



**User manual**

**Mobeye® i110**

SW version 6N.V2



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## **Attention! Very important**

This user manual contains important guidelines for the installation and usage of the Mobeye® i110. Please read these thoroughly before you start using the Mobeye®!

In case of damage caused by disregarding the guidelines, the warranty becomes void.

The user must regularly check the proper functioning of the Mobeye®. The manufacturer cannot be held liable for any damage or loss caused by any incorrect use or incorrect functioning of the Mobeye® i110.

### **Safety guidelines**

- The permitted ambient temperature during operation may not be exceeded (not lower than -10°C and not higher than 55°C).
- The device is intended for use in dry and clean places.
- Protect the device from moisture, heat and water splashing. Not intended for external use.
- The guidelines for the battery usage must be regarded.
- Do not expose the device to strong vibrations.
- Do not let it fall from height.
- Do not use in an environment where any inflammable gases, vapours or dust are present or could be present.
- Repair of the device may only be carried out by people, trained for Mobeye® repair.
- If the device must be repaired, only original replacement components may be used. The use of different parts may lead to damage of the Mobeye®.

### **Use in accordance with the regulations**

The purpose of this device in accordance with the regulations is the generation of SMS text messages and telephone calls after detection of motion by the motion detector or after a temperature was measured that outreaches the programmed limits.

Other uses are not permitted and may invalidate the warrantee.

## 1. INTRODUCTION

The Mobeye i110 is an easy to install alarm system that will notify you about a detection using the built-in GSM communication module.

To use the Mobeye i110 you will need a SIM-card of any provider.

Typical applications are the security of places without any power supply or the temporary security of properties.



The Mobeye i110 has the following features.

### **Alarm notifications after movement detection**

In case of the detection of an intruder, the Mobeye i110 will send an SMS text message to your phone(s). The Mobeye i110 will also call the phone numbers in order to be sure the message is not missed. It is possible to set the siren sound. Following the standby period of 5 minutes, the Mobeye will resume alerting you to new movement.

### **Alarm notifications after detection of out of range temperature**

It is possible to program a minimum and/or maximum temperature alert in to the Mobeye i110. It will monitor the actual temperature of its environment and send an alert as soon as the temperature reaches the limit.

### **Low battery message**

The Mobeye i110 will send an SMS text message when the batteries need to be replaced. When you receive this message, you need to change the batteries as soon as possible, although the Mobeye i110 will continue to function for a short time following the message. Even when the Mobeye i110 is unset, it will measure the battery strength and send the message.

### **Private numbers or Mobeye Internet Portal**

The Mobeye i110 sends alarm messages to one or two telephone numbers. As an option the Mobeye i110 can be connected to the Mobeye Internet Portal for extended functionality. Please refer to [www.mobeye.eu](http://www.mobeye.eu) for more information.

## 2. TO GET READY IN FOUR STEPS

To get started with the Mobeye i110 only four steps are needed.

1. Place the SIM card in the Mobeye i110.  
Make sure this SIM card is not secured by a PIN code.
2. Insert the four batteries.
3. Enter at least one phone number in the Mobeye i110.
4. Check the settings.

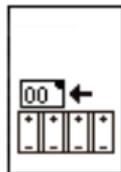
In this chapter these steps are explained.

### 2.1 STEP 1: SIM CARD

To use the Mobeye i110 a SIM card from any network is needed. On this SIM card, the PIN code security needs to be disabled. If you have a SIM card with PIN code, you can disable this using any mobile phone and switch off the PIN code security. Please consult the manual for that mobile phone for the procedure.

The SIM card needs to be inserted before the batteries. When using a prepaid SIM card, take note of the available credit. Additionally it is wise to set a recurrent test message in the menu so the card will be used at least once a month.

- Open the back cover (insert a key or screwdriver into one of the deeper holes and pull back slowly).
- Insert the SIM card in the holder. For opening/closing, move the cover slightly.



### 2.2 STEP 2: INSERT THE BATTERIES

Insert the four lithium 3,0 volt batteries (CR123). When replacing the batteries, all settings remain unchanged.

After inserting the SIM card and the batteries, the Mobeye i110 will perform a self test taking 1 minute. During the test, the light is red. If the light is flashing red, a problem with the SIM card is detected. A reason could be no SIM card was placed, or the PIN code security of the SIM card was not disabled.

Close the Mobeye i110 using the 4 screws.

### **2.3 STEP 3: PROGRAM THE PHONE NUMBERS**

You need to program at least one phone number in the unit as alarm receiving number.

- Enter your 4 digit installation code (factory setting: "1111")
- Press "menu"
- Enter "01" (01 for the 1st phone number, 02 for the 2nd number)
- Press "OK"
- Enter the phone number (e.g. 0712345678)
- Press "OK"

The light turns green and a confirmation melody is played.  
The Mobeye i110 is ready to use.

### **2.4 STEP 4: CHECK THE SETTINGS**

The settings can be sent to the programmed telephone number as SMS text message. In this way you also check the correct working of the SIM card.

- Enter your 4 digit installation code (factory setting: "1111")
- Press "menu"
- Enter "10"
- Press "OK"

Within ca. 30 seconds the set phone number will receive the list with settings.

### **3. SWITCHING THE MOTION DETECTOR ON/OFF**

#### **3.1 SWITCHING ON**

To activate the Mobeye i110 movement detector with your personal installation code.

- Enter your 4 digit installation code (factory setting: "1111")
- Press "OK"

The light turns red shortly and an indication tone is started. This repetitive tone will last during the exit delay of 60 seconds. As soon as the acoustic signal stops, the Mobeye i110 is active.

If the installation code is entered incorrectly 3 times, the indicator turns red and the Mobeye i110 will be blocked for 10 minutes.

#### **3.2 SWITCHING OFF**

To de-activate the Mobeye i110 movement detector with your personal installation code.

- Enter your 4 digit installation code (factory setting: "1111")
- Press "OK"

The light switches to green and a confirmation melody is played.

## 4. MOBEYE SETTINGS

The Mobeye i110 settings can be changed via the keypad and SMS text messages. First the method of programming is discussed, next the explanation of the settings.

### 4.1 CONFIGURATION

To change the settings, please follow these instructions:

- Enter your 4 digit installation code (factory setting: "1111")
- Press "menu" - light turns green
- Enter the menu number (see list below)
- Press "OK"
- Enter the new setting
- Press "OK". The light switches off, a confirmation melody is played



In the event of incorrect entries, the light turns red and a short beep will sound. The menu can be left from any position, by twice pressing "OK".

Following settings are possible:

Menu nr	Description	Options	Factory setting
00	Change installation code	4 digit code	1111
01	Change 1 <sup>st</sup> tel.nr.	Tel. number (0 to delete)	-
02	Change 2 <sup>nd</sup> tel.nr.	Tel. number (0 to delete)	-
03	Sensor sensitivity	1,2	1 (high)
04	Entry delay	15, 30, 45 or 60	15 (sec.)
05	Interval test message	0-30 (days)	0 (no message)
07	Entry indication	0 (off), 1 (on), 2 (LED)	0
08	Siren	0 (off), 1 (on)	0
09	Exit indication	0 (off), 1 (on)	1
12	SMS on/off	0 (off), 1 (on)	1
13	Call on/off	0 (off), 1 (on)	1
41	Change minimum temperature	000-050 (0 until 50°C) 110-101 (-10 until -1 °C) 999 = off	999
42	Change maximum temperature	000-050 (0 until 50°C) 110-101 (-10 until -1 °C) 999 = off	999
49	Correction factor temperature	01-09 (+1 to +9 °C) 11-19 (-1 to -9 °C) 00 (no correction)	00
50	Change user code	4 digit code	8888
60	Actual time	hhmm (e.g.1530)	-
61	Actual date	yyyymmdd (e.g. 20140331)	-

## 4.2 INSTALLATION CODE

The installation code is the code for switching on/off the active status. In the active status the Mobeye i110 will detect movements. The installation code is also needed to program the settings or activate the special functions. It is possible to change the installation code to any 4-digit number. Please change the code to make the unit more secure. If the installation code is entered incorrectly 3 times, the indicator turns red and the Mobeye i110 will be blocked for 10 minutes.

## 4.3 SMS CUSTOM TEXT

A custom text can be added in the SMS text messages, to identify which Mobeye i110 unit sent the message. The second part of the SMS text message contains a standard text like 'alarm', or 'Test message OK'. The custom text is written before the standard text.

This custom text (max. 20 characters) can be programmed by sending an SMS to the Mobeye i110. Changing the custom text cannot be done via the keypad, only via sending an SMS text message.

Switch the Mobeye i110 into the programming mode. In this mode the GSM module is switched on and is able to receive messages.

- Enter your 4-digit installation code. (factory setting: "1111")
- Press "menu"
- Press "21" -> light turns green
- Press "OK"

First the light flashes red (interval ca. 1 sec). As soon as the light turns green, the Mobeye i110 is able to receive SMS-messages.

To program the custom text, send an SMS in following structure:

To program the custom text, send an SMS in following structure:

1111 NAME:myowntext

- '1111' stands for the installation code (1111)
- 'NAME' is a standard command (capitals)
- Replace 'myowntext' by a self-defined text (max. 20 characters)
- Be aware of the space after 1111 and the colon after NAME

You will hear two short beeps in case of a correct command.

Leave the menu by pressing "OK" twice.

#### **4.4 TELEPHONE NUMBERS**

The SMS alarm message and voice ('alarm signal') message can be sent to one or two telephone number. At least one telephone number must be entered in the Mobeye i110. The test messages and low battery messages are sent to the first programmed telephone number.

#### **4.5 SMS ON/OFF**

By default, the Mobeye i110 sends alarm notifications via text message and calls to the preset contact persons. By turning off the SMS, the unit will only call after the movement sensor detects an alarm. Regardless of this setting the temperature alarm always sends an SMS including the actual temperature.

#### **4.6 CALL ON/OFF**

By default, the Mobeye i110 sends alarm notifications via text message and calls to the preset contact persons. By turning off the CALL, the unit will only send an SMS text message as alarm notification. It is not possible to switch off both.

#### **4.7 SENSOR SENSITIVITY**

The detectors' sensitivity can be changed to a high or low value.

1= High

2 = Low

In the high sensitivity mode each detection will generate an alarm. In the lower sensitivity mode the alarm will be generated only when the detector is activated twice in any 15 seconds period. This mode prevents false alarms in case of e.g. draught and is most suitable if the sensor is directed towards an open space.

#### **4.8 ENTRY DELAY**

It is possible to choose from 4 entry delay times. The entry delay is the time between the moment of detection and the moment of sending the first SMS text message.

Important note: If the GSM network has low signal strength, the time can be longer as the network connection may not be established within the time of the entry delay.

## **4.9 ENTRY INDICATION**

No entry indication is set at the factory default. It is possible to hear an indication beep during the entry delay. This can be used as a reminder that the Mobeye is in active mode. It is also possible to let the LED indicator flash a few times, as an indicator for the user.

## **4.10 SIREN**

After the entry delay, the siren can sound for two minutes. At the same time the SMS text messages and telephone calls will be sent. As soon as the Mobeye is switched off, the siren will stop. The siren is set to silent as the factory default.

## **4.11 EXIT INDICATION**

Upon arming the system, you have one minute to leave the room. The PIR is not active yet and an exit indication sounds. It is possible to change this to a silent exit time. A short beep is heard and the LED flashes red during the exit time.

## **4.12 TEMPERATURE ALARM**

The Mobeye i110 is able to send a temperature alarm as soon as the actual temperature reaches a programmed min. or max. level. This function can be used independently of the motion detection. As soon as the temperature is too high or too low, an SMS text message is sent, followed by a telephone call. As long as the out of range temperature remains, the report will be repeated hourly. Once the temperature is back to normal, the Mobeye i110 confirms this to you.

This function is active as soon as a temperature limit is programmed. By resetting the limits, the function becomes inactive.

## **4.13 ADJUSTING THE TEMPERATURE**

The built-in temperature sensor may have a standard deviation of the actual temperature. In this case, the deviation will be similar at all temperatures. It is possible to correct the temperature deviation in the Mobeye i110. In the SMS setting summary, you see the reported temperature. If a correction is specified, it is processed in the displayed temperature; the correction factor itself is displayed separately.

Example: Mobeye temperature: 13 °C. Actual temperature: 14 °C. To correct this deviation, one degree should be added.

#### **4.14 INTERVAL TEST MESSAGE**

The Mobeye i110 can send test messages. Through these test reports you will be informed of the status of your system. The interval between test reports is adjustable between 0 (no test reported) and 30 (once every 30 days). Note: the interval of 1 day will result in a daily test message; the exact time between the messages will be about 24 hours.

The smaller the interval between the test reports, the shorter is the battery life. The test message only works if the system is on or a temperature limit is set.

#### **4.15 SETTING THE CURRENT TIME AND DATE**

Some telecom providers offer this in the network, which is updated by the Mobeye i110 during the start-up and after sending test messages. It is possible to set the time and date manually. To view the clock time, send a list of the settings to the first phone number (CODE MENU 10 OK).

#### **4.16 USER CODE**

The Mobeye i110 offers the possibility to set a personal 4-digit user code, for just arming and disarming the system. It is not possible to change the settings with the user code. The system needs to be switched on and off using the same code; the installation code and user code are not interchangeable. Factory settings for the user code is "8888". This code can be changed by the installation code or user code (menu number 50). We recommend you to change this code to make the unit more secure.

## **5. ADVANCED OPTIONS**

### **5.1 REQUEST SETTINGS**

The settings can be sent to the set telephone number as SMS text message. In this way you also check the correct working of the SIM card.

- Enter your 4 digit installation code (factory setting: "1111")
- Press "menu"
- Enter "10"
- Press "OK"

Within ca. 30 seconds the first phone number will receive the list with settings.

### **5.2 RESET TO FACTORY SETTINGS**

It is possible to reset the Mobeye i110 to factory settings.

- Enter your 4 digit installation code (factory setting: "1111")
- Press "menu"
- Enter "99"
- Press "OK"

After several seconds a short confirmation tone is heard. The installation code is also reset to 1111.

### **5.3 LEAVE THE MENU**

The menu can be left from any position, by pressing "OK" twice.

## 5.4 POSITION OF MOBEYE

The built-in motion sensor has a 360° detection pattern and has a range of about 8 meters. The Mobeye i110 can be positioned both vertically as horizontally. It can be mounted to the wall, put down on its side in a cabinet, put down with its sensor upward or downward. If you want to hang the Mobeye i110, the pre-punched holes can be opened, in order to hang it on screws.



In order to check the positioning of the sensor, a sensor test can be executed.

- Enter your 4 digit installation code (factory setting: “1111”)
- Press “menu”
- Press “511”
- Press “OK”
- A confirmation beep is heard. First the green light will be flashing. After about 30 seconds the light will be on continuously.

In this mode the sensor test can be done; each time the sensor detects a movement, a repeating beep will sound.

Leave the test by entering OK twice.

## 5.5 TEST GSM NETWORK STRENGTH

Before using the Mobeye i110 is it advised to test the GSM signal strength at the location.

- Enter your 4 digit installation code (factory setting: "1111")
- Press "menu"
- Press "512"
- Press "OK"

The Mobeye i110 now switches on the GSM module and searches for all available networks. It also checks the network strength of the SIM card provider in the device.

As soon as the GSM network is found, the light will turn green.

The GSM signal strength for the network your SIM is using can be gauged from the LED indicator:

LED	Description
Green during 30 seconds	Signal is very good
Flashing green	Signal is good
Red	Signal is weak
Flashing red	No valid SIM card or SIM card is not pin code free or no signal

The telephone number at memory position 01 will receive an SMS text message, containing all existing GSM networks, sorted by provider. It also tells the strength of each network.

This search function can take a few minutes. If you want to leave the function before it is ready, please press "OK" twice.

### Warning

In the event of a weak signal, the Mobeye i110 can still be used, but there is a risk that messages cannot be sent or will be received with a delay. In case of no signal, it is advised to try a different network.

## 6. ISSUE SOLVING

<b>Error</b>	<b>Possible reason</b>	<b>Solution</b>
Mobeye i110 cannot be switched on. You hear an error tone, the red light is turned on shortly.	No valid Telephone number was entered.	Enter a valid number.
The light is flashing during switching on.	No valid SIM card was entered or the SIM card was not made pin code free.	Check the SIM card.
It is impossible to change the settings. After entering the installation code, followed by menu, the error tone is played and the light turns red.	Mobeye is activated.	Switch off the Mobeye i110.
No GSM signal during the GSM test	No network is available, belonging to the SIM cards provider.	Choose another network provider.
The light remains red.	You entered an incorrect installation code three times.	Wait 10 minutes and then re-enter the correct installation code.
You do not receive an SMS with the settings.	Telephone number is not correct.	Re-program the telephone number Change the menunr.06 to '01'.
For other questions, please refer to the site <a href="http://www.mobeye.eu">www.mobeye.eu</a>		

## 7. TECHNICAL DATA

- GSM: Quad Band EGSM 850/900/1800/1900 MHz compatible to the ETSI GSM Phase 2+ standard
- Output power:
  - Class 4 (2W @ 900 MHz)
  - Class 1 (1W @ 1800 and 1900 MHz)
- Temperature range: -10°C until +55°C
- Weight: ca. 275 gram incl. batteries
- Dimensions: 161 x 90 x 35 mm (LxWxH)
- Batteries: 4 x CR123 Lithium 3.0 V
- Power: 50  $\mu$ A, short peaks of max. 2 A

### Support

For support on technical problems regarding Mobeye i110 please contact [info@mobeye.eu](mailto:info@mobeye.eu).

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## Declaration of Conformity

Herewith we, Mobeye, declare that the product

### **Mobeye i-110**

is in compliance with the essential requirements of the following European standards / EU Directives:

**Directive 73/23/EEC** (low voltage directive)

**Directive IEC/EN 50130** Electromagnetic compatibility

**Directive 1995/5/EC R&TTE** (Radio & Telecommunications Terminal Equipment)

The conformity with the essential requirements of 1995/5/EC has been verified against:

**ETSI EN 301 489-1 V1.5.1**

**ETSI EN 301 489-7 V1.2.1**

**ETSI EN 301 511 V9.0.2**

**CENELEC EN 60950:2001**

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