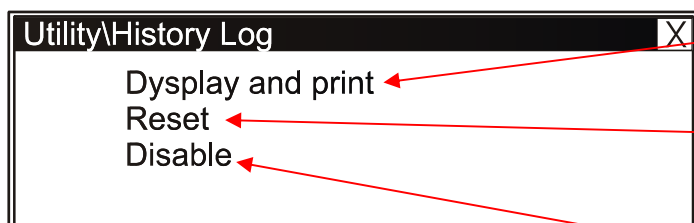
By increasing the values of each parameter, the control unit becomes less sensitive for the breakdown signallings for the Points installed on the lines.

By decreasing the values of each parameter, the control unit becomes more sensitive for the breakdown signallings for the Points installed on the lines, moreover the following breakdown signalling is activated:

“Line changed par.”

Historical file

Through this function, the user can display both the historical file and the cancellation.
The historical file has a maximum capacity of 999 events. When 999 stored events are reached, the control unit in correspondence of a new event cancels the least recent event and stores the new event.



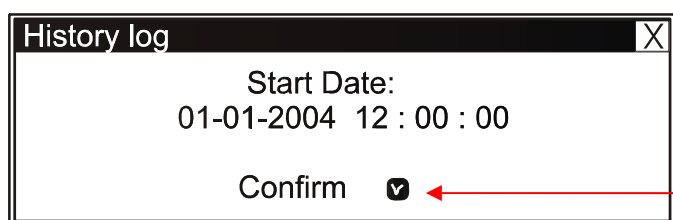
This function allows the display and the printing of the events in the Historical File.

The clear function, allows the total cancellation of the events in the historical file

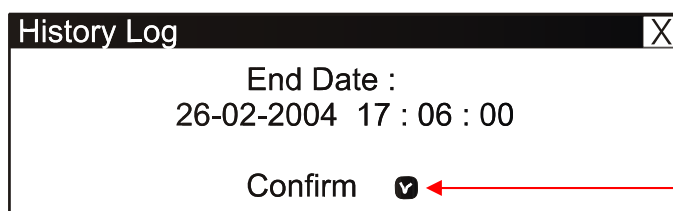
This function disables the storing of all the events (alarms, breakdowns, etc.).
Default enabled.

□ Displaying

This function allows to display the historical file on the control unit display



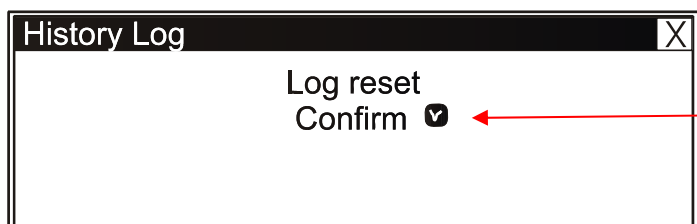
Enter date and time of the search start and press the enter **key** to confirm



Enter date and time of the search end and press the enter **key** to confirm.
The first event is displayed by default.
Use the arrow keys **▲ ▼** to scroll the event list in the historical file.

□ Clearing

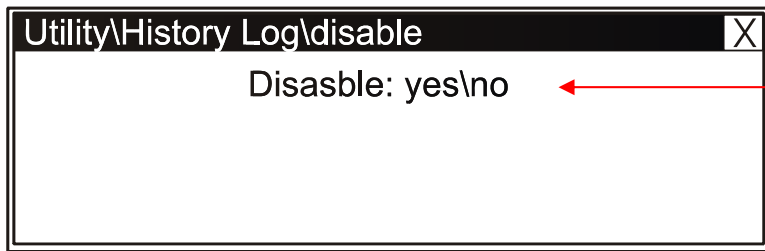
By selecting the function “Clear” the following display appears:




Press the **enter** key to perform the cancellation of all events stored in the historical event.

❑ **Disabling:**

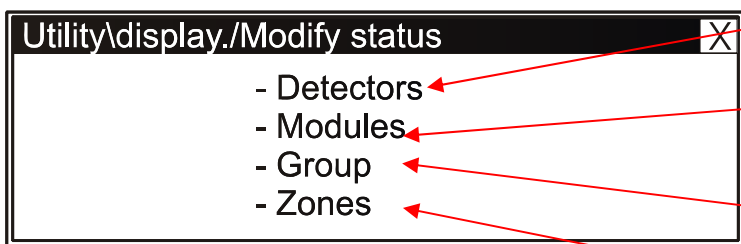
Through the “Disable” control (if activated) all new events arriving at the control unit from both the detection lines and the keyboard are not stored in the historical file.



To change this parameter in this folder press the **enter** key  and select through the arrow keys **▲ ▼ “YES” or “NO”**
N.B. the “Disable” function is “NO” by default.

❑ **State Displaying/ State Changing**

This function allows to examine the state of a point and in the case of a sensor, the analogue value can be displayed.
 This value will be displayed as a percentage with respect to the alarm threshold programmed for that device.
 Parameters relevant to modules, zones or software groups programmed can also be displayed.



Refer to paragraph **Sensor state displaying**

Refer to paragraphs **Input and output modules state displaying**

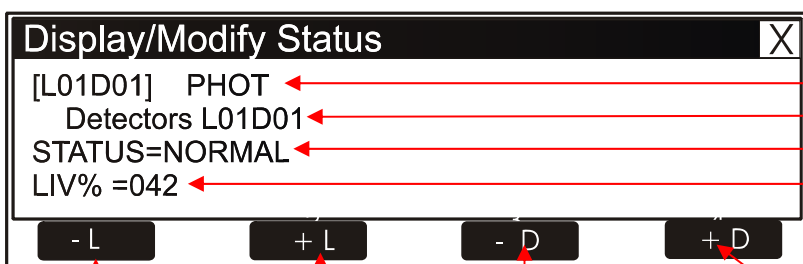
Refer to paragraph **Group state displaying**

Refer to paragraph **Zone state displaying**

Where:

- Sensor state displaying

The display shows by default the first device of the first line. To select another device use the function keys.



Point address

Programmable reading of the point

Point state

Analogue level

Press key **F1** to display a sensor of the previous line

Press key **F2** to display a sensor of the subsequent line

Press key **F3** to display the previous sensor

Press key **F4** to display the subsequent sensor

- Input module state displaying

The display shows by default the first device of the first line. To select another device use the function keys

Point address

Programmable reading of the point

Point state

Press key **F1** to display a module of the previous line

Press key **F2** to display a module of the subsequent line

Press key **F3** to display the previous module

Press key **F4** to display the subsequent module

- Output module state displaying

The display shows by default the first device of the first line. To select another device use the function keys

Point address

Programmable reading of the point

Point state

Through the arrow keys $\uparrow \downarrow$ the user can change the output module state
Activated = ON
Deactivated = OFF

Press key **F1** to display a module of the previous line

Press key **F2** to display a module of the subsequent line

Press key **F3** to display the previous module

Press key **F4** to display the subsequent module

- Group state displaying

The display shows by default the first Group. To select another Group use the function keys

Number of the displayed group

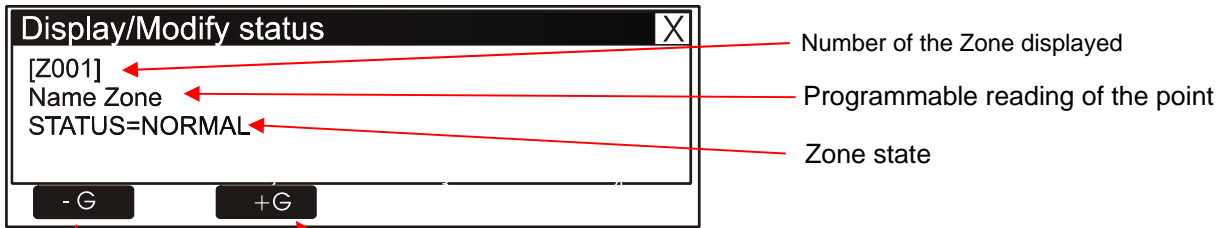
Group state

Press key **F1** to display the previous line group

Press key **F2** to display subsequent line group

- Zone state displaying

The display shows the first Zone by default. To select another Zone use the function keys

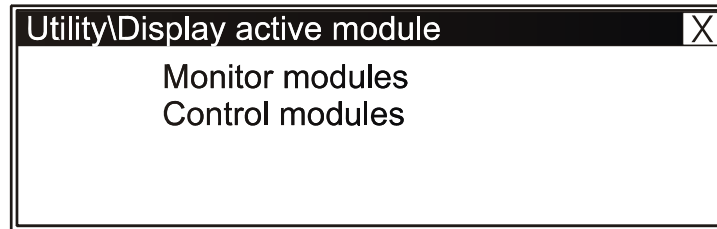


Press key **F1** to display the previous zone

Press key **F2** to display the subsequent zone

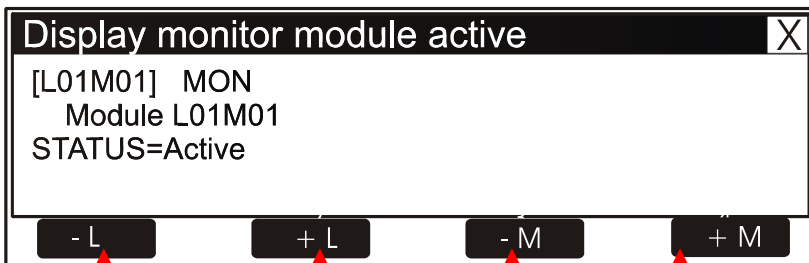
- Active Modules Displaying

Through this function you can examine the active module lists which are connected to the control unit lines.



Where:

- Active input modules displaying



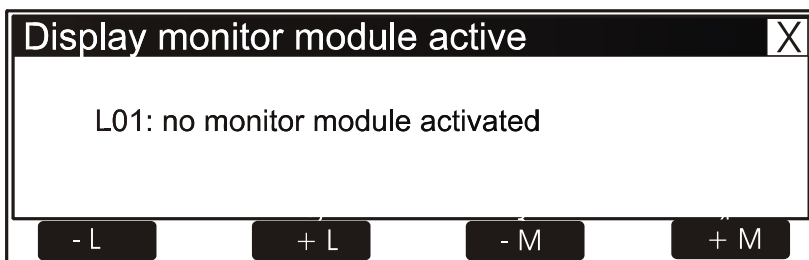
Press key **F1** to display a module of the previous line

Press key **F2** to display a module of the subsequent line

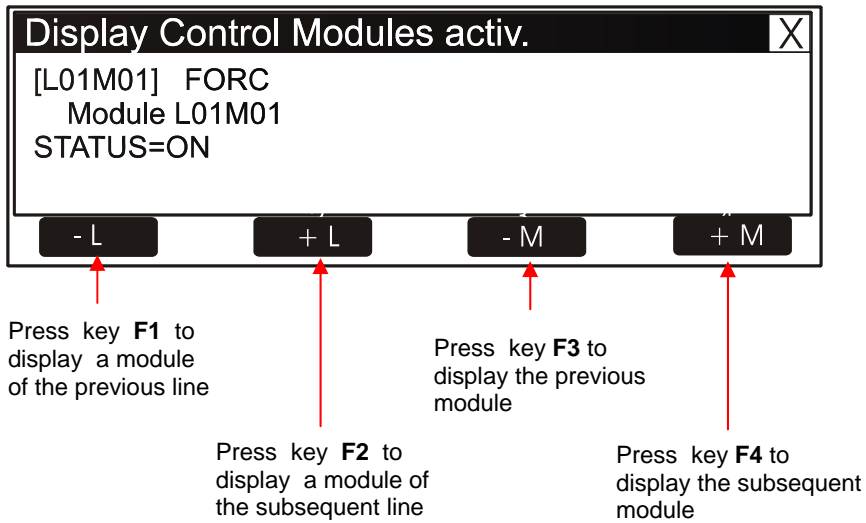
Press key **F3** to display the previous module

Press key **F4** to display the subsequent module

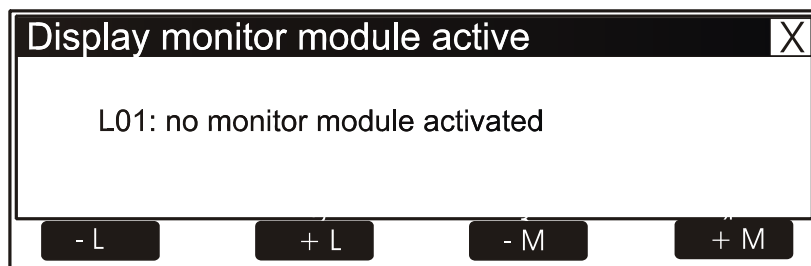
In case of no alarm input modules in a line, there will be the following indication shown in the figure below:



- Active output modules displaying

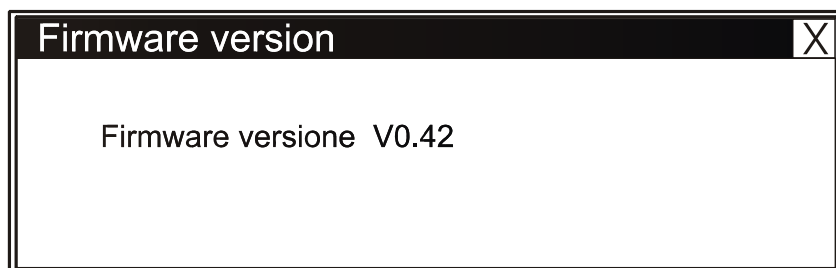


In case of no active output modules in a line there will be the following indication shown in the figure below:



FIRMWARE VERSION

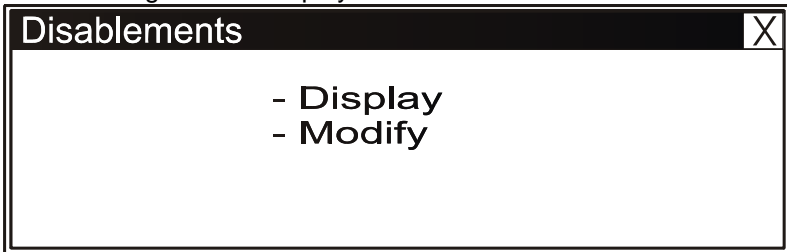
Through this function the servicing control unit personnel can display the firmware version installed in the AM4000 control unit CPU (refer to the example in the figure below)



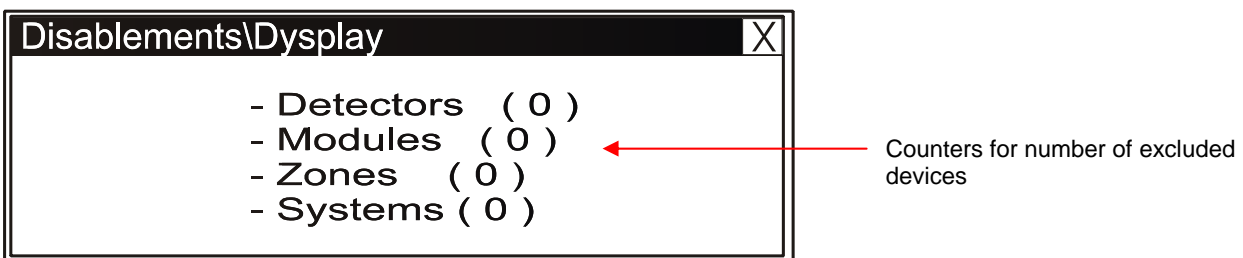
EXCLUSIONS MENU

By pressing the function **F3** key in System State you can access the Exclusions menu, where sensors, modules, zones, etc. can be excluded

The following menu is displayed

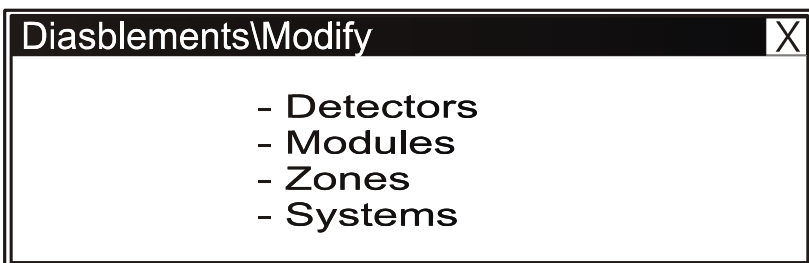


by selecting the "**Display**" item the user can enter the following menu where devices are displayed by the type:



To display the excluded device lists select through the arrow keys \uparrow \downarrow the type of device, press the enter key \checkmark to confirm the selection.

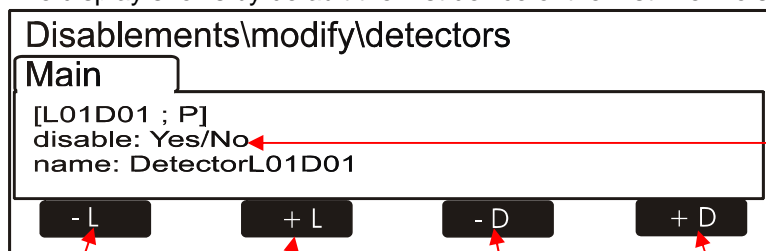
From the "**Exclusion**" menu, by selecting the "**Change**" item the following display will appear:



Where it is possible to change the state of Included/Excluded for the various devices

□ Sensors

The display shows by default the first device of the first line. To select another device use the function keys.



When a sensor is excluded the control unit is inhibited to the reception of the alarm and breakdown signalings from the sensor. To exclude a sensor select it through the function keys. Once the device has been selected press the **enter** key \checkmark and through the arrow keys \uparrow \downarrow select **YES** and subsequently press the **enter** key \checkmark to confirm the exclusion.

Press key **F1** to display the sensors of the previous line

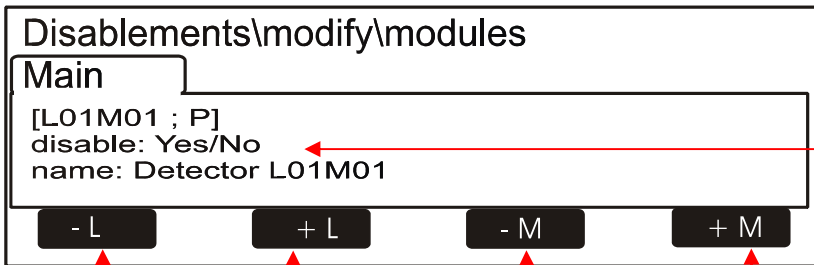
Press key **F2** to display the sensors of the subsequent line

Press key **F3** to display the previous sensor

Press display sensor

❑ **Modules**

The display shows by default the first device of the first line. To select another device use the function keys.



When a module is excluded the control unit is inhibited to the reception of the alarm and breakdown signalling from the module. To exclude a module select it through the function keys. Once the device has been selected press the **enter** key and through the **arrow** keys select **YES** and subsequently press the **enter** key to confirm the exclusion.

Press key **F1** to display the sensors of the previous line

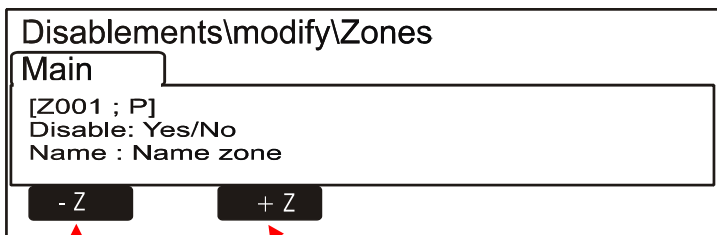
Press key **F2** to display the sensor of the subsequent line

Press key **F3** to display the previous module

Press key **F4** to display the subsequent module

❑ **Zones**

The display shows by default the first zone. To select another zone use the function keys



When a Zone is excluded the control unit is inhibited to receive the alarm and breakdown signalling from all the points which belong to the Zone. To exclude a zone select it through the function keys. Once the zone has been selected press the **enter** key and through the **Arrow** keys select **“YES”** and subsequently press the **enter** key to confirm the exclusion.

Press key **F1** to select the previous zone

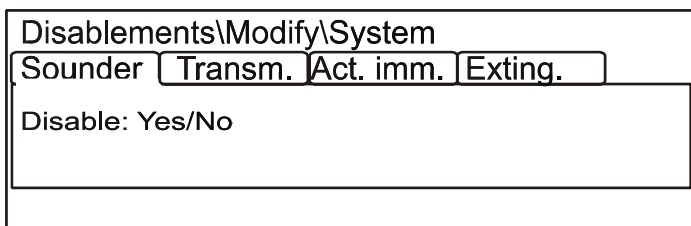
Press key **F2** to select the subsequent zone

❑ **System Exclusion**

This procedure is composed of 4 programming folders where the editing function previously explained is applied to enter data.

Where

- First folder (Siren exclusion)



This function allows the Siren output exclusion (CNU-33 and CNU-34 terminals on the basic board) and all output modules programmed through Type -ID "HORN".

To change this parameter in this folder press the **enter** key and select through the arrow keys **“YES”** or **“NO”** and press the **enter** key to confirm the datum,

- Second folder (Exclusion of breakdown and alarm transmission)

Disablements\Modify\System
 Sounder Transm. Act. Imm. Exting.
 TX Diasb.faults : Yes/No
 TX Disab. Alarm. : Yes/No

This function is not enabled with this firmware revision.

- Third folder (Exclusion of immediate activation of Siren Outputs)

Disablements\Modify\System
 Sounder Transm. Act. Imm. Exting.
 Disable : Yes/No

When the exclusion relevant to the immediate activation of the siren outputs is activated, the Exclusion and Active Delay leds are lit, in case of alarm, the control unit delays the output for the programmed times in the programming menu (Prog\Sist\Timings Al.Output.). During the delay time the Active Delay led flashes and the current delay can be cleared through the Clear Delay key.

To change this parameter in this folder press the **enter key** and select through the arrow keys **▲ ▼ “YES”** or **“NO”** and press the **enter key** to confirm the datum.

- Fourth folder (Extinguishing exclusion)

Disablements\Modify\System
 Sounder Transm. Act. Imm. Exting.
 Disable : Yes/No

This function allows the exclusion of all the output modules programmed through TYPE ID “UDS1” (UDS and UDS2-N extinguishing panels)

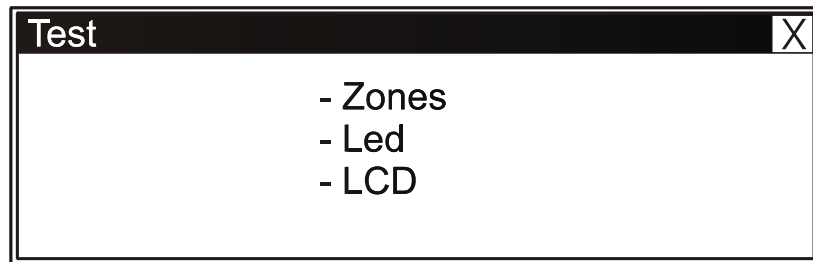
To change this parameter in this folder press the **enter key** and select through the arrow keys **▲ ▼ “YES”** or **“NO”** and press the **enter key** to confirm the datum.

TEST MENU

By pressing the function **F4** key in System State you can access the Test menu which includes the functions generally used by the servicing personnel to test the system.

To access the menu enter the Level 2 Password (**22222** is the default password).
To enter the password consult the editing function previously mentioned in the paragraph description of the keyboard operation to enter data.

The following menu is displayed:

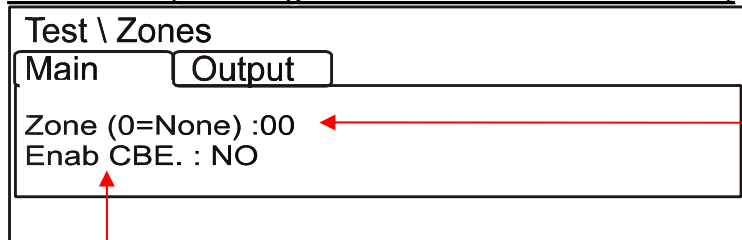


Where:

□ Zones :

This function allows to start the test procedure for a selected zone.
This procedure is composed of 2 programming folders where the editing function previously explained is applied to enter data.

First folder (Enabling of a zone for the test function)



Ente the zone number for which the test function must be activated.
(0 = inactive test zone)

CBE Enabling
By selecting CBE Enabl.: YES
in case of alarm from the test zone devices
CBEs associated with them are activated

To change one parameter in this folder select the parameter through the arrow keys **▲ ▼** (the characters of the selected field are in Reverse), press the enter key **↵** and use the arrow keys **▲ ▼** to change the parameter; at the end press the enter key **↵** to confirm the datum.

- Second folder (Output selection)

In the subsequent programming folder the output to be activated in case of alarm from a device of the test zone is selected.

Test \ Zones

Main Output

Select: none
 mod. addr.: L01M00
 rep. Addr.: R00P00

SYNOPTIC = inactive function

In the field "**Selection**" you can select one of the following items:

NONE = in case of alarm from the test zone it does not activate outputs.

SIREN = in case of alarm both the Siren output and all the output modules programmed through Type – ID "**HORN**" are activated at each alarm event from the test zone
 The activation duration is 3 sec.

MODULE = in case of alarm from the test zone the output module programmed in the "**Ind. Mod.**" Item is activated and at each alarm event it will be active for 3 sec.

To change one or several parameters in this folder select the parameter through the arrow keys ▲ ▼ (the characters of the selected field are in Reverse), press the enter key ✓ and use the arrow keys ▲ ▼ to change the parameter; at the end press the enter key ✓ to confirm the datum.

- **LED:** By selecting through the arrow keys ▲ ▼ the Led item and by pressing the enter key ✓ to confirm, the control unit performs the lamp-test function (all the control unit leds flash for some seconds)
- **LCD:** By selecting through the arrow keys ▲ ▼ the LCD item and by pressing the enter key ✓ to confirm, the control unit performs the display test.

Appendix “A” – CONTROL-BY-EVENT EQUATION

A typical programming of the control unit is defined as **CONTROL-BY-EVENT EQUATION** (CBE).

During the programming phase, a CBE equation must be associated with each point, zone or group

The **CONTROL-BY-EVENT** equation allows to program a series of conditions that the control unit will assess when the Point, the Zone, the Group are **ACTIVE**, and will perform the programmed operations.

To define these conditions, perform the **CBE** equation by using some logical operators (OR, AND, XGRP, NOT, DEL, SDEL and TIM).

The “**ACTIVE**” condition is valid when:

- Input point (input modules or sensors) = in Alarm
- Output point (output Module) = ACTIVATED
- Group = one of the points of the group is Active

RULES FOR THE CORRECT SYNTAX OF THE EQUATIONS

- ❑ To be valid and accepted by the control unit, the control equation must follow some precise syntax rules. If a syntax errors occurs, the CBE equation is refused.
- ❑ The logical operators (ex. OR, AND, ...) which are valid for several operands, shall be written by following this procedure:

OPERATOR (OPERAND-1 OPERAND-2 ...)

- ❑ The NOT logical operator is valid only for one operand, and shall be written before the corresponding operand
- ❑ If several operators are used, the first character of the equation must be a left-hand bracket, and the last character must be a right-hand bracket.

Example

(OPERATOR (OPERAND- 1 OPERAND-2 ...) OPERATOR (OPERAND- 1 OPERAND-2 ...))

N.B. : A programmable CBE for output modules, contains the address of the objects which will activate them, such as: input sensors, input modules or groups. If the module activation must occur for a combination of various objects, the AND,OR, ect. operators must be used.

A programmable CBE for input sensors and modules, contains the address of the objects to be activated in case of alarm, which may be output modules or groups. If it is necessary to activate a series of objects, just re-write them in sequence, without using any operator.

- ❑ The following format is also used :

Example : AND(G1G2)OR(G3AND(G4G5))

Which is equivalent to: 1 - IF BOTH group G1 and group G2 are active

2 - OR

3 – Group G3 is ACTIVE and both group G4 and group G5 are active.

N.B.: the equation must be written without inserting spaces between the characters to be entered.

□ **CBE equation “Null”:**

You can also not program any equation for a device.

In this case:

if the device in question is an input sensor or module, the control unit will activate only all general visual and sound indications (Alarm LED on the front panel, General Alarm RELAY, BUZZER and possible output modules programmed through TYPE ID software for general signalings).

If the device in question is an output module, this output will never be activated unless it is programmed through TYPE ID software for general signalings.

☞ **N. B.:** for output modules, the control unit does not allow to program an equation if the module has a TYPE ID for general signalings.

□ **Operators used in the control by event equation:**

OR

is the operator which requires AT LEAST ONE operator to be ACTIVE.

Example: the output module equation is: **OR (G9 G15 G23)** or the OR operator can be omitted by entering:
(G9 G15 G23)

If **ANY** of the three operands in this equation (G9 G15 G23) is in alarm; the output module will be activated, that is:

- **IF** the software group 9 is in alarm, or
- **IF** the software group 15 is in alarm, or
- **IF** the software group 23 is in alarm
- **THEN** this output module will be activated.

AND

is the operator which requires EACH operand to be ACTIVE.

Example: the output module equation is: **AND (G9 G15 G23)**.

Only if **ALL THREE** operands in this equation are in alarm, the output module will be activated, that is

- **IF** the software group 9 is in alarm, or
- **IF** the software group 15 is in alarm, or
- **IF** the software group 23 is in alarm
- **THEN** this output module will be activated.

NOT

is the operator which DENIES the operand or the series of operands in brackets, which follow it.

Example: the equation of an output module is: NOT (G23).

The output module will remain activated until the operand (G23) **IS** alarmed, that is:

- If the software group 23 is in alarm
- **THEN** this output module will be deactivated.

N.B.

It is not allowed to write a CBE for a direct group, if the operands contained inside the round brackets are some groups having an index lower than the group for which the CBE must be associated as in the following example:

CBE not allowed

~~G33 = (G23 G24)~~

CBE allowed

G21 = (G23 G24)

It is not allowed to write a CBE for an inverse group, if the operands contained inside the round brackets are some groups having an index higher than the group for which the CBE must be associated as in the following example:

CBE not allowed

~~G305 = (G306 G307)~~

CBE allowed

G307 = (G305 G306)

XGRP

is the operator which requires **AT LEAST TWO** elements of the group indicated below, to be **ACTIVE**.

FORMAT : XGRP (GXXX) where GXXX= Group 1 ÷ 400

Example: the equation of an output module is **XGRP (G23)**

- **IF ANY COMBINATION** of two or several input devices (sensors or modules), which have been programmed (with their CBE Equation) on this software group (through **the Double Consent parameter = YES.**), they are ACTIVE.

- **THEN** this output module will be activated.

Or only when a thermal sensor (type-id "THER") and an optical sensor (type-id "PHOT") which have been programmed (through their CBE Equation) on this software group (through **the Double Consent parameter = NO**), are ACTIVE.

- **THEN** this output module will be activated,

-

It is not allowed to write an equation of an output module with several groups as in the following example:

CBE not allowed

~~XGRP (G23 G24)~~

DEL

is the operator which allows to program some activation delays for specific conditions.

The device which has in its CBE equation the "DEL" operator, when its equation is true, waits for the programmed time before activating.

If during this delay time its equation is not true any longer, the timer resets and is ready to start at the next event (therefore the output device does not activate)

FORMAT : OF (MM.SS (delay) MM.SS. (duration - optional) (CONDITION) equation which sets the delay start))

Where:

- MM = minutes (2 digits), SS = seconds (2 digits)
- CONDITION = it can be an equation of the type:

XGRP (GXXX)
NOT (Element 1...)
OR (Element 1...Element 2...)
AND (Element 1...Element 2..)

- Element = it can be GXXX for a group (1 ÷ 400) - LXX S/MXX for an addressable point

Example 1: if the equation of the G90 software group is DEL(00.30 01.30(G21)) then:

↑
Insert a space character

- After 30 Sec. from the G21 activation
- the G90 group will activate and will be active for 1 minute and 30 seconds

Example 2: if the equation of the L2M90 output module is DEL (00.30 00.30 (AND (L1S1 L1S4)))
 - After the L1S2 and L1S4 sensors have been in alarm condition for 30 seconds, the L2M90 module will be active for 30 seconds.

N. B.

- If a delay is entered = 00.00, then the equation will be active AS SOON AS the delay start equation is active, and it is active for the time period specified in “duration”.
- Only a DEL operator can exist for each equation
- If the DEL equation duration time is not specified, the equation will be active until the reset of the elements in the equation.
- The maximum value of the duration time is 10 minutes
- The maximum values of the delay time is 10 minutes.

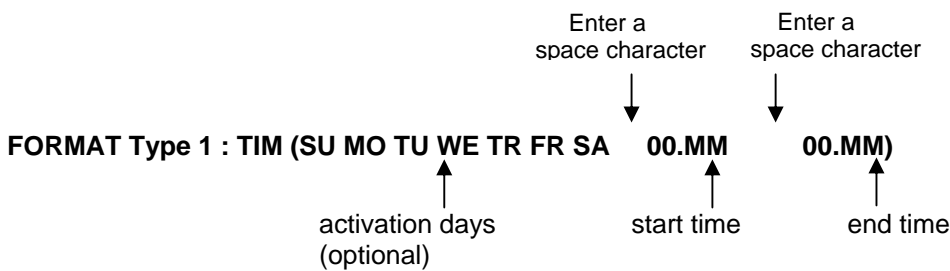
SDEL

The “SEDEL” operator is equal to the “DEL” operator, with the difference that, if during the delay time the equation is not true any longer, the timer continues to count and then it activates the output device. To re-set this timer perform an alarm or breakdown re-set.

TIM

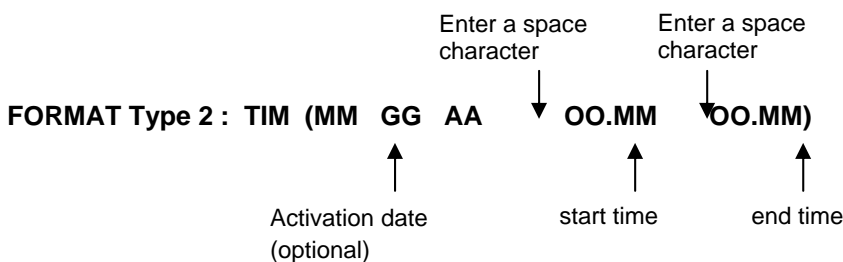
is the operator that allows to program output activations at periodic time intervals.

There can be two formats :



Where : 00 = hours, MM = minutes

This format allows to perform programmings weekly, for specific days of the week



Where : MM = month, GG = day, AA =year

This format allows to perform programmings yearly

Example: IF the G90 software group equation is : TIM (SA SU 07.30 13.59)
 THEN the G90 group will be active on Saturday and Sunday from 07.30 a.m. to 13.59.

NOTE:

- If the day, month or year is not specified, the value assumes the meaning of “All days”. To not specify anything enter two signs “ -- ” refer to the following example:
TIM (-- 07.30 13.59)
- The start time and end time values, use the 24 hour format (midnight = 00.00 ... 23.59)
- The value “00.MM” of end time **MUST** be higher than the value of the start time.
- The maximum value for start time and end time is 23:59

□ **Examples of programming:**

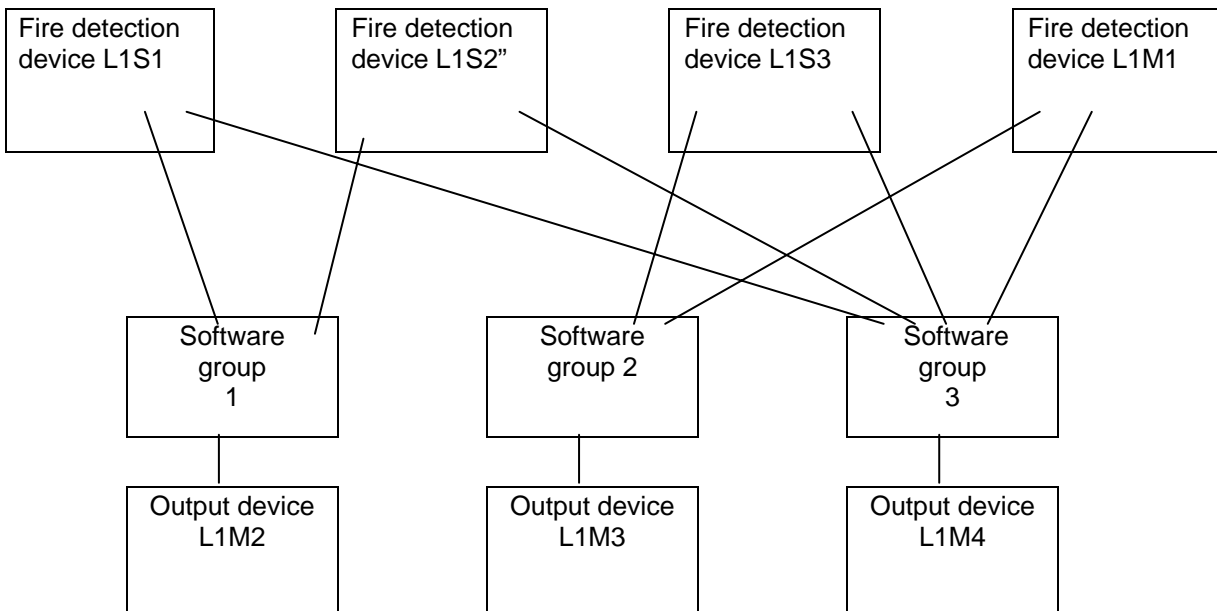
■ **OPTIONS**

The following example points out three ways to perform a simple programming, that is the output module activation as a response to an alarm on a detector (or any other alarm input device)

OPTION A	OPTION B	OPTION C
Fire detection device LOOP 1 - detector 1	Fire detection device LOOP 1 – detector 1	Fire detection device LOOP 1 - detector 1
Output device LOOP 1 – output module 1	Output device LOOP 1 – output module 1	Output device LOOP 1 – output module 1
Detector equation = (G1)	Detector equation =	Detector equation = (L1M1)
Module equation = (G1)	Module equation = (L1S1)	Module equation =

■ **GENERAL ALARM**

The following example shows a method of control unit programming for the general alarm.



The **L1M2** output module is associated with the group **G1** and will be activated in case of alarm on the **L1S1** and **L1S2** detectors.

The **L1M3** output module is associated with the group **G2** and will be activated in case of alarm on the **L1S3** detectors or on the **L1M1** input module.

The **L1M4** output module is used as a general alarm device; it will be activated in case of alarm on any fire detection device (detector or input module) of the system, because all fire detection devices are associated with the group **G3**.

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M-142.1-AMSERIE-ENG Rev A.1 03/2007