



PORTAL USER MANUAL

Mobeye[®] ThermoGuard

CM2200

CONTENT

1. General description	5
2. Getting started	6
2.1 Sign up in the Mobeye Internet Portal	6
2.2 Register the Mobeye SIM card	6
2.3 Insert the Mobeye SIM card	7
2.4 Connect the temperature sensor	7
2.5 Insert the batteries	7
2.6 Connect an external power supply (optionally)	7
2.7 Enter the program mode	8
2.8 Activate the device	8
2.9 Configuration and synchronisation	9
2.10 How to use the Mobeye Internet Portal	9
2.11 Switching on/off	11
2.12 Confirmation of the alarm message	11
3. Use of inputs	12
4. Possible settings	13
4.1 Installation code	13
4.2 Alarm phone numbers	13
4.3 Set a minimum and/or maximum temperature limit	13
4.4 Call on/off	13
4.5 Temperature delay time	13
4.6 Alarm delay time	14
4.7 Input type	14
4.8 Inactive time	14
4.9 Alarm repeat time	14
4.10 Power failure delay time	15
4.11 Power failure message	15
4.12 Unit of temperature	15
4.13 Temperature calibration	15
4.14 Automatic arming / disarming	16
4.15 Buttonlock	16
4.16 Low power mode	16
4.17 Test message	17
5. System reset	18
6. Status feedback	19
6.1 Request actual temperature	19
6.2 Outside LED	19

Attention! Very important

This user manual contains important guidelines for the installation and usage of the Mobeye® device as described in this manual. Please read these thoroughly before you start using the Mobeye® device.

In case of damage caused by disregarding the guidelines, the warranty becomes void. The user must regularly check the proper functioning of the device. The manufacturer cannot be held liable for any damage or loss caused by any incorrect use or incorrect functioning of the Mobeye® device.

Safety guidelines

- The permitted ambient temperature during operation may not be exceeded (not lower than -10°C and not higher than 50°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, vapors 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® device.

Use in accordance with the regulations

The purpose of this device in accordance with the regulations is sending messages and making telephone calls. Other uses are not permitted and may invalidate the warranty.

Battery recycling

CR123 batteries, as used in the Mobeye ThermoGuard, are classified as non-hazardous waste and can be recycled. Please take empty batteries to a nearest collection point

1. GENERAL DESCRIPTION

The Mobeye ThermoGuard is a battery operated GSM module used to send an alarm notification after the temperature gets out-of-range, a triggered input or - if an external power supply is used- after a power failure.

The ThermoGuard can function 'stand-alone' or in combination with the Mobeye Internet Portal. Once activated in the Mobeye Internet Portal, the factory settings of the Mobeye ThermoGuard cause following reactions:

- In the situation of a temperature alarm, the Mobeye ThermoGuard sends an alarm message to the Mobeye Internet Portal and calls the phone numbers programmed in by the user. The Portal forwards the alarm as text message and/or e-mail including the measured temperature.
- As soon as the temperature gets back to a value inside the range, the Mobeye ThermoGuard sends a 'Temperature OK' message via the Mobeye Internet Portal.
- When an input is activated by a sensor, the Mobeye ThermoGuard sends an alarm message to the Mobeye Internet Portal and calls the phone numbers programmed in by the user. The Portal forwards the alarm as text message and/or e-mail.
- When the temperature sensor is removed, the Mobeye ThermoGuard sends a message via the Mobeye Internet Portal containing the text 'Temperature sensor not connected'.
- When the batteries need to be replaced, the Mobeye ThermoGuard sends a 'low battery' message to the Mobeye Internet Portal. The portal forwards this to the 'service' contacts.
- When an external power supply is used and a power failure occurs, the Mobeye ThermoGuard sends a 'power failure' message to Mobeye Internet Portal, to be forwarded to the 'alarm contacts'. When the power is restored, the Mobeye ThermoGuard sends a 'power restored' message.
- The unit is able to send test messages to the portal as communication check (default: every 7 days). If these are not received in time, the portal sends an exception message to the 'service' contacts.

Chapter 4 describes how to influence the standard behaviour.

For use of the stand-alone Mobeye ThermoGuard -without the Mobeye Internet Portal - please download the stand-alone manual from www.mobeye.eu/EU/documentation/manuals.

2. GETTING STARTED

To get started with the Mobeye ThermoGuard, at least the following steps need to be taken in the following order:

1. Sign up in the Mobeye Internet Portal
2. Activate the SIM card
3. Insert the Mobeye SIM card
4. Connect the temperature sensor
5. Insert the batteries
6. Connect an external power supply (optionally)
7. Enter the program mode
8. Activate the device in the Mobeye Internet Portal
9. Program the settings incl. the temperature limits

These steps are further explained in this chapter. After these steps the module will be operational.

2.1 SIGN UP IN THE MOBEYE INTERNET PORTAL

Go to www.mymobeye.eu and sign up for a new account. Follow the instructions on the screen.



You will receive an e-mail to confirm the new account. After confirmation login to the portal.

If you do not receive this e-mail, check your spam box or ask Mobeye (info@mobeye.eu).

2.2 REGISTER THE MOBEYE SIM CARD

To activate the Mobeye SIM card in the Mobeye Internet Portal, choose 'activate new SIM card'.

activate new SIM card

Enter the SIM card number. This is the number written on the plastic SIM card. Only take the last 8 digits of the last two lines (incl. number after space, do not type the space).

The screen leads you through several pop-ups where you choose your device type (search for "CM2200 ThermoGuard") and select the type of contract (for instance "ThermoGuard SIM + Portal Monitoring").

At the moment you accept the price and terms, you confirm the subscription. You will receive an invoice for the mentioned amount.

Before activating the device in the Mobeye Internet Portal, first prepare the unit (see next paragraphs).

2.3 INSERT THE MOBEYE SIM CARD

Open the enclosure by removing the 4 screws and insert the Mobeye SIM card into the module. Push the black cover slightly outward to open the holder and close it afterwards. Make sure the SIM card is inserted before the batteries.

2.4 CONNECT THE TEMPERATURE SENSOR

Plug the external temperature sensor into the socket and press it firmly.



2.5 INSERT THE BATTERIES

Insert the two batteries (CR123) in the module. Use the +/- indication for the correct placement. If you replace batteries the settings will not be deleted, since they are stored in the device memory.

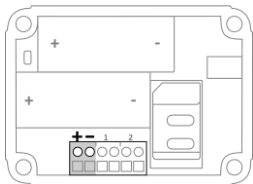
2.6 CONNECT AN EXTERNAL POWER SUPPLY (OPTIONALLY)

Although the Mobeye ThermoGuard is designed to run on batteries, it is possible to use an external power supply. In this mode the module is always connected with the GSM network and therefore always in program mode. When the power fails, the

batteries take over and a power failure alarm message is sent. The module continues operating albeit in the low power mode. This means the GSM module switches off and only establishes network connection when it needs to send an alarm notification, test message or low battery alert.

Connect the external power adapter (or any other regulated 12VDC power supply) to the power input of the connector (press on the green pins to connect the wires):

- V+ (black lead with white stripe) to “+”
- Ground (black lead) to “-“



2.7 ENTER THE PROGRAM MODE

To activate the unit in the portal, the GSM module needs to be open and connected to the network. Using external power, the unit is always in program mode.

Directly after inserting the batteries, the Mobeye ThermoGuard switches to the program mode. First the GSM module establishes network connection. During this time the LED flashes green and red. Within 10-30 seconds the connection is established and the status LED starts flashing 1 sec. on/1 sec. off (or stays on continuously in case the first telephone number has been configured).

The Mobeye ThermoGuard returns to the program mode by pressing the on/off button for 5 seconds, until the LED starts flashing red/green. Once it has GSM connection it will be flashing again (or stays on continuously).

As long as the unit is in program mode, the status green LED is on (or flashing 1 sec. on/1 sec. off if the module has no configuration). During the first 3 minutes, the GSM module remains active, ready to be activated in the portal. After 3 minutes a time-out occurs and the GSM module switches off in order to save the batteries. The unit returns to the low power operational mode.

2.8 ACTIVATE THE DEVICE

When the ThermoGuard is in initial (factory) status and the batteries are inserted (so the LED is flashing), you activate the device in the Mobeye Internet Portal by clicking 'Activate device', which is written behind the registered SIM card. The unit will receive a message from the portal and the data exchange is started. At the first pop-up window you are asked to enter the installation code. Type the factory code '1111'. The next screen will ask for a name and location of your device. These fields can be changed later.

contract

SIM_card + portal "Monitoring" Activate device

Once the activation is completed, the new device is visible in the device list.

My devices

Name	Location	Status
Mobeye Alarm Unit	Main street 1, 1000AA, Amsterdam	OK

By clicking the name, the detail page will be opened.

2.9 CONFIGURATION AND SYNCHRONISATION

The device settings can be programmed in the Mobeye Internet Portal, including the (max. and min.) temperature limits. In this way you prepare the settings, to be picked up by the device: since the Mobeye device is leading in the communication between the portal and the device, the data synchronisation is done after:

- 1) any message to the portal (e.g. alarm, test, low batteries)
- 2) reconnecting power and reinserting batteries
- 3) pressing the on/off button for 5 seconds once it was in program mode (battery-operated: first go to program mode, next press the button for 5 seconds).
- 4) receiving an SMS command to change a setting (not described in this manual).

An alternative, but less preferred method of programming is to send SMS commands to the telephone number in the Mobeye device. This method is explained in the Mobeye ThermoGuard stand-alone manual. This manual can be downloaded from www.mobeye.eu/EU/documentation/manuals.

2.10 HOW TO USE THE MOBEYE INTERNET PORTAL

The device detail screen in Mobeye Internet Portal shows several blocks:

Contacts

The contacts are the contact persons that will receive alarm and service notifications, per SMS text message and/or e-mail. Service notification may be warnings about missed keep-alive (test) messages and low battery voltage.

In order to add a contact, please first create the contact person in the (blue) tab *Contact*.

Note: the telephone numbers that will be dialed directly from the unit, are configured in the Options.

Status

The status block displays several values, important information about the unit.

The GSM status tells the network strength in the last communication session. If the values is lower than -95dB, please consider another location for the device).

If the 'Synchronised' status is 'No', there are new options to be picked up by the device.

Device

Open the device details to change the name and location of the device. These are copied into each SMS text message and e-mail and meant as identifier.

Message texts

In the message texts are the event texts in the SMS text message and e-mails. These texts can be customized.

History

All historical events and logs are displayed in the history. Click 'show' all.

Options

The configuration options (settings) can be changed in the MobeYE Internet Portal. Click 'edit' to change the settings. Type the installation code (factory setting is '1111') to open the pop-up. Please see chapter 4 for the description of each setting.

Options » edit

After saving the new settings, they need to be picked-up by the device, i.e. synchronised. Please see 2.9 for more information about the synchronisation.

2.11 SWITCHING ON/OFF

After the previous steps, the Mobeye ThermoGuard is ready for use. It is armed (switched on) automatically. Changing this status can be done by time schedules or manually.

In order to switch off (disarm) the Mobeye ThermoGuard manually:

- Press the on/ off button at the upper side for 1 second. The green LED switches off to indicate the disarmed status.

In the disarmed status the Mobeye ThermoGuard will not send alarm notifications. The functions automatic arming and sending a 'low battery' message, are still active.

In order to switch on (arm) the Mobeye ThermoGuard manually:

- Press the on/ off button at the upper side for 1 second. The green LED blinks once every 3 seconds (battery-powered) or stays 'on' continuously (in case of an external power supply).

2.12 CONFIRMATION OF THE ALARM MESSAGE

When the system is triggered it will send alarm notifications. First a message is sent to the Mobeye Internet Portal, which will be forwarded to the alarm contacts. Next the device will directly call the alarm telephone numbers. When you pick up the phone, you will hear beeps. It is possible to confirm the phone call by answering the phone and pressing any key. The other alarm numbers will not be called afterwards.

3. USE OF INPUTS

It is possible to connect two external sensors to the inputs. As a standard reaction after a triggered input, the Mobeye ThermoGuard sends a message via Mobeye Internet Portal and calls the alarm telephone numbers.

Insert the 2 wires of an external sensor through the hole of the enclosure to the inside part and next in the two connectors of input 1 (press on the green pins for connecting the wires). It does not matter which wire is connected to which connector. When using a second input, connect this to input 2.

As default the inputs are programmed as Normally Open (NO) contacts. This means the inputs are triggered if the input is closed for at least 1 second. In case the contact is Normally Closed (NC), please refer to paragraph 4.6. If you require the sensor to be activated for a shorter or longer period before triggering an alarm, please refer to 4.6.

4. POSSIBLE SETTINGS

The Mobeye ThermoGuard settings are prepared in the portal, in the "Options" block, and then retrieved by the device during a synchronization session. The factory setting for the security code is '1111'. All settings are saved and stored in the unit, even when the unit is not powered or the batteries have been removed.

4.1 INSTALLATION CODE

For configuration activities the installation code of the Mobeye ThermoGuard must be used. The initial (security) code is '1111'. The code can be changed in the options. Note: the code is only visible when changing the settings.

4.2 ALARM PHONE NUMBERS

The Mobeye ThermoGuard is able to directly call up to 5 phone numbers. These may be different numbers than the (unlimited number of) contacts who will receive SMS text messages and/or e-mails. It is not required to enter phone numbers.

4.3 SET A MINIMUM AND/OR MAXIMUM TEMPERATURE LIMIT

A separate high and/or low limit for the temperatures can be set. The limits can be set between -35 and +70 °C, with one decimal. Negative values are set by a "-" before the value.

4.4 CALL ON/OFF

Even if the alarm telephone numbers are set in the options, the calling process can be suppressed. By turning off the CALL, the unit will only send the notification via the Mobeye Internet Portal. The default value is set to ON.

4.5 TEMPERATURE DELAY TIME

The temperature delay time defines the duration a temperature limit is violated before an alarm is initiated. If the temperature returns to the non-alarm status within the delay time, no alarm is sent. The time can be set between 0 and 999 minutes.

As default, the temperature delay time is set to 0 minutes.

4.6 ALARM DELAY TIME

The input delay time defines the time that the input is triggered before an alarm is initiated. If the input returns to the non-alarm status within the delay time, no alarm is sent. The time can be set between 0 and 999 seconds. As default, the input delay time is set to 1 second.

4.7 INPUT TYPE

The input type defines the character of the inputs IN1 and IN2. This can be Normally Open (NO) or Normally Closed (NC). If an input is set to NO, the alarm will be triggered as soon as the terminals of the input are closed. If the input is set to NC, the alarm is triggered when the connection between the input terminals is broken. The default input type is set to NO.

4.8 INACTIVE TIME

The "inactive time" defines the time an input is not active after an activation. During the inactive time, no new alarm message will be sent. Only when the input returned to the non-alarm status, gets activated again and remains active, an alarm will be sent yet after the inactive time. If the time is set to "0" (minutes), the input will be active again immediately after returning to the non-alarm status. The time can be set between 0 and 60 minutes. As default, the inactive time is set to "0".

4.9 ALARM REPEAT TIME

In order to emphasize the urgency of the alarm messages, all alarms can be repeated. As long as the input has not returned to the inactive status, the portal notifications will be repeated after the 'alarm repeat time'. In each repeated temperature alarm message the actual temperature is included. The repeat interval can be set between 0 and 999 minutes. As default the alarm repeat time is set to 0 minutes.

4.10 POWER FAILURE DELAY TIME

If the Mobeye ThermoGuard is powered externally and the power fails it can notify the contact person(s). The power failure delay time defines the time between the initial power failure and the alarm notification. If the power is restored within the delay time, no alarm is sent. The time can be set between 0 and 999 minutes. As default, the delay time is set to 0.

4.11 POWER FAILURE MESSAGE

If the Mobeye ThermoGuard is powered externally and the power fails it sends a message via the Portal and calls the programmed telephone numbers (setting 'ALARM'). The message is only sent in case the unit is armed. Power restore results in a message via the Portal. This setting can be set to 'ALERT' or 'OFF'. If the setting is 'ALERT' the power failure message and restore will only be sent via the Portal (no call). The setting 'OFF' means that no power failure message is sent. The default setting for the 'power failure message' is set to "ALARM".

4.12 UNIT OF TEMPERATURE

The temperature can be programmed and displayed in degrees Celsius (C) or Fahrenheit (F). If the unit was set to F, the temperature limits can be set between -30 °F and 158 °F. As default this unit is set to C.

4.13 TEMPERATURE CALIBRATION

The high quality temperature sensor is digital and calibrated at the factory. For special applications it is possible to calibrate the sensor and program a correction. The adjusted temperature will be used in the measurement and reports. For each temperature sensor a calibration can be entered.

Example: the Mobeye ThermoGuard measures 13 °C. Actual ambient temperature: 13,5 °C. To adjust this difference, +0,5 degrees shall be programmed.

4.14 AUTOMATIC ARMING / DISARMING

The Mobeye ThermoGuard only works if the unit is armed, which is done via the on/off button. It is possible to automatically arm and disarm the unit, based on an arming and/or disarming time scheme. Two schemes can be entered, which can be assigned to the days in the week (e.g. to have a different weekend scheme).

As default the automatic (dis) arming times are valid for all days. It is possible to assign them to only a few days in the week. In this way it is possible to have two different schemes, which are valid on different days.

As value the weekdays can be entered. Monday is 1, Tuesday is 2, etc. If the scheme is valid for several days, the days can be entered in one command (e.g. 12345 means Monday till Friday).

Example: to arm the system only during weekdays, from 6AM to 7PM, set the TIMEARM1 to 06:00, TIMEDISARM1 to 19:00 and DAYS1 to 12345.

4.15 BUTTONLOCK

It can be useful to lock the on/off button to prevent the unit from being switched off unintentionally. In the 'buttonlock' mode the button is still available to get in the program mode. As default the buttonlock is OFF (so, the button can be used). To disable the button, the buttonlock needs to be switched to ON.

4.16 LOW POWER MODE

A battery-powered Mobeye ThermoGuard has the GSM module switched off in stand-by mode. It only switches on if it has to send a message. An externally powered unit always keeps the GSM module open (as factory default). When using the "low power mode" an externally powered unit will also keep the GSM module closed as much as possible, to minimize the power consumption. To achieve this, the LOWPOWER shall be set to ON. In the low power mode, the presence of the external power source will still be monitored.

4.17 TEST MESSAGE

The Mobeye ThermoGuard can send regular test messages (*keep alive*) to the Mobeye Internet Portal, to ensure the proper functioning of the unit. The test message will also be sent if the unit is disarmed. The Mobeye Internet Portal expects the test message and checks the timely receipt. The monitoring of the test messages follow the 'management by exception' rule: only if the message was not received, the 'service' contacts will receive a notification.

The timing of the test message can be programmed. Since new settings (options) will be synchronised after the test message, setting a specific time of the test message can help the process of remote programming. Example: if you force a daily test message at 17.30 hrs, you can prepare new settings and be sure they are loaded into the device before the evening.

The interval between the test messages can be set between 0 days (no test message) and 30 days. The default test interval is set to 7 (weekly test message).

5. SYSTEM RESET

To reset a Mobeye ThermoGuard two steps are necessary:

1. Reset the Mobeye ThermoGuard
2. Delete the Mobeye ThermoGuard from the Mobeye Internet Portal

1. To reset the Mobeye ThermoGuard to its factory settings

1. Remove the batteries (and external power supply).
2. Press the outside button while reinserting the batteries. Keep it pressed for (about) another 5 seconds.
3. Release the button immediately after the LED starts to flash.
4. If relevant, connect the external power supply.

After a successful reset, the status LED will blink green to indicate that the module is not configured. The security code is back to factory settings as well.

2. To delete the Mobeye ThermoGuard from the Mobeye Internet Portal

Delete the device from the Mobeye Internet Portal. The SIM card could be then reused for another Mobeye device, or the same device can be connected again.

In the device list, click the name of the device to go to the details screen. Next choose 'Device'. Click 'delete' to delete the device and confirm the option. The SIM card will be disconnected from the device and visible on the first screen.

6. STATUS FEEDBACK

6.1 REQUEST ACTUAL TEMPERATURE

The actual temperature can be retrieved by sending a question mark as SMS text message to the Mobeye ThermoGuard, from any telephone and without code. This is only possible when the unit has external power (or in the program mode).

?

Upon sending the command, the Mobeye ThermoGuard returns an SMS text message to the originator of the request.

6.2 OUTSIDE LED

The outside LED gives information of the status.

LED pattern	Status	Required action
Blinking green, 1 second on / 1 second off	Module not configured	Configure at least one telephone number.
1 green flash every 3 seconds	Module is switched on, powered by batteries	No action required.
Green LED stays on continuously	Module is switched on, powered by an external source	No action required.
Flashing red/ green every second	Module establishes network connection	Wait until the network connection is established.
2 flashes red, every 3 seconds	No GSM connection	Try the module at another location.
3 flashes red, every 3 seconds	No valid SIM card or wrong PIN	SIM card failure.
Blinking 3 times green	Successful programming action	No action required.
Blinking 5 times red	Faulty programming action	Check SMS command.
4 red flashes every 3 seconds	Low batteries	Replace both batteries.
Quickly flashing green	Module exchanges data with portal	No action required

Technical specifications

GSM	:	Quad band EGSM, 850/900/1800/1900 MHz
Batteries	:	2* CR123 (lithium)
Battery life in normal mode	:	>1 year (battery operated)
	:	>2 years (external power supply)
Ext. power connection	:	12 VDC (+/- 2 VDC) / min. 500 mA (optional)
Power consumption low power	:	ca. 50 μ A stand-by / max. ca. 500 mA
Power consumption 12V	:	ca. 50 mA stand-by / max. ca. 500 mA
Dimensions	:	80 x 60 x 40 mm
Ambient temperature	:	-10 °C until +50 °C

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This user manual meets the technical requirements at the moment of printing.

Changes in technology and equipment are reserved.

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Declaration of Conformity

Herewith we, Mobeye, declare that the

Mobeye CM21 telemetry module

And the derived products

CM2000, CM2100, CM2200, CM2300, CM2300-FS, CM2410, CM2500, CM2600,
CML2015, CML2025, CML2055, CML2255, CML2275, CML2285, CMVXI-R

are 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 2014/53/EU (RED)

The conformity with the essential requirements set out in Art.3 of the 2014/53/EU has been demonstrated against the following harmonized standards.

EN 60950-1: 2006 + A11 : 2009 + A1: 2010 + A12: 2011 + A2: 2013
EN 62311 :2008
EN 301 489-1 V2.1.1, Draft EN 301 489-52 V1.1.0
EN 301 511 V12.5.1

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