



# ELMES CB32 CONTROL PANEL

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## Installation and operation manual

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|--|-----------|
| <b>INTRODUCTION.....</b>   | <b>2</b>  |
| <b>KEYPAD USE AND ARMING METHODS .....</b>                               | <b>3</b>  |
| <b>ARMING &amp; DISARMING OF ALARM SYSTEM.</b>                           | <b>3</b>  |
| 1. <i>Arming &amp; disarming alarm using control panel keypad.</i>       | 3         |
| 2. <i>Arming &amp; disarming alarm using remote control transmitter.</i> | 4         |
| 3. <i>Arming the system with bypassing selected alarm zones.</i>         | 5         |
| <b>CB32 SELECTED FUNCTIONS DESCRIPTION .....</b>                         | <b>5</b>  |
| ALARM DETECTOR MONITOR.  | 5         |
| ANTI-SABOTAGE OF PROTECTION OF EXTERNAL DEVICES.                         | 5         |
| OPERATION WITH WIRED ALARM DETECTORS.                                    | 5         |
| OPERATION WITH EXTERNAL WIRELESS SIREN & STROBE.                         | 6         |
| ALARM NOTIFICATION USING GSM MODULE OR PHONE.                            | 6         |
| PANEL CONFIGURATION AND FIRMWARE UPGRADE USING PC.                       | 7         |
| <b>MAIN MENU .....</b>   | <b>7</b>  |
| ALARM MEMORY   | 7         |
| FAILURE CHECK  | 7         |
| SERVICE SETTINGS   | 7         |
| 1. <i>Password Change.</i>   | 8         |
| 2. <i>Event Memory.</i>  | 8         |
| 3. <i>Alarm Zone Settings and Learning Wireless Detectors.</i>           | 8         |
| 4. <i>Outputs settings.</i>  | 10        |
| 5. <i>System Users - adding, editing and removing a user.</i>            | 11        |
| 6. <i>Times settings.</i>  | 11        |
| 7. <i>Alarm notification &amp; monitoring by GSM phone or module.</i>    | 12        |
| 8. <i>Auxiliary functions settings.</i>                                  | 14        |
| <b>RESETTING PASSWORD CODE OF USER 1</b>                                 | <b>16</b> |
| <b>DESIGNING WIRELESS ALARM SYSTEM.....</b>                              | <b>17</b> |
| POWER SUPPLY SOLUTIONS   | 18        |
| ALARM SYSTEM WITH ELMES CB32 CONTROL PANEL                               | 18        |
| WIRING DIAGRAMS  | 21        |
| <b>SPECIFICATION .....</b>   | <b>22</b> |
| <b>LIMITED WARRANTY .....</b>  | <b>23</b> |
| <b>FREQUENTLY ASKED QUESTIONS .....</b>                                  | <b>24</b> |

## INTRODUCTION

Elmes CB32 programmable, wireless alarm control panel is designed for use in anti-burglary, anti-robbery, intrusion detection and access control installations in houses, flats, shops, offices, etc. It operates with any Elmes Electronic made wireless detectors, transmitter RP501, key-fob transmitters and any type wired detectors. Its three 1A current fused alarm signaling outputs are intended for connecting external signaling devices such as sirens, bells or strobes and alarm notification devices as phone dialer. The panel features a real-time clock, non-editable memory log of last 256 events and may also be programmed to automatically send SMS alarm messages when connected to an external GSM module or mobile phone. The backlit LCD displays appropriate status information while numeric keypad allows convenient handling and programming of the control panel. In the event of AC power failure, special software procedures allow minimizing energy consumption and 72-hour panel autonomy with just two internal 1800mAh AA type rechargeable batteries. The panel supports up to 16 system users and enables monitoring of up to 32 wireless and two parametric wired detectors identified as alarm zones. Each user and zone can have any user defined 16 characters name. The CB32 control panel also supports wireless detectors in wired alarm systems. It may be powered from the power supply line of the wired system, and its three signaling outputs can be connected to the alarm detection terminals of a wired control panel.

**WARNING!** *This wireless control panel has been designed to be effective as much as possible. However, there are circumstances that alarm system may fail to operate as expected for variety of reasons. Users and installers are warned that radio signals from wireless detectors and sensors may not reach the CB32 panel receiver under all circumstances. Metal objects placed on radio transmission path, deliberate jamming or other radio signal interference can seriously reduce operating range.*

### **General features of Elmes CB32 control panel:**

- microprocessor architecture, alphanumeric backlit LCD display and real-time clock,
- 32 wireless and two wired parametric alarm zones with user defined names,
- identification of 16 users including 4 administrators with defining their names,
- arming and disarming of the panel by entering a password (3 to 6 digits security code) on the keypad or with the use of remote control transmitter,
- wide range of alarm zone types for specialized purposes,
- functional modes of partial arming of the control panel (day, night modes),
- panic and robbery alarm function (call for help) activated by remote control,
- interface to GSM phone or module for monitoring and alarm SMS/CLIP notification,
- memory of the last 256 events, such as arming, disarming, alarms and power failures,
- acoustic signaling (beeps) of entry in a “chime type” zone,
- entry delay activated either with remote control or by entering of the delayed zone,
- programmable “entry” and “exit” delay times in the range from 0 to 99 seconds,
- operation with Elmes WSS wireless external siren & strobe,
- wireless detector and external wireless siren presence monitoring,

- three wired alarm outputs with 1A fused overload protection and user defined signaling purpose (e.g. alarm, AC power failure, signaling or system arming), and programmable alarming time (0-999s),
- tamper sabotage protection for external signaling device wired to OUT1,
- radio jamming sabotage protection notified as alarm in zone 30,
- parametric (1 kOhm) input for TAMPER sabotage protection of external devices,
- RF monitor of signals received from detectors and interferences in the radio band,
- 92dB internal acoustic signaling device built-in under the keypad,
- mains powering by external unregulated power pack with 9-15VDC/150mA (panel alone) or 300mA (panel with GSM phone or module) minimum current output,
- up to 72 hours autonomy operation with two included AA size NiMH type rechargeable batteries (1800-2500mAh) on AC power supply failure,
- two front panel LED diodes for alarms, failures and arming indication & warning,
- easy panel configuration programming and firmware upgrade with the use of PC.

## **KEYPAD USE AND ARMING METHODS**

Daily handling of the alarm system with the CB32 control panel involves arming and disarming of the system and checking possibly indicated alarm states. The control panel is operated with the use of keypad buttons described below:

- |                   |   |
|-------------------|---|
| 1,3,5,7,8,9,0     | - - numeric only buttons,                       |
| 2 ▲, ◀4, 6 ▶, 8 ▼ | - - numeric and menu selection cursor buttons,  |
| C                 | - - cancel and menu exit button,                |
| OK                | - - selection acceptance & confirmation button. |

Current status of the system – date/time, arming mode of the control panel are displayed on the LCD while failure, alarm and arming information are indicated by two LED's:

**"ALARM"** – lights on (red) at alarm detection and flashes indicating system failure.

Alarm signaling is cancelled after entering the main menu or re-arming the system. Failure signaling is cancelled after eliminating its cause.

**"ARMED"** – lights on (green) when the system is armed, flashes when exit delay time is counted down.

The causes of alarms or system failures can be viewed upon entering main menu by holding down OK button and next selecting Alarm Memory or Failure Check submenu.

### **ARMING & DISARMING OF ALARM SYSTEM.**

Arming and disarming of alarm system may be done on the control panel keypad or with the use of remote control transmitter. Disarming of alarm instantly stops alarming and silences alarm sirens.

#### **1. Arming & disarming alarm using control panel keypad.**

There are two possible methods of arming and disarming using the keypad depending on the system "day/night" operation mode selection (see item 8.7 of the manual):

1. By entering user's password followed by OK the system will arm if in unarmed state or disarm if in armed state (day/night mode in item 8.7 not selected (N)).

2. By entering user's password followed by OK the system allows a choice of one of four supervision modes selected with "1","2","3","4" keypad buttons (day/night mode in item 8.7 selected (Y)), as described further:

- "1 - disarm"** - disarming the alarm – "disarmed" status appears on display. "active 24h" anti-tamper zones remain armed.
- "2 - arm"** - arming the alarm. On end of the exit delay (signaled acoustically and optically with displayed time countdown on the LCD panel), all alarm zones are armed (\*). "Armed" status appears on display.
- "3 - day"** - instant arming of the alarm in day supervision mode. The zones earlier defined as "day armed" and the "active 24h" zones are armed (as in item 3.1). The "day mode" message appears on display.
- "4 - night"** - arming the alarm in the night supervision mode. On end of exit delay (signaled both acoustically and optically) all alarm zones are armed (\*), except for earlier defined as „night delayed" (as in item 3.1). The "night armed" message appears on display.

(\*) Permanently disabled zones are not armed in any of the above modes!

## **2. Arming & disarming alarm using remote control transmitter.**

The CB32 control panel can be remotely operated by the use of Elmes keyfob transmitters (e.g. UMB100H, DWB100H) in two ways described below:

### **1. Remote control transmitter arming and disarming the system.**

In this mode, by pressing control button of single channel transmitter (e.g. UMB100H) learned to CB32 panel would produce a single loud beep(\*) and exit delay time is started. On end of the exit delay the alarm system is armed. Next pressing of the same control button would produce two loud beeps(\*) and the system will disarm. If an alarm occurred while in the armed state of the system, five loud beeps(\*) would be produced on system disarming.

If the panel is to be remotely controlled by double channel transmitter (e.g. DWB100H), then at learning the transmitter to the panel a second channel button (red) should be used. This allows first channel button (green) to arm & disarm the entire alarm system while the use of second channel button (red) would arm the system in the night supervision mode, as described in p. 1 above. The disarming of the system is always done using any of the two buttons.

**NOTE!** Using the first channel button at learning double channel transmitter to the CB32 panel would make second button of the transmitter inactive.

This remote control mode requires the "Remote arming/disarming" function set to yes (Y) (item 8.1 of service settings).

### **2. Remote control transmitter activating entry delay only.**

This mode is possible with earlier defined „remote delayed" zone type only (as in item 3.1). Pressing transmitter button activates entry delay signaled by two loud beeps(\*) and the zone is disabled for as long as the entry delay time is set. Disarming of the system is done by entering valid password on the keypad.

Violation of the „remote delayed” zone and failure to disarm the control panel during entry delay countdown will generate intruder alarm on end of the delay. This remote control mode requires the “Remote Arming/Disarming” function set to no (N) (item 8.1 of the service settings).

(\*) Loud signal beeps can also be produced by an external siren wired to OUT1 or by wireless Elmes WSS siren when this option is selected as in pt. 8.9 of Service Settings. Internal beeps would then be produced at much lower volume level.

### **3. Arming the system with bypassing selected alarm zones.**

If, in the course of arming the system, one of the zones detects intrusion, the response of the system depends on whether the zone was earlier defined as “bypass” type (see item 3.1.h) and will be as described further:

If the status of the zone is “bypass” (Y) – the system prompts whether to arm the system without arming the intruded zone and produces two long beeps when arming was done with the use of remote control. Acceptance with the use OK button or remote control arms the system bypassing that zone. The use of any other button or no response cancels arming procedure.

If the zone is not defined as “bypass” (N) – the control panel will display message “Violated zone” with its name and the system will not arm. In that case, the cause of the security violation should be cleared and a new arming attempt be made.

## **CB32 SELECTED FUNCTIONS DESCRIPTION**

### **Alarm detector monitor.**

Elmes CB32 control panel allows testing the operation of all wireless detectors installed in alarm zones by simultaneous display of their on/off status. To activate that function button “1” on the keypad must be pressed and hold down until two 16 points lines scale appear on the LCD panel. The displayed points represent all 32 wireless detectors that can operate with the CB32 control panel. Any detector activated in the system produces “\*” mark to be momentarily displayed on the LCD at point position corresponding to alarm zone number to which the detector was learned. Tamper switch activation in the detector produces mark “S” to be displayed in the corresponding zone point on the scale. Exit from this function is made by next holding down button “1” of keypad.

### **Anti-sabotage of protection of external devices.**

Connecting TAMPER switches of external devices (e.g. phone dialer or siren) as shown on the diagram of Fig.2 enables anti-sabotage protection of these devices. Cutting off or shorting of the tamper wire generates sabotage alarm in zone 32 of the control panel. If the TAMP terminal is not used, it must be shorted to the GND terminal with 1kOhm resistor (supplied). The TAMP input terminal may be used to connect any parametric wired alarm detector to the CB32 control panel.

### **Operation with wired alarm detectors.**

Two parametric zones of the CB32 control panel allow connection of any wired alarm detectors with NC (normally closed) output terminals. Input EXT of the panel connects wired detector to alarm zone 31 while input TAMP may be used to connect wired detector to alarm zone 32. Detectors’ outputs wiring should be parametric configured

using resistors (supplied) with one end wired to the GND terminal, as shown on fig. 1 of the manual. Wired detectors are recognized by the panel the same way as wireless detectors. Alarms are detected in the zone type selected by installer while sabotage protection is supervised as 24h type zone, permanently armed. Parametric resistors should be terminal connected inside wired detector's housing. Powering of wired detectors is to be made from external AC/DC power pack of the panel. To ensure detector's proper operation at AC power failure, power pack with integral battery back up may be optionally installed (buffered power pack).

**IMPORTANT:** Zones 31 and 32 of the CB32 panel are factory set "disabled". When wired detector(s) are installed enabling procedures must be made with assigning new zone type e.g. "day armed" (see pt. 3.1. of Service Settings) to the wired detectors.

### **Operation with external wireless siren & strobe.**

The Elmes CB32 wireless panel can operate with dedicated external wireless sound and strobe siren Elmes WSS that features integral transceiver module allowing periodical siren presence test. The siren is powered by external mains power pack (delivered with the siren) and includes sealed rechargeable battery as power backup. The following steps are required to set the siren operate with the CB32 control panel:

1. Learn the siren to alarm zone line 29 of the CB32 panel by selecting detector learning mode (pt. 3.3) and activating the siren to transmit alarm signals in one of the three ways, as below:
  - a. by connecting siren's battery while mains power supply is off,
  - b. by connecting or disconnecting mains power while battery is connected,
  - c. by activating siren's TAMPER switch with battery & power pack connected.
2. Set the required alarming time at OUT1 of the panel that equals to alarming time of the wireless siren (pt. 6.4).
3. As described in pt. 6.5 of Service Settings, set required time interval (1 to 99 minutes – 20 minutes as standard) between which wireless siren presence is tested and next, enable radio link testing (pt. 8.3).
4. Choose the way alarm system warns that radio link between wireless siren and the control panel is faulty. If the system is expected to set on loud alarm along with failure indication by LED, the function in pt. 8.12 should be set to ON. If only failure indication by LED is required then the function should be OFF (standard).

**NOTICE!** To avoid loud TAMPER alarm at maintenance service or installation when siren's case is to be opened, temporarily disable alarm zone line 29.

### **Alarm notification using GSM module or phone.**

The CB32 control panel can operate with GSM phone or Elmes GSM module for monitoring of an intrusion alarm, arming, disarming or system failure notification. If an alarm occurs, SMS messages are sent up to two phone numbers along with information of the alarm source zone. Also, CLIP notification calls are made to these phones. The SMS messages are user editable and may contain codes required for monitoring. AC power failure and restoration are also reported in the form of SMS messages. GSM phones accepting AT commands that can be used with the panel include Siemens C60,

C65, C45, Sony Ericsson T68, T230. Current list of mobile phones operating with the panel is available on Elmes Electronic website: [www.elmes.pl](http://www.elmes.pl)

To connect GSM phone to the CB32 control panel, a dedicated Elmes KB2 interface cable is required. The cable, that may be optionally ordered from the seller, charges also GSM phone battery. When using Elmes GSM module the cable is included with the module. With GSM equipment connected to CB32 panel external AC/DC 12VDC power pack with minimum 300mA output is necessary.

### **Panel configuration and firmware upgrade using PC.**

Starting from version 3.00 the CB32 control panel can be easily configured and firmware upgraded with the use of PC (Personal Computer). To allow connection of the panel to PC a special RS-USB interface cable is needed. White plug of the cable connects to GSM socket on panel's board while USB end plugs to PC. In addition, free "CB32 Configurator" software should be downloaded from Elmes website and installed on user's PC prior to connecting the panel. The cable interface can be ordered directly from Elmes Electronic or any of its distributors and re-sellers. Detailed information and support concerning programming of the CB32 panel with the use of PC can be found on Elmes Electronic website: [www.elmes.pl](http://www.elmes.pl).

## **MAIN MENU**

To access the main menu of the CB32 panel press and hold down OK button for more than two seconds. You can navigate the menu using vertical and horizontal cursor keys. If the keypad is not used for more than two minutes the menu exits and display of the current status of the control panel on the LCD panel returns.

### **ALARM MEMORY**

In this menu the user can view details of the last alarms: date, time and zone of the alarm(s) source. The use of ▲▼ buttons selects an earlier or later event respectively, and the use of ◀▶ buttons changes the method of displaying the alarm source – from numeric to descriptive, e.g.: zone No. 5 ↔ kitchen.

### **FAILURE CHECK**

This menu is designed to view the causes of the failures signaled on the control panel by flashing the "ALARM" LED. Failures signaled on the control panel include:

- Control panel or wireless siren mains power failure.
- Rechargeable battery absence or failure.
- Communication errors with wireless detectors or siren.
- Detector's low battery with zone identification.
- Communication error with GSM phone or module.

The ▲▼ buttons are used to scroll through signaled failures.

The "ALARM" LED stops flashing when the cause of failure is cleared.

### **SERVICE SETTINGS**

Access to this menu is enabled only if the control panel is unarmed and upon entering a valid password code confirmed by OK button. Factory setting of the password for the user No.1 is ".,0000". Exit from the menu and canceling entries are made by the C button. Users Nos. 1-4 (administrators) have access to all functions whereas other users

may access functions 1-2 only. All editable service settings available in this menu are described further on.

## 1. Password Change.

**Service settings** → **Password change**

This menu allows changing user's own password code. Passwords of other users can be changed in the "Users" menu (see item 5). After accessing this menu "Enter password" prompt appears. Enter the new password code containing 3 to 6 digits, and then press OK. When the "Repeat password" prompt appears, enter the new password code again and press OK. The new password replaces old one. In case of entering an existing or incorrect password "Wrong password" message appears.

## 2. Event Memory.

**Service settings** → **Event memory**

This menu allows viewing detailed information concerning last 256 events (alarms, failures, arming, disarming, errors, etc.) that occurred in the system. The event memory cannot be edited, and allows only viewing the event details in the sequence of their occurring. The ▲ ▼ buttons select an earlier or later event respectively while the ◀ ▶ buttons change the method of displaying the alarm source, e.g.: zone No. 5 ↔ kitchen, user No. 3 ↔ John Smith, etc.

## 3. Alarm Zone Settings and Learning Wireless Detectors.

### 3.1. Zone type.

**Service Settings** → **Zone settings** → **Zone function**

Elmes CB32 control panel allows alarm zones with one or more additional functions set on and off by in this menu. The ▲ ▼ buttons are used to select the zone number and the ◀ ▶ buttons to switch between displaying the zone number and zone name, e.g.: zone No. 1 ↔ kitchen. On accepting selection with OK button the ▲ ▼ buttons are used to select zone type function as in items a)...h) above. Functions can be turned on (Y) or off (N) with the OK button. The use of C button exits zone function selection.

- |                     |   |
|---------------------|---|
| a) "disabled"       | - disabled zone (permanently turned off),   |
| b) "active 24h"     | - 24 hour zone, e.g. anti-sabotage zone (permanently armed).                                    |
| c) "day armed"      | - zone armed in day supervision mode,   |
| d) "night disabled" | - zone disabled in night supervision mode,  |
| e) "remote delayed" | - zone with entry delay set on by remote control,   |
| f) "delayed"        | - entry zone with delayed alarming,   |
| g) "chime type"     | - zone with door chime feature providing beep sound from the keypad each time zone is violated, |
| h) "bypass"         | - this zone may be left disarmed if violated on system arming.                                  |

A standard zone is in supervision mode when the system is "armed" or in "night armed" mode and disarmed when the system is "disarmed" or in "day armed" mode.

**IMPORTANT:** Zones can have more than one functions selected, but some functions exclude others. In that case, only one selection is valid, e.g.:

- if a zone is “disabled” all other settings have no meaning,
- if a zone is “active 24h”, then settings such as “day armed”, “night delayed”, “delayed”, and “bypass” have no meaning.

Examples of alarm zone type settings:

- Entry zone can be “remote disabled” i.e. after using remote control button entry delay countdown is started. Security violation in the zone during the countdown will not generate the alarm immediately, but after the countdown is finished. That allows user enough time for safe disarming the system.
- Entry zone can also be a delayed zone, i.e. when the zone is violated, the entry delay countdown starts and the system must be disarmed before the countdown is finished. If system is not disarmed an audible alarming is set on.
- The “chime type” zone which often is also a “delayed” or “remote delayed” zone, generates two beeps sound signal on every violation of the zone (e.g. informing about an entry to the shop).
- A basement zone can be “day armed” but it cannot be “active 24h” simultaneously.
- „bypass” zone type allows arming the alarm while intentionally leaving a window opened protected by CTX3H or CTX4H detector. The “bypass?” prompts and the name of this zone will appear at arming. The OK button confirms selection, and the C button exits from arming.

3.2. Zone name.

→  →

This menu allows alarm zones used in the system to have user defined 16-character name, e.g.: kitchen, living room, office, Mark’s Room, etc. Uppercase and lowercase letters, digits and the following characters: space and “-,/” are accepted.

Zone number selection is made with the ▲▼ buttons followed by OK button. The ◀▶ buttons select the successive letters of the name while the ▲▼ buttons browse the character table. Accept the name with OK button. The use of C button cancels selection and exits the menu.

3.3. Learning wireless detectors.

→  →

In this menu use the ▲▼ buttons to select zone number, and the ◀▶ buttons to toggle between displaying the zone number and zone name, e.g.: zone 1 ↔ kitchen. The OK button accepts all selections. If detector is already learned to selected zone, the “OK-remove” prompt will appear. Pressing OK button will delete detector in the zone. If the zone is vacant, the “OK-enter” will appear on the LCD. Pressing OK button starts learning detector to the zone. In response to the “Awaiting trans. 1” and “Awaiting trans. 2” messages two successive alarm transmissions must be triggered from detector(\*). Correct learning will be followed by “OK-correct” message. Errors are signaled by 3 beeps and “Program error” message. The use of C button exits the menu.

(\*) For detailed information on how to learn particular Elmes detector to Elmes CB32 control panel please refer to instruction manual of the detector.

### 3.4. Radio reception range test.

Service settings → Zone settings → RF range test

To assess the level of radio reception of signals received from detectors, the most distant detectors in particular, the CB32 panel is provided with “RF range test” function allowing the received signal levels to be displayed on 16-point bar graph scale of LCD. After entering this menu all RF signals in the 433.92MHz radio band will be displayed in form of bar graph. The detectors should be triggered to send alarm transmissions. The longer the distance of the detector from the control panel, or the greater difficulty in radio waves propagation, the lower the level of received signals and the length of the displayed bar graph. If the number of displayed fields is lower than three it should be assumed that this connection does not guarantee reliable alarming. The location of detectors or the control panel should be changed in search for better connection quality. The “RF range test” function allows also assessing levels of all local RF signals in the 433.92MHz band, also those that can interfere and disturb operation of the wireless alarm system. The test should be carried out prior to permanent installation of alarm devices or, in search for causes of short range operation. To find out any interfering signals, the LCD bar graph 16-point scale readouts should be observed without activation of own detectors. Frequent or continuous unknown RF signals received and signaled on the control panel display indicate close presence of other RF devices operating in the band. If level of these signals exceeds three fields displayed in the “RF range test” function and their occurrence is frequent, acceptable signals from detectors may not be received and the alarm system may fail to operate properly.

## 4. Outputs settings.

Service Settings → Outputs settings

In this menu, the intended use of wired outputs of the control panel can be defined. The OUT1 output is designed exclusively for connecting external signaling device and can be sabotage protected (see item 8.4 of service settings). The use of the OUT 2-3 wired outputs can be as follows:

- “alarm” - for connection of outdoor/external alarm signaling devices, e.g. external siren or/and strobe, with user programmable alarming time 0-999s (see item 6.4 in service settings), shorting output to ground (GND) when the system is armed,
- “AC power failure”- signaling AC power supply off by shorting the output to ground (GND),
- “arming” - signaling arming of the system by shorting the output to ground (GND) on system arming.

**Example:** if the “arm/disarm” signaling mode is selected at OUT 2 and the output is connected to powered external LED, lamp, etc., it will switch on the device for as long as system is armed warning of the security system being in supervision state. The

“**arm/disarm**” mode can also be used for remote control. For example, operated with Elmes ST100HGR controller it may control opening/closing of window rollers. Signaling mode at OUT 2-3 outputs is set by accessing the menu, selecting output number and type of signaling with the ▲ ▼ buttons and accepting with OK button.

## 5. System Users - adding, editing and removing a user.

Service Settings → System Users

Elmes CB32 control panel allows up to 16 system users, each with own password code, name and remote control. After accessing this menu and selecting a user with a given number using the ▲ ▼ buttons, the user’s status will appear on the panel:

“Active” - user with password and/or a remote control - the user can arm and disarm the system.

“Not active” - user without password nor remote control - the user cannot arm/disarm the system.

The ◀▶ buttons toggle between displaying the user number and user name, e.g.: user No.3 ↔ John Smith. After selecting a user followed by OK further edition can be made.

### 5.1. Setting and edition of user password.

Service Settings → System Users → Password

Please follow detailed instructions in “Password Change” (item 1 in Main Menu).

### 5.2. Setting and edition of user name.

Service Settings → System Users → Name

Please follow detailed instructions in “Zone name” (item 3.2 of Service Settings)

### 5.3. Learning and deleting of user remote control.

Service Settings → System Users → Remote

Please follow detailed instructions in “Learning detectors” (item 3.3 of Service Settings)

**Adding a user**, select first inactive user number (1-16) and then input password (3 to 6 digits) or learn remote control transmitter.

**Editing a user**, follow procedures 5.1 through 5.3 above.

**Removing a user** delete its remote control transmitter in menu “Remote” above and remove its password double pressing OK button in menu “Password” above. On „OK-remove pass.” prompt press again OK button – “Pass. removed” message will appear.

**NOTE:** Users 1-4 are system administrators with access to all functions, whereas other users – have access only to Service Settings functions 1 and 2.

## 6. Times settings.

### 6.1. System date/time setting.

Service Settings → Times settings → System date/time

Accessing this menu the user is allowed to set the system date and time. The ▲ ▼ and ◀▶ buttons set the current date and time and the use of the OK button accepts the selection. The use of the C button exits the menu.

## 6.2. Entry delay (0..99s).

**Service Settings** → **Times settings** → **Entry delay**

This menu allows setting the alarm activation delay (in seconds: 0 to 99) needed to enter the premises and disarm the alarm entering password code on the keypad. Two digits on the right side of the display specify the current entry delay in seconds. The required time is set with the use of cursor buttons and accepted with the OK button.

## 6.3. Exit delay (0..99s)

**Service Settings** → **Times settings** → **Exit delay**

This menu allows setting time delay needed to safely exit premises (in seconds: 0-99) after security system has been armed from the keypad. Two digits on the right side of the display specify the current exit delay in seconds. The required time is set with the use of cursor buttons and is accepted with the OK button.

## 6.4 Alarm duration at outputs 1 to 3 (0..999s).

**Service Settings** → **Times settings** → **Alarm duration OUT1**

This menu allows setting alarm duration (in seconds: 0 to 999) on outputs OUT1..3. Three digits on the right side of the display specify the current alarm duration in seconds of selected output. The required time is set with the use of cursor buttons and is accepted with the OK button. The alarm duration of OUT1 and of the built-in siren are the same.

**NOTE:** If alarm is generated three times in the same zone, the zone will be disabled until the system is disarmed/armed again.

## 6.5 Setting wireless siren checkup time interval (1..99 minutes).

**Service Settings** → **Times settings** → **WSS siren checkup interval**

This menu allows setting time interval between checking up of Elmes WSS wireless siren presence (in minutes: 1 to 99), as standard set to 10 minutes. The required interval time is selected by the use of cursor buttons and followed by OK button.

## **7. Alarm notification & monitoring by GSM phone or module.**

This menu defines alarms notified by GSM phone or module connected to CB32 panel.

### 7.1 SMS centre phone number.

**Service Settings** → **GSM monitoring** → **SMS Centre Phone**

This menu is used to enter the phone number of the GSM operator's SMS centre, preceded by country code without "+" mark in front, e.g. the following phone number should be entered for Plus GSM operator in Poland: 48601000310

### 7.2 First phone number.

**Service Settings** → **GSM monitoring** → **Phone 1**

This menu allows entering the first phone number to which SMS and CLIP(\*) calls will be directed. The phone number must be preceded by country code without the "+" mark. Example: for France it is: 33xxxxxxxx.

### 7.3 Second phone number.

**Service Settings** → **GSM monitoring** → **Phone 2**

This menu allows entering the second phone number to which SMS and CLIP calls will be directed.

### 7.4 Phone number to which alarm test CLIP calls are made.

**Service Settings** → **GSM monitoring** → **Test CLIP phone**

This menu is used to enter the GSM phone number of alarm monitoring centre that will receive cyclic test CLIP calls from CB32 control panel. Remote testing of the panel may be done in the two following ways:

- GSM monitoring centre calls to CB32 panel and the call is rejected by the panel after 3-4 seconds (“Test CLIP” in item 7.8 set to OFF),
- as above, but after rejecting test call the panel reports its presence by a CLIP call to the monitoring centre. Additionally, the panel makes cyclic calls to monitoring centre with time intervals defined in item 7.5 (“Test CLIP” in item 7.8 set to ON).

### 7.5 Setting time interval of test CLIP calls.

**Service Settings** → **GSM monitoring** → **Test CLIP [min]**

This menu is used to set time interval (in minutes) of the cyclic test CLIP call made by GSM phone connected to the CB32 control panel. Maximal value is 999 minutes. To activate this function, Test CLIP in item 7.8 must be set ON.

### 7.6. Defining GSM phone type.

**Service Settings** → **GSM monitoring** → **Phone type**

This menu is used to define GSM phone type to operate with CB32 panel. Current list of phones operating with the panel may be verified at manufacturer’s web site.

| Phone symbol displayed in menu: | Phone model to be used: |
|---------------------------------|-------------------------|
| „SIE C45”                       | SIEMENS C45             |
| „SIE C60”                       | SIEMENS C60             |
| „SE T68”                        | SONY ERICSSON T68, T230 |
| „Elmes GSM”                     | Elmes GSM Module        |

Depending on selected phone an appropriate KB2 cable interface must be used. The cable interface is optionally available from product seller or may be user made according to schematic diagram available at manufacturer’s web site: [www.elmes.pl](http://www.elmes.pl)

### 7.7 Defining SMS message contents – ID Codes.

**Service Settings** → **GSM monitoring** → **SMS contents**

This menu is used to define the contents of SMS messages (two characters ID Codes) used for notification of incidents in the system (alarms, arming and disarming, power failure and restore). Every ID code consists of any two ASCII characters except for lower case letters. In order to made the control panel to send ID Code messages instead

of written messages, e.g. “Intruder alarm: kitchen”, the **ID Code to phone 1** and/or **ID Code to phone 2** functions in sub-menu 7.8 must be set to ON.

### 7.8 Other GSM Settings.

**Service Settings** → **GSM monitoring** → **Other GSM settings** →

- **Alarm SMS to phone 1** - if set to Y sends alarm SMS message to phone 1,
- **Arm/disarm SMS to phone 1** - if set Y sends arm/disarm SMS message to phone 1,
- **AC failure SMS to phone 1** - if set to Y sends AC failure SMS message to phone 1,
- **Alarm SMS to phone 2** - if set to Y sends alarm SMS message to phone 2,
- **Arm/disarm SMS to phone 2** - if set Y sends arm/disarm SMS message to phone 2,
- **AC failure SMS to phone 2** - if set to Y sends AC failure SMS message to phone 2,
- **Alarm CLIP to phone 1** - if set to Y makes alarm CLIP call to phone 1,
- **Alarm CLIP to phone 2** - if set to Y makes alarm CLIP call to phone 2,
- **Test CLIP** - if set to Y makes Test CLIP call to phone defined in item 7.4,
- **ID Codes to phone 1** - if set to Y sends SMS message to phone 1 containing two character ID Code defined in sub-menu 7.7, example: “01” meaning that occurred incident code 01 (e.g. intruder alarm),
- **ID Codes to phone 2** – as above, to phone 2.

(\*) *Eng.: Calling Line Identification Presentation.*

## **8. Auxiliary functions settings.**

This menu contains auxiliary functions and options available in the CB32 control panel. The use of OK button toggles between setting function on (Y) and setting off (N).

### 8.1 Arming & disarming alarm with remote control.

**Service Settings** → **Aux functions** → **Remote Arming/Disarming**

Setting this function to yes (Y) enables each system user with programmed remote control (see: System Users), to arm and disarm the system using remote control transmitter. With the function set to on, it is still possible to arm and disarm the alarm system by entering a password code on the keypad. Setting the function to no (N) causes that the use of remote control transmitter activates the “entry delay” only, in „remote delayed” type zones (see item 3.1.e).

### 8.2 Radio jamming protection.

**Service Settings** → **Other functions** → **Jamming protection**

This function allows radio jamming anti-sabotage protection of wireless alarm system. If selected (Y), will activate sabotage alarm in zone 30 (must not be disabled!) on all detected deliberate or incidental jamming in the used radio band.

### 8.3 Radio link test.

**Service Settings** → **Aux functions** → **Radio link test**

Setting this function to (Y) enables monitoring of the detector presence. Radio link transmissions are sent at regular intervals from detectors (except for CTX3H) and expected by the CB32 control panel. If, for any reason, radio link transmission from a

detector is not received by the control panel for longer than 24 hours, the link failure will be indicated by flashing “ALARM” LED.

#### 8.4 Anti-sabotage protection test of the alarm output No 1.

**Service Settings** → **Other functions** → **Out1 Test**

The OUT1 output, which is by default used for connecting an outdoor/external signaling device, is provided with anti-sabotage (Tamper) protection against cutting off or shorting to ground. After accessing this menu the user can turn this protection on or off. Damage - cutting off or shorting of wires connecting this output with the outdoor/external signaling device - is signaled by sabotage alarm in zone 32.

#### 8.5 Internal siren alarming.

**Service Settings** → **Other functions** → **Internal siren**

This option allows setting on/off alarm signaling by the control panel internal siren build under the keypad. It is recommended to turn off the alarming when deliberately opening the panel cabinet or, the CB32 panel operating in a wired system environment.

#### 8.6 AKU failure signaling.

**Service Settings** → **Other functions** → **AKU failure signaling**

This option allows setting on/off of internal battery failure signaling, recommended to be set to off (N) when rechargeable batteries are not used.

#### 8.7 Activating selection of day & night arming modes.

**Service Settings** → **Other functions** → **Day/night mode**

Activating the function (Y) will display additional menu on LCD allowing selection of specific supervision modes confirmed by password and the OK button. There are 4 modes available: 1 - disarmed, 2 - armed, 3 – day, 4 – night (see: “Arming/disarming alarm system”). With the function set off (N), the system can be armed and disarmed by password code followed by OK button. Day or night arming modes cannot be selected.

**NOTICE!** Using two channel remote control, with first button used at learning the transmitter to the control panel, the transmitter completely arms/disarms the system. When second button of two channel transmitter was used at learning, its use will toggle between day and night arming modes.

#### 8.8 Panic alarm (call for help) function.

**Service Settings** → **Other functions** → **Panic alarm**

Setting this function on (Y) allows panic alarm for users equipped with remote control. The alarm is activated when remote button is pressed for longer than 2 seconds. Panic alarm lasts for as long as the alarming time set on the OUT1. The event is registered as panic alarm with user name. With GSM phone connected, an appropriate SMS message is sent. Setting the alarm OFF is done by entering a password on the keypad or by the use of remote control if “Remote arming/disarming” function (item 8.1) is selected.

#### 8.9 Beep signals on external siren.

**Service Settings** → **Other functions** → **External beep**

This option allows setting on/off beep signaling on the external siren when remote control transmitter is used to arm/disarm the system.

#### 8.10 Beep signals on internal siren.

**Service Settings** → **Other functions** → **Keypad beep**

This option allows setting on/off of all beep signaling on panel's keypad siren except for alarm signaling that can also be set on/off as described in item 8.5.

#### 8.11 Entry delay countdown beep on panel's internal siren.

**Service Settings** → **Other functions** → **Entry delay beep**

This option allows setting on/off entry delay beep signals on panel's siren, in addition to countdown notification on the LCD of the control panel.

#### 8.12 Radio link with wireless siren failure alarm.

**Service Settings** → **Other functions** → **WSS Siren checkup error alarm**

Setting this function to yes (Y) allows loud alarm along with LED Alarm notification on siren radio link checkup test failure. As standard the function is set to no (N) and the failure is signaled by LED Alarm only. Failure Check menu will display "Radio link error" and name of zone 29 (if specified).

#### 8.13 Limit of alarms to three in single alarm zone.

**Service Settings** → **Other functions** → **Alarms limit to 3**

This function limits number of alarms in one zone to three and is factory set to on (Y). Alarms count is reset on every arming or disarming of the system. When the limit is selected to off (N) alarms are generated on every disturbance detected in the alarm zone.

#### 8.14 Selection of menu language: Polish/English.

**Service Settings** → **Other functions** → **Angielski/English**

This function allows selection of panel's menu language as English (Y) or Polish (N). NOTICE! Change of menu language is also made when button 1 of the keypad is kept pressed down while connecting power supply to the panel.

#### 8.15. Modes of LCD panel and keypad backlight.

**Service Settings** → **Other Functions** → **Permanent Backlight**

Setting this function to yes (Y) selects permanent backlight of LCD panel and the keypad. As standard the function is set to no (N), meaning the LCD panel and the keypad are backlit upon any key on the keypad is pressed. Backlight sets off within 40 seconds of last key pressed.

### **RESETTING PASSWORD CODE OF USER 1**

If a valid password code is lost, the default factory code "0000" of user No 1 can be restored in the following way:

1. Open the panel's cabinet (sabotage alarm may occur), disconnect AC power and remove batteries.
2. With a wire short circuit two RESET points (in the upper left corner of board).
3. Connect power supply or insert batteries and next open RESET points.

Password of the user 1 will be reset to “0000” and anti-sabotage zone 32 of the OUT1 output will be set to off. All other settings made by the user will remain unchanged.

## **DESIGNING WIRELESS ALARM SYSTEM**

Designing and installation of alarm system with the Elmes CB32 control panel should begin with careful planning of detectors, control panel and outdoor siren place of installation arrangement. To ensure satisfactory protection of secured premises a variety of detectors may be needed. Elmes PTX50 wireless motion detector and Elmes CTX3H or CTX4H wireless magnet contact detectors should be installed in each protected room with window. Additionally, Elmes GBX1 wireless glass break detector could be installed for protection of windows breakage in premises and shops. Depending on needs one or two wired detectors can be connected to parametric EXT and TAMP inputs of the panel. The panel will also operate with RP501 four channel long range transmitter offering one to four wired detection inputs to be monitored remotely. Learning the RP501 transmitter to the CB32 control panel by activation of input fourth will learn all four RP transmitter’s inputs to four adjacent alarm zones of the panel. Activating input four of the RP501 while learning the transmitter to zone 20 of the panel will assign four RP inputs to alarm zones no 17, 18, 19 and 20. When installing detectors and RP501 transmitter respective instruction manuals must be followed.

It is highly recommended that before permanent installation of detectors or control panel operating range tests should be undertaken to confirm reliable communication of the devices with the CB32 panel. The RF range test allows evaluation of operation range of wireless devices. This function available in Service Settings menu (item 3.4) and may also be helpful in detecting any interfering radio signals. If signals received by the control panel are weak, there may be a need to relocate installation places of some detectors or the control panel. In extreme cases, it is recommended that Elmes TRX transceiver (repeater) be used to ensure proper communication in the alarm system.

Installation place of detectors is determined individually. Access to the control panel should meet specific needs of protected premises but it is not recommended to place the panel next to the door or in place easily accessible. Best suggested way of disarming the alarm system is to activate entry delay from outside of the premises with the use of a remote control transmitter. It allows safe opening the entrance door, accessing the panel keypad and disarming the system with password code. The entry delay programmed by an installer or user should allow convenient access to the control panel keypad.

The CB32 control panel may also be installed in place such as bedroom or study room, allowing complete elimination of the entry/exit delay time. In that case, arming and disarming of the alarm system from the outside of the premises can be made with the use of a remote control only. It will be audibly signaled by sirens or optically by LED or a lamp connected to an output configured to arming/disarming signaling.

The panel features also the option of arming alarm system in the night mode with selected rooms excluded from supervision (e.g. bedrooms, upper floor), as well as the day mode in which only the selected rooms (e.g. cellar, basement, garage) are supervised. Arming entire alarm system, or in night/day modes is done with the use of the CB32 panel keypad. Arming entire system or arming in the night mode only is also possible with the use of system keyfob transmitter (two channel transmitter required e.g.

DWB100H). All options and functions of alarm system designed with CB32 control panel are user selected and set in the Service Settings menu of the panel.

## **POWER SUPPLY SOLUTIONS**

To ensure proper operation the CB32 control panel requires external 230VAC/12VDC unregulated power supply pack with current output ranging from 150mA (panel alone) to 300mA (panel, GSM phone and optional wired detectors).

Initial powering of the panel starts with screwing in DC output wires of the power pack to +/- terminals of the panel. Plugging the pack to AC outlet lits the LCD panel and displays software version followed by initial date (day\_month), time (hour: minute: seconds:) and status: "disarmed". Flashing "ALARM" LED signals batteries absence. Two AA size NiMH type rechargeable batteries could be installed now observing correct polarity (+/-) marked in their compartments. After initial charging "ALARM" LED stops flashing.

**CAUTION!** Use AA size NiMH type **rechargeable batteries** only with recommended capacity of 1800 to 2500mAh. The use of other than NiMH batteries with AC power supply pack connected (battery charging) **is not permitted** and may cause damage.

The use of batteries with lower capacity than recommended could not guarantee 72 hours of emergency operation. After initial 25-30 hours of panel operation (batteries first charging) the power pack should be disconnected, and the batteries discharged by powering the panel from the batteries only. Discharged batteries will be recognized by the LCD panel cease to display any message. The AC power pack should be mains plugged again to restore panel operation and recharge the batteries. This forming operation will allow maximum capacity of the batteries.

Operating in wired alarm environment with system backup battery Elmes CB32 control panel may be powered from 12-14 VDC system line voltage. The wired system backup battery acts as emergency power supply to entire alarm including the CB32 panel. It is then recommended to set off alarming on the internal siren of the panel (see item 8.5).

**NOTICE!** Manufacturer supplies control panel with zone 31 EXT and zone 32 TAMP disabled. The anti-sabotage function of output OUT1 is set to off allowing connection of external siren and power supply to the CB32 panel without activating sabotage alarm. After making system connections, inserting the batteries and closing the panel cabinet, the anti-sabotage protection function in zone 32 should be enabled.

## **ALARM SYSTEM WITH ELMES CB32 CONTROL PANEL**

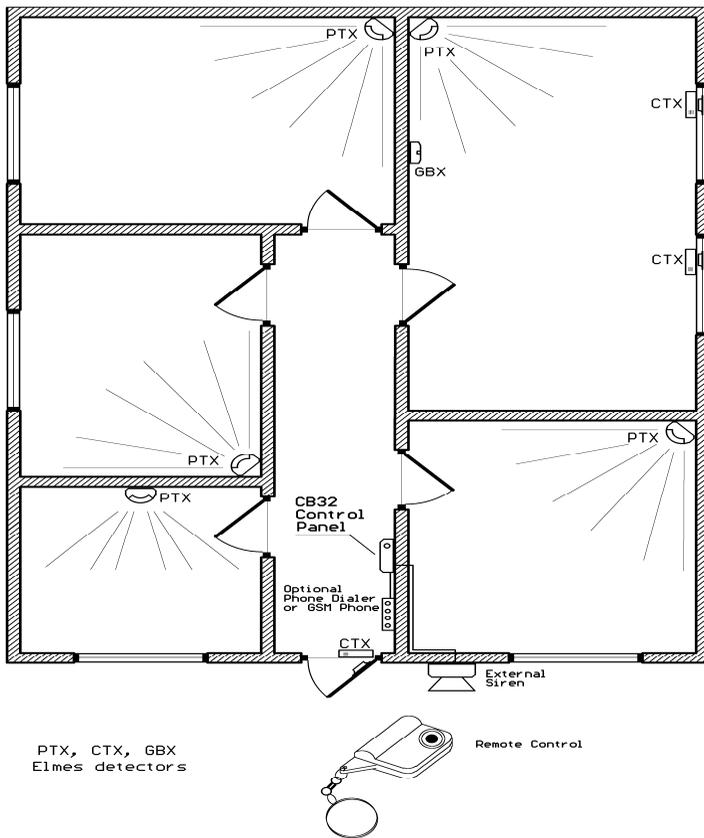
Designed alarm system may be less or more complex depending on individual needs. Simplest alarm may consist of only few detectors and the control panel with internal siren for audible signaling, while complex alarm system would have a range of detectors in addition to internal and external signaling devices and GSM phone notification.

The diagram presented on the next page shows an example of a complex alarm system with the use of Elmes PTX50 wireless motion detectors, Elmes CTX3H and Elmes CTX4H magnet contact (open & close signaling function) detectors, GBX glass break detector, Elmes UBM100H remote control for activating entry delay and panic alarm, wired external siren, phone dialer or GSM phone and Elmes CB32 control panel. The system should be power supplied from a dedicated buffered power pack with integral

battery backup. Other advisory examples of alarm configurations based on Elmes CB32 wireless control panel are presented on Fig.1 and Fig.2.

Wiring of external equipment such as sirens, AC power supply or phone dialer to the CB32 control panel terminals, should be made through large installation whole and a cable groove in the bottom part of the cabinet. Suggested installation of the control panel is in vertical position, e.g. on the wall at the height of approx. 1.20 to 1.40m, allowing convenient entering keypad commands. The configuration procedure for an exemplary alarm system described further assumes that the user will use a remote control to activate the entry delay. It is recommended to make basic settings, learn detectors and carry out the first tests on workshop table before permanent installation in the rooms. Following are some basic essential steps to be taken at first wireless alarm system configuration setting:

1. Unpack the CB32 control panel; **first connect** AC/DC power pack **and then** insert rechargeable batteries observing polarity (+/-) marked inside the panel cabinet.
2. Enter Service Settings menu by pressing and holding down OK button (initial password: 0000), and input current date and time (pt. 6.1). Enter new password (pt. 5.1), the name of the first user and learn remote control transmitter to the user.
3. Unpack wireless detectors: Elmes PTX50 (motion), CTX3H or CTX4H magnet contacts (opening/closing) and GBX1 (glass break), install batteries and configure according to the included manuals and requirements of the alarm system. Install wired siren or learn dedicated Elmes WSS outdoor wireless siren to CB32 panel.
4. Learn detectors to alarm zones of the panel (item 3.3) and test their operation with the “Monitor of Alarm Detectors” function of the CB32 control panel (see page 5).
5. Set the zone with the entry detector as a „remote delayed” zone (item 3.1.e of S.S.).
6. Set the entry delay time (item 6.2) according to individual requirements.



The above steps allow first workshop tests of the constructed alarm system. The CB32 panel's internal siren will audibly signal all alarms and arming/disarming commands. After initial testing the control panel and detectors could be installed in selected places, while checking for the level of the radio signals received from each detector by the control panel ("RF range test"- item 3.4 of S.S.). Other person help may be needed to activate detectors while the signal level readouts are watched and evaluated.

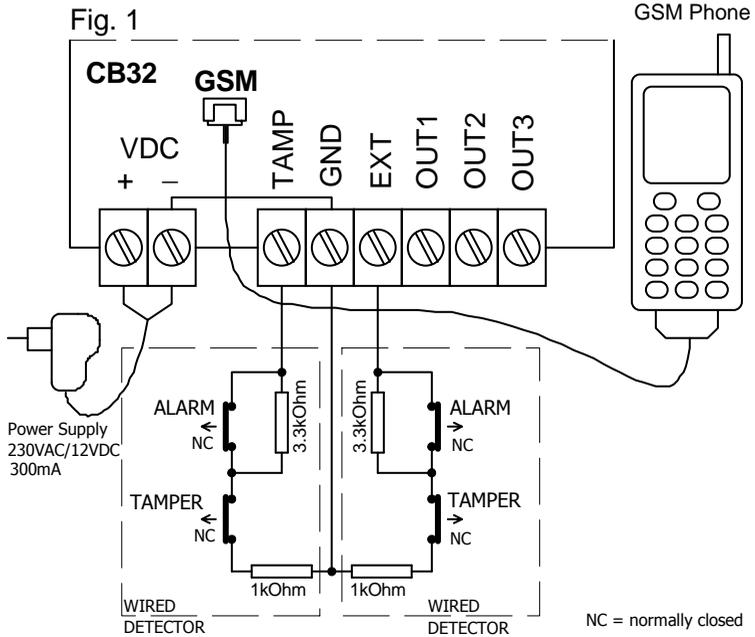
To enable the anti-sabotage protection against detaching the control panel from wall, the square piece of the backside plastic over the Tamper switch should be removed.

With the system installed and tested in basic configuration, other devices such as an outdoor siren/strobe device, phone dialer or a GSM phone can be added. Also, some other functions of the CB32 panel such as anti-sabotage of the OUT1 output (item 8.4), disable signaling on the internal siren (item 8.5) or the RF link test between detectors and the control panel, can be defined and set. New users with names (item 5) can be added as well as names of alarm zones can be defined (item 3.2).

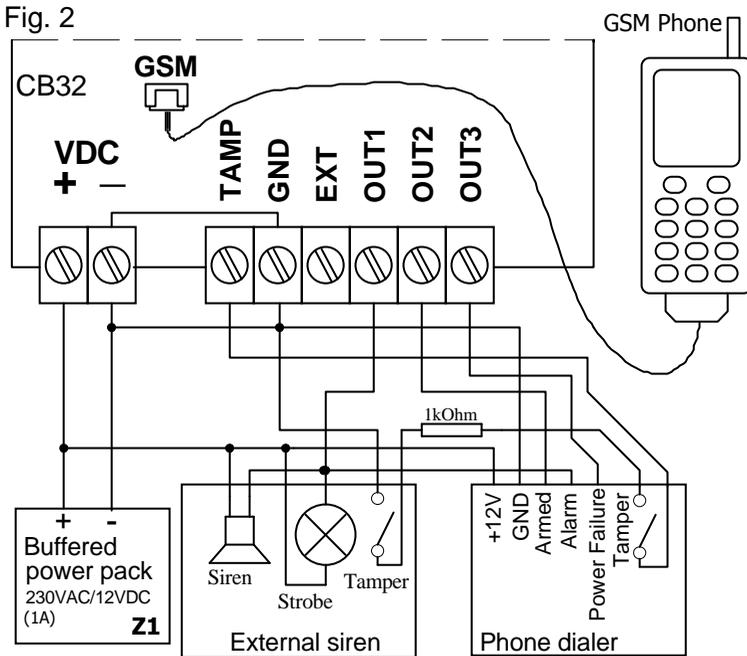
## WIRING DIAGRAMS

In a sample installation in Fig. 2, an external wired siren, phone dialer, GSM phone and a buffered power pack (Z1) ensuring operation of the system at AC power failure are used. The power pack supplies power to control panel, external siren and phone dialer. The GSM phone is powered and data fed by optional dedicated KB2 cable connected to white GSM socket on the panel pc board. The external siren should be connected to OUT1 alarm output. OUT 2 output signals the armed/disarmed status while OUT 3 – failure of 230VAC mains power. All three outputs may be connected to a phone dialer.

**Figure 1. Sample installation diagram of a basic alarm system.**



**Figure 2. Sample diagram of alarm installation with a buffered power pack.**



## SPECIFICATION

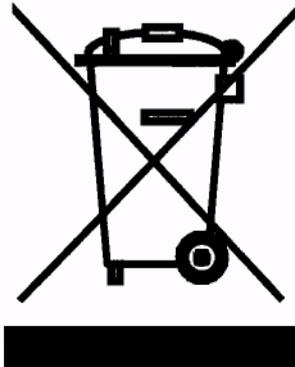
- superheterodyne receiver 433.92 MHz, sensitivity better than -102dBm,
- supports up to 32 Elmes wireless detectors defined as alarm zones,
- supports two wired detectors connected to inputs EXT and TEMP,
- supports up to 16 named users (inclusive of 4 administrators),
- interface to a GSM phone (SMS/CLIP notification) accepting AT commands,
- non-volatile EEPROM memory of last 256 events,
- polymer fuse protected outputs OUT1-3 with up to 1A current draw,
- internal siren/buzzer with alarm sound level - 92dB (at 40cm distance),
- external unregulated AC/DC power pack with 9-15VDC/150mA to 300mA output,
- backup power with two AA rechargeable batteries of up to 2500mAh each,
- up to 72 hours autonomy operation with two 1800mAh rechargeable batteries,
- external dimensions (without antenna): 110/122/32mm (width/height/thick),
- indoor use only with temperatures range from 0 to +40 °C.



**Manufacturer:** Elmes Electronic, 54-611 Wroclaw-PL, Ibn Siny Avicenny 2, phone+48717845961, fax+48717845963, e-mail: elmes@elmes.pl

### LIMITED WARRANTY

The manufacturer of this product warrants the original purchaser that for a period of 24-months as from the date of purchase, the product shall be free of defects in materials and workmanship in normal use. During the warranty period, the manufacturer shall, at its option, repair or replace any defective product upon return of the product to the manufacturer, at no charge for labor and materials. The defective product must be delivered to the point of purchase in a clean condition and at buyer's own expense, along with this guarantee with the date of purchase confirmed below, and a short description of the failure. The cost of dismantling and installing the device is covered by the user. The warranty does not cover batteries and damage arising from improper use or handling, unauthorized adjustments, alterations and repairs.



The use of WEEE symbol indicates that this product may not be treated as household waste. By ensuring this product is disposed of correctly you will protect the environment. For more detailed information about the recycling of this product, please contact your local authority, your household waste disposal service provider or the shop where you purchased the product.

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## Frequently Asked Questions

1. ALARM led is flashing. What may be the cause?

- enter panel's Menu (press OK for more than 2 seconds) and check for reason. If it is battery failure then check for battery contacts, possible battery leakage or, set OFF battery failure notification (sub-menu 8.6), if batteries are not installed.

2. ALARM led is lit. What may be the cause?

- alarm occurred. Enter Menu and check zone number of the alarm and alarm time or, simply enter and leave the menu, the led light sets off.

3. Why occasionally sabotage (tamper) alarm is notified in zone 30?

- the reason is radio band jamming occurring in the area of panel installation. The jamming may be incidental or deliberate. User may set OFF the radio jamming protection function in sub-menu 8.2 of aux functions however, the entire wireless alarm system is not protected then against deliberate jamming of used radio band and burglary may not be notified.

4. Why sabotage alarm in zone 32 is set on after connecting power supply?

- the reason is panel's tamper switch not properly functioning. Check if plastic element protecting switch arm is removed. If not remove it and adjust its arm by gentle bending to signal the panel being moved off wall, or place of installation. Use washer to adjust proper distance of switch arm from wall. The other reason of the alarm may be lack of 1kOhm resistor in sabotage protection circuit (input TAMP).