INSTALLATION
AND PROGRAMMING
MANUAL

**Intelligent Interactive Analogue Addressable
Fire Alarm Control Panel**

MAGPRO16

Attention:
**This manual contains information on limitations regarding product use and
function and information on the limitations as to liability of the manufacturer.
The entire manual should be carefully read.**

The information in this manual is a subject to change without notice!

CE
1293

Table of Contents

STANDARDS AND CONFORMITY
The addressable fire alarm control panel MAGPRO16 is designed and certified according and with conformity to EN 54 – 2/4 standard. Conforms and approved in accordance with CPR (Construction Products Regulation).

$C\mathcal{E}_{14}$

1293

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DoP No: 002

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

MAGPRO16
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

1. INTRODUCTION

1.1. General Description

MAGPRO16 is an addressable fire panel with maximum coverage of 16 zones and connecting and up to 2 loops. The panel supports communication protocol *MAGPRO (MAGPRO16-L250 Loop)* and operation with MAGPRO addressable device series.

> ⚠ **Every MAGPRO16-L250 Loop provides up to 250 devices (detectors and modules, regardless of the type).**

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: setting 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.

1.2. General Specifications

The front panel consists of LCD module (4 rows x 40 symbols), functional buttons and system status LED indication. Separate access level passwords provide access to the functions of the panel.

The fire alarm panel is designed on module structure as in the metal cabinet there are provided additional places for mounting of a second loop controller for Loop 2 (Loop 1 is built-in the main PCB), LAN module and redundant network module.

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 name of the device, the zone number, the name of the zone, etc.

1.2.1 General Technical Specifications
- Loops - 1 to 2:
  - o Loop 1 is built-in in the main board
  - o Loop 2 – optional, separately mounted to the main control panel
- Number of loop devices:
  - o Up to 250 devices (modules and/ or detectors regardless of the type) for every loop (max. 500 for the entire system)
- 16 operation zones

- 16 groups for zones' organization
- 5 monitored potential outputs:
    - SND1 (Sounder 1)
    - SND2 (Sounder 2)
    - FIRE
    - FAULT (In case of Fault event the output is deactivated.)
    - EXT (Extinguishing/ Fire Protection – An output for sending an fire alarm signal to automatic fire extinguishing system)
- 3 specialized inputs:
    - In AmC* (Input Alarm Confirmation)
    - In PC* (Input Protection Alarm Confirmation)
    - In FP* (Input Fault Protection Panel)
    - *Covers the requirements on standard VdS 2540*

- 4 non-monitored, programmable relay outputs with parameters: 15A@24VDC
- Display – letter and digits LCD module (4 rows x 40 symbols)
- Built-in real time clock, supported from integrated lithium battery - 3V, CR3032 type
- Memory log file for up to 10240 system events
- Comprehensive day/night mode facility
- 2 Steps of alarm levels (T1 and T2)
- Supports external thermo printer
- Multilanguage support for operation menus
- Easy software update via computer or USB drive
- Designed according the requirements of EN54-2/4
- Metal box cabinet for wall mounting: bottom (306x412x81mm) and cover (310x416mm)

1.2.2 Possible Hardware Configurations

- **Minimal Configuration**
    - Control panel (main PCB with one built-in loop controller)
    - Indication (indication PCB with mounted LCD module)
    - Power supply source

- **Maximal Configuration**
    - Control panel (main PCB with one built-in loop controller)
    - Indication (indicator PCB with mounted LCD module)
    - Power supply source
    - MAGPRO16-L250 Loop controller (for the second loop)
    - LAN Communication module
    - RS485 Redundant Network controller

1.2.3 Environment

- Degree of protection: IP30
- Operation temperature: -5ºC up to +40ºC
- Relative humidity: up 95% (without condense)
- Storage temperature: -10ºC up to +60ºC
- Weight (without the battery): ~ 4.2 kg.

1.2.4 Electrical Characteristics

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 also item 2.4 Main power connection.*

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

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: 90 ÷ 264 VAC
- Frequency: 47 ÷ 440 Hz
- Electrical output: 4.2 A

Backup (accumulator) power supply

- Voltage output (U): 13,65V
- Accumulator battery: 1 x 12V / 18Ah, sealed lead-acid type rechargeable battery
- Internal resistance of the accumulator battery Ri: < 0.3Ω
- Max. dimensions of the accumulator battery: 167x181x76mm
- Type of the battery connection: with a cable lug, Ø5mm (M5) or cable shoe (according the type of the battery terminals)

Loading capacity

- Max. loading capacity of one loop: 500 mA DC
- Max. loading capacity of AUX output: 500 mA DC
- Max. loading capacity of outputs *SND1* and *SND2*: 500 mA DC
- Max. loading capacity of outputs *FIRE*, *FAULT* and *EXT*: 300 mA DC
- Max. total loading capacity (sum of the four mentioned above): 2.0 A DC
- Programmable relay outputs: 15A@24VDC

Consumption

- From the main power supply in standby mode:
  - For a minimum configuration: 60 mA AC
  - With mounted second loop controller: 65 mA AC
- From the backup power supply in FAULT mode and generated message 'AC loss':
  - For a minimum configuration: 125 mA DC
  - With mounted second loop controller: 213 mA DC

List of the used fuses

- Main power supply: 4A, T type, glass time-delay fuse, size 5x20mm
- AUX output: 0,5A, PTC type, resettable fuse
- Outputs: 0.3A, PTC type, resettable fuse
- Accumulator: 7.0A, PTC type, resettable fuse

List of spare parts kit:

1		Resistor 10k ± 5%, 0.25W	6 pcs
2		Resistor 47k ± 5%, 0.25W	4 pcs
3		Resistor 20k ± 5%, 0.25W	3 pcs
4		Screw 4.2x38, cross slot DIN7981	4 pcs
5		Anchor 6x30mm	4 pcs
6		Fuse 4A, glass time-delay type 5x20mm (for the power supply)	4 pcs
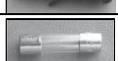
> **ATTENTION!**
> **Qualified specialists only should install the panel.**
> **The electronic components of the panel are vulnerable to electrostatic discharge.**
> **Never add or turn off components which are being power supplied!**

2. INSTALLATION

2.1. Wall 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 waterproof!
• Unpack the panel and observe for visible damages due to bad transport or incorrect storing.
• Open the front cover and disconnect the flat indication cable and the earthling point (Figure 2).
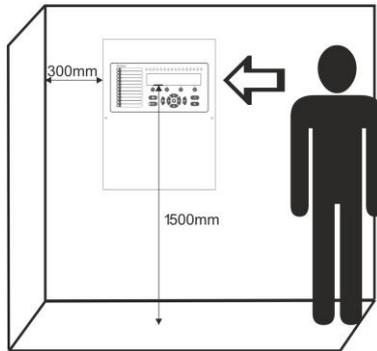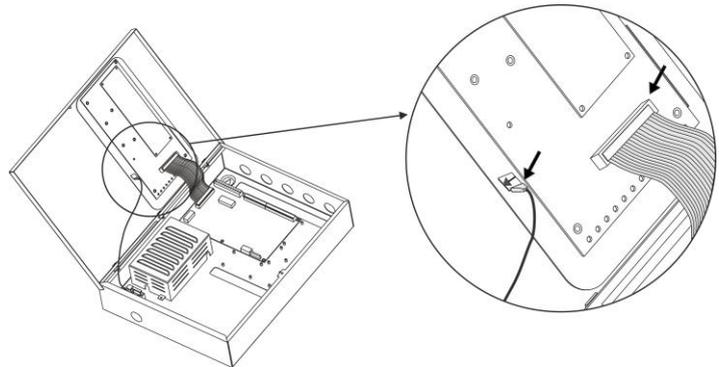
Figure 1   **Figure 2**

• Remove the front cover as dismount the side hinges (Figure 3).
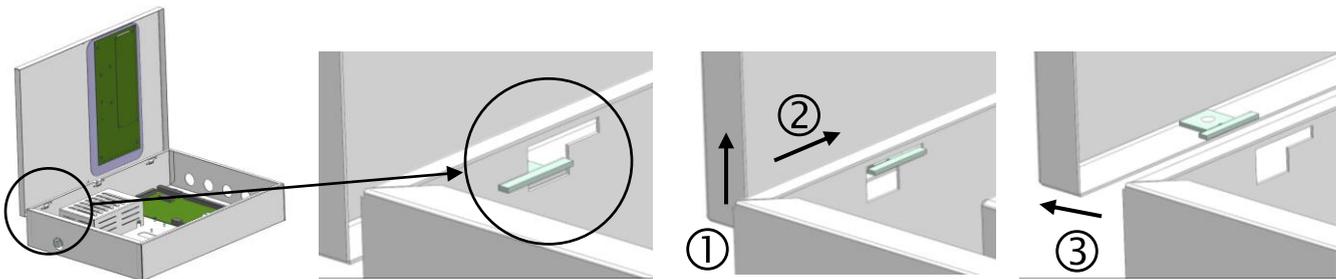
Figure 3

• Choose inlets for the main power supply cable, loops, sounders, control devices, etc. Remove the metal cap element just from those holes for cable running (Figure 4).
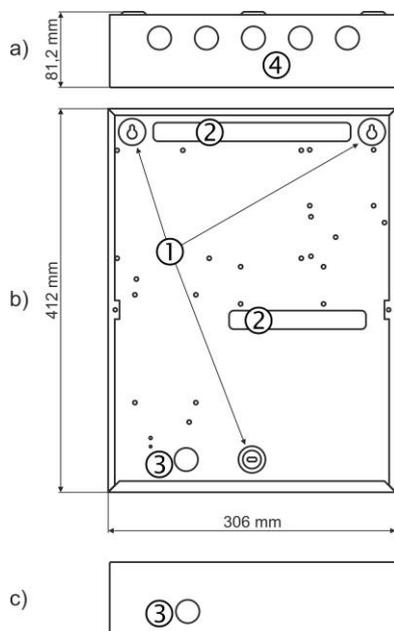
Figure 4 – Elements of the metal bottom:
a) View from above;
b) Front view;
c) View from below.

1 – Main mounting holes.
2 – Holes for cable running.
3 – Holes for main power supply cable running, protected with a metal cap element.
4 – Additional holes for cable running, protected with a metal cap element.

• Use the template in the set to fix the mounting holes of the metal box on the wall.
• Drill holes (suitable for anchors Ø6mm) on the wall and fix the metal box.
• 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 16), BUT DO NOT apply the main electrical supply at this stage.
• Place the battery in an upright position.
• Mount the front cover back to the bottom as mount the hinges in the reverse order of that described on Figure 3.
• Connect back the flat cable for the indication and the earthling point (Figure 2).
• Proceed with initial power up of the system and testing.
• When you finish with power up and testing steps and the panel is normal operation mode you must fix the front cover to the bottom with the two screws for the spare parts kit.

2.2. System Components

2.2.1 Front panel

Description of the front panel elements:

1 – LED indication for the system status. The descriptions are printed on the paper label and can be changed if needed, including for language change. The paper label is placed in a special opening on the inner side of the indicator PCB, over the flat cable for the indication.
2 – LED indication for the used zones
3 – Letters and digits LCD-module (4x40)
4 – Functional digits buttons
5 – Control and navigation buttons

Figure 5

1 – Description of system status LED indication:

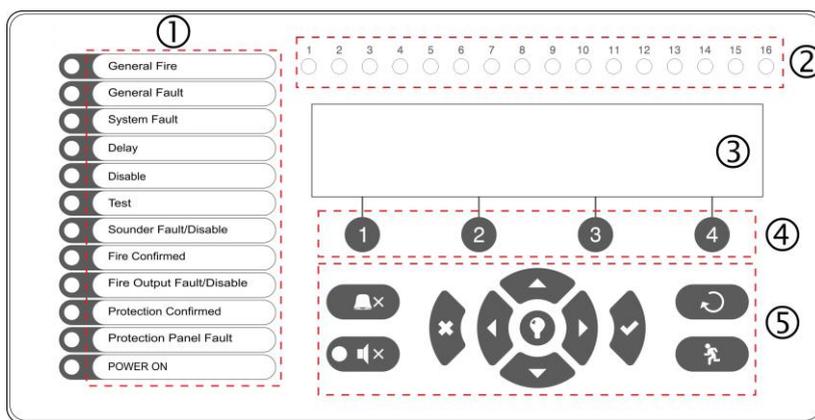| LED	Indication/ Description
GENERAL FIRE (red)	Lights on permanently in case of fire alarm event – fire alarm signal from an automatic or manual call point, or other auxiliary device connected to a panel input.
GENERAL FAULT (yellow)	Lights on permanently in case of fault event in the system.
SYSTEM FAULT (yellow)	**CPU FAULT**. Lights on permanently in case of main microprocessor fault.
DELAY (yellow)	Lights on permanently in daytime mode and set time delay for one or several outputs.
DISABLE (yellow)	Light on permanently in active disablement in the system.
TEST (yellow)	Light on permanently in system test mode.
SOUNDERS FAULT/ DISABLED (yellow)	The LED will be active in case of fault or disablement of the sounders circuits. The indication is as follows: - *Blinking* in case of fault event in the sounder circuits. - *Lighting on* when the sounder circuits are disabled.
FIRE CONFIRMED (yellow)	**FIRE ALARM CONFIRMATION**. Lights on permanently in activation of the specialized "In AmC" input – see the description on page 12.
FIRE OUTPUT FAULT/ DISABLED (yellow)	The LED will be active in case of fault or disablement of the FIRE relay output. The indication is as follows: - *Blinking* in case of fault event. - *Lighting on* when the output is disabled.

PROTECTION CONFIRMED (yellow)	**EXTINGUISHING STARTED CONFIRMATION**. Lights on permanently in activation of the specialized "In PC" input – see the description on page 12.
PROTECTION PANEL FAULT (yellow)	**EXTINGUISHING SYSTEM FAULT**. Lights on permanently in activation of the specialized "In FP" input – see the description on page 12.
POWER ON (green)	**MAIN POWER SUPPLY ON**. Lights on permanently in presence of 230V main power supply.
SILENCE ALARM (yellow)	**THE SOUNDERS ARE SILENCED**. Lights on permanently when the sounders are silenced (the LED is situated next to the button).

2 – Description of the zone LED indication:

LED	Indication/ Description
Zone indicators (red) 1 - 16	**FIRE IN A ZONE**. Lights on permanently in case of fire alarm in a zone. Blinking when the zone is in fire test mode.

3 – Description of the LCD-module

The MAGPRO16 fire alarm addressable panel is equipped with letter-digit LCD-module (4 rows x 40 symbols). The user can enter device and zone names using the navigation and control buttons. The display has an adjustable backlight with 20 levels of intensity.

4 – Description of the functional digit buttons:

Button	Description
Functional digit buttons 1 - 4	The buttons are active at access levels 2 and 3, and have the following meaning: - Introducing of access codes. - Functional submenu entry. - Changing of value or parameter status.

5 – Description of control and navigation buttons:

Button	Action	Description
	Silence Buzzer	The button is active at access levels 1, 2 and 3. The button functionality is deactivation of the internal buzzer (except for the "Protection Panel Fault" event).
	Silence Sounders	The button is active at access levels 2 and 3. The button functionality is deactivation of the sounders in case of fire alarm event. After pressing the button the LED next to it is lighting in yellow.
	Reset	The button is active at access levels 2 and 3. The button functionality is resetting the panel without switching off the main power supply.
	Evacuation	The button is active at access levels 1*, 2 and 3. The button immediately activates the sounders – the sounder delay is ignored if present. * *In case of fire alarm event in a zone and set sounder delay.*
	Buzzer and LED general test	The button will activate all LEDs on the front panel – for events and zones, as and the internal buzzer. The next pressing of the button deactivates the test.
	ENTER (Confirmation)	The button is active at access levels 1, 2 and 3. Use the button to confirm the entered values and parameters; in the devices and zones menus use the button to enter in a submenu for name and status changing.
	CANCEL (Rejection)	The button is active at access levels 1, 2 and 3. Use the button to reject the entered values and parameters; one step back to the previous menu.
	Navigation buttons	The button is active at access levels 2 and 3. Use the arrows to scroll over the menus; in the programming menus the buttons has a specific function for changing values and switching between the editable fields.

2.2.2 Configuration of the basic modules
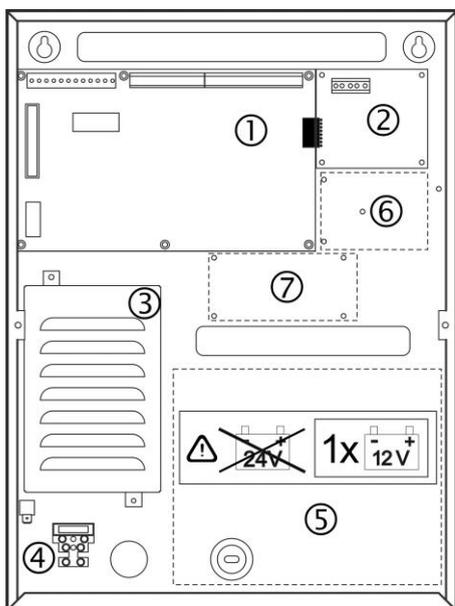
Figure 6 – Configuration of the modules in the box:

1 – Main PCB (control panel)

2 – Second loop controller (optional, it may not be present in your system configuration)

3 – Power supply unit

4 – Terminal 230V for connection of the main power supply cable

5 – Place for accumulator battery, 1 x 12V/ 18Ah

6 – Place for mounting of AJAX LAN communication module

7 – Place for mounting of redundant network module

2.2.3 Description of the main PCB (control panel)
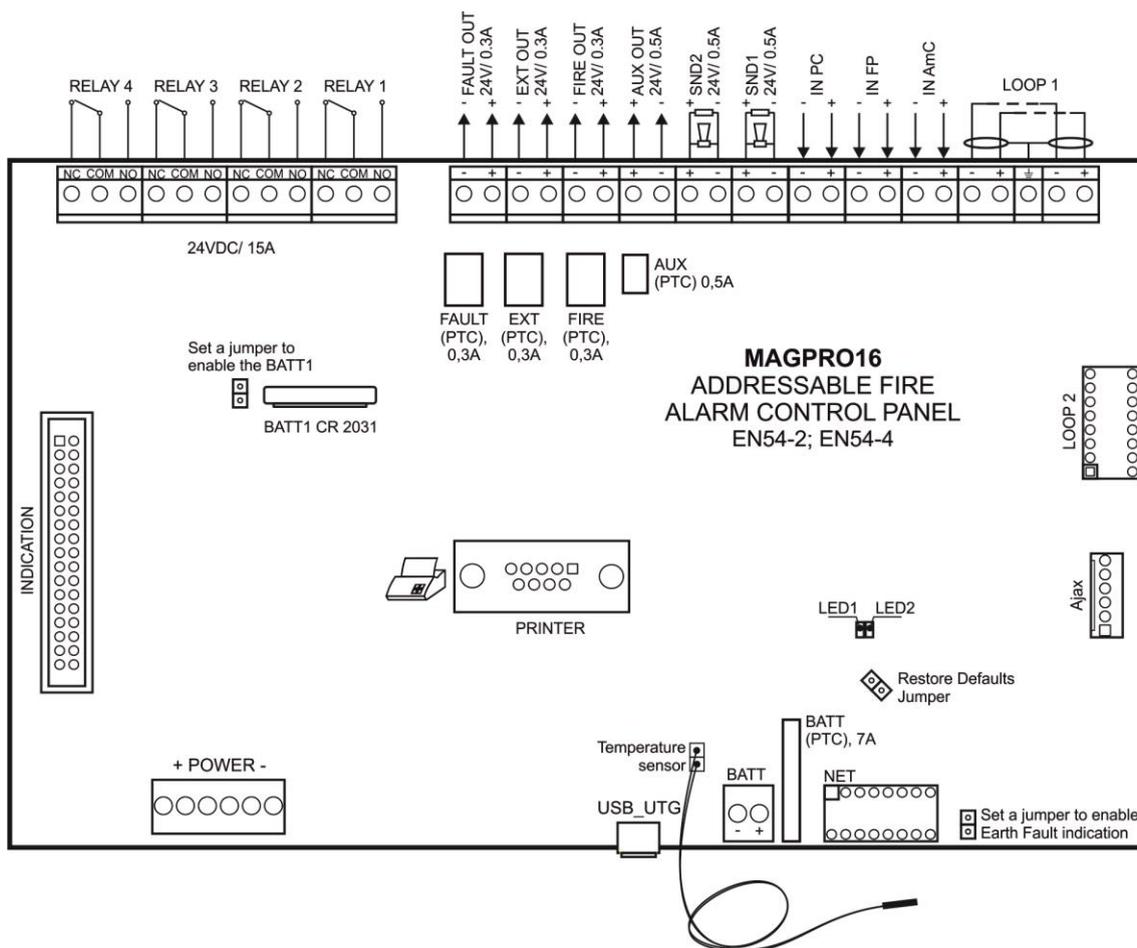
Figure 7 – Main PCB of the MAGPRO16 fire alarm panel

Description of the terminal row (left to right):

- **RELAY 1 - 4** – Programmable volt free change over relay contacts each, 24VDC@15A. 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.
- **FAULT** – Potential, monitored output for connection of auxiliary devices, 24 VDC/ 0.3A. This output is deactivated in case of system trouble or fault.
- **EXT** - Potential, monitored output for fire extinguishing, 24 VDC/ 0.3A. This output is activated in case of a fire alarm condition.
- **FIRE** – Potential, monitored output for connection of auxiliary devices (signaling devices for example), 24 VDC/ 0.3A. This output is activated in case of fire in the premises.
- **AUX** – Potential output for power supply of auxiliary devices, 24 VDC/ 0.5A.
- **SND 1, SND 2** – Potential, monitored outputs for connecting sounders, 24 VDC/ 0.5A.
- **IN PC** (**In**put **P**rotection Alarm **C**onfirmation) – Input for monitoring of signal „Confirmation for extinguishing started in the site" sent by extinguishing control panel.
- **IN FP** (**In**put **F**ault Protection **P**anel) – Input for monitoring of signal „Fault" sent by extinguishing control panel.
- **IN AmC** (**In**put **A**larm **C**onfirmation) – Input for monitoring of signal „Alarm confirmation" sent by extinguishing control panel.
- **LOOP 1** (-LOOP+ / +ERT / -LOOP+) – Terminal row for connecting Loop 1 in the system.
- **LOOP 2** – Interface connector for adding MAGPRO16-L250 loop (for Loop 2) in the system configuration.
- **INDICATION** – Interface connection for the indication module.
- **POWER** – Interface connection for the main power supply unit.
- **JP7** – Jumper for enable/ disable the built-in battery for supporting the real time clock in case of main and backup power supply failure.
- **PRINTER** - RS232 interface connector for heat-printer.
- **USB UTG** – Micro USB A/B connector for firmware update of the main microprocessor via PC or USB flash drive; suitable also for programming via MAGPRO programming software.
- **BATT –** Connector with wires (red and black) for connection to the accumulator battery. The type of connection is according the battery terminals – to every cable shoe is added a separate cable lug connector Ø5mm (M5).
- **Restore Defaults –** Jumper for full hardware reset of the panel and restoring the factory default settings.
- **Earth Fault** – Jumper for enable/disable indication for earth fault.

Example: If you want to enable the earth fault indication set a jumper on Earth Fault terminals.

- **NET** – Interface connector for a redundant network module to the system configuration.
- **Ajax** – Interface connector for adding of AJAX LAN communication module to the system configuration.

Fuses:

- **AUX** – 0.5A, PTC type, resettable
- **FAULT, EXT, FIRE –** 0.3A, PTC type, resettable
- **BATT –** 7A, PTC type, resettable

LED indication:

- **LED 1** (red) – Indication for scanning the devices connected to Loop1. In normal operation mode the LED lights on continuously in 10 seconds intervals.
- **LED 2** (green) – Indication for data transfer between the main microprocessor of the panel and the controller for Loop 1.In normal operation mode is constantly blinking.

RELAY 1

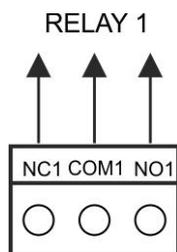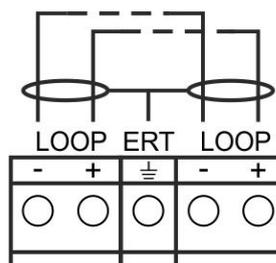**Figure 8 – Internal structure of relay output**

Figure 9 – Connection to the loop controller

Temperature sensor:

The temperature sensor is used for measurement of the battery temperature. The sensor is mounted at the end of the wires couple factory connected to "Temperature sensor" terminal on the panel's PCB.

The temperature sensor should be places behind or under the accumulator battery.

2.3. Connection of Signaling Devices

⚠️ **The monitored outputs SND, at activation, provide 24VDC@0,5A to the load connected between them and GND*.**
The monitored outputs FAULT, EXT and FIRE, provide 24VDC@0,3A to the load connected between them and GND*.
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 Figures 10 and 11!

* *The grounding point of the panel.*

2.3.1 Connecting of Sounders
To every monitored output **SND** could be connected several sounders - Figure 10. The maximum number of sounders that could be connected in the circuit depends on their total current consumption, which must not exceed 0,5A.
Before connecting the last sounder in the circuit, **parallel to it must be added resistor 10k**.
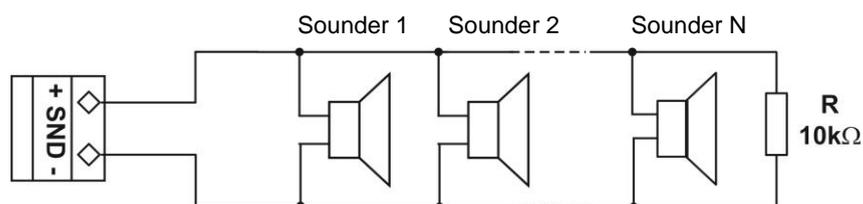
Figure 10 – Connecting sounders to SND output

2.3.2 Connecting of Signaling Devices
To every monitored output **FAULT, EXT and FIRE** could be connected signaling and other control devices – Figure 11. The maximal consumption of the devices should not exceed 0.3A.
Before connecting the last device in the circuit, **parallel to it must be added resistor 10k**.
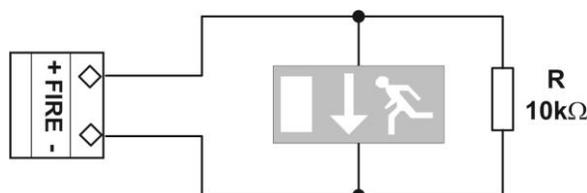
Figure 11 – Example for connecting of end device (an illuminated exit sign) to the Monitored FIRE Output.

2.3.3 Connecting to the Specialized Inputs
The specialized inputs of MAGPRO16 fire alarm panel are designed for operation with an extinguishing control panel. The example connection diagrams are presented on Figures 12 a) and b).
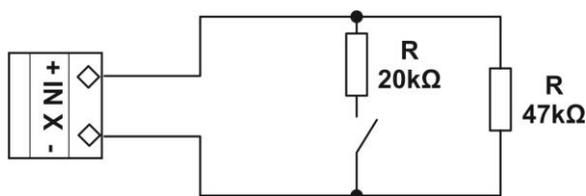
a) Connecting diagram of relay contact to the input
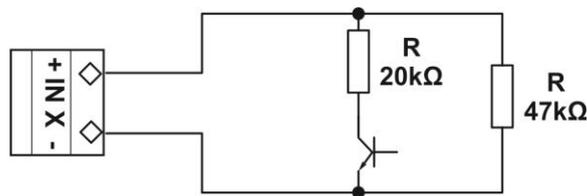
b) Connecting diagram of open collector to the input

Figure 12 – Examples of connections to the specialized input IN XX

2.3.4 Loop Controller

The MAGPRO16 fire alarm panel supports operation with MAGPRO16-L250 loop controller via communication protocol MAGPRO.

The Loop Controller realizes the connection between the I/O Module and devices connected to the communication line. The Loop Expander has two basic functions:

- Gathers data from the devices in the communication line and transfers it to the main microcontroller;
- Receives commands from the main microcontroller and transfers them to the devices connected in the communication line.

Up to 250 MAGPRO devices can be connected to MAGPRO16-L250 loop controller. The general connection diagram of devices to the loop controller is shown on Figure 13.

The maximum current consumption of the devices in the communication line is Imax = 500mA. If the consumption exceeds this value an over-load protection would be turned on.
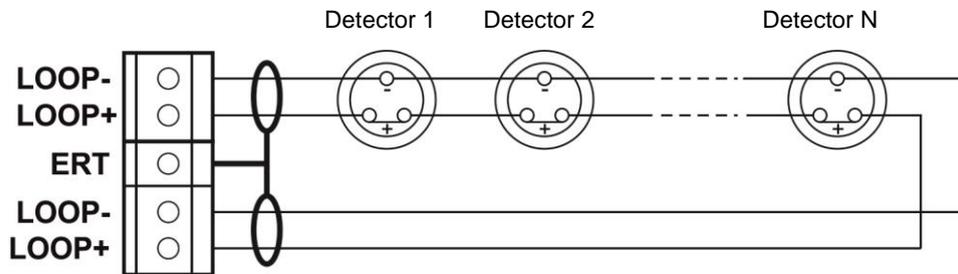
Figure 13 – Connecting of detectors to a loop controller

In the configuration of addressable fire alarm panel MAGPRO16 could be mounted a second loop controller as a separate module – see Figure 14.

> ⚠ **ATTENTION! Do not add or remove loop expanders to the fire panel configuration when the main and backup power supplies are on!**
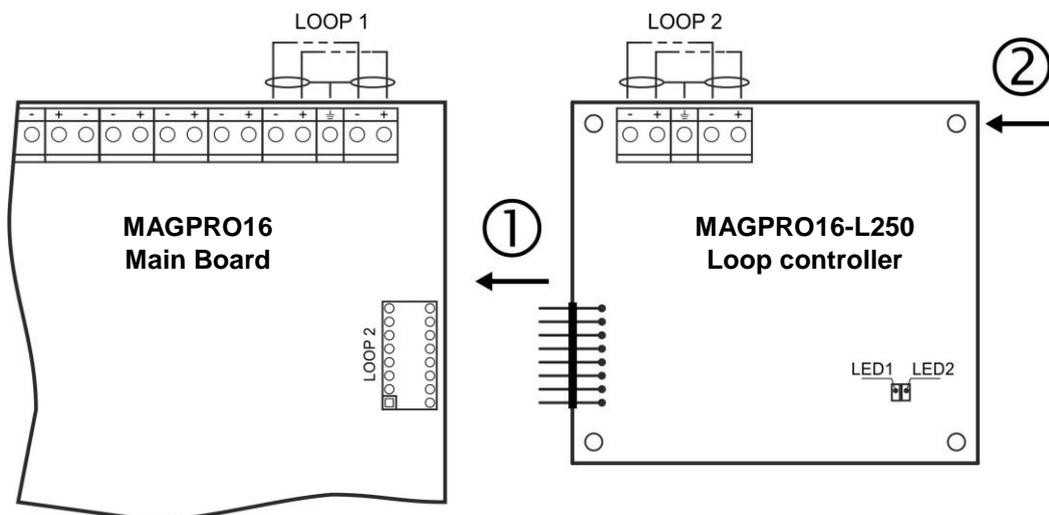
① - Connect the connectors: LOOP 2 of the main control panel and LOOP of the second loop controller.

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

LED 1/ LED 2 – LED indication for the loop controller status, analogical to that for the main control panel – see the description on page 12.

Figure 14 – Adding of second loop controller MAGPRO16-L250 Loop

2.3.5 Maximum Permissible Cable Length

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! MAGPRO16-L250 Loop 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: $$L_{C1max} \leq 123 / R_C$$	2. To ensure the ability of the fire panel to recognize the double addresses in the system, calculate: $$L_{C2max} \leq 62 / R_C$$	3. To ensure the ability of the devices in the loop to receive command signals from the panel, calculate: $$L_{C3max} \leq (12 / I_{max} - R_i) / R_C$$

where:

L_{C1max}, L_{C2max}, L_{C3max} - are maximum permissible length of the used cable, [km];

R_C - is total ohm 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, DBSS.

Then 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 addresses.

  • 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 15, 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 recommended number of devices between two isolator modules (module isolator device or using the built-in module isolator in a device) is 30!**
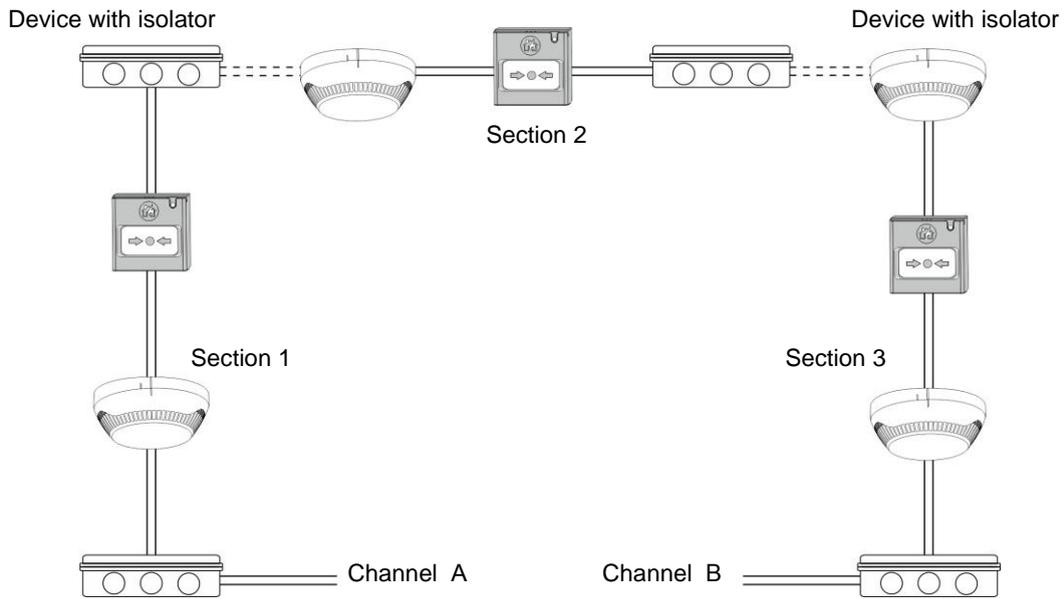
**Figure 15 – Example for connecting of detectors and call points to a loop expander
(the built-in in the main control panel or MAGPRO16-L250 Loop)**

2.4. Connecting to the Main Power Source

The mains power supply of MAGPRO16 fire alarm panel is realized with connection of the main power cable to the 230V terminal, mounted in the metal box under the powers source. The connection between the 230V terminal and the main power source is done from the manufacturer. The connection of the main power supply cable to the 230V terminal is shown on Figure 16.

Before the mains supply is switched on, check the correct connection of each loop, sounder or any other input or output!
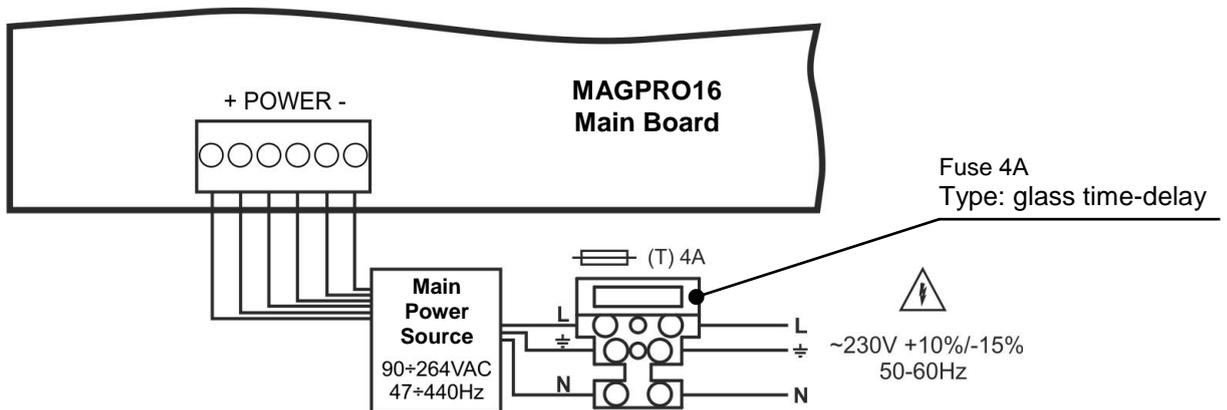
Figure 16. Connecting the main power supply cable to the 230V terminal

2.5. Connecting the Accumulator Battery

The accumulator battery leads are mounted on a terminal at the bottom of main control panel. Connect the battery leads to the accumulator terminal as observe the polarity - see Figure 17.

> ⚠ **The battery cannot power up the panel before the mains supply has been switched on!
> The charging of the accumulator battery is done at maximum current I = 2A and charging voltage U ≤ 13.65V.**

MAGPRO16 Main Board

Restore Defaults Jumper

BATT (PTC), 7A

Temperature sensor

BATT

NET

Earth Fault

Black

Red

Accumulator Battery

12V/ 18Ah

Figure 17. Connecting the accumulator battery

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. 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!
To measure the current temperature of the battery, place the temperature sensor behind or under the battery.

2.6. Connecting a Heat Printer

The addressable fire alarm panel MAGPRO16 is equipped with RS232 interface connector, situated in the middle 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 – see also item 7.1.4.
The addressable fire alarm panel MAGPRO16 supports Canon 9 type external printers, models Kafka and Datecs. For connecting the MAGPRO16 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 18. Before printing (access levels 2 and 3) make sure that the heat printer is connected to the 'PRINTER' interface connector on the main PCB and the printer is powered on.

DB9

DB9

To control panel

To Kafka printer

DB9

DIN5
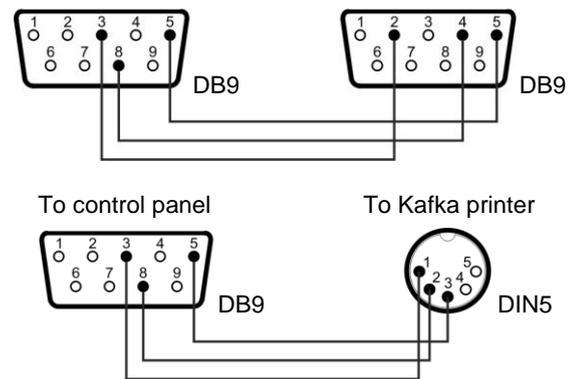
Figure 18

2.7. Connecting a Network Interface Card (MAGPRO-NIC)

The addressable fire alarm panel MAGPRO16 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 'NET' connector – Figure 19. The card should be fixed with screws to the metal bottom. The maximum cable length between two network interface cards is 1000m.
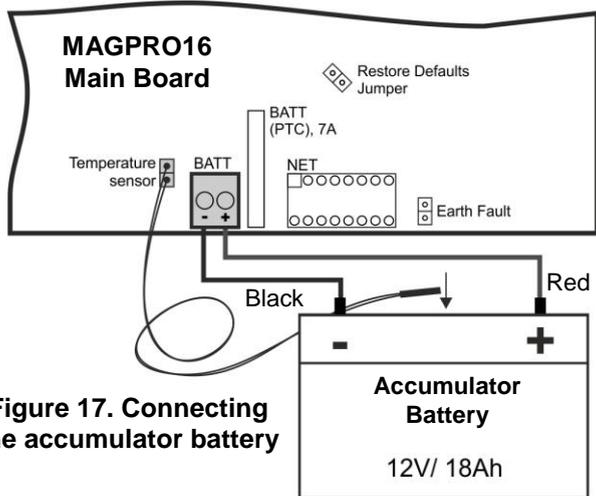
Attention: NEVER add or remove the network interface card to the fire panel configuration WHEN THE MAIN AND BACKUP POWER SUPPLIES ARE ON!

NETWORK

FIRE PANEL

REDUNDANT

LED2

CPU

NETWORK INTERFACE CARD

IN

LED3   LED1

OUT

−Rx+ −Tx+

+Rx− +Tx−

− Tx
+ Tx
− Rx
+ Rx

− Rx
+ Rx
− Tx
+ Tx

Figure 19

2.8. Connecting an AJAX LAN Communication Module

The addressable fire alarm panel MAGPRO16 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 communication module is mounted on the place under the second loop controller and it is fixed with suitable screws to the metal bottom. 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!

3. PROGRAMMING TYPES

3.1. Programming via MAGPRO Programming Software

The specialized MAGPRO programming software is designed for programming of MAGPRO16/ 96 fire alarm panels. To program the fire alarm panel MAGPRO16 you should first to install the MAGPRO programming software on your computer.

To program the MAGPRO16 panel you have to use cable type USB Micro B - USB A – Figure 20.
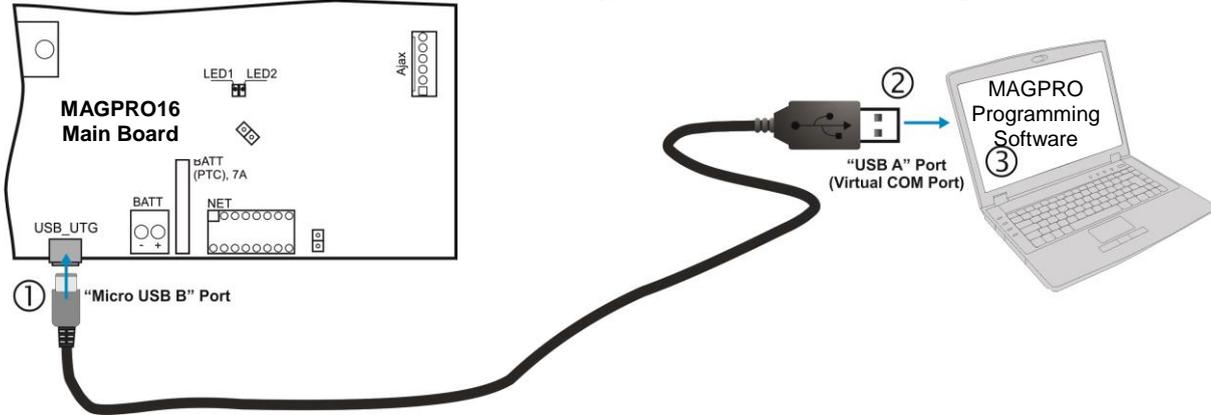
Figure 20. Programming via MAGPRO programming software

3.2. Programming via Panel's Keyboard

The addressable fire alarm panel MAGPRO16 can be programmed directly using the keyboard on the front panel. The programming and settings are accessed from levels 2 (Maintenance) and 3 (Installer). The buttons on the front panel are organized in three main groups

- Functional digit buttons – used for entry in submenus, changing parameter status, entering of new combination for Maintenance and Installer access codes.
- Navigation buttons – arrows for moving the cursor on the screen and switching over the editable fields, confirmation of entered parameters, cancelation of entered parameters and step back in the menu programming structure.
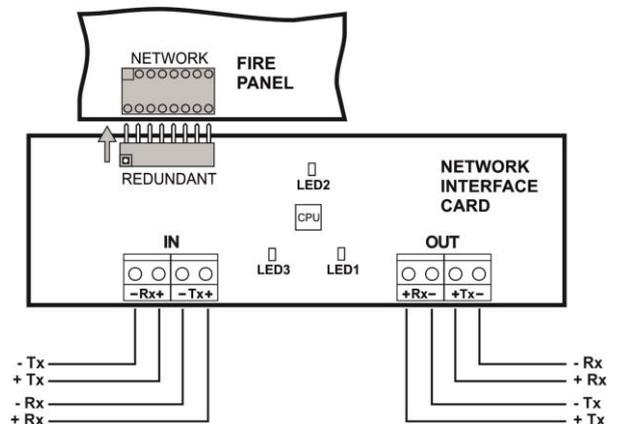- Specialized buttons for User operation – Silence buzzer, Silence sounders, Reset, Evacuation, General test of the LEDs, buzzer and screen.

The detailed description of all buttons on the front panel is presented in item 2.2.1 – 5, page. 9
The detailed description of Maintenance and Installer programming access levels is presented in item 5.

3.3. Firmware Update

> ⚠ **ATTENTION!**
> **The firmware update of the main microprocessor of fire alarm panel MAGPRO16 should be performed by qualified personnel only and after held training program by distributer or manufacturer!**

3.3.1 Firmware Update from Computer

To start a firmware update from a computer you should first to have a copy of an image update file (with `*.bin` extension) saved on your computer. For firmware updates use the USB_UTG connector on the main PCB:
- ➢ Connect the panel to the computer using USB cable: Normal A to Micro B type.
- ➢ Enter access code for level 2 or 3 and choose menu **9) SOFT. REVISION.**
- ➢ Wait for the message from *Windows Explorer* for found new *Removable Disk*.
- ➢ The panel will display automatically on the screen:

```
              USB Host Detected
    1. Copy image file to Removable Disk
    2. Make Eject at Removable Disk
            > Panel is configured
```

➢ Use the *Windows Explorer* file manager to copy the new image update file (with *.bin extension) in *Removable Disk* directory.
➢ When the copying of the image file completes, remove the *Removable Disk*, as select *Eject* option from its dialogue box (right click with the mouse over it).
➢ If the data in the image file are correct, the panel starts the firmware update procedure of the main microprocessor accompanied with short beeps.
➢ Disconnect the USB cable.
➢ The panel will reset itself automatically after a successful firmware update.

3.3.2 Firmware Update from USB Drive

To start a firmware update from a USB drive you should first have to copy the new image update file (with `*.bin` extension) in the main directory of the USB removable disk. The name of the file must be short – up to 8 symbols.
➢ Connect the panel to the computer using USB cable: USB Micro A - USB A type.
➢ Enter access code for level 2 or 3 and choose menu *9) SOFT. REVISION.*
➢ Connect the USB drive, with the new image file (with `*.bin` extension).
Notes:
1. *The panel will scan the files copied only in the main directory and these files in the first subfolders in the tree hierarchy of the USB drive.*
2. *It is obligatory the name of the file to be up to 8 symbols long.*

➢ Wait until the polling procedure is complete - USB drive will be displayed with its name and manufacturer. On the last row of the screen will start blinking the notice *Push 'Enter' to continue*.
➢ Press *Enter* button and wait for a message for the USB drive capacity. On the last row of the screen will be active two buttons *(2) To Panel* and *(3) From Panel.*
➢ Press *(2) To Panel* button. A list with the present image files (with `*.bin` extension) copied to USB drive is displayed on the screen, as the software revision is displayed on the right side, for example:

```
0:/MAGPRO16/MAGPRO162_0.BIN        v 2.00
```

➢ Scroll through the listed files using the buttons with up and down arrows – the currently selected file is blinking.
➢ Select the file and press *Enter* button.
➢ The panel starts uploading the file from the USB drive to the external Flash memory of the panel. The running process is displayed with a progress bar.
➢ If the data in the image file are correct, the panel starts the firmware update procedure of the main microprocessor accompanied with short beeps.
➢ Disconnect the USB cable.
➢ The panel will reset itself automatically after a successful firmware update.

3.3.3 Copying Image File from the Panel to USB Drive
➢ Connect the panel to the computer using USB cable: USB Micro B - USB A type.
➢ Enter access code for level 2 or 3 and choose menu *9) SOFT. REVISION.*
➢ Connect the USB drive.
➢ Wait until the polling procedure is complete - USB drive will be displayed with its name and manufacturer. On the last row of the screen will start blinking the notice *Push 'Enter' to continue*.
➢ Press *Enter* button and wait for a message for the USB drive capacity. On the last row of the screen will be active two buttons *(2) To Panel* and *(3) From Panel.*
➢ Press *(3) From Panel* button – the panel will download a copy of its own image file to the USB drive and saves the file in MAGPRO16 folder.

4. FULL HARDWARE RESET
The full hardware reset of MAGPRO16 addressable fire alarm panel allows the engineer to restore all factory settings and access code combinations for level 2 (Maintenance) and 3 (Installer).

To perform full hardware reset, follow the steps:
1. Disconnect the mains and backup power supplies.
2. Set a jumper on 'RESTORE DEFAULTS' terminal on the PCB.
3. Connect mains and after that the backup power supply.
4. Wait the procedure for initialization to complete.
5. Remove the jumper from 'RESTORE DEFAULTS' terminal.
6. Proceed with save system configuration and other settings.

5. PROGRAMMING OF MAGPRO16 FIRE ALARM PANEL

5.1. General Information for Programming and Operation

Addressable fire alarm panel MAGPRO16 can be programmed directly through the navigation and functional digit buttons on the front panel. The programming menus are organized in a text tree-structure and are viewed on the LCD-display (4 rows x 40 symbols). The access to the programming menus is organized in three levels – see items 5.2.

When turned on, the panel always runs a procedure of loading the parameters, which usually takes about 5-6 sec. There is no access to the menus of the panel during that procedure.
Upon the initial startup, 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 – for Loop 1 and Loop 2. After the panel has been turned on, it performs a procedure for detecting newly installed loop devices – see also APPENDIX C, page 48.
During the procedure the symbol "✱" is blinking in the up right corner of the screen. This symbol will appear always when running similar procedures like resetting of devices or recognized new devices connected to the loop.
Right after the initial startup of the mains power supply and initialization completed the panel turns to normal operation mode. If there are any active alarm and fault messages they are displayed on the screen, as the indication follows the priority:

Indication - Groups	Priority
ALARMS	The highest
FAULTS	High
DISABLEMENTS	Normal
TESTS	Normal
WARNINGS	Low

The name of the current active indication group is blinking together with the number of the first message. Press the ENTER button to review some additional information for the respective message as data and time of occurring, device address, zone number or other, according the trouble type.
The indication for the active ALARMS in the system is viewed with highest priority.

The addressable fire alarm panel MAGPRO16 supports different languages for 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:

Press CANCEL – enter code 3333 – select menu 6) GENERAL SETTINGS – menu 6.4) PANEL SETTINGS – Button 1 – Button ENTER

> ⚠ **Use the ENTER button to enter in programming menus and confirmation of entered values and parameters; the functional digit buttons are used for entering of access codes and changing the current status; the navigation buttons (up/ down and left/ right arrows) are used for scrolling through the menus and for changing the editing field.**

5.2. Codes and Access Levels

There are three access levels in MAGPRO16 panel: User, Maintenance and Installer. Every level comprises different functions and operations. To enter Maintenance and Installer levels is necessary to enter valid access code:

Level	Description	Code Combination	Access
1	User	-	Only **Silence buzzer** and **Evacuation*** buttons are active. It is not allowed to enter Maintenance and Programming access levels. ** Just for that cases, when the fire alarm signal is received from a device*
2	Maintenance	2222	**Silence buzzer, Silence sounders, Reset** and **Evacuation** buttons are active. Maintenance access level entry, which allows partial programming and menu settings.
3	Installer	3333	**Silence buzzer, Silence sounders, Reset** and **Evacuation** buttons are active. Installer access level entry, which allows full programming and settings.

The introduced code combinations are visualized with "✱" symbol. The entry is automatic.

The access codes could be changed only from level Installer - menu 6) General Settings - submenu 6.1) Access codes.
There are different restrictions on the panel functions in the relative access levels, which are shown in the table below:

Mode/ Menu		Description	Access Level		
			1	2	3
Operation modes	ALARMS	Viewing the Alarms Messages in the system.	✓	✕	✕
	FAULTS	Viewing the Faults Messages in the system.	✓	✕	✕
	DISABLEMENTS	Viewing the active disablements in the system.	✓	✕	✕
	TESTS	Viewing the running tests in the system.	✓	✕	✕
	WARNINGS	Viewing the Warnings Messages in the system.	✓	✕	✕
	Silence buzzer	Deactivating Internal Buzzer.	✓	✓	✓
	Silence Sounders	Deactivating the Sounders. During active fire alarms and deactivated/ silenced sounders the LED next the button is lighting up.	✕	✓	✓
	Reset	Resetting the panel without switching off the main and backup power supplies.	✕	✓	✓
	Evacuation	Activating Evacuation alarm signal; the sounders will activate immediately overriding all introduced delays.	✓*	✓	✓
	Test	General test for operability of all LEDs and internal buzzer.	✓	✓	✓
Programming menus	View history LOG	Viewing the LOG file for all events; printing of all or separate events; clear the log file.	✕	✓	✓
	Zones	Zones status; setting a zone name; parameter programming; zone test for operability.	✕	✓	✓
	Device Setup	Setting a device name; parameter programming.	✕	✓	✓
	Addressing:	Menus for addressing devices.		-	
	• Set address	Setting an address for single devices.	✕	✕	✓
	• Change address	Changing device address.	✕	✕	✓
	• Self-addressing	Automatic self-addressing mode.	✕	✕	✓
	Panel outputs	Parameter programming for the built-in panel outputs: SOUNDERS, EXTINGUISHING, FIRE, FAULT, RELAY OUTPUTS.	✕	✓	✓
	General Settings:	General settings common for the panel.		-	
	• Access codes	Changing the code combinations for levels Maintenance and Installer; enable/ disable the automatic exit from the installer programming menus.	✕	✕	✓
	• Time/ Day	Setting the current time and date.	✕	✕	✓
	• Day/ Night alarm mode	Setting Day/ Night alarm mode or operation on schedule.	✕	✓	✓
	• Panel settings	Changing the menu language, setting the backlight brightness; entering disablements.	✕	✓	✓
	• Delay T1	Setting the Delay T1.	✕	✓	✓
	• Sounders mode	Programming the operation of SOUNDER outputs.	✕	✓	✓
	Save configuration	Saving the set system configuration.	✕	✕	✓
	Restore defaults	Restoring the factory default settings.	✕	✕	✓
	Software revision	Reviewing the current software revision.	✕	✓	✓
	Network	Setting the redundant network parameters	✕	✕	✓
	Active isolators	Reviewing the activated isolators in the system.	✕	✓	✓
	Access level 1	Return to Access Level 1.	✕	✓	✓

* *Just for that cases, when the fire alarm signal is received from a device*

✕ - The operation modes and the menus are not supported for that access level

✓ - The operation modes and the menus can be reviewed or are allowed for partial programming for that access level.

6. DESCRIPTION OF THE OPERATION MODES

In this section you can find detailed descriptions of all operation modes of MAGPRO16 addressable fire alarm panel. The modes for reviewing of system events are accessible only from level 1 without entering access code. If no alarm, fault or warning messages, active tests and disablements are present, then the panel is in normal operation mode and only the current day and time are displayed. In case of alarm, fault or warning situation is occurred the panel will display information and text messages for the events. A list of all types of event messages is presented with details in APPENDIX A, page 46.

6.1. Review of Alarm Events

The messages for alarm events are displayed with the highest priority in the system. In case of alarm in the system the panel will show a list with active alarms at the moment, and ALARMS mode is blinking together with the number of the first alarm message. Over the button (1) is displayed the total number of the active alarms. The LED 'General Fire' lights on together with the number of the zone in alarm. The panel is signaling with continuous sound signal, which can be stopped with pressing the 'Silence buzzer' button. The activated sounders could be stopped after entering access level 2 or 3 and pressing the 'Silence sounders' button.
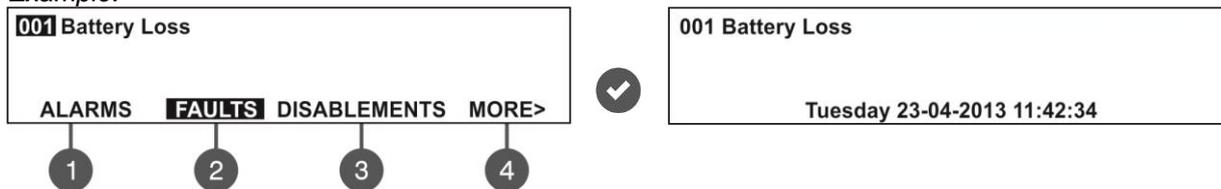
Example:
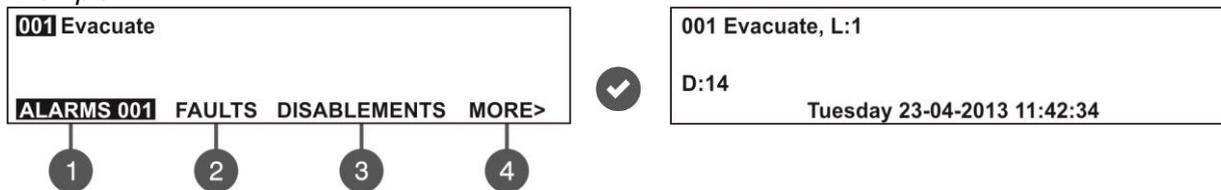
The User can review also some additional information for every of the alarm events. For this, select the number of the alarm message using up/ down arrow buttons (the number of the selected event is blinking) and press ENTER button. On the screen is displayed information for the loop number and the address of the device sensed the alarm event. At the bottom of the screen is displayed the day and time of occurring of the respective event. Note that the additional information is different according the type of the alarm event. To exit the review alarm events mode, press CANCEL button.

6.2. Review of Fault Events

The messages for fault events are displayed with high priority. If no alarm events are present, and there are active faults in the system, the FAULTS mode is blinking together with the number of the first fault event. The LED 'General Fault' lights on. The faults messages are cleared automatically after the fault condition is restored.

Example:

The User can review also some additional information for every of the faults events. For this, select the number of the fault message using up/ down arrow buttons (the number of the selected event is blinking) and press ENTER button. In case, there are active alarms in the system, but you want to review the fault messages, press button (2) – FAULTS mode. The present faults in the system are displayed with serial numbers. The reviewing is the same as described in item 6.1. The total number of active faults is displayed at the bottom right corner of the screen. Use button (1) to go back to ALARMS mode and reviewing the alarm messages.

To review the FAULTS at active alarms in the system:
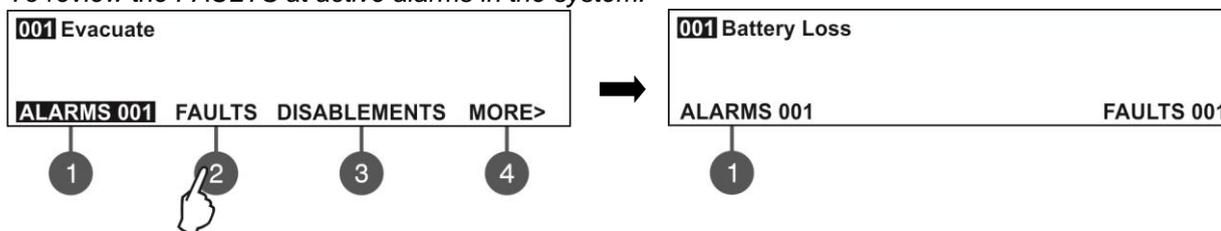
To exit the review fault events mode, press CANCEL button.
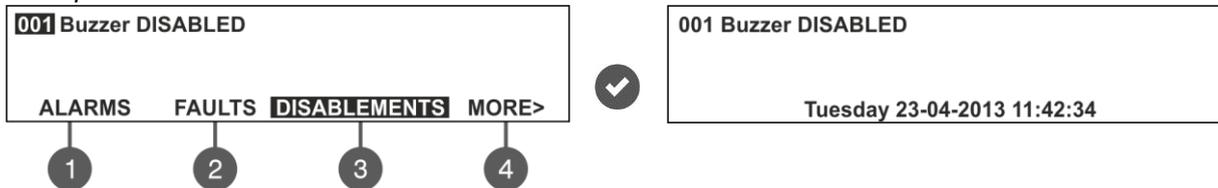
6.3. Review of Disablements

The messages for disablements are displayed with normal priority. If no alarm or fault events are present, and there are active disablements in the system, the DISABLEMENTS mode is blinking together with the number of the first disablement. The LED 'Disable' is lighting on.
*Example:*

The User can review also some additional information for each of the disablements. For this, select the number of the disablement message using up/ down arrow buttons (the number of the selected event is blinking) and press ENTER button.

In case, there are active alarms and/ or faults in the system, but you want to review the disablements, press button (3) – DISABLEMENTS mode. The disablements in the system are displayed with serial numbers. The reviewing is the same as described in item 6.1. The total number of the introduced disablements is displayed at the bottom right corner of the screen. Use button (1) to go back to ALARMS mode and reviewing the alarm messages.

To review the DISABLEMENTS at active alarms and/ or faults in the system:
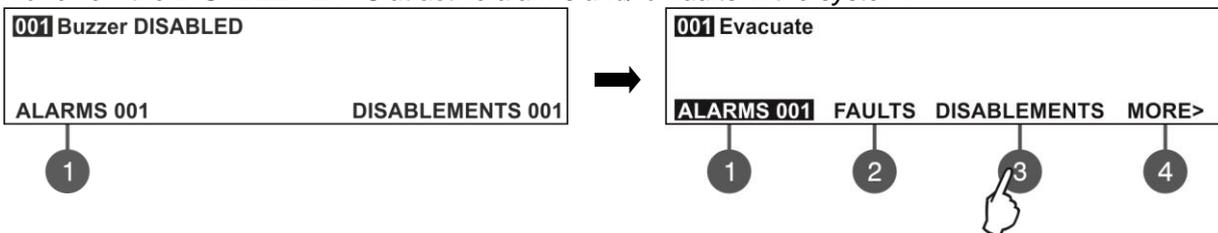
To exit the review fault events mode, press CANCEL button.

6.4. Review of Running Tests

The messages for running tests are displayed with normal priority. If no alarm or fault events or disablements are present, and there are active tests in the system, the TESTS mode is blinking together with the number of the first running test. The LED 'Test' is lighting on.
The numbers of the zones in test mode with activated detectors are blinking.

Example:
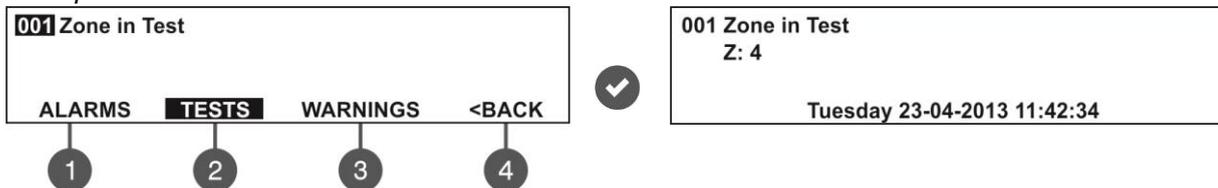
The User can review the number of the zone in test mode. For this, select the number of the zone using up/ down arrow buttons (the number of the selected event is blinking) and press ENTER button.

If, there are active alarms and/ or faults in the system and you want to review the running tests, press button (4) MORE>> – TESTS mode is blinking. The tests running in the system are displayed with serial numbers. The reviewing is the same as described in item 6.1. The total number of the running tests is displayed at the bottom right corner of the screen. Use button (1) to go back to ALARMS mode and reviewing the alarm messages.
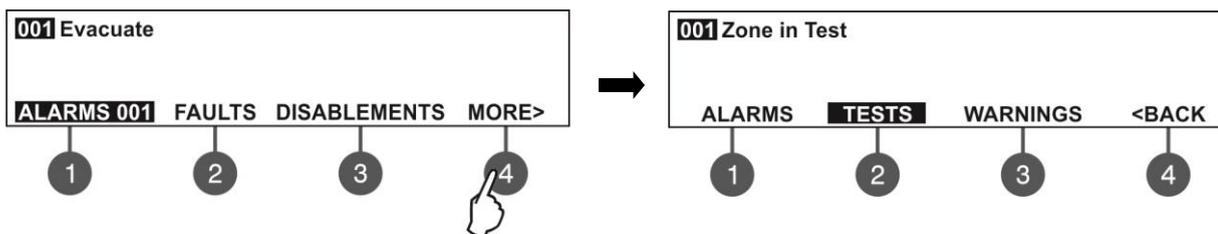
After choosing the button (2) TESTS the screen displays:

To exit the review of running tests mode, press CANCEL button.

6.5. Review of Warning Messages

The messages for warnings are displayed with low priority. If no alarm or fault events or disablements and tests are present, and there are active warnings in the system, the WARNINGS mode is blinking together with the number of the first message. There is no LED indication on the front panel.

Example:
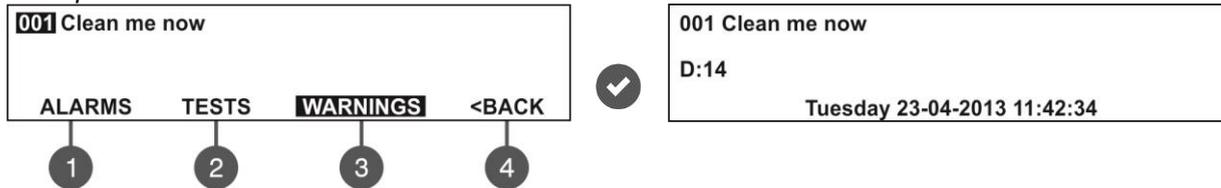
The User can review also some additional information for every warning message. For this, select the number of the message using up/ down arrow buttons (the number of the selected event is blinking) and press ENTER button. On the screen is displayed information for the loop number and the address of the device. At the bottom of the screen is displayed the day and time of occurring of the warning. Note that the additional information is different according the type of the warning event.

In case, there are active alarms and/ or faults in the system, but you want to review the warnings, press button (4) MORE>> – (3) WARNING mode. The warning messages in the system are displayed with serial numbers. The reviewing is the same as described in item 6.1. The total number of the warnings is displayed at the bottom right corner of the screen. Use button (1) to go back to ALARMS mode and reviewing the alarm messages.

*To review the WARNINGS at active alarms and/ or faults in the system:*
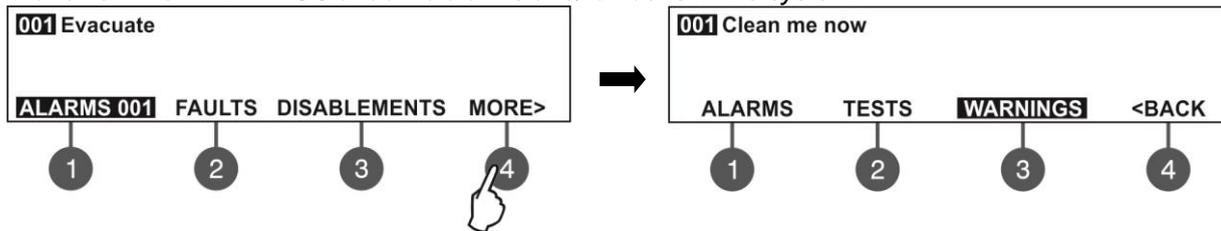
After choosing the button (3) WARNINGS the screen displays:
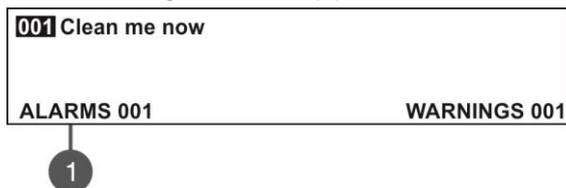
To exit the review warning messages mode, press CANCEL button.

NOTE: If you are programming parameters at Access Level 2 (Maintenance) or Access Level 3 (Installer) and there is an alarm or fault event in the system, the panel will automatically display a list with messages. After reviewing the events, you can return to the programming mode with single pressing the CANCEL button.

6.6. Silencing the Internal Buzzer

The internal buzzer of addressable fire alarm panel MAGPRO16 is signaling in case of activated alarm or fault events in the system. The buzzer silencing is available from every access level without code entry.

To silence the internal buzzer press button.

6.7. Silencing the Sounders

The sounders silencing is available from access levels 2 and 3 after code entry.
To silence the sounders enter in sequence:

 Maintenance Code – 2222
Installer Code – 3333

The LED 'Silence sounders' right to the button is lighting up.
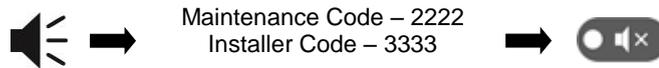To reset the panel in normal operation mode press 'Reset' button.

6.8. Activate Evacuation

The evacuation alert is available for activation from every access level regarding the following:

- **Level 1**: Just for that cases, **when the fire alarm signal is received from a detector in a zone**.
  To start the sounders for evacuation alert, the user has to press the button.

- **Levels 2 and 3**: In case there is **no fire alarm signal from a detector in a zone**.
  To start the sounders for evacuation alert, the user has to enter in sequence:

 Maintenance Code – 2222
Installer Code – 3333
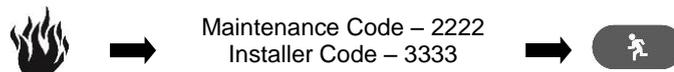
6.9. Resetting the Panel

The resetting of the panel's current state is available from access levels 2 and 3 after code entry. The resetting function is used for initializing the panel and return to normal operation mode after alarm or fault restoring.

To reset the panel enter in sequence:

Maintenance Code – 2222
Installer Code – 3333
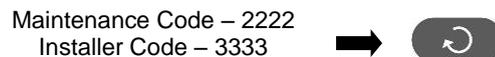
After resetting are cleared also all introduced earlier test in zones and disablements. The introduced delays are not cleared. The panel returns to normal operation mode.

6.10. Indication Test

The indication test could be started at any time regardless of the access level. The general test allows the user to review the correct operation of the LED indication on the front panel, the sound signal of the internal buzzer, and the visualization on the LCD display.

To start the general test press button – all LEDs must light on and the internal buzzer starts sounding. On the LCD module every one position is displayed with 5x8 dots. The panel will automatically exit the general test mode after 6 seconds. The general test can be stopped also with next pressing of the same button.

7. DESCRIPTION OF THE PROGRAMMING MENUS

The programming menus are accessible from level 2 (Maintenance) and level 3 (Installer) after entering a valid access code.

In level 2 could be realized partial programming of parameters, and some values are accessible only for reviewing.

In level 3 could be realized full programming and settings, and also to restore the factory default settings, including access codes. For details see the descriptions in the tables in item 5.2 for the rights and limitations for every access level.

The navigation buttons have the following functionalities in operation:

Button	Functions
✔	Menu entry; Confirmation of entered parameters and settings.
✖	Cancelation of entered parameters and settings; Step back in the menu structure.
▲	Scrolling between menus; Increasing values; Text entering.
▼	Scrolling between menus; Decreasing values; Text entering.
▶ ◀	Changing the editing fields.

7.1. View History Log Menu

This menu allows the installer to review and print the system events recorded in the panel memory log file. The capacity of the panel memory log file is 10 240 events. The installer can clear also all panel's memory or to extract a list of events by date. The menus are accessible from levels 2 and 3.

After entering the menu the screen displays:
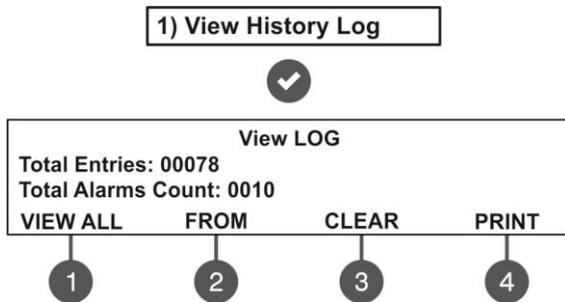
The following general information is displayed in the main screen of VIEW LOG menu:

Total Entries - Shows the total number of the recorded events in the memory log file.
Total Alarms Count - Shows the total number of the registered alarm events.
Use the functional digit buttons to enter the respective submenu.

7.1.1 Review of Full Events List

From the main screen of VIEW LOG menu press **(1) VIEW ALL** button. The last (newest) event is displayed on the screen. Use the buttons with up and down arrows to review all recorded events one-by-one, as everyone is displayed with date and time of occurring.
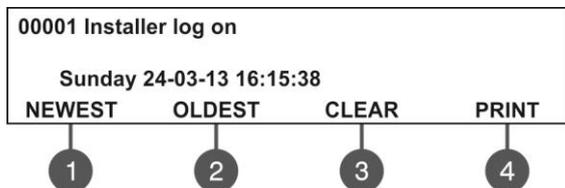
Press a functional button for entry in the respective submenu:

1 – NEWEST: Shows the last recorded event.
2 – OLDEST: Shows the first recorded event.
3 – CLEAR: See the description of item 7.1.3
4 – PRINT: See the description of 7.1.4

Exit to the main screen of VIEW LOG menu is realized with CANCEL button.

7.1.2 Review of List of Events by Date

From the main screen of VIEW LOG menu press **(2) FROM** button. In "FROM" submenu the installer can extract a list of events by date. Set in sequence the day, the month and the last two digits of the year. The edited digit is flashing. Scroll between the fields using the left and the right arrows.

View LOG
Set using arrows, confirm with 'ENTER'
From date: 24-03-13
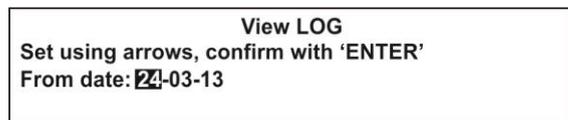
In **"From date"** field enter the new date using the buttons:
- **UP arrow** for increasing the number
- **DOWN arrow** for decreasing the number
- **LEFT/ RIGHT arrows** for changing the editing field

Then press the ENTER button – at the screen is displayed the first event for the entered date with time.
Exit to the main screen of VIEW LOG menu is realized with CANCEL button.

7.1.3 Deleting the Events in the LOG file

From the main screen of VIEW LOG menu press **(3) CLEAR** button. In "CLEAR"* menu the installer can delete the entire system events list. The screen displays the total number of recorded events.

Clear Memory LOG
LOG Entries Count: 78
Are you sure?
YES   NO
② ③
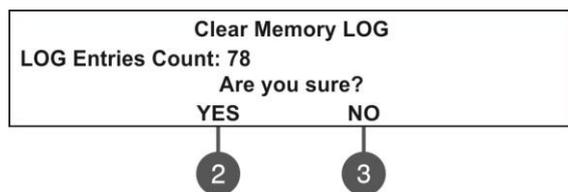
The system will ask for confirmation.
To delete all records in the LOG file press **(2) YES** button.

Exit to the main screen of VIEW LOG menu is realized with CANCEL or (3) NO button.

Note: The 'CLEAR' submenu is not available in the Maintenance access level (2).

7.1.4 Printing Events

Attention: To print the system events you have to connect printer to the 'PRINTER' terminal on the main board. Check your printer connection before entering this menu!
Use only printer models recommended from the manufacturer!

From the main screen of VIEW LOG menu press **(4) PRINT** button. The screen displays two fields for setting a time interval for the extract. Two additional submenus for printer settings are available also.

Print LOG
Set using arrows, confirm with 'ENTER'
From date: 00-00-00   To date: 00-00-00
PRINT SETTINGS   PRINT ALL
① ④
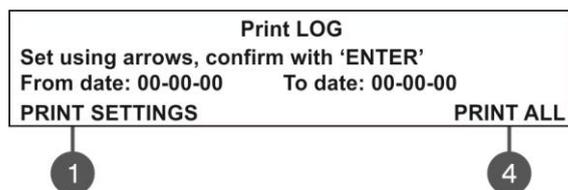
In the fields **"From date"** and **"To date"** enter the time interval for printing. You can use also the functional digit buttons to select:
1 – PRINT SETTINGS. Press to enter in submenu for printer settings – see also item 1.1.5.
4 – PRINT ALL. Press for direct printing of all recorded events in the system LOG file.

Press the ENTER button to start printing. The system will ask for confirmation before starting the printing.

7.1.5 Printer Settings

From the main screen of PRINT LOG menu press **(1) PRINT SETTINGS**. The screen displays the available printer settings.

Print Settings

PRINTER: Protocol 1   PAPER: Size 37
CHANGE   CHANGE
② ④
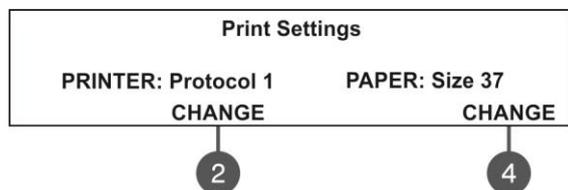
Use the respective functional buttons to change the settings of the respective submenu.
2 – Press the button to change the used printing protocol:
    Protocol 1: Kafka printer
    Protocol 2: Datecs printer

4 – Press the button to change the size of the used paper. The possible size formats are: 37/ 57/ 80 mm.

Confirm all changes with pressing ENTER button.
Exit to the main screen of VIEW LOG menu is realized with CANCEL button.

7.2. Zones Menu

This menu allows the installer to review and change the status of every zone. In the 'ZONES' menus the installer can test and enable/ disable the zones. Up to 16 zone numbers are available for settings. The currently edited zone number is blinking. The menu is accessible from levels 2 and 3.

After entering the menu the screen displays:
The screen displays the current status of every zone with its name (if entered). The editable zone number is blinking.
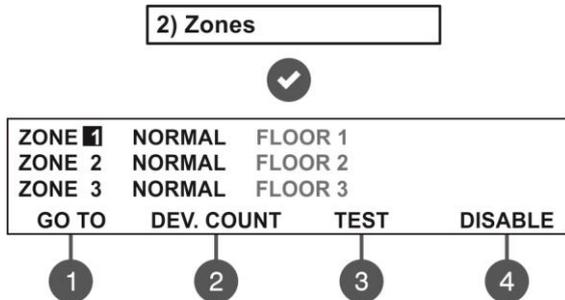
Description of the zone status:
- **NORMAL –** The zone is in normal operation state.
- **DISABLED –** The zone is disabled. See item 7.2.3.
- **TEST –** The zone is in test mode. See item 7.2.2.
- **FIRE –** A device in the zone is in fire.
- **PRE ALARM –** The zone is in preliminary alarm mode. See the description for '2DEVICES' and 'DOUBLE' operation mode - item 7.2.6.
- **FAULT –** Trouble in the zone – lost device, broken circuit, etc.

7.2.1 General Submenus

From the main screen of ZONES menu use the functional digit buttons for direct entry to: (1) GO TO and (2) DEV. COUNT submenus.

- **Submenu (1) GO TO.** Enter the zone number you want to go. After pressing the button the screen displays:
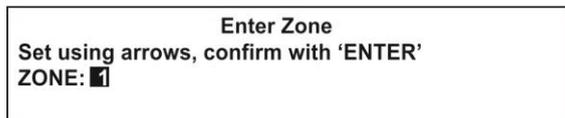
Use up and down arrows to select zone number. Confirm with 'ENTER' button. The system will automatically go back to the main screen of ZONES menu as the number of the zone is blinking.

- **Submenu (2) DEV. COUNT.** The submenu shows information about the total number of the devices in the respective zone. From the main screen of ZONES menu select a zone number and press button (2). The screen displays information about the total number of the devices in the selected zone regardless of their current state.

Example:
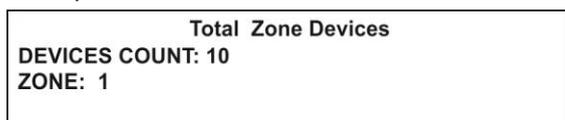
Exit to the main screen of ZONES menu is pressing button ENTER or CANCEL.

7.2.2 Zones Testing

Attention: The zone testing is available only from access level 3!
From the main screen of ZONES menu, select a zone number using the up and down arrow buttons and press button (3) TEST.
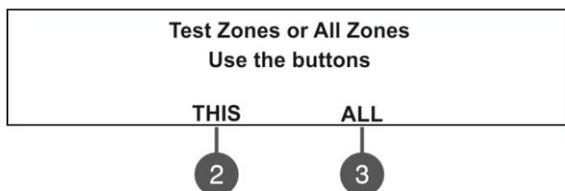
The system will ask for confirmation whether to run the test only for the selected zone number (button (2) THIS) or for all zones in the system (button (3) ALL).
The zone(s) status is changed to TEST mode. The LED 'Test' is lighting on permanently.

During the test mode the installer activates detectors in the zone (applies heat or smoke) to check their proper operation. The panel confirms the receiving of fire alarm messages with short sound signals and the number of the tested zone is blinking.

To stop the zone test, press the (3) 'STOP TEST' functional button. The zone returns to normal operation mode.

After completing the zone testing, reset the panel, as described in item 6.9.

7.2.3 Disabling Zones

From the main screen of ZONES menu, select a zone number using the up and down arrow buttons and press button (4) DISABLE. The zone status is changed to DISABLED – the panel stops following the status of the connected devices to the zone and will not alert for alarms and faults from them. The LED 'Disable' lights up permanently.
To enable the zone press the (4) ENABLE button:
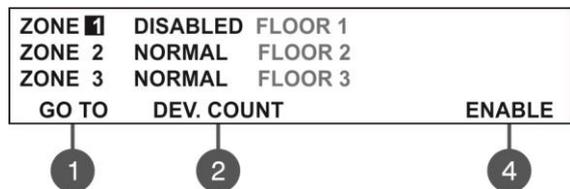
Note: If at the moment of enabling the zone, there are activated devices connected to it (fire alarm or fault condition) the panel will alert for that immediately!

7.2.4 Programming Zone Parameters

Attention: Programming zone parameters is available only from access level 3!

From the main screen of ZONES menu the User can set additional parameters for every zone in the system. To set zone parameters, select its number using the up/ down arrow buttons and press ENTER button.
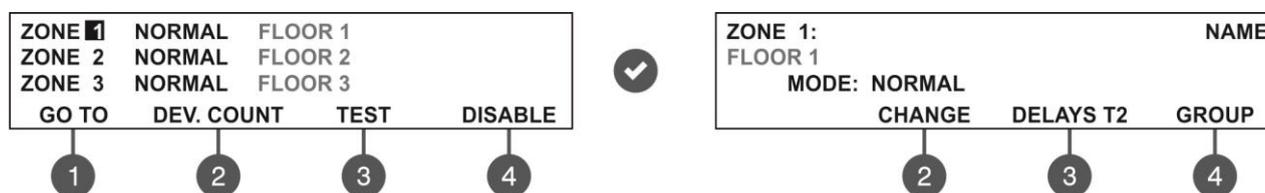
In the new sub screen first you can enter a 40-symbol long name for the zone. Use the functional button to set the operation mode, delays T2 and a group number.

7.2.5 Zone Name

The User can enter a specific name for the zone after entry in the submenu for zone parameters setting. The name can be up to 40 digits long and it is entered on the second row. Use the left and right arrows to move the cursor. The symbols (small and capital letters and characters) are set with the up and down arrows. Confirm the entered name with ENTER button. See also the APPENDIX B – Table for text and symbols available for zone and device names.

7.2.6 Zone Operation Modes

For a zone can be set one operation mode: **NORMAL / 2 DEVICES/ DOUBLE**.
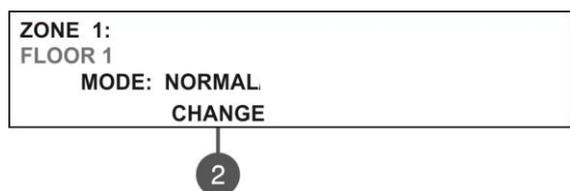
Every pressing of button (2) CHANGE will alternatively change the operation mode of the zone: NORMAL/ / 2DEVICES/ DOUBLE.

The set mode is confirmed with ENTER button.

- 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.

Examples for 2 DEVICES action mode operation:
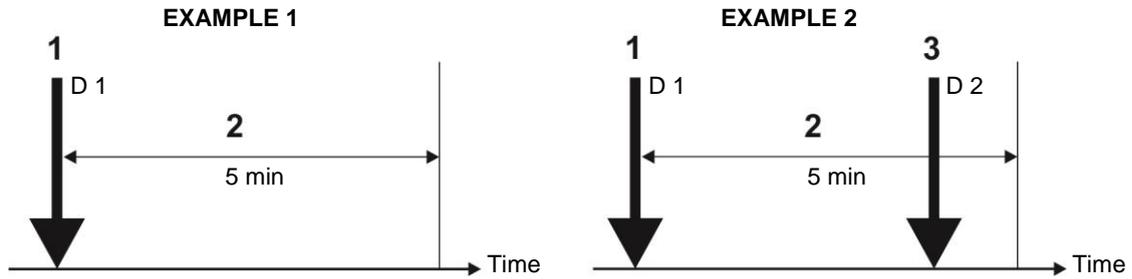
1 – An incoming alarm signal from Detector 1 and zone reset;
2 – Awaiting for a second alarm signal from other detector in the zone – Pre Alarm Mode;
3 – Second alarm signal from Detector 2 in the zone.

Examples for DOUBLE action mode operation:
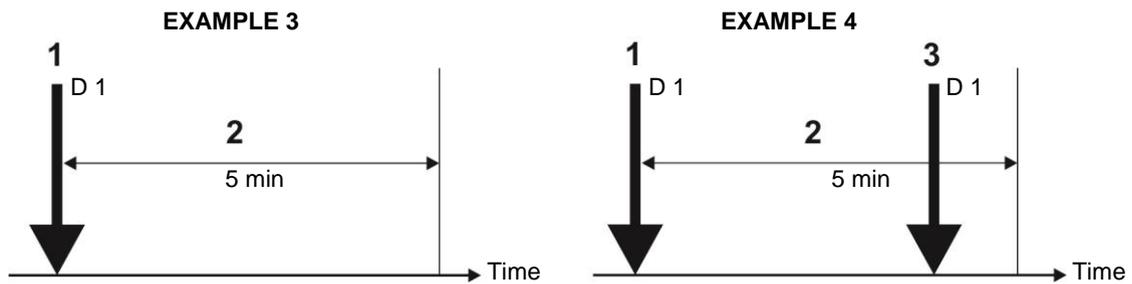
1 – An incoming alarm signal from Detector 1 and zone reset;
2 – Awaiting for a second alarm signal from the same detector in the zone – Pre Alarm Mode;
3 – Second alarm signal from Detector 1 in the zone.

<u>EXAMPLES 1, 3</u>: *In this case the fire panel will not activate the sounders and the signalization on the front panel because during time interval 2 no second alarm signal is generated.*
<u>EXAMPLES 2, 4</u>: *In this case the fire panel will activate the sounders and the signalization on the front panel because during time interval 2, two alarm signals are generated.*

After RESETTING of the panel, the events FIRE and PRE ALARM are cleared, and LED 'General Fire' light off.

7.2.7 Programming Delays T2

T2 represents times for individual delay setting for activation of FIRE output and the sounders outputs SND1 and SND2. For details see also APPENDIX D – "Two steps of alarming" algorithm.

To enter in the submenu for DELAY T2 setting, press button (3) DELAY T2 from the zone parameters programming screen.
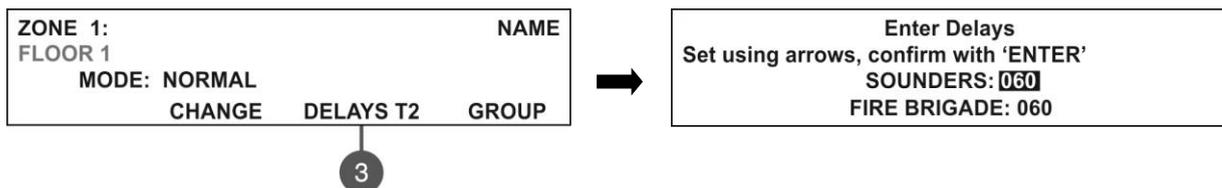
- In the **SOUNDERS** field set the time delay for sounders (SND1 and SND2) outputs activation. The time delay can be in range from 0 up to 540 seconds.
- In the **FIRE BRIGADE** field set the time delay for FIRE output activation. The time delay can be in range from 0 up to 540 seconds.

In case of activation of more than one zone, the delays to the outputs are caused by the zone with shorter delays.
By default a 60 seconds time delays T2 are set.
The editing value is blinking. Set the time delays using the navigation buttons: up (increasing) and down (decreasing) arrows to change the value, and left and right arrows to move over the fields.
The set time delays T2 are confirmed with the ENTER button.

7.2.8 Arranging Zones in Groups

The zones in MAGPRO16 addressable fire alarm panel can be organized for operation in separate groups. The maximum number of the permissible groups is 16. By default all zones are not associated to a group number – value 0 is set.

To enter in the submenu for group setting, press button (4) GROUP from the zone parameters programming screen.

```
ZONE 1:                          NAME
FLOOR 1
    MODE: NORMAL
            CHANGE    DELAYS T2    GROUP
```
                                    4

```
Set using arrows, confirm with 'ENTER'
              CHOOSE GROUP: 1
```

In the field **CHOOSE GROUP** set the number of the group from 1 to 16. To increase the value press 'up arrow' button and to decrease it – the 'down arrow' button. The set group number is confirmed with ENTER button.

Exit to the main screen of ZONES menu is realized with CANCEL button.

7.3. Devices Setup Menus

This menu allows the installer to review and change the status of every device. Up to 250 devices per loop are available for settings (up to 500 when using second loop in the MAGPRO16 panel). In the 'DEVICES SETUP' menus the installer can save new devices found in the system, to remove or disable them. The parameters and settings may differ according the device type. The currently edited device address is blinking. The menu is accessible from levels 2 and 3.

From the main screen of DEVICES SETUP menu, the User can review detailed information for all connected devices in the system configuration.

Example for the screen display after entering the menu:

```
3) Devices Setup
        ✓

①    ②   ③   ④                ⑤
D: 1 │ Z1 │ L1 │ MAGPRO-SD1       NORMAL
D: 2 │ Z1 │ L2 │ MAGPRO-HD1       NORMAL
D: 3 │ Z2 │ L1 │ MAGPRO-CP        NEW
GO TO      DEV. COUNT   REMOVE    DISABLE
```
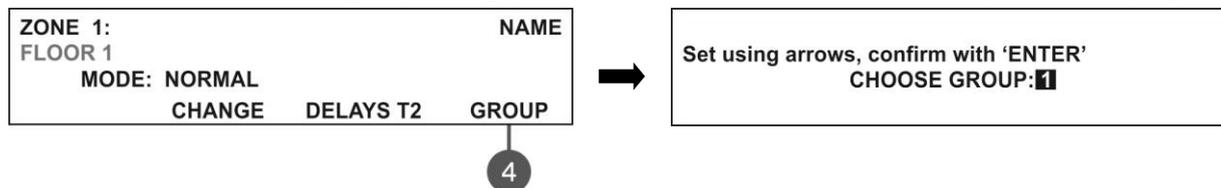 1   2   3   4
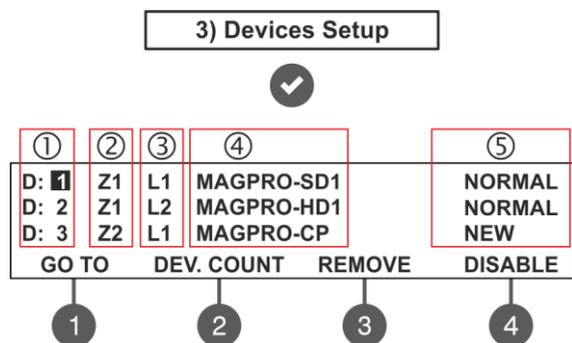
The screen is divided in the following sections:
1 – Address of the device.
2 – Zone number.
3 – Loop number.
4 – System name of the device according its type.
5 – The current status of the device:

- **NEW** – The device is new in the system. To save it press button (3) SAVE – see item 7.3.2.
- **NORMAL** – The device is in normal operation mode.
- **FAULT** – The device is not responding. To delete it press (3) REMOVE – see item 7.3.3.
- **WRONG TYPE** – The type of the device is different from the previously saved one.
- **DISABLED** – The device is disabled.
- **FIRE** – The device is in fire mode.
- **NONE** – No device at the address.

The address number of the currently editing device is blinking. Additional submenus are available through the functional digit buttons.

7.3.1 Submenus for General Setting

From the main screen of DEVICES SETUP menu use the functional buttons for submenus: (1) GO TO and (2) DEV. COUNT.

Submenu (1) GO TO allows quick access to a device address in the respective loop number. The currently editable value is blinking. Use up and down arrows to select device address. Use the left and right arrows to switch over the editable fields. Confirm with 'ENTER'.

Submenu (2) DEV. COUNT allows the User to check the total number of the devices connected to the system configuration. The exit to the main screen of DEVICE SETUP menu is with pressing ENTER or CANCEL button.

7.3.2 Saving the New Found Devices

The MAGPRO16-L250 loop controller automatically recognizes the types of devices in the loop. In case of finding new devices in the system configuration (Loop 1 and Loop2) the panel displays the message "New Loop Devices Found", followed from information for the total number of the new devices and the loop number.

The new found devices in the system are presented with a fault type message on the main screen and a pulsed sound signal. You can silence the buzzer with pressing the 'SILENCE BUZZER' button. Then enter the installation menu and select '3. Devices Setup' Menu. Press 'ENTER' button and follow the structure below.

```
D: 1   Z1   L1   MAGPRO-SD1        NEW
D: 2   Z1   L2   MAGPRO-HD1        NORMAL          3        Save Device or All Devices
D: 3   Z2   L1   MAGPRO-CP         NEW                           Please select:
    GO TO      DEV. COUNT    SAVE      DISABLE
       1            2          3           4                    THIS          ALL
                                                                  2            3
```
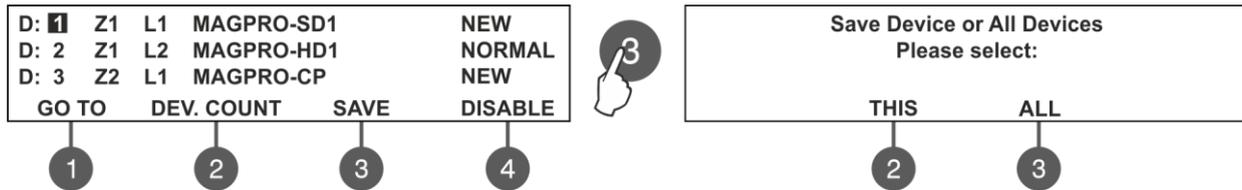
To save the new found devices press the (3) SAVE button. The panel will ask if you want to save the selected device only or all new found devices in the configuration. Choose button (2) THIS to save only the selected device and button (3) ALL to save all new devices. The exit is automatic to the main screen DEVICE SETUP, as the saved devices are in normal operation mode.

Note: *The panel automatically saves the new devices on the serial address. The other types of addressing or changing the current set address are described in item 7.4.*

7.3.3 Deleting Devices

Every loop device can be deleted from the system configuration in the DEVICES SETUP menu. To delete one or all devices from the system configuration, select the address of the device using up/ down arrow buttons and press button (3) REMOVE.

```
D: 1   Z1   L1   MAGPRO-SD1        NORMAL
D: 2   Z1   L2   MAGPRO-HD1        NORMAL          3       Remove Device or All Devices
D: 3   Z2   L1   MAGPRO-CP         NEW                          Please select:
    GO TO      DEV. COUNT   REMOVE     DISABLE
       1            2          3           4                    THIS          ALL
                                                                  2            3
```
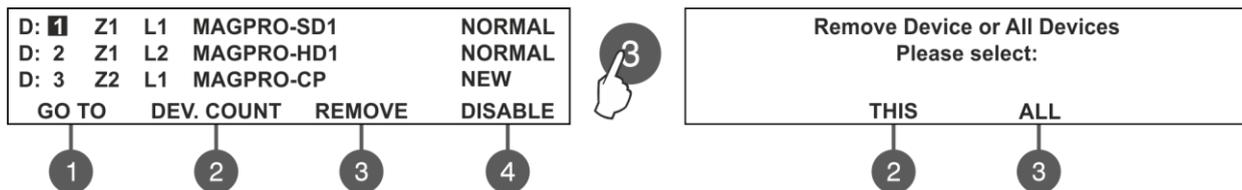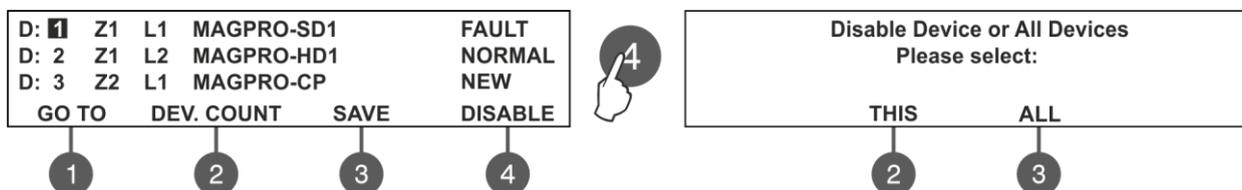
The panel will ask if you want to remove the selected device only or all present devices in the configuration. Choose button (2) THIS to remove only the selected device and button (3) ALL to remove all devices (regardless of their current status). The exit is automatic to the main screen DEVICE SETUP.

Note: *If after deleting, the removed devices are still connected physically to the system, the panel will find then and will alert with "New Loop Devices Found" fault messages. To avoid this, it is recommended first to disconnect the device from the system and after that to remove it from DEVICE SETUP menu.*

7.3.4 Disabling Devices

From the main screen of DEVICES SETUP menu, select the device address using the up/ down arrow buttons and press (4) DISABLE button. The panel will ask if you want to disable the selected device only or all present devices in the configuration. Choose button (2) THIS to disable only the selected device and button (3) ALL to disable all devices (regardless of their current status). The exit is automatic to the main screen DEVICE SETUP, as the disabled devices are displayed with status DISABLED. The LED 'Disable' on the front panel is lighting on.

```
D: 1   Z1   L1   MAGPRO-SD1        FAULT
D: 2   Z1   L2   MAGPRO-HD1        NORMAL          4       Disable Device or All Devices
D: 3   Z2   L1   MAGPRO-CP         NEW                          Please select:
    GO TO      DEV. COUNT    SAVE      DISABLE
       1            2          3           4                    THIS          ALL
                                                                  2            3
```

The panel will not follow the operation of the disabled device and will not respond to fire or fault messages from it. To enable the device again, select its address and press the active button (4) ENABLE.

Note: *If at the moment of enabling the device, it is in fire alarm mode (the fire signal was generated earlier, when the device was still disabled) the panel will alert for the fire alarm situation immediately!*

7.3.5 Programming of Device Parameters

Attention: Programming device type parameters is available only from access level 3!

The MAGPRO16 fire alarm addressable panel operates with full range of MAGPRO addressable detectors, call points, sounders and modules via MAGPRO communication protocol. According the type of the device, the setting parameters are different. Use the descriptions below to set the devices in your system configuration.
To set parameters of a device go to its address number in the DEVICES SETUP menu (the editable address number is blinking) and press 'ENTER'.

*Note: You can make the device settings also for NEW and DISABLED devices.*

Association to a zone number. The first editable parameter is setting the zone number for this device. Use the up and down arrows to set the zone number according your specific system configuration. By default all devices are associated to Zone 1.
Entering of a specific name. The installer can enter a specific name for every device. The name can be up to 40 digits long and it is entered on the second row. Use the left and right arrows to move the cursor. The symbols (small and capital letters and characters) are set with the up and down arrows. Confirm the entered name with 'ENTER". See also the APPENDIX B.
Button (2) ON/ OFF LED – Turns on the LED of the device when checking for the presence of doubling addresses in the loop.

Use the functional digit buttons to enter the respective submenus according the type of the selected device.

MAGPRO SD1 – Optical-smoke detector
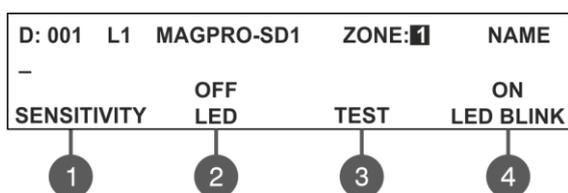
Use the functional buttons to set the following parameters:
(1) SENSITIVITY
(2) ON/ OFF LED – Press to switch on/ off the device LED.
(3) TEST
(4) ON/ OFF LED BLINK – Alternatively changes the status of the device LED indication.
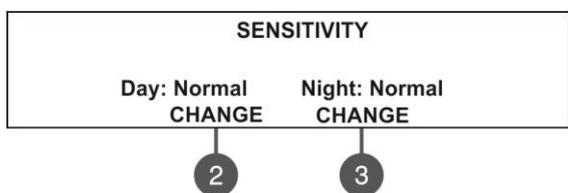
(1) SENSITIVITY – Press the button to enter the submenu for setting the sensitivity level of the smoke chamber for DAY and NIGHT alarm mode.
Use the functional buttons (2) and (3) to select the sensitivity level: Normal/ Middle/ Low/ High. All set sensitivity levels are confirmed wit ENTER button.

(3) TEST – 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. The exit to the main screen is with pressing the CANCEL button.

MAGPRO HD1 – Heat Detector
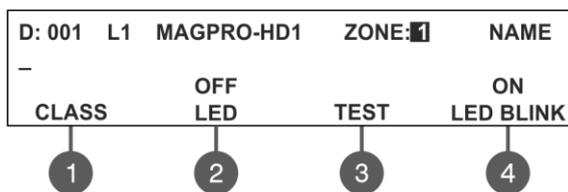
Use the functional buttons to set the following parameters:
(1) CLASS
(2) ON/ OFF LED – Press to switch on/ off the device LED.
(3) TEST
(4) ON/ OFF LED BLINK – Alternatively changes the status of the device LED indication.
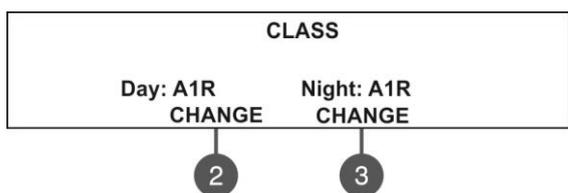
(1) CLASS – Press the button to enter the submenu for setting the class for DAY and NIGHT alarm mode. Use the functional buttons (2) and (3) to select the class: A1R/ A2S/ BS. The selected class is confirmed with ENTER button.

Tfire = 060°C   T = 025°C

(3) TEST – 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. The selected class is confirmed with ENTER button.

MAGPRO-HSD1 – Combined optical-smoke and heat detector

D: 001   L1   MAGPRO-HSD1   ZONE: 1   NAME
–
        OFF   ON
SENSITIVITY   LED   TEST   LED BLINK
    ①   ②   ③   ④

Smoke: 008%   Pollution: 020%
Tfire = 058°C   T = 025°C

Use the functional buttons to set the following parameters:
(1) SENSITIVITY – Press to set the sensitivity of the smoke chamber for DAY and NIGHT alarm mode (see the description of MAGPRO-SD1). The set sensitivity levels are confirmed wit ENTER button.
(2) ON/ OFF LED – Press to switch on/ off the device LED.
(3) TEST – Press the button to enter in a new screen for checking of the following current parameters: *Smoke and Pollution* (see the description for MAGPRO-SD1) and *Tfire and T* (see the description for MAGPRO-HD1).
(4) ON/ OFF LED BLINK – Alternatively changes the status of the device LED indication.

The class for MAGPRO-HSD1 is fixed to A1R and could not be changed.

MAGPRO-CP – Manual call point

D: 001   L1   MAGPRO-CP   ZONE: 1   NAME
–
        OFF   EVACUATE   ON
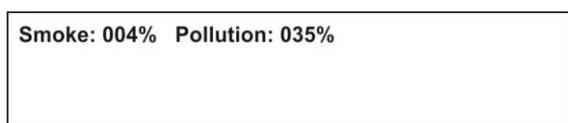   LED   EVENT   LED BLINK
         ②   ③   ④

Use the functional buttons to set the following parameters:
(2) ON/ OFF LED – Press to switch on/ off the device LED.
(3) EVENT EVACUATION/ ALARM – Every pressing of the button alternatively changes the type of the event generated with activation of the manual call point:
- *Event EVACUATION* – The sounders will be activated immediately, as the set time delays T1 and T2 are ignored.
- *Event ALARM* – The set time delays T1 and T2 are active and the manual call point operated as an automatic detector.
(4) ON/ OFF LED BLINK – Alternatively changes the status of the device LED indication.

MAGPRO-WS – Wall mounted sounder

D: 001   L1   MAGPRO-WS   ZONE: 1   NAME
–
   LOW   OFF
SOUND LEVEL   LED
    ①   ②

Use the functional buttons to set the following parameters:
(1) 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* (sounders WS and WSS).
- *LOW* – Set in those cases when *the number of the connected sounders to the loop is up to 60* (sounders WS and WSS).
(2) ON/ OFF LED – Press to switch on/ off the device LED.

MAGPRO-WSS – Wall mounted sounder and strobe

D: 001   L1   MAGPRO-WSS   ZONE: 1   NAME
–
   LOW   OFF   SND/FLASH
SOUND LEVEL   LED   MODE
    ①   ②   ③

Use the functional buttons to set the following parameters:
(1) 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* (sounders WS and WSS).
- *LOW* – Set in those cases when *the number of the connected sounders to the loop is up to 60* (sounders WS and WSS).
(2) ON/ OFF LED – Press to switch on/ off the device LED.
(3) MODE – Press to choose the operation mode of the sounder:
- SND – Sounder activation only;
- FLASH – Flash indication only;
- SND/ FLASH – Both sounder and flash indication are active;

MAGPRO-DBS – Base with sounder

```
D: 001   L1   MAGPRO-DBS   ZONE:1      NAME
–
      LOW            OFF
SOUND LEVEL       LED

     (1)            (2)
```

Use the functional buttons to set the following parameters:
(1) 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** (sounders DBS and DBSS).
- **LOW** – Set in those cases when **the number of the connected sounders to the loop is up to 100** (sounders DBS and DBSS).
(2) ON/ OFF LED – Press to switch on/ off the device LED.

MAGPRO-DBSS – Base with sounder and strobe

```
D: 001   L1   MAGPRO-DBSS   ZONE:1      NAME
–
      LOW          OFF       SND/FLASH
SOUND LEVEL     LED            MODE

     (1)          (2)           (3)
```

Use the functional buttons to set the following parameters:
(1) 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** (sounders DBS and DBSS).
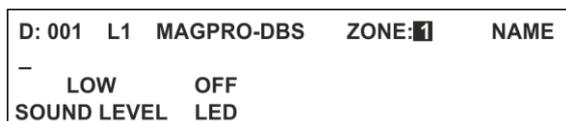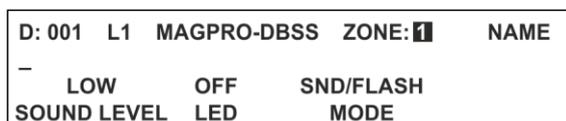- **LOW** – Set in those cases when **the number of the connected sounders to the loop is up to 100** (sounders DBS and DBSS).
(2) ON/ OFF LED – Press to switch on/ off the device LED.
(3) MODE – Press to choose the operation mode of the sounder:
- SND – Sounder activation only;
- FLASH – Flash indication only;
- SND/ FLASH – Both sounder and flash indication are active.

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 DBS and 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	Quantity	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

The MAGPRO-Mini is a compact module with one input. The module monitors and transfers to control panel the state of this input - state ON or state OFF. MAGPRO-Mini is designed for built-in installation in the mounting box of the device.
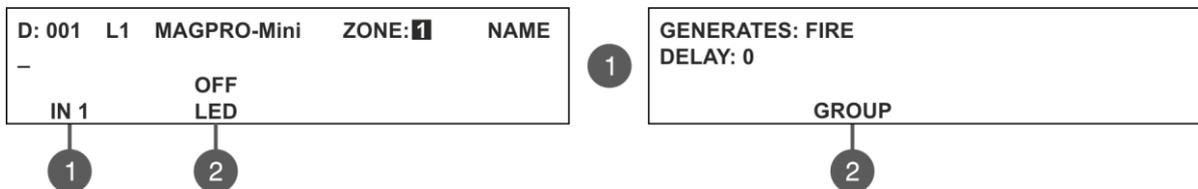
The activation of the MAGPRO-Mini input can be programmed according the application. To program the generated event at the input, press button (1) IN 1 – in the submenu are active two fields for setting:

- **GENERATES –** Use the up/ down arrow buttons to select generated event at the input: FIRE/ EVACUATE/ RESET/ MESSAGE ALARM/ MESSAGE FAULT/ MESSAGE WARNING/ SILENCE BUZZER/ SILENCE ALARM / CLASS CHANGE*
- **DELAY –** The field is common for all events. Enter time delay 0-600 sec for activation event.

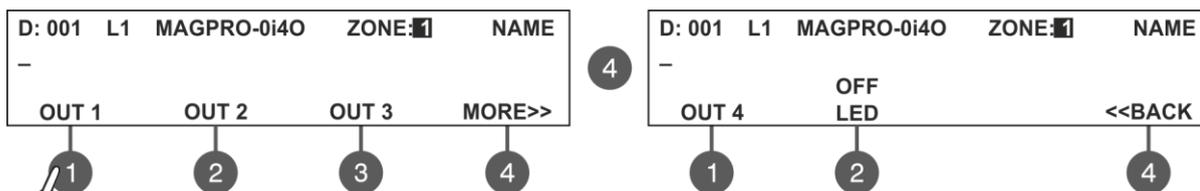**(2) ON/ OFF LED –** Press to switch on/ off the device LED.

* 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.

Use the left and right arrows to switch over the GENERATES and DELAY fields.

Press the functional button **(2) GROUP** to enter in submenu for group selection. In the editing field enter the group number using the up/ down arrow buttons.

All set parameters are confirmed wit ENTER button. The exit to the main screen of DEVICE SETUP menu is with pressing CANCEL button.

MAGPRO-0i4O – Module with 4 outputs
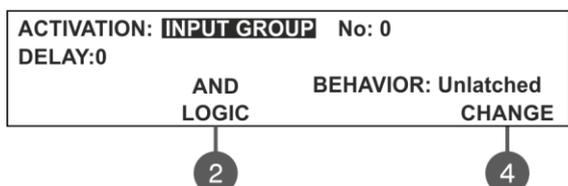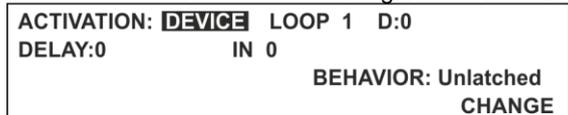
The programming is same for all of the outputs.
The number of outputs are distributed into two screens. To program OUT4 you have to press button MORE >>.

(2) ON/ OFF LED – Press to switch on/ off the device LED.

The installer has to choose an activation event using the up and down arrows.

Use the left and right arrows to switch over the editable fields.
Other settings are available according the event type - see Table 2.

DEVICE - Activation from a device. Set the loop number and device address. The 'IN' field refers only to MIO modules.
INPUT GROUP - Activation from a device in group. Set the group number. The functional button (2) switches alternatively between the AND and OR logic operation.

FIRE ZONE - Activation from a zone in fire alarm. Set a zone number. In the 'ALARMS' field you can enter a number of registered fire alarms, when after reaching their count the output will be activated.

FIRE ZONE GROUP - Activation from a zone in fire alarm included in a group. Set a group number.
FIRE (common) - Activation in case of fire alarm event in the system.
FAULT ZONE - Activation from a zone in fault. Set a zone number.
FAULT ZONE GROUP - Activation from a zone in fault included in a group. Set a group number.
FAULT (common) - Activation in case of fault event in the system.
FAULT SYSTEM - Activation in case of fault system event in the system.
PREALARM - Activation in case of preliminary alarm fire alarm event.
DISABLE (common) - Activation in case of disablement in the system.
SOUNDER ON - Activation in case of sounder activation in the system.
RESET - Activation in case of reset in the system.
EVACUATE - Activation in case of evacuation event in the system.
SILENCE BUZZER - Activation in case of silence buzzer in the system.
SILENCE ALARM - Activation in case of silence alarm in the system.
TEST - Activation in case of test in the system.

In addition the following fields are accessible for editing:
(2) LOGIC - Press the functional button (2) to switch over AND - OR logic for operation.
(3) DELAY - The setting is common for all activation types. Enter time delay 0-600 sec. Use the left and right arrows to switch over the ACTIVATION and DELAY fields.
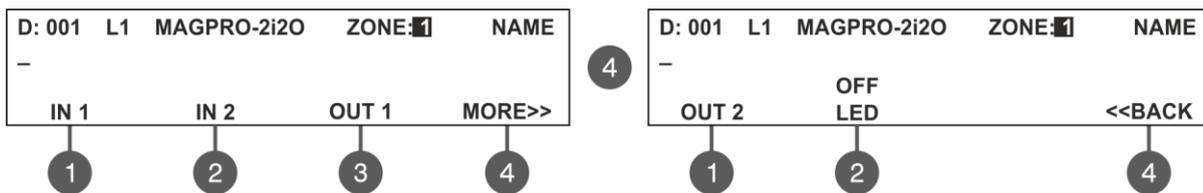**(4) BEHAVIOR CHANGE** - Press the functional button (4) to set the behavior Latched or Unlatched.

The set activation event is confirmed with ENTER button. Exit to the main screen for device setup is done with CANCEL button.

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

Use the functional buttons to set parameters for inputs and outputs.
The programming is same for all of the outputs/ inputs.
For the settings of the 'IN 1/2' refer to the submenu of MAGPRO-Mini.
For the settings of the 'OUT 1/2' refer to the submenus of MAGPRO-0i4O.
(2) ON/ OFF LED – Press to switch on/ off the device LED.

MAGPRO-4i0O – Module with 4 inputs
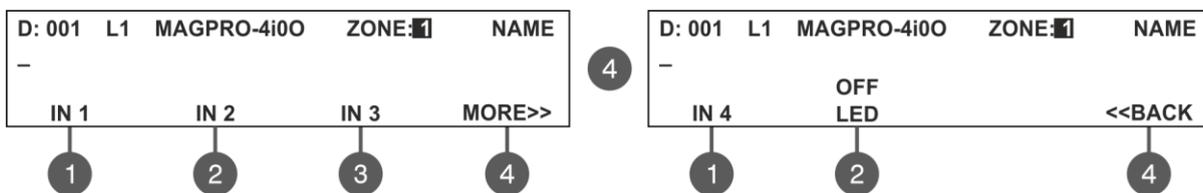
The input numbers correspond to the functional number buttons. The programming is same for all of the inputs.
For the settings of the 'IN 1/2/3/4' refer to the submenu of MAGPRO-Mini.
(2) ON/ OFF LED – Press to switch on/ off the device LED.

MAGPRO-1OSi – Module potential output
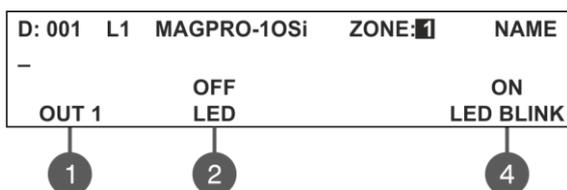
The modules is used for connection of conventional sounders. Use the functional buttons to set the following parameters:
(1) OUT 1 – Set the parameters for the output – see the description of module MAGPRO-0i4O.
(2) ON/ OFF LED – Press to switch on/ off the device LED.
(4) ON/ OFF LED BLINK – Alternatively changes the status of the device LED indication.

MAGPRO-R – Module for 240V interface

```
D: 001   L1   MAGPRO-R        ZONE: 1      NAME
 _
                 OFF                      ON
      OUT 1      LED                   LED BLINK
        1          2                      4
```
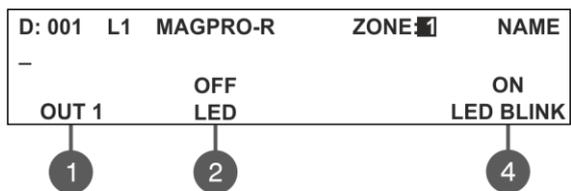
Relay module with interface for 240 VAC. The module is available in two versions with 1 and 2 relay outputs. Use the functional buttons to set the following parameters:
(1) OUT 1 – Set the parameters for the output – see the description of module MAGPRO-0i4O.
(2) ON/ OFF LED – Press to switch on/ off the device LED.
(4) ON/ OFF LED BLINK – Alternatively changes the status of the device LED indication.

All set parameters are confirmed wit ENTER button. The exit to the main screen of DEVICE SETUP menu is with pressing CANCEL button.

MAGPRO-GAS – GAS Detector

```
D: 001   L1   MAGPRO-GAS      ZONE: 1      NAME
 _
                 OFF                     OFF
                 LED                   SOUNDER
                  2                      4
```
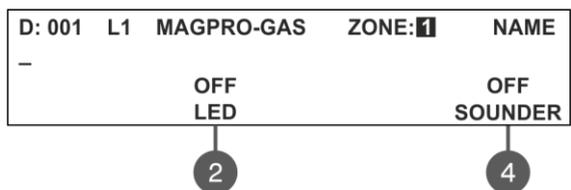
MAGPRO-GAS is a gas detector designed for application in addressable fire alarm systems with MAGPRO16/96 fire alarm panels.
MAGPRO-GAS is designed for detection of leaking natural gas and LPG. The detector is equipped with alarm output for management of manipulator or electromagnetic valve (optional accessories).

Use the functional buttons to set the following parameters:
(2) ON/ OFF LED – Press to switch on/ off the device LED.
(4) ON/ OFF SOUNDER – 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.

All set parameters are confirmed wit ENTER button. The exit to the main screen of DEVICE SETUP menu is with pressing CANCEL button.

Table 2. Activation types – Parameters Setting:

Activation type	Parameter Settings							
	Loop No	**Group No**	**Zone No**	**Alarm No**	**Device No**	**Input No***	**Logic**	**Behavior**
Device	1/2	-	-	-	1 - 250	1 - 4	-	Latched/ Unlatched
Input group	-	1 - 16	-	-	-	-	AND/OR	Latched/ Unlatched
Fire zone	-	-	1 - 16	1-9	-	-	-	Latched
Fire zone group	-	1 - 16	-	-	-	-	AND/OR	Latched
FIRE (common)	-	-	-	-	-	-	-	Latched
Fault zone	-	-	1 - 16	-	-	-	-	Latched/ Unlatched
Fault zone group	-	1 - 16	-	-	-	-	AND/OR	Latched/ Unlatched
FAULT (common)	-	-	-	-	-	-	-	Latched/ Unlatched
Fault system	-	-	-	-	-	-	-	Latched/ Unlatched
Pre alarm zone	-	-	1 - 16	-	-	-	-	Latched/ Unlatched
DISABLE (common)	-	-	-	-	-	-	-	Latched/ Unlatched
Sounder on	-	-	-	-	-	-	-	Latched/ Unlatched
Reset	-	-	-	-	-	-	-	Unlatched
Evacuate	-	-	-	-	-	-	-	Latched
Silence buzzer	-	-	-	-	-	-	-	Latched/ Unlatched
Silence alarm	-	-	-	-	-	-	-	Latched/ Unlatched
Test	-	-	-	-	-	-	-	Latched/ Unlatched

* For input/ output module only.

7.4. Addressing Menus
Attention: The addressing menus are available only from access level 3!

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 panel Loop 1 and/ or Loop 2. The panel will recognize them and gives 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 from the Menu 3. Devices Setup.
        - 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 4. Addressing - 4.3. Self addressing menu. The panel shows the first free address for every of the 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.

7.4.1 Set Address
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 - 4. ADDRESSING - 4.1. SET ADDRESS. The device must be prepared for connection to the panel (loop 1 or loop 2).
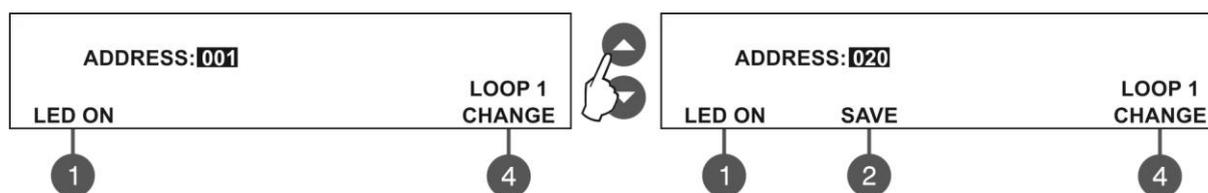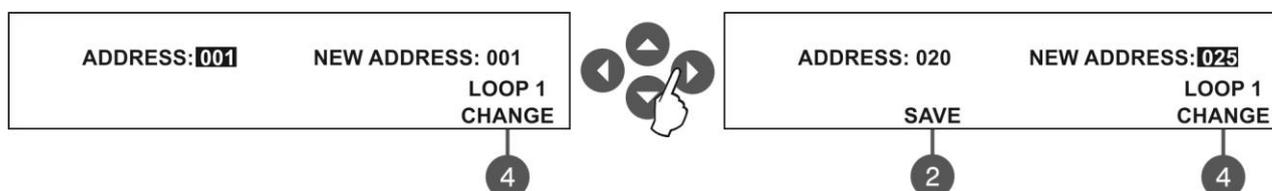

The system automatically shows the first address in the system. You can check the device assigned at this address with pressing the 'LED ON' button - the LED(s) of the device will lighting on permanently. Next pressing of the same button will off the LED. Use the button 'CHANGE' to switch to loop 2 if present in the system. **The address is free if 'SAVE' button is active.**
To find a free address use the up and down arrows to scroll over the address numbers.

The free address in the system configuration is recognized with active 'SAVE' functional button (2) in the last row of the screen. 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 'SAVE' button and wait for a couple of seconds. If the addressing is successful the message 'SUCCESSFUL' starts blinking 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 'CANCEL' button.

7.4.2 Change Address
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 - 4. ADDRESSING - 4.2. CHANGE ADDRESS.

The system automatically shows the first address in the system. Use the up and down arrows to select the address of the device you want to change.

Use the button 'CHANGE' to switch to loop 2 if present in the system.
Press the right arrow button to switch to 'NEW ADDRESS' field.

Press right arrow button to move to field 'NEW ADDRESS.

Use again the up and down arrows to find a free address in the system configuration - the active 'SAVE' functional button (2) in the last row of the screen will appear. Press the 'SAVE' button and wait for 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 'CANCEL' button.

7.4.3 Self-Addressing

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 - 4. ADDRESSING - 4.3. SELF ADDRESSING. The panel shows the first free address for every of the 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.
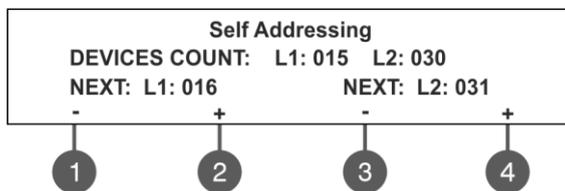
The self-addressing menu shows information about the total number of devices connected to every loop.
On the third row the panel shows the first free address for every of the loops. The panel skips all already set address numbers and will jump to the next free address number.
The installer also can set manually the next address using the functional buttons from 1 to 4. The '-' will decrease the address number and the '+' will increase it. If by mistake the set address is not free, during the self-addressing procedure the panel will skip it and will jump to the next free address number.
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 'CANCEL' button.

IMPORTANT NOTES!

1. During the self addressing procedure leave minimum 10 sec time interval between connecting the next device to the loop.

2. NEVER connect devices to both loops at the same time. Connect all devices to loop 1 first and after that proceed with loop 2.

3. After completing the self addressing procedure test the devices with LED indication on.
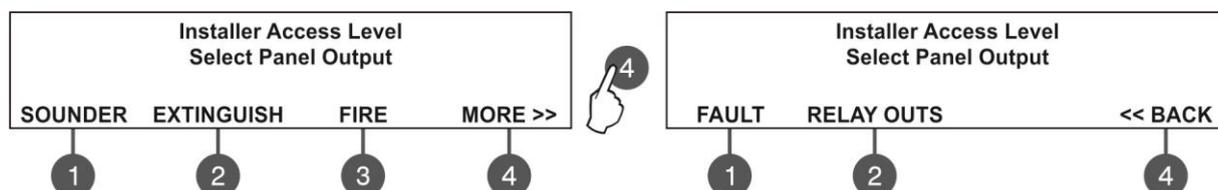
7.5. Panel Outputs Menus

This menu allows the installer to disable/ enable and to set time delay for some of the outputs of the control panel:

- Sounder Outputs (SND 1, SND 2)
- Extinguish Output (EXT)
- Fire Output (FIRE)
- Fault Output (FAULT)
- Four Relay Outputs

The menu is accessible from access levels 2 and 3.

To set outputs parameters, enter in the installer's menu - 5. PANEL OUTPUTS. The submenus are allocated in two screens.
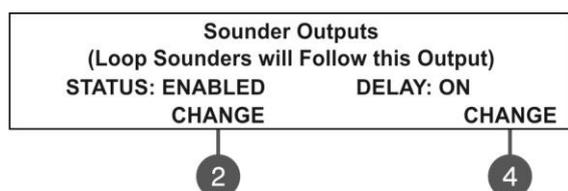

7.5.1 Sounders Outputs

In this submenu the installer can disable/ enable the sounders activation and the time delay operation.
To access the SOUNDER submenu, enter in the installer's menu - 5. PANEL OUTPUTS - SOUNDER (1).

Attention: In access level 2 you can only review the set delay status (ON/ OFF), with no rights to change it!
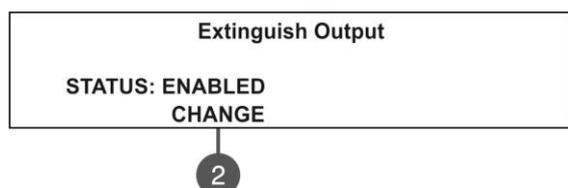

The functional buttons have the following action:
(2) - Press to change the status of the sounder outputs. Every pressing of the button changes alternatively the ENABLED - DISABLED status. When the sounder outputs are disabled the LEDs 'Sounder Output Fault/ Disable' and 'Disable' light on permanently.
(4) - Press to set the time delay operation. Every pressing of the button changes the 'Delay' setting:

   • **ON** - The delay of sounder outputs will be active when DAY operation mode is set - see the description for menu 6.3 DAY/ NIGHT operation modes.
   • **OFF** - No delay of sounder outputs activation. The sounder outputs are activated immediately.
   • **SCHEDULE** - The delay of sounder outputs will be active on schedule - see the description for menu 6.3 DAY/ NIGHT operation modes.

All set parameters are confirmed wit ENTER button.

7.5.2 Extinguishing Output

In this submenu the installer can disable/ enable the extinguish output activation. To access the EXTINGUISH submenu, enter in the installer's menu - 5. PANEL OUTPUTS - EXTINGUISH (2).
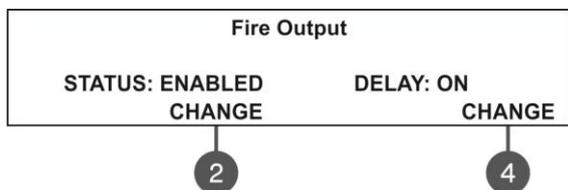

The functional button has the following action:
(2) - Press to change the status of the extinguish output. Every pressing of the button changes alternatively the ENABLED - DISABLED status. When the extinguish output is disabled the LED ''Disable' light on permanently.

All set parameters are confirmed wit ENTER button.

7.5.3 Fire Output

In this submenu the installer can disable/ enable the fire output activation and the time delay operation.
To access the FIRE submenu, enter in the installer's menu - 5. PANEL OUTPUTS - FIRE (3).

Attention: In access level 2 you can only review the set delay status (ON/ OFF), with no rights to change it!
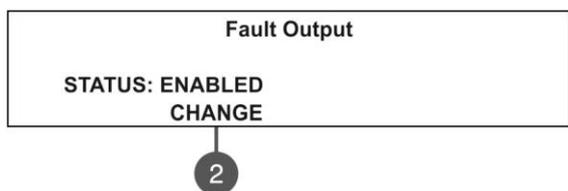
The functional buttons have the following action:
(2) - Press to change the status of the fire output. Every pressing of the button changes alternatively the ENABLED - DISABLED status. When the fire output is disabled the LEDs 'Fire Output Fault/ Disable' and 'Disable' light on permanently.
(4) - Press to set the time delay operation. Every pressing of the button changes the 'Delay' setting:

• **ON** - The delay of fire output will be active when DAY operation mode is set - see the description for menu 6.3 DAY/ NIGHT operation modes.

• **OFF** - No delay of fire output activation. The fire output is activated immediately.

• **SCHEDULE** - The delay of fire output will be active on schedule - see the description for menu 6.3 DAY/ NIGHT operation modes.

All set parameters are confirmed wit ENTER button.

7.5.4 Fault Output

In this submenu the installer can disable/ enable the fault output activation.
To access the FAULT submenu, enter in the installer's menu - 5. PANEL OUTPUTS – MORE> (4) – FAULT (1).

The functional button has the following action:
(2) - Press to change the status of the fault output. Every pressing of the button changes alternatively the ENABLED - DISABLED status. When the fault output is disabled the LED 'Disable' light on permanently.

All set parameters are confirmed wit ENTER button.

7.5.5 Relay Outputs

Attention: The relay outputs are available for setting parameters only from access level 3!

In this submenu the installer can the set parameters of the relay outputs on the control panel PCB.
To access the RELAY OUTS submenu, enter in the installer's menu - 5. PANEL OUTPUTS - MORE>> - RELAY OUTS (2).

Attention! The order of the relay numbers follows that on the control panel PCB!
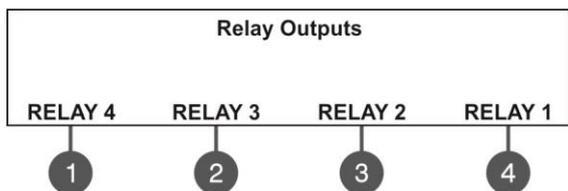
The programming of the relay outputs is analogical.
Use the functional buttons to set parameters for:
1 - Press to set parameters for RELAY 4
2 - Press to set parameters for RELAY 3
3 - Press to set parameters for RELAY 2
4 - Press to set parameters for RELAY 1

For the settings of the relay outputs refer to the description of the menus for MAGPRO-0i4O.

All set parameters are confirmed wit ENTER button.

The exit to the main screen of PANEL OUTPUTS is with pressing the CANCEL button.

7.6. General Settings Menu

This menu allows the installer to make some common settings for the fire panel.
The menu is accessible from access levels 2 and 3, as for the level to are introduced some restrictions.

A list with submenus is displayed after entering the installer's menu - 6. GENERAL SETTING. The currently selected submenu is blinking. To enter into a submenu press 'ENTER'.

7.6.1 Access Codes

Attention: The access codes can be changed only from access level 3!
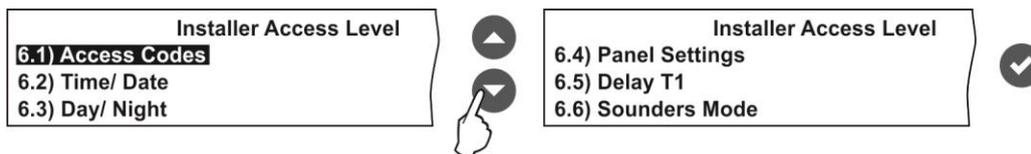In this submenu the installer can change the code combinations for access to INSTALLER and MAINTENANCE levels.
To access the ACCESS CODES submenu, enter in the installer's menu - 6. GENERAL SETTING - 6.1) ACCESS CODES.
The screen displays the supported submenus and the current set access code for the INSTALLER and MAINTENANCE programming menus:
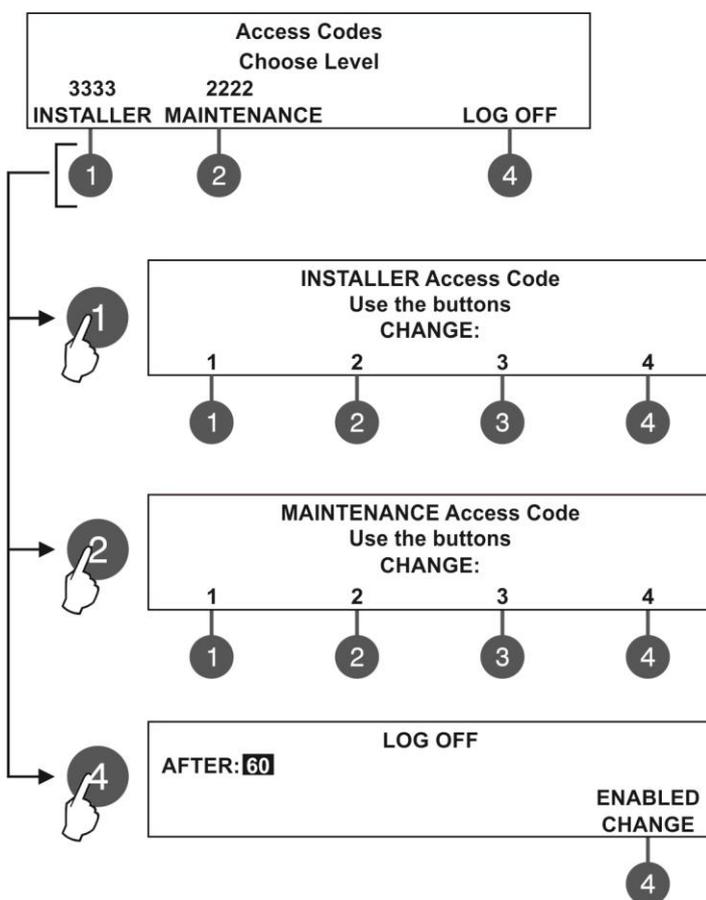
The settings are analogical for both levels.
Use the functional buttons to set access code for:
(1) - Press to change INSTALLER CODE
(2) - Press to change MAINTENANCE CODE
(3) - Press to enter a submenu for setting time for automatic exit from the INSTALLER and MAINTENANCE menus.

Use the functional buttons to enter new 4-digit INSTALLER code combination. The system will ask to confirm the change. The exit is automatic to Access Level main screen.
The default INSTALLER code is 3333.

Use the functional buttons to enter new 4-digit MAINTENANCE code combination. The system will ask to confirm the change. The exit is automatic to Access Level main screen.
The default MAINTENANCE code is 2222.

In field „AFTER" enter time from 0 up to 60 minutes for automatic exit from the INSTALLER and MAINTENANCE programming menus.
Use button (4) CHANGE to set the status:
- *ENABLED* – The automatic exit is enabled.
- *DISABLED* – The automatic exit is disabled.

> ⚠ **If the installer's access code is changed and obscured you have to perform a hardware reset of the panel settings!**
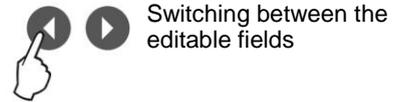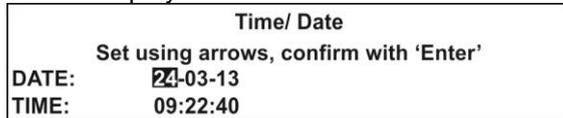
7.6.2 Setting the Date and Time

Attention: The setting of the date and time is available only from access level 3!

In this submenu the installer can set the current time and date for the panel.

To access the TIME/ DATE submenu, enter in the installer's menu - 6. GENERAL SETTING - 6.2) TIME/ DATE. The screen displays:

Time/ Date
Set using arrows, confirm with 'Enter'
DATE: **24**-03-13
TIME: 09:22:40

Increasing

Decreasing

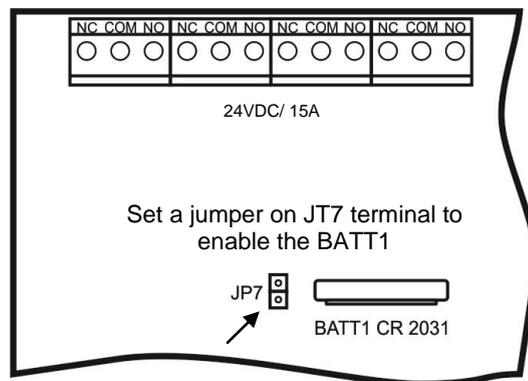Switching between the editable fields

The editable field is blinking. Use the up and down arrows to set the date and time. Use the left and right arrows to switch over the editable fields.

IMPORTANT NOTES!
The MAGPRO16 panel is equipped with built-in battery for saving the set time and date in case of main or back-up power supply lost.
Put a jumper on JP7 terminals on the control panel PCB to enable the built-in battery and saving the set time and date.

NC COM NO NC COM NO NC COM NO NC COM NO

24VDC/ 15A

MAGPRO16 Main Board

Set a jumper on JT7 terminal to enable the BATT1

JP7

BATT1 CR 2031

7.6.3 Setting Day/ Night Alarm Modes

In this submenu the installer can set the operation alarm mode of the panel.

To access the DAY/ NIGHT submenu, enter in the installer's menu - 6. GENERAL SETTING - 6.3) DAY/ NIGHT. The screen displays:

Day/ Night
MODE: NIGHT
CHANGE
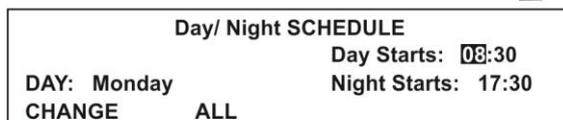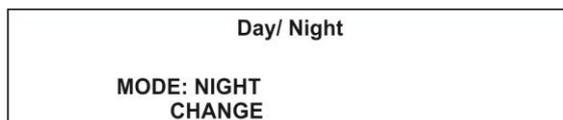
Press the functional button '2' to select the preferred alarm mode:
NIGHT - Select to set nighttime alarm mode. The devices will operate only in night alarm mode.
DAY - Select to set daytime alarm level. The devices will operate only in day alarm mode.
SCHEDULE - Select to set operation on a schedule. The devices will operate on the programmed schedule.

Day/ Night
MODE: SCHEDULE
CHANGE   SCHEDULE

The schedule is set in DAY/ NIGHT SCHEDULE submenu - press functional button '4'.

In DAY/ NIGHT SCHEDULE submenu the installer can define the day and night time intervals for all days of the week. The current editing value is blinking.
(1) DAY CHANGE - Press to change the day of the week. Use the up and down arrows to set the day and night time intervals for the day. Use the left and right arrows to switch over the editable fields.
(2) ALL - Press to set the current set day and night time intervals for all days of the week.
Confirm all settings with pressing ENTER button.

Day/ Night SCHEDULE	
	Day Starts: **08**:30
DAY: Monday	Night Starts: 17:30
CHANGE ALL	

7.6.4 Panel General Settings

In this submenu the installer can make some adjustments for the panel performance.
To access the PANEL SETTINGS submenu, enter in the installer's menu - 6. GENERAL SETTING - 6.4) PANEL SETTINGS. The screen displays:

Use the functional buttons to set:
(1) LANGUAGE - Press to set the language. Every pressing of the button changes the currently used language for the menus.
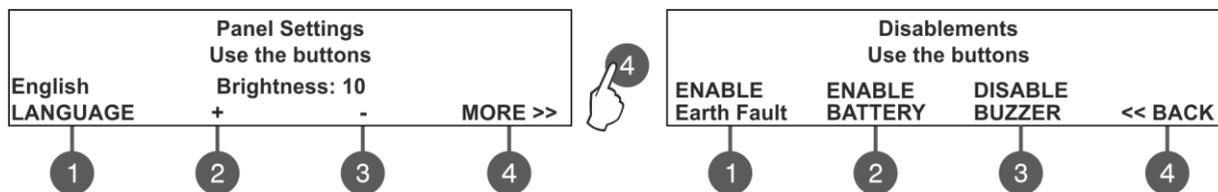**(2) + Brightness** - Press to increase the brightness of the screen back light. The maximum value is 20.
(3) - Brightness - Press to decrease the brightness of the screen back light. The minimum value is 0.
(4) MORE>> - Press to switch to other panel settings.
Confirm all settings with pressing ENTER button.

Use the functional buttons to set:
(1) Earth Fault - Press to enable/ disable the Earth Fault indication. When the Earth Fault indication is enabled you have to set a jumper to Earth Fault terminals on the control panel PCB.
(2) BATTERY - Press to enable/ disable the Accumulator Battery Fault Indication. When the Accumulator Battery Fault Indication is enabled the panel will monitor the internal battery resistance Ri. In normal operation Ri<0.3Ω. If Ri>0.3Ω, the panel will alert for Battery fault with message in Faults menu 'Battery High Resistance'. The installer has to change the accumulator battery with new.
(3) BUZZER – Press to enable/ disable the buzzer signalization.
(4) << BACK - Press to switch back to previous settings.
Confirm all settings with pressing ENTER button.

7.6.5 Delay T1

In this submenu the installer sets the time to Delay T1. T1 is the time delay needed for reaction of the security personnel on the protected site. T1 provides a time delay for the personnel to go to the zone in fire alarm and to check the situation. The operation of time delays T1 and T2 are described with the algorithm below.

To access the DELAY T1 submenu, enter in the installer's menu - 6. GENERAL SETTING - 6.5) DELAY T1. The screen displays:
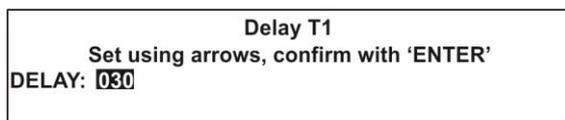
Use the up and down arrows to set the delay T1. The time interval is in range 0 - 60 sec.
Confirm the settings with 'ENTER' button.

7.6.6 Sounders Mode

In this submenu the installer sets the sounders operation mode.
To access the SOUNDERS MODE submenu, enter in the installer's menu - 6. GENERAL SETTING - 6.6) SOUNDERS MODE. The screen displays:
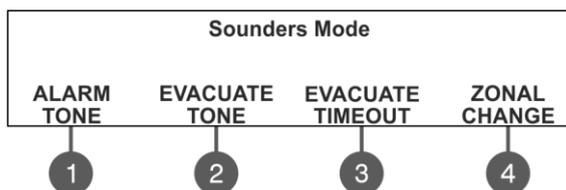
Use the functional buttons to set:
(1) – Set the alarm type sound. Enter the submenu and use the up/ down arrow buttons to select a number from 1 to 32 for the alarm sound – the reference parameters for the selected sound are listed on the last row of the screen.
(2) – Set the evacuation type sound. Enter the submenu and use the up/ down arrow buttons to select a number from 1 to 32 for the evacuation sound – the reference parameters for the selected sound are listed on the last row of the screen.
(3) – The button 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.
(4) – Press to change the sounders operation mode.
• **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.

Confirm the settings with 'ENTER' button.

7.7. Save Configuration Menu
Attention: Saving the system configuration is available only from access level 3!
In this menu the installer performs saving of the new found devices in the system configuration. The panel will ask for confirmation of the action. The screen displays.

```
      SAVE CONFIGURATION

         Are you sure?
      YES            NO
       (2)           (3)
```
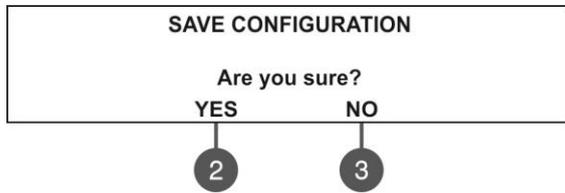
Use the functional buttons to confirm or reject the save configuration. You can also escape from this menu with 'CANCEL' button.

7.8. Restore Defaults Menu
Attention: The restore defaults menu is available only from access level 3!
In this menu the installer performs reset to default settings of the system configuration. The panel will ask for confirmation of the action. The screen displays.

```
      RESTORE DEFAULTS

         Are you sure?
      YES            NO
       (2)           (3)
```

Use the functional buttons to confirm or reject the restore defaults settings. You can also escape from this menu with 'CANCEL' button.

7.9. Software Revision
In this menu the installer can review the software versions of the main board and used loop modules and also has possibility for firmware update of the main processor unit. The screen displays:

```
         SOFTWARE VERSION
 Fire Alarm Mainboard Soft. Ver.: X.X
 1 Loop Module Ver.: X.X
 2 Loop Module Ver.: X.X        UPDATE
                                  (4)
```
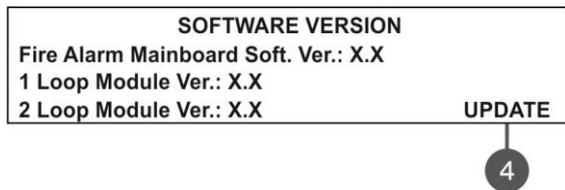
Use the functional button '4' to perform firmware UPDATE of the main processor – the steps for firmware update are described in details in item 3.3.
You can also escape from this menu with 'CANCEL' button.

7.10. Network
In this menu the installer can make the settings for the redundant network between fire panels.

7.10.1 Network Settings
To access the NETWORK settings, enter in the installer's menu - 10. NETWORK – 10.1) SETTINGS. The screen displays:

For future use

In this submenu the installer enters a number, name and sets the status of the panel in the redundant network. Use the up/ down arrow buttons to set the panel number. Move on the second row with right arrow button and enter a specific name up to 40 symbols, including intervals. Use the button (4) – CHANGE to set the status of the panel in the redundant network - ENABLED (the panel is enabled for operation in the network) / DISABLED (the panel is disabled for operation in the network). When the panel is DISABLED from the network it will not receive messages from other panels and will be visualized as FAULT.
Confirm the setting with 'ENTER' button. You can also escape from this menu with 'CANCEL' button.

7.10.2 Panels Settings
To access the PANELS settings, enter in the installer's menu - 10. NETWORK – 10.2) PANELS.

On the screen are listed the panels with their current state in the redundant network:
- **NEW** – The panel is new in the system. To save it press button (3) SAVE.
- **NORMAL** – The redundant network is enabled.
- **THIS** – The panel from which the redundant network is reviewed.
- **FAULT** – The panel is DISABLED or there is problem with the redundant network.
- **NONE** – No panel connected to the redundant network.

All new panels connected to the redundant network can be saved with (3) SAVE button. The panels with current state NORMAL, THIS and FAULT can be deleted from the network with (3) REMOVE button.

If a new panel enabled in the network is with number already set for another panel the "GENERAL FAULT" LED will lights on and a message for fault event "Double Panel number" is generated. The installer should change the doubled panel number for proper operation in the redundant network.
For every panel the installer can set individually the panel's activity to Receive/ Send messages and/ or commands.

The settings for sending commands can be done only for THIS panel (current panel).

Use the (3) CHANGE button to set the options:
- **NONE** – The panel cannot send any commands to other panels in the redundant network.
- **COMMANDS** – The panel can send commands to other panels in the redundant network.

The settings for receiving commands can be done for all other panels.

Use the (1) CHANGE button to set the options:
- **NONE** – The panel will not receive any data from the other panels in the redundant network.
- **MESSAGES** - The panel will receive only messages from other panels in the redundant network.
- **COMMANDS** – The panel will receive only commands from other panels in the redundant network.
- **MESSAGES & COMMANDS** - The panel will receive commands and messages from other panels in the redundant network.

7.11. Active Isolators Menu

This is an information menu for reviewing the active isolators (built-in isolator in MAGPRO devices).
The active isolators in the system are displayed as device addresses in the fields "L1" and "L2" for MAGPRO loops.

```
              ACTIVE ISOLATORS
  L1:
  L2:
```

7.12. Access Level 1

Exit from Access Levels 2 and 3 to Access Level 1.
After choosing the menu with button ENTER the panel automatically returns to Access Level 1. To enter in Access Level 2 (Maintenance) and Access Level 3 (Installer) again the user has to enter a valid code for the respective access level.

APPENDIX A
Table: Event Messages.

Message	Description
Flash Error	FLASH Memory error is detected.
Ram Error	RAM Memory error is detected.
New Periphery Devices Found	New periphery devices are found in the system configuration.
Periphery Device Fault	The device is not responding (the device is lost or failed).
Periphery Device Type Error	A periphery device with different type is found on the address.
AC Loss	The charging device is failed.
Battery Low	The accumulator battery is discharged.
Battery Loss	The accumulator battery is missing.
Battery High Resistance	High value (Ri>0.3Ω) of the battery internal resistance. Replace the battery immediately!
Earth Fault	Resistive connection between some signals and earth < 10k.
Charger Fault	The charging unit is failed.
Sounder1 Short	Short circuit detected at Sounder 1 output.
Sounder2 Short	Short circuit detected at Sounder 2 output.
Sounder1 Open	Circuit broken at Sounder 1 output.
Sounder2 Open	Circuit broken at Sounder 2 output.
Fire Output Short	Short circuit detected at Fire output.
Fire Output Open	Circuit broken at Fire output.
EXT Output Short	Short circuit detected at Extinguishing output.
EXT Output Open	Circuit broken at Extinguishing output.
Fault Output Short	Short circuit detected at Fault output.
Fault Output Open	Circuit broken at Fault output.
Fault Power AUX	Short circuit (the mains power supply is lost).
Alarm Confirm Input Short	Short circuit detected at input 'Alarm Confirmation'.
Alarm Confirm Input Open	Circuit broken at input 'Alarm Confirmation'.
Alarm Confirm Input On	'Alarm Confirmation' input activation.
Protection Alarm Confirm Short	Short circuit detected at input 'Protection Alarm Confirmation'.
Protection Alarm Confirm Open	Circuit broken at input 'Protection Alarm Confirmation'.
Protection Alarm Confirm On	'Protection Alarm Confirmation' input activation.
Fault Protection Panel Input Short	Short circuit detected at input 'Protection Panel Fault'.
Fault Protection Panel Input Open	Circuit broken at input 'Protection Panel Fault'.
Fault Protection Panel Input On	'Protection Panel Fault' input activation.
Protection Panel Fault	The extinguishing panel failure.
Loop Break	The loop is broken.
Loop Short	Short circuit detected in the loop.
New Loop Devices Found	New loop devices are found in system configuration.
Loop Zero Address	There is a device without address number (a device with addres 0 is applied).
Double Panel number	Doubling of the panel number (when two or more panels are connected in a network).
Panel Fault	Fault in the connection with another panel (when two or more panels are connected in a network).
Reset	Reseting of the panel.
Silence Alarm	The sounders have been silenced.
Zone Disabled	The zone is disabled.

| Earth Fault function DISABLED	The Earth Fault indication is disabled.
Sounder Disabled	The Sounders are disabled.
Fire Brigade Output Disabled	The fire output is disabled.
Fire Protection Output Disabled	The extinguishing output is disabled.
Fault Output Disabled	The fault output 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	Maintenance level exit.
Installer log off	Installer level exit.
User log on	Maintenance level entry.
Installer log on	Installer level entry.
High Resistance Disabled	The indication for high battery resistance is disabled.
Total loss of Power	The mains powers supply is lost.
Buzzer Disabled	The internal buzzer is disabled.
Network Break	Redundant network breakdown.
Loop Device Disabled	The loop device is disabled.
Chamber Fault	Fault in the detector.
Clean Me Now	Dirty detector chamber.
Loop Device Input Fault	Fault in loop device input.
Loop Device Output Fault	Fault in loop device output.
Alarm	Fire signal from detector.
PreAlarm	Fire signal from detector in 2DEVICES or DOUBLE operation mode for zone.
Test Fire	Fire signal from tested 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.
Evacuate	Activated Call Point or EVACUATE button on the panel.
Log Fault	The Log file event is lost or damaged.

APPENDIX B

Table: Text and symbols for introducing device and zone names.

In device or zone name entering mode, every pressing of up/ down arrow button changes the entered letter or symbol. When moving to the next new position the entering starts from the begging of the table.

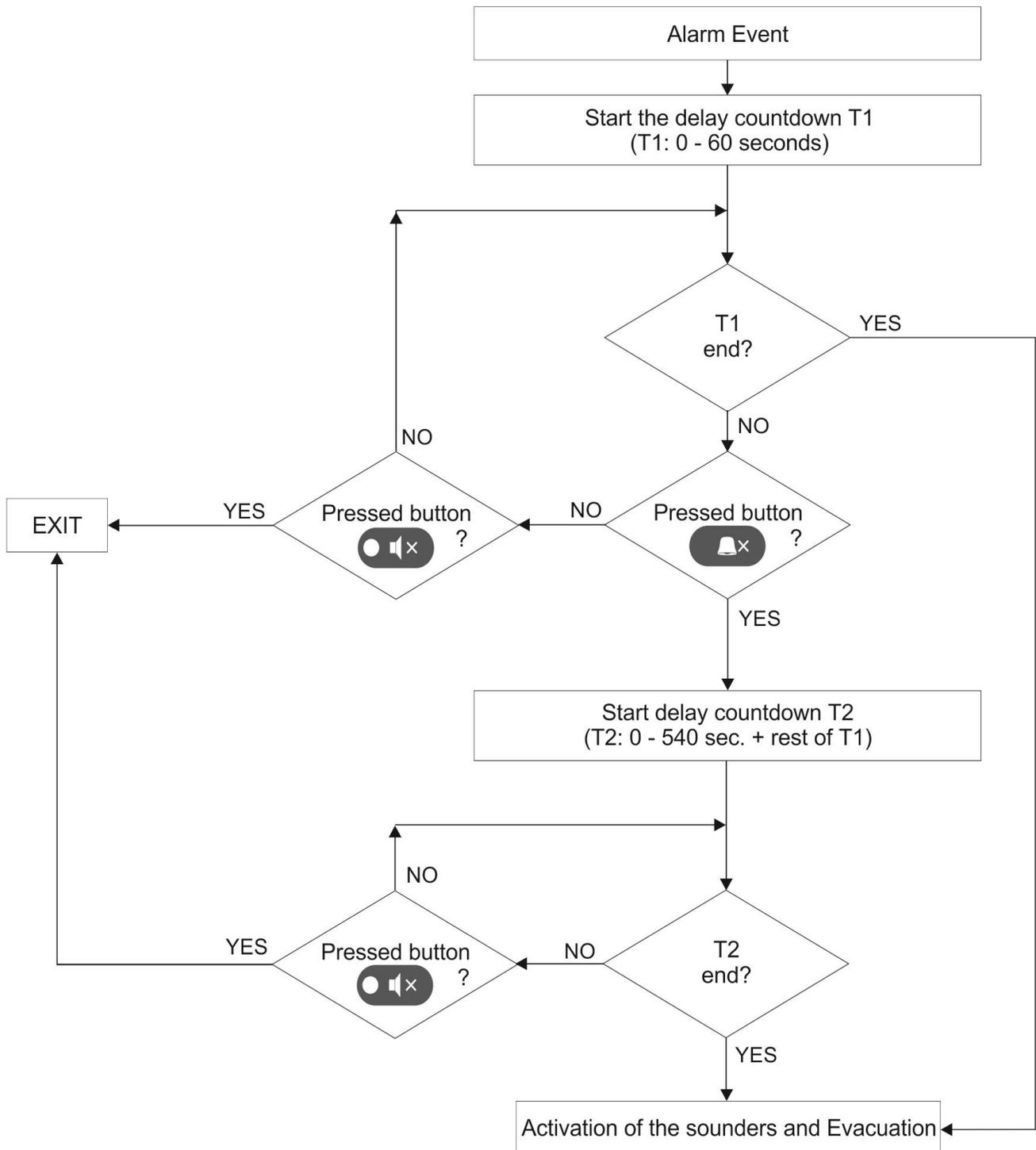| ⌄	⎯	!	"	#	$	%	&	'	(	)	*	+	,	-	.	/	0	1	2	3	4	5	
	6	7	8	9	:	;	<	=	>	?	@	A	B	C	D	E	F	G	H	I	J	K	
	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	[		]	^	_	`	a	
	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	⌄
	x	y	z																				

APPENDIX C
Initial power up of the system.
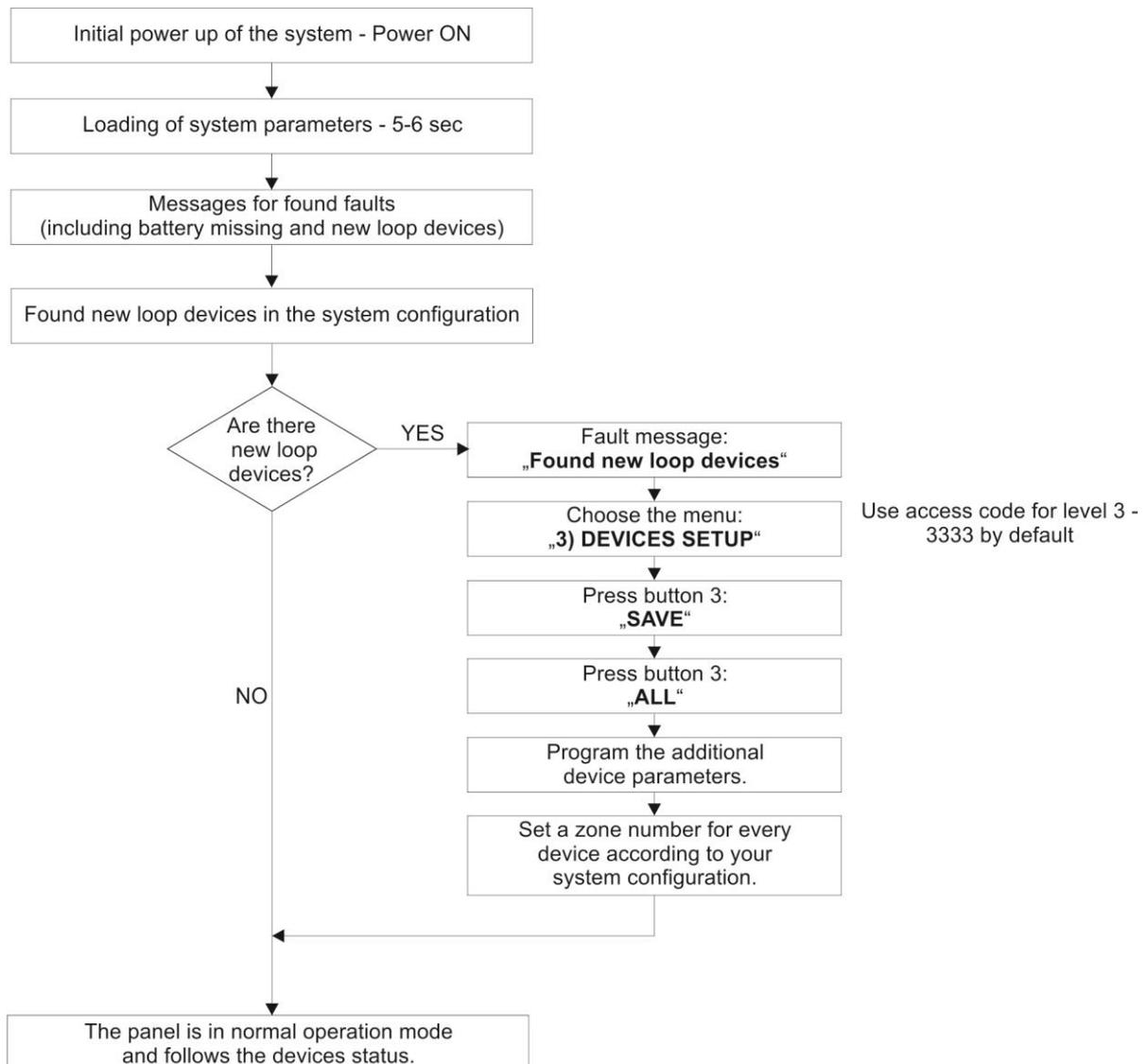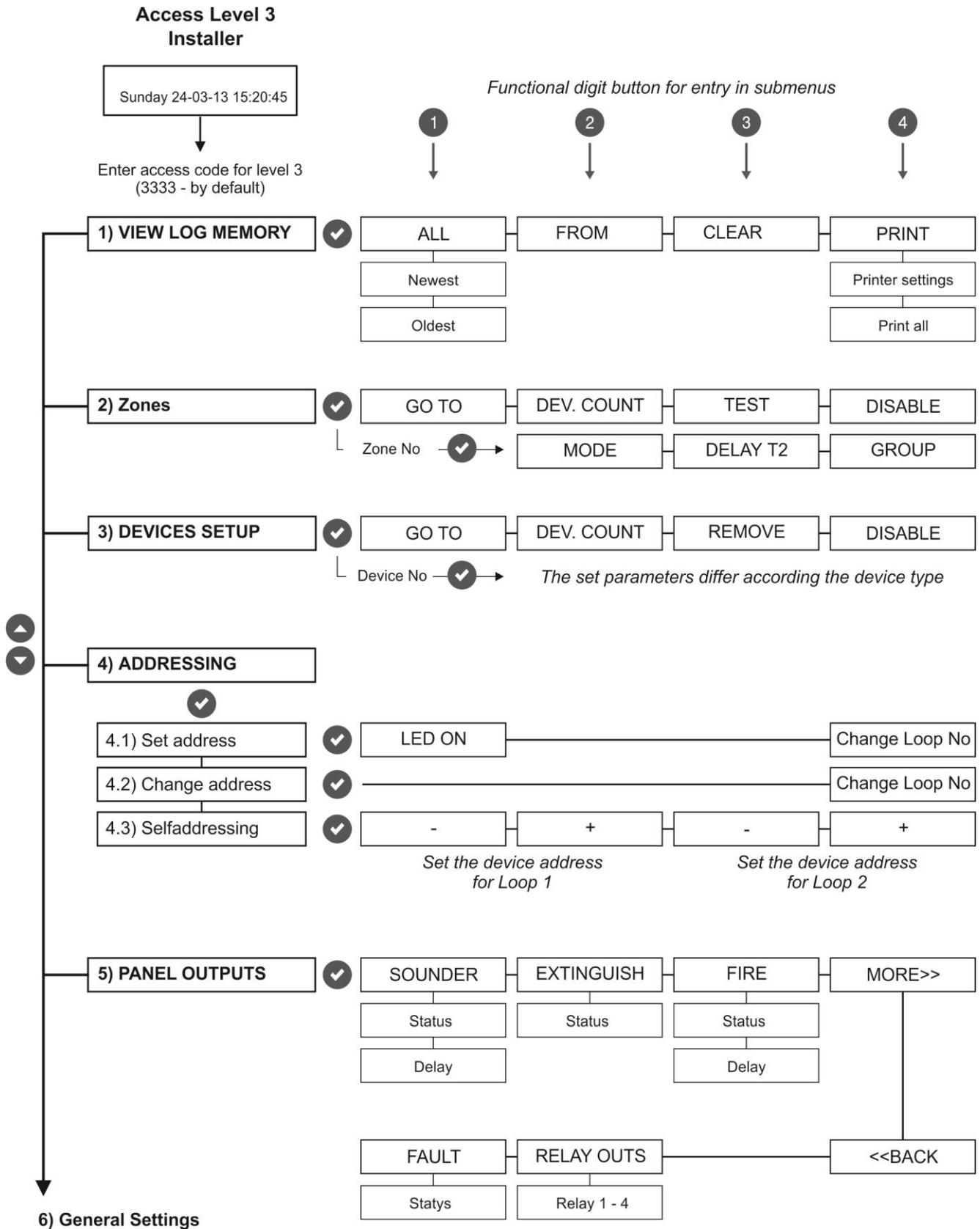
APPENDIX D
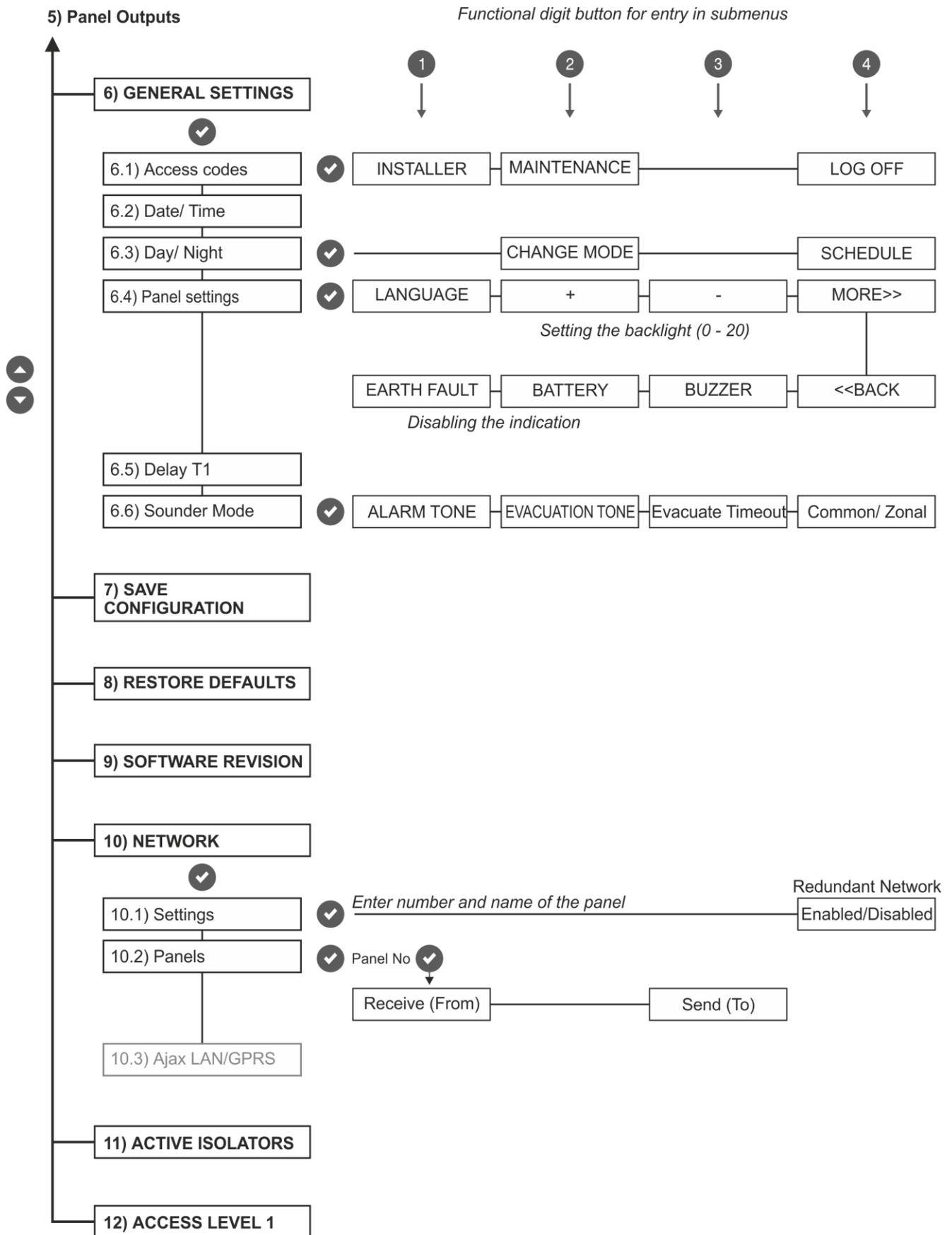*Two steps of alarming Algorithm.*

APPENDIX E

Tree structure of the programming menus.

The presented tree structure describes the full access to the programming menus from level 3 – Installer. From access level 2 – Maintenance, some of the programming menus are not displayed or the operation with them is partially limited – see also the Table on page 21.

Tree structure of the menus – continue.

5) Panel Outputs

Functional digit button for entry in submenus

6) GENERAL SETTINGS

6.1) Access codes → INSTALLER | MAINTENANCE | LOG OFF

6.2) Date/ Time

6.3) Day/ Night → CHANGE MODE | SCHEDULE

6.4) Panel settings → LANGUAGE | + | - | MORE>>
Setting the backlight (0 - 20)

EARTH FAULT | BATTERY | BUZZER | <<BACK
Disabling the indication

6.5) Delay T1

6.6) Sounder Mode → ALARM TONE | EVACUATION TONE | Evacuate Timeout | Common/ Zonal

7) SAVE CONFIGURATION

8) RESTORE DEFAULTS

9) SOFTWARE REVISION

10) NETWORK

10.1) Settings → *Enter number and name of the panel* — Redundant Network Enabled/Disabled

10.2) Panels → Panel No → Receive (From) — Send (To)

10.3) Ajax LAN/GPRS

11) ACTIVE ISOLATORS

12) ACCESS LEVEL 1

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