esp

ANALOGUE ADDRESSABLE FIRE PANEL MAGPRO96

MAG PRO

GENERAL FIRE
PRE ALARM
GENERAL FAULT
SYSTEM FAULT
SYSTEM SILENCE
DELAY
DISABLE
TEST
POWER ON

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64
65	66	67	68	69	70	71	72
73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88
89	90	91	92	93	94	95	96

fireline
PROTECTION

INSTALLATION AND PROGRAMMING MANUAL

CE

1293

Contents

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http://www.espuk.com
Manufacturer: Teletek Electronics JSC, 14 Srebarna Str., 1407 Sofia, Bulgaria

EN 54-2:1997/A1:2006/AC:1999; EN 54-4:1997/A2:2006/AC:1999

MAGPRO96
Intended for use in fire detection and fire alarm systems in and around buildings.

Essential Characteristics	Performance
Performance under fire conditions	Pass
Response delay (response time to fire)	Pass
Operational reliability	Pass
Durability of operational reliability and response delay: temperature resistance	Pass
Durability of operational reliability: humidity resistance	Pass
Durability of operational reliability: vibration resistance	Pass
Durability of operational reliability: electrical resistance	Pass

ATTENTION!
This manual contains an information about the limitations in using and operation of the product, as and information about the limits in the responsibility of the manufacturer.
Please read the operation manual carefully before starting the installation.

WARNING!
While every effort has been made to ensure that the information in this manual is accurate and complete, no liability can be accepted for any errors or omissions.
The manufacturer reserves the right to change the specifications of the equipment described in that manual without notice.

STANDARDS AND CONFORMITY
The addressable fire alarm control panel MAGPRO96 is designed and certified according and with conformity to EN 54 – 2/4 standard. Conforms and approved in accordance with CPR (Construction Products Regulation).

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1. INTRODUCTION

1.1 General Description

MAGPRO96 is an analogue addressable fire panel with maximum coverage of 96 zones and connecting 1 to 4 loops. The panel supports communication protocol MAGPRO (MAGPRO96-L250 loop controller).

In the configuration of the MAGPRO96 panel can be implemented up to 4 MAGPRO96-L250 loop controllers.

An arbitrary number of devices can be added to each zone thus ensuring the easy adaptation of the system to any type of configuration.

To avoid or significantly diminish problems when mounting the system it must be carefully planned prior to installation. This includes: establishing an address for every device and planning a name of maximum 40 digits (including the spaces) for each address, thereby ensuring easy access to the device.

According to the acting standards for establishing fire systems and the plan of the building, the devices must be grouped in zones.

> ⚠ **Every MAGPRO96-L250 loop controller provides up to 250 devices (detectors, sounders and modules, regardless of the type)**.
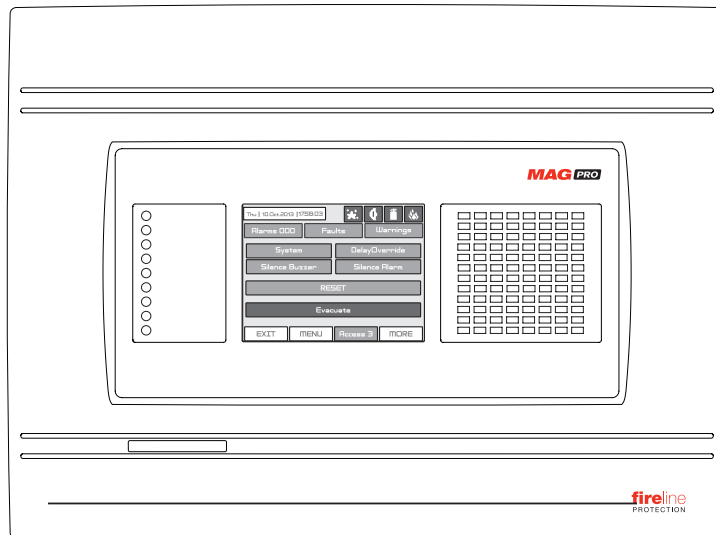
General view of the MAGPRO96 Fire Panel

1.2 General Specifications

The front panel consists of graphic LCD display (dimensions 240x320) with a built-in touch screen and a light-emitting diode indication. Separate operator and engineer passwords provide access to the functions of the panel. The internal space of the box is protected with the help of secret screws.

Up to four loop controllers MAGPRO96-L250 can be supplemented to the mother board.

The system can be expanded by connecting several fire panels MAGPRO96 to the Ethernet, using TCP/IP for communication between them.

The panel has a built-in real time clock and calendar, allowing day and night time modes of work. Switching over between the two modes can be automatic or manual. Events like FIRE, RESET, FAULT, etc., are saved in the memory, thereby creating an event log-file. It contains the time and date, the address of the device, the type (module or detector), the name of the device, the zone, the name of the zone, etc.

1.2.1 General Technical Specifications
• Loops - from 1 to 4 loops
• Up to 250 devices (detectors and modules, regardless of the type) per Loop
• Zones - 96 displayed zones
• Monitored relay outputs - 4 (Sounder, Fire, Fault and Fire Protection)
• Non monitored relay outputs - 4 programmable, 230V/ 10A
• Display - 320x240 CSTN graphic display (118.8 x 89.38 mm) with a touch panel
• Real time clock
• Up to 128 programmable Inputs/Outputs per panel
• Comprehensive day/night mode facility
• 2 Steps of alarm levels (T1 and T2)
• Based on Windows graphical configuration utility via Ethernet or USB
• Simple Http monitoring utility
• Loop less panel option (repeater)
• Thermal printer (optional)
• Flush mounting enclosure
• Multi- language support
• Easy software update
• Certified according EN54-2/4

1.2.2 Possible Hardware Configuration

Maximum configuration:
- Main Board
- Power Supply Source
- LED-indication
- Input/Output Module
- 4 Relay Module
- 4 Loop Controllers
- Heat Printer (optional)

Minimum configuration:
- Main Board
- Power Supply

1.2.3 Working Environment
- Working Temperature: ....-10˚C up to +50˚C
- Relative Humidity: ....up to 95% (without condense)
- Storage Temperature: ....-10˚C up to +60˚C
- Weight (without the battery): ....6kg.

1.2.4 Electrical Specifications

Earth connection
The earth connection has to be realized in accordance with the rules for the electrical safety with the total resistance in the circuit lower than 10Ω. It is mandatory to connect the main power supply cable to the middle input of the fire panel terminal - see *item 2.2.7 Power Source*.

Main power supply
In normal operating conditions the fire panel is powered from the mains voltage line. In case of mains voltage line loss the fire panel is equipped with one rechargeable battery. The characteristics of the main power supply are as follows:
- Main Power Supply: ....~230V +10%/ -15%
- Frequency: 50/ 60Hz
- Electrical output: 7.5A

Consumption
From the main power supply in standby mode:
- For 1 loop configuration: 65 mA AC
- For 2 loops configuration: 75 mA AC
- For 3 loops configuration: 85 mA AC
- For 4 loops configuration: 95 mA AC

From the backup power supply in FAULT mode and generated message 'AC loss':
- For 1 loop configuration: 285 mA DC
- For 2 loops configuration: 360 mA DC
- For 3 loops configuration: 435 mA DC
- For 4 loops configuration: 510 mA DC

ATTENTION: Do not instal the fire panel near power electromagnetic fields (radio equipment, electric motors, etc.)!

Battery Power Supply
- Voltage output (U): 13,8V
- Current output (I): 2A
- Internal resistance of the accumulator battery Ri....... < 0,3 Ohm
- Number of the Batteries: .... 1 x 12V/ 18Ah, rechargeable, sealed lead-acid type
- Battery Size: 167x181x76mm
- Type of the Battery connection: .... with a flat terminal lug - Ø5mm (M5)

List of the fuses
- General Power Supply: ....2A, T Type
- Outputs:..0,3A, PTC Type
- Battery: ....7.5A, PTC Type

List of the additional components, included in the set of the fire panel MAGPRO96:

1.		Resistor 10K ±5%, 0,25W	2
2.		Anchor 6x30mm	4
3.		Fuse 2A, T type 5x20mm (for the mains power supply)	1
4.		Screw M4x40 Cross slot DIN7985	4
5.		Screw M4x30 Cross slot DIN965	2
6.		Screw M4,2x35 Cross slot DIN7981	4
7.		Washer M4 DIN522	4
8.		Cable tie 2,5/160mm	2
9.		Plastic cap	21

> ⚠ **The panel should be installed by qualified specialists only.**
> **The electronic components of the panel are vulnerable to electrostatic discharge.**
> **Never add or turn off components which are being power supplied!**

2. INSTALLATION

2.1 Mounting

• The panel must be installed in a clean dry place and must not be subjected to impact or vibrations (Figure 1). It must be situated far from heating appliances. The temperature must be within -5ºC and + 50ºC. The fire panel is not water-proof!

• Unscrew the two secret bolts situated above and under the box cover - see Figure 2.

• Remove the front cover as first disconnect the flat-cable for panel indication. After that unscrew the hinge bolts on the side of the front panel - Figure 3. *(Note: You can unscrew and the hinge bolts on the side of the metal box. The special here is the presence of two plastic pads situated under the hinges. The pads have to be returned back under the hinges at closing the front cover.)*

• Choose inlets for the cables, and put plastic taps on those ones which you will not use.
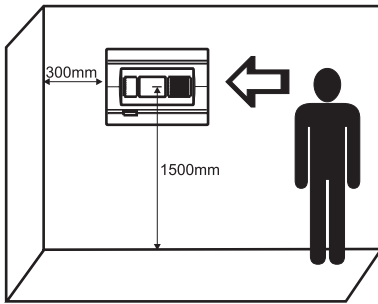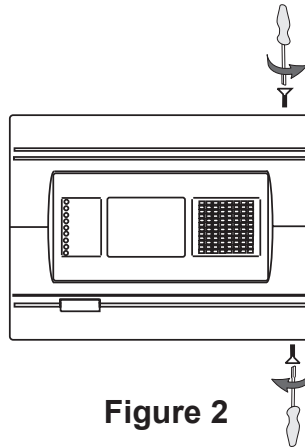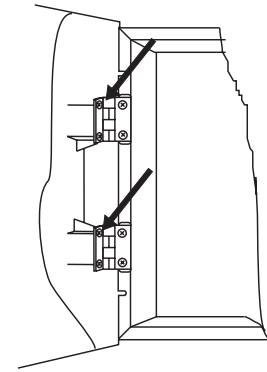
Figure 1   **Figure 2**   **Figure 3**

2.1.1 Wall Mounting

• Use the template in the set to fix the mounting holes of the metal box on the wall - see Figure 4.

• Drill holes (suitable for anchors Ø6mm) on the wall and fix the metal box - see Fig 5.

• Route the external cables onto the back box, make off connection glands etc., BUT DO NOT make any connections at this stage. ENTER THE MAINS CABLE THROUGH ITS OWN CABLE ENTRY POINT AND KEEP MAINS WIRING AWAY FROM SYSTEM AND OTHER LOW VOLTAGE WIRING.

• Connect the mains supply and earth to the power supply terminal (see Figure 17) BUT DO NOT apply the main electrical supply at this stage.

• Position the battery in an upright position and fix the metal clamp - Figure 10.

TEMPLATE

DRILL HERE

FLUSH MOUNTING

DRILL HERE →

Figure 4

128mm

347mm

261mm   331mm

441mm
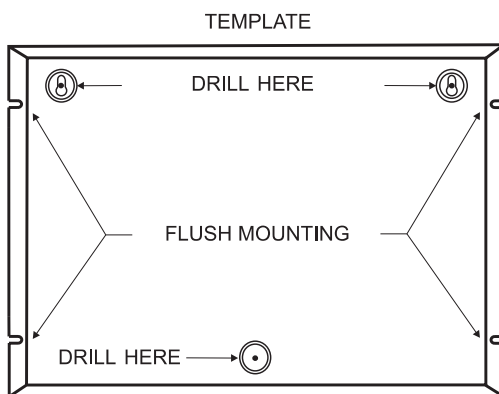
Figure 5

2.1.2 Flush Mounting (option)

• Analogue-addressable fire panel MAGPRO96 is available for flush mounting. The accessory set contains two special hangers (see Figure 7) for flush wall mounting of the fire alarm panel on 25 mm thick drywall.

• Use given on Figure 6 dimensions to outline and to cut the mounting hole in the drywall.

• Fix the hinges on the back side of the gypsum plaster wall with the screws M4x30 cross slot DIN965 from the supplied kit, as shown on Figure 7, Position 1.

• Route the external cables onto the back box, make off connection glands etc., BUT DO NOT make any connections at this stage. ENTER THE MAINS CABLE THROUGH ITS OWN CABLE ENTRY POINT AND KEEP MAINS WIRING AWAY FROM SYSTEM AND OTHER LOW VOLTAGE WIRING.

• Place the metal box in the mounting hole and fix as use the washers M4 DIN522 and the screws M4x40 cross slot DIN7985 - Figure 7, Position 2.

• Connect the mains supply and earth to the power supply terminal (see Figure 17) BUT DO NOT apply the main electrical supply at this stage.

• Position the accumulator battery in an upright position and fix the metal clamp - Figure 10.
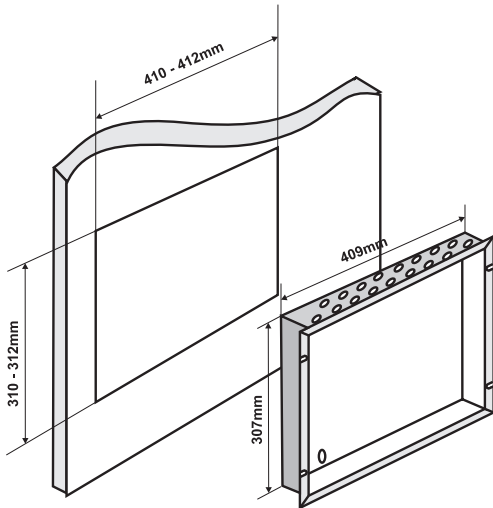
Figure 6. Dimensions of the metal box and the mounting hole.
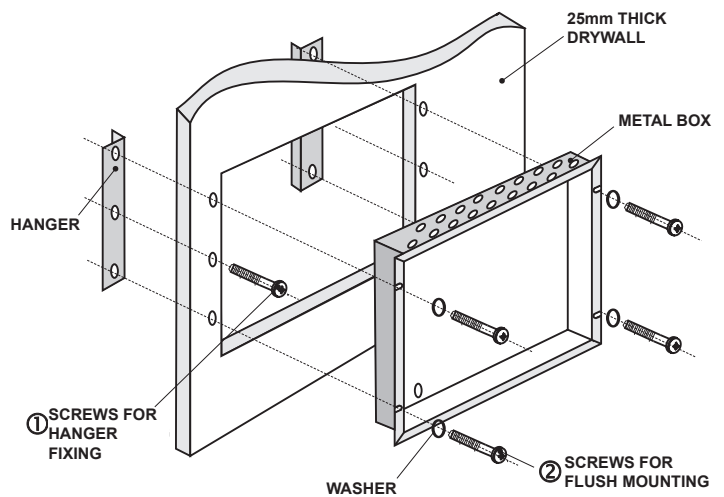
Figure 7. Action sequence for flush mounting.
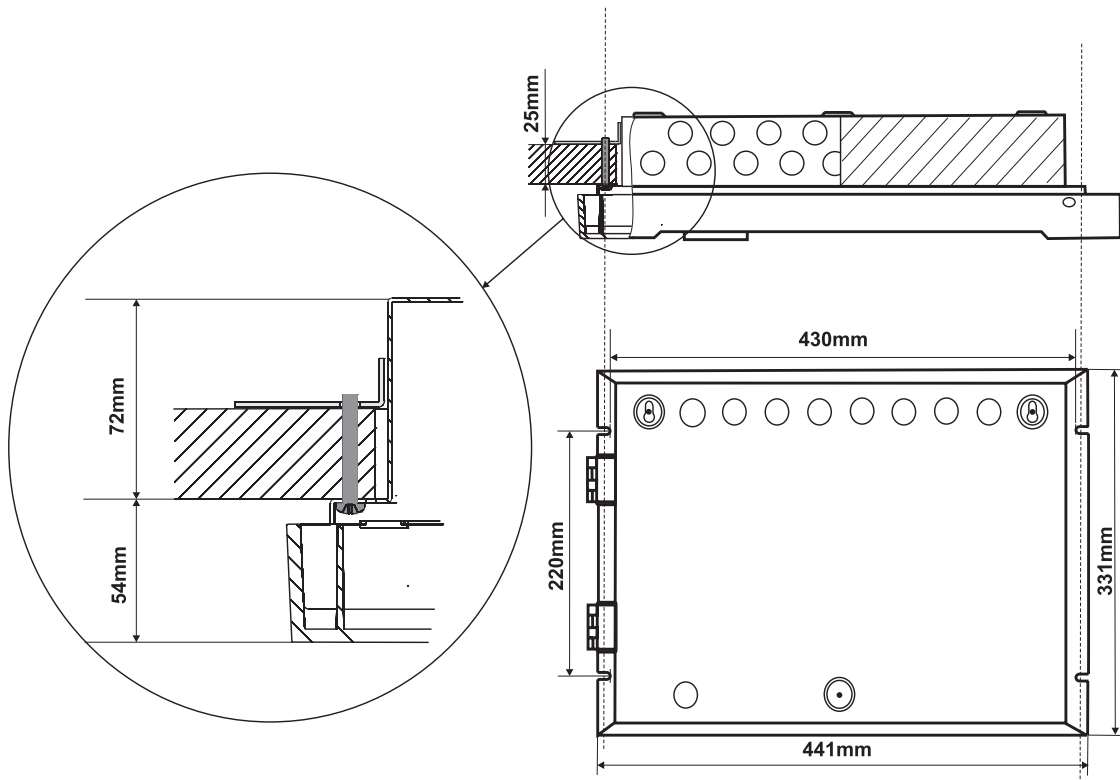
Figure 8. Flush mounting holes.
Main view of the fixed to the wall hinge and the bolts supporting the metal box.

2.2 System components
2.2.1 Front panel

LED indication for the events

LED indication for the zones

Heat printer (option)

LCD Display (320x240)

Figure 9.
Main view of the front panel.
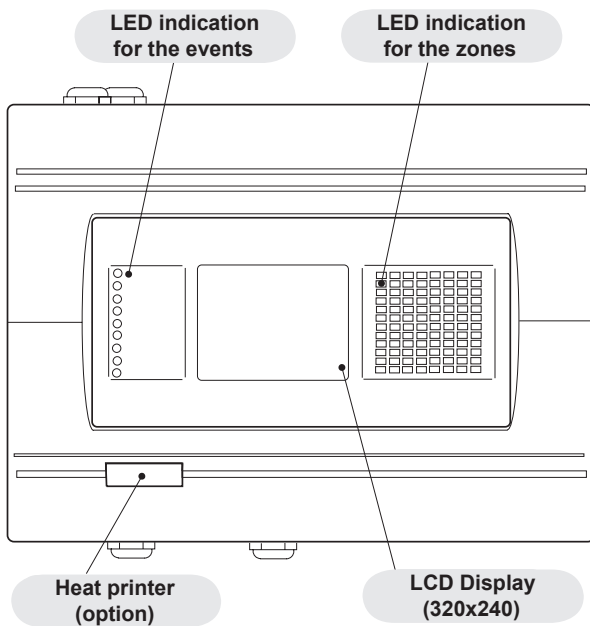
LED-indication of the events provides following functions:

GENERAL FIRE - General FIRE Indication
PREALARM - Indication for zones in Pre-Alarm Condition
GENERAL FAULT - General FAULT Indication
SYSTEM FAULT - General SYSTEM FAULT Indication
SYSTEM SILENCE - General Indication for Silenced Sounders
DELAY - General Indication for Active Delay in any of the Outputs
DISABLE - General Indication for introduced Disability
TEST - General Indication for Test

POWER ON - Presence of mains power supply 230V AC

2.2.2 Configuration of the basic modules

Clamp for supporting the main power supply cable.

A slow type fuse 2A situated into the terminal.

Terminal for connection between the mains power supply and the power source.

Clamp for supporting the main power supply cable.

I/O Module

4 Relay Module

Loop Controller 1

Loop Controller 2

Loop Controller 3

Loop Controller 4

Earth point

Power Supply Unit

Accumulator Battery 12V / 18 Ah

Metal clamp for supporting the battery.

Mains power supply opening.

Figure 10. Configuration of the basic modules in the system.

2.2.3 Output Module (I/O Module) and 4 Relay Module

The I/O Module (Figure 11a) is a basic part of the fire panel MAGPRO96, see the description of the terminals below. The 4 Relay Module is integrated onto the I/O Module and has 4 relays with programmable relay outputs.

> ⚠️ **ATTENTION: The Main Board could not work independently.**
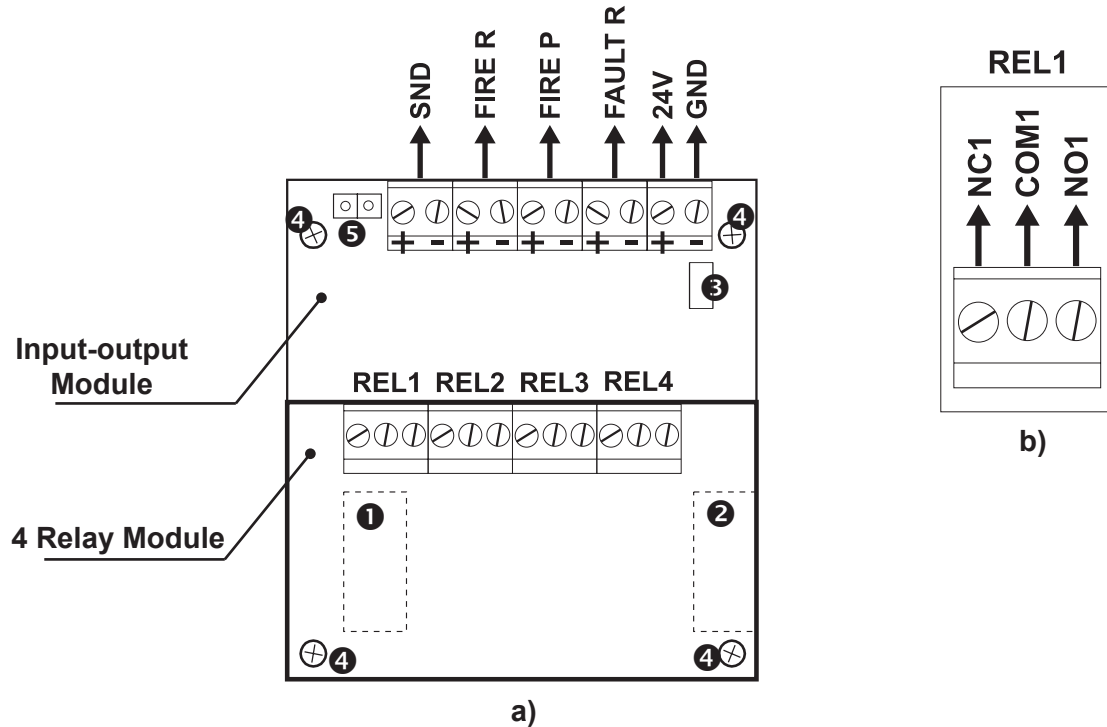
Figure 11. I/O Module with integrated 4 relay module.

Description of the Outputs Module terminal:

- **+24V** - DC Auxiliary outputs, 20 VA @ 0,3A;

- **GND** - Common earth;

- **SND** - Monitored output for connecting of a sounder, 24 VDC / 0,3 A;

- **FIRE R, FIRE P -** Monitored outputs for connecting of auxiliary devices (e.g. signalling devices), 24V / 0,3A. These outputs are activated in case of a fire alarm condition.

- **FAULT R** - Monitored output for connecting of auxiliary devices, 24V / 0,3A.
This output is deactivated in case of system trouble or fault.

Description of the 4 relay module terminal:

- **REL1, REL2, REL3 and REL4** - Programmable volt free change over relay contacts each, 110V/ 1A. Each relay has one NO (normal open) and one NC (normal closed) contact with common lead on a terminal. When a relay output is activated the NO contact is closed and the NC contact is opened - see Figure 11b.

Other:

- ❶ - Ribbon cable interface connector to the front panel*;

- ❷ - Interface connector for connecting Loop Expander Module*;

- ❸ - Fuse 0,3A, type Resettable (on the back side of the I/O module);

- ❹ - Mounting holes.

- ❺ - Jumper for enable/disable indication for earth fault.
For example, if you want to enable the earth fault indication set a jumper on position 5.

*** Note:** The items ❶ and ❷ are situated on the back side of the Outputs module PCB.*

2.2.4 Connecting devices to the Outputs Module

> ⚠ **The monitored outputs SND, FIRE R, FIRE P and FAULT R, at activation, provide 24VDC@0,3A to the load connected between them and GND (the earthing point of the panel).**
> **It is necessary to connect in parallel to the last device in the loop a 10k terminate resistor, so to ensure that the panel is able to detect any break or short circuit in the loop - see Fig. 12.**
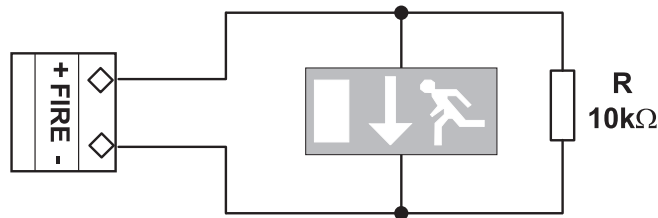
**Figure 12. Example for connecting of end device (an illuminated exit sign)
to the Monitored FIRE Output.**

To the monitored output **SND** could be connected several sounders - Figure 13. The maximum number of sounders that could be connected in the circuit, depends on their total current consumption, which must not exceed 0,3A.
Before connecting the last sounder in the circuit, parallel to it **must be added** resistor 10k.
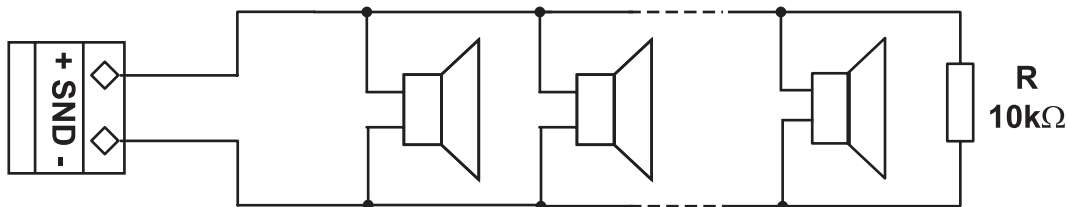
Figure 13. Connecting of sounders.

2.2.5 Loop Expander

The MAGPRO96 fire panel operates with MAGPRO96-L250 loop controller (*MAGPRO communication protocol*).

The Loop Controller (Figure 14) realizes the connection between the I/O Module and devices connected to the communication line. The Loop Expander has two basic functions: 1. Gathers data from the devices in the communication line and transfers it to the I/O Module; 2. Receives commands from the I/O Module and transfers them to the devices connected in the communication line.

Every MAGPRO96-L250 Loop provides up to 250 devices.

The maximum current consumption of the devices in the communication line is I_{max} = 500mA. If the consumption exceeds this value an over-load protection would be turned on.

In the configuration of analogue-addressable fire panel MAGPRO96 could be mounted up to 4 loop controllers.
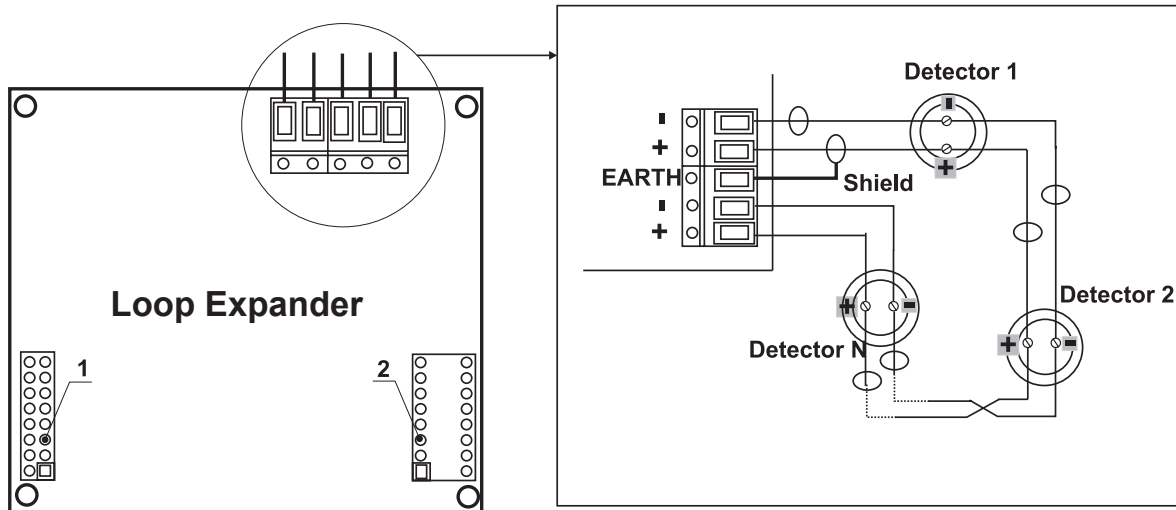
1 - Interface connector for connecting the Loop expander to the I/O Module.

2 - Interface connector for connecting second loop expander.

Figure 14. General view of Loop Expander and an example for connecting devices to it.

Adding of loop expander in the configuration of the fire panel MAGPRO96

ATTENTION: DO NOT ADD OR REMOVE LOOP EXPANDERS to the fire panel configuration WHEN THE MAIN AND BACKUP POWER SUPPLIES ARE ON!
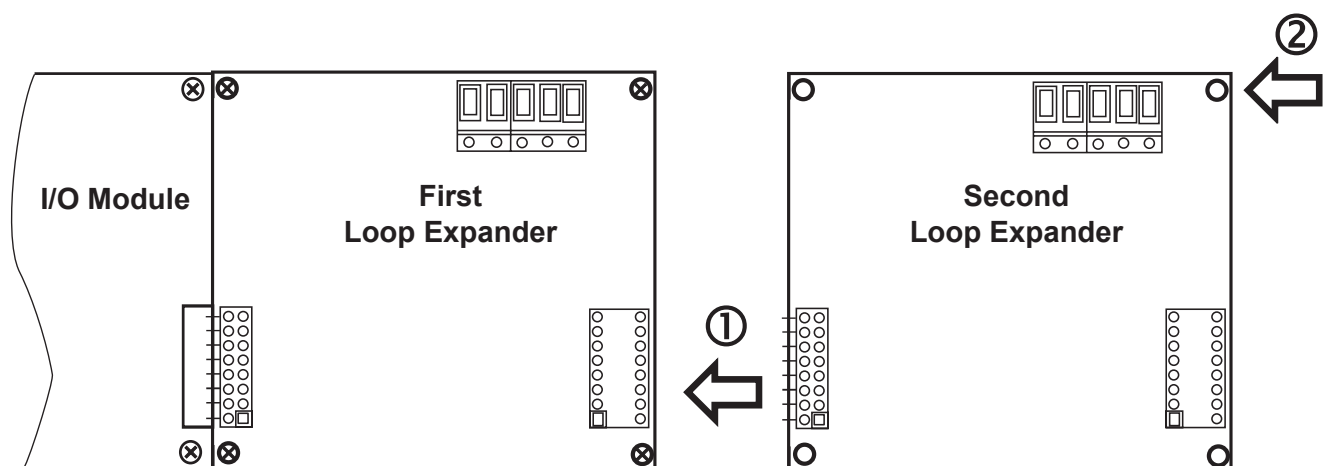
1 - Connect the interface connectors of the first and the second loop expanders.

2 - Fix the second loop expander with supplied bolts in the kit to the metal box of the fire   panel.

Figure 15. Connecting of a second loop expander in the fire panel configuration.

Note: The method of adding third and forth loop expander is analogical to that shown on Fig. 15.

2.2.6 Maximum permissible cable length

• Loop Controller MAGPRO96-L250

The maximum length of the loop in the system could vary according to the cross-section and the ohmic resistance of the used cable.

⚠ **ATTENTION: MAGPRO96-L250 controller supports up to 250 devices, regardless of the type!**

To ensure the correct operation of the system is necessary to make some calculations in advance:

1. To ensure the ability of the fire panel to receive the signals from the devices in the loop, calculate:	**2.** To ensure the ability of the fire panel to recognize the double addresses in the system, calculate:	**3.** To ensure the ability of the devices in the loop to receive command signals from the panel, calculate:
$$L_{C1max} \leq 123 / R_C$$	$$L_{C2max} \leq 62 / R_C$$	$$L_{C3max} \leq (12 / I_{max} - R_i) / R_C$$

Where:

L_{C1MAX} , L_{C2MAX} and L_{C3MAX} - are maximum permissible length of the used cable, [km];

R_C - is total ohmic resistance of the two wires of the used able; its value shows the magnitude of the cable resistance at length 1km [Ω/km];

R_I - is the total resistance of the isolator modules in the loop;

I_{max} - is the maximum current consumption in the loop - total amount of the current consumption of all devices in the loop.

Note, *In case of using one or more from the following devices MAGPRO Series: SD1, HD1, HSD1, CP, CZM, WS, WSS, DBS and DBSS, the total amount for I_{max} includes: the maximal current consumption in alarm mode of these 15 devices with highest consumption, and for the rest of the devices - the total consumption in stand-by mode.*

L_C is the necessary length of the cable for the loop.

After calculating, the maximal length of the cable is determined according:

· If $L_C \leq L_{C2max}$ and $L_C \leq L_{C3max}$ - the fire pane will be able to communicate with the devices in the loop and also will be able to identify the presence of double address.

· If $L_{C2max} < L_C \leq L_{C1max}$ and $L_C \leq L_{C3max}$ - the fire panel will be able to communicate with the devices in the loop but will not be able to identify the presence of double addresses.

⚠ **ATTENTION:**
Always calculate the maximal cable length according the mentioned above formulas!
IF $L_C > L_{C1max}$ or $L_C > L_{C3max}$ - the fire panel would not be able to communicate with the devices.
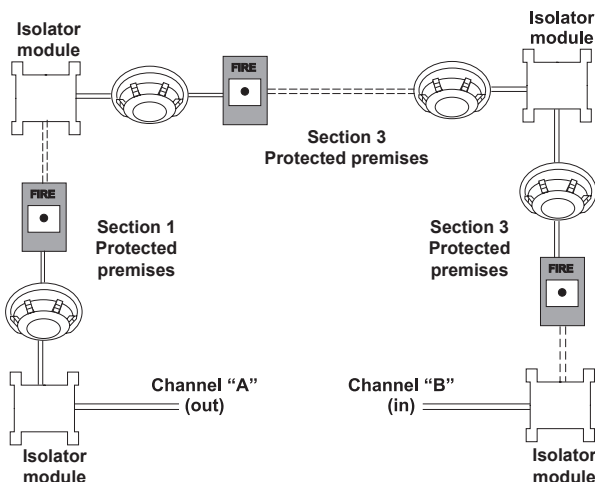
The connection diagram shown on Figure 16, gives the possibility to protect devices against opening and short-circuit. For example, short-circuit in section 2 will not influence the operation of sections 1 and 3. The isolator modules at the both ends of section 2 will isolate it, and section 1 and 3 will continue working properly, as section 1 will operate by supply from the channel "A" and section 3 - by supply from channel "B". Since the fire panel will not be able to communicate with the devices from section 2, it will generate an alarm signal for lost devices and open circuit.

The maximum number of devices between two isolator modules is 30!

Figure 16. Example for connecting of detectors and call points to a loop expander.

2.2.7 *Main Power Source*
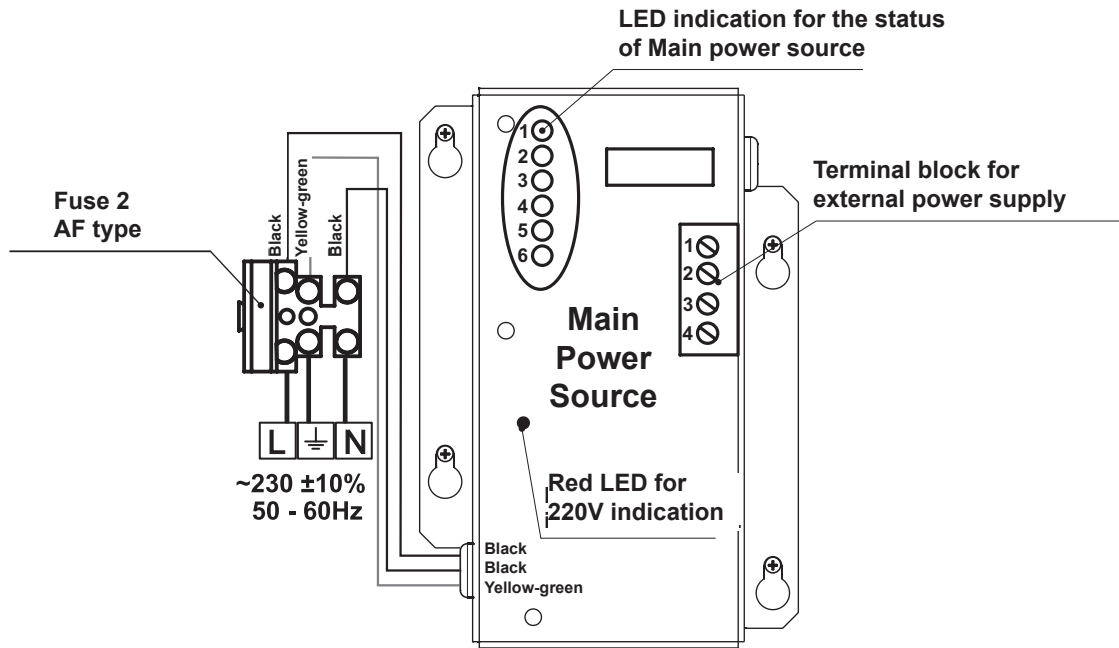
Figure 17. General view of the power source and the terminal.

LED-indication of the power source

LED	Function	Description
1	AC LOSS	Main power supply loss 220V.
2	Charger Fault	Problem with the battery charging.
3	BATT LOSS	Battery loss.
4	BATT Low/ Ri	Discharged battery/ High internal resistance Ri of the accumulator battery.
5	EARTH FAULT	Resistance to GND ≤ 10kΩ.
6	Rx / Tx	Shows the communication with the panel.

Terminal Block for connecting to external power supply.

Terminal	Function	Description
1	GND	Input for connecting of external power supply EARTH.
2	FAULT OUT	Fault output, turns on when a problem with the main power supply occurred. Connect it to the input (Fault In) of the external power supply.
3	FAULT IN	Input for connecting the Fault output of the external power supply.
4	+13.8V	External power supply input.

Before the mains supply is switched on, check the correct connection of each loop, sounder or any other input or output.

2.2.8 Connecting of the accumulator battery

Sealed lead acid type
rechargeable battery
12V / 18Ah

Main
Power
Source

Red
Black
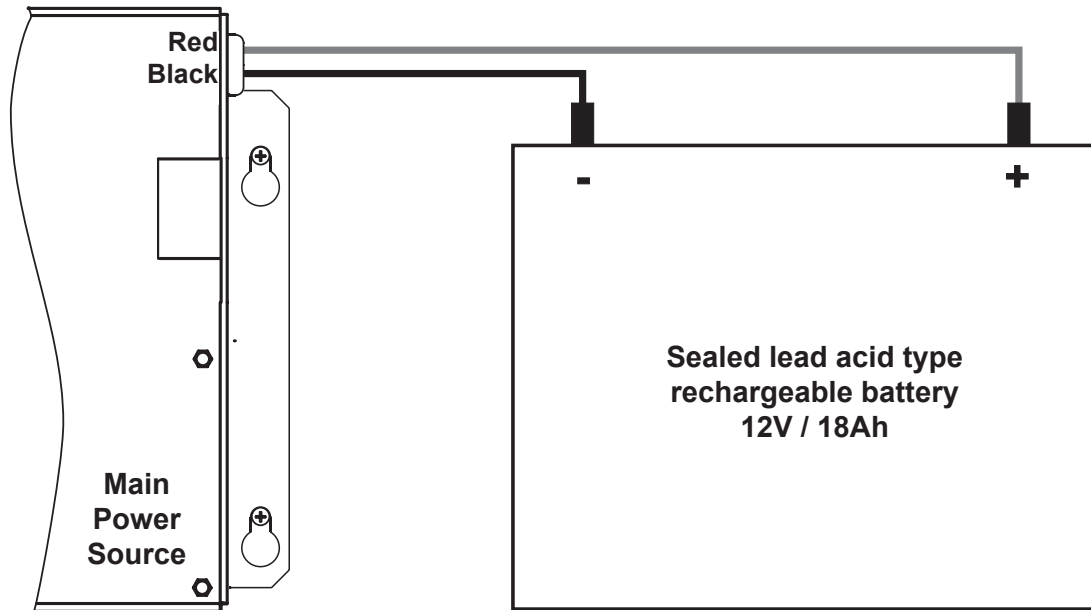
Figure 18. Connecting the accumulator battery to the main power source.

· Connect the red cable to the positive pole of the battery, and the black cable - to the negative battery pole. Both of the cables are connected to the battery by means of a flat terminal lug Ø5mm.

ATTENTION: The connection between the accumulator battery and the main power source has some special features. It is strongly recommended to use only battery with electrical characteristics and dimensions pointed from the manufacturer. Before connecting to the power source check the polarity of the battery. The battery cannot power up the panel before the mains supply has been switched on. Connect the battery after the mains supply is turned on. If the battery is new it will take a few hours before its complete charging!

The charging of the accumulator battery is done at maximum current I=2A and charging voltage U < 13,8V.

2.3 Main Board Schematics

The main board is situated on the back side of the front cover. On the main board is factory integrated a control module - uPC Module, for control of the panel functions and operations.
ATTENTION: Adjustment on the main board can be done from an authorized personnel only!
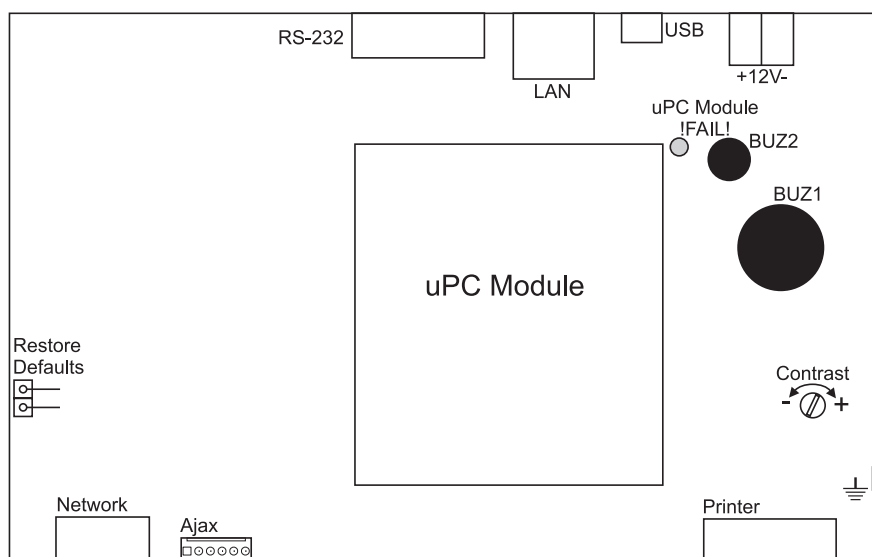
Figure 19. Main Board with integrated Control Module.

Main board elements:
- **Restore Defaults -** Resetting the panels with default parameters.
- **RS-232** - Serial interface
- **LAN** - Connecting to Ethernet network.
- **USB** - Micro USB connector for direct firmware update of the panel from a local PC or laptop.
- **±12V** - Additional power supply.
- **Printer** - RS232 interface connector for heat-printer.
- **Ajax** - Interface connector for adding of AJAX LAN communication module to the system configuration.
- **Network** - Interface connector for a redundant network module to the system configuration.
- **uPC Module !FAIL!** - Yellow LED for uPC failure.
- **uPC Module** - Control module integrated to the Main board
- **BUZ1/2** - Buzzers for sound signalization.
- **Contrast** - Adjusting the display contrast.

2.4 Connecting a Heat Printer

The addressable fire alarm panel MAGPRO96 is equipped with RS232 interface connector, situated in the right bottom of the main PCB, for connecting a heat printer. The heat printer allows the technician to print the log file for the alarm and fault events, warnings and changes during programming. The capacity of log file is 10 240 events, which are saved with date and time of occurring.

The addressable fire alarm panel MAGPRO96 supports Canon 9 type external printers, models Kafka and Datecs. For connecting the MAGPRO96 panel to the heat printer you have to prepare a special cable for the purpose – connect two male DB9-DB9 (Datecs printer) or DB9-DIN5 (Kafka printer) type connectors as shown on Figure 20.

Before printing (access level 3) make sure that the heat printer is connected to the 'PRINTER' interface connector on the main PCB and the printer is powered on.
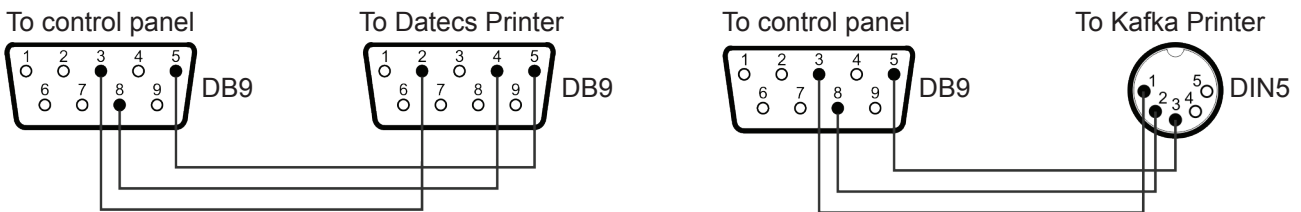
Figure 20. Heat printer connection diagrams.

2.5 Connecting a Network Interface Card (MAGPRO-NIC)

The addressable fire alarm panel MAGPRO96 is designed with option for connection in a Ethernet network with other MAGPRO16 or MAGPRO96 addressable panels (up to 32). The network interface card is mounted under the main PCB and is connected to 'NETWORK' connector – Figure 21. The card should be fixed with screws to the metal bottom. The maximum cable length between two network interface cards is 1000m.
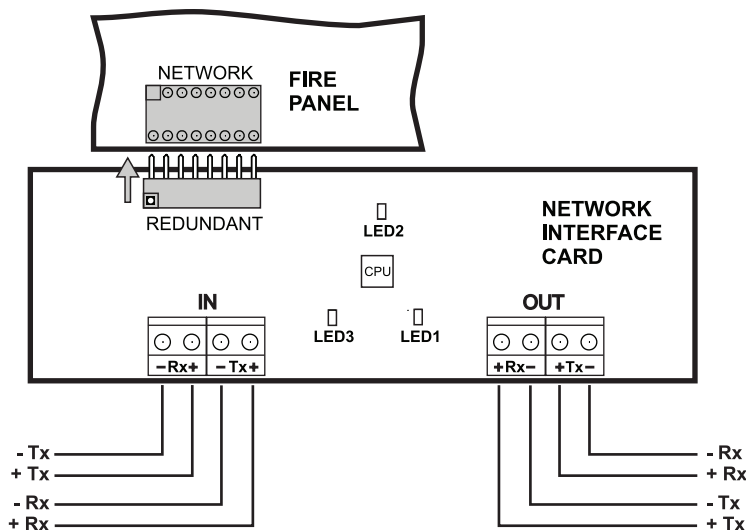
Attention: NEVER add or remove the network interface card to the fire panel configuration WHEN THE MAIN AND BACKUP POWER SUPPLIES ARE ON!

Figure 21. Connection Network Interface Card to MAGPRO96 control panel

2.6. Connecting an AJAX LAN Communication Module

The addressable fire alarm panel MAGPRO96 is designed for monitoring via serial interface connection using specialized AJAX communication module. The monitoring could be realized over LAN network, according the type of the used module. The connection is realized with interface flat cable between the AJAX connector on the main PCB and the interface connector on the communication module itself.

Attention: NEVER add or remove the communication module to the fire panel configuration WHEN THE MAIN AND BACKUP POWER SUPPLIES ARE ON!

2.7 Network connection diagram

It is possible to connect some individual MAGPRO96 fire panels in a network by means of a HUB and TCP/IP protocol - Figure 22. A supervisor PC, which could follow the current status of the individual fire panels, monitors the current panel state.
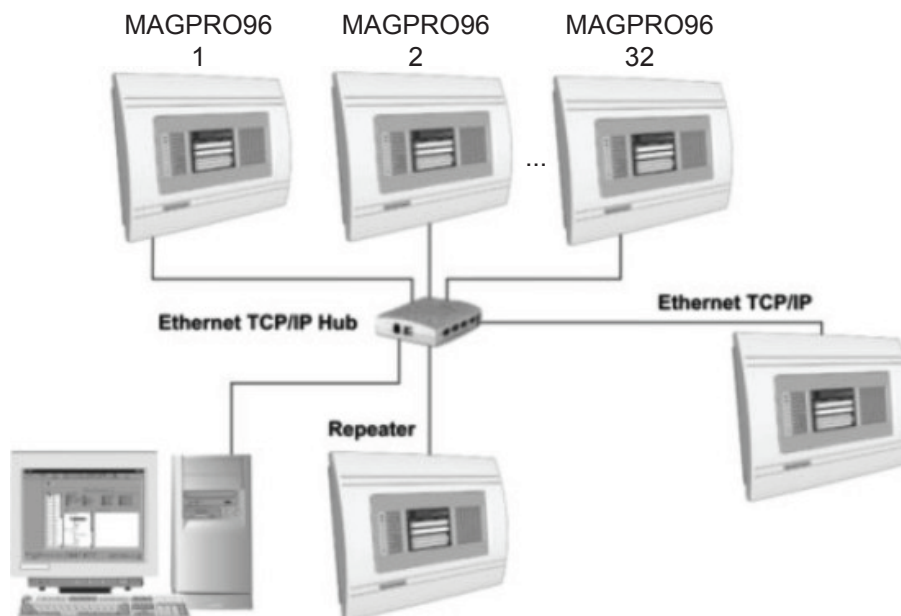
Figure 22.

3. PROGRAMMING
3.0 Basic knowledge for operating with LCD touch-screen display
The touch-screen display of the fire panel MAGPRO96 provides easy moving down the programming menus and entering of system parameters. The access to the programming menus is done with light pressing of the desired button. You can use also and a special pen for touch-screen display.

According to the chosen menu and/or the access level there are active and inactive buttons on the screen. Choosing an active button leads to changing of the screen - you can move to a list of additional or submenus for programming, or you can enter new parameters in the system.

3.0.1 Terminology
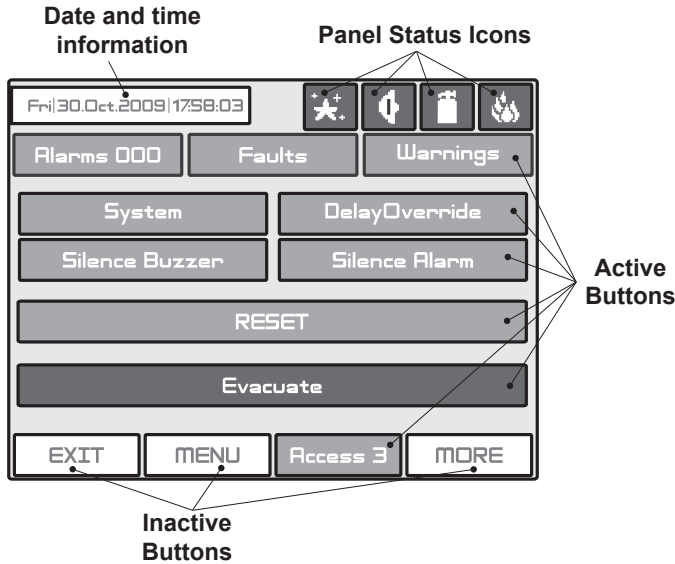
• **Active Button** - Pressing the button you can perform different operations: stop the sirens, reset the system parameters or move to other programming menus.

• **Inactive Buttons** - The buttons do not respond when pressed. The parameters definition fields are also inactive. They just provide information of the parameter type.

Note: The status of the buttons can alternatively change (active-inactive) according the programming menu and access level.

• **Panel Status Icons** - The icons give information about the status of the fire panel and the programmed working mode. The icons are inactive if pressed. The different fire panel states are indicated with different colour of the icon. The icons and their state are described in item 5.2.

• **Used symbols**

     - Press the pointed button   - Use a special pen for touch-screen display.

3.0.2 Initial Power-up
When turned on, the panel always conducts a procedure of loading the parameters, which usually takes about 30 sec. There is no access to the menus of the panel during that procedure.

Upon the initial start up, the panel does not hold any configurations. Initialization may take several minutes. The initialization time needed depends on the number of periphery and loop devices. After the panel has been turned on, it performs a procedure for detecting newly installed periphery and loop devices - see also The **APPENDIX E** on page 57.

3.0.3 Default Language
The fire panel MAGPRO96 can support different languages of the programming menus. The factory default setting of the language is in English. You can change the language after the initial power-up as enter in sequence:

**Access 1 → 3333 → OK → System → Programming → Panel → Languages →
→ Choose a language → Apply**

After choosing the **Apply** button, you can return to the main screen by choosing the **MENU** button.

3.1 Access Codes

To access the **Programming** and **Maintenance** Menus is necessary to enter a valid access code.

Enter the access code menu
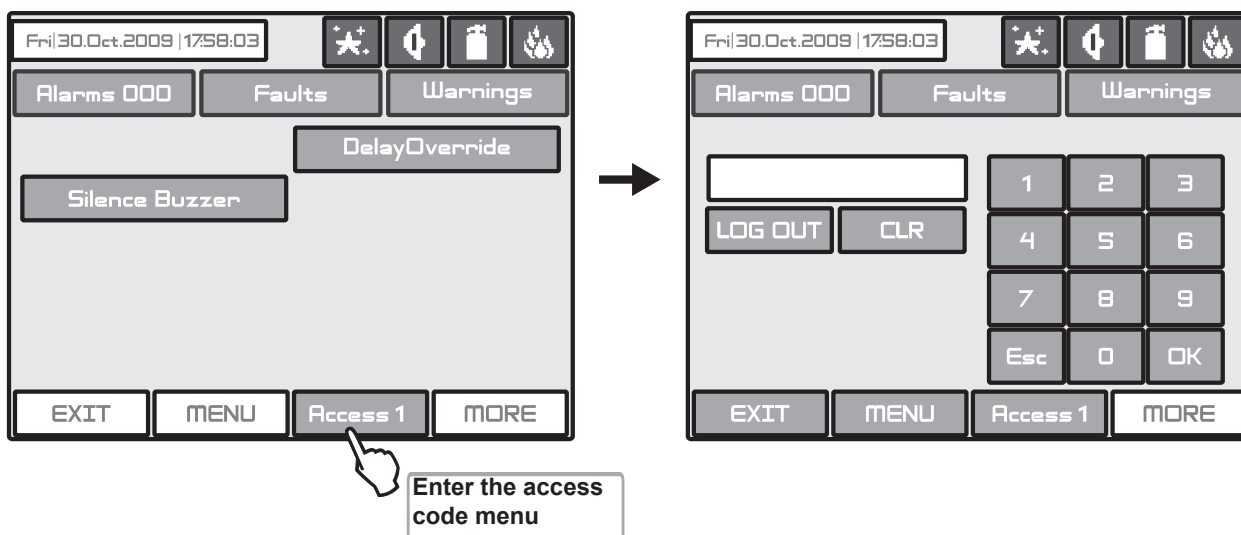
Fig. Screens 1.

There are 4 access codes programmed by default. The Installer/User can enter 3 access levels in the system. The introduced code combinations are visualized with "*" symbol.

Code Number	Code Combination	Access Level	Functions
1	0000	1	Only **Silence Buzzer** and **Delay Override** buttons are active.
2	1111	1	It is not allowed to enter the **Programming** and **Maintenance** Menus.
3	2222	2	**System**, **Delay Override**, **Silence Buzzer**, **Silence Alarm**, **RESET** and **Evacuate** buttons are active. It is allowed to enter only a few **Maintenance** Menus.
4	3333	3	**System**, **Delay Override**, **Silence Buzzer**, **Silence Alarm**, **RESET** and **Evacuate** buttons are active. It is allowed to enter both the **Programming** and **Maintenance** Menus

The entered code combination is confirmed by pressing the **OK** button. You can delete the entered digits by pressing the **CLR** button. Exit from the access level is by pressing the **LOG OUT** or **Esc** button. The other active buttons are general for all the menus and submenus and have the following functions:

EXIT - Step back to the previous menu or submenu;

MENU - Moves back to the Main Screen of the related access level.

All access codes could be viewed and edited in the "**Access Codes**" submenu based in "**Panels**" menu, see also item 3.7.1.

There are different restrictions on the panel functions in the relative access levels, which are shown in the following table:

	Function	Description	Level 1	Level 2	Level 3
Control Panel	Silence Buzzer	Deactivating Internal Buzzer	√	√	√
	Silence Sounder	Deactivating the Sounders	-	√	√
	Delay Override	Resetting of all active outputs delay, excepting Fire Protection	√	√	√
	Reset	Resetting of all active statuses	-	√	√
	Evacuate	Activating Evacuation alarm signal	-	√	√
	Alarms	Viewing the Alarms Messages in the system	√	√	√
	Faults	Viewing the Faults Messages in the system	√	√	√
	Warnings	Viewing the Warnings Messages in the system	√	√	√
	Menu	Main Screen	√	√	√
	Access Level	Entering an access code	√	√	√
System — Programming	Device	Device Programming	-	-	√
	Zones	Zone Programming	-	-	√
	Inputs	Inputs Programming	-	-	√
	Outputs	Outputs Programming	-	-	√
	Panel	Panel Programming	-	-	√
	Restore Default	Restore the default parameters	-	-	√
	Save	Save the configuration	-	-	√
System — Maintenance	Time	Entering current time	-	-	√
	Date	Entering current time date	-	-	√
	Day	Day Schedule introducing	-	-	√
	Output Delay	Output Delay Introducing	-	-	√
	View LOG	View the LOG-file	-	-	√
	Test	Testing	-	√	√
	Disable	Disable Introducing	-	√	√
	Software Revision	View the software revision	-	-	√
	Display	Calibration of the Display	-	-	√
	View Insulator Act.	Review the activated insulators in the system (modules and built-in in devices)	-	-	√

3.2 Programming Menu

The programming of the panel is done only from the access level 3 - Fig. Screens 2. Choose the **System** Button**.** From the next screen the Installer/User can choose the type of the operation, which he want to do:

   1. To program system parameters - **Programming Menu**.

   2. To study the panel operation, as to enter different parameters for the maintenance of the system - **Maintenance Menu**.
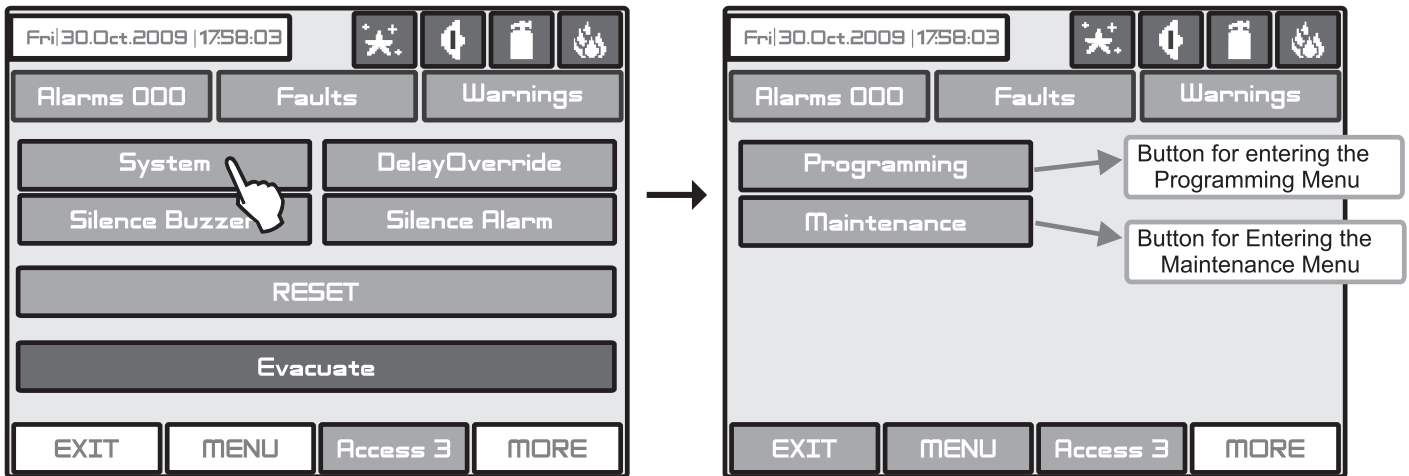
Fig. Screens 2.

To enter in the **Programming Menu** the Installer should choose **Programming** Button. The main screen of the **Programming Menu** is displayed on Fig. Screen 3

Fig. Screen 3.

On the left side of the screen are located buttons for entering submenus for parameter programming of Devices, Zones, Inputs, Outputs and Access Codes. To enter a desired submenu just choose its button.

Choosing the button "**Restore Defaults**" on the right side of the screen can restore all the factory settings. Button "**Save**" is for quick saving of the entered information.

> ⚠ **With the button "Exit" in the bottom left corner the user/installer can easy move one step back on the previous screen.**

3.3 Devices

The addressable fire panel MAGPRO96 supports periphery and loop devices.

All "functional modules" connected to the control panel configuration are defined as Periphery Devices, and have special programming and setting. The Main board is not a periphery device. All addressable devices connected to loop expander are defined as Loop Devices.

With choosing the "**Device**" button the user/installer enters a menu for choosing the type of the device - Fig. Screen 4.

Fig. Screen 4.

3.3.1 Periphery Devices

Choosing "**Periphery Device**" button leads to submenu for entering the parameters of the available periphery devices in the system configuration - Fig. Screen 5. The list of supported periphery devices is:

· **PSU** Power source - see Figure 5

· **OUT** (Input/Output Module) - 4 input/ 4 monitored outputs/ 4 relays

· **OUT** (Input/Output Module + 4 Relay Expander Module)

· **LOOP** (Loop controller MAGPRO96-L250)

If there is no device detected on the current address, the address is *EMPTY.*

3.3.1.1 Physical Address of Periphery Device

The panel is able to operate with up to 10 periphery devices, addressed 1 to 10. The devices can be self-addressed, whereby the first along the loop acquires the lowest address. The power supply source always acquires address 1. You can choose the next/previous device address by pressing the ◄ ► navigation buttons.

3.3.1.2 Current Status of the Device

The running status of the device can be:

• **NEW** - the device is new to the system. It must be saved. The main board is recognized a physical presence of a device, which is not included in the system configuration. The new device has to be added to the system configuration so the panel to be able to communicate with it - to receive an alarm or trouble messages, to activate and to receive signals, etc. The new device can be add to the system configuration with pressing the SAVE button.

Note: The device is defined as NEW in two cases:

1. A device has been physically added to the hardware configuration of the panel. Use the "SAVE" button. (For example when a loop expander is added to the system configuration).

2. A device has been removed from the system configuration (with "REMOVE" button), but it is still present in the hardware configuration - it is not physically removed. The panel will recognize the presence of the device in the loop, but it is not added to the system configuration, so the device is NEW for the panel.

• **NORMAL** - the device is properly operating.
• **FAULT** - the device does not respond.
• **TYPE ERROR** - a device, different from that saved, has been detected. Use the "CHANGE" button to change the device type.

3.3.1.3 Adding a new periphery device to the panel

Upon detecting a new periphery device (which is missing in the configuration), the following message will be displayed: "**NEW PERIPHERY DEVICES FOUND**", and the number of the detected devices will be indicated. Choose the **SAVE** button to add the new periphery devices to the panel configuration. If a device is not responding you can remove it as choosing the **REMOVE** button.
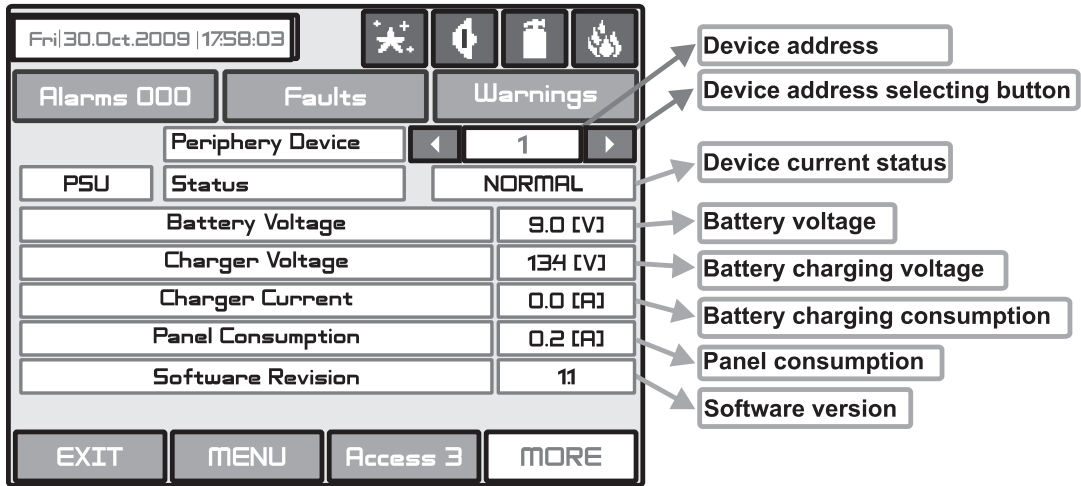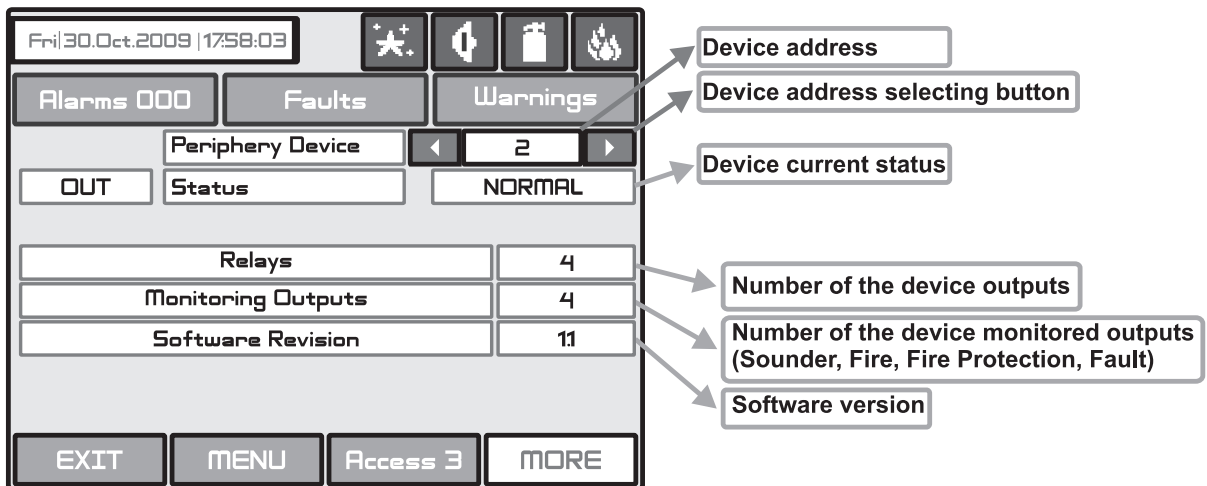

Fig. Screen 5 PSU Parameters (Power source)

Fig. Screen 6 – OUT (I/O module + 4 Relay Expander Module)

Fig. Screen 7 - LOOP (Loop controller) -

Example for adding/ removing of new periphery device

*Note: After choosing the **SAVE** button it disappears from the screen and the status of the device from **NEW** changes to **NORMAL**.*

3.3.2 Loop Devices

To enter the submenu for programming of the loop devices parameters from "**Device**" menu choose button "**Loop Devices**" - Fig. Screen 4.

> ⚠ **Attention: The searching for new loop devices is done only when the MAGPRO96-L250 loop controller has been added to the configuration.**

When a new loop device is found (missing in the configuration) the message "**NEW LOOP DEVICES FOUND**" will be generated, as well as the number of detected devices. The message is generated by loops. Adding a new device to the configuration is accomplished with the **APPLY** command from the specific device menu or with the help of the general SAVE command from the **Programming** menu. Any device, which has not been added to the configuration, cannot generate messages. In case of removal of a loop device, the panel generates a "**LOOP DEVICE FAULT**" message. When a newly detected device is removed, the panel reduces the number of the new devices and if their number is 0 it shall extinguish the "**NEW LOOP DEVICES FOUND**" message. Removing the device from the configuration is accomplished with the **REMOVE** command in the menu for the specific device.

Where in abundance, it is possible for device addresses to double along the loops (see also **item 2.2.6 Maximum permissible cable length**). In such cases the message "**DOUBLE ADDRESS**" will be displayed along with the problem address. To determine the loop devices with doubled addresses, choose in sequence the loop number and doubled address. In the left bottom of the screen press the LED button - the LEDs of all devices recorded with this address will light on. That ensures quick finding all devices with one and the same address and correction with new address. The next pressing of the LED button will light off the LEDs of the devices.

Should a different device type appear at the address of a saved device, the panel will generate "**LOOP DEVICE TYPE ERROR**". For MAGPRO96-L250 loop controller first you need to remove wrong and then to save the new type of the device.

• Loop Controller MAGPRO96-L250

The loop controller MAGPRO96-L250 automatically recognizes the types of devices in the loop. In addition the installer defines the additional parameters for every MAGPRO device according its type - see also **the Appendix B** - MAGPRO device types. The "**SAVE**" button (Fig. Screen 3) can be used for fast configuration of the device. Following this command, the panel sets up all detected loop and periphery devices by default. Only the new devices are configured under this command. The "**RESTORE DEFAULTS**" command deletes all system parameters.

On Fig. Screen 8 is given the general view of the submenu for new loop devices for MAGPTO96-L250 (MAGPRO-CP in the example).
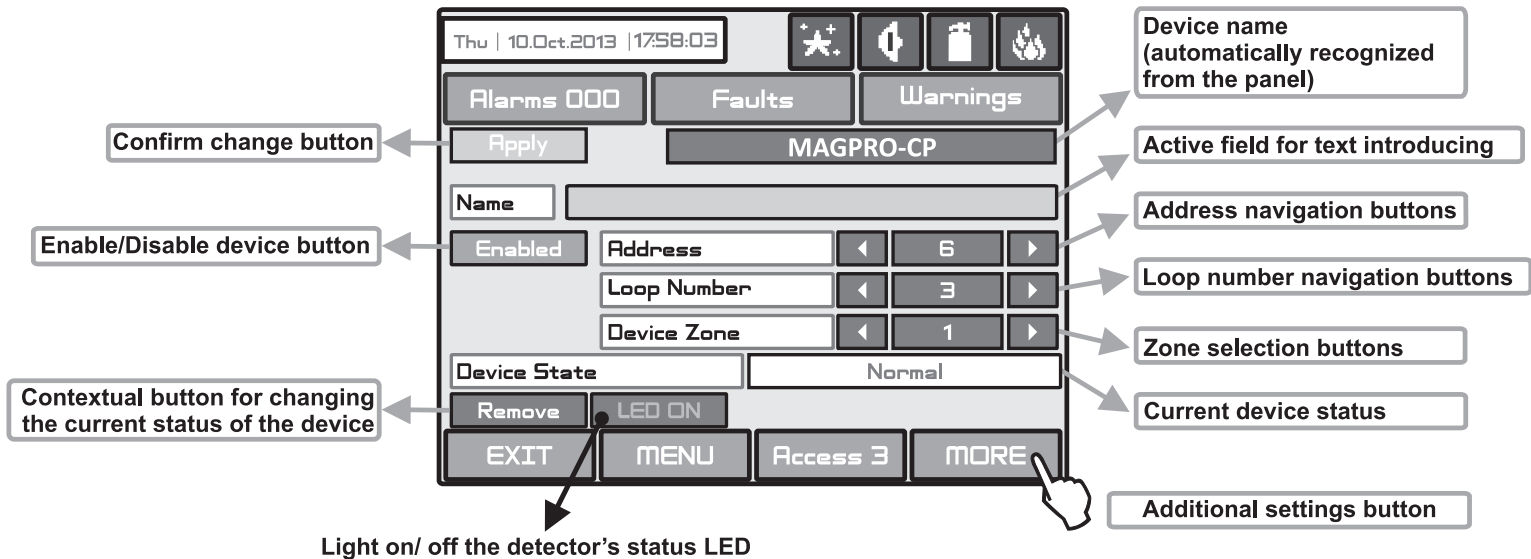

Fig. Screen 8

Description of the button functions which are common for all devices (Fig. Screen 8):
• *Confirm Change Button* - Saves changes in the permanent memory.
• *Button to enable/disable a device* - Button for Enabling / Disabling devices.
• *Address Navigation Buttons* - These buttons help to scroll over (in sequence or directly) the devices of one and the same loop.
• *Loop Number Navigation Buttons* - These keys alternate the loop (in sequence or directly) of the screened devices.
• *Zone Selection Buttons* - These keys alternate the zone (in sequence or directly) to which the device belongs.
• *Current Device Status* - The current device status varies according to the device type.
    NEW - new device found in the system. You can save it by pressing the "**Apply**" button.
    NORMAL - the device is working properly.
    FAULT - the device is not responding. You can delete it by pressing the "**REMOVE**" button.
    TYPE ERROR - the device has been saved with a different type.
    NONE - there is no device on the current address.
• *Button for Removing a device* - Pressing the button deletes the device from the system configuration.
• *Button LED ON/ OFF- Turns on the LED of the device when checking for the presence of doubling addresses in the loop.*
• *Active Field for Text Introduction* - Choosing this field accesses the text introduction mode. The text must not exceed 40 digits together with the spaces:

Button	Function
Cyr	Switches to Cyrillic letters.
SPE	Switches to specific letters.
Lat	Switches to Latin letters.
Sym	Switches to specific symbols.
A/a	Switches between capital and small letters.
Num	Switches to numbers.
␣	Space.
←	Deletes numbers or letters.
↵	Confirmation of the entered numbers or letters.

Entered information is confirmed with button [↵] .
• *Additional Settings Button MORE* - The additional settings may vary according to the type of device - see the Fig. Screens 9(a) - 9(p).

MAGPRO-SD1 - Optical-smoke detector

Fig. Screen 9(a) - MAGPRO-SD1 fire detector.

On Fig. Screen 9(a) is shown the MAGPRO-SD1 (addressable optical smoke detector) settings screen. Choose the "MORE" button to enter a screen with additional settings:

• **Smoke (%)/ Heat (°C)** - Press the "Check" button to enter in a new screen to review the following parameters:
    - Smoke: Shows in percent the current level of smoke in the detector's smoke chamber
    - Pollution: Shows in percent the current level of pollution in the detector's smoke chamber.

• **Led Blink** - Button for changing the LED mode: ON Setting - The LED blinks at every query from the station; OFF Setting - The LED does not show the dialogue cycle.

• **Day Alarm Level*** - Setting the day alarm level.

• **Night Alarm Level*** - Setting the night alarm level.

* NOTE: There are 4 levels for setting of alarm level sensitivity: High, Normal, Middle and Low. To change the level of sensitivity simple press the active button next to the field and choose a new level from the list.

To save the new setting press the "Apply" button on the main screen of the device.

MAGPRO-HD1 - Heat detector

Fig. Screen 9(b) - MAGPRO-HD1 fire detector.

On Fig. Screen 9(b) is shown the MAGPRO-HD1 (addressable temperature detector) settings screen. Choose the "MORE" button to enter a screen with additional settings:

• **Smoke (%)/ Heat (°C)** - Press the button to enter in a new screen for checking of the following current parameters:
    - T fire – Shows the operating temperature of the detector, in degrees centigrade.
    - T – Shows the current temperature in the room, in degrees centigrade.

• **Led Blink** - Button for changing the LED mode: ON Setting - The LED blinks at every query from the station; OFF Setting - The LED does not show the dialogue cycle.

• **Day Alarm Level, temp*** - Setting the day class temperature for operation.

• **Night Alarm Level, temp.*** - Setting the night class temperature for operation.

* There are 3 temperature classes for operation: A1R (58º, RoR), A2S (60º), BS (75º). To change the class simple press the active button next to the field and choose a new level from the list.

To save the new setting press the "Apply" button on the main screen of the device.

MAGPRO-HSD1 - Combined optical-smoke and heat detector

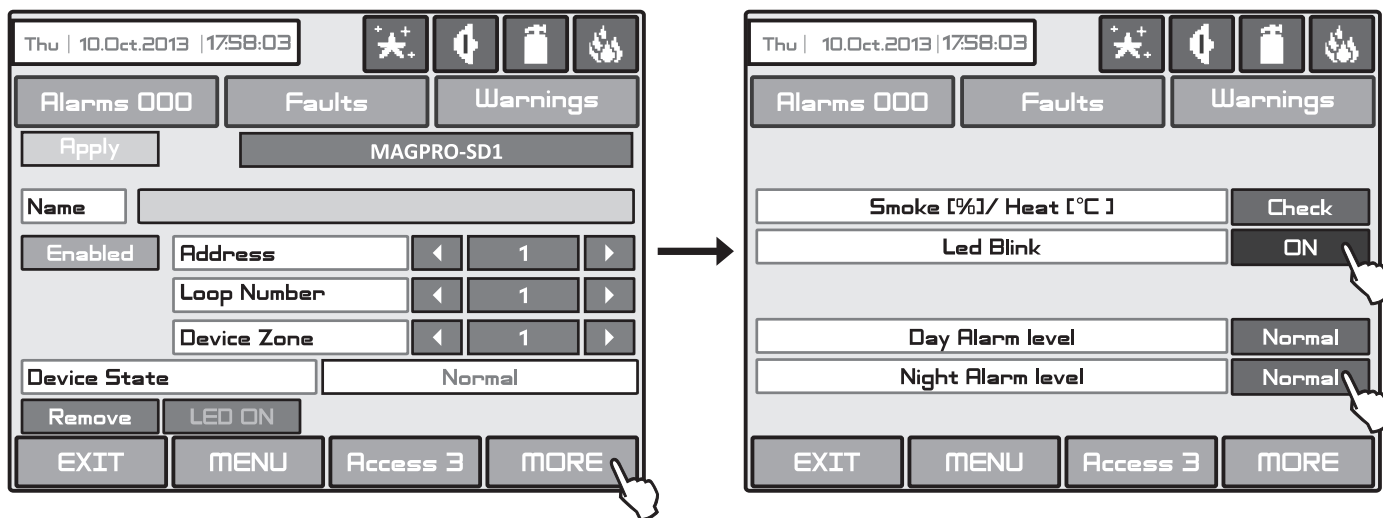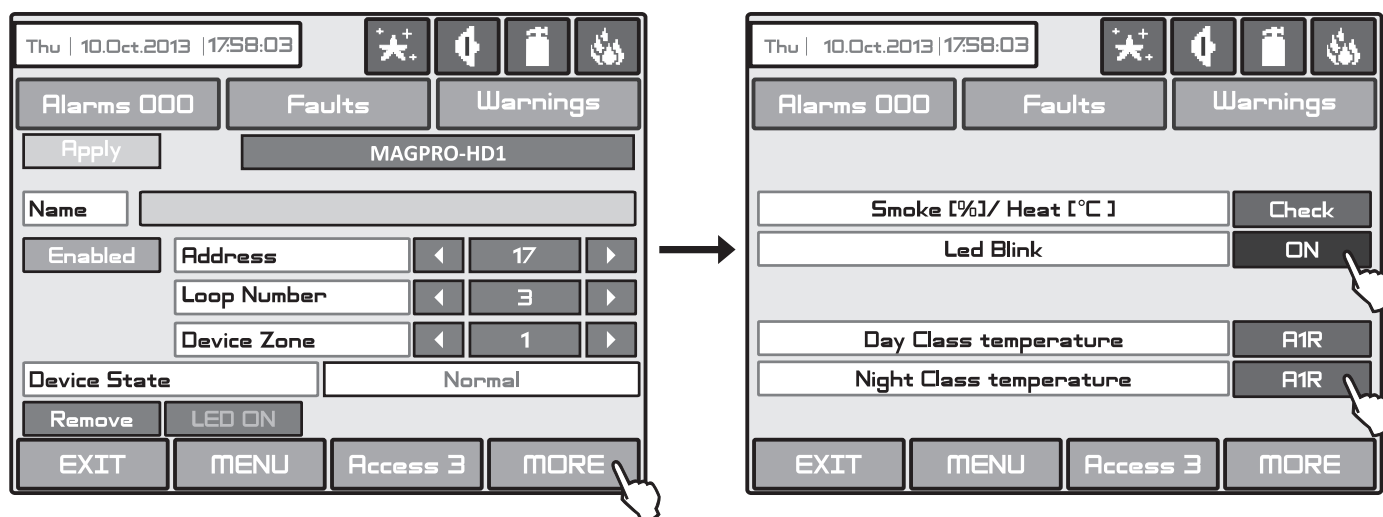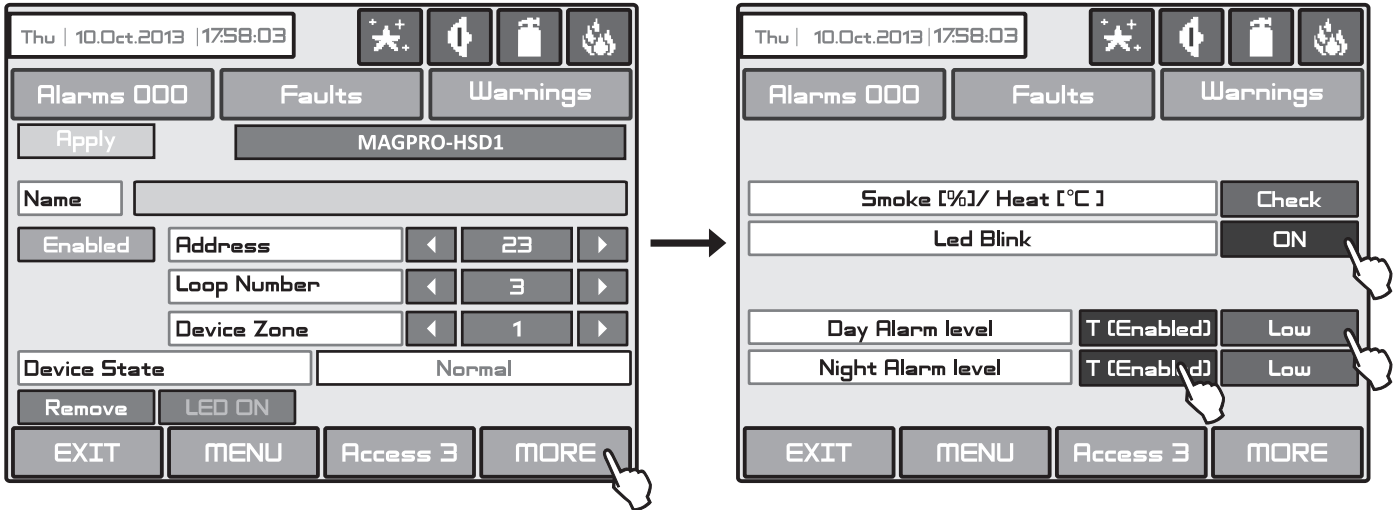**Fig. Screen 9(c) - MAGPRO-HSD1 fire detector.**

On Fig. Screen 9(c) is shown the MAGPRO-HSD1 (addressable optical smoke and temperature RoR detector) settings screen. Choose the "MORE" button to enter a screen with additional settings:

• **Smoke (%)/ Heat (°C)** - Press the button to enter in a new screen for checking of the following current parameters:
> - Smoke: Shows in percent the current level of smoke in the detector's smoke chamber
> - Pollution: Shows in percent the current level of pollution in the detector's smoke chamber.
> - T fire – Shows the operating temperature of the detector, in degrees centigrade.
> - T – Shows the current temperature in the room, in degrees centigrade.

• **Led Blink** - Button for changing the LED mode: ON Setting - The LED blinks at every query from the station; OFF Setting - The LED does not show the dialogue cycle.

• **Day Alarm Level**. Set here the sensitivity level of the optical part of the detector and enable/ disable the heat part. These settings are valid for the daytime:
> - *Sensitivity level*. There are 4 levels for setting of alarm level sensitivity for the optical part: High, Normal, Middle and Low. To change the level of sensitivity simple press the active button next to the field and choose a new level from the list.
> - *Heat part*. In addition for this device only the installer can enable or disable the heat part of the detector. The state of the heat part can be changed with pressing the button.

• **Night Alarm Level**. Set here the sensitivity level of the optical part of the detector and enable/ disable the heat part. These settings are valid for the nighttime. Operation of setting is the same with those for the day alarm level.

Attention: It is not allowed disabling the temperature and the optical parts at the same time!

To save the new setting press the "Apply" button on the main screen of the device.

MAGPRO-CP - Manual call point
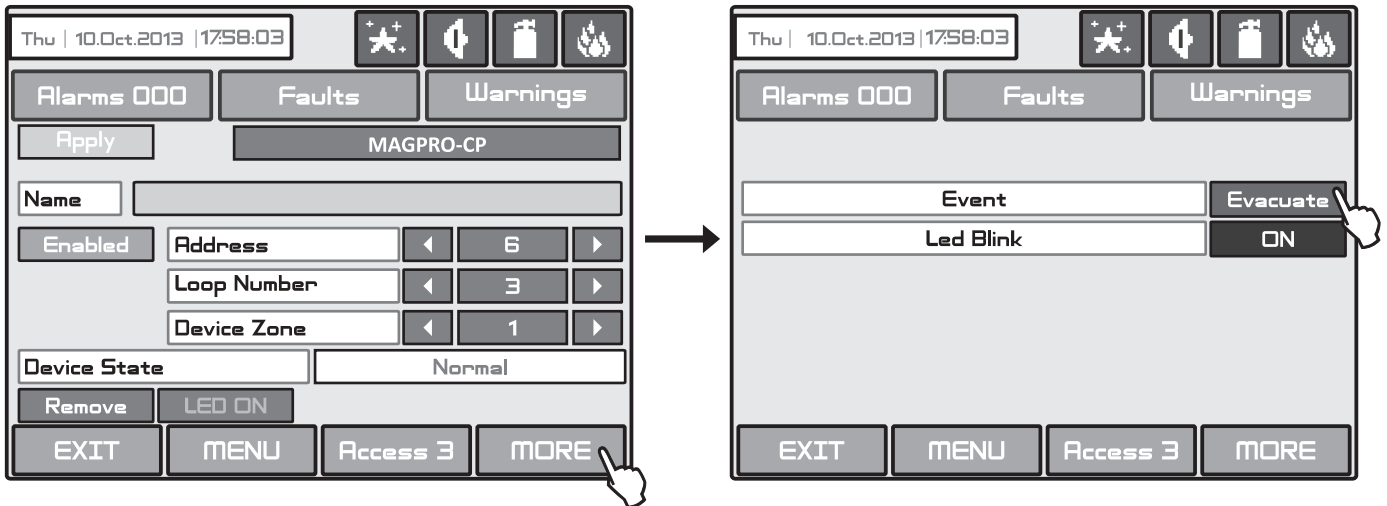
Fig. Screen 9(d) - MAGPRO-CP manual call point.

On Fig. Screen 9(d) is shown the MAGPRO-CP (manual call point) settings screen. Choose the "MORE" button to enter a screen with additional settings:

• *Event* - Every pressing of the button alternatively changes the type of the event generated with activation of the manual call point:
    - EVACUATE – The sounders will be activated immediately, as the set time delays T1 and T2 are ignored.
    - ALARM – The set time delays T1 and T2 are active and the manual call point operated as an automatic detector.

• *Led Blink* - Button for changing the LED mode: ON Setting - The LED blinks at every query from the station; OFF Setting - The LED does not show the dialogue cycle.

To save the new setting press the "Apply" button on the main screen of the device.

MAGPRO-WS - Wall mounted sounder

Fig. Screen 9(e) - MAGPRO-WS wall mounted sounder.

On Fig. Screen 9(e) is shown the MAGPRO-WS (wall mounted sounder) settings screen. Choose the "MORE" button to enter a screen with additional settings:

• *Sound Level* - Every pressing of the button alternatively changes the sound level between HIGH/ LOW – as this depends on the number of the connected sounders to the loop:

- HIGH – Set in those cases when the number of the connected sounders to the loop is up to 30 (WS and WSS).

- LOW – Set in those cases when the number of the connected sounders to the loop is up to 60 (WS and WSS).

At the bottom of the screen is shown in addition the Software Revision of the device in a separate field.

To save the new setting press the "Apply" button on the main screen of the device.

MAGPRO-WSS - Wall mounted sounder and strobe

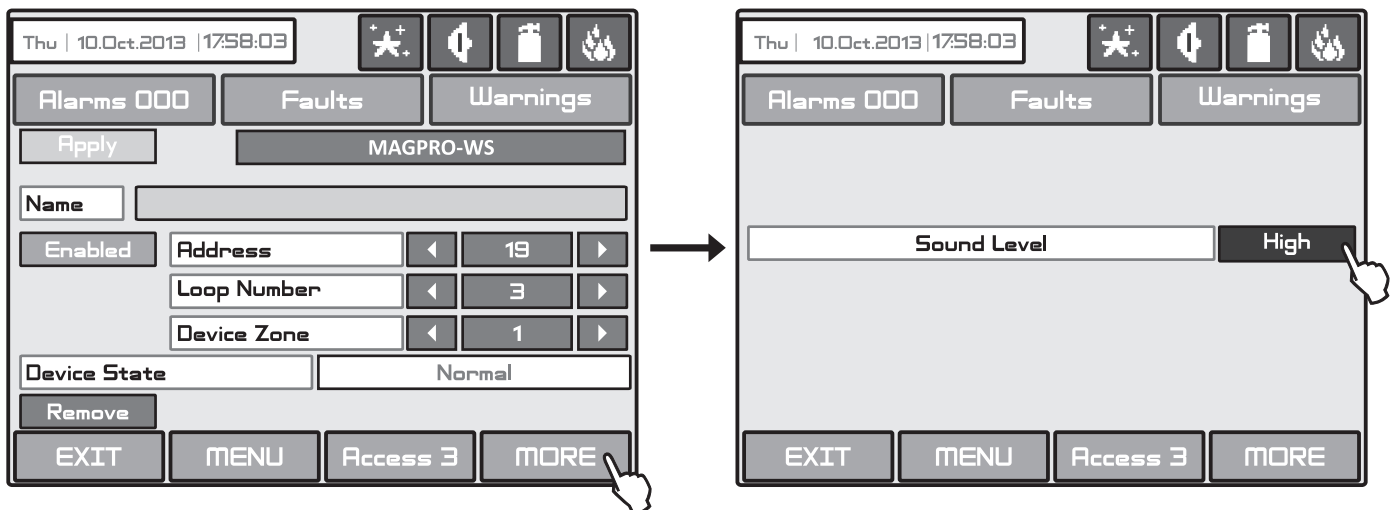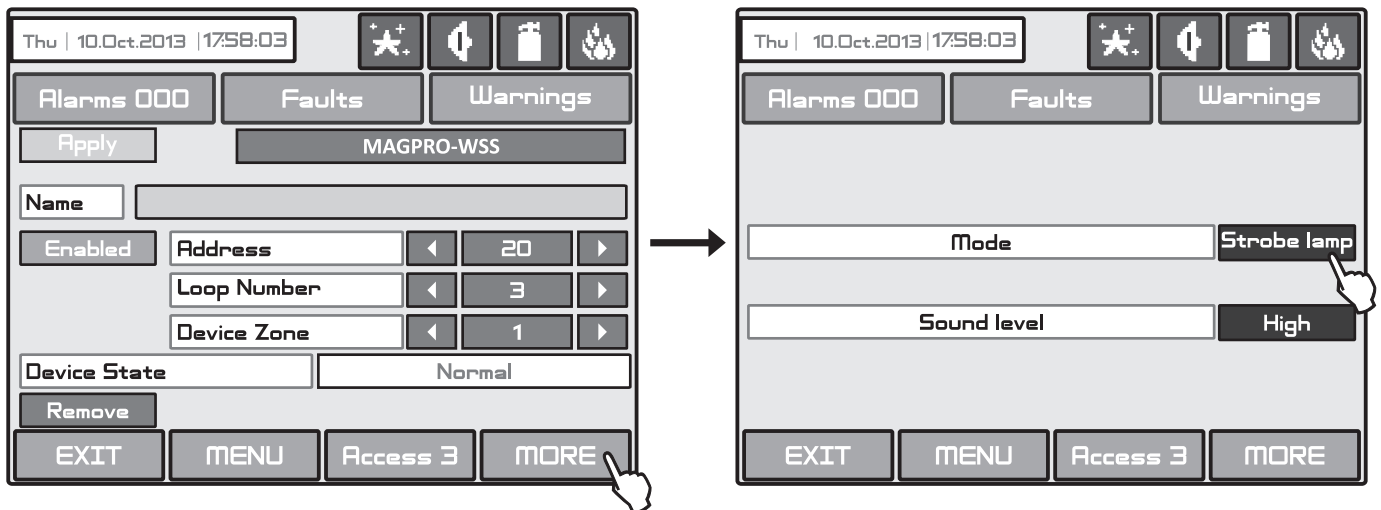**Fig. Screen 9(f) - MAGPRO-WSS wall mounted sounder and strobe.**

On Fig. Screen 9(e) is shown the MAGPRO-WSS (wall mounted sounder and strobe) settings screen. Choose the "MORE" button to enter a screen with additional settings:

• *Mode* - Press to choose from a list the mode of operation of the sounder: *Strobe lamp* (only the strobe light is active in case of fire alarm event); *Sound* (only the sound is active in case of fire alarm event); *Sound/Strobe* (both the strobe light and sound are active in case of fire alarm event);

• *Sound Level* - Every pressing of the button alternatively changes the sound level between HIGH/ LOW – as this depends on the number of the connected sounders to the loop:

- HIGH – Set in those cases when the number of the connected sounders to the loop is up to 30 (WS and WSS).

- LOW – Set in those cases when the number of the connected sounders to the loop is up to 60 (WS and WSS).

At the bottom of the screen is shown in addition the Software Revision of the device in a separate field.

To save the new setting press the "Apply" button on the main screen of the device.

MAGPRO-DBS - Base with sounder
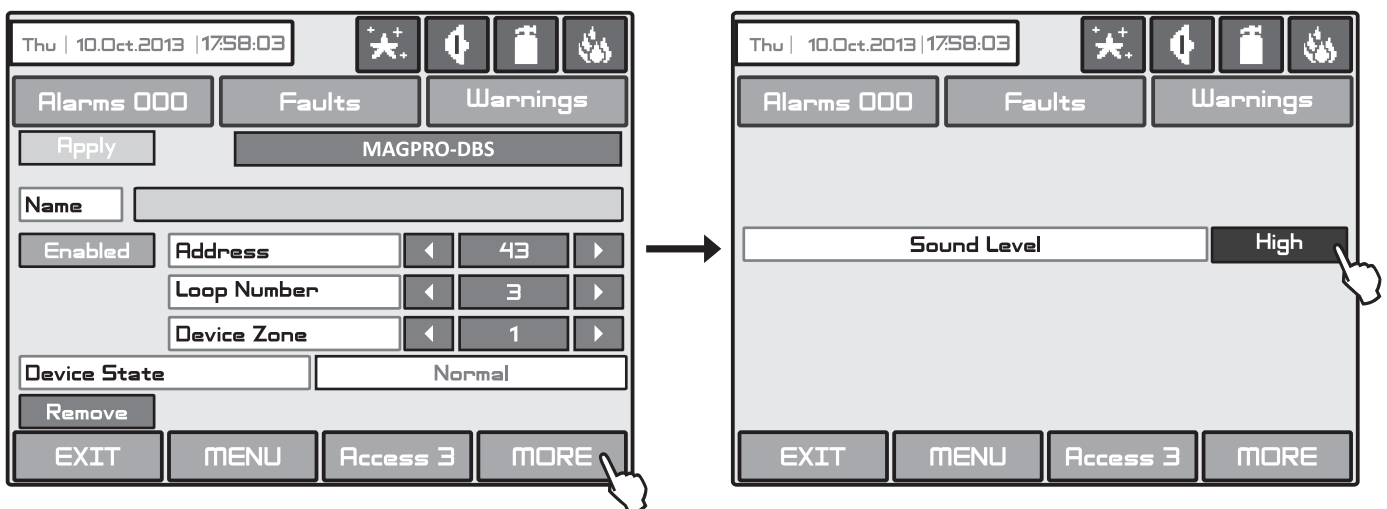
Fig. Screen 9(g) - MAGPRO-DBS base with sounder.

On Fig. Screen 9(g) is shown the MAGPRO-DBS (base with sounder) settings screen. Choose the "MORE" button to enter a screen with additional settings:

• *Sound Level* - Every pressing of the button alternatively changes the sound level between HIGH/ LOW – as this depends on the number of the connected sounders to the loop:

- HIGH – Set in those cases when the number of the connected sounders to the loop is up to 30 (DBS and DBSS).

- LOW – Set in those cases when the number of the connected sounders to the loop is up to 100 (DBS and DBSS).

At the bottom of the screen is shown in addition the Software Revision of the device in a separate field.

To save the new setting press the "Apply" button on the main screen of the device.
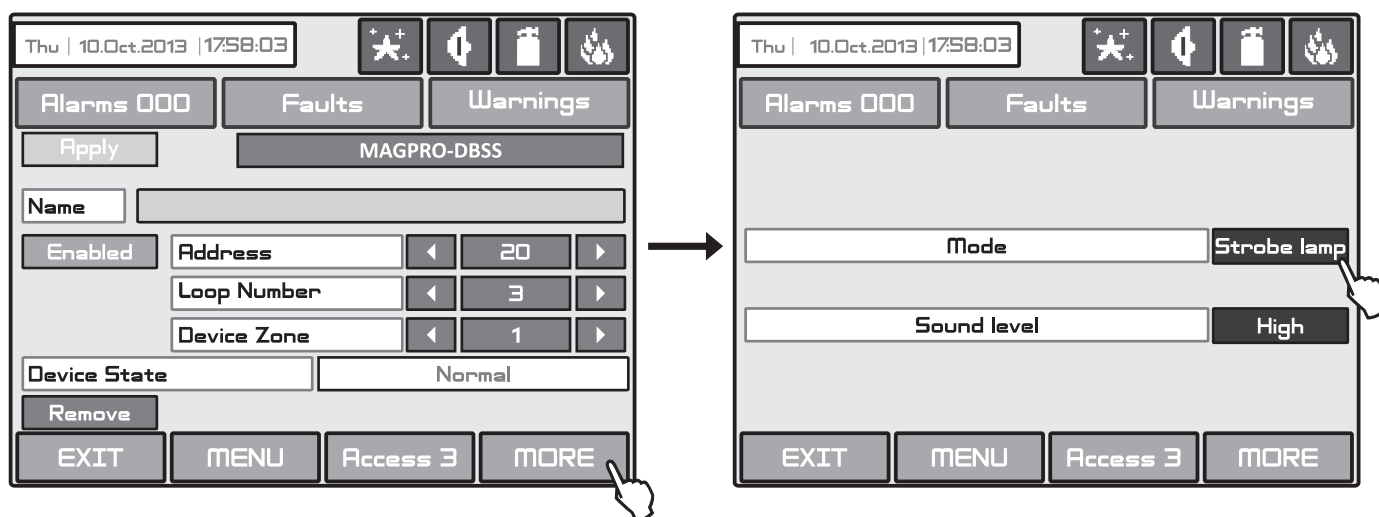
Fig. Screen 9(h) - MAGPRO-DBSS base with sounder and strobe.

On Fig. Screen 9(h) is shown the MAGPRO-DBSS (base with sounder and strobe) settings screen. Choose the "MORE" button to enter a screen with additional settings:

• *Mode* - Press to choose from a list the mode of operation of the sounder: *Strobe lamp* (only the strobe light is active in case of fire alarm event); *Sound* (only the sound is active in case of fire alarm event); *Sound/Strobe* (both the strobe light and sound are active in case of fire alarm event);

• *Sound Level* - Every pressing of the button alternatively changes the sound level between HIGH/ LOW – as this depends on the number of the connected sounders to the loop:

- HIGH – Set in those cases when the number of the connected sounders to the loop is up to 30 (DBS and DBSS).

- LOW – Set in those cases when the number of the connected sounders to the loop is up to 100 (DBS and DBSS).

At the bottom of the screen is shown in addition the Software Revision of the device in a separate field.

To save the new setting press the "Apply" button on the main screen of the device.

Attention: It is possible to connect different type of sounders to the loop at the same time, but the total consumption of the sounders in the loop must be up to 300mA!

Note: The automatic detectors mounted to bases MAGPRO-DBS and MAGPRO-DBSS are assigned at separate addresses in the control panel!

To calculate the total consumption of the sounders in the loop and to define the proper sound level, you can use the Table a below, as fill in the number of the used sounders according their type.

Table 1 for calculation of the total consumption of the sounders in the loop and defining the sound level:

Sounder	Number	HIGH* Sound Level	LOW** Sound Level	Total consumption, mA (HIGH + LOW)
WS		____ x 9,5mA	____ x 5mA	
WSS		____ x 9,5mA	____ x 5mA	
DBS		____ x 9,5mA	____ x 3mA	
DBSS		____ x 9,5mA	____ x 3mA	
Consumption of the sounders in the loop:				

* Note: HIGH Sound Level - Up to 30 sounders WS and WSS type; Up to 30 sounders DBS and DBSS type.
** Note: LOW Sound Level - Up to 60 sounders WS and WSS type; Up to 100 sounders DBS and DBSS type.
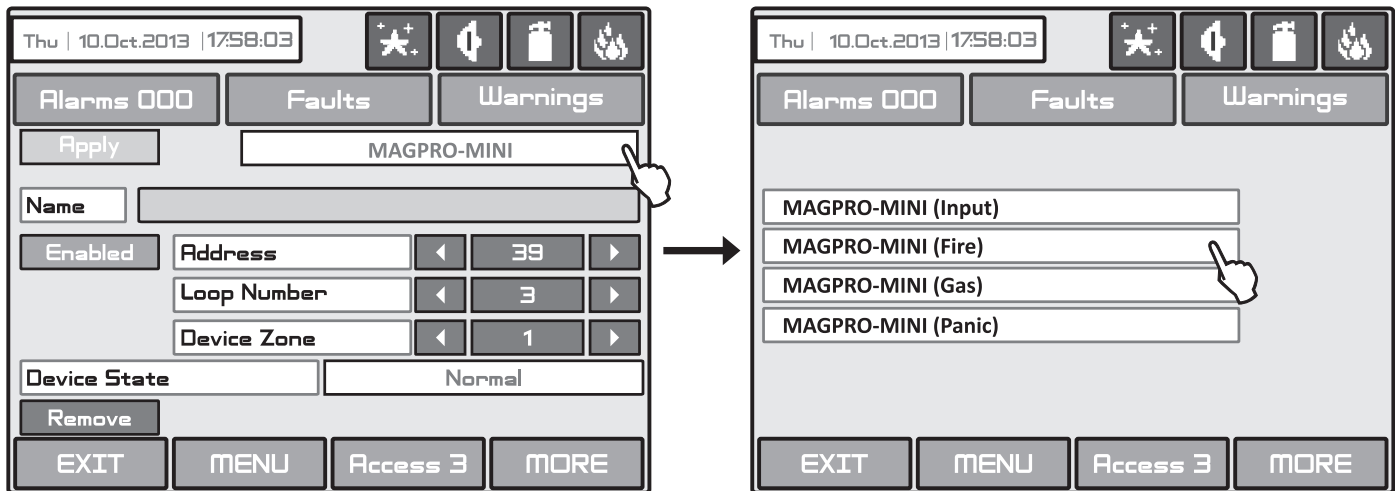
MAGPRO-MINI - Mini input module

Fig. Screen 9(i) - MAGPRO-MINI input module.

On Fig. Screen 9(i) is shown the screen when the panel recognizes MAGPRO-MINI - mini module with one input. The module monitors and transfers to control panel the state of the input (state ON or state OFF). To the input of MAGPRO-MINI can be connected devices with different functionality and action. When you press the button with the name of the module as shown on Screen 13i, the panel offers you a list with option. Choose that type of the device according the input signal for activation of the mini module. The different types have the following meaning:

- *MAGPRO-MINI (INPUT)* - The module operates as single switch and you have to program the logic of activation in Menu INPUTS.
- *MAGPRO-MINI (FIRE)* - The module operates as fire detector and generates "FIRE ALARM" event to the panel when is activated.
- *MAGPRO-MINI (GAS)* - The module operates as gas detector and generates "GAS ALARM" event to the panel when is activated.
- *MAGPRO-MINI (PANIC)* - The module operates as panic button and generates "PANIC ALARM" event to the panel when is activated.

The chosen type is set automatically in the name field for the device.

Press the "Apply" button to save this settings.

An additional setting is available when you choose the option types *MAGPRO-MINI (GAS)* and *MAGPRO-MINI (PANIC).* Press the "MORE" button - there you can enable or disable the sounders when the input is activated. Choosing the "Enabled" option means that the fire sounders in the system will turn on when the mini input module is activated - Screen 13(j).
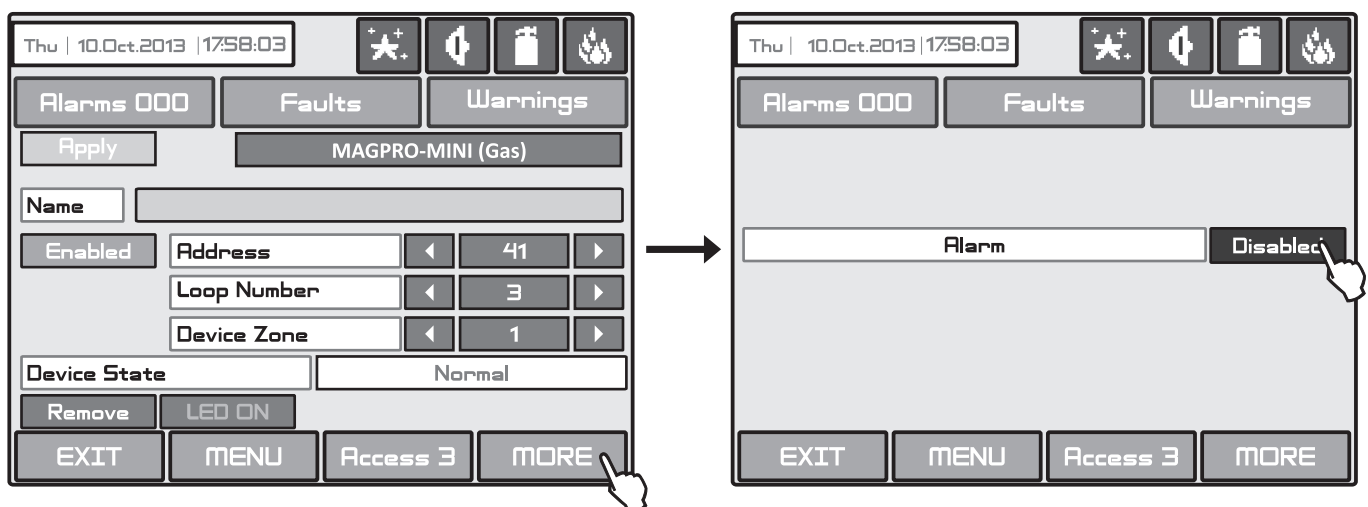

Fig. Screen 9(j) - Disabling the sounders for MAGPRO-MINI (GAS).

Every pressing of "Disabling/ Enabling" button changes alternatively the parameter setting. Going back to the previous screen is with pressing the "MORE" button. Press the "Apply" button to save this settings.

MAGPRO-0i4O - Module with 4 outputs
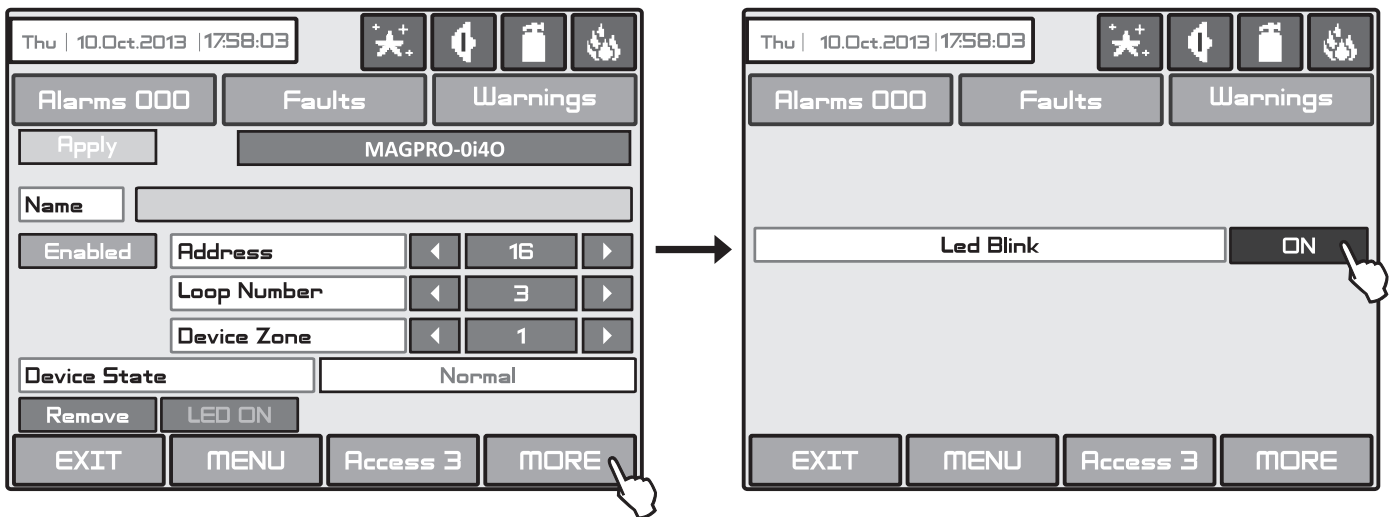
Fig. Screen 9(k) - MAGPRO-0i4O module.

On Fig. Screen 9(k) is shown the MAGPRO-0i4O (module with 4 outputs) settings screen. Choose the "MORE" button to enter a screen with additional settings:

• *Led Blink* - Button for changing the LED mode: ON Setting - The LED blinks at every query from the station; OFF Setting - The LED does not show the dialogue cycle.

The type of the module's channels can be configured with pressing the field with the module's name. On the screen is shown a list with module's channels. To set the type of the channel press the button next to it.

When the output channels (1-4) are defined as **Outputs** you have to go to menu OUTPUTS to configure their operation (**SYSTEM - PROGRAMMING - OUTPUTS**) - see the description of the menu in item 3.6.

Press the "Apply" button to save this settings.

MAGPRO-2i2O - Module with 2 inputs and 2 outputs

Fig. Screen 9(l) - MAGPRO-2i2O module.

On Fig. Screen 9(l) is shown the MAGPRO-2i2O (module with 2 inputs and 2 outputs) settings screen. Choose the "MORE" button to enter a screen with additional settings:

• *Led Blink* - Button for changing the LED mode: ON Setting - The LED blinks at every query from the station; OFF Setting - The LED does not show the dialogue cycle.

The type of the module's channels can be configured with pressing the field with the module's name. On the screen is shown a list with module's channels. To set the type of the channel press the button next to it.

When the output channels (3-4) are defined as **Outputs** you have to go to menu OUTPUTS to configure their operation (**SYSTEM - PROGRAMMING - OUTPUTS**) - see the description of the menu in item 3.6.

When the input channels (1-2) are defined as **Inputs** you have to go to menu INPUTS to configure their operation (**SYSTEM - PROGRAMMING** - **INPUTS**) - see the description of the menu in item 3.5.

The input channels (1-2) can be configured also as: ALARM, EVACUATE, GAS ALARM or PANIC type. To select a different type for the input channel press the button next to the field. On the screen is displayed a list with the mentioned above action types:

> - *ALARM* - The channel operates as fire detector and generates "FIRE ALARM" event to the panel when is activated.
> - *EVACUATE* - The channel operates as fire detector and generates "EVACUATION" event to the panel when is activated.
> - *GAS ALARM!* - The channel operates as gas detector and generates "GAS ALARM" event to the panel when is activated.
> - *PANIC!* - The channel operates as panic button and generates "PANIC ALARM" event to the panel when is activated.
> - *INPUT* - The channel operates as single switch and you have to program the logic of activation in Menu INPUTS.

Press the "Apply" button to save this settings.

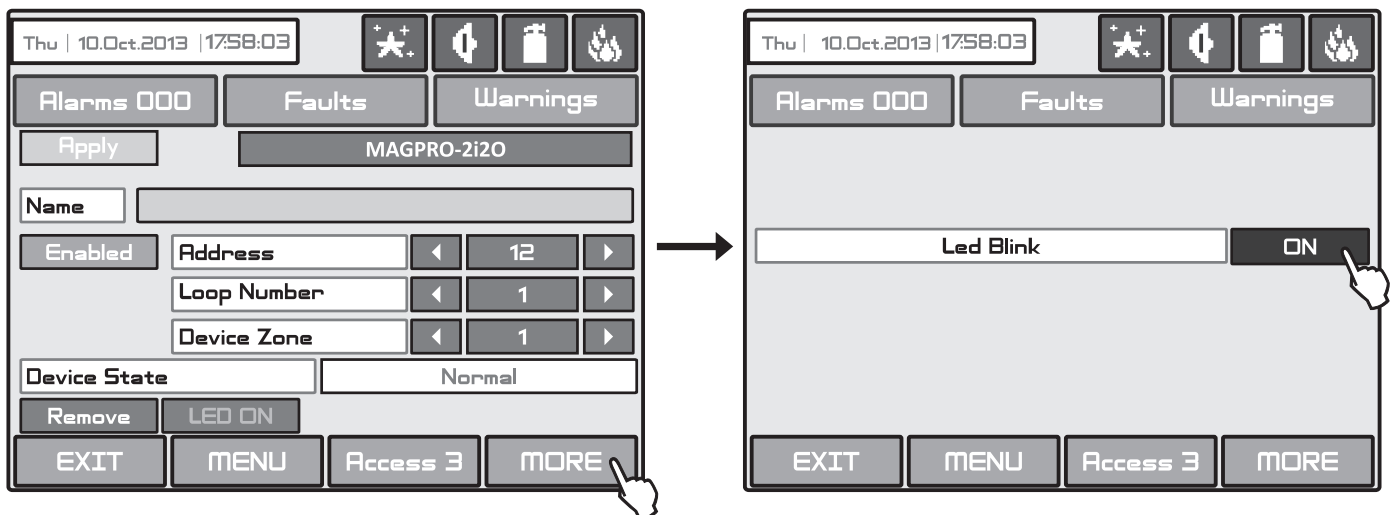**Fig. Screen 9(m) - MAGPRO-4i0O module.**

On Fig. Screen 9(m) is shown the MAGPRO-4i0O (module with 4 inputs) settings screen. Choose the "MORE" button to enter a screen with additional settings:

• *Led Blink* - Button for changing the LED mode: ON Setting - The LED blinks at every query from the station; OFF Setting - The LED does not show the dialogue cycle.

The type of the module's channels can be configured with pressing the field with the module's name. On the screen is shown a list with module's channels. To set the type of the channel press the button next to it.

When the input channels (1-4) are defined as **Inputs** you have to go to menu INPUTS to configure their operation (**SYSTEM - PROGRAMMING** - **INPUTS**) - see the description of the menu in item 3.5.

The input channels (1-2) can be configured also as: ALARM, EVACUATE, GAS ALARM or PANIC type. To select a different type for the input channel press the button next to the field. On the screen is displayed a list with the mentioned above action types:

> - *ALARM* - The channel operates as fire detector and generates "FIRE ALARM" event to the panel when is activated.
> - *EVACUATE* - The channel operates as fire detector and generates "EVACUATION" event to the panel when is activated.
> - *GAS ALARM!* - The channel operates as gas detector and generates "GAS ALARM" event to the panel when is activated.
> - *PANIC!* - The channel operates as panic button and generates "PANIC ALARM" event to the panel when is activated.
> - *INPUT* - The channel operates as single switch and you have to program the logic of activation in Menu INPUTS.

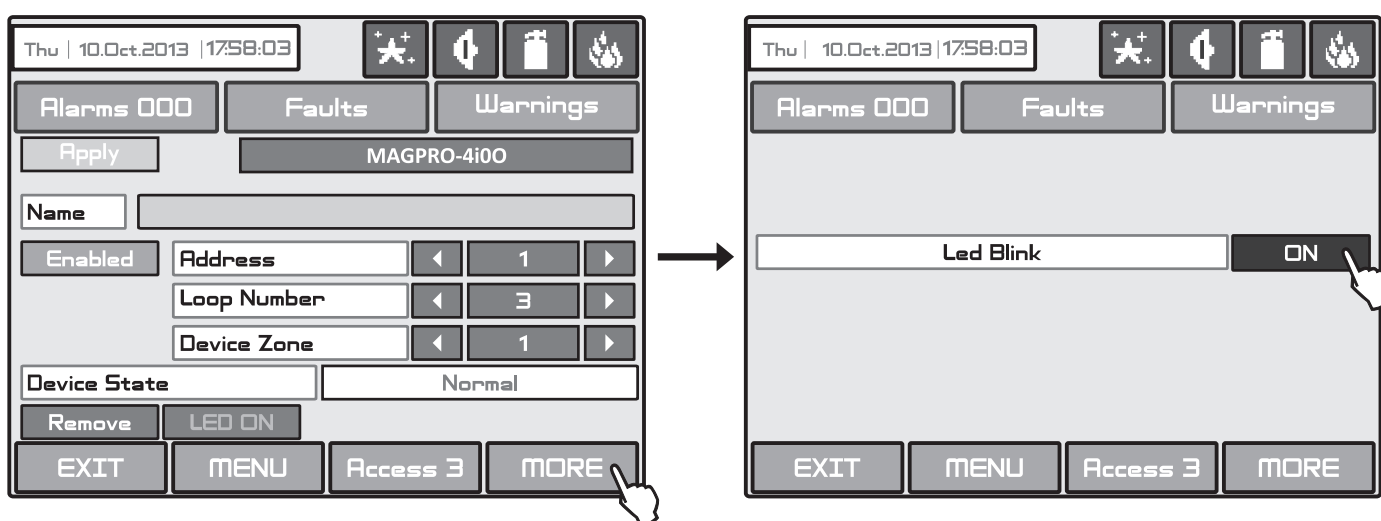Press the "Apply" button to save this settings.

MAGPRO-CZM - Conventional zone module
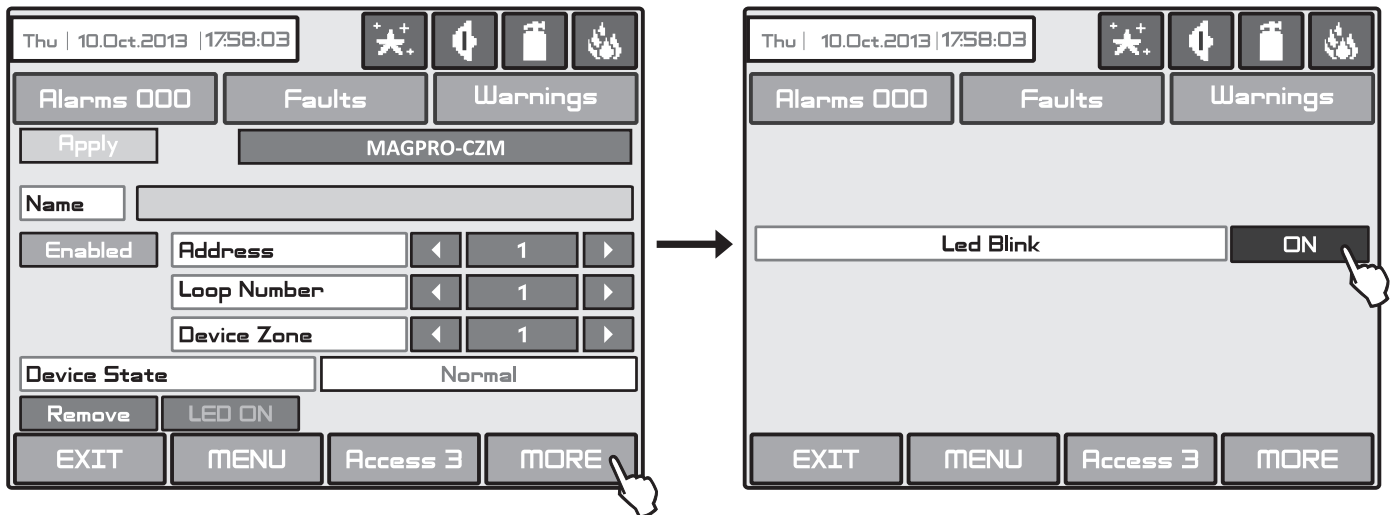
Fig. Screen 9(n) - MAGPRO-CZM module.

On Fig. Screen 9(n) is shown the MAGPRO-CZM (conventional zone module) settings screen. Choose the "MORE" button to enter a screen with additional settings:

• *Led Blink* - Button for changing the LED mode: ON Setting - The LED blinks at every query from the station; OFF Setting - The LED does not show the dialogue cycle.

Press the "Apply" button to save this settings.

MAGPRO-1OSi - Module potential output
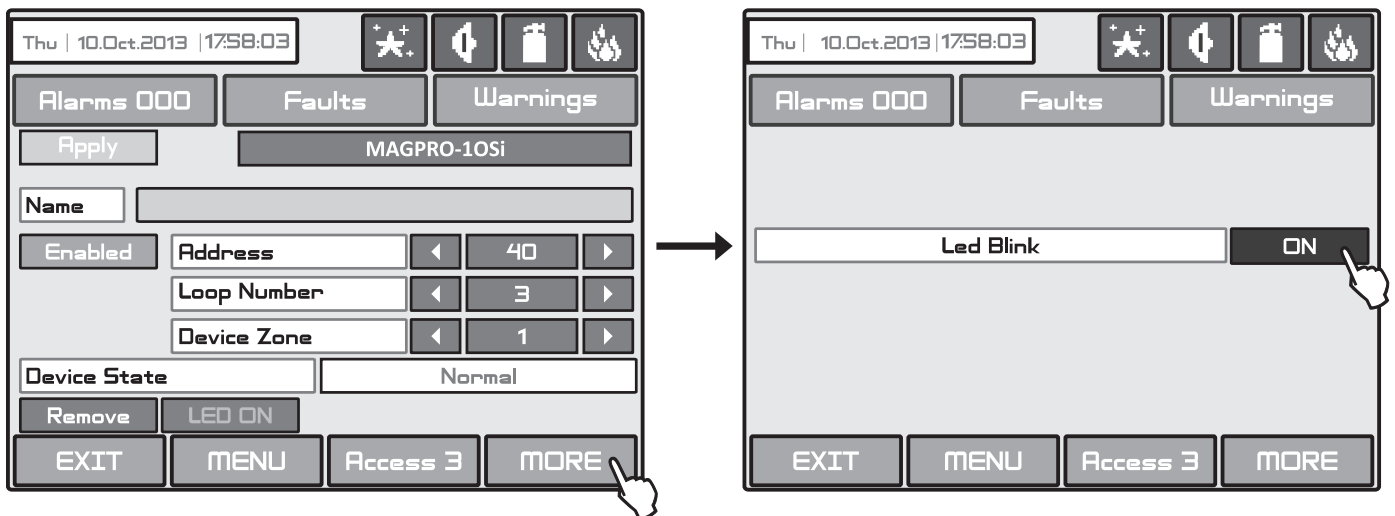
Fig. Screen 9(o) - MAGPRO-1OSi module.

On Fig. Screen 9(o) is shown the MAGPRO-1OSi (module potential output) settings screen. The module is used for connection of conventional sounders. Choose the "MORE" button to enter a screen with additional settings:

• *Led Blink* - Button for changing the LED mode: ON Setting - The LED blinks at every query from the station; OFF Setting - The LED does not show the dialogue cycle.

Press the "Apply" button to save this settings.

MAGPRO-R - Module for 240V interface
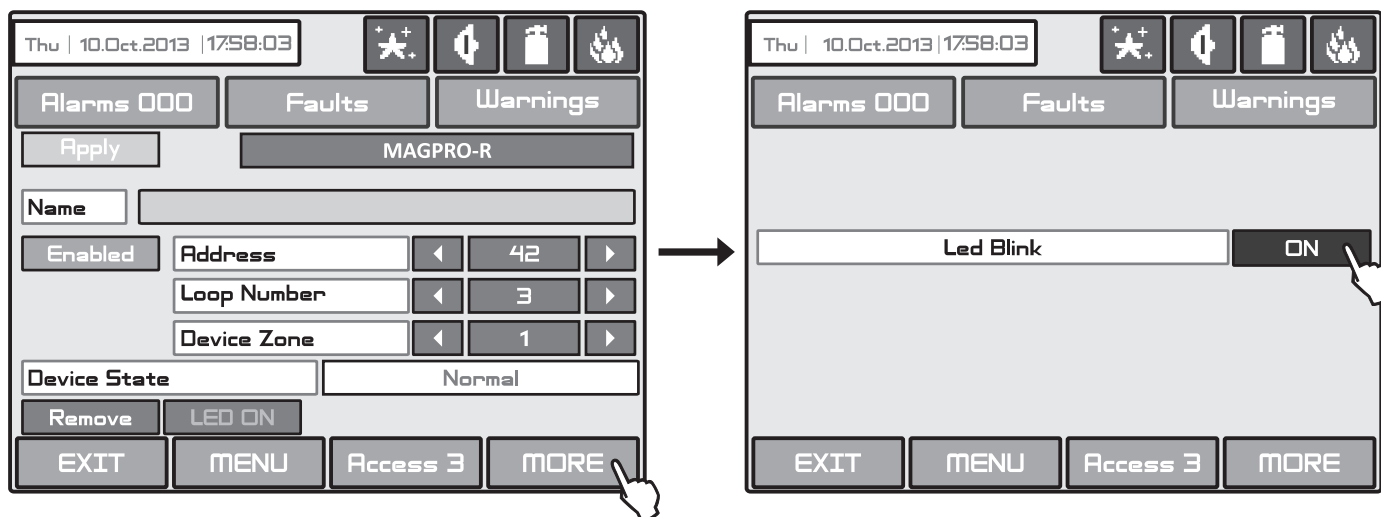
Fig. Screen 9(p) - MAGPRO-R module.

On Fig. Screen 9(p) is shown the MAGPRO-R (relay module for 240VAC interface) settings screen. . The module is available in two versions with 1 and 2 relay outputs. Choose the "MORE" button to enter a screen with additional settings:

• *Led Blink* - Button for changing the LED mode: ON Setting - The LED blinks at every query from the station; OFF Setting - The LED does not show the dialogue cycle.

Press the "Apply" button to save this settings.

MAGPRO-GAS - GAS Detector
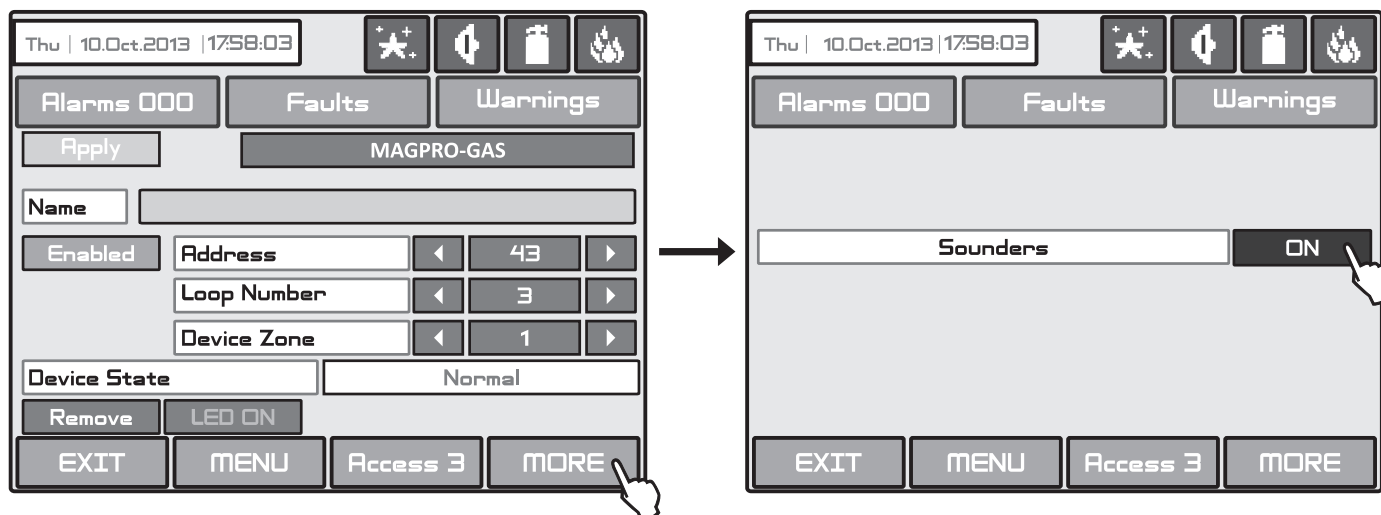
Fig. Screen 9(q) - MAGPRO-GAS detector

MAGPRO-GAS is a gas detector designed for application in addressable fire alarm systems with MAGPRO16/96 fire alarm panels.
MAGPRO-GAS is designed for detection of leaking natural gas and LPG. The detector is equipped with alarm output for management of manipulator or electromagnetic valve (optional accessories).

Choose the "MORE" button to enter a screen with additional settings:

• *Sounders* - Button for changing enable/ disable the sounders in case of activation of the detector. If OFF option is set, the sounders in the system will not be activated in case of activation of the gas detector. If ON option is set, the sounders in the system will be activated in case of activation of the gas detector.

Press the "Apply" button to save this settings.

3.3.3 Addressing of Devices

This menu allows the installer to set or change the device address or to perform self-addressing procedure. The type of addressing depends on the installer's preferences and the system capacity and configuration.

The installer can use two approaches for adding devices to the system configuration.

- The devices are directly connected to the MAGPRO96-L250 Loops. The panel will recognize them and starts giving automatically addresses according the order of the devices in the line. The panel will start with the first free address in the system configuration. The installer can SAVE the new devices one-by-one or all at the time with SAVE button from the Programming main screen - Fig. Screen 3.

- SELF ADDRESSING. The new devices are prepared for connection to the system configuration - the loop line is ready but the devices are not installed (the detectors and sounders are not mounted to the bases, the call points and modules are not connected to the loop). The installer enters ADDRESSING - START SELF-ADDRESSING menu. The panel shows the first free address for every of the available MAGPRO96-L250 loops. Now the installer can start mounting detectors and modules one by-one. The panel will set the displayed address number to the mounted device and automatically proceeds with next free address in the system.

To enter the addressing menu choose in sequence SYSTEM - PROGRAMMING - DEVICES - ADDRESSING. The screen displays:

Fig. Screen 10.

3.3.3.1 Set Address Menu

In this submenu the installer can directly set addresses to new devices in the system. The procedure is same with that for self addressing. It is suitable when the installer needs to add single devices to the system configuration at free addresses. The detectors and sounders must not be mounted to the bases; the call points and modules must not be connected to the loop.

To set address to a device, enter in the installer's menu - ADDRESSING - SET ADDRESS. The device must be prepared for connection to the panel.
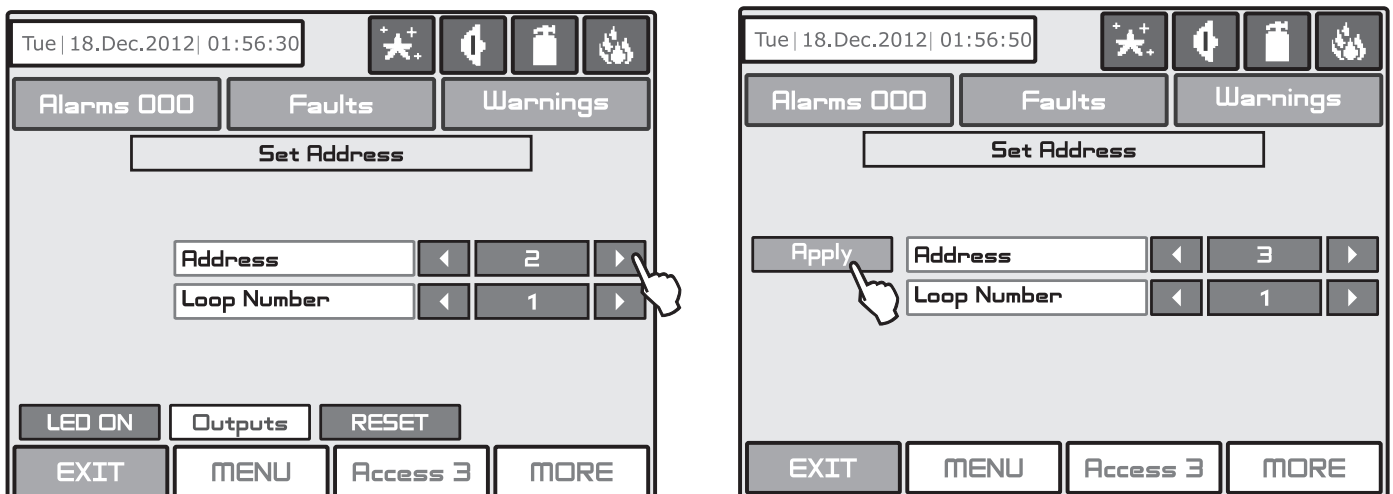

Fig. Screen 11.

The system automatically shows the first address in the system. You can check the device assigned at this address with pressing the 'LED ON' button - the LED(s) of the device will light on permanently. Next pressing of the same button will off the LED. Use the arrow buttons to scroll over addresses and loop number. The address is free if "Apply" button is active. Take the new device and connect it to the system - mount the detector or siren to the base or connect the module to the loop. Press the 'Apply' button and wait for a couple of seconds. If the addressing is successful the message 'SUCCESSFUL' is shown on the screen. If the message is 'ERROR' then there is a problem - the device is not properly connected; there is no communication with the panel. You can proceed with setting the next address or escape with 'EXIT' button.

You can use the "RESET" button to reset the device condition. The button "Outputs" is active only for modules with relay outputs. Use the button "Outputs" to activate (dark letters) or deactivate (white letters) the module outputs.

3.3.3.2 Change Address Menu

In this submenu the installer can change the address number of a device. To change address of a device, enter in the installer's menu - ADDRESSING - CHANGE ADDRESS.
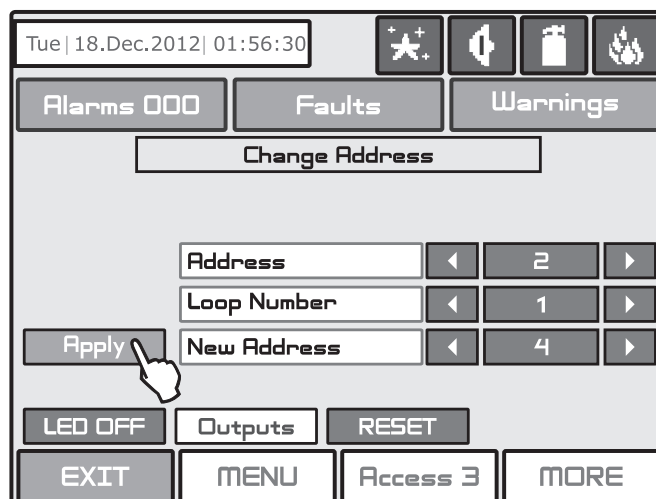

Fig. Screen 12.

The system automatically shows the first address in the system. Use the arrow buttons to select the address and loop number of the device you want to change. In the field "New address" set the new address number for the device. If the address is free the "Apply" button will appear on the left on the screen.

To change the address press the "Apply" button and wait a couple of seconds. If the address changing is successful the message 'SUCCESSFUL' starts blinking on the screen. You can proceed with changing other address or escape with 'EXIT' button.

You can use the "RESET" button to reset the device condition. The button "Outputs" is active only for modules with relay outputs. Use the button "Outputs" to activate (dark letters) or deactivate (white letters) the module outputs.

3.3.3.3 Self-Addressing Menu

In this submenu the installer can perform self addressing procedure of devices to the system configuration. The self addressing procedure is suitable when there are great amount of devices to be connected to the panel.

The new devices are prepared for connection to the system configuration - the loop line is ready but the devices are not installed (the detectors and sounders are not mounted to the bases; the call points and modules are not connected to the loop).

To perform self addressing, enter in the installer's menu - ADDRESSING - START SELF ADDRESSING. The panel shows the first free address for every of the MAGPRO96-L250 loops. Now the installer can start mounting detectors and modules one by-one. The panel will set the displayed address number to the mounted device and automatically proceeds with next free address in the system.

The self-addressing menu shows information about the total number of devices connected to every loop.

In the "Next Address" field the panel shows the first free address for every of the loops. The panel skips all already set address numbers and will jump to the next free address number. You can scroll over the address number using the arrows or directly enter a digits via the keypad.

In self-addressing mode the panel waits for connecting the device to the loop, automatically sets the current address to the device and moves to the next free address number. With every one added device to the system configuration the address count will increasing to show the total number of devices connected to the respective loop.

The exit of the menu is with pressing the 'EXIT' button.

3.4 Zones

Choose in sequence from the Main menu screen **System - Programming - Zones.**

The MAGPRO96 addressable fire panel avails of 96 zones. The **FIRE** and **PREALARM** conditions are indicated by the help of the LED of the corresponding zone. In the **PREALARM** condition - the respective zone LED blinks and a warning message is displayed on the screen. If there is a second activation of devices in the same zone an alarm message FIRE is generated for the respective zone. To enter the submenu for zone configuration, chose "**Zones**" button from Programming menu - Fig. Screen 3. The general view of the zone configuration menu is shown on Fig. Screen 13.
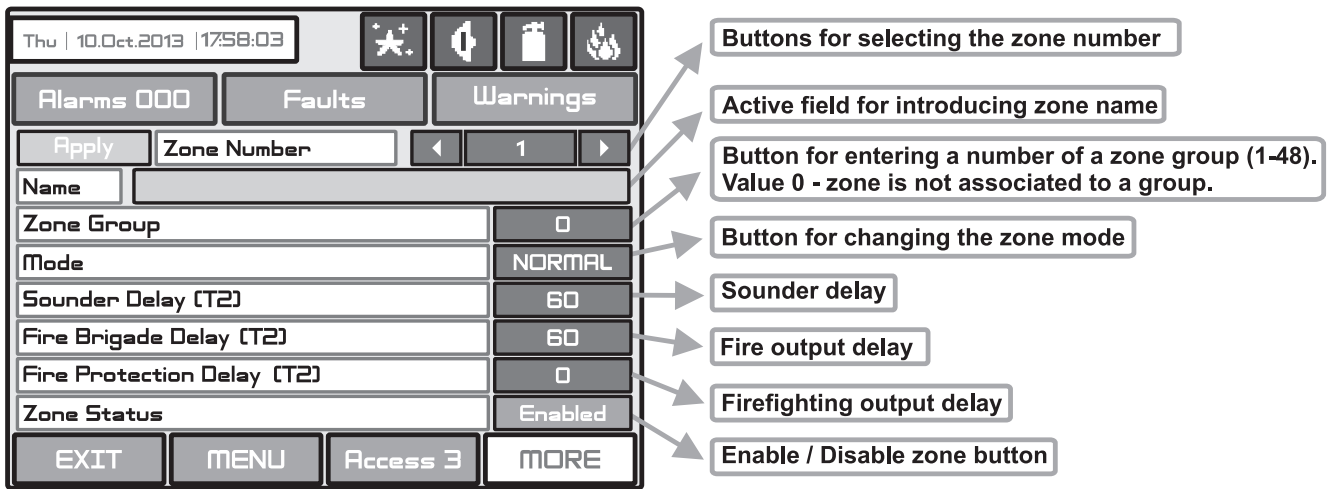

Fig. Screen 13.

3.4.1 Button for Selecting the Zone Number
The zone number can be selected in sequence or directly, which can than be monitored.

3.4.2 Active Field for Introducing Zone Name
Choose the button to enter the screen, for introducing the zone name, which shall not exceed 40 digits together with the spaces. Verify the information with the ⏎ button.

3.4.3 Zone Group
The zones in MAGPRO96 addressable fire alarm panel can be organized for operation in separate groups. The maximum number of the permissible groups is 48. By default all zones are not associated to a group number – value 0 is set.

3.4.4 Button for Zone Mode Change
Each zone has three working modes: **NORMAL**, **2DEVICES** and **DOUBLE**.
• In **NORMAL** mode any detector activation within the system generates an alarm event to the respective zone.
• In **2 DEVICES** mode any detector activation within the system generates a PREALARM event to the respective zone, but also awaits the activation of another detector from the same zone to generate a FIRE signal. The RESET command shall disable the FIRE and PREALARM events. If during 5 minutes there is no other fire alarm signal from other detector in the zone the FIRE alarm will be ignored. The operation of a zone in 2 DEVICES action mode is shown in the examples below.
• In **DOUBLE** mode any detector activation within the system generates a PREALARM event to the respective zone, but will awaits a second fire signal from the same detector to generate a FIRE signal. The RESET command shall disable the FIRE and PREALARM events. If during 5 minutes there is no other fire alarm signal from the same detector in the zone the FIRE alarm will be ignored.

3.4.5 Sounder Delay (T2)*
The delay can be within an interval of 0-540 sec.
In case of activation of more than one zone, the delays to the outputs are caused by the zone with shorter delays.

3.4.6 Fire output Delay (T2)*
The delay can be within an interval of 0-540 sec.
In case of activation of more than one zone, the delays to the outputs are caused by the zone with shorter delays.

3.4.7 Fire protection Output Delay (T2)*
The delay can be within an interval of 0-540 sec.
In case of activation of more than one zone, the delays to the outputs are caused by the zone with shorter delays.

3.4.8 Enable/Disable Zone Button
Button for Enabling / Disabling zones.

All changed parameters are confirmed and saved by pressing the APPLY button in the upper left corner of the screen.

*** Note:** T2 presents times for individual output delay setting. See APPENDIX E - Two steps of alarming algorithm.

3.5 Inputs

To enter the submenu for inputs configuration choose **"Inputs"** button from Programming menu – Fig. Screen 3. The general view of the menu for inputs configuration is shown on Fig. Screen 14.
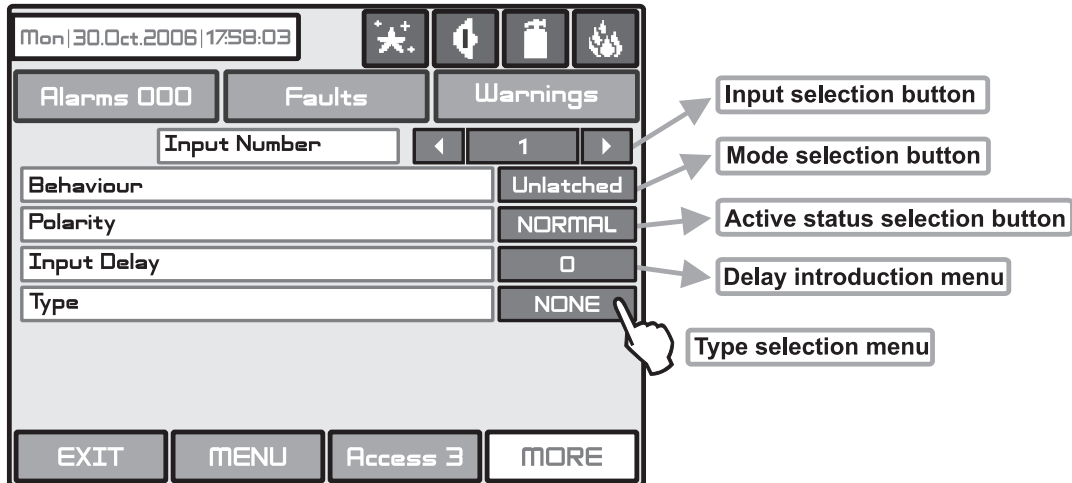

Fig. Screen 14 – Menu for introducing input parameters.

3.5.1 Input delay
The delay can be within the interval 0–600 sec.

3.5.2 Input Active Status (Polarity)
      INVERTED - the output is set at ON, when the result of the logical function is FALSE.
      NORMAL - the output is set at ON, when the result of the logical function is TRUE.

3.5.3 Behaviour
      LATCHED - deleted only after RESET.
      UNLATCHED - monitors the status.

3.5.4 Type Selection Menu
By pressing the button for input type a new screen is displayed from which can be chosen the following types:

NONE	Periphery	Loop	Zone
Alarms	Time	Date	Action
General	Network	Zone Group	
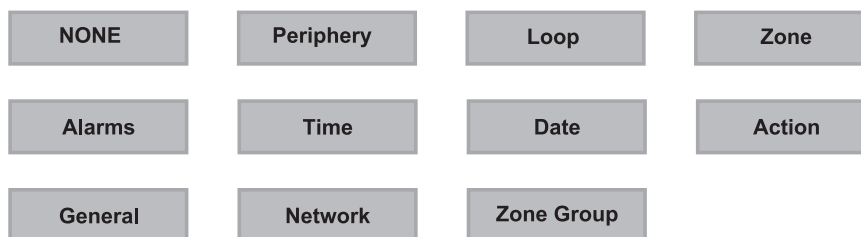
After choosing the desired type it is introduced in the Type field of the screen - Fig. Screen 18.

3.5.5 Submenus for setting of input type parameters

Depending on the type of input after choosing the button **MORE** could be programmed the parameters of every input type. The information is displayed on a separate screen.

There can be programmed the following parameters:

• **PERIPHERY** - Select if the input is a periphery device. Choose the **MORE** button.
      - *Periphery device address*. Enter an address number from 1 to 10.
      - *Periphery device input*. Enter a periphery device input number.
• **LOOP** - Select if the input is a loop device. Choose the **MORE** button.
      - *Loop device address*. Enter an address number from 1 to 250.
      - *Loop number*. Enter the loop number.
      - *Channel*. Enter a number of an input accessible in the device.

Note: It is possible to enter addresses only of loop devices, which are INPUT type: detectors, call points, input-outputs modules! If the device if not an INPUT type a message is shown: "This device can not be used as Input!"

• **ZONE** - Number of zone and event for activation.

Choosing the **Zone** type of the input will add a new field **Function** - Fig. Screen 15. After choosing this field the possible zone events will be displayed on the screen. Choose the **MORE** button. Set the zone number, from 1 to 96, in the screen "*INPUT Parameters - zone"*.

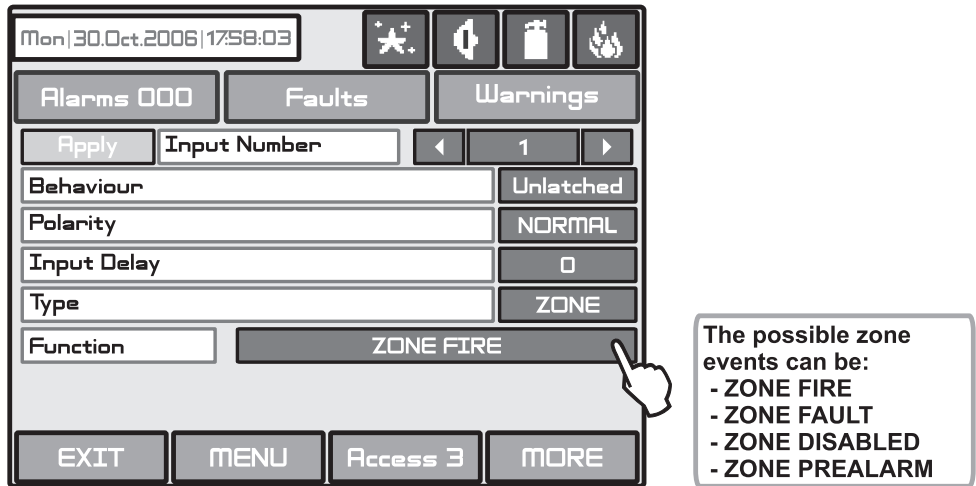**Fig. Screen 15 - Menu for zone events introducing.**

• **ALARMS -** Enter a number for activated alarms from a zone. Choose the **MORE** button. Set the zone number (1-96) and alarms counter (1-9). When the alarms counter set number is reached for the set zone number, the input will be activated.

• **TIME** - Device input activation time. Choose the **MORE** button. Set the hour, minutes and day of the week when the input has to be activated, in the screen "*INPUT Parameters - time"*. Every day of the week could be enabled or disabled in a separate screen.

• **DATE** - Device input activation date. Choose the **MORE** button. Set the year, month and the day when the input has to be activated, in the screen "*INPUT Parameters - date"* Enter.

• **ACTION** - Device input activation action.
Choosing the **Action** type of the input will add a new field **Function** - Fig. Screen 15. The possible actions are as follows:
- *SILENCE BUZZER*
- *SILENCE SOUNDER*
- *RESET*
- *SOUNDER ON*
- *FIRE BRIGADE ON*
- *FAULT ROUTING ON*
- *FIRE PROTECTION ON*

• **GENERAL** - General status which will activate the input of the device.
Choosing the **General** type of the input will add a new field **Function** - Fig. Screen 15. The possible statuses can be:
- *COMMON FIRE*
- *COMMON PREALARM*
- *COMMON FAULT*
- *SYSTEM FAULT*
- *DISABLED*
- *TEST*

• **NETWORK -** Panel / repeater number and output number, to which the input shall be attached. Choose the **MORE** button. Set the parameters in the screen "*INPUT Parameters - network"*:
- *INPUT Number.* Enter a number from 1 to 128.
- *PANEL/ REPEATER Number.* Enter a number from 1 to 32.

• **Zone Group** - Activation from a zone in fire alarm or fault included in a group. To enter the number of the group press MORE button. In the new menu screen the installer can also set the logic for operation OR/ AND.
Choosing the **Zone Group** type of the input will add a new field **Function**. The possible actions are as follows:
- *ZONE FIRE*
- *ZONE FAULT*

All changed parameters are confirmed and saved by pressing the APPLY button in the upper left corner of the screen.

3.6 Outputs

To enter the submenu for outputs configuration choose "**Outputs**" button from Programming menu - Fig. Screen 3. The general view of the menu for inputs configuration is shown on Fig. Screen 16.
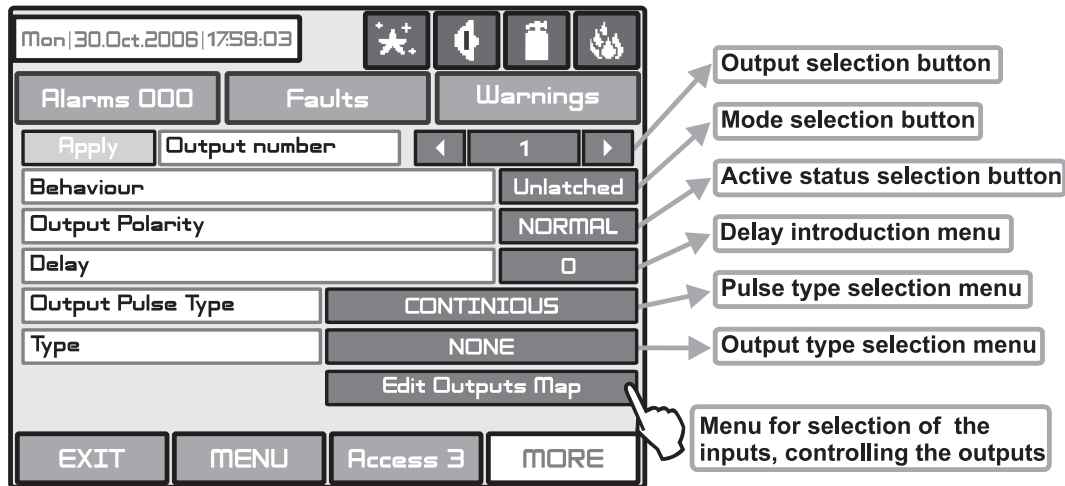

Fig. Screen 16 - Menu for introducing output parameters.

3.6.1 Type of output

By pressing the button for output type a new screen is displayed from which can be chosen the following types:

NONE	Periphery	Loop	Network

Action	Event

3.6.2 Submenus for setting of output type parameters

Depending on the type of output after choosing the button **MORE** could be programmed the parameters of every output type. The information is displayed on a separate screen. There can be programmed the following parameters:

• **PERIPHERY** - Select if the input is a periphery device. Choose the **MORE** button:
- *Address of periphery device*. Enter an address number from 1 to 10.
- *Output of periphery device*. The button have two states - ON and OFF, according the type of the device. Enter a periphery device output number.

• **LOOP** - Select if the input is a loop device. Choose the **MORE** button
- *Address of loop device*. Enter an address number from 1 to 250.
- *Loop number*. Enter the loop number.
- *Channel*. Enter a serial number of an output accessible in the device.

Note: It is possible to enter addresses only of loop devices, which are OUTPUT type: sirens, input-outputs modules! If the device if not an OUTPUT type a message is shown: "This device can not be used as Output!"

• **NETWORK** - Panel / repeater number and output number, to which the output shall be attached. Choose the **MORE** button. Set the parameters in the screen "*OUTPUT Parameters - network*":
- *OUTPUT Number.* Enter a number from 1 to 128.
- *PANEL/ REPEATER Number.* Enter a number from 1 to 32.

• **ACTION** - Choose the **MORE** button. Set the parameters in the screen "*OUTPUT Parameters - Actions*". Here you can choose the actions activating the output from the list on the screen:
- *Silence Buzzer*
- *Silence Alarm*
- *Reset*
- *Evacuation*
- *Delay Override*
- *Class Change* - To use the class change function, connect the terminals of a switch with normally open contacts to the module terminals. The working mode of the sounders at input activation is:
- when the switch is pressed - one second sounders on, one second sounders off;
- when the switch is released - the sounder is off.

• **EVENT** - Choose the **MORE** button. Set the parameters in the screen *"OUTPUT Parameters - Events"*. Here you can choose the events activating the output from the list on the screen:
- *Alarm.* The output is activated in ALARM event.
- *Warning.* The output is activated in WARNING event.
- *Faults.* The output is activated in FAULT event.

In the new opened window, type the text message up to 40 symbols in the "Message" field. That text message will be displayed in case of event occur.

All changed parameters are confirmed and saved by pressing the APPLY button in the upper left corner of the screen.

3.6.3 Output Delay
The delay can be within the interval 0–600 sec.

3.6.4 Output Active Status (Polarity)
• **INVERTED** - the output is set at ON, when the result of the logical function is FALSE.

• **NORMAL** - the output is set at ON, when the result of the logical function is TRUE.

3.6.5 Pulse Type
• **CONTINUOUS** - the output signal is continuous
• **PULSED** - the output signal is a pulse signal (3 sec. ON / 3 sec. OFF)
• **ONE PULSE** - the output signal is a single pulse signal (5 sec)

ONE PULSE must be used in the case of ACTION type activating input or else the activating input must be LATCHED or the output LATCHED.

3.6.6 Behaviour (Mode)
• **LATCHED** – deleted only after RESET.
• **UNLATCHED** – monitors the status.

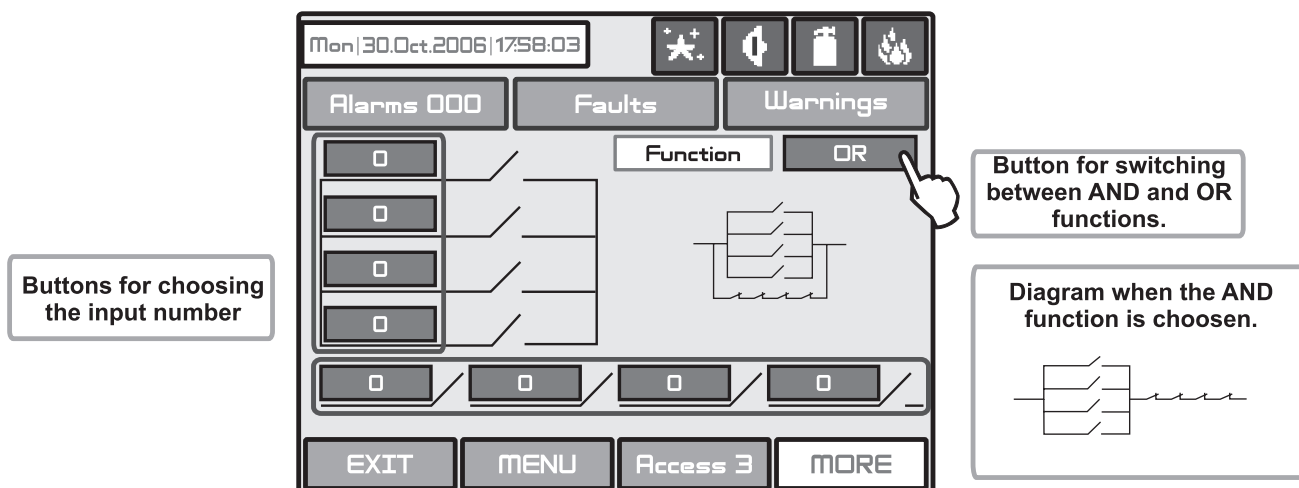### 3.6.7 Menu for selection of the inputs, controlling the outputs

Fig. Screen 17.

All changed parameters are confirmed and saved by pressing the APPLY button in the upper left corner of the screen.

3.7 Panel

Choose in sequence from the Main menu screen **System - Programming - Panel.**
From the **Panel** Menu you can switch over seven additional submenus and to change the access codes and level, and to set parameters of the available network, sounders and call points modes.
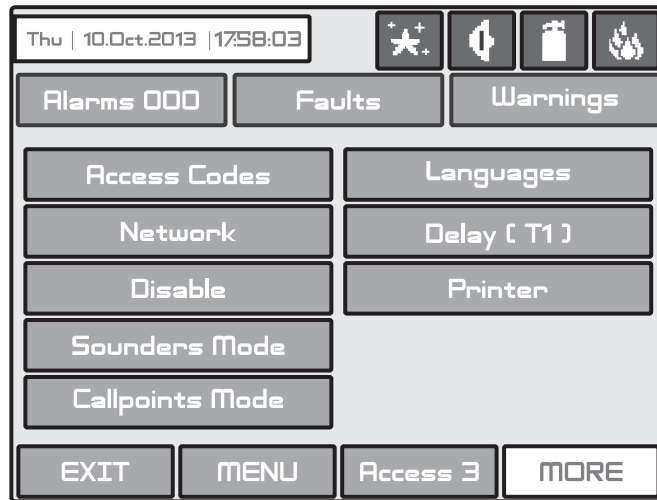

Fig. Screen 18 - The Panel Menu.

3.7.1 Changing the Code and Access Level

The system supports 4 separate access codes, as to which of them can be given different access level. See item 3.1 where are described the default setting of the codes and access levels. Every code has 4 digits.
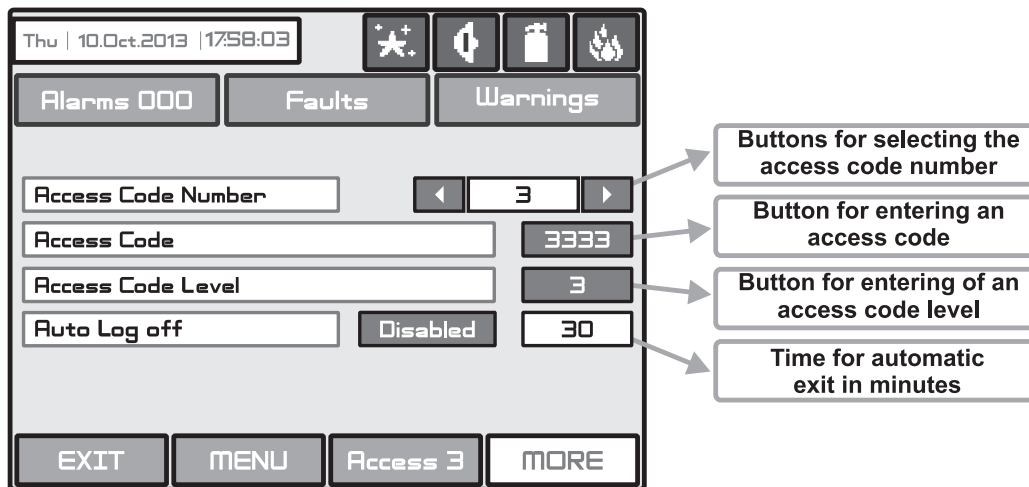

Fig. Screen 19 - Codes and Access Level Introducing.

The new code introducing is done in a separate screen (see also Fig. Screens 1). After the code is initially entered, the system shall request the code to be entered again for verification. If the codes differ the system will ignore whatever was entered and the old code will remain active. If both codes are identical, the new code will be displayed in the "**ACCESS CODES**" output field and an "**Apply**" button will appear. Select "**Apply**" to save the entered code. If a code has already been entered the system will ignore it and will retain the old one.

Changing the level of access is done by choosing the "**Access Code Leve**l" button next to the field for calling out the access level. When activated a menu appears in which the user selects a new level of access (1-3) by pressing the respective button or "**EXIT**" to leave. If the newly assigned access level is different from the current one, the "**Apply**" button will be activated. Pressing that will save the new access level.

The "Auto Log off" field is active when the 3rd access level is set. When the field is enabled the exit from the 2nd and 3rd access levels will be automatic. The time for automatic exit is set in range from 0 to 60 minutes if no other action is performed (pressed button for example).

Attention! There must be at least one code in the system with an access code 3! The program disallows editing a level of access (3) if it is the only one!

3.7.2 Network

After choosing the **Network** button a new screen will be displayed. The Installer / User can set there the parameters of two submenus: **Network Settings** and **Panels**.

3.7.2.1 Network Settings Menu

In this menu can be set parameters for the separate fields - see Fig. Screen 20.
• **Name** - Introduce the name of the panel - up to 40 digits.
• **Port** - TCP/IP port for communication with the panel is introduced. The panel automatically takes ports Port+1, Ports+2. They have to be free for using from the panels. All the panels in the network have to be with the one and the same port number. If a port change is needed and made the panel have to be reset by power supply.
• **Panel Number** - An unique panel number (1-32) in the network is introduced. By this number the panels can "recognize" each other.
• **Network Status** - The network can be Enabled and Disabled.
• **Network Type** - The network type can be **LAN** (in case of Ajax LAN module is connected to the panel) or **Redundant** (in case of Redundant Network module is connected to the panel). **Attention: When several panels MAGPRO16/ 96 are connected in a network the setting in this field must be the same for all of them!**

All changed parameters are confirmed and saved by pressing the APPLY button in the upper left corner of the screen.
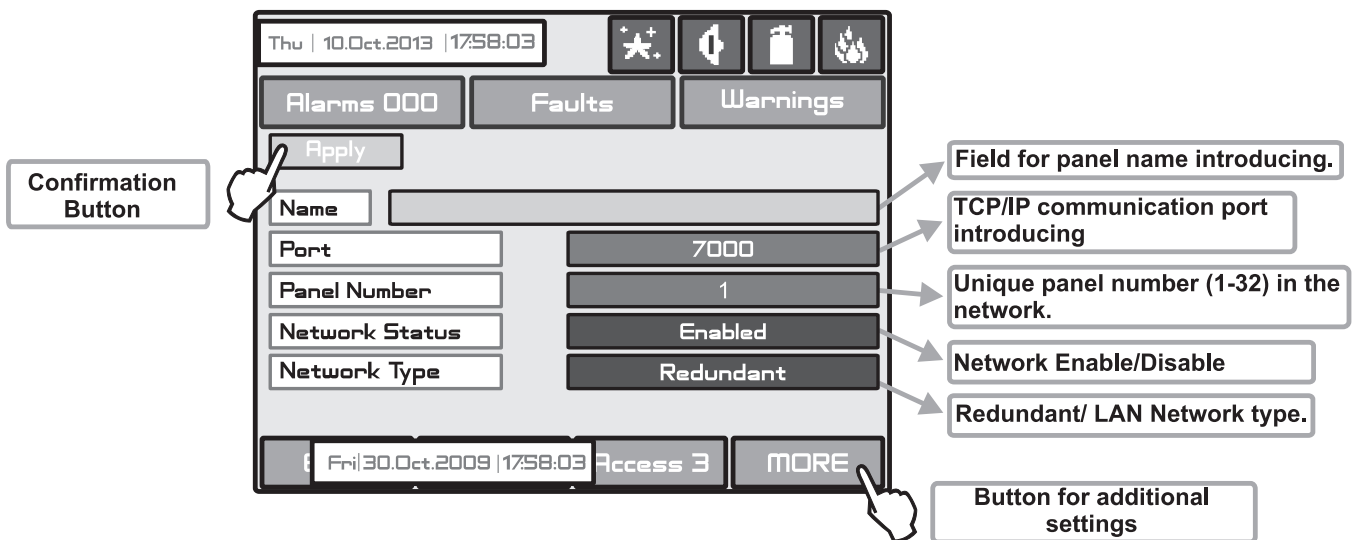

Fig. Screen 20 - General View of Network Settings Menu.

From **Network Settings** menu can be programmed additionally panel IP, Netmask and IP-number of the Router, as and to be seen the panel MAC-address after choosing the MORE button - see Fig. Screen 20A.
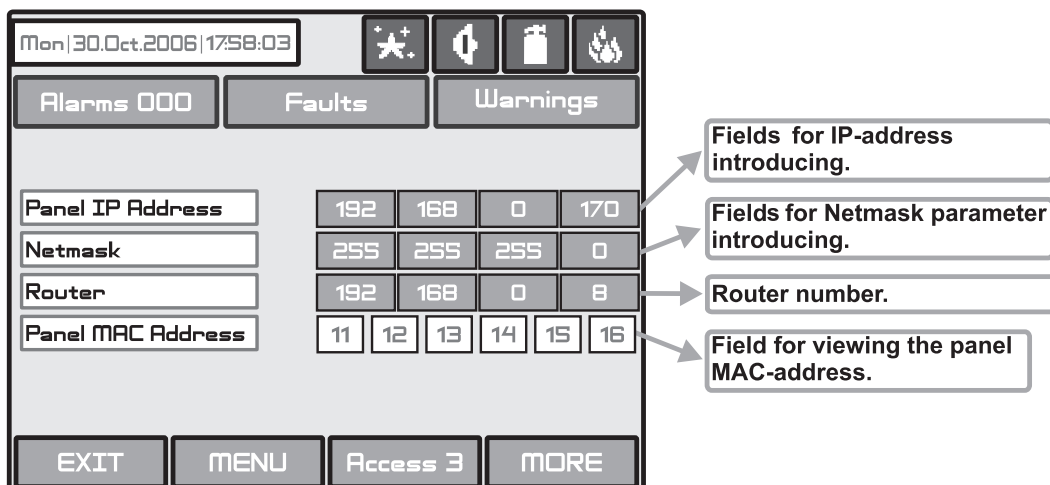

Fig. Screen 20A

3.7.2.2 Panels Menu

After Enabling the Network, every panel starts looking for other panels in the network. If a new panel is found in the system it is added to the panels list. The list can be viewed by using the pointers and the displayed IP-numbers of the found panels. If the panel will be included in the Network it must be saved by **ADD** command on the screen. Then the status of the panel from N**ew Panel** will turn to **Present**. The panels can "look at" each other and if any of them is lost its status will change to **Fault.** From this menu can be chosen also what information would be received from the respective panel: messages and/or commands.
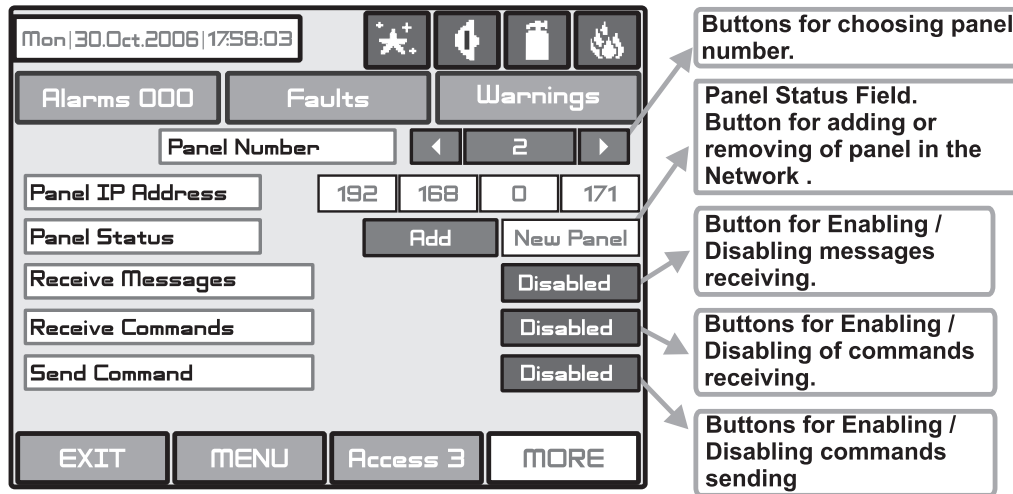
Fig. Screen 21 - General view of the Panels Menu.

If the messages receiving is Enabled, the Installer / User should describe also the input action as choose the **MORE** button - Fig. Screen 21A. Every message can be enabled or disabled.
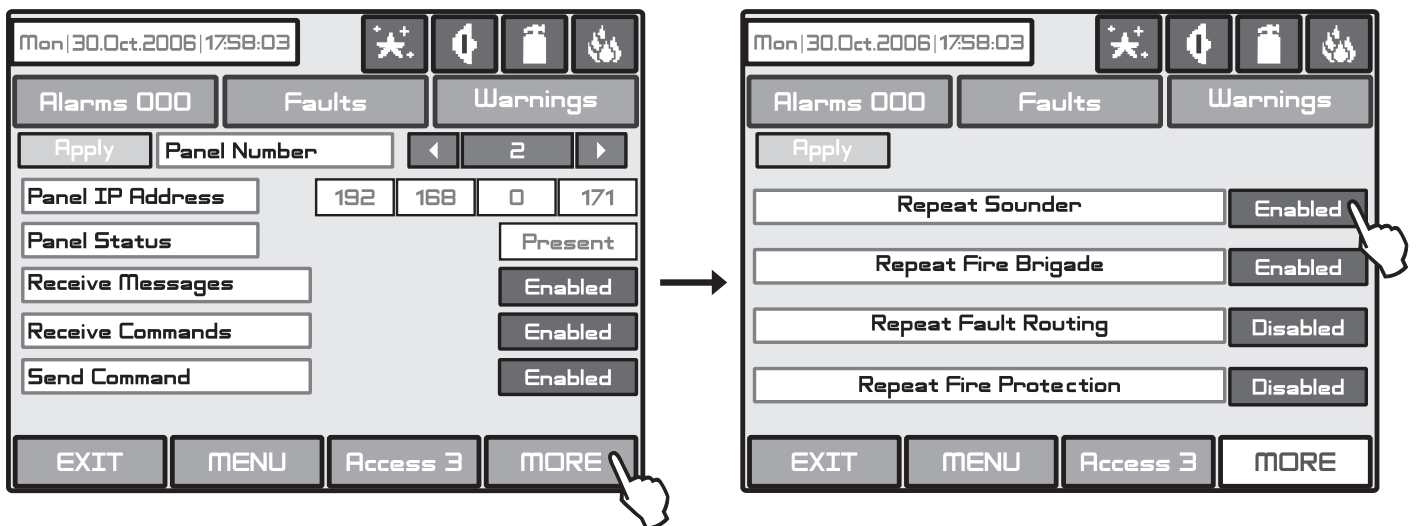
Fig. Screen 21A.

The messages have the following meanings:

• **Repeat Sounder** - Follows the **Sounder** output status of the remote panel including the delays.
• **Repeat Fire Brigade** - Follows the **Fire Brigade** output status of the remote panel including the delays.
• **Repeat Fault Routing** - Follows the **Fault Routing** output status of the remote panel including the delays.
• **Repeat Fire Protection** - Follows the **Fire Protection** output status of the remote panel including the delays.

All changed parameters are confirmed and saved by pressing the APPLY button in the upper left corner of the screen.

If a panel from the Network is lost the other panels will generate a message "**Panel Fault**" - Fig. Screen 21B. If there is doubling of IP and network numbers, the panels with doubled numbers generate a **Fault** message. You can access to the Fault messages by pressing the Button **Fault** from the **Panels** menu.
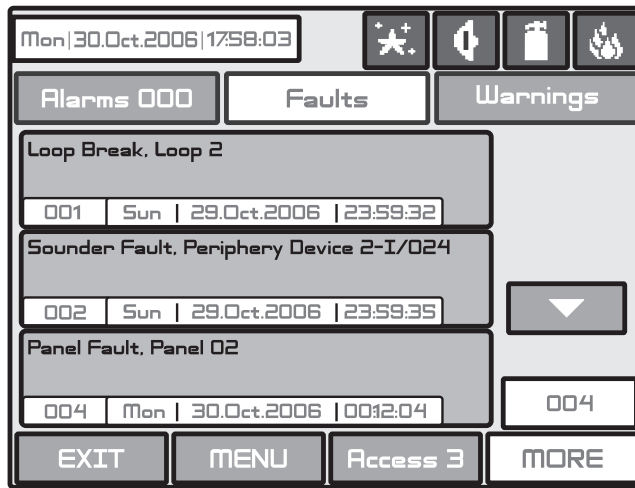
Fig. Screen 21B.

3.7.3 Disable Menu

By pressing the button **Disable** from the **Panel** menu (see Fig. Screen 18), a screen for enabling/ disabling the earth fault, battery high resistance and internal buzzer indication is displayed. Press the "Apply" button to introduce changes.
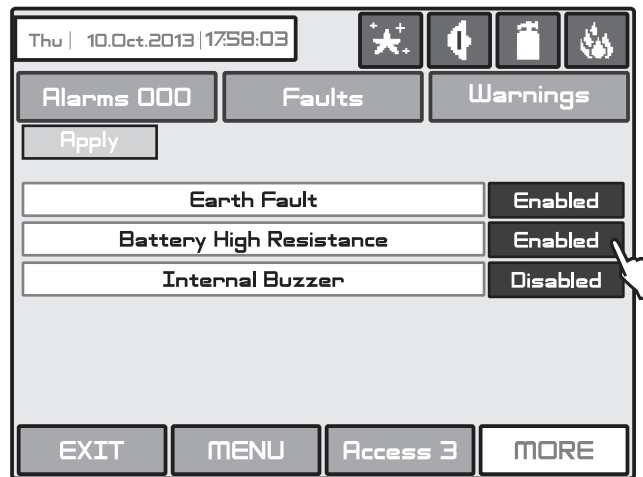
Fig. Screen 22.

3.7.4 Sounders Mode

Choose button **Sounders Mode** from **Panel** menu to enter in this submenu - see Fig. Screen 18. The Installer has a possibility to set a group of parameters common for all sounders in the system.
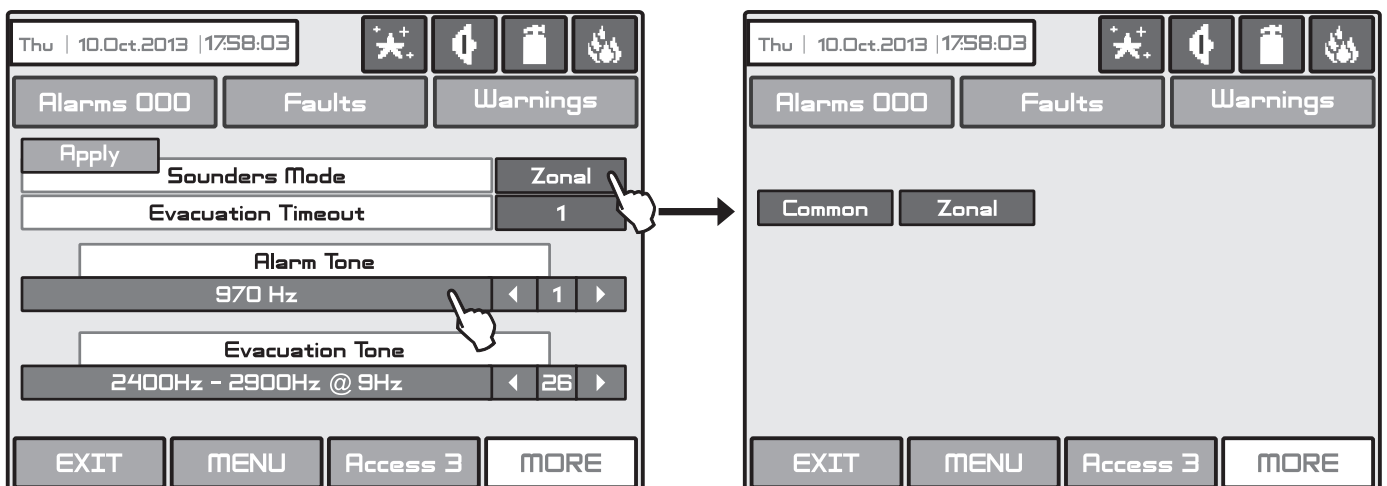
Fig. Screen 23 - Choosing a Sounders Mode.

The following parameters are available to set:
• **Sounders Mode** – Press to change the sounders operation mode. The options are displayed in a separate screen:
   • Common - All sounders will be activated with no sense of zone to which they are connected.
   • Zonal - Only the sounder of the zones with alarm condition will be activated.
• **Evacuation Timeout** – The firld is active only in ZONAL operation mode. The EVACUATION TIMEOUT is a time delay until evacuation of the site. Enter the submenu and use the up/ down arrow buttons to set a DELAY time from 0 to 10 minutes. In a fire situation only the sounder of the zone(s) with alarm condition will be activated. After the set evacuation timeout delay is over the sounders in the whole site are activated also.
• **Alarm Tone** – Set the alarm type sound. Use the arrow buttons to select a number from 1 to 32 for the alarm sound – the reference parameters for the selected sound are listed in the description field. To play the set sound tone press the field with the sound description.
• **Evacuation Tone** – Set the evacuation type sound. Use the arrow buttons to select a number from 1 to 32 for the evacuation sound – the reference parameters for the selected sound are listed in the description field. To play the set sound tone press the field with the sound description.
Confirm the settings with 'Apply' button.

3.7.5 Call point Mode

Choose button **Call points Mode** from **Panel** menu to enter in this submenu - see Fig. Screen 18. The Installer has a possibility to choose the alarm mode if a call point is been activated - Common or Zonal. For this purpose on a separate screen are displayed buttons, as:

• **Common** - A general alarm will be activated with no sense of to which zone the call point is been connected.

• **Zonal** - Only an alarm in the zone where the call point is been connected.
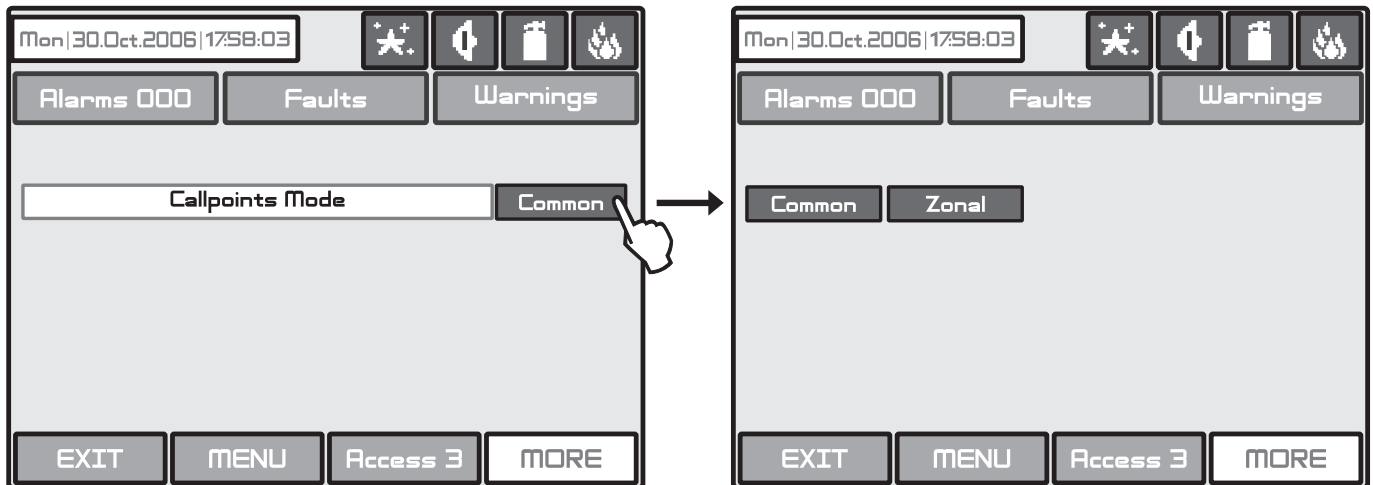
Fig. Screen 24 - Choosing a Call points Mode.

All changed parameters are confirmed and saved by pressing the APPLY button in the upper left corner of the screen.

3.7.6 Language selection
Here the Installer can choose between the available languages in the system.

3.7.7 Delay (T1)
Here the Installer can set a common time delay for activation for all outputs (from 0 to 60 seconds).
See also APPENDIX E - "Two steps of alarming" working algorithm.

3.7.8 Printer Menu
Here the Installer can choose the model of heat printer connected to the panel. To possible models are available:
   • KAFKA
   • EP1000

The current set mode is displayed with dark letters on a white inactive button. To change the printer model press the other button and then press "Apply" button.

3.8 Restore Defaults

In this menu the installer performs reset to default settings of the system configuration. The panel will ask for confirmation of the action.

4. MAINTENANCE

4.1 Maintenance Menu

To enter in the Maintenance Menu the installer has to choose button "**Maintenance**" – Fig. Screen 1. The general view of the menu is shown on Fig. Screen 25.

Buttons for selecting menus for:

- Time setting
- Date setting
- Daytime schedule
- Schedule for output delay
- LOG-file viewing

Thu | 10.Oct.2013 | 17:58:03

Alarms 000 · Faults · Warnings

Time	Test
Date	Disable
Day	Software Rev.
Output Delay	Display
View Log	View Insulator Active

EXIT · MENU · Access 3 · MORE

- Menu for testing the zones and the LED indication
- Disabling menu
- Shows the software version
- Display settings
- Review the active insulators

Fig. Screen 25.

4.2 Time introducing

Mon | 30.Oct.2006 | 17:58:03

Alarms 000 · Faults · Warnings

Set Time

Hour	00	▼ ▲
Min	32	▼ ▲
Sec	26	▼ ▲

EXIT · MENU · Access 3 · MORE

Hour selection buttons

Minutes selection buttons

Seconds selection buttons
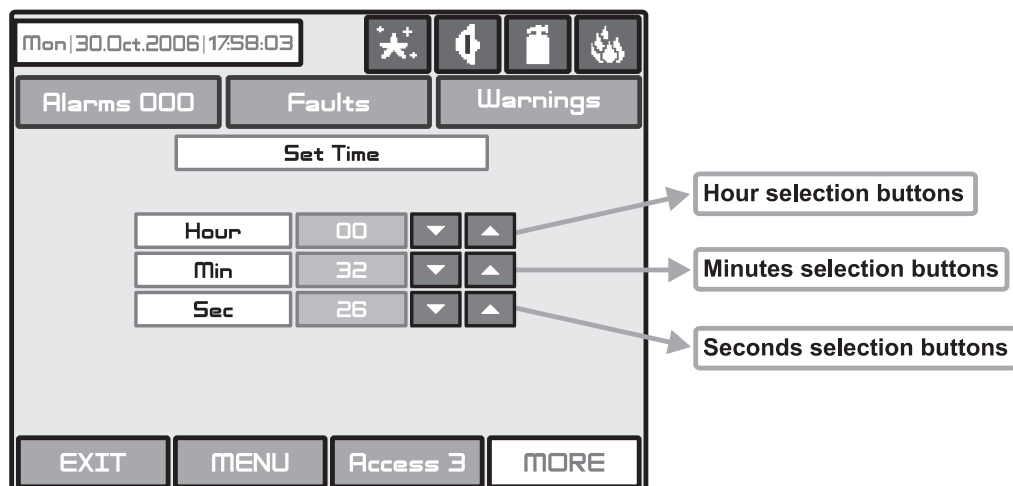
Choose the button "**Time**" from the Maintenance Menu to set the current time - Fig. Screen 26.

Use the **APPLY** button to confirm the settings.

The desired time can be set with the buttons for selecting the hours, minutes and seconds.

Fig. Screen 26.

4.3 Date introducing

Mon | 30.Oct.2006 | 17:58:03

Alarms 000 · Faults · Warnings

Set Date

Year	2006	▼ ▲
Month	Oct	▼ ▲
Day	30	▼ ▲

EXIT · MENU · Access 3 · MORE

Year selection buttons

Month selection buttons

Day selection buttons

Choose the button "**Date**" from the Maintenance Menu to set the current date - Fig. Screen 27.

Use the **APPLY** button to confirm the settings.

The desired date can be set with the buttons for selecting the day, month and year.

Fig. Screen 27.

4.4 Daytime Mode

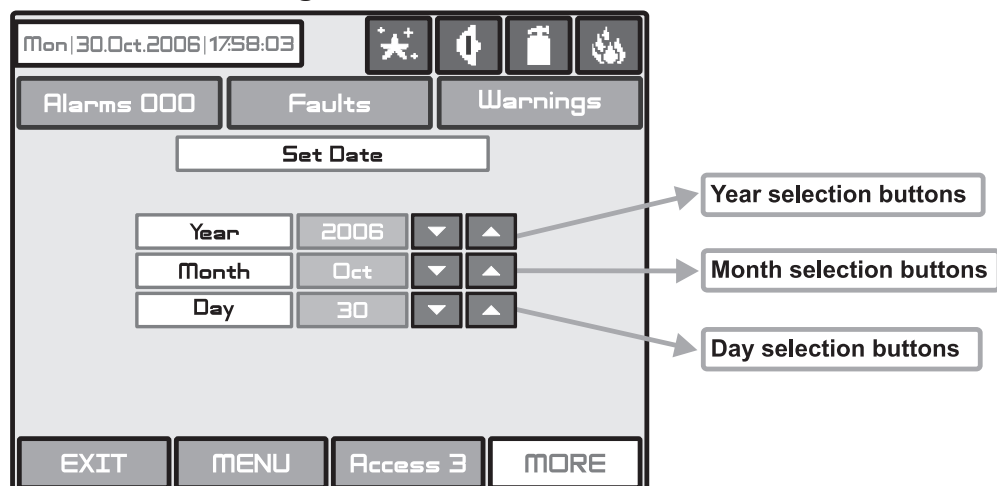Choose the button "**Day**" from the Maintenance Menu to set the daytime schedule for detectors operation. The Daytime operating mode can be enabled (ON), disabled (OFF) or to follow a time schedule (Schedule) Fig. Screens 28.
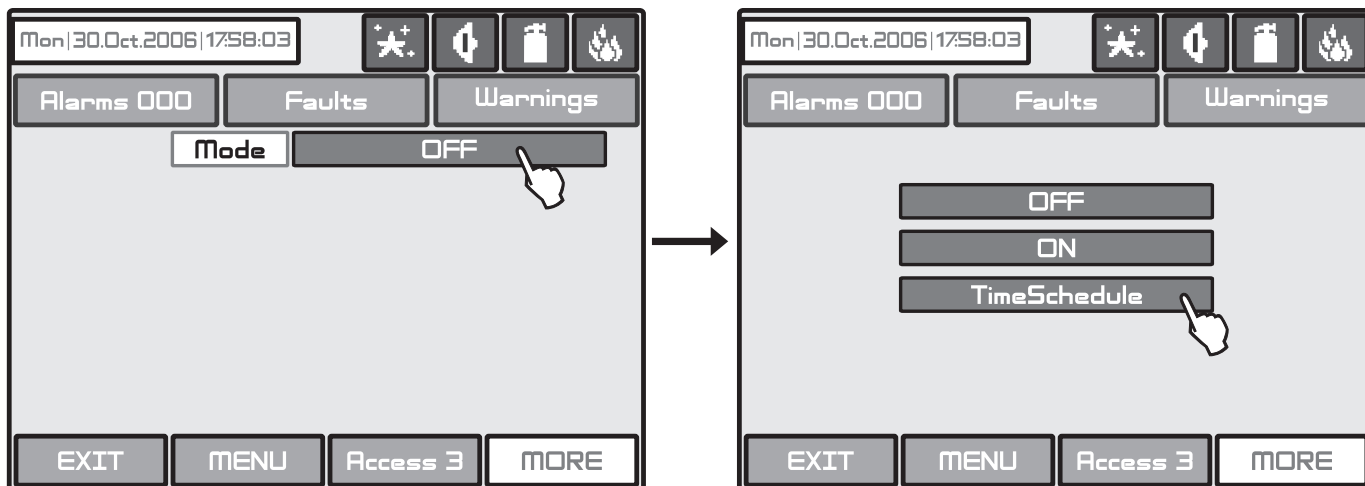
Fig. Screens 28.

In this mode the detectors use the alarm level which has been programmed as day mode. This is usually a level of lower sensitivity. It lowers the risk of false alarms caused by dust, cigarette smoke, etc. Night time mode is opposite to the daytime mode (higher level of sensitivity).

Fig. Screen 29.

In Schedule mode the initial hour and minutes (the time when the daytime mode is activated) and the end hour and minutes (the time when the night time mode is activated) are introduced. The times are set for every day of the week. By default the station is in night time mode.

The Day time operating mode is indicated with icon in the system status field.

All changed parameters are confirmed and saved by pressing the APPLY button in the upper left corner of the screen.

4.5 Output Delay Introduction

Choose the button "**Output Delay**" from the Maintenance Menu to set the output delay – Fig. Screen 30.
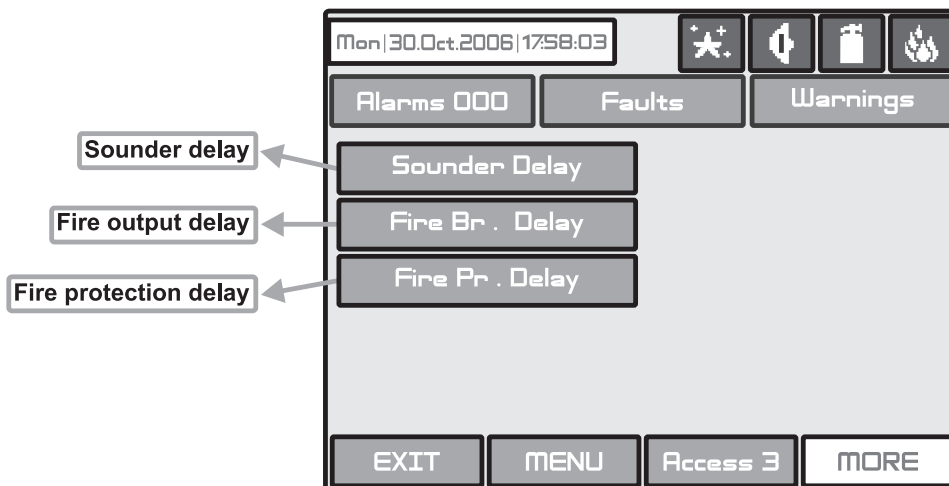
Fig. Screen 30.

4.5.1 Sounder Delay

Choose "**Sounder Delay**" button from "Output Delay" Menu - Fig. Screen 30 to enter the submenu for sounder delay introduction - Fig. Screen 31.

A delay can be added before the sounders are turned on. This provides the possibility of checking the authenticity of the alarm before the sounders are turned on (an official visits the site and inspects for fire).

Fig. Screen 31 - Sounders Delay Introducing.
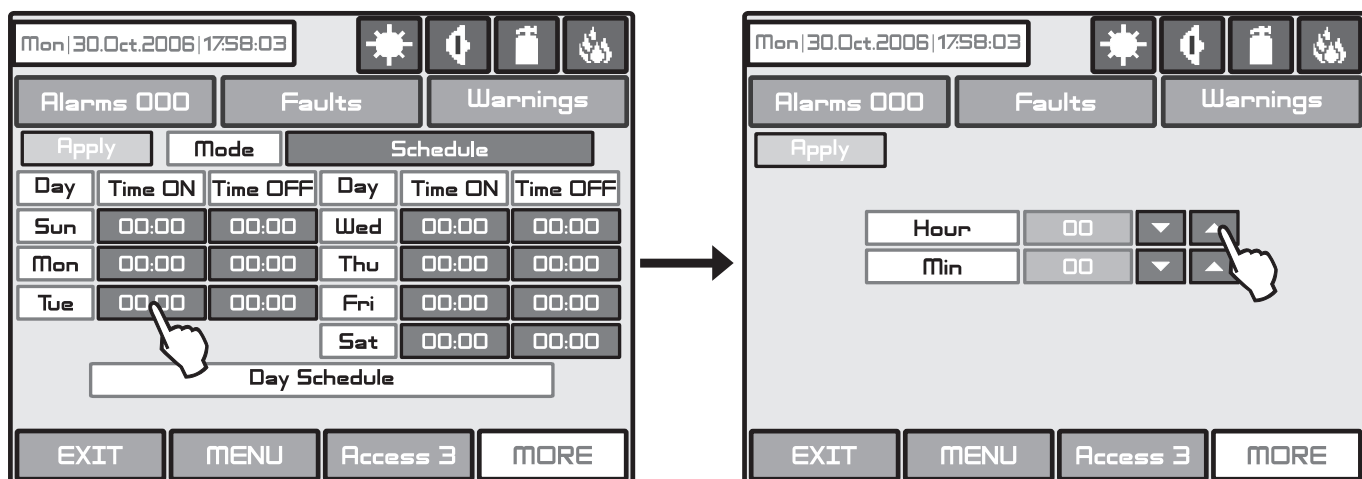
In Schedule mode the initial hour and minutes (the time when the delay is activated) and the end hour and minutes (the time when the delay is deactivated) are introduced. The times are set for every day of the week. During turned on "**Delay**" the LED is active.

4.5.2 Fire output Delay

Choose "**Fire Br. Delay"** button from "Output Delay" Menu - Fig. Screen 30 to enter the submenu for fire output delay introduction (the screen is the same as those for sounder delay introduction).

A delay can be added before the sounders are turned on (fire output). This provides the possibility of checking the authenticity of the alarm before the sounders are turned on (an official visits the site and inspects for fire).

The delay can be: **ON**, **OFF** or **Schedule**. In Schedule mode the initial hour and minutes (the time when the delay is activated) and the end hour and minutes (the time when the delay is deactivated) are introduced. The times are set for every day of the week. During turned on "**Delay**" the LED is active.

4.5.3 Fire Protection Delay

Choose "**Fire Pr. Delay**" button from "Output Delay" Menu - Fig. Screen 30 to enter the submenu for fire protection delay introduction (the screen is the same as those for sounder delay introduction).

A delay can be added before the fire protection system is turned on. This provides the possibility of checking the authenticity of the alarm before the sounders are turned on (an official visits the site and inspects for fire).
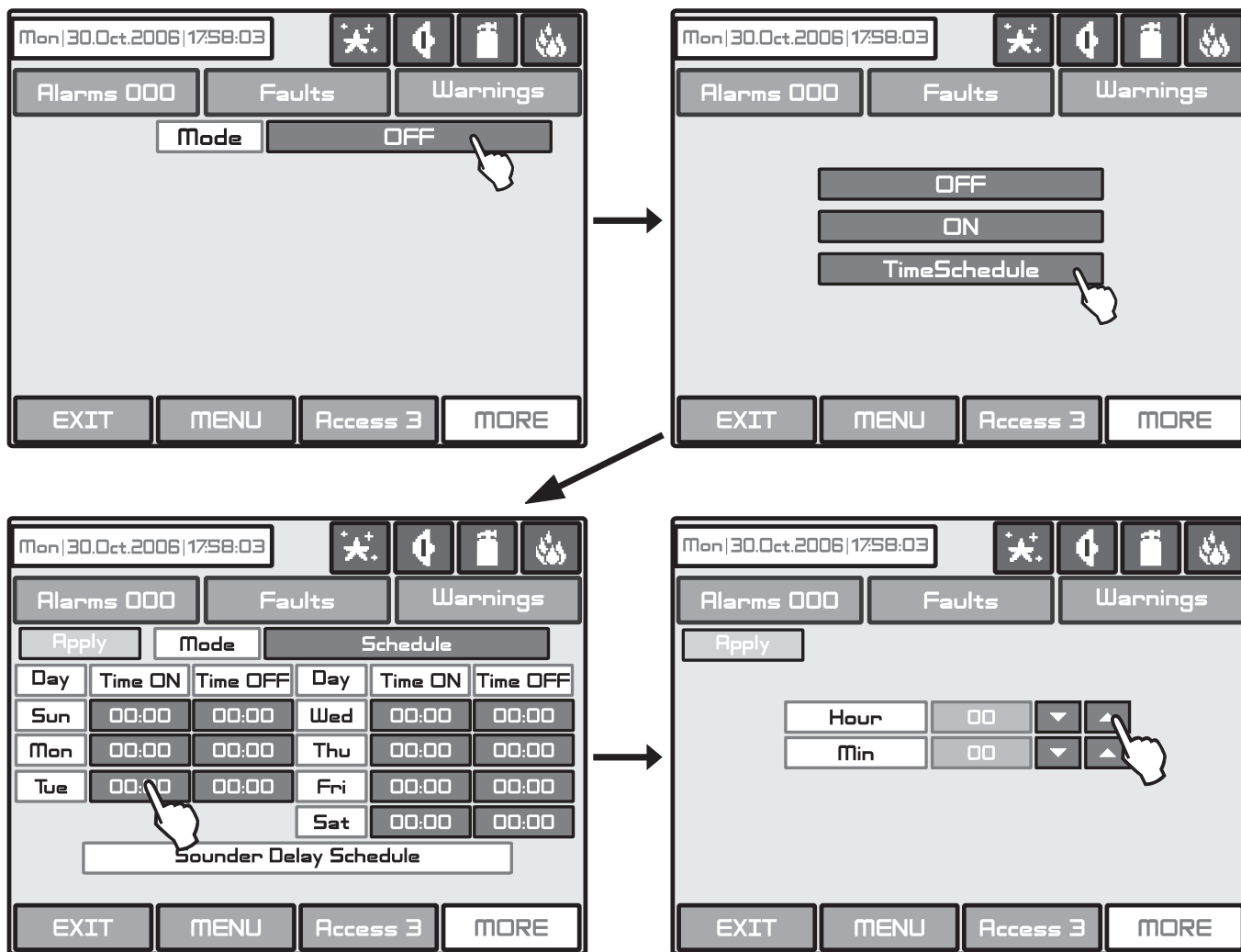
The delay can be: **ON**, **OFF** or **Schedule**. In Schedule mode the initial hour and minutes (the time when the delay is activated) and the end hour and minutes (the time when the delay is deactivated) are introduced. The times are set for every day of the week. During turned on "**Delay**" the LED is active.

All changed parameters are confirmed and saved by pressing the APPLY button in the upper left corner of the screen.

4.6 LOG-file view

Choose "**View Log**" from the **Maintenance** Menu to enter in a screen for viewing the recorded events in the system. The addressable fire panel MAGPRO96 can show maximum 10 240 events, which could be viewed by date or number - Fig. Screen 32.

Fig. Screen 32.

4.7 Testing

The addressable fire panel MAGPRO96 has an option for testing of the operability of the system. Entering the TEST menu the installer can maintain:

- Zone Testing
- Indication (internal buzzer and LEDs operation) Testing
- Device Testing
- Sounder Output Testing

To make a test, choose the "**Test**" button from Programming Menu - Fig. Screen 25. On the displayed screen the user/installer could choose which test to perform - Fig. Screen 33.

Fig. Screen 33.

4.7.1 Zone Test Menu

To perform zone testing, choose in sequence SYSTEM-MAINTENANCE-TEST-ZONE TEST. The screen displays a map of zone numbers from 1 to 50. To review the other zone numbers up to 96 use the down arrow. To go back use the up arrow respectively.
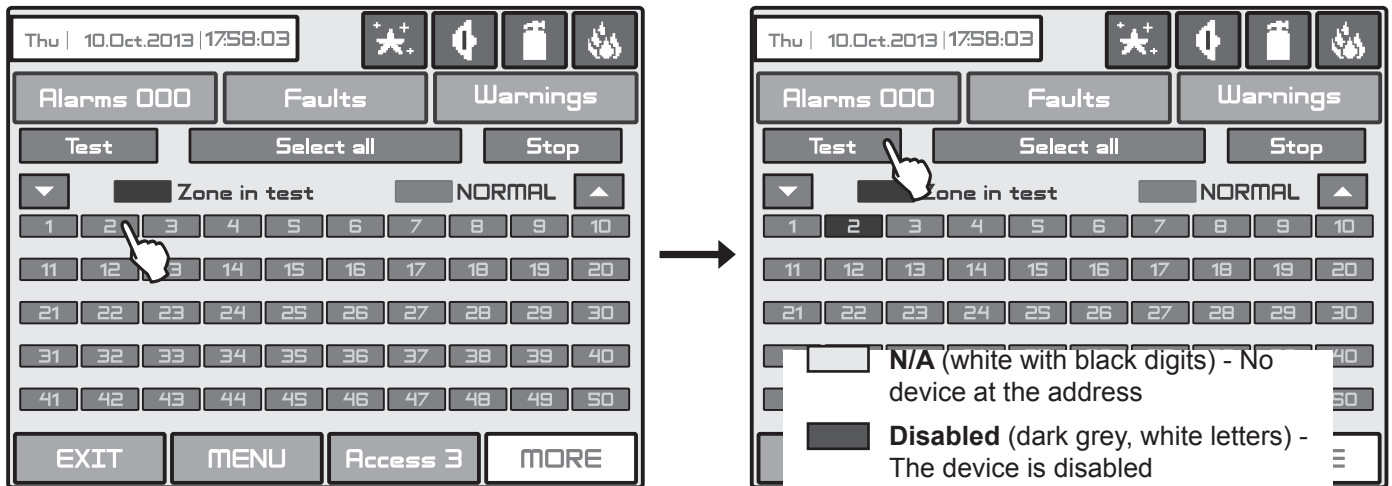

Fig. Screen 3

To perform zone test, select a zone number from the map and press "Test" button. The LED TEST on the control panel is lighting on permanently. During the zone test mode the installer activates detectors in the zone (applies heat or smoke) to check their proper operation. The successful test is confirmed with a text message on the screen "Test Fire".
To stop the zone test press the "Stop" button - the LED TEST is off and the zone number is deselected.
You can also select all zone by pressing the "Select all" button.

4.7.2 Indication Test

The indication test allows the installer to review the correct operation of the LED indication on the front panel and the sound signal of the internal buzzer. To perform the indication test press "Indication test" button - all LEDs must light on and the internal buzzer starts sounding. The panel will automatically exit the general test mode after 6 seconds.

4.7.3 Device Test Menu

This is a service menu.

4.7.4 Sounder Output Test Menu

Here the installer can perform operability test of the sounder outputs on the control panel's PCB. To start the test press the "ON" button. The sounder outputs will be activated together with the LED TEST on the control panel. To stop the test press the "OFF" button.

4.8 Disable introducing

The user/installer can enable or disable the loop devices, zones and the outputs of the fire panel. To introduce enabling or disabling a function you can directly choose the respective button and make corrections, or first by pressing "**View**" button to look at the current status of the system and after that, if it is necessary, to enter new data – Fig. Screen 35.
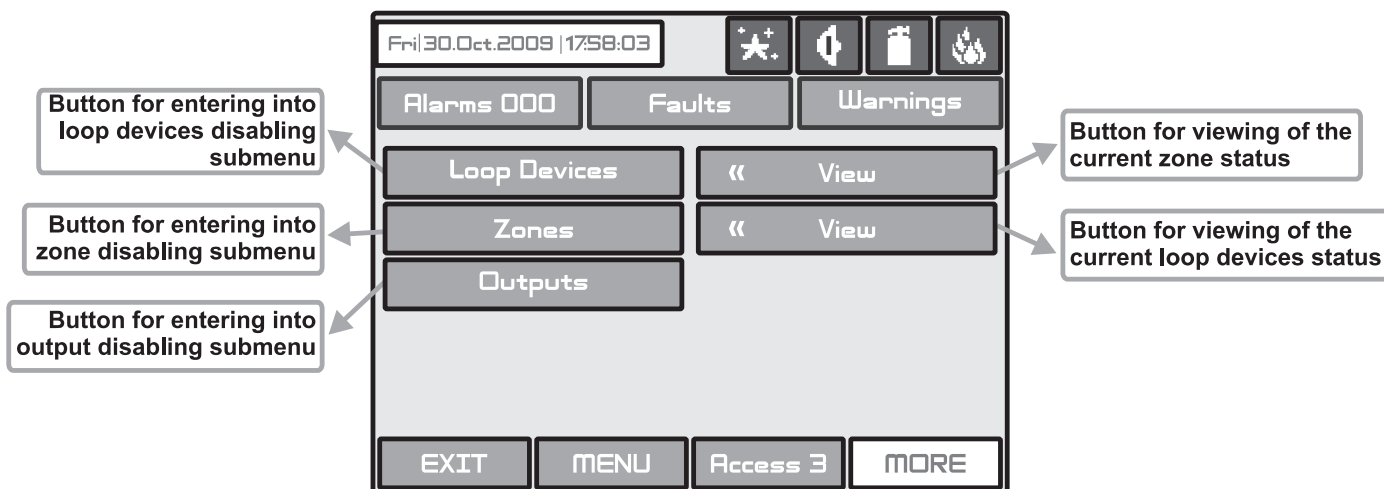

Fig. Screen 35.

4.8.1 Loop Devices Disabling

The user/installer could first look at the current status of the loop devices by choosing "**View**" button situated next to the "**Loop devices**" button - see Fig. Screen 35. The current status of the loop devices programmed earlier in the system are displayed on the screen (see part Programming, item 3.3.2 Loop Devices) - Fig. Screen 36.

In case of a disabled device, the panel generates a "**Loop Device Disabled**" error message and the "**DISABLE**" and "**GENERAL FAULT**" LEDs are activated. The disabled devices do not generate messages to the panel. In case of disabled devices associated to a zone number, where it has passed into Normal mode, and of all devices without 1 if the zone is in "**2Devices**" mode, the same is automatically disabled and a "**Zone Disabled**" error message is generated.

Fig. Screen 36.

From the screen for the current status of the loop devices the user/installer can introduce new settings as choose the button with the number of the respective device 1,2,3…250. With the buttons ▼ ▲ is possible to be viewed the all loop devices in the system configuration. By choosing a button with a device number the user/installer moves to menu for setting of the parameters of the respective device see Fig. Screen 8, part **Programming**.

4.8.2 Zone disabling

The user/installer could first look at the current status of the loop devices by choosing "**View**" button situated next to the "Zones" button - see Fig. Screen 35. The current status of the zones in the system are displayed on the screen (see part Programming, item 3.3 Zones) - Fig. Screen 37. In the case of a disabled zone, the panel generates a "**Zone Disabled**" error message and the "**Disable**" and "**General Fault**" LEDs on the control panel are activated.
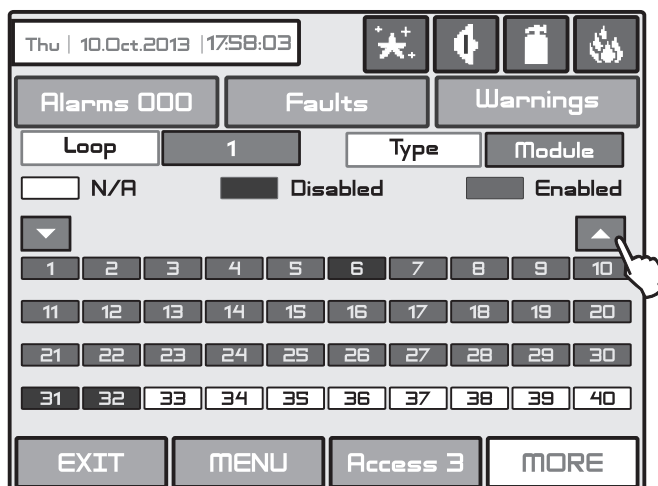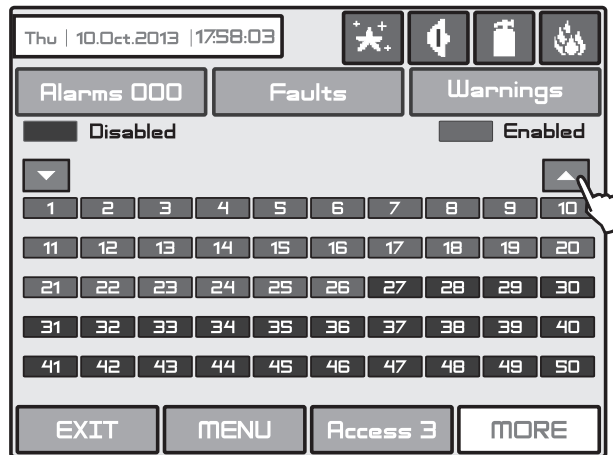

Fig. Screen 37.

From the screen for the current status of the zones the user/installer can introduce new settings as choose the button with the number of zone 1,2,3…96. With the buttons ▼ ▲ is possible to be viewed all zones in the configuration of the system. By choosing a button with a zone number the user/installer moves to menu for setting of the parameters of the respective zone - see Fig. Screen 13, part **Programming**.
Note: From the disabling menu you can directly enter in the loop devices configuration menu (Fig. Screen 8) / zone configuration menu (Fig. Screen 13) as choose "Loop Devices" / "Zones" button (Fig. Screen 35).

4.8.3 Outputs disabling

From the menu for disabling introduction - Fig. Screen 35, the user/installer can disable or enable the monitored outputs of the MAGPRO96 fire panel - **Sounder**, **Fire Brigade**, **Fire Protection** and **Fire Routing** - Fig. Screen 38. Use the **APPLY** button to confirm your choice.

In the case of disabled output, the panel generates an error for the respective output and the "**Disable**" and "**General Fault**" LEDs are activated. The output is not activated by the activating event.
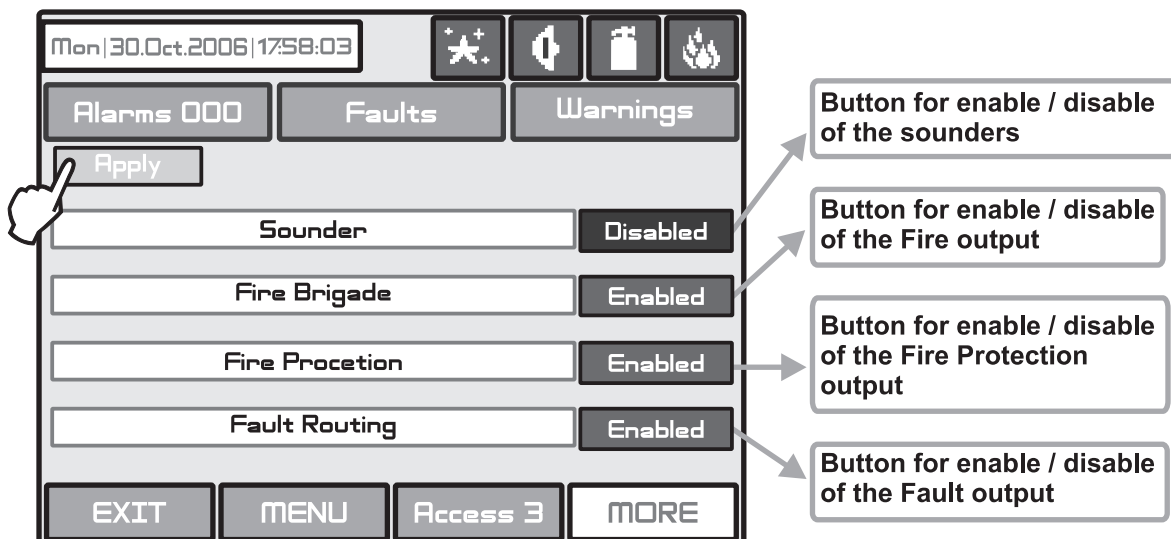

Fig. Screen 38.

4.9 Software version

By choosing "**Software Rev"** button from the general **Maintenance Menu**, in a separate screen you can see the last version of the used software.

4.10 Display

The Installer/User can check and calibrate some parameters of the LCD display. From the general **Maintenance Menu** you can enter the Display submenu.

4.10.1 Display Calibration

It is possible that after a certain period of use the parameters of the Touch screen display may change, causing difficulties in marking the sites. This would require it to be calibrated periodically, which can be done in access levels 2 and 3.

ATTENTION! Calibrating the display must be done with a Touch screen pen (or PALM)!

To begin a display calibration procedure the following sequence of actions must be performed:

<div align="center">

Main menu → Maintenance → Display → Coordinates

</div>

The calibration of the display runs in the following 4 stages – see also Fig. Screen 39.

1. The message "**Press the cross centre in the top left corner of the screen:**" is displayed on the screen.

The user has to press the point on the top left corner of the display. It is marked with a cross and it is desirable to choose the crossing point of the two lines. The calibration procedure shall continue after the point is pressed.

2. The "**Press the cross centre in the top right corner of the screen:**" message is displayed on the screen.

By analogy, the next point, which has to be pressed, is selected – in the top right corner of the display, once again marked with a cross. The calibration procedure shall continue after the point is pressed.

3. The message "**Press the cross centre in the bottom right corner of the screen:**" is displayed on the screen.

This is the last point and is situated in the lower right corner of the display. The calibration procedure shall continue after the point is pressed.

4. The message "**Press a point within the rectangle in the top left corner of the screen:**" is displayed on the screen.

This is the menu for verifying input data, and it is entered automatically. The user has to press the rectangular field with the pen in the upper left corner of the display.

The message "**Calibration Successful!!!**" will be displayed if the calibration has been successful and after pressing of any part of the display, the programme returns to the main menu.

The message "**Calibration Unsuccessful!!!**" will be displayed if the calibration has been unsuccessful, the newly introduced data will be ignored and after pressing of any part of the display, the program returns to the main menu.
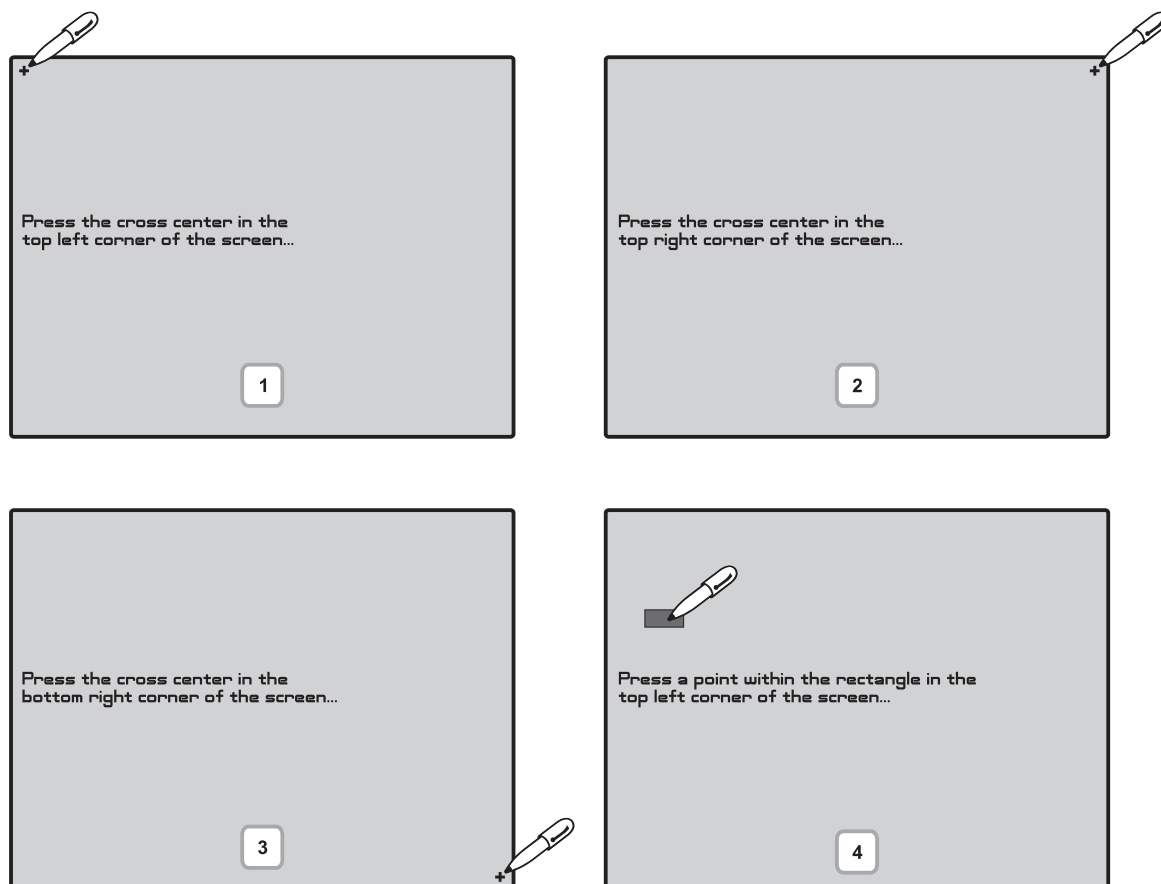

<div align="center">

Fig. Screen 39.

</div>

4.10.2 Brightness Calibration

The Installer/User can also adjust the brightness of the LCD touch screen display. To see the brightness of the display choose the **Colours** submenu from the **Display Menu**.

To adjust the LCD brightness use a small plain screw-driver and turn the potentiometer on the left or on the right.

4.10.3 Power Save Backlight

The Installer/User can switch on a backlight save mode as choose the **Power Save Backlight** button from the **Display Menu**.
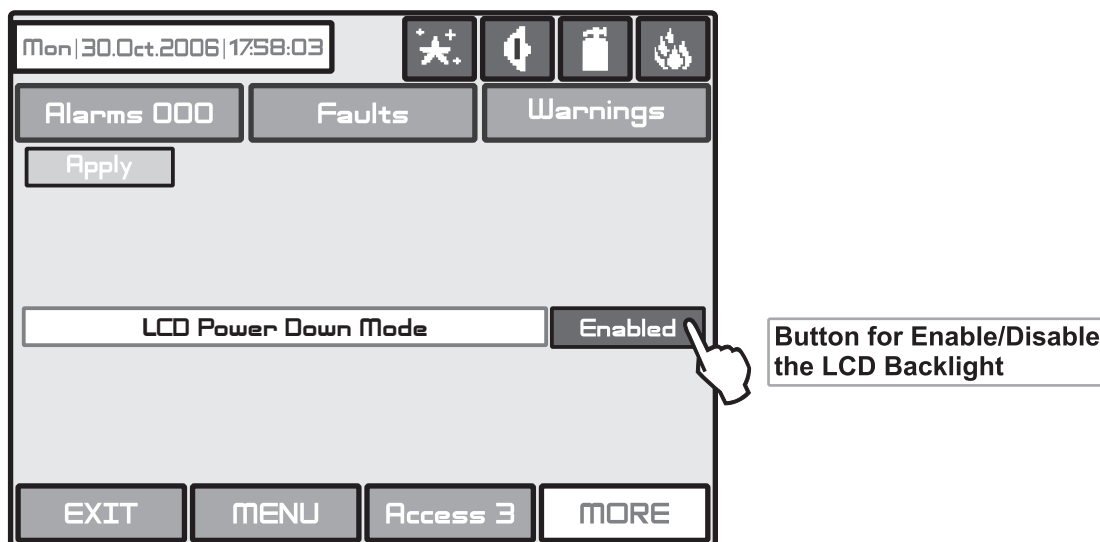
Fig. Screen 40.

Use the **APPLY** button to confirm you choice. If the Backlight Save Mode is Enabled the LCD Backlight will switch off after 60 sec when the LCD Touch screen display is not used. You you can switch on the backlight by simple pressing the touch screen.

4.11 View Insulator Active

This is an information menu for reviewing the active insulators. To access this menu choose in sequence SYSTEM-MAINTENANCE-VIEW INSULATOR ACTIVE - Fig. Screen 41. The active insulator in the system are displayed as device addresses in the field "Address" for MAGPRO96-L250 loops.
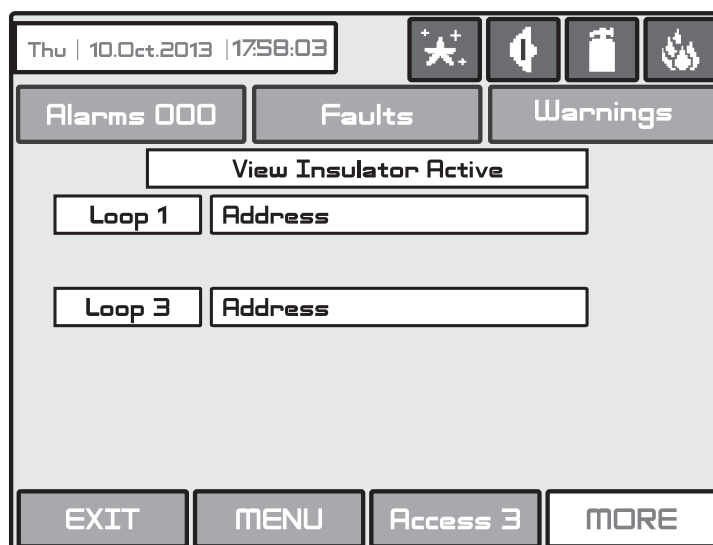
Fig. Screen 41.

5. INSTRUCTION FOR USE

5.1 Status Line

Purpose – Indicates the current status of the fire alarm panel, containing detailed information on the access level, the working mode (day/ night time), the status of the fire output and fire protection, etc - see Fig. Screen 42 and Fig. Screen 43.
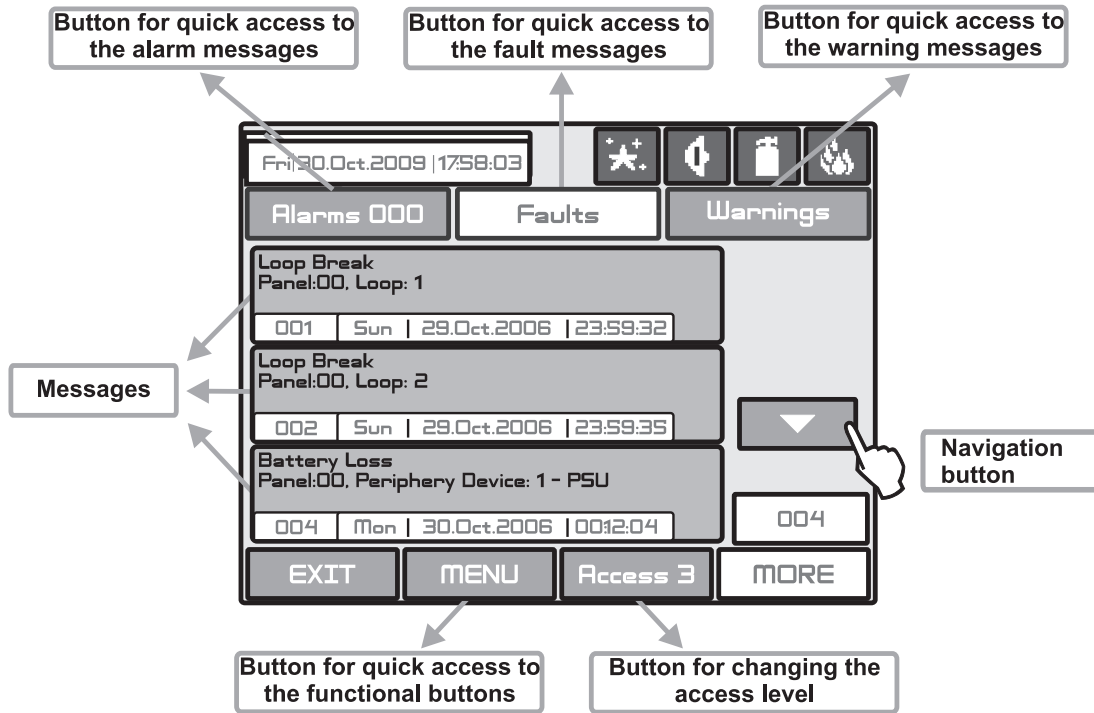
Fig. Screen 42.

• *Change of Access Level Button*
Used for accessing the Change Access Level menu.

• *Button for Quick Access to Functional Buttons*
Used for changing over from message review mode to functional buttons mode.

• *Alarms Access Mode*
Used for accessing the alarm review window. The button contains a counter of the current alarms in the panel.

• *Faults Access Button*
Used for accessing the error review window.

• *Warnings Access Button*
Used for accessing the warnings review window.

5.2 Panel Status Icons

Fig. Screen 43.

5.2.1 Panel Mode Icon

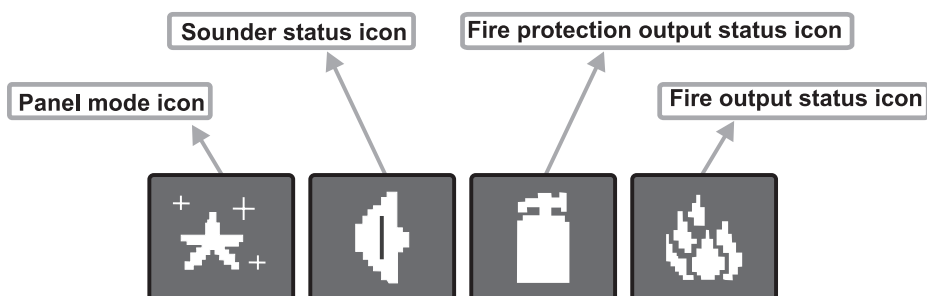| Icon	Description
	LOADING Mode - loads configuration data from permanent memory
	SAVING Mode - saves configuration data in permanent memory
	DAY Time Mode - processes signals from detectors with enhanced sensitivity (set for every detector)
	NIGHT Time Mode - processes signals from detectors with enhanced sensitivity (set for every detector)
	Evacuation when a common delay (T1) for all outputs is set - blinks together with the output(s) status icons, for which a time delay is set. In the respective output status icon is running countdown presenting the time left to output activation. A continuos sound signal is heard till the countdown is over.
	Evacuation when output delay (T2 - sirens, fire, extinguishing) - blinks together with the output(s) status icons, for which a time delay is set. In the respective output status icon is running countdown presenting the time left to output activation. A continuos sound signal is heard till the countdown is over.

5.2.2 Sounder Status Icon

Icon	Colour	Description
	Dark grey	**Sirens activated -** activated output.
	Black	**Sirens not activated** - dormant output.
	Light grey	**The sirens are disabled** - disabled output.
	Dark grey (Blinks)	**The sirens are delayed** - delay is running prior to activation (programmable for every zone). The icon blinks and the countdown time until activation is displayed.

5.2.3 Fire Output Status Icon

Icon	Colour	Description
	Dark grey	**Fire output activated -** activated output.
	Black	**Fire output is not activated** - dormant output.
	Light grey	**The fire output is disabled** - disabled output.
	Dark grey (Blinks)	**The fire output is delayed** - delay is running prior to activation (programmable for every zone). The icon blinks and the countdown time until activation is displayed.

5.2.4 Fire Extinguishing Output Status Icon

Icon	Colour	Description
	Dark grey	**Fire extinguishing output activated -** activated output.
	Black	**Fire extinguishing output is not activated** - dormant output.
	Light grey	**The fire extinguishing is disabled** - disabled output.
	Dark grey (Blinks)	**The fire extinguishing output is delayed** - delay is running prior to activation (programmable for every zone). The icon blinks and the countdown time until activation is displayed.

5.3 Messages

The maximal number of messages, which can be displayed is 3. The order in which they are displayed is:

1) first come;

2) all messages in between the first and the last, the scrolling is performed with the navigation buttons;

3) latest incoming message.

The messages displayed are abridged. To view the complete information it is necessary to pass into extended image mode. This mode can be accessed by pressing on the respective message. Return to normal mode is accomplished by pressing the "Exit" button.

5.4 Access Level

The control panel has 3 levels of access. The first level is accessible to users without having to introduce a password. Levels 2 and 3 are accessible only after a password is introduced. The password is entered in the change access level menu. At different access levels users have different restrictions to panel operations, as described in item 3.1.

5.5 General Screen

Fig. Screen 44.

• **Silence Buzzer Button**

The "Silence Buzzer" button deactivates the internal buzzer. The button is active at access levels 1,2 and 3.

• **Reset Button**

The "Reset" button is active at access levels 2 and 3. Where this button is pressed all activated statuses shall be over-ruled and the panel shall be brought to a normal state.

• **Delay Override Button**

The "Delay Override" button is active at access levels 1, 2 and 3. After it is pressed, all currently active output delays shall be overruled.

• **Silence Alarm Button**

The "Silence Alarm" button is active at access levels 2 and 3. Pressing this button will overrule all active sounders and the associated thereto delays. In the case of an alarm present in the panel, pressing this button would cause the "System Silenced" LED to be activated.

• **Evacuate Button**

The "Evacuate" button is activated only in access levels 2 and 3. After it is pressed, the sounder and the programmable outputs will be activated, the "General Fire" LED lights up and a warning message is displayed.

*Note: The **System** Button is described in details in part Programming.*

6. APPENDIX

Appendix A - Possible error messages

Text Messages	Description
Alarm	Fire signal from detector.
Loop Device Type Error	A different than the expected type of device has been detected at the address.
Loop Device Fault	The device does not respond (lost or damaged).
Double Address	More than one device with the same address in the loop.
PreAlarm	Fire signal from detector in *2DEVICES* zone.
Evacuate	Activated Call Point or EVACUATE button on the panel.
Loop Device Input Fault	Fault in loop device input.
Loop Device Output Fault	Fault in loop device output.
Loop Device Sounder Fault	Fault in loop sounder output (short-circuit or interruption).
Fault Routing - Fault	Fault at problem output (short-circuit or interruption).
Fire Brigade - Fault	Fault at fire output (short-circuit or interruption).
Fire Protection - Fault	Fire protection fault (short-circuit or interruption).
Loop Device Disabled	Loop device has been disabled.
Chamber Fault	Fault in the detector.
Clean Me Now	Dirty detector chamber.
Test Fire	Fire signal from tested detector.
Signal Blockage	Signal blockage in linear detector.
Hi Signal	Too high a signal in linear detector.
Drift Alert	Sensor compensation limit reached.
Earth Fault	Resistive connection between some signals and earth < 10k.
Battery Low	Low battery.
Charger Fault	Fault in the charging device.
Battery Loss	Loss of electric battery supply.
AC Loss	Loss of mains supply.
Sounder Fault	Fault at sounder output (short-circuit or interruption).
AUX24V Fault	Short-circuit.
AUX12V Fault	Short-circuit.
Periphery Device Fault	The device does not respond (lost or damaged).
Periphery Device Type Error	A different than the expected type of device has been detected at the address.
External Power Supply Fault	External power supply fault (low battery, loss of battery, charger fault, loss of mains or earth leak).
External Power Supply Loss	Loss of external power supply.
Zone Disabled	The zone has been disabled.
Zone in Test	The zone is in test mode.
Sounder Disabled	The sounders have been disabled.
Fire Brigade Output Disabled	The fire output has been disabled.
Fire Protection Output Disabled	The fire protection has been disabled.
Fault Output Disabled	The fault output has been disabled.
Reset	Resetting of the panel.
Silence Alarm	Sounders silencing.
Ram Error	RAM memory error.
Flash Error	Flash memory error.
Panel Fault	Fault in the connection with another panel (when two or more panels are connected in a network).
Double IP address	Doubling of an IP address.
Double Panel number	Doubling of the panel number (when two or more panels are connected in a network).
Double IP address and Panel number	Doubling of the IP address and the panel number (when two or more panels are connected in a network).
New Periphery Devices Found	New periphery devices have been detected.
New Loop Devices Found	New loop devices have been detected.

Loop Short	Short-circuit in the loop.
Loop Break	Interrupted loop.
Loop Zero Address	There is a device without address number (a device with address 0 is applied).
Activated	Activated output.
Network Fault	Redundant network breakdown.
Wrong Error Code	Unknown code for fault message.
Alarm Output	Alarm or fire event form output.
Earth Fault function DIS-ABLED	The Earth Fault indication is disabled.
Zone In Test	The zone is in test mode.
Transmitting device active	The Fire output is activated.
Extinguishing output active	The Extinguishing output is activated.
Sirens active	The sounders are activated.
User log off	User level exit.
Installer log off	Installer level exit.
User log on	User level entry.
Installer log on	Installer level entry.
GAS ALARM!	Alarm signal from activated gas detector.
PANIC!	Panic alarm signal from device.
Battery High Resistance	High value (Ri>0.3Ω) of the battery internal resistance. It is highly recommended to replace the battery immediately!
High Resistance Disabled	The indication for high battery resistance is disabled.
Internal Buzzer Disabled	The internal buzzer is disabled.

Appendix B

MAGPRO Device Types

1. Addressable Detectors

 • *MAGPRO-HD1* - Temperature detector. 3 temperature classes for operation: A1R (58º,RoR), A2S (60º), BS (75º).

 • *MAGPRO-SD1* - Optical-smoke detector. 4 level of sensitivity: High, Normal, Medium and Low.

 • *MAGPRO-HSD1* - Combined detector (optical-smoke and RoR). 4 level of sensitivity: High, Normal, Medium and Low. It is possible to DISABLE the optical and the temperature part.

2. Call Points

 • *MAGPRO-CP* - Call point with built-in isolator.

3. Modules

 • *MAGPRO-0i4O* - 4 outputs module with built-in isolator.

 • *MAGPRO-2i2O* - 2 inputs/ 2 outputs module with built-in isolator.

 • *MAGPRO-4i0O* - 4 Inputs module with built-in isolator.

 • *MAGPRO-CZM* - Conventional zone module with built-in isolator.

 • *MAGPRO-MINI* - Mini input module - the operation is programmed according the type of the devices connected to the input with built-in isolator.

 • *MAGPRO-1OSi* - Conventional sounders module with built-in isolator.

 • *MAGPRO-R*- Mains switch module with built-in isolator.

4. Sounders

 • *MAGPRO-WS* - Wall mounted sounder

 • *MAGPRO-WSS* - Wall mounted sounder and strobe

 • *MAGPRO-DBS* - Base with built-in sounder

 • *MAGPRO-DBSS* - Base with built-in sounder and strobe

Appendix C - General Menu Structure

ACCESS LEVEL 1

SYSTEM — SILENCE ALARM — RESET — EVACUATE — SILENCE BUZZER — DELAY OVERRIDE

ACCESS LEVEL 2

- SYSTEM → MAINTENANCE
- TEST — DISABLE
  - ZONE TEST
  - INDICATION TEST
  - DEVICE TEST
  - SOUNDER OUTPUT TEST
- DISABLE
  - DEVICES — « VIEW
  - ZONES — « VIEW
  - OUTPUTS

MAINTENANCE → TIME — DATE — DAY — OUTPUT DELAY — VIEW LOG — SOFTWARE REVISION — DISPLAY — VIEW INSULATOR ACTIVE

- OUTPUT DELAY
  - SOUNDER
  - FIRE BRIGADE
  - FIRE PROTECTION
- DISPLAY
  - COORDINATES
  - COLORS
  - POWER SAVE BACKLIGHT

ACCESS LEVEL 3

PROGRAMMING — DEVICE — ZONES — INPUTS — OUTPUTS — PANEL — RESTORE DEFAULT — SAVE

- DEVICE
  - PERIPHERY DEVICE
  - LOOP DEVICE
  - ADDRESSING — SET ADDRESS
    - CHANGE ADDRESS
    - START SELF ADDRESSING
- PANEL
  - ACCESS CODES
  - NETWORK — NETWORK SETTINGS — PANELS
  - EARTH FAULT
  - SOUNDERS MODE
  - CALLPOINTS MODE
  - LANGUAGES
  - DELAY (T1)
  - PRINTER

Appendix D

Initial Start-up of the System

Initial power up of the panel - Power ON

↓

Configuration of the system parameters - 5-6 sec.

↓

Searching of new Periphery Devices

↓

New Periphery Devices found? —YES→ Message on the screen: "New Periphery Devices Found"

↓

Choose **ACCESS** button and enter **Access Level 3** code. (3333 - By default)

↓

Choose **SYSTEM**

↓

Choose **Programming**

↓

Choose **Device**

↓

Choose **Periphery Devices**

↓

Check the available devices and save the new ones with **SAVE** button.

NO ↓

Searching of new Loop Devices

↓

New Loop Devices found? —YES→ Message on the screen: "New Loop Devices found"

↓

Choose **MENU**

↓

Choose **SYSTEM**

↓

Choose **Programming**

↓

Choose **Device**

↓

Choose **Loop Devices**

↓

Check the devices and save the new ones with **Apply** button.

NO ↓

The panel is in Normal Working Mode and follows the devices status.

Appendix E

"Two steps of alarming" Operation Algorithm