

# **CA864 INSTALLATION MANUAL**

**3.4 version**

## **WARNING**

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.

**August 2004**

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## INTRODUCTION

This manual presents the information needed to install CA864 Alarm System modules.

The manual consists of two parts:

- general information about installing system modules
- description of devices and installation details

The manual includes a chart of the structure of menus, which will help detect and access system configurations.

The following keys are used for programming:



A left arrow for back moves within the menu structure



A right arrow for forward moves within the menu structure

**ENT**

The ENT key for confirmation of any corrections / a transition to the following level of menu structure

**CLR**

The CLR key for rejection of any corrections / a transition to prior level menu structure

## RECOMMENDATIONS FOR INSTALLING THE CA864 ALARM SYSTEM

The CA864 Alarm system has been designed and tested according to electromagnetic compatibility standards.

The following recommendations need to be observed for the proper performance of the alarm system:

1. Make sure the alarm system is securely earthed (neutral).
2. Insulate the low and high voltage cables and use different input box plug-ins.
3. Avoid any connecting conductor loops in the box or their positioning above or below the printed-circuit board.
4. **No** additional relays should be placed in the CA864 Alarm system box, as switching these may cause electromagnetic interference.
  - 4.1. Use only relays with good insulation between plugs and winding.
  - 4.2. The relays connected to open collector outputs must be designed for 12 V DC control voltage and winding impedance greater than 400  $\Omega$ .
5. A quad conductor cable connects the motherboard with the modules. Using this cable for making any other connections such as a telephone line, control flashlight signals, sirens or relays **is not recommended**.
6. When placing the connecting cables avoid canals or cable forms housing high voltage wirings. This is especially important where these cables are to be used for supplying power to electric motors, luminescent lamps or three-phase voltage. Where this is impossible, use sheathed wiring where the sheath should be earthed only in the alarm system box.

## INSTALLING CA864 ALARM SYSTEM MODULES

1. First read this manual to find out about the features of the CA864 Alarm System modules and the installation procedures.
2. All necessary modules as well as the resources which are going to be used have to be defined before installation begins, in order to meet the specifications of your security system.
3. Any alterations to system configurations can be done at any time.
4. Fig. 1 shows LCD keys.

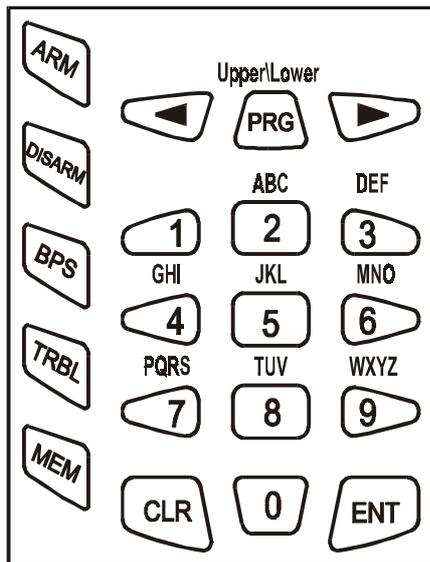


Fig. 1 LCD keypad

Both figures and letters can be keyed in. The letters and respective figure correspondence is shown in Fig. 1.

Any figure or letter can be introduced depending on the number of clicks on the key. The PRG key changes capital to small case and vice-versa. Special symbols like space or coma can be introduced by keying in the 1 and 0 keys. The correspondence between the number of key clicks and the symbol to be displayed is shown in Table 1.

The arrows will shift the cursor within the edited section. Pressing ENT confirms any changes. Pressing CLR rejects the changes.

Table 1 Correspondence between number of key clicks and symbol

		Number of clicks							
		1	2	3	4	5	6	7	8
Keys	0	0		.	,	:	!	<	>
	1	1	-	=	+	\$	%	@	/
	2	2	A	B	C	Б	В	Г	Д
	3	3	D	E	F	Ж	З	И	Й
	4	4	G	H	I	K	Л	M	Н
	5	5	J	K	L	O	П	Р	С
	6	6	M	N	O	T	У	Ф	Х
	7	7	P	Q	R	S	Ц	Ч	Ш
	8	8	T	U	V	Щ	Ъ	Ы	Ь
	9	9	W	X	Y	Z	Э	Ю	Я

## OTHER GUIDES

1. CA864 Alarm System Programming Manual – provides information on system programming.
2. CA864 Alarm System User Manual – provides information on user level system handling.

## RESTORING FACTORY SETTINGS

Use the RESET jumper on the motherboard. Proceed as follows:

- Power down the system – both battery and mains;
- Place the RESET jumper on the main panel;
- Power up the system and remove the RESET jumper. System factory configurations have now been restored. The Engineer Code is “7777”.

Partial restoration of system factory configurations is possible. The procedure has been described in detail in Item 0.8.

## SETTING THE SYSTEM TO PROGRAMMING MODE

It is recommended to RESET in order to restore factory settings before attempting to programme the new system.

To set the system to programming mode:

1. There must be no system-armed areas, as these will remain inaccessible for programming. To obtain complete access to system configurations lift all protection from all areas. This does not apply to systems to be programmed for the first time after RESET.
2. There must be no areas in alarm mode. Such areas will remain inaccessible for programming until the alarm mode is suspended.
3. Enter sysadmin access code. Default sysadmin access code is “0000”.
4. Press PRG to enter programming mode.
5. Press buttons “4” and “0” one after the other in order to enter Menu “Unlock Engineer Code”. Use the arrows to position on “Single” (single access authorization) or “Always” (permanently authorized access).
6. Press 1 to allow engineer access to programming mode.
7. Press CLR until the TeleTek CA864 system message is displayed.
8. Enter Engineer Code. The default Engineer Code is “7777”.
9. You have now accessed programming mode.

**Note: After the exit from the programming mode with “Single” access authorization of the engineer, the system will block the engineer’s code. The procedure described in items 3 through 9 is to be performed in order to switch the system to programming mode.**

## STEPS FOR PROGRAMMING SYSTEM CONFIGURATIONS

In order to reduce the mistake and omission risk, it is advisable, after entering programming mode, to follow the order of programming described below:

1. Install system-integrated modules – keyboard, zone expanders, programmable output expanders, etc. Enter device input and output figures observing the requirements of your own security system. The procedure has been described in Item 8.
2. Programme the areas within the system. The procedure has been described in Item 5.
3. Programme a code for each area or one code accessing all areas. The procedure is described in Item 2.
4. Programme zones according to requirements – name the zones, programme the type and attributes for the zones, determine system area attachment. The procedure is described in Item 3.
5. Programme outputs. The procedure is described in Item 4.
6. Programme system times (entry/exit, bell, date, time, etc.). Do not programme a Timeslot.
7. Programme other configurations.
8. Test the performance of the zones. The procedure is described in Item 0.
9. Leave programming mode and test the performance of the system according to requirements.
10. Go back to programming mode and adjust dialler. The procedure is described in Item 6.
11. Programme timeslots and test them carefully. The procedure is described in Item 1.

## LEAVING PROGRAMMING MODE

To leave programming mode key in CLR until the display shows **9) Engineer out good-bye?**, and then confirm by pressing the ENT key.

The system must be checked for open zones before leaving programming mode. This is necessary because any 24-hour open zone would sound the alarm upon leaving programming mode. **If the system siren is triggered, introduce a valid user code and then press the DISARM key to halt it.**

To avoid this, go through the list of zones in menu 010, which are open or have a tampered self-protection circuit. Restore all zones, which may trigger off the alarm.

## Physical and Logical Level of the System

The CA864-based security system should be considered as an entity operating at both the physical and logical levels.

The physical level includes all modules and their resources (inputs and outputs). The restrictions at this level relate to the number of modules that can be connected to the bus, i.e. up to 32. As to the resources (inputs and outputs), there exist no restrictions at this level. This means that the modules actually connected to the bus can provide inputs and outputs in a larger number than those maintained at the logical level.

The logical level of the system includes zones and their types, their belonging to groups and others, the programmable outputs together with their operational logic; user codes with all their settings, established groups, etc. Generally, the logical level is the allocation of the resources available at the physical level and the setting of the operation of the system as a security center.

Actually, zones and programmable outputs start operating only upon assignment of a logical number and definition of the parameters of each one to be used. This is performed separately for each module at the **8.0.x.x.0. Inputs config** address for the inputs and **8.0.x.x.1. Outputs config** for the outputs, where x.x. denotes the shortcut address of the module. These addresses are inaccessible to modules that have no resources at these addresses.

The restrictions for the zones are up to 64 logical numbers, while for programmable outputs they are up to 48 logical numbers. Resources for modules that will not be used retain the logical number 00.

## Procedure PnP for Identification of New Hardware

Each module of the set of the CA864 system has a unique number recorded in the manufacturing process. It is with this number that the device will take part in the exchange on the bus. The number consists of the serial number of the device plus a two-digit code corresponding to the module type.

The PnP procedure is used for switching on new modules connected to the bus in the logical structure of the system. There exist two options for starting PnP:

- **automatically** upon power supply with Reset jumper installed. This option is used in the initial setting of the network configuration. All modules need to have been connected in advance to the System Bus.
- **manually** from the **8.1. Add hardware** address in the mode of programming by the engineer. This option is used when the network is expanded with new modules or a defective module is replaced. The new module needs to have been connected in advance to the System Bus.

When the PnP procedure is started, the main module of the system sends a command to identify new devices to the modules on the bus. The procedure takes 20 seconds and ends up with the compilation of a list of devices on the bus. This list can be seen at the 8.0 address in the mode of programming by the engineer.

When a specific module is selected, the screen will display its unique number and the number of the module on the list of devices on the bus (hereinafter referred to as "the shortcut address of the module"). In the further programming at the logical level of the system, module resources will be identified with regard to the module on the basis of its shortcut address.

## Replacement of a Defective Module

Modules need to be replaced in the system when a defect occurs. The in-built replacement procedure can be used to avoid re-programming for the new module. Devices of the same type can be replaced. As a result of this procedure, the whole programming of the defective device is transferred onto the new one.

The sequence of operations is as follows:

1. Disable the defective module in the network temporarily. The command to disable it is given at the **8.0.x.x.3. Disable** address, where x.x. is the shortcut address of the defective module.
2. Dismantle the defective module.
3. Install the new module at the same place.
4. Run the PnP procedure from the **8.1 Add hardware** address.
5. After the procedure is over, the new module should have been added at the end of the list of modules.
6. A replacement command is given for the new module from the **8.0.x.x.6 Replace** address, where x.x. is the shortcut address of the new module. Here you have to enter the shortcut address of the defective module.

## Removal of a Module from the Network

If a module is to be removed from the system, the following sequence is applied:

1. Remove the module from the list of modules and the network, sending the command from the **8.0.x.x.5. Remove** address, where x.x. is the shortcut address of the module.

## Temporary Disabling of a Module in the Network

The following sequence of operations is applied if a module is to be disabled temporarily in the network:

1. Disable the module temporarily in the network by sending a disabling command from the **8.0.x.x.3. Disable** address, where x.x. is the shortcut address of the module.
2. If necessary, the module can be enabled again and integrated into the normal operation of the system with a command from the **8.0.x.x.4 Enable** address, where x.x. is the shortcut address of the module.

# CA864 control panel metal box

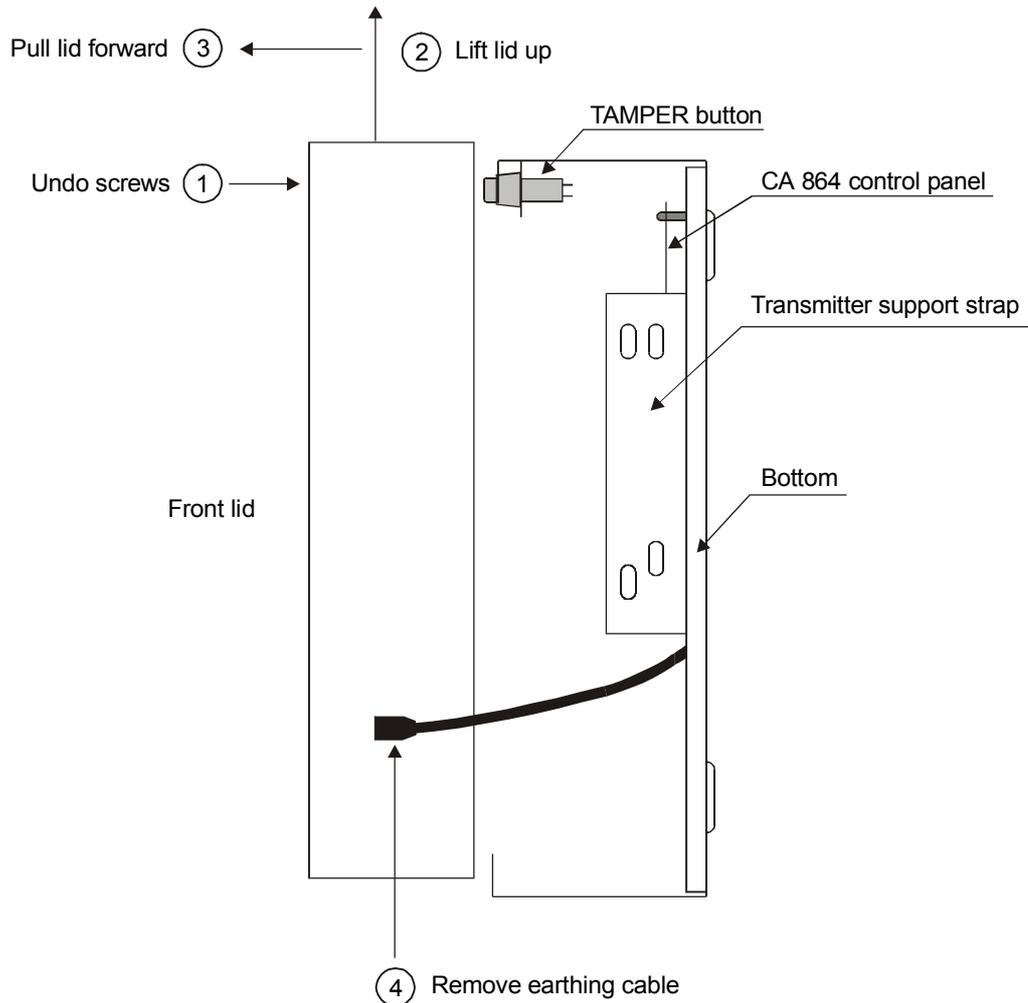
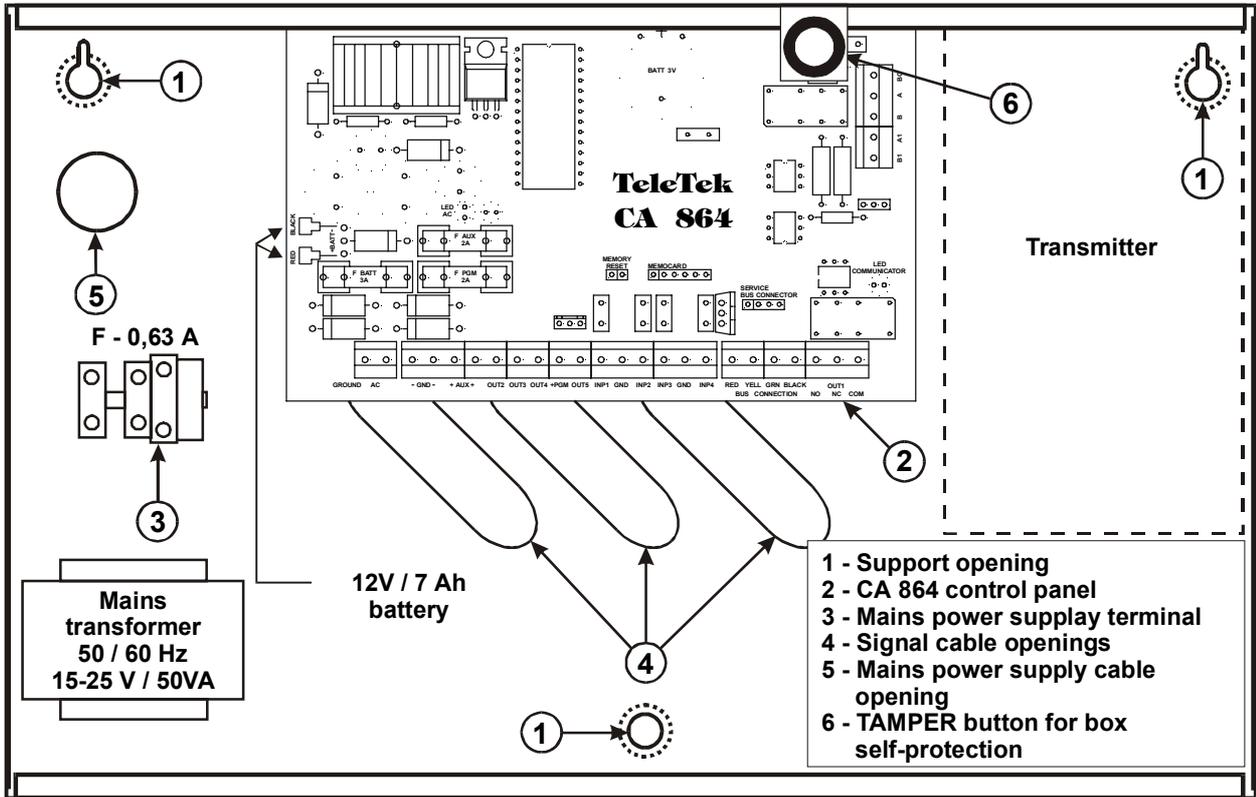


Fig. 2 CA864 control panel metal box

# CA864 control panel plastic box

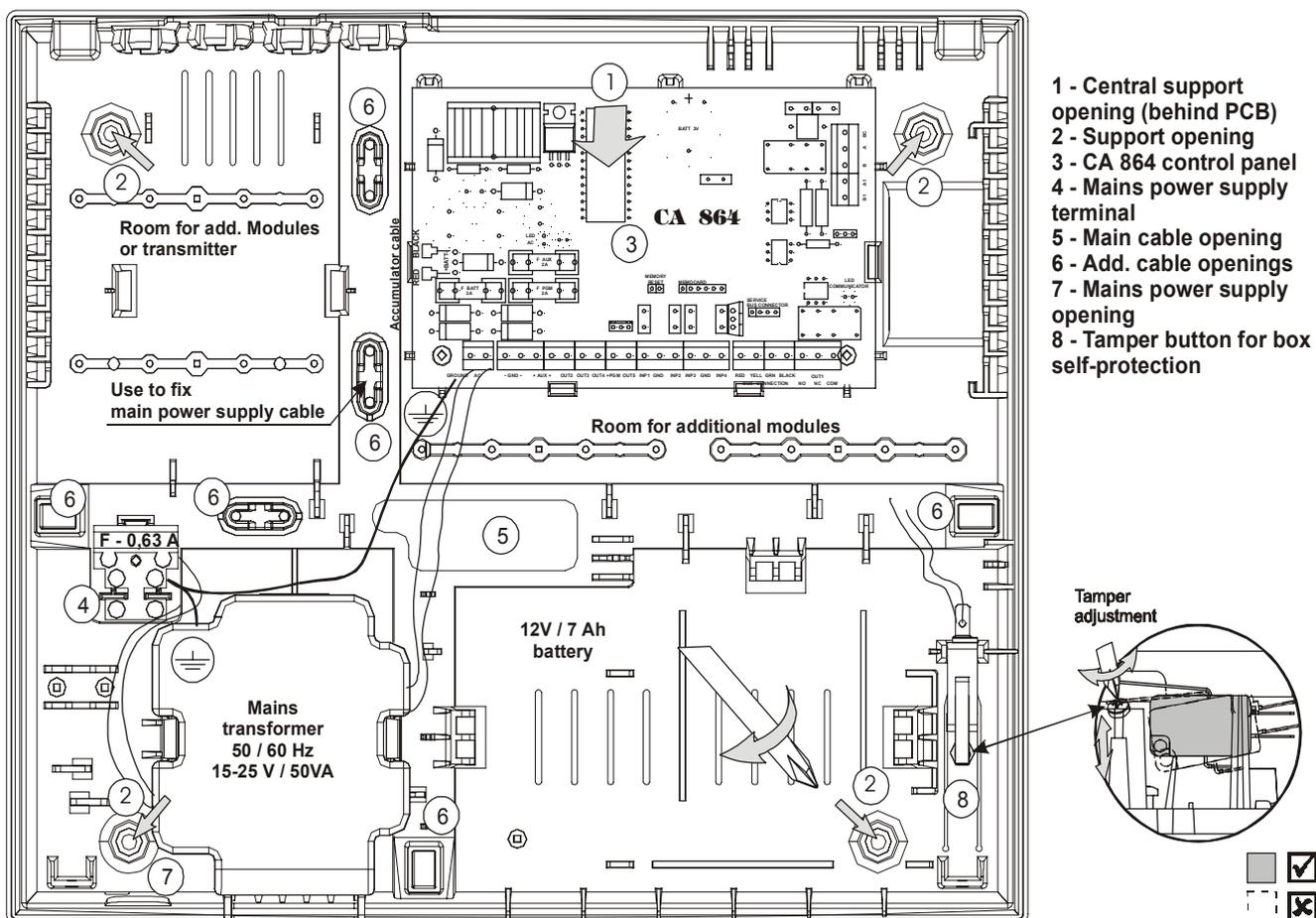
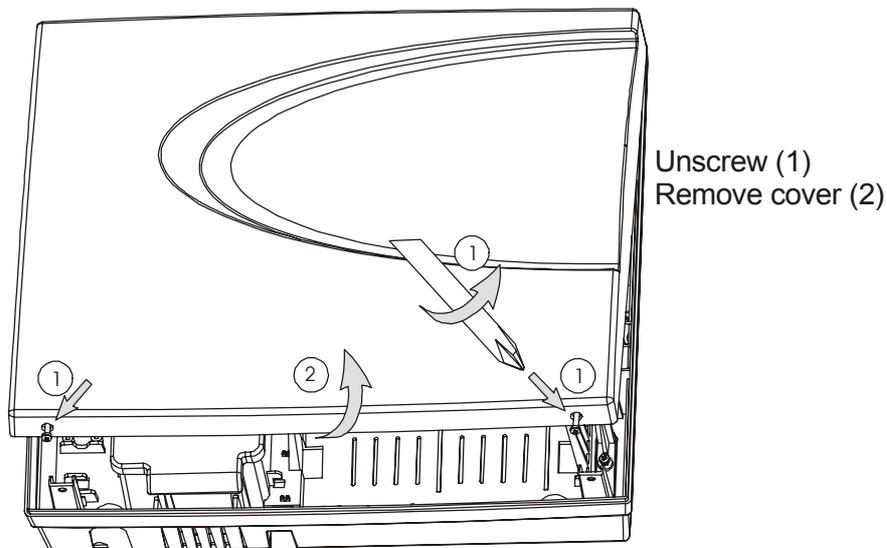


Fig. 2a CA864 control panel plastic box

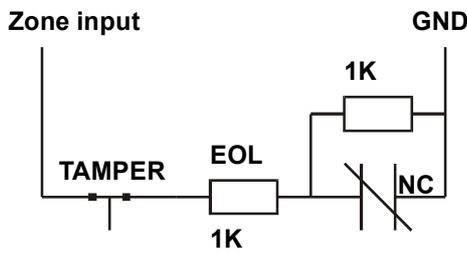
Idle device inputs (INPx) can be connected to the detectors as per the selected connection scheme. The possible options for connecting the detectors to the inputs are given in Fig. 3. Attention must be paid to programming the type of input connection in the system. The status of the Wire EOL and Doubling configurations is indicated for every connection option.

***!The Wire EOL and DOUBLING parameters have to be configured for all system inputs!***

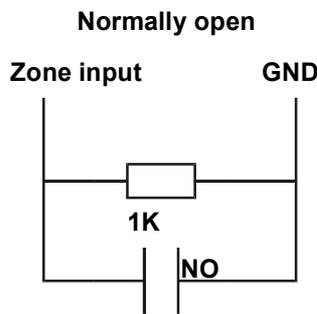
The necessary balance resistors have been placed in the spare parts pack accompanying the module.  
***!The sensors with contacts that by-pass the 1 kΩ resistors form first zone in double zoning, and the sensors with contacts that by-pass the 2 kΩ resistors form second zone!***

### Single style

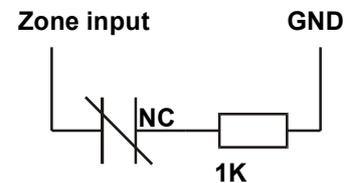
With EOL, Open line and Short on line recognition (TAMPER)  
 (Wire EOL=ON, DOUBLING=OFF)



Without EOL  
 (Wire EOL=OFF, DOUBLING=OFF)

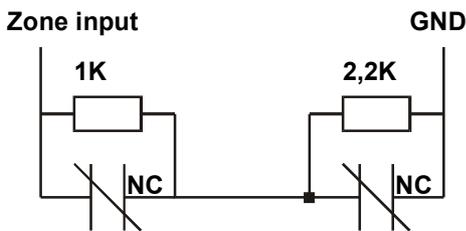


Normally closed

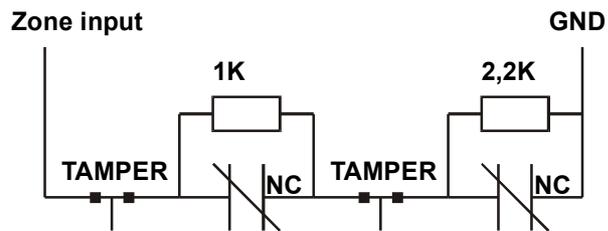


### Double style

Without EOL  
 (Wire EOL=OFF, DOUBLING=ON)



Without EOL, Open line recognition TAMPER  
 (Wire EOL=OFF, DOUBLING=ON)



With EOL, Open line and Short on line recognition (TAMPER)  
 (Wire EOL=ON, DOUBLING=ON)

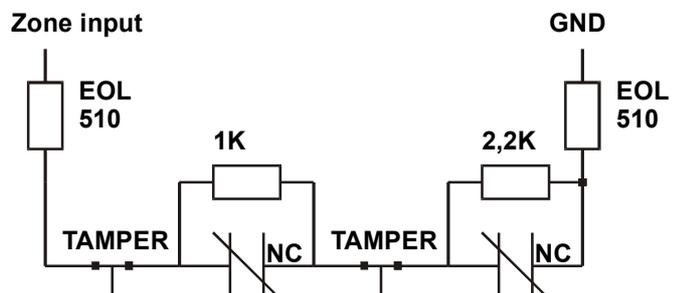


Fig. 3 Connecting sensors to CA864 system inputs

When connecting outputs attention must be paid to the system output load-carrying capacities (PGM). Figure 4 gives examples for connecting a relay to a light-emitting diode.

**! When powering the system up after resetting factory configurations all system inputs are in OFF status - +12 V voltage!**

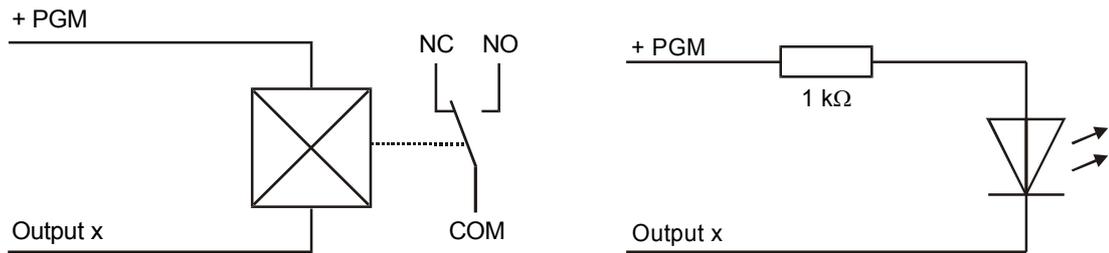


Fig. 4. Connecting relay and light-emitting diode to CA864 output

## CA864 control panel

The scheme of the CA864 control panel is provided in Fig. 5.

All CA864 system modules are connected via a quad system bus. The colours should correspond to the colours marked on the terminal of the modules (see Fig. 5).

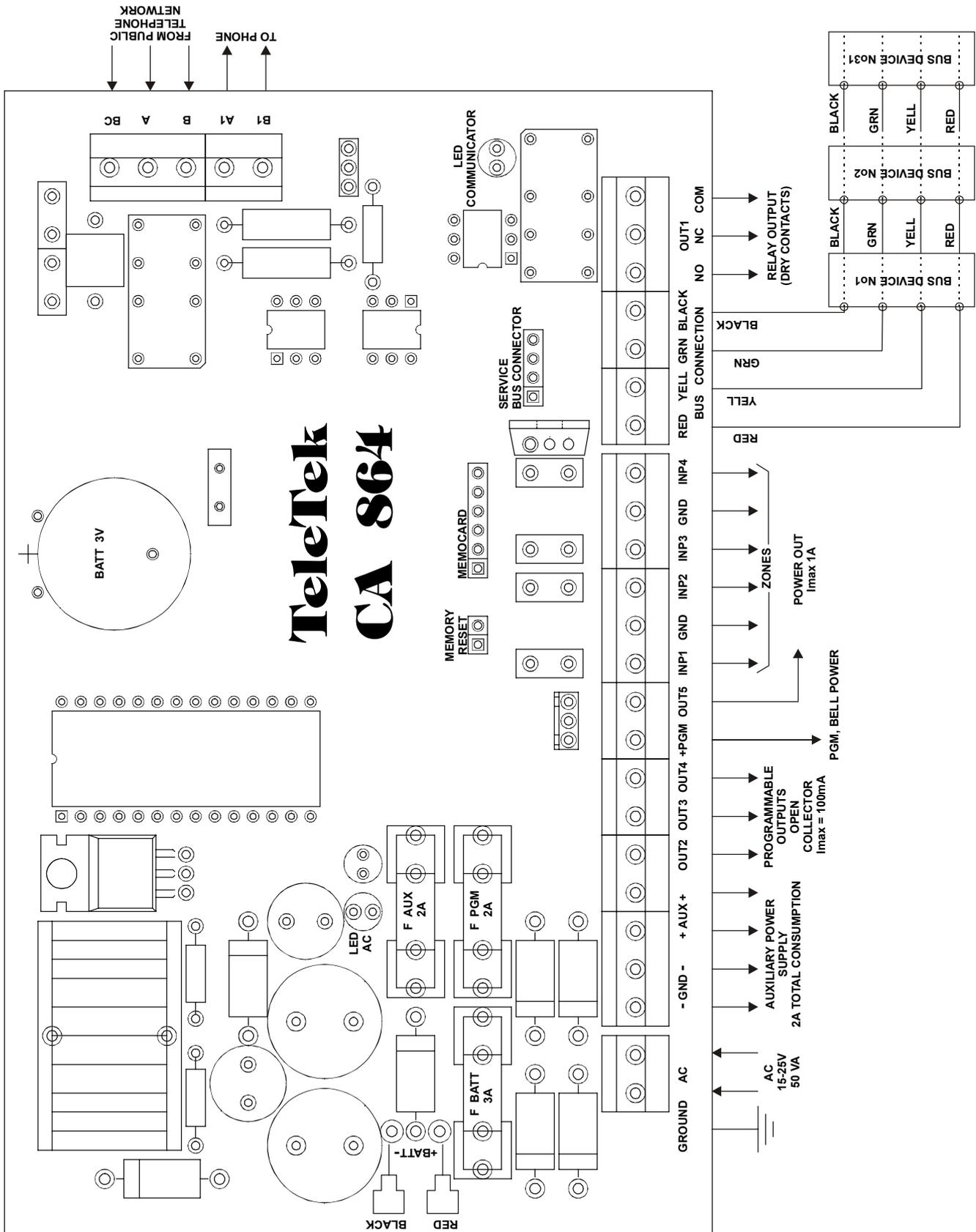


Fig. 5. CA864 control panel

## CA864 control panel resources

There are four inputs at the control panel - INP1..INP4. These inputs are expanded to 8 for the double zone.

There are five outputs at the control panel - OUT1..OUT5. The OUT1 output represents dry contacts of a relay. Outputs OUT2, OUT3 and OUT4 are programmable outputs. Output OUT5 has a power supply of up to 2 A to GND.

The CA864 control panel has an integrated digital dialler for transmitting messages to the central monitoring station via telephone line. The conductors from the telephone line socket are connected to terminals A and B. The telephone device is connected to terminals A1 and B1. No polarity has to be observed when connecting the telephone line to the control panel.

## Power supply unit

The system power supply unit is located in the control panel box.

The auxiliary power supply voltage of the mains transformer should be within 15 – 25 V and of 50 VA.

### ***!A 12 V and 7 Ah battery is connected to the CA864!***

The supply to the module is connected to the system bus – RED and BLACK terminals.

Supply for control panel sensors is fed from +AUX+ and GND terminals.

Supply for auxiliary devices of the control panel (light indicators, relays, etc.) is fed from +PGM and GND terminals.

***!The RED and BLACK terminals on the system bus CANNOT BE USED to supply auxiliary devices (sensors, light indicators, relays, etc.) That supply can be controlled from the control panel process block and can be interrupted!***

An auxiliary power supply unit for the system is connected according to the scheme shown in Fig. 6.

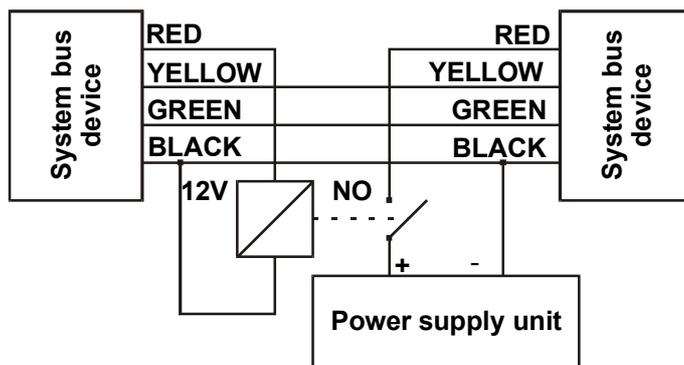


Fig. 6. Connecting the auxiliary supply block to the CA864 system

## CA864 control panel fuses

**F BATT fuss** – A 3A battery fuss.

**F AUX fuss** – A 2A peripheral device power supply fuss. Output at + AUX.

**F PGM fuss** – A 2A power supply fuse for PGMx and +PGM outputs.

## CA864 control panel terminals

**MEMORY RESET** – Producer default configurations can be restored by placing a bridging terminal and feeding power supply to the control panel. This is recommended while installing the system and prior to programming the parameters.

Producer default configurations can be restored at any time.

**MEMOCARD** - A MemoCard module is connected to this terminal. This module records the current programming of the system or records some ready system configuration. The function can be used to archive system parameters.

**SERVICE BUS CONNECTOR** – A service LCD keypad is connected to this terminal. The keypad allows for adjustments to be done to parameters of a system not connected to an LCD keypad.

A PC adaptor is also connected to this terminal. Thus the PC and the special Up/Down Load software allow for adjustments to be done to system parameters.

## CA864 control panel indications

**Red LED AC** – The light-emitting diode lights when there is mains supply and regular integrity of the control panel power supply unit.

**Green LED COMMUNICATOR** - The light-emitting diode lights when the integrated digital dialler has engaged the telephone line.

## Technical specification of CA864 control panel

Inputs - 4, can be expanded to 8

Outputs - 5

Quad system bus for connecting modules - Bus Connection

Mains transformer - 15-25 V, 50 VA

Battery charge - 13,8 V / 3 A

Battery - 12 V, 7 Ah

Consumption - nom 60 mA, max 100 mA

Sensor power supply (+AUX) - 13,8 V / 2 A

Auxiliary devices power supply (+PGM) - 13,8 V / 2 A

Auxiliary modules supply

(RED and BLACK terminals from System Bus) - 13,8 V / 2 A, self-restoring

Working temperature - (-20°C) to (+50°C)

Metal box dimensions - 320 x 265 x 80 mm

## CA864 LCD keypad module

The keypad front panel with liquid crystal display (LCD) is given in Fig. 7.

The back LCD keypad panel is given in Fig. 8.

A chart of the main LCD keypad plate is given in Fig. 9.

***!Any single LCD keypad can service all areas within the system!***

## LCD keypad module resources

The LCD keypad module has one input marked as ZONE IN. There are two inputs for the double zone keypad.

The LCD keypad module has one output marked as OUT. This is a programmable output.

The LCD keypad module houses a self-protection key. This is a double action key and has been configured by the producer.

The BLACK, GREEN, YELLOW and RED terminals are used to connect the module to the system bus. Power supply from the +AUX and +PGM control panel is used to feed the auxiliary devices (sensors, relays, etc.).

***!The RED and BLACK terminals of the system bus CANNOT BE USED to supply auxiliary devices (sensors, light indicators, relays, etc.). This supply can be controlled by the processing block at the control panel and can be interrupted!***

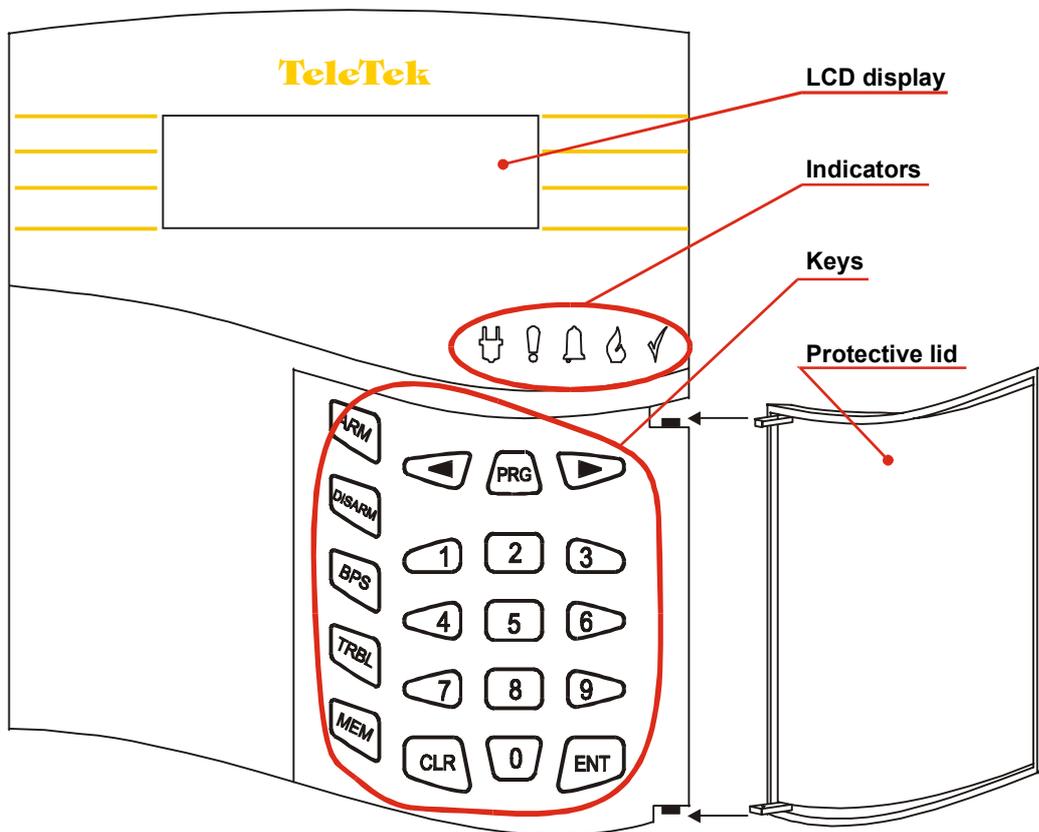


Fig. 7. Front panel of CA864 LCD keypad

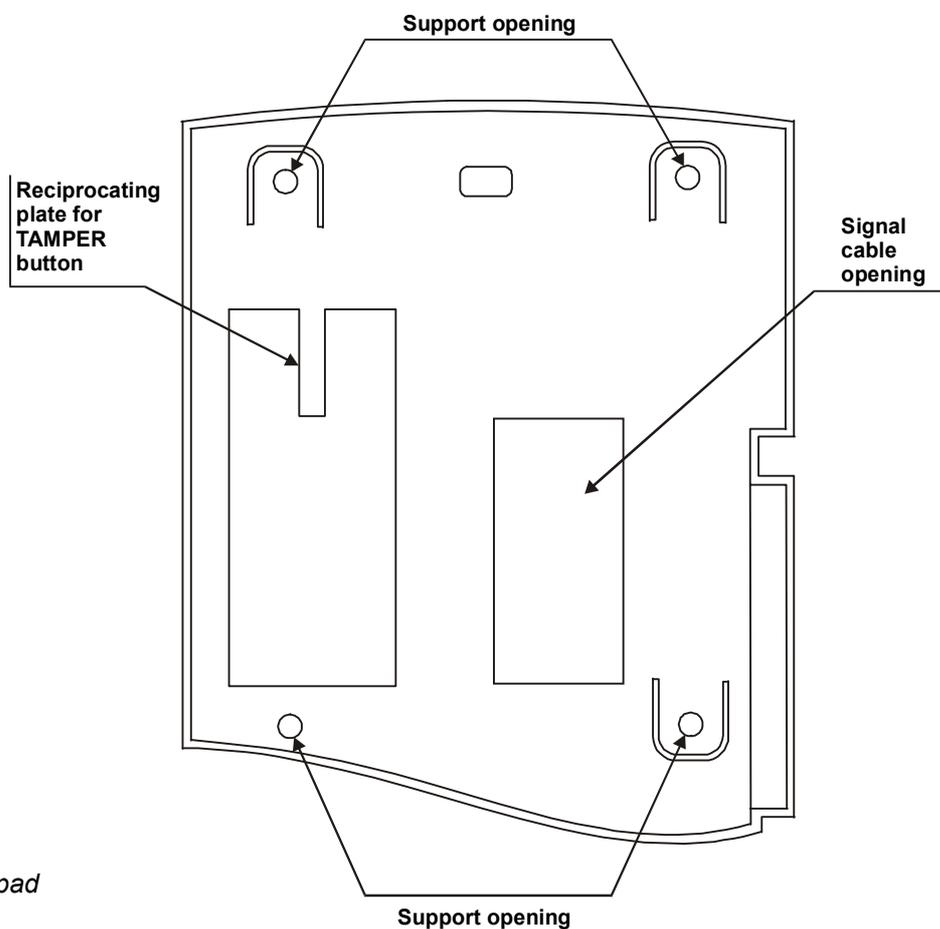


Fig 8. CA864 LCD keypad bottom

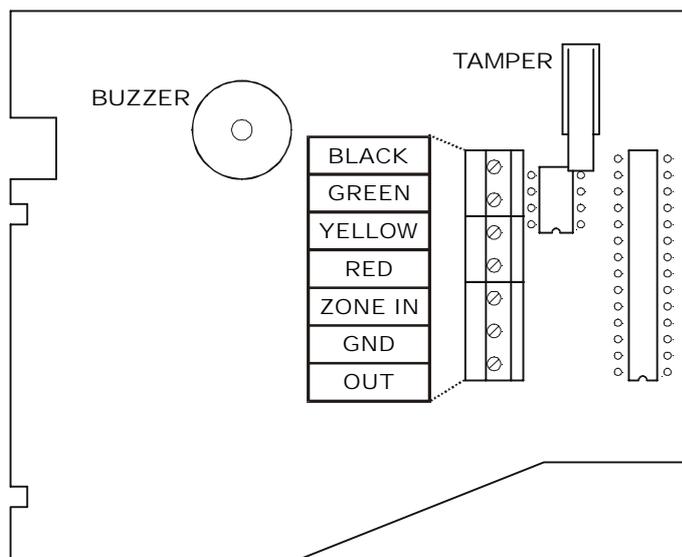


Fig. 9. CA864 LCD keypad motherboard

### Technical specifications of CA864 LCD keypad module

Inputs - 1, can be expanded to 2

Outputs - 1

Quad system bus for connecting to control panel

Consumption - nom 35 mA, max 60 mA

Auxiliary devices power supply (+AUX and +PGM from control panel) - 13,8 V / 2 A

Working temperature - (0°C) to (+50°C)

LCD keypad dimensions - 115 x 135 x 25 mm

## CA864 LED keypad module

The keypad front panel with light-emitting indication (LED) is given in Fig. 10.

The back LED keypad panel is given in Fig. 11.

A chart of the main LED keypad plate is given in Fig. 12.

**!A LED keypad can service a maximum of two areas within the system!**

**!Where the keypad services one area the indication displays the first 16 zones in the area!**

**!Where the keypad services two areas the indication displays the first 8 zones in the area of the first one (1 to 8 light-emitting diodes) and the first 8 zones in the area of the second one (9 to 16 light-emitting diodes)!**

## LED keypad module resources

The LED keypad module has no inputs or outputs

The LED keypad module houses a self-protection key. This is a double action key and has been configured by the producer.

The BLACK, GREEN, YELLOW and RED platforms are used to connect the module to the system bus.

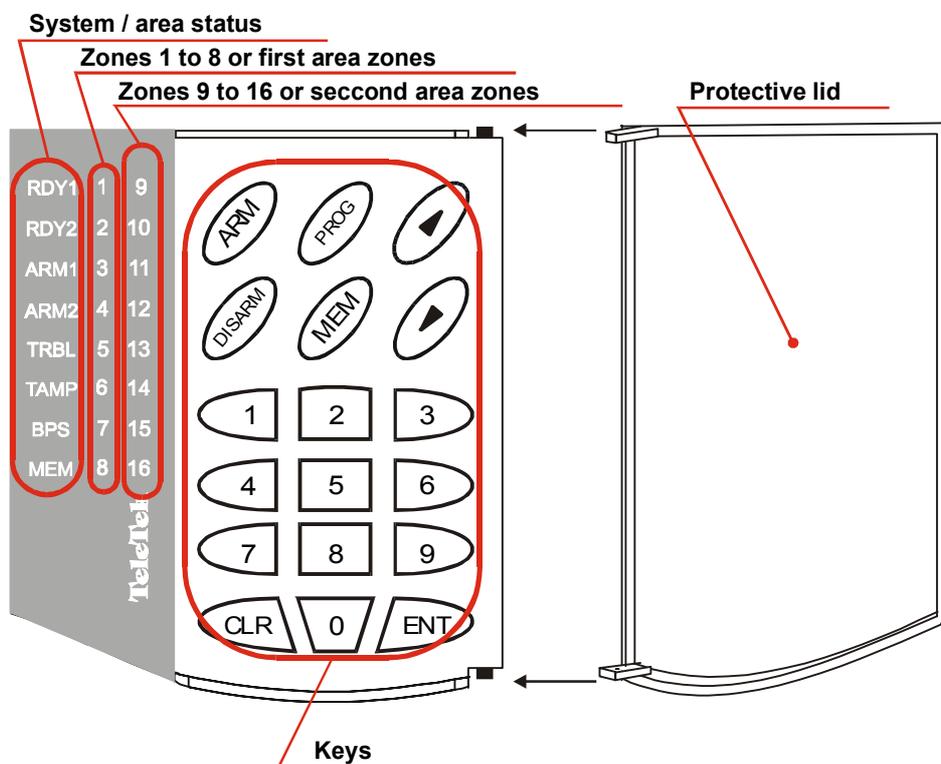


Fig. 10. CA864 LED keypad front panel

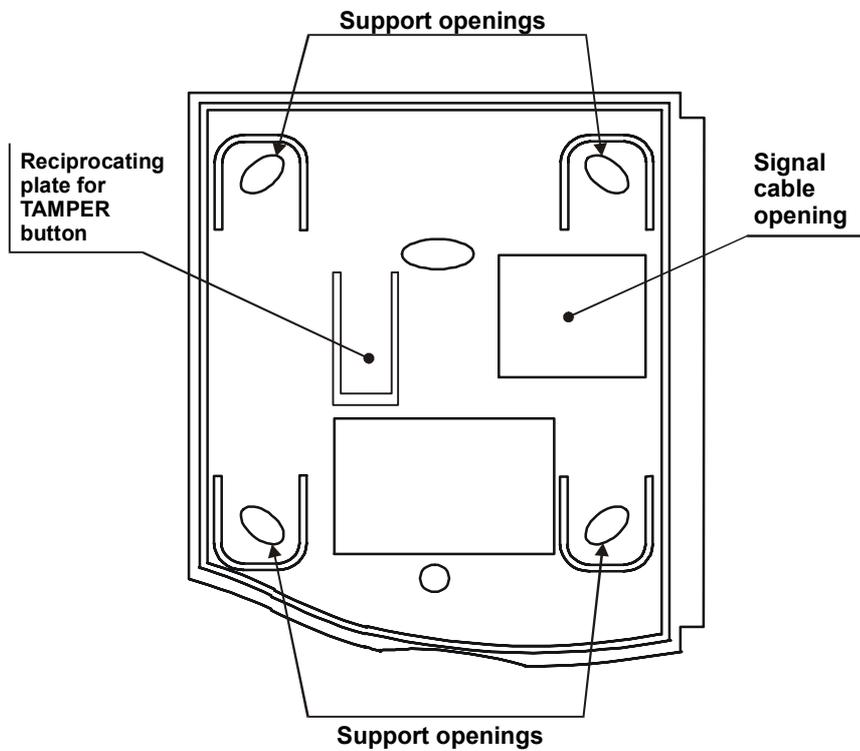


Fig. 11. CA864 LED keypad bottom

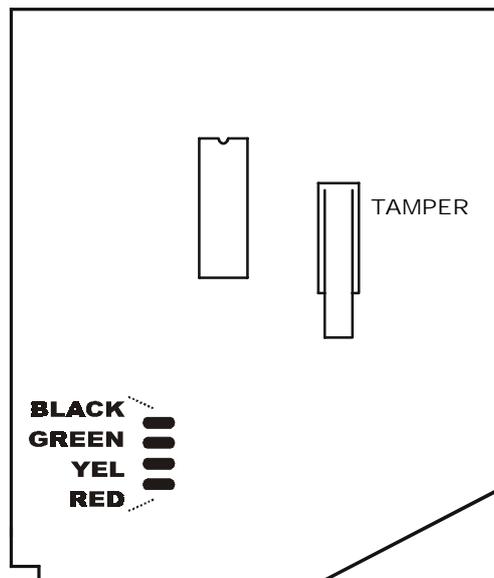


Fig. 12. CA864 LED keypad motherboard

### Technical specifications of CA864 LED keypad module

Inputs - none

Outputs - none

Quad system bus for connecting to control panel

Consumption - nom 15 mA, max 60 mA

Auxiliary devices power supply (+AUX and +PGM from control panel) - 13,8 V / 2 A

Working temperature - (0°C) to (+50°C)

LED keypad dimensions - 75 x 85 x 18 mm

## CA864 input (ZONE) expander module MRI4/8

A zone expander image has been provided in Fig. 13.

### CA864 input expander module MRI4/8 resources

The zone expander module has four inputs marked as INPUT1...INPUT4. There are eight inputs for the double zone expander.

The zone expander module has two outputs marked as OUT1 and OUT2. These are programmable outputs.

The BLACK, GREEN, YELLOW and RED terminals are used to connect the module to the system bus. Power supply from the +AUX and +PGM control panel is used to supply auxiliary devices (sensors, relays, etc.).

***!The RED and BLACK terminals of the system bus CANNOT BE USED to supply auxiliary devices (sensors, light indicators, relays, etc.). This supply can be controlled by the processing block at the control panel and can be interrupted!***

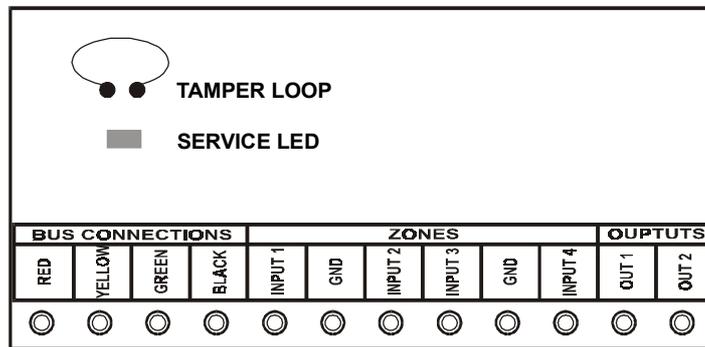


Fig. 13 CA864 input expander MRI4/8

### Technical specifications of CA864 input expander module MRI4/8

Inputs - 4, can be expanded to 8

Outputs - 2

Quad system bus for connecting to control panel – Bus Connection

Consumption - nom 15 mA, max 20 mA

Auxiliary devices power supply (+AUX and +PGM from control panel) - 13,8 V / 2 A

Working temperature - (0°C) to (+50°C)

Inputs module dimensions - 92 x 43 mm

## CA864 output expander module (PGM) MRO8

An output expander module image is given in Fig. 14.

### Output expander module MRO8 resources

The output expander module has no inputs.

The output expander module has eight outputs marked as OUT1...OUT8. These are programmable outputs.

The BLACK, GREEN, YELLOW and RED terminals are used to connect the module to the system bus. Power supply from the +AUX and +PGM control panel is used to supply auxiliary devices (sensors, relays, etc.).

***!The RED and BLACK terminals of the system bus CANNOT BE USED to supply auxiliary devices (sensors, light indicators, relays, etc.). This supply can be controlled by the processing block at the control panel and can be interrupted!***

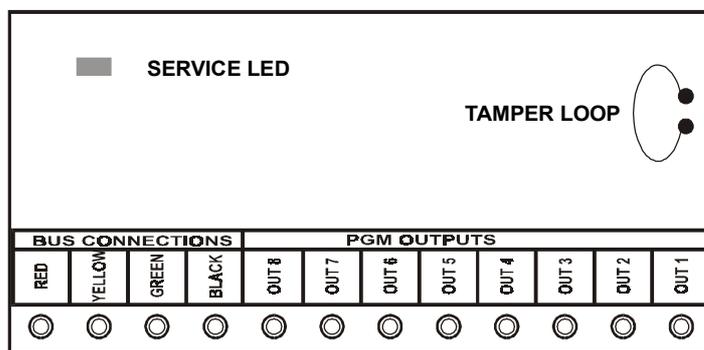


Fig. 14 PGM output expander MRO8

### Technical specifications of CA864 output expander module MRO8

Inputs - none

Outputs - 8

Quad system bus for connecting to control panel – Bus Connection

Consumption - nom 15 mA, max 100 mA

Auxiliary devices power supply (+AUX and +PGM from control panel) - 13,8 V / 2 A

Working temperature - (0°C) to (+50°C)

PGM expander module dimensions - 92 x 43 mm

## Installation box for input and output expander modules

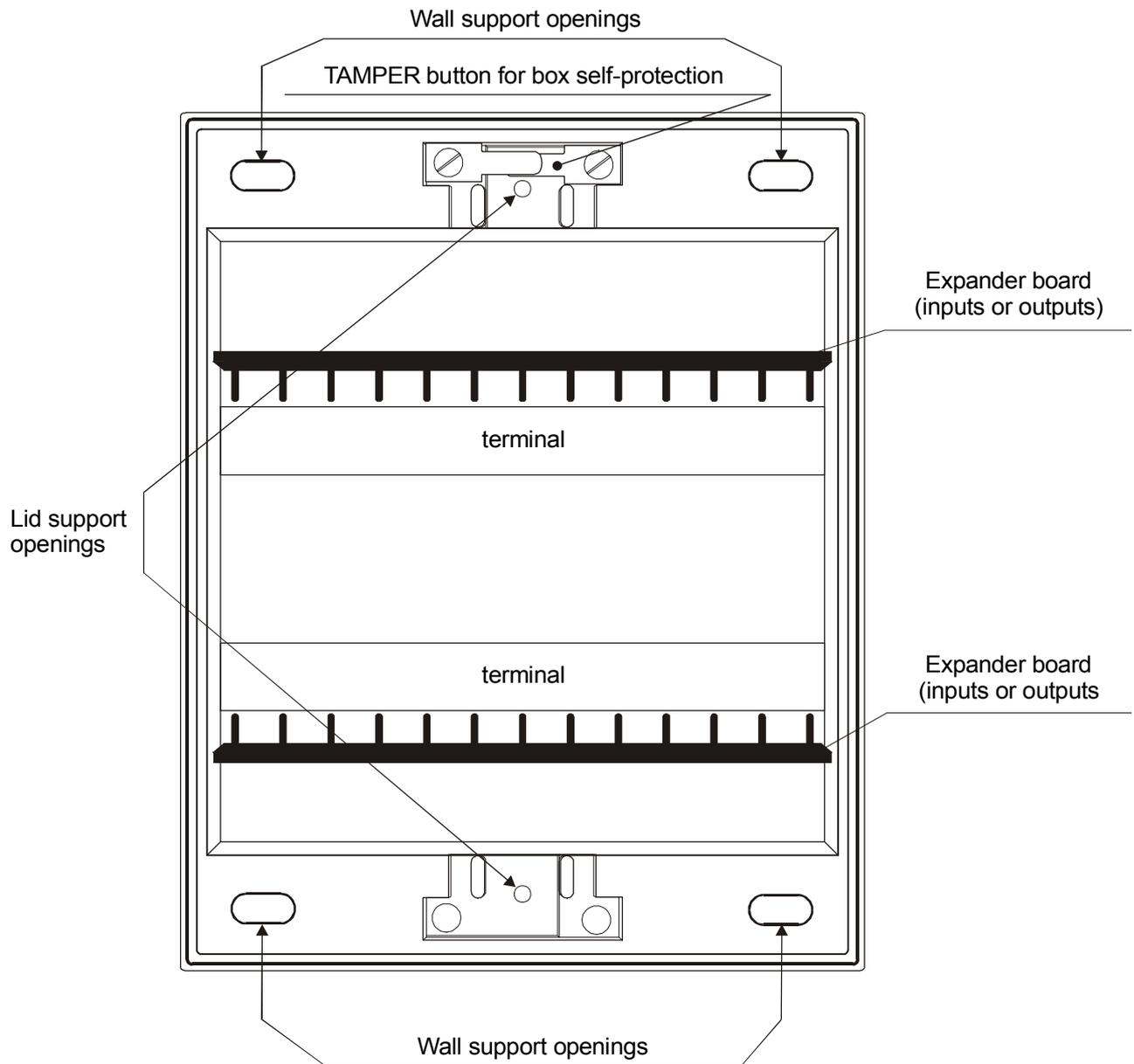


Fig. 15 Installation box for Input and Output expander modules

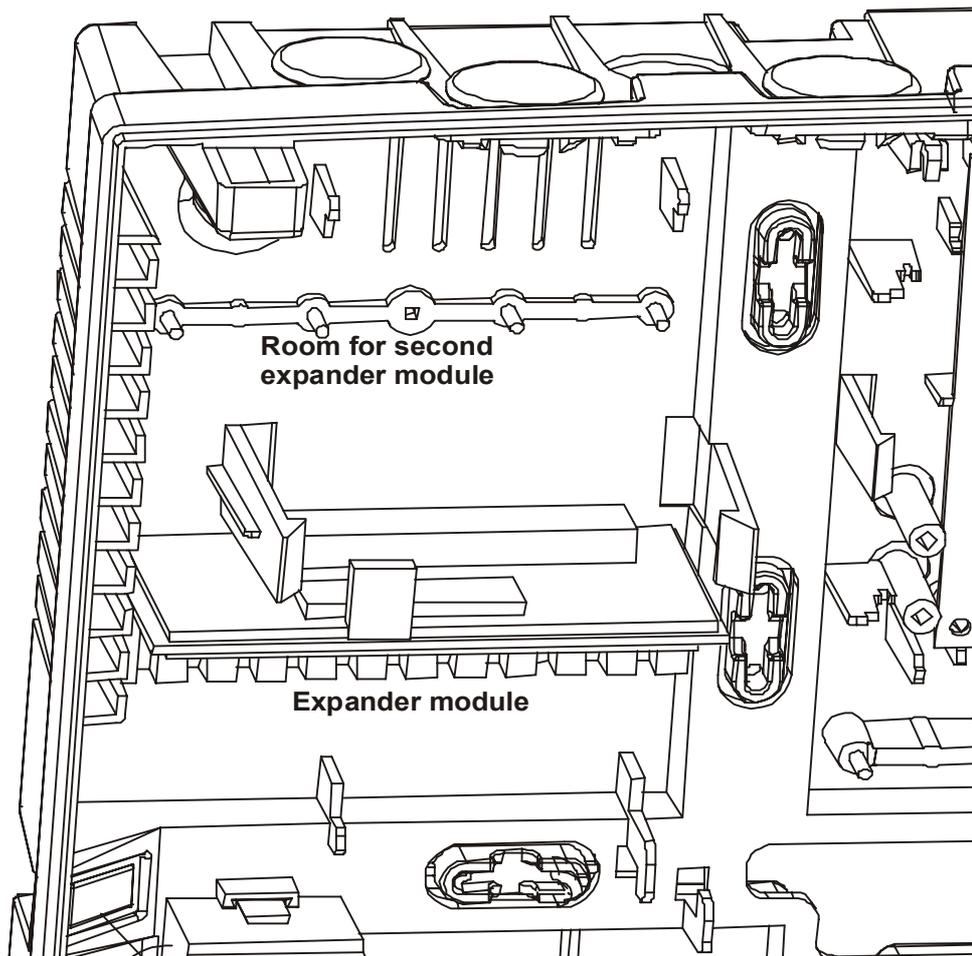
The terminals are installed in the box (fig. 15) by the producer. A maximum of two input and/or output expanders can be installed in one box, as shown in Fig. 15.

The self-protection key is installed and configured by the producer.

### Technical specifications of the expander installation box

Box dimensions - 128 x 103 x 54 mm

## Installation for input and output expander modules in plastic box



*Fig. 15a Installation for Input and Output expander modules*

The producer has provided additional positions for extra modules and devices for the plastic box (fig. 15a). Up to four expanders for inputs and/or outputs can be fitted together with control panel and accumulator, as it is shown on fig. 15a.

## CA 864 DIO32 module (Dynamic indication)

A layout of the DIO dynamic indication module is given in Fig. 16.

### Use of CA864 DIO32 module

The DIO module is designed to make dynamic indication mnemo-panels. Visualisation of the system area status (ALARM / MEMORY, NORMAL, ARM and DISARM) or of the system zone status (TAMPER/ FIRE, ALARM / MEMORY, OPEN or CLOSE) is possible. The zones have been divided into two areas – from 1 to 32 and from 33 to 64.

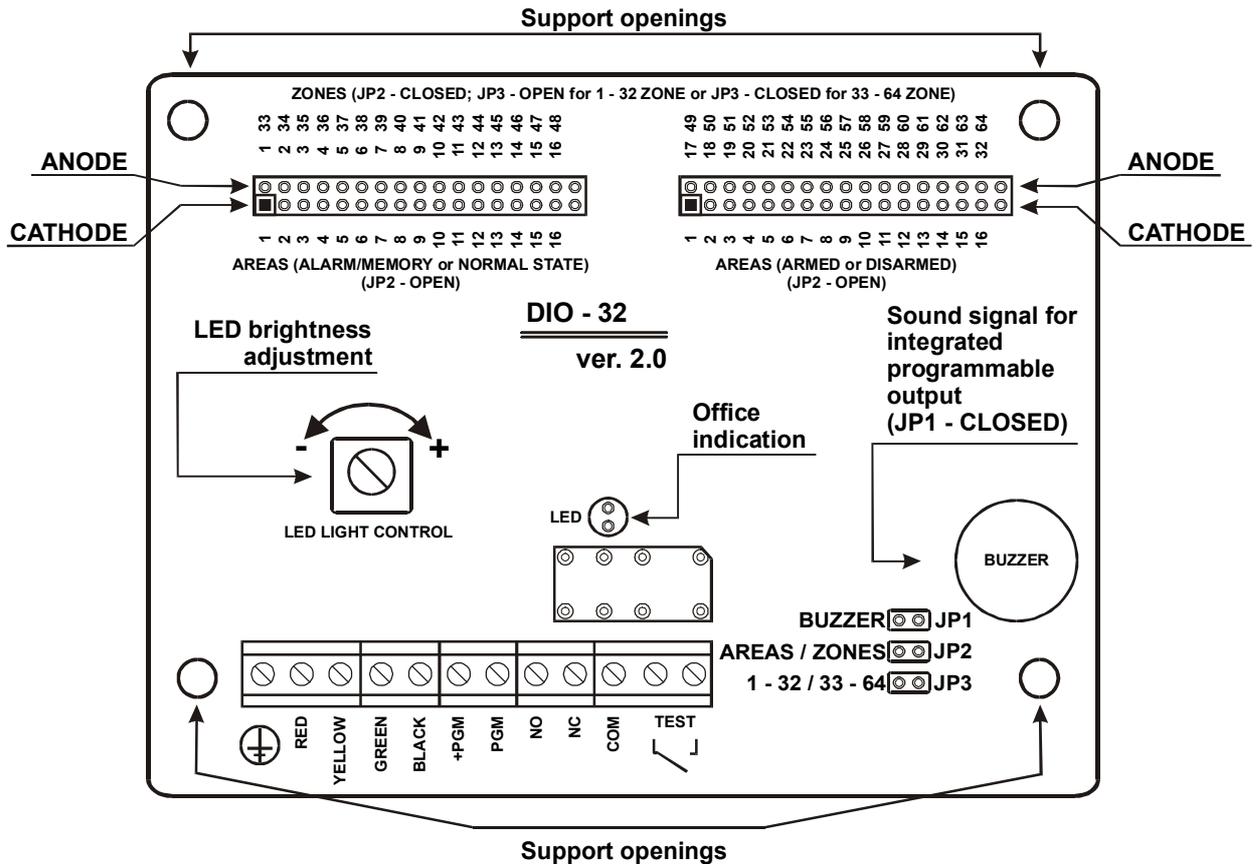


Fig. 16 CA864 DIO dynamic indication module

### CA864 DIO32 module resources

The DIO module has one programmable output marked PGM. This is a potential output. The programmable PGM output has been duplicated by a “dry” contact relay. The relay contacts are labelled COM, NO and NC.

The BLACK, GREEN, YELLOW and RED terminals are used to connect the module to the system bus. Auxiliary devices (sensors, sound indicators, etc.) are powered by the +AUX and +PGM control panel or by the +12V power supply tapped at the +PGM clamp.

**!Attention must be paid that the RED (+12V) clamp system bus supply is tapped to the + PGM clamp. This supply can be controlled by the processing block at the control panel and can be interrupted!**

Two ..... type couplings have been placed on the board. These couplings are designed to connect the light-emitting diodes at the mnemo-panel. The Anode/Cathode correspondence has to be observed when connecting these light-emitting diodes – Fig. 16 – Anode row and Cathode row.

**!Connect light-emitting diodes only to the light-emitting diode indication outputs!**

## Adjusting the CA864 DIO32 module

To adjust the DIO module use JP1, JP2 and JP3 jumper connectors:

### - JP1:

Where the JP1 jumper connector has been placed, the board-located zoom repeats the PGM output status – the PGM zoom emits a continuous sound signal if PGM output is active.

Where the JP1 jumper connector has been removed, the board-located zoom is switched off. This does not interfere with PGM output performance.

### - JP2:

Where the JP2 jumper connector has been placed, the LED indication outputs will visualize the system zone status. Depending on the configuration adjustments with JP3 jumper connector, the status of 1 to 32 or 33 to 64 zones will be displayed.

Where the JP2 jumper connector has been removed, the LED indication outputs will visualize the system area status as follows:

—> the left-hand side coupling light-emitting diodes (1 to 16):

*constant light* – the area is in ALARM or MEMORY state

*no light* – the area is in regular NORMAL state

—> the right-hand side coupling light-emitting diodes (17 to 32):

*constant light* – the area is armed

*no light* – the area is disarmed

### - JP3:

Where the JP3 jumper connector has been placed, the LED indication outputs will visualize the status of zones 33 to 64 zone. The JP2 jumper connector has to be placed.

Where the JP3 jumper connector has been removed, LED indication outputs will visualize the 1 to 16 zone status. The JP2 jumper connector has to be placed.

Zone information data is as follows:

*LED blinks* – the zone is in TAMPER or FIRE state

*constant LED light* – the zone is in ALARM or MEMORY state. Where the zone is in neither of the specified states, this indication means an open/closed zone

*no LED light* – the zone is in normal state.

LED brightness can be regulated with the help of the LED LIGHT CONTROL potentiometer.

A normal open contact button can be connected to the TEST clamps. Regular check-ups of mnemo-panel integrity can be performed.

Pressing and holding the TEST button until all LEDs light up permanently can initiate the mnemo-panel integrity test. LED1 only will be displayed after the button is released (see Fig. 16). A single click will take you over to the following LED – 2, 3, 4 ... 32. The next TEST button click will resume mnemo-panel operation mode.

***!Mnemo-panel operation mode will automatically resume if the TEST button is not pressed within 30 seconds!***

## Technical specifications of CA864 DIO32 module

Inputs - none

Outputs - 1 potential, duplicated with relay; sound indication option together with output status indication

LED outputs - 32

Quad system bus for connecting to control panel - Bus Connection

Consumption - max 200 mA (LED's connected)

Auxiliary devices power supply (+AUX and +PGM from control panel) - 13,8 V / 2 A

Working temperature - (0°C) to (+50°C)

DIO module dimensions - 125 x 85 mm

Support openings dimensions - 114 x 67 mm

## Proxi Reader Module CA864

The Proxi Reader module is given in Fig. 17.

### Purpose of Proxi Reader Module CA864

The purpose of Proxi Reader Module is to operate proxy-cards in the system.

A module can operate all the cards in the system. Besides, the module has an in-built relay. It is used to set the electronic lock of the door.

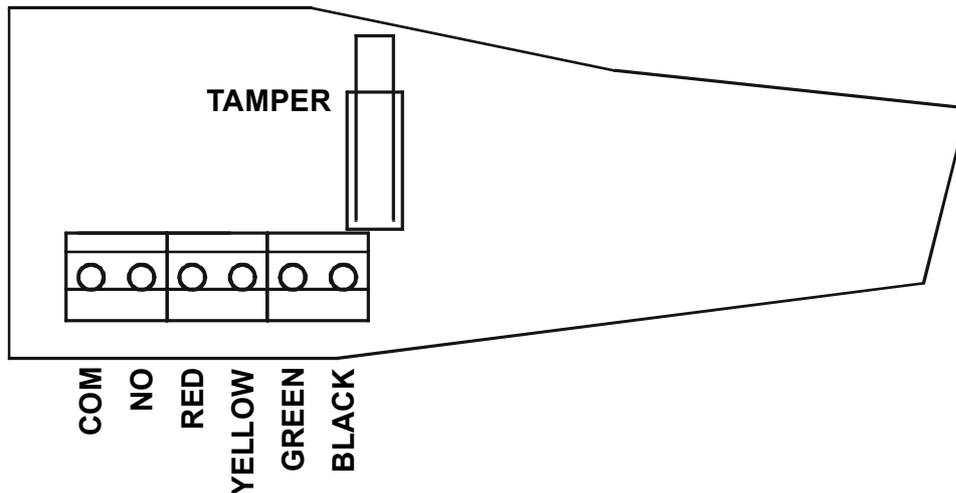


Fig. 17 Proxi Reader CA864

### Resources of Proxi Reader Module CA864

Proxi Reader Module has an in-built relay with unplugged contacts. The contacts of the relay are designated by COM and NO.

Proxi Reader Module has an in-built sound indicator to send sound signals when operating the module. Proxi Reader Module has an in-built three-colour LED indication light diode to send light signals when operating the module.

The BLACK, GREEN, YELLOW и RED clamps are to connect the Module to the System Bus.

The plugs in the control panel +AUX and +PGM are used for any additional devices (relays, sound indicators, etc.).

### Technical specifications of Proxi Reader CA864 module

Inputs - none

Number of outputs – one relay with normally open contact to plug the power supply to the electronic lock.

Quad system bus for connecting to control panel - Bus Connection

Consumption - max 170 mA

Working temperature - (0°C) to (+50°C)

## **CA864 printer module APR**

CENTRONICS interface. Can operate only with DOS-compatible printers.

The CENTRONICS36 type terminal is used to connect to the printer. The other end of the module observes the colour correspondence to connect to the System Bus.

Indication of the status of the printer and of the work mode control can be done through the engineer programming mode.

The procedures for working the printer module are given in the CA864 Alarm System Programming Manual.

## **Technical specifications of CA864 printer module APR**

Quad system bus for connecting to control panel – Bus Connection

Consumption - nom 80 mA

Working temperature - (0°C) to (+50°C)

## **CA864 PC adapter module APC**

RS-232 interface. Needs PC with serial port RS-232 and installed software for Up/Down Load remote programming.

A Cannon25 type terminal is connected to the COM serial port of the PC. The other end of the module is connected to the SERVICE BUS CONNECTOR terminal at the control panel by observing the colour correspondence.

Cable length must not exceed 2 m.

The procedures for working the Up/Down Load programme are given in the CA864 Alarm System Remote Programming Manual.

***!Please, check the PC you are going to use for existing serial port RS-232 with Cannon25 type terminal. If such is not presented you may need a Cannon 25 to Cannon 9 converter!***

## **Technical specifications of CA864 PC adapter module APC**

Cable length - 2 m.

Exchange rate - 9600 bps

Quad system bus for connecting to control panel – Bus Connection

Consumption - nom 10 mA

Working temperature - (0°C) to (+50°C)

## **CA864 MEMOCARD module**

The MemoCard Module is used to store the programmed configuration of the CA864 system.

The direction of the connection must be observed when connecting the module to the MEMOCARD terminal.

The procedures for working the MemoCard module are given in the CA864 Alarm System Programming Manual.

## SUPPLEMENT A - Menu structure chart for programming the CA864 alarm system

The programming chart allows for a quick scan of all menus for configuration programming of the CA864 Alarm System.

There are two ways to access a specific programming menu.

1. Use the Down Arrow, Up Arrow, ENT or CLR keys to browse the menu. These keys are showed in the chart.

The symbols, which represent the keys, are as follows:



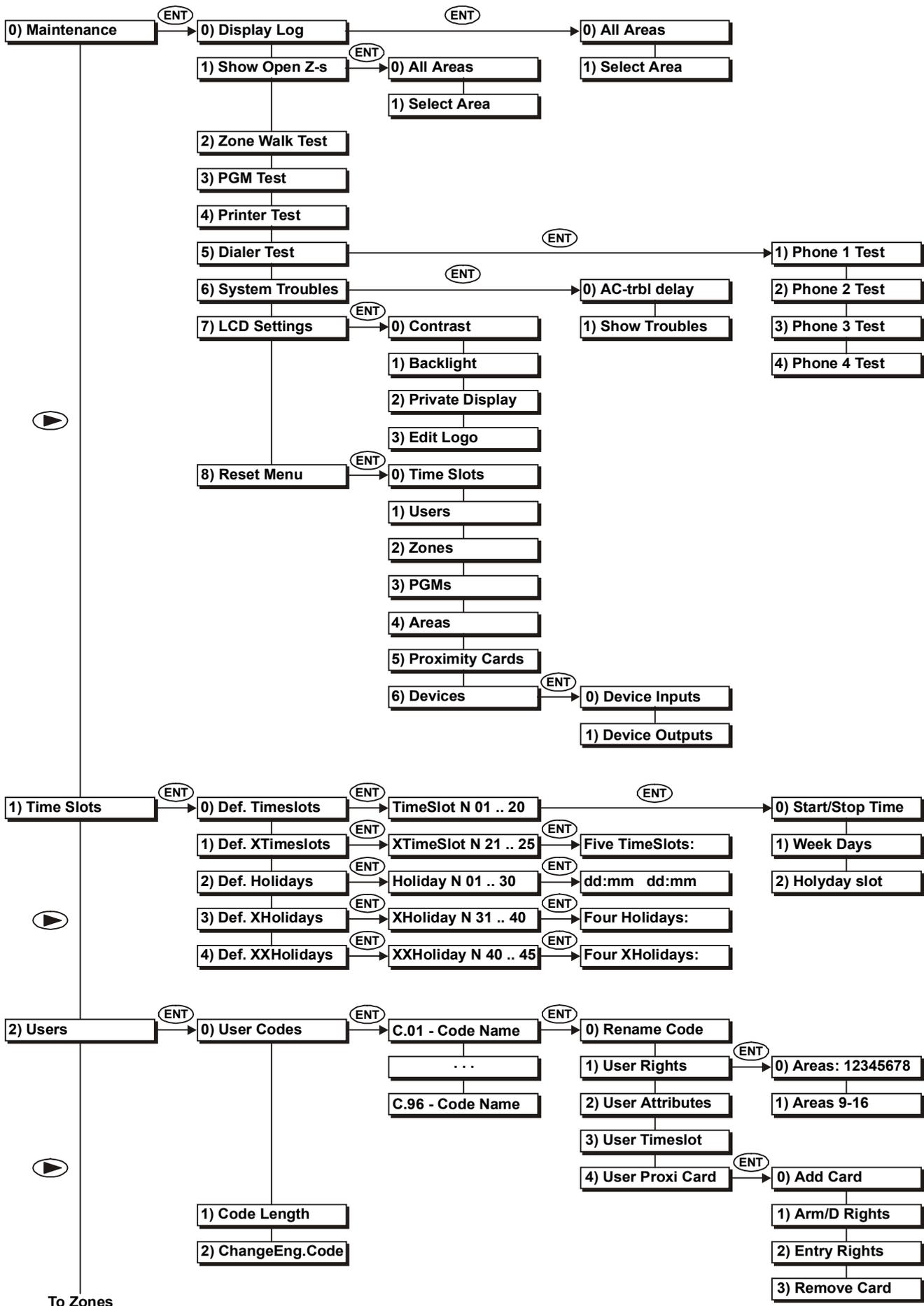
ENT. Pressing ENT accesses the succeeding level of menu structure.  
Pressing CLR accesses the preceding level of menu structure.



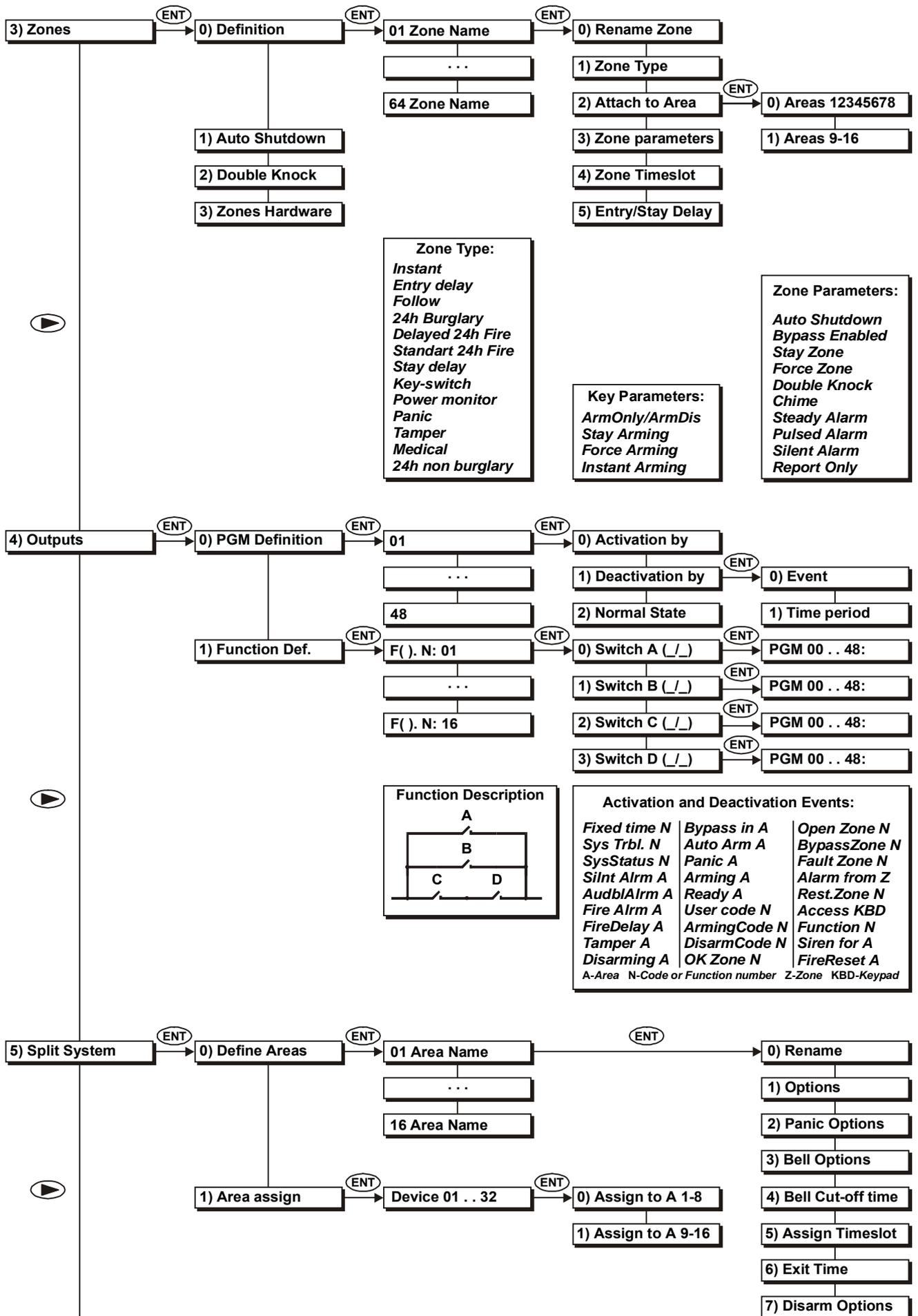
Right arrow key. Pressing the right arrow key accesses the succeeding menu of a given level within the structure of menus.  
Pressing the left arrow key accesses the preceding menu of a given level with the structure of menus.

2. Use the short menu code. Simply introduce the digits displayed on the chart in the respective menu and the system will be immediately positioned onto the menu you requested. This is a quicker method than the previous one as it only requires several clicks on some of the keys. At the same time it guards you from misclicks.

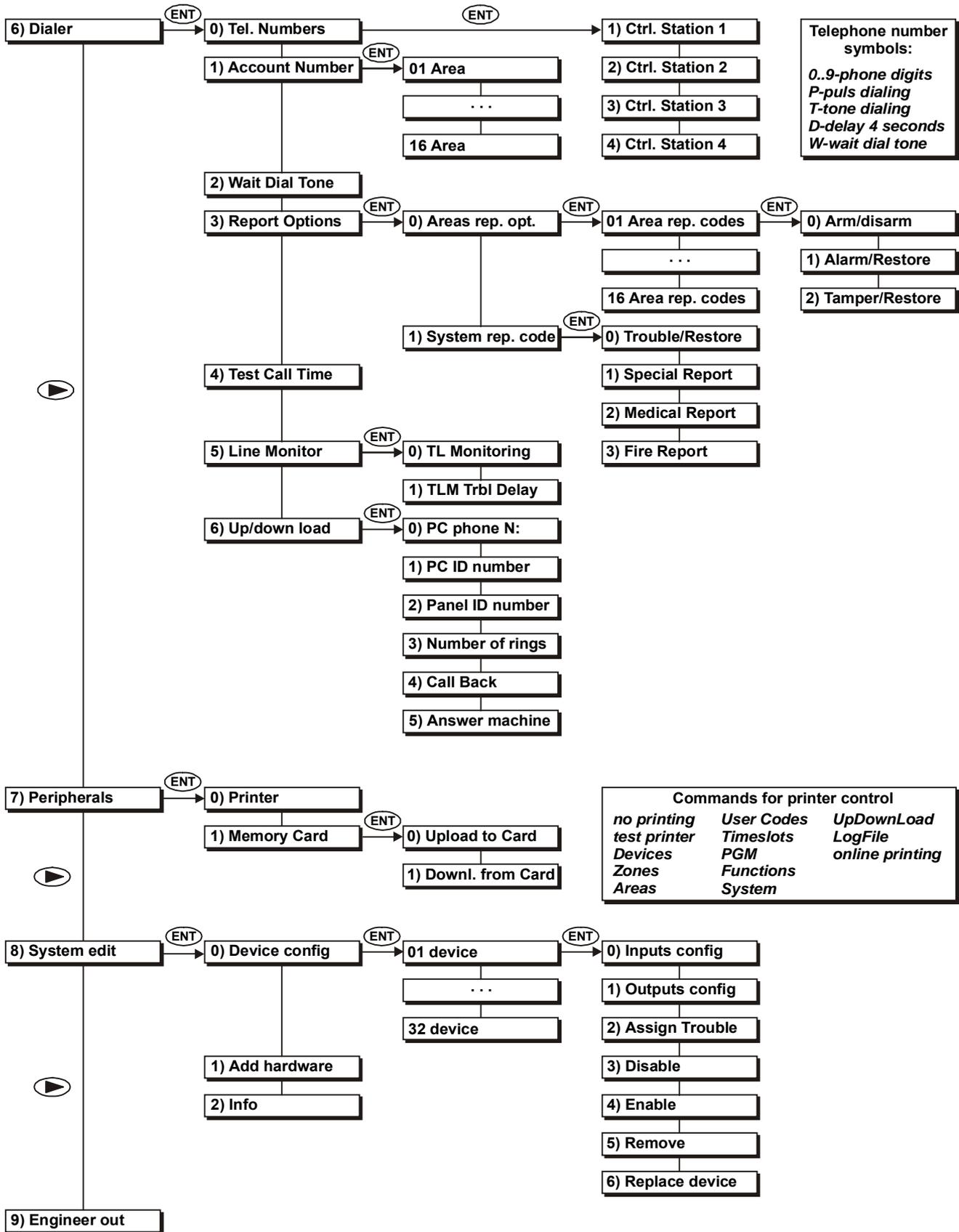
The quick menu access code is not displayed on the keypad. It is on the chart.



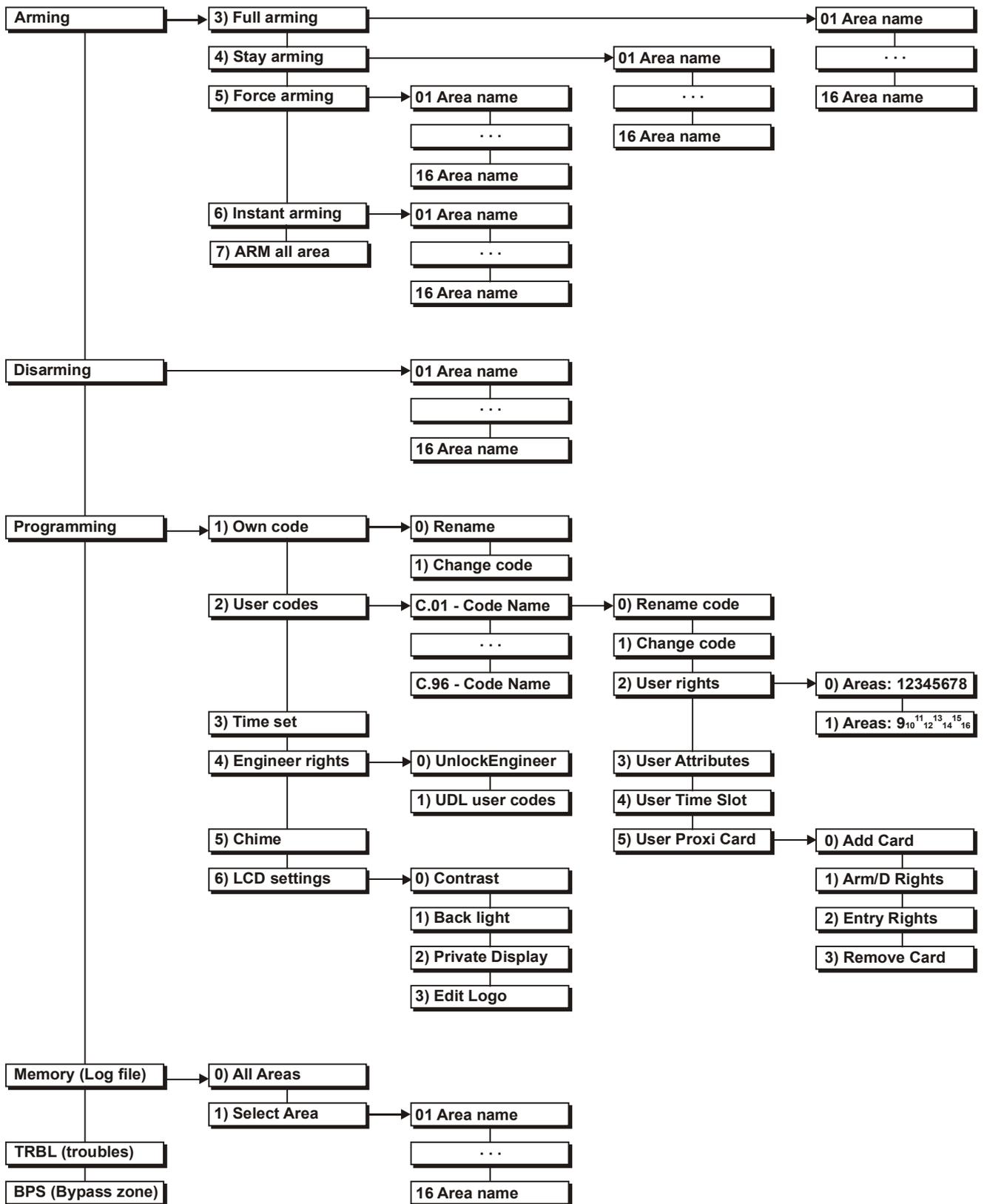
To Zones



To Dialer Menu



**SUPPLEMENT B – Chart for user programmable menus**



## Guarantee

During the guarantee period the manufacturer shall, at its sole discretion, replace or repair any defective product when it is returned to the factory. All parts replaced and/or repaired shall be covered for the remainder of the original guarantee, or for ninety (90) days, whichever period is longer. The original purchaser shall immediately send manufacturer a written notice of the defective parts or workmanship, which written notice must in all cases be received prior to expiry of the guarantee.

### International Guarantee

Foreign customers shall enjoy the same guarantee rights as those enjoyed by any customer in Bulgaria, except that manufacturer shall not be liable for any related customs duties, taxes or VAT, which may be payable.

### Guarantee Procedure

This guarantee will be granted when the appliance in question is returned. The manufacturer shall accept no product whatsoever, of which no prior notice has been received.

#### *Conditions for waiving the guarantee*

This guarantee shall apply to defects in products resulting only from improper materials or workmanship, related to its normal use. It shall not cover:

- § Damages resulting from transportation and handling;
- § Damages caused by natural calamities, such as fire, floods, storms, earthquakes or lightning;
- § Damages caused by incorrect voltage, accidental breakage or water; beyond the control of the manufacturer;
- § Damages caused by unauthorized system incorporation, changes, modifications or surrounding objects;
- § Damages caused by peripheral appliances (unless such peripheral appliances have been supplied by the manufacturer);
- § Defects caused by inappropriate surrounding of installed products;
- § Damages caused by failure to use the product for its normal purpose; Damages caused by improper maintenance;
- § Damages resulting from any other cause, bad maintenance or product misuse.

In the case of a reasonable number of unsuccessful attempts to repair the product, covered by this guarantee, the manufacturer's liability shall be limited to the replacement of the product as the sole compensation for breach of the guarantee. Under no circumstances shall the manufacturer be liable for any special, accidental or consequential damages, on the grounds of breach of guarantee, breach of agreement, negligence, or any other legal notion.

### Waiver

*This Guarantee shall contain the entire guarantee and shall be prevailing over any and all other guarantees, explicit or implicit (including any implicit guarantees on behalf of the dealer, or adaptability to specific purposes), and over any other responsibilities or liabilities on behalf of the manufacturer. The manufacturer does neither agree, nor empower, any person, acting on his own behalf, to modify or alter this Guarantee, nor to replace it with another guarantee, or another liability with regard to this product.*

#### *unwarranted Services*

The manufacturer shall repair or replace unwarranted products, which have been returned to its factory, at its sole discretion under the conditions below. The manufacturer shall accept no products for which no prior notice has been received.

The products, which the manufacturer deems repairable, will be repaired and returned. The manufacturer has prepared a price list and those products, which can be repaired, shall be paid for every repaired appliance.

The closest equivalent product, available at the time, shall replace the products manufacturer deems unrepairable. The current market price shall be charged for every replaced product.