



**USER MANUAL**

# **Mobeye CM-Guard TwinLog**

## **CML2055**

## **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 SMS text messages, making telephone calls and sending (log) files. Other uses are not permitted and may invalidate the warranty.

## **Battery recycling**

CR123 batteries, as used in the Mobeye CML2055, are classified as non-hazardous waste and can be recycled. Please take empty batteries to a nearest collection point.

## CONTENT

<b>1.</b>	<b>General description</b>	<b>4</b>
<b>2.</b>	<b>Getting started</b>	<b>5</b>
2.1	Insert a SIM card	5
2.2	Connect a sensor or device to the input	6
2.3	Insert the batteries	6
2.4	Connect external power supply	6
2.5	Enter the program mode	7
2.6	Program at least one telephone number	8
2.7	Program threshold values for the inputs	8
2.8	Switching on/off	9
2.9	Confirmation of the alarm message	9
<b>3.</b>	<b>Use of external power supply</b> Fout! Bladwijzer niet gedefinieerd.	<b>10</b>
<b>4.</b>	<b>Use of the output</b>	<b>10</b>
4.1	Connect a device to the output	10
<b>5.</b>	<b>Control the output via SMS command</b>	<b>10</b>
<b>6.</b>	<b>Configuration</b>	<b>11</b>
6.1	Program mode	11
6.2	The (security) code	12
6.3	Programming the settings by SMS	12
6.4	List of SMS commands for configuration	13
<b>7.</b>	<b>Possible settings</b>	<b>15</b>
7.1	Phone numbers	15
7.2	Identification text	15
7.3	Alarm texts	16
7.4	SMS on/off	16
7.5	Call on/off	17
7.6	Input type	17
7.7	Exit delay time	17
7.8	Alarm delay time	18
7.9	Inactive time	18
7.10	Threshold values for analogue inputs	18
7.11	Unit of measure for analogue inputs	19
7.12	Alarm repeat time	19
7.13	Power failure delay time	19
7.14	Power failure message	20

7.15	Pulse time output	20
7.16	Automatic arming / disarming	20
7.17	Buttonlock	22
7.18	Low power mode	22
7.19	Test message	22
7.20	Additional log functions in the Mobeye internet portal	23
7.21	System reset	23
<b>8.</b>	<b>Request list of the status, settings and signal strenght</b>	<b>24</b>
<b>9.</b>	<b>Mobeye Internet Portal</b>	<b>25</b>
<b>10 .</b>	<b>Technical messages and status feedback</b>	<b>26</b>

## 1. GENERAL DESCRIPTION

The Mobeye CML2055 is a GSM module used to monitor the inputs and send alerts in the event of an alarm situation. The unit can run battery-powered. When powered externally, the power supply will be monitored too. If connected to the web portal, analogue values are logged and transferred to the web portal.

The Mobeye CML2055 is pre-programmed with standard behaviour. To change this behaviour please refer to chapter 0.

The factory settings of the Mobeye CML2055 cause following reactions:

- As defaults the inputs are set to 'analogue'. Once the threshold values for the input(s) are set and one of these values are reached, the Mobeye CML2055 sends an alarm SMS text message and calls the phone numbers as programmed. The SMS message contains the measured value.
- When external power is connected and a power failure occurs the Mobeye CML2055 sends an alarm SMS text message and calls the phone numbers as programmed. The SMS message contains the text 'Mobeye Power failure'.
- When the power is restored, the Mobeye CML2055 sends a 'power restored' SMS text message to the phone numbers as programmed.
- When the input(s) remain in the alarm status and/or the power failure remains, the Mobeye CML2055 repeats sending the alarm SMS message every 4 hours.
- When the batteries need to be replaced, the Mobeye CML2055 sends a 'battery low' SMS text message to the administrator (first telephone number).

If connected to the Mobeye Internet Portal, additional functions are active (see chapter 8:

- In the event of an alarm situation, the unit will call the phone numbers as programmed and send a message to the portal. The portal will dispatch the message to the preset (alarm) contact persons as e-mail and/or SMS message.
- If the inputs are set as 'analogue' (factory settings), the values are measured and logged every 60 minutes and sent to the portal every 12 hours.
- The connection between the Mobeye CML2055 and the portal is checked every 7 days. If no connection was made, the portal sends a 'non-keep alive' message to the (service) contact persons as preset in the portal.

## **2. GETTING STARTED**

To get started with the Mobeye CML2055, at least the following steps need to be taken in the following order:

1. Insert a SIM card
2. Insert the batteries
3. Connect sensors or devices to the inputs
4. Connect the unit to the external power supply (option)
5. Enter the program mode
6. Program at least one telephone number
7. Enter a value for the analogue inputs
8. Arming/disarming the system

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

### **2.1 INSERT A SIM CARD**

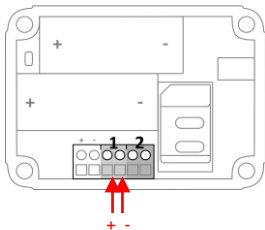
Open the enclosure by removing the 4 screws and insert a SIM card into the module. Push the black cover slightly outward to open the holder. Before installing the SIM card should have PIN code "0000", or PIN code removed. (A PIN code can be changed or removed by putting the SIM card in to any mobile phone and entering the 'security' menu).

NB: Make sure the SIM card is inserted before the batteries are inserted. If you replace a SIM card, first remove the batteries (and remove any other external power supply). The settings are stored in the device memory. The SIM card shall have the "normal" size and be suitable for 2G. It is advised to use an M2M SIM card.

## 2.2 CONNECT A SENSOR OR DEVICE TO THE INPUT

It is possible to connect an analogue sensor such as a battery to both of the inputs. The max. voltage to be measured can be 48 Volt.

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). Connect the wires of the '+' side of the battery to the '+' of input 1, the '-' side of the battery to the '-'.



When using a second input, connect this to input 2.

**Take care: if the wires are connected incorrectly, the unit may be damaged!**

If one of the set values is reached, the Mobeye CML2055 sends an alarm SMS text message and calls the phone numbers as programmed. The alarm message contains the input number and measured value.

The inputs can also be set as Normally Closed or Normally Open, for sensors with floating contacts. Please refer to the next chapters for more information about this and other settings such as delay times.

## 2.3 INSERT THE BATTERIES

Insert the two batteries (CR123) in the module. Use the +/- indication for the correct placement.

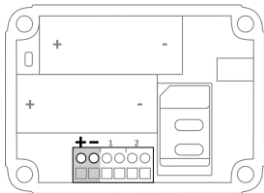
## 2.4 CONNECT EXTERNAL POWER SUPPLY

The unit does not need external power. As battery-operated unit, the CML2055 runs completely independently, still monitoring the inputs. However, once connected to an external power supply, the power supply will be monitored as well. With external power

the GSM module itself will remain open all the time, which makes it possible to program the unit remotely and ask for status reports.

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 "-"



## 2.5 ENTER THE PROGRAM MODE

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

A battery-operated unit switches to the program mode after inserting the batteries. 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 CML2055 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 receive SMS commands. 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.



## 2.6 PROGRAM AT LEAST ONE TELEPHONE NUMBER

The Mobeye CML2055 is able to send messages up to 5 telephone numbers. The first telephone number (TEL1) belongs to the administrator. Technical messages (such as *battery low*) are sent to the administrator only. Without the administrators' phone number, the Mobeye CML2055 cannot function.

When the CML2055 is in initial (factory) status and the batteries are inserted (so the LED is flashing), the administrators' number is programmed by calling the telephone number of the Mobeye CML2055 using the administrators' phone. The unit will recognize this number and store it as administrator (TEL1). The administrator will receive a confirmation SMS text message including the security code. This code is needed to program the other settings in the unit.

NB: For this way of programming the number recognition in the administrator's phone must be 'on'. To program or change the administrators' number by SMS command, please refer to 5.2.

## 2.7 PROGRAM THRESHOLD VALUES FOR THE INPUTS

In order to monitor the voltage, connected to the inputs, the upper and lower limit need to be programmed. Value between 0 and 48 can be entered with one decimal (e.g. 10 or 10,2).

SMS command lower limit input 1:	<b>AN1LOW:</b>
SMS command lower limit input 2:	<b>AN2LOW:</b>
SMS command upper limit input 1:	<b>AN1HIGH:</b>
SMS command upper limit input 2:	<b>AN2HIGH:</b>
example:	1111 AN2HIGH:26,4

Please mind the space behind 1111.

## **2.8 SWITCHING ON/OFF**

After the previous steps, the Mobeye CML2055 is ready for use. It is armed (switched on) automatically.

In order to switch off (disarm) the Mobeye CML2055:

- 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 CML2055 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 CML2055:

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

## **2.9 CONFIRMATION OF THE ALARM MESSAGE**

When the system is triggered it will send alarm notifications. First an SMS text message is sent to all programmed alarm numbers, followed by a phone call. 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. By switching off the 'SMS' function, the system will only call. This prevents the other numbers being notified by SMS.

### 3. USE OF THE OUTPUT

#### 3.1 CONNECT A DEVICE TO THE OUTPUT

The Mobeye CML2055 has an open collector output, which switches after receiving a correct SMS. The output can switch permanently, or just switch for a pulse time after which the output automatically switches back (see 6.15).

The maximum load of the output is 200mA. To switch devices, a relay can be placed behind the output with an input voltage of 12VDC. The required switching voltage of the relay depends on the device connected.

NOTE: The output does not work if the CML2055 is battery-operated.



#### 4. CONTROL THE OUTPUT VIA SMS COMMAND

If CML2055 has external power, the GSM module is always open, able to receive an SMS command to switch the output.

To switch the output, send following SMS command to the unit:

**CODE O1ON**

example: 1111 O1ON

To switch off the output, send following SMS command to the unit:

**CODE O1OFF**

example: 1111 O1OFF

Be aware of the space after 1111.

The output has a pulse time of 0 second in the factory defaults. This means that if the output is switched with CODE O1ON, it just switches back after sending the command CODE O1OFF. If it is desired that the output automatically switches back after a given time again, check 6.15.

## **5. CONFIGURATION**

To program the Mobeye CML2055, the GSM module must have network connection. In case only batteries are used, first switch the unit to the program mode. Next send SMS commands for the configuration. All settings are stored and will be kept in the unit, even in case the power supplies are removed.

### **5.1 PROGRAM MODE**

If the unit is connected to an external power supply, the CML2055 has continuous network connection and the unit is permanently in program mode.

If the unit is battery-powered the program mode can be achieved by pressing the on/off button for 5 seconds, until the LED starts flashing red and green. Alternatively, the program mode can be accessed by (re) inserting the batteries.

First the GSM module establishes network connection. During this time the LED flashes green/red. Normally this takes 10-30 seconds. Once the connection is established the status LED starts flashing 1 sec. on/1 sec. off (or stays on continuously in case the first telephone number has been configured).

In program mode, the device is ready to receive SMS commands. If no correct command is received for 3 minutes, the GSM module switches off in order to save the batteries. The unit returns to the low power operational mode.

The program mode is interrupted by pressing the on/off button for one second until the LED switches off. The unit is switched off completely (disarmed).

## 5.2 THE (SECURITY) CODE

For configuration activities the (security) code of the Mobeye CML2055 must be used. The initial (security) code is '1111'. You can change the (security) code to your own code. See section 4.4.

## 5.3 PROGRAMMING THE SETTINGS BY SMS

To program the settings by SMS text message:

1. Make sure the CML2055 is in program mode (please refer to 5.1).
2. Send an SMS text message with the (security) code and the command.
3. The green LED blinks 3 times to indicate the successful configuration. In case of an incorrect command, the red LED flashes 5 times.

SMS messages have the following content: **CODE COMMAND:OPTION**

- Do not forget the space character between (security) code and command.
- The commands are case insensitive.
- Several commands may be combined in one SMS message (with a maximum of 160 characters) by placing a # between the commands.

**CODE COMMAND:OPTION#COMMAND:OPTION#COMMAND:OPTION**

See section 5.4 for a full list of SMS commands.
--

## 5.4 LIST OF SMS COMMANDS FOR CONFIGURATION

The setting options for the CML2055. The commands are case insensitive.

Setting	SMS Command	Options	Default value
Change security code	INSTCODE:	0000...9999	1111
Set telephone number for alarm messages	TEL1: ... TEL5:		Empty
Delete telephone number	DEL1 ... DEL5		
Identification text	NAME:	20 characters	Mobeye
Call on/off	CALL:	ON, OFF	ON
SMS on/off	SMS:	ON, OFF	ON
Input type input 1	TYPEIN1:	AN, NO, NC	AN
Input type input 2	TYPEIN2:	AN, NO, NC	AN
Exit delay	DELAYEXIT:	0...999 (sec)	0
Delay on input 1	DELAY1:	0...999 (sec)	1
Delay on input 2	DELAY2:	0...999 (sec)	1
Inactive time input 1	INACTIVEIN1:	0...60 (min)	0
Inactive time input 2	INACTIVEIN2:	0...60 (min)	0
Lower limit of analogue inputs	AN1LOW: AN2LOW:	0...48	Empty
Lower limit of analogue inputs	AN1HIGH: AN2HIGH:	0...48	Empty
Set unit of analogue inputs	AN1UNIT: AN2UNIT:	0...48	Volt
Alarm repeat time	REPEAT:	0...24 (hrs)	4
Alarm text AN input 1 high	TEXT1:	20 characters	Input 1 high
Alarm text AN input 1 low	TEXT2:	20 characters	Input 1 low
Text input 1 restored	TEXT3:	20 characters	Input 1 OK
Alarm text AN input 2 high	TEXT4:	20 characters	Input 2 high
Alarm text AN input 2 low	TEXT5:	20 characters	Input 2 low
Text input 2 restored	TEXT6:	20 characters	Input 2 OK

Setting	SMS Command	Options	Default value
Alarm text NO/NC input 1	TEXT7:	20 characters	Alarm 1
Alarm text NO/NC input 2	TEXT8:	20 characters	Alarm 2
Alarm text power failure	TEXT9:	20 characters	Power failure
Text at power restore	TEXT10:	20 characters	Power restored
Power failure delay time	DELAYPOW:	0...999 (min)	0
Power message	POWERMESSAGE:	OFF,ALERT,ALARM	ALERT
Pulse time output	TO1:	0...9999 (sec)	0
Actual time	TIME:	hhmm	Empty
Actual date	DATE:	yyyymmdd	Empty
Arming time	TIMEARM1:	hhmm	Empty
Disarming time	TIMEDISARM1:	hhmm	Empty
2 <sup>nd</sup> arming time	TIMEARM2:	hhmm	Empty
2 <sup>nd</sup> disarming time	TIMEDISARM2:	hhmm	Empty
Assigning times 1	DAYS1:	1234567	Empty
Assigning times 2	DAYS2:	1234567	Empty
Use of on/off button	BUTTONLOCK:	ON (button locked) OFF (unlocked)	OFF
Low power status	LOWPOWER:	ON, OFF	OFF
Interval 'test SMS'	TEST:	0...30 (days)	0
Time test message	TESTTIME:	hhmm	
<b>Additional portal functions</b>			
Interval log values	LOGINTERVAL:	0...999 (min.)	60
Interval transfer to portal	TRANSFERINTERVAL:	12...999 (hrs)	12

Examples:

Set phone number 1: 1111 TEL1:0712345678

Delete phone number 1: 1111 del1

Be aware of the space between "1111" and the command.

## 6. POSSIBLE SETTINGS

### 6.1 PHONE NUMBERS

The Mobeye CML2055 is able to send alarm messages to up to 5 phone numbers. The first telephone number (TEL1) belongs to the administrator. Only this number receives all system messages. The other phone numbers (including the administrator) only get the alarm messages.

#### **To set or change telephone numbers:**

SMS command 1<sup>st</sup> telephone number:

example:

**TEL1:**

1111 TEL1:07123456789

... similar for TEL2:, TEL3:,TEL4: and TEL5:

For foreign numbers, start with + followed by the country code (depending on the country leave out the zero for the local area code).

example:

1111 TEL1:+447123456789

#### **To delete telephone numbers:**

SMS command delete 1<sup>st</sup> telephone number:

example:

**DEL1**

1111 DEL1

... similar for DEL2, DEL3, DEL4 and DEL5

### 6.2 IDENTIFICATION TEXT

It is possible to add a standard identification text (NAME) to all messages sent out by the Mobeye CML2055. The alarm messages are a combination of the name and the alarm text. A user defined identification has a length of maximum 20 characters. The default identification text is 'Mobeye'.

SMS command identification text:

example:

**NAME:**

1111 NAME:my Mobeye device



### 6.3 ALARM TEXTS

Unique alarm texts can be programmed into the Mobeye CML2055. User defined texts have a maximum length of 20 characters.

Following default texts are programmed:

Text 1 (input 1 set to AN, lower limit alarm):	Input 1 high
Text 2 (input 1 set to AN, upper limit alarm):	Input 1 low
Text 3 (input 1 restored):	Input 1 OK
Text 4 (input 2 set to AN, lower limit alarm):	Input 2 high
Text 5 (input 2 set to AN, upper limit alarm):	Input 2 low
Text 6 (input 2 set to AN, value restored):	Input 2 OK
Text 7 (input 1 set to NO or NC, alarm status):	Input 1 alarm
Text 8 (input 2 set to NO or NC, alarm status):	Input 2 alarm
Text 9 (power failure alarm 12VDC input):	Power failure
Text 10 (power failure restored):	Power restored

NB: text 9 and 10 are only valid if POWERMESSAGE is set to 'ALARM'.

SMS command text input 1:

**TEXT1:**

SMS command text input 2:

**TEXT2:**

...

SMS command text input 10:

**TEXT10**

example:

1111 TEXT7:battery too low

### 6.4 SMS ON/OFF

By default, the Mobeye CML2055 sends alarm notifications via text message and calls (you will hear a beep signal) to the preset contact persons. By turning off the SMS, the unit will only call after a triggered input.

SMS command enable / disable SMS:

**SMS:ON** or **SMS:OFF**

example:

1111 SMS:OFF

## 6.5 CALL ON/OFF

By default, the Mobeye CML2055 sends alarm notifications via text message and calls 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 the SMS and the call.

SMS command enable / disable call:   **CALL:ON** or **CALL:OFF**  
example:   1111 CALL:ON

## 6.6 INPUT TYPE

The input type defines the character of the inputs IN1 and IN2. This can be Analogue (AN), Normally Open (NO) or Normally Closed (NC). If an input is set to AN, min. and max. alarm values need to be entered. If it is 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 AN.

SMS command input type input 1:   **TYPEIN1:NO** or **TYPEIN1:NC**  
SMS command input type input 2:   **TYPEIN2:NO** or **TYPEIN2:NC**  
example:   1111 TYPEIN1:NC

## 6.7 EXIT DELAY TIME

The exit delay time defines the time between the moment of switching on the module – while the input is active – and the moment the module starts sending the first alarm message. Example: the module has been installed in a cabinet where a door magnet contact is connected to the input. The exit delay time is the time between switching on the module and closing the cabinet's door. Only after this time has exceeded, alarm messages will be sent. The time can be set between 0 and 999 seconds. As default, the exit delay time is set to 0 second.

SMS command exit delay:           **DELAYEXIT:**  
example:           1111 DELAYEXIT:806

## 6.8 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.

SMS command alarm delay input 1: **DELAY1:**  
SMS command alarm delay input 2: **DELAY2:**  
example: 1111 DELAY1:999

## 6.9 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".

SMS command inactive time input 1: **INACTIVEIN1:**  
SMS command inactive time input 2: **INACTIVEIN2:**  
example: 1111 INACTIVEIN2:45

## 6.10 THRESHOLD VALUES FOR ANALOGUE INPUTS

If the input(s) are used as analogue inputs which values need to be monitored, the upper and lower limit need to be programmed. Value between 0 and 48 can be entered with one decimal (e.g. 10 or 10,2).

SMS command lower limit input 1: **AN1LOW:**  
SMS command lower limit input 2: **AN2LOW:**  
SMS command upper limit input 1: **AN1HIGH:**  
SMS command upper limit input 2: **AN2HIGH:**  
example: 1111 AN2HIGH:26,4

## 6.11 UNIT OF MEASURE FOR ANALOGUE INPUTS

If the input(s) are used as analogue inputs which values need to be monitored, the unit of measure for these values may be user-defined. The unit of measure is just a text which is sent in the SMS text message. The default unit of measure is 'volt'.

SMS command unit input 1:  
SMS command unit input 2:  
example:

**AN1UNIT:**  
**AN2UNIT:**  
1111 AN2UNIT:Bar

## 6.12 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 SMS alarm will be repeated after the 'alarm repeat time'. The time can be set between 0 and 24 hours. As default the alarm repeat time is set to 4 hours.

SMS command alarm repeat time:  
example:

**REPEAT:**  
1111 REPEAT:20

## 6.13 POWER FAILURE DELAY TIME

If the Mobeye CML2055 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 and is only accepted if the POWERMESSAGE is set to 'ALARM'. As default, the delay time is set to 0.

SMS command power failure delay time:  
example:

**DELAYPOW:**  
1111 DELAYPOW:15

## 6.14 POWER FAILURE MESSAGE

If the Mobeye CML2055 is powered externally and the power fails it sends an SMS text message to the administrator (setting: 'ALERT'). The message is only sent in case the unit is armed. This message can be set to 'ALARM' or 'OFF'. If the setting is 'ALARM' the power failure message will be sent to all contact persons (SMS and or CALL, following the SMS on/off and CALL on/off settings). The setting 'OFF' means that no power failure message is sent. The default setting for the 'power failure message' is set to "ALERT".

SMS command power failure message: **POWERMESAGE:ALARM**  
(or **ALERT** or **OFF**)

example: 1111 **POWERMESAGE:ALARM**

## 6.15 PULSE TIME OUTPUT

The pulse time or switch time of the output is adjustable between 1 and 9999 seconds. The pulse time indicates how long the output remains switched after a telephone number sends CODE O1ON (eg 1111 O1ON), before it automatically switches back again. If the pulse time is set to 0 seconds, the output will not automatically switch back. It may be switched back by SMS command CODE O1OFF. By default, the pulse time is set to "0" second.

SMS command pulse time output: **TO1:**  
example: 1111 **TO1:45**

## 6.16 AUTOMATIC ARMING / DISARMING

The Mobeye CML2055 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). For arming/disarming automatically, the internal clock time needs to be correct. Some telecom providers offer this in the network, which the Mobeye CML2055 synchronizes during start-up and after sending test messages. It is possible to set the time manually.

To view the clock time, request a list of the settings by sending the command 1111 SET?.

**To set the actual date:**

SMS command actual date:                   **DATE:**

**To set the actual time:**

SMS command actual time:                   **TIME:**

**To set a daily arming scheme:**

SMS command arming scheme 1:           **TIMEARM1:**

**To set a daily disarming scheme:**

SMS command disarming scheme 1:       **TIMEDISARM1:**

**To set a second daily arming scheme:**

SMS command arming scheme 2:           **TIMEARM2:**

**To set a second daily disarming scheme:**

SMS command disarming scheme 2:       **TIMEDISARM2:**  
example:   1111 TIMEDISARM2:1455

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

**To assign TIMEARM and/or TIMEDISARM to weekdays:**

SMS command to assign 'scheme 1':       **DAYS1:**

SMS command to assign 'scheme 2':       **DAYS2:**

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).

examples:                   1111 DAYS1:12345  
                              1111 DAYS2:67

## 6.17 BUTTONLOCK

It can be useful to lock the on/off button to prevent the unit from being switched off unintentionally. As default the buttonlock is unlocked (so, the button is enabled). To disable the button, the buttonlock needs to be switched to on.

SMS command buttonlock:                   **BUTTONLOCK:**  
example:                                   1111 BUTTONLOCK:ON

## 6.18 LOW POWER MODE

If Mobeye CML2055 works battery powered, the GSM module is switched off and just switches on to send messages. If the unit has external power, the GSM module is always open, according to the factory settings. However, it is possible to have the GSM module in low power to minimize power consumption, even when external power is used. To achieve this, the LOWPOWER should be set to ON. Also in the low power mode, the presence of the external power source will continue to be monitored.

SMS command low power mode:           **LOWPOWER:**  
example:                                   1111 LOWPOWER:ON

## 6.19 TEST MESSAGE

The Mobeye CML2055 can send regular test SMS messages (*keep alive*) to the administrator (first phone number), to ensure the proper functioning of the unit. The test message function is only active if the unit is armed.

The timing of the test message is determined by the time of programming. The test time can also be programmed.

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 0 (no test message).

SMS command interval test message: **TEST:**  
example: 1111 TEST:21

## 6.20 ADDITIONAL LOG FUNCTIONS IN THE MOBEYE INTERNET PORTAL

The Mobeye CML2055 can run standalone and is ready for use, after inserting a SIM card from any provider. However, with a subscription to the Mobeye SIM / portal services and a registration in the Mobeye Internet Portal ([www.mymobeye.eu](http://www.mymobeye.eu)) the Mobeye CML2055 offers additional features such as logging of voltage values. See chapter 8 for more information.

The logging interval is the interval in which the measured values are logged (with a timestamp). The data are stored in the system until the next data transfer. When transferring data, the recorded values are sent to the Portal. The logging interval can be set between 0 and 999 minutes. The default logging interval is set at 60 (minutes). The transmission interval can be set between 12 and 999 hours. The standard transmission interval is set to 12 (hours). When a higher frequency is required, please contact Mobeye.

### To change the logging interval:

SMS command log interval:

**LOGINTERVAL:**

### To change the data transfer interval:

SMS command transfer interval:

**TRANSFERINTERVAL:**

## 6.21 SYSTEM RESET

To reset the Mobeye CML2055 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 on the keypad will blink green to indicate that the module is not configured. The security code is back to factory settings as well.



## 7. REQUEST LIST OF THE STATUS, SETTINGS AND SIGNAL STRENGTH

Several lists and status reports can be retrieved by sending an SMS text message to the Mobeye CML2055, from any telephone. Before sending the request, make sure the unit is in the program mode (please refer to 5.1).

Upon sending the command, the Mobeye CML2055 returns an SMS text message to the originator of the request. The commands are case insensitive.

### STATUS REQUEST

The status can be requested by sending following SMS text message. The status includes the armed/disarmed status, status of the inputs, power and batteries.

SMS command status request:	<b>STATUS?</b>
example:	1111 STATUS?

### LIST OF SETTINGS

The settings can be requested by sending following SMS text message:

SMS command list basic settings:	<b>SET?</b>
SMS command list advanced settings:	<b>SETA?</b>
SMS command list of texts:	<b>TEXT?</b>
example:	1111 SET?

### LIST OF PHONE NUMBERS

The list of telephone numbers can be requested by sending following SMS text message:

SMS command list of phone numbers:	<b>CALL?</b>
example:	1111 CALL?

### GSM SIGNAL STRENGTH

The signal strength of the used mobile network can be requested. If the network is weak, it is advised to use a SIM card of another network provider or an external GSM antenna (a Mobeye accessory). The GSM signal strength can be requested by sending following SMS text message:

SMS command request GSM signal:	<b>NETWORK?</b>
example:	1111 NETWORK?

## 8. MOBEBYE INTERNET PORTAL

The Mobeye CML2055 sends GSM messages to the preset contact persons. It is also possible to connect the system to the Mobeye Internet Portal. In this secured internet environment the Mobeye CML2055 system(s) can be administered.

The portal offers various functions:

- 1) the portal forwards alarm messages to contact persons (SMS and/or mail), which are set in the portal. The receivers of alarm messages may be different from the receivers of technical messages. Alarm phone calls will still be done directly from the Mobeye CML2055.
- 2) keep the log and display the log of the measured analogue values.
- 3) display of status and historical events.
- 4) the name and location can be set in the portal. This name is used in SMS and mail messages.
- 5) the device settings can be programmed through the internet portal or via SMS command.
- 6) once connected to the internet portal, test messages (*'keep alive'*) will be sent regardless the armed or disarmed state. The portal will check the receipt of test messages (*'keep alive'*); when the message was not received on time, it sends an exception message.

Look at [www.mobeye.eu/portal](http://www.mobeye.eu/portal) for more information.

## 9. TECHNICAL MESSAGES AND STATUS FEEDBACK

### Technical messages

In the event of technical issues the administrator receives an SMS message. Possible technical messages are:

Message	Reason
Low batteries, external power supply OK	Power is available, batteries need to be replaced.
No external power supply, batteries OK	No external power supply, batteries are able to take over operation in low power mode.
Low batteries, no external power supply	No external power supply, batteries need to be replaced.
External power supply OK, batteries OK	The external power is restored (or the adapter is plugged in a socket), batteries do not need to be replaced.
(delayed message)	If (delayed message) is added to the SMS text messages, the message couldn't be sent earlier, due to a SIM card failure or GSM network failure.

When receiving one of the above mentioned technical messages, please take appropriate action as soon as possible. During the battery replacement, the SIM card does not have to be removed.

## Status feedback

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 SIM card in any mobile telephone; replace SIM card using other telecom provider; try the module at another location.
3 flashes red, every 3 seconds	No valid SIM card or wrong PIN	Try the SIM card in any mobile telephone; remove PIN code; check credit; replace SIM card.
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.



## 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 $\mu$ 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

This manual is published by Mobeye®.

All rights, the translation included are reserved. Any reproduction, either photocopy, microfilm or saved in an automated data dictionary, only after written approval of the Publisher. Reprinting, even in summary, is prohibited.

This user manual meets the technical requirements at the moment of printing. Changes in technology and equipment are reserved.

© Copyright 2018 by Mobeye, version CML2055EN180401



## Declaration of Conformity

Herewith we, Mobeys, declare that the

### Mobeys 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

Mobeys  
Poeldonkweg 5  
5216 JX 's-Hertogenbosch  
The Netherlands

Name: Jack van de Vijver  
Position: General Manager  
Signature: 

Date: 12 July 2017



