

# HOME SECURITY

## MICROPROCESSOR CENTRAL UNIT

### "HOME 5"

## USER'S MANUAL

### FEATURES

- remote control by two buttons;
- (dynamic code up to 6 remote transmitters)
- 4 zones, double balanced circuits;
- indications for:
  - \* power supply of the central unit
  - \* status (OFF/ON)
  - \* status of each zone (active/ passive)
    - \* alarm memory for each zone
    - \* memory for the last 8 alarms
- three security modes, two setup modes;
- function "bell" for each zone (by choice)
- double supply (220 VAC network and acid battery) with automatic charge
- built-in magnetodynamic siren 126dB
- built-in tamper-buttons against sabotage
  - possibility for wiring all kind of security sensors (12V normal closed switches for alarm and tamper)
- outputs for:
  - status outstanding indication (ON/OFF) 100mA
  - additional siren or dialer, current 2A to the ground
  - low power acid battery – 100mA to the ground
  - chirp tone if switched ON/OFF, four levels of sound intensity

### USER'S INSTRUCTION

#### 1. Remote control:

Remote transmitter has two buttons:

Left (I) switches ON the central unit  
Right (II) switches it OFF

## 2. Indications

At the bottom part of the box:

**220V** (green) – shows existing of power supply, when it is switched off it means the system works with acid battery supply and it is necessary to take care for restoring it. The battery can secure proper work of the system during couple of hours to three days, due to its capacity and number of mounted sensors. After battery's discharge the system becomes uncontrolled.

**Armed** (yellow) - shows system's status – If LED is ON – it means the system is armed in some arm modes, if LED is OFF – the system is in Disarm mode.

**Zone 1 – Zone 4** – (red), show each zone status. If the LED doesn't light on, it means that all detectors, connected to corresponding zone are in neutral status, if some of the LEDs lights on it means some of detectors from this zone are been triggered. If the system is disarmed, any blink LED shows, which zone is been triggered. The same LED shows the current status of the zone – if some detector is triggered, the LED lights on and off, shortly twice in second, but in neutral mode of the zone the LED lights off and blinks shortly twice in second.

### 3. Arm modes.

There are four security modes of the central unit:

- disarmed
- armed
- armed in Special mode 1
- armed in Special mode 2

Each mode can be set by the remote transmitter.

#### 3.1. Disarmed:

Before coming into the security zone, press the right button to disarm. Double chirp is heard and lighting zone "Armed" lights off. If the remote transmitter for disarming is with random code and its acid battery power is below 10V, after double chirp, double separated sound is heard (the same as in function "bell"). Every time the right button is pressed, the system is disarmed (as described above), independent of the system status (ON/OFF). In this mode the central unit disables control of sensors to all system zones, but still keeps to control system and if any cable has been disconnected or zone sensor has been opened or disconnected (sabotage in system), the starts alarm immediately. Tamper for sabotage in the central unit are connected to the fourth zone internally.

#### 3.2 Armed

In this mode the system is turned by pressing left button on the remote transmitter (RT) after leaving and locking the security area. One "chirp" will be heard and the yellow LED will light on (Armed). 6 seconds after arming, the system disables all detectors, to avoid false alarms from triggered detectors when the area has been left. All 4 LEDs light on, showing that the system will read all zones. After that the LEDs light off and any detector triggering will turn on the alarm immediately.

#### 3.3 Special Arm mode 1.

Turn on this mode as follows: When the system is disarmed press the left button, a "chirp" is heard, within 1 to 6 sec. after press the same button again, long and short

“chirp” is heard. In this order only the programmed zones for the mode (normally 1 and 4) light on. The difference with the previous mode is that in the present mode work only programmed for the mode zones.

### **3.4 Special Arm mode 2**

This mode is turn on by consequent pressing of the left button three times after the system is disarmed. After the first pressing, a chirp is heard and the system is armed. After the second pressing (within 6sec.) special arm mode 1 is ON and a long and short “chirps” are heard. With third pressing special arm mode2 is ON and a long and two short chirps are heard. The LEDs flashes corresponded to armed zones (normally zone 1) in this mode. Pressing of the left button in more than 6 sec., calls indication (light and sound) for the system status only. If you are not sure for the present system mode, wait 10sec.and press the left button.

### **4. To interrupt alarm.**

If any detector is triggered, the system starts alarm by build-in siren and additional devices for determined time (it is set to 2 or 4 min during initial installation).

You could stop alarm by pressing one of the two buttons on RT. According to the pressed button the system stays in arm or disarmed mode. When you are stopping the alarm, if corresponding zone is still triggered, the system is disabling it till the zone is restore. This function is useful in case, for instance - the system is armed after leaving the protected area, but some detector is defective and triggered, as permanent triggered sensor or a door is left opened. Six sec. later the system will alarm in such case. Two possible actions exist - disarm the system and check in the memory which zone is been triggered. The second possibility is to press button enabling the arm mode after alarm, so the alarm stops and the defective zone is disabled, but other zones are controlled as usual. A partitive arming is possible till repairing, and at the same time the trouble can not be passed through.

### **5. Check the last alarms.**

If you press and hold the right button more, than 4sec, the system comes in “Last Alarms check” mode. In this mode the system “chirps” by a long and short tone, the zone’s LED indicates which zone is been triggered. Any next pressing on right button shows previous triggering, a long “chirp” is heard. To quite this mode press the left button - or automatically after 30sec.

### **6. Programming.**

To put the system in this mode you have to press left and right button simultaneously for more than 4sec. Thus you can program zones in Special modes, the loudness of “chirp” or time for alarm, or zone with “bell” function. The programming is described in “Installation manual”. To quit press and hold both buttons for 4sec. - or automatically after 30sec.

Note: Don't use this mode if you are not familiar with “Installation manual”.

### **7. Panic mode**

If hold the left button for more than 4sec. alarm is activated. Stop the alarm as it is described in Chapter4.

### **8. Bell.**

This function is set in programmable mode. For the selected zones – usually zone of the “entrance” door – in every opening if the central unit is disarmed, a short chirp is

heard to warn that somebody enters. Ordinary used in offices and shops if current view to the door is missing. By learning the function is switched on to first zone and if it disturbs you it has to be switched off from the programmable mode.

#### 9. Battery change

If the transmission range of the remote control is extremely low or if, in system type with random code, double chirp is heard (as in "bell" mode) it's necessary the battery of the transmitter to be changed.

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### **INSTALATION GUIDE**

#### ***INSTALATION***

Installation of the system has to be done in the following order:

- mounting the box of the central unit by three dubels to the wall, using earmarked holes at the back side of the box:
- mount all the detectors on the places fixed in advance
- wire all the cables from detectors to the central unit providing a cable for permanent network supply to the electrical board.

#### **CONNECTING**

To every zone you can connect unspecified quantity of standard security detectors (normal closed alarm and tamper switches, with power supply 12V or without

supply, for example magnetic switches, etc.). The requirement to detectors is to provide min 0.5 sec. open switches when they are triggered. For their quantity there are two requirements;

1. – Common consumption of all detectors and additional device supplied from the central unit to be not more than 500mA

2. – Total additional resistance from the cables and closed detectors switches not to exceed 30 Ohm for every zone (have in mind that most detectors have connected in series to their switches protective resistance from 10 to 300 ohm, which usually is described in technical characteristics).

To wire the detectors follow fig.2 and fig.3. In wiring consider that – every zone includes alarm and tamper switches of the sensors, connected to it. The priority of double blanced circuits is that up to 6 detector in zone wiring is through 4 wires cable.

Another priority is that there are not separate zones for tamper switches, but all zones are totally used.

The principle of the zone with double balanced circuit is following: when the sensors are inactive resistor's value is 1k, if any sensor is activated the resistor's value is between 2-7K, in tamper (line defect or open sensor lid) the resistor's value is less than 500 ohm or over 10K.

The rule for wiring of a zone with double balanced circuits with up to 6 sensors is following: start from the Common end (COM) to the last detector and connect with resistor 1k, in reverse order to the first detector follow consequently all tamper and alarm circuits, as parallel to every sensor alarm switch connect resistor 1K and close the circuit in connectors Z (1-4), (see fig2).

When detectors have no tamper, wiring is in the same order but circuit of the tamper switches is contacted in short (shortened).

If only one detector is connected in a zone (for example magnetic switched) wiring follows the same rules (according fig.3) and it's advisable both resistors to be connected at the detector.

**Zones that aren't in use have to be connected with resistor 1k in the central unit (from "Zn" to "COM").**

Except detectors to the central unit can be wired standard additional notification systems. For that pupose following outputs exist:

- PG2 – output with open collector and active zero (12V/100mA), indicating the status of the central unit (ON/OFF). In armed mode – transistor is open (fig. 4). It's used to switch on an additional diode indicating status of the central unit (with relevant terminating by current resistor – usually 1K to +12V from detectors or for connecting to alarm transmitters, needing input for central unit status;

- CTR – output with active zero (2A in a zero) for controlling additional sirens or telephone dialers;

- PG3 –output with open collector and active zero (100mA), as the power of the acid battery is below 10V(+/-0.5V). It can be used for optional starting of dialer, before the accumulator is fully discharged.

Supply of the system is through electric net (220V/ – 25W max), connected to the initial coin of transformer and the secondary one to the connectors AC; and though lead (unsupported) acid battery – 12V-4Ah, wired to

the blue and red cables by connectors (do not change order of the battery connectors).

Calculating value of necessary capacity (in the mentioned range) is dependent of whole system consumption and necessary time of autonomous working, having in mind that consumption of the central unit in inactive mode is about 25 mA.

Low current power supply fuse is switched on to electric board, and is almost impossible not to mention its burning (for example the lights).

## PROGRAMMING

You could program the next functions:

The switched on zones in both special arm models, the “chirp” sound loudness, the time during the siren sounds and zones with function “bell”. To put the system in programming mode you have to press both #1 and #2 simultaneously and hold them at least 4 seconds, the system sounds by 5 short “chirps”. The programming is separated in 4 options: included zones in first second special mode, included zones in second arming mode, the third option: signalization modes and the fourth option : zones with function “bell”. By number of “chirps” indicates which mode the system is put in: first option – one “chirp” pause, second – two “chirps” and a pause and the third – three “chirps”. The change of options is performed by pressing button 1, a long “chirp” is heard, after that you go to next mode. When you are in some option, the LED`s indicates the option status as follows:

- for option 1 and 2 – the LED light corresponding to the zone indicates that the zone will be switched on in special mode 1(for option 1) or special mode 2 (for option 2)..
- for option 3:
  - Zones 1 and 2 – chirp loudness
  - Zones 1 and 2 don't light on – too dark
  - Zone 1 doesn't light, zone 2 lights on - dark
  - Zone 1 lights on, zone 2 doesn't light - brightly
  - Zones 1 and 2 light on brightest
  - Zone 3 – duration of siren sound – if lights (2min.) otherwise 4 min.
- for option 4 – lighting of some zone means that the zone will have switched on function “bell”

In order to change some option, when the option is entered just the second button a long “chirp” is heard and zone 1 starts blinking. If button 1 is pressed, zone 1 stays in light on mode and zone 2 starts blinking: if you press #2 instead #1, zone 1 lights off and zone 2 starts to blink. This is the way to change the four zone of any option, and after fourth zone no LED is blinking, but the zones indicate the new status of the option. After this you could continue to the next option by pressing #1 and by #2 start editing it. The factory standard settings are as follows:

- For first mode zone 1 and 4 are turned on.
- For second mode – zone 1 only
- The siren alarms 2 min, the “chirp” is low
- zone 1 has function “bell”

The sound settings are valid only in normal work of the system. In Programme mode or Mode for alarm memory check, automatically the loudest “chirp” sound is turned on, in order to make difference between the mentioned modes.

If these settings suits, there’s no need the system to be reprogrammed. To quit the Programming mode press #1 and #2 simultaneously at least for 4 sec. or automatically after 30 sec. (if no button is pressed during this time). Two long chirps are heard.

After you are programmed the system it is useful to verify it. For this purpose turn on consequently both Special Arming modes and follow the indication to check if the selected zones are turned on

If the system is with random code transmitters, their learning is done according the following procedure:

Connect in short the jumper J2, besides the four LEDs start blinking in consequent order and quickly and the siren produces three chirps. Press once any button of the transmitter and a chirp from the siren is heard. Press second time any button on the RT, a chirp is heard again and if the learning is successful all zones blink quickly in one and the same time. If the learning is unsuccessful, only the first zone blinks. After that disconnect jumper J1 and test the work of the learned RT. The same procedure can be used for learning up to 6 RTs, as the 7<sup>th</sup> one erases the setting of the first one. If an “old” RT is learned its setting are recorded in the same position without erasing the other ones. It’s not possible to learned RT six times.

To erase all transmitters (RT) turn off the power supply (AC or acid battery), wait the electrodes to be separated (10sec.), connect in short the jumper J1 and switch on the power supply (for instance the battery). The zones blink but slower than in the learning mode. 10-15 sec. after three chirps are heard and the LEDs light off – all the transmitters settings are erased. The new RTs are learned following the above described method.

## INITIAL START UP OF THE SYSTEM

The initial start up is done in the following order:

1. After all the cables are connected, switch on the battery, in this case the system will alarm due to open tamper switch of system, connected internally to zone 4. The alarm is stopped by pressing button 2 on RT.

2. After that you have to turn on the AC power supply, the green LED will flash. If the indication for power supply is missing check the connector from the transformer to the main board.

3. Check the sensors’ status (after passing of their setup time - 1min approx.). If they don’t work properly, check the fuse (2A) status.

4. Put on the lids of the central unit and verify if every zone is corresponding to its LED without starting alarm if the system is in disarmed mode.

If some of the sensors are starting alarm in disarmed mode, it means the sabotage and alarm circuits are wired incorrect.

If a trouble with the zone 4 occurs ( permanent lighting on of indication LED or alarming at every switching of the zone), check both tampers in the central unit.