



# **GSM Mini Alarm DRAGON**

## **Manual**

Version 1.2.

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## I. INTRODUCTION

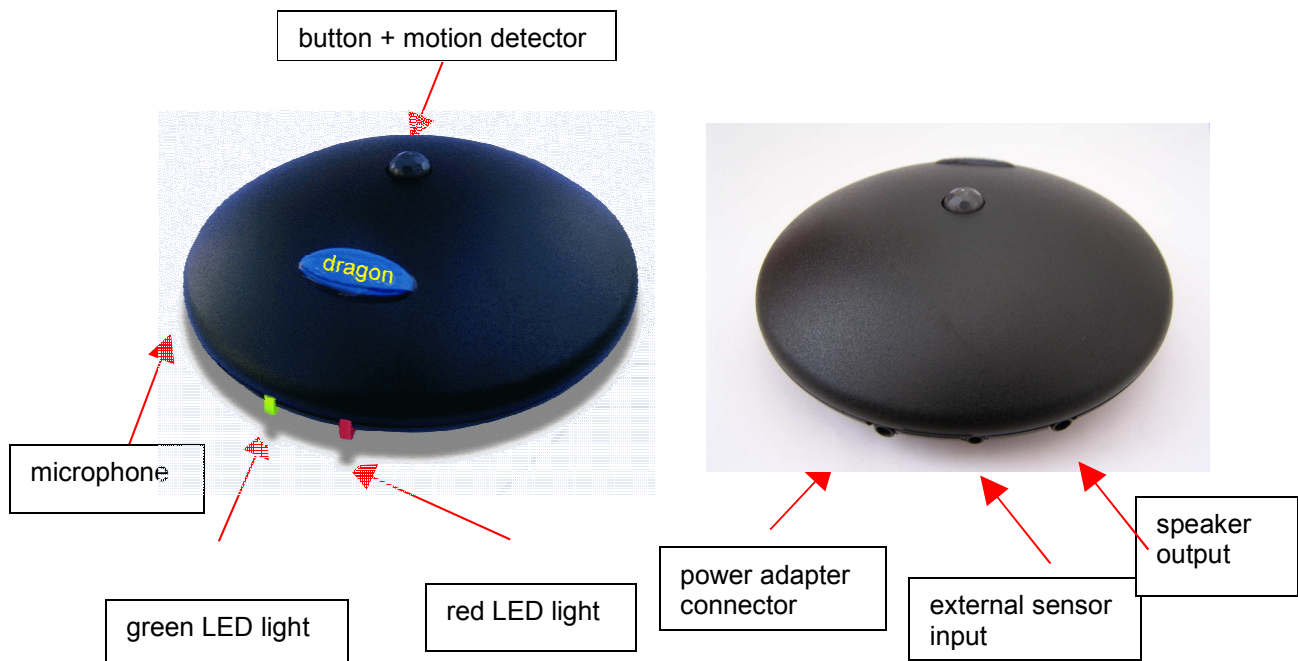
Mini Alarm DRAGON is a compact wireless device designed for signalling of unauthorized entry into a protected area. It is used indoor and you can put it on any place in the room where the PIR sensor can reach the movement of people passing by (approx. 5 metres). Its usage is universal and unique, DRAGON can be installed in horizontal or vertical position (on the wall, on the ceiling, etc.).

## III. APPLICATIONS

- monitoring of protected room (flat, office, weekend house...) by integrated motion detector
- temporary surveillance of company's warehouse
- reporting of intrusion into the protected room by text message and voice call
- possibility of listening in after the alarm activation or when disarmed
- PANIC function - calling for help in case of danger or health problems (elder people)

## IV. PREPARATION FOR USE

### Device description

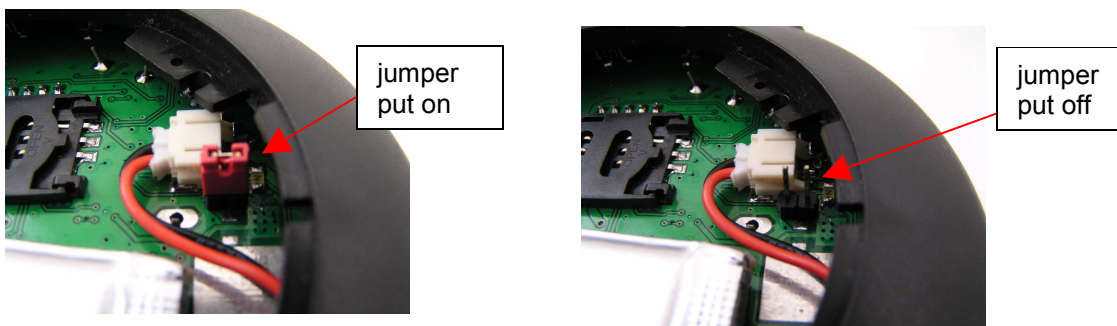


### How to start

1. Check if there is PIN code protection disabled on the SIM card that you want to insert into Mini Alarm. You can check it by inserting the card to a usual mobile phone. If your mobile phone starts without asking a PIN code, PIN code protection is disabled. If you had to insert a PIN code, disable this function in your mobile phone (Settings) as well as the voice mail service.

2. Check if there is CLIP service active on the SIM card. You can check it by calling on the SIM card – if your phone shows you who is calling, CLIP service is active, if it doesn't, contact your mobile operator for activation of the service. Also check if it is possible to send text messages from the SIM card. If not, please contact your mobile operator.

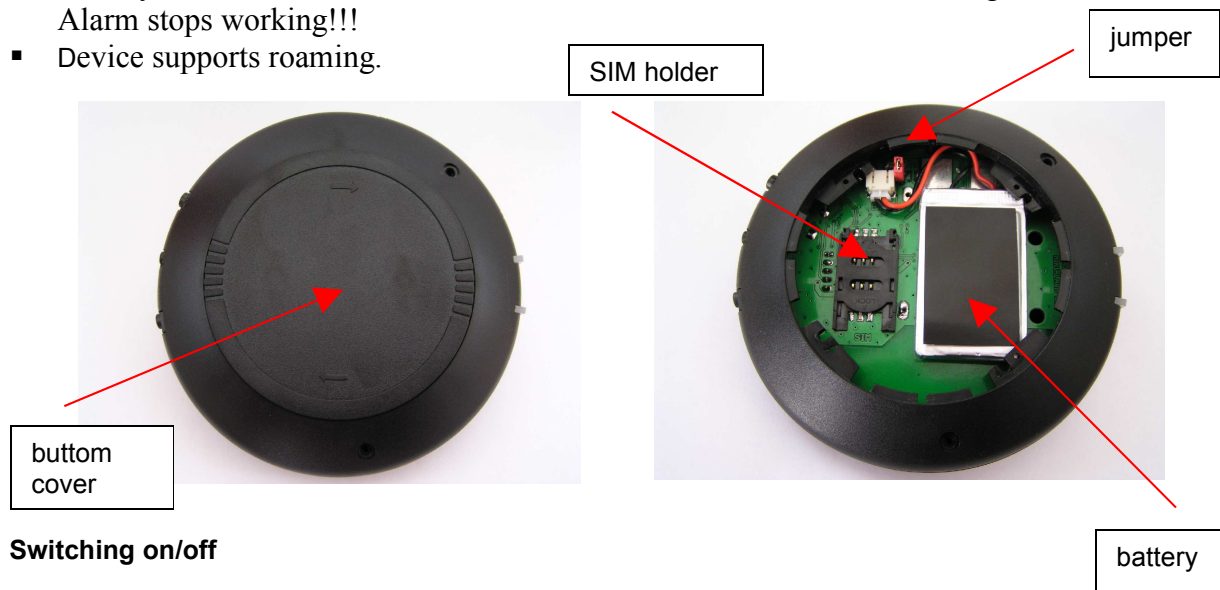
3. Turn the device upside down. Then gently turn the bottom cover to the left (against the arrows direction) and take it out. Before inserting the SIM card, jumper can't be put on (see the pictures below) and power adapter can't be connected. If these conditions are fulfilled, open the SIM card holder and insert the SIM card (watch the inclined corner), close the holder. Put the jumper on.



4. Put the bottom cover on and turn it gently to the right (following the arrows) till the cover suits its right position. Then connect the power adapter. If the battery is fully charged, red LED light flashes and goes off, if it isn't fully charged, red LED light shines permanently (battery is being charged). After full charge of the battery, red LED light goes off (more information about the battery charging - see page5).

#### WARNING!

- If you insert a prepaid SIM card into the device, you have to check credit on it and its validity because if there is no credit on the SIM card or the SIM card goes invalid, Mini Alarm stops working!!!
- Device supports roaming.



**Switching on/off**

Switching on: press the button for 3 seconds, till you hear a double beep. When you release the button, both red and green LED lights start flashing (DRAGON is getting registered to the GSM network). After appx. 30 seconds red LED light stops flashing, only green LED flashes once for 4 seconds. Mini Alarm is ready to be used.

Note: If Mini Alarm is connected to the power adapter (battery is being charged), the red LED light shines at start as well. When the battery is fully charged, red LED light goes off. It may happen that battery is so low that Mini Alarm doesn't react on pressing the button and you hear a deep beep. In this situation, please wait for 5-10 minutes and switch the device on again. You can hear a deep beep after the start of device as well if there is no SIM card or if the SIM card is inserted in a wrong way or if PIN code isn't disabled.

Switching off: press the button for 5 seconds, till you hear a double beep. Both LED lights go off. If you are charging the battery, red LED light shines also in switched off status. After full recharge of battery, red LED light goes off.

### **Battery charging**

Mini Alarm is fed from a power adapter, but in case of need it can work also with an integrated battery. Fully charged battery can last for up to 5 days. When battery is low a red LED light starts flashing once for 4 seconds, when it is fully discharged, the device switches off. You can charge the battery with supplied power adapter. After connecting the adapter, Mini Alarm beeps and red LED light starts shining, after disconnecting the adapter, Mini Alarm beeps again and red LED light goes off. When the charging process is terminated, red LED light goes off. If you connect the adaptor to Mini Alarm even when the battery is fully charged, device beeps and red LED light flashes once. You can charge the battery only in positive temperature. Manufacturer recommends to charge the battery before first use.

### **WARNING!!!**

In case you won't use the device for a long time, put the jumper off. The battery is getting discharged also when not used, therefore it's necessary to charge it again before next usage.

### **GSM network accessibility**

GSM network has to be accessible in order to make Mini Alarm work correctly. Signalling of GSM network accessibility is indicated in table on page 12. If GSM network is not accessible, the reasons could be the following:

- there is no SIM card in the device,
- SIM card's PIN code is not disabled (you can disable it on an usual mobile phone) or it's necessary to unblock the card with PUK code,
- low signal,
- GSM network not accessible because of some problem of the operator.

By installing the device, check the signal power near the device by using a mobile phone (display indication). If signal power is low, manufacturer recommends to replace device on a place with better signal.

During electric power failure (and when the battery is fully discharged) or during GSM network failure DRAGON becomes functionless. After electric power recovery (and charging the battery) and after GSM network recovery device keeps the same mode as before failure.

### **Setting up telephone numbers**

Mini Alarm needs to know where to send the messages and alarm/emergency calls, therefore it's necessary to set up the telephone numbers on the SIM card of Mini Alarm. You can set up the numbers in the following way:

1. Press the button twice (red and green LED lights start to flash alternately and device beeps once per second).

2. Then call on telephone number of Mini Alarm from the telephone number which you want to add to address book of device (it means on which tel. number you want the device to send the messages and calls). CLIR service has to be disabled on the SIM card from which you are calling. Device ends the call automatically and if the number was added successfully or already exists in the address book, you will hear a double beep.

3. If you failed to add the number to the address book, you will hear a long deep tone. Reasons for failed addition of telephone number to Mini Alarm's address book can be the following:

- there isn't CLIP service active on Mini Alarm's SIM card,
- there is CLIR service active on the SIM card from which you call,
- Mini Alarm's address book is already full.

For adding another telephone number, you have to run this mode again (by pressing the button twice). You can cancel this mode by pressing the button once or it will cancel automatically after 2 minutes.

You can add telephone numbers also by sending a text message (see page 8). By alarm or emergency call Mini Alarm calls in the order as the numbers are set up in the address book, it means T1 first, then T2 etc. If you want to check if you set up the numbers correctly, send a text message in form: password and question mark (e.g. **abcd ?**) on Mini Alarm's tel. number and you will receive an answer:

**abcd T1=09xxxxxxx T2=09xxxxxxx T3=# T4=# O=15 L=5 P=OFF PWR=ON ARM OFF**

If you want to check if you set up the text messages correctly, send a text message in form: password and question mark (e.g. **abcd \$**) on Mini Alarm's tel. number and you will receive an answer

**abcd S0=Mini Alarm DRAGON# S1=ALARM# S2=PANIC# S3=BATTERY LOW# S4=POWER OFF# S5=POWER ON#**

There were 2 numbers set up in this example (T1 and T2), # means that this position is not occupied. (For more information about P, O, S0, S1 ... see page 8.)

If you don't want to change basic settings which are defined in the device from factory (see page 7), Mini Alarm is now ready for use. If you want to use device as an alarm, please continue on page 10 and if you want to use it as a tapping device or PANIC button, please continue on page 11 or 12.

## Basic settings

Basic settings are settings from factory. After first start of device, values are set in this way:

### A Non - changeable parameters

**length of call** = 20 seconds

- how long Mini Alarm calls by alarm or emergency call on one telephone number till the call is picked up

**number of calls** = 3 trials for each telephone number

- how many times Mini Alarm calls by alarm or emergency call on one telephone number till the call is picked up

**tapping time in disarmed status** = unlimited

### B Changeable parameters

**password** = abcd

- serves for control of device via text messages, it can contain letters and numbers, manufacturer recommends to change the password and to write it down (you can't control Mini Alarm without a correct password)

**leaving time** = 30 seconds

- time during which the arming person has to leave the room

**tapping time by alarm or emergency call** = 5 minutes

**text of information messages**

- messages that inform about following events:

Name	Event	Predefined text of text messages
S0	Name of device	Mini Alarm DRAGON
S1	Alarm	ALARM
S2	Panic	PANIC
S3	Low battery	BATTERY LOW
S4	Electric energy failure	POWER OFF
S5	Electric energy recovery	POWER ON

Mini Alarm sends text messages about alarm, emergency, low battery, electric energy failure and electric energy recovery. All messages except PANIC are sent only in armed status (ARM ON). PANIC message is sent in PANIC mode. Information text message is sent on your mobile phone always as S0 + S1 or S0 + S2 and etc., e.g. **Mini Alarm DRAGON ALARM** alebo **Mini Alarm DRAGON BATTERY LOW**. Text message about electric energy failure is sent after one hour, about its recovery immediately. You can change the changeable parameters by sending a text message (see page 8).

#### Return to basic settings

If you want to get the basic settings, disconnect the adapter from Mini Alarm (in switched on status), hold the button till you hear a double beep and connect the adapter to Mini Alarm (to the left connector). Device starts to beep permanently, what means that you can release the button because the settings are already set up. You can disconnect the adapter or leave it connected, up to your needs.

Attention! After the return to the factory defaults (reset), all telephone numbers are deleted and it's necessary to add the numbers again for further use.

#### **Setting up by text message**

You can set up the device by sending a configuration text message (message in which you set up the parametres) from your mobile phone on telephone number of Mini Alarm. You can set up: telephone numbers (max. 4), password, leaving time, tapping time by alarm, permission for PANIC mode and texts of information messages. For a good functionality of device it's not necessary to set up all these parametres, the only necessary thing is to set up the telephone numbers. The other parametres can be as basic settings from factory (see page 7).

You can send a configuration text message also from a number that is not listed in the address book of Mini Alarm, but you have to apply a correct password. Therefore it's important to change the password

and give it only to persons that will use the alarm. Text messages with a false password or no password sent on telephone number of Mini Alarm will be automatically deleted. Calls from unknown telephone numbers are ignored (people with these numbers can't tap or disarm)! Numbers listed in address book of Mini Alarm can't have CLIR service active when using the device (it can't recognize the number of calling person)!

Device signals the reception of text message (in disarmed status) in the following way:

- if the password is correct – green LED light shines (for 2 seconds) and you can hear a high tone,
- if the password is false – red LED light shines (for 2 seconds) and you can hear a deep tone /if the battery is being charged and red LED light shines, reception of text message with a wrong password is signalled by 2-second extinction of red LED light/.

#### Rules for writing text messages

- Password has to be on the first place, if you want to use „?“ or „\$“ as well, it has to be on the last place.
- Watch the gaps (gap is represented by \_ ).
- You don't have to differentiate between small and capital letters.
- Text of information messages S0- S5 has to be ended by #, telephone numbers not! (See further.)

Examples of configuration message in which you want to set up all parametres:

**abcd\_H=adam\_T1=09xxxxxxx\_T2=09xxxxxxx\_T3=#\_T4=#\_O=15\_L=5\_P=ON\_?**

**abcd\_S0=drak#\_S1=alarm#\_S2=panik#\_S3=slaba bat#\_S4=elektr off#\_S5=elektr on#\_ \$**

#### Legend:

abcd	- password of device (4 characters)
_	- gap
H=adam	- changing password from "abcd" to "adam"
T1... T4	- telephone numbers 1-4 (we set up only 2 telephone numbers in our example)
T=#	- tel. number is not set up
O=15	- leaving time 15 seconds (10-120 s)
L=5	- tapping time by alarm or emergency call 5 minutes (0-255 min)
P=ON/OFF	- permission / prohibition for PANIC mode
S0	- name of device / object
S1... S5	- information messages (max. 12 characters), see page 7
? / \$	- question mark or dollar sign at the end of a text message means that you want Mini Alarm to confirm you the execution of your command by a confirmation text message sent on your mobile phone.

Manufacturer recommends to send text messages with question mark at the end so that you can be sure that you changed the settings or did a command correctly. After sending this message to Mini Alarm, you will receive an information not only about the settings, but also about battery status and device's mode (at the end of the message), it means if it is armed or disarmed or if it is in PANIC mode:

**abcd T1= 09xxxxxxx T2=# T3=# T4=# O=10 L=5 P=ON PWR=ON ARM OFF**

**abcd S0=FLAT# S1=warning# S2=panik# S3=bateria# S4=elektr off# S5=elektr on#**

* PWR=ON	- adapter is connected
* BAT=25%	- battery is charged on 25%
	- possible status: BAT=25%, BAT=50%, BAT=75%, BAT=100%
* ARM ON	- armed
* ARM OFF	- disarmed
* PANIC	- in PANIC mode



If you don't want Mini Alarm to send you text messages by alarm or emergency (you want to receive just calls), send a configuration text message in this form: password\_S1=#\_S2=#\_S3=#\_S4=#\_S5=#. For settings confirmation, a dollar sign \$ at the end, e.g.: **abcd\_S1=#\_S2=#\_S3=#\_S4=#\_S5=#\_**\$. If you want to cancel sending just some of information messages, send a configuration message with number of that message. E.g.: if you don't want to receive information about low battery, send a message in this form: **abcd\_S3=#**.

#### Examples of configuration and command text messages:

Changing password from "abcd" to "klmn".	abcd_H=klmn
Setting up telephone number 1 (valid for T2, T3, T4 as well).	abcd_T1=09xxxxxxx
Deleting telephone number 1 from adress book of Mini Alarm (valid for T2, T3, T4 as well).	abcd_T1=#
Leaving time set on 15 seconds.	abcd_O=15
Tapping time by alarm or emergency call set on 5 minutes.	abcd_L=5
Permission for PANIC mode.	abcd_P=ON
Prohibition for PANIC mode.	abcd_P=OFF
Changing the name of device/object.	abcd_S0=FLAT#
Changing the text of information message from the original to „warning“ (valid for S2, S3, S4, S5 as well)	abcd_S1=warning#
Cancellation of sending text messages.	abcd_S1=#_S2=#_S3=#_S4=#_S5=#
Checking settings of phone numbers	abcd_?
Checking settings of text messages	abcd_\$
Arming.	abcd_ARM=ON
Disarming.	abcd_ARM=OFF
External arming input.	abcd_EXT=ARM
External PANIC button.	abcd_EXT=PANIK
External motion detector.	abcd_EXT=PIR
External control button.	abcd_EXT=BUTTON
No external input.	abcd_EXT=OFF

You can combine the messages and set more parametres in one message.

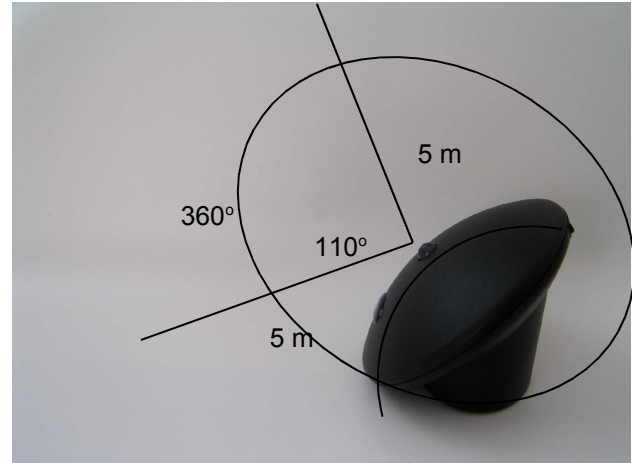
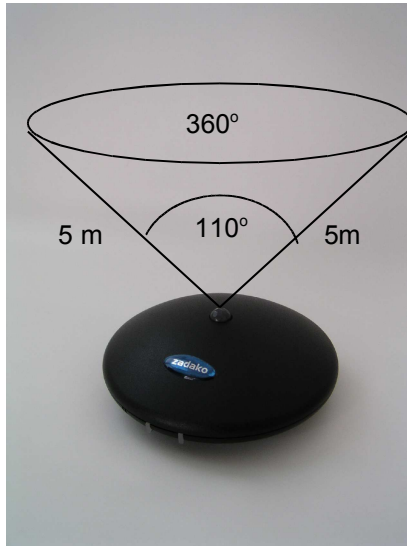
## V. MODES

Mini Alarm DRAGON works in 3 modes (not at the same time):

- A. Alarm
- B. Tapping of monitored room
- C. PANIC mode (emergency call)

### A. Alarm

In this mode, Mini Alarm informs about the unauthorized entry into monitored room by sending a text message and calling on defined telephone numbers in the address book of Mini Alarm. The entry into the room is registered by motion detector which is situated on the upper side of device. Therefore it is very important to place the alarm on the right place. The manufacturer recommends to place Mini Alarm in horizontal position on the ground near the door or window and in inclined position (using a stand for inclination) in higher level, e.g. on the table. You can't screen the motion detector!!!



## Arming/disarming

Arming = motion detector activation

Disarming = motion detector disactivation

Motion detector is a sensor that reacts on motion of objects in its angle. It is situated on the top of Mini Alarm (see page 4 Device description) and serves as a control button as well. Before installing Mini Alarm, it is strongly recommended to make a motion detector test in the chosen place in order to find out if this place is suitable (if detector can register people passing by).

Motion detector test is related with arming and is performed in disarmed status. You will start and end it by a short pressing of the button. If motion detector is active, but it doesn't register a movement, Mini Alarm beeps in second intervals, when you are moving Mini Alarm signals the registration of movement by permanent beeping. While you are moving, sensor doesn't allow to arm, but from the moment when you stop moving (e.g. you leave the room), Mini Alarm starts to arm and beeps once per second. The last 5 seconds of leaving time are signalled by quick beeping. If you return to the room during the leaving time, Mini Alarm starts to beep permanently and a new arming starts in the moment when sensor doesn't register any movement. You can set up the length of leaving time by a text message (see page 8). You can cancel arming during leaving time by short pressing of the button.

Problems by arming (motion detector test) can be caused by:

- Mini Alarm is not registered to GSM network (1 long beep – deep tone),
- there is no telephone number defined in Mini Alarm's address book (2 long beeps – deep tone).

### How to arm:

- by short pressing of button or
- by sending a text message on telephone number of Mini Alarm (if you are not in the protected room).

Arming text message has to be of this form: password ARM=ON (e.g. **abcd\_ARM=ON**). If you want Mini Alarm to confirm you the arming on your mobile phone, add a question mark at the end of the message, e.g.: **abcd\_ARM=ON ?**. Arming through text message is performed in silence, immediately after receiving the message. It means that Mini Alarm doesn't signal arming acusticly, only green LED light goes off.

### How to disarm:

- by calling on telephone number of Mini Alarm (before entering the protected room) – after Mini Alarm refuses the call automatically you can enter the room or

- by sending a text message on telephone number of Mini Alarm in this form: password ARM=OFF (e.g. **abcd\_ARM=OFF**).

WARNING! Before leaving the protected room, close all windows and doors to avoid false alarms. False alarm can be caused also by starting air condition, heating or by movement of animals in the room.

### **Intrusion into the protected room**

If an unauthorized person enters the protected room, Mini Alarm sends a text message and calls on all telephone numbers defined in the address book. (If you pick up this call, you can hear what is going on in the room.) Device doesn't signal anything by LED lights or buzzer to avoid paying attention of the intruder. After informing about the alarm, Mini Alarm keeps armed status and sends the next alarm text message after 15 minutes (to avoid sending alarm messages about the same intrusion very often).

Authorized person (e.g. flat owner) turns the device to disarmed status by calling on telephone number of Mini Alarm or by sending a text message before entering the protected room. Mini Alarm gets disarmed only if it receives a call from one of the numbers defined in Mini Alarm's address book (Mini Alarm's SIM card has to have CLIP service active). Unknown calls are refused.

### **B. Tapping of protected room**

#### 1. in disarmed status

If you call on telephone number of Mini Alarm, you can hear what is going on in the protected room. Tapping time is unlimited. The permission for tapping has only the person with telephone number defined in the address book of Mini Alarm.

#### 2. by an event

You can tap also when Mini Alarm calls you in case of alarm or emergency call (PANIC mode) by picking up the call from Mini Alarm. Tapping by alarm is automatically ended after 5 minutes, but you can change this parametre by sending a configuration text message (see page 8). If you want to end this call earlier, just hang it up. By alarm or emergency call, only one person can tap at one moment, the next person has to wait till the previous person stops tapping (Mini Alarm calls on telephone numbers in the order in which they were added to the address book).

### **C. PANIC mode (emergency call)**

PANIC mode is a mode in which the user has the possibility to call for help by pressing the button in case of danger or health problems. Mini Alarm sends a text message and calls on all telephone numbers defined in the address book to inform your family or friends that you are in danger.

You have to allow the PANIC function by sending a text message in form: password P=ON (e.g. **abcd\_P=ON**) on telephone number of Mini Alarm. Then you can activate / disactivate the function by pressing the button three times. When PANIC mode is active, green LED light shines permanently. If you want to prohibit this mode (so that you can't activate it by pressing the button), send a text message in form: password P=OFF (e.g. **abcd\_P=OFF**) on telephone number of Mini Alarm.

If Mini Alarm is set on PANIC mode and user wants to call for help, he/she has to press the button once (any other than 3-times-pressing causes an emergency call). Green LED light starts flashing quickly – it means that Mini Alarm sends text messages with text **Mini Alarm DRAGON PANIC** and calls on all

telephone numbers in the address book. You can change the text of this message (see page 8). You can't change Mini Alarm's mode when it is sending text messages and emergency calls, you have to wait until the device ends all actions. After sending text messages and calls Mini Alarm stays in PANIC mode. You can turn it from PANIC mode to Alarm mode on distance by sending a text message, e.g. **abcd\_ARM=ON** or **abcd\_ARM=OFF**), but you can't turn it from armed status to PANIC mode.

Advice: When you are not in the protected room, you can use Mini Alarm as an alarm, when you are in the room, you can use it as a PANIC button. Don't forget to change the mode of device every time you leave.

## VI. EXTERNAL INPUT

It is possible to connect an external sensor to the input situated on the back side of the device (see page 4 Device description). You can use the external input in several ways, but first you have to set it up:

Password_EXT=ARM	Arming input (leaving button), you can arm by pressing it.
Password_EXT=PANIC	PANIC button, after pressing it Mini Alarm sends text messages and emergency calls immediately, it is not necessary to turn to PANIC mode.
Password_EXT=PIR	Detector, for the case you need more sensors.
Password_EXT=BUTTON	Control button, you can manage the device from other place in the room, not necessary to press the button on the top of DRAGON.

For disactivation, send a text message in form: Password\_EXT=OFF (e.g. **abcd\_EXT=OFF**).

## VII. EXTERNAL SPEAKERS

External speakers function is always active, you have to just connect the speakers to the connector (see page 4 Device description). Manufacturer recommends to use active speakers (with integrated amplifier).

## VIII. SIGNALLING

Action / status	Number of button pressings / length of pressing	LED lights signalling	Acoustic signalling
Start of device.	1 / 3 seconds	Green and red LED lights flash at once.	-
Device is switched on, registered to GSM network.	-	In disarmed status green LED light flashes once for 4 seconds, in PANIC mode green LED light shines permanently.	-
Device is not registered to GSM network.	-	In disarmed status, green LED light shines once for 2 seconds, in armed status, no LED light shines, in PANIC mode, green LED light shines permanently.	In disarmed status, buzzer beeps once per second, in armed status and in PANIC mode, buzzer doesn't beep.
Telephone numbers settings.	2 / 1 second	Green and red LED lights flash alternately.	Buzzer beeps once per second.
Receiving a text message with a correct password.	-	Green LED light shines for 2 seconds.	Buzzer beeps once – a long high tone.
Receiving a text message with a false password.	-	Red LED light shines for 2 seconds.	Buzzer beeps once – a long deep tone.
There is no telephone number in Mini Alarm's address book.	-	-	Buzzer beeps twice – a long deep tone.
Motion detector test.	1 / 3 seconds	Green LED light flashes + shines.	Beeping + long high tone.
Arming.		Green LED light shines once for 2 seconds.	Buzzer beeps once per second + fast beeping during last 5 seconds.
Armed.	-	-	-
Activation of PANIC mode.	3 / 1 second	Green LED light shines.	-
Device is sending text messages and calls in PANIC mode.	-	Green LED light flashes fast.	-
Disactivation of PANIC mode.	3 / 1 second	Green LED light flashes once for 4 seconds.	-
Low battery.	-	Red LED light flashes once for 4 seconds.	-
Charging the battery.	-	Red LED light shines.	-
Battery charged.	-	Red LED light stops shining.	-
Switching off the device.	1 / 5 seconds	-	-
Device switched off.	-	-	-
Command accepted.	-	-	Double beep (high tone).
Command refused.	-	-	One long deep tone.

## **IX. TECHNICAL DATA**

### **GSM module**

**Dual Band GSM/GPRS:** 900/1800

**PIR sensor** (motion detector 360°, reach up to 5 m)

**Signalling:** 2 LEDs and buzzer

**Integrated microphone**

**Power supply:** 12 V

**Consumption:** 4 mA

**Max. consumption:** 200 mA

**Battery:** 700 mAh

**Stand-by time:** 5 days

**Dimensions:** Ø110 x 45 mm

**Weight:** 130g

**Temperature range:** - 10°C to + 55°C

**Included accessories:** power adapter, base for inclination

**Optional accessories:** wall-mounting set,  
external PIR sensor, magnetic switch,  
external PANIC button, battery