EDGARSSON SECURITY DESIGNS

SMS-PIR USER MANUAL

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User Manual v.1.2

Safety instructions

Please read and follow these safety guidelines in order to maintain safety of operators and people around:

- Alarm system SMS-PIR (later referenced as system or detector) has radio transceiver operating in GSM900 and GSM1800 bands.
- Don't use the system where it can be interfere with other devices and cause any potential danger.
- Don't use the system with medical devices.
- Don't use the system in hazardous environment.
- Don't expose the system to high humidity, chemical environment or mechanical impacts.
- Don't attempt to personally repair the system. Any system repairs must be done only by qualified, safety aware personnel

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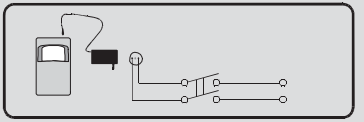

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Mains power must be disconnected before any installation or tuning work starts. The

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sion hazards. Special care must be taken connecting positive and negative battery

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Electrical socket from which the system is powered must be in an easily accessible place.

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The WEEE (Waste Electrical and Electronic Equipment) marking on this product (see right) or its documentation indicates that the product must not be disposed of together with household waste. To prevent possible harm to human health and/or the environment, the product must be disposed on in an approved and environmentally safe recycling process. For further information on how to dispose of this product correctly, contact the system supplier, or the local authority responsible for waste disposal in your area.

CE

Limited Liability

The buyer must agree that the system will reduce the risk of fire, theft, burglary or other dangers but does not guarantee against such events.

ESD will not take any responsibility regarding personal or property or revenue loss while using the system.

ESD liability according to local laws does not exceed value of the purchased system. ESD is not affiliated with any of the cellular providers therefore is not responsible for the quality of cellular service.

Manufacturer Warranty

The system carries a 24-month warranty by the manufacturer

Warranty period starts from the day the system has been purchased by the end user. The warranty is valid only if the system has been used as intended, following all guidelines listed in the manual and within specified operating conditions. Receipt must be kept as a proof of purchase date.

The warranty is voided if the system has been exposed to mechanical impact, chemicals, high humidity, fluids, corrosive and hazardous environment or other force majeure factors.

Package content:

1. SMS-PIR ..... qty. 1
2. GSM antenna ..... qty. 1
3. Power Supply . ..... qty. 1
4. SMS-PIR User Manual ..... qty. 1
5. MicroUSB - USB cable (only from SMS-PIR v2 version)..... gty. 1

About User Manual

This document describes alarm security system SMS-PIR installation and operation. It is very important to read User Manual before start using the system.
A quick start guide is located in first two chapters. Chapter 3 and 4 describe additional system capabilities.

CONTENT

1. General Information

1.1 Functionality

SMS-PIR – microcontroller based security system for houses, cottages, country homes, garages and other buildings.

The system can be used in following applications:

- Property security
- Mains 230V power status with SMS message
- Remote listening of what is happening in the secured property with built in microphone

Also capable of informing user about mains 230V power status over cellular GSM network.

1.2 Operation Description

Security alarm system SMS-PIR works with GSM network. The system is armed or disarmed by a call from your mobile phone which doesn't incur any cost. To arm or disarm the alarm system the user has to call to the number of the SIM card inserted in SMS-PIR device. Before doing this it is necessary to change the default password and enter at least one user.

When alarm system number has been dialed and ringing is dropped after three call signals – means the system was successfully armed. If ringing is dropped after only one call signal – system disarmed. The user should wait until the system drops calls automatically.

The user listed as Nr.1 gets short SMS message each time the system is successfully armed or disarmed. When system is armed via phone call, there is 15 second delay before activation, meant for leaving premises. The time delay is user configurable parameter (see chapter 3.3). Red light emitting diode indicator (LED) located on detector lense will start to blink informing that time delay has been engaged and user must leave room. The red light goes off upon time-out delay expiration and system is engaged.

When detector is disarmed and motion is detected in the room, LED on the lense will be turned on shortly.

When detector is armed and upon detection of motion, system will send SMS message until successful delivery and ring preprogrammed numbers until user picks up or call expires. If user answers the call, remote microphone gets activated for listening.

SMS message can be sent to all preprogrammed users (see chapter 3.8 for more details).

The system will automatically switch to back–up battery supply in case of mains power failure, and user gets SMS warning message. SMS message will also notify when mains power is restored or back-up battery is about to get discharged and system will be switched off.

The user can also inquire the system about system status, power supply status, network quality as well as connect and listen through a remote microphone.

The system will ignore requests coming from unknown telephone number or SMS message with wrong password. With correct password user has the capability to access system management from any GSM phone (not necessary pre-programmed). See more details in chapter 3.5.

1.3 Technical Specifications

Electrical and mechanical specifications

Supply Voltage	15V ⎓ 500 mA max
Back-up Battery voltage, capacity	8.4V; 150-250mAh
Back-up Battery type	Ni-Mh
GSM modem frequency	900/1800Mhz
Dimensions	104x60x33mm
Operating temperature range	-10…+40°C
Back-up battery operating time	up to 6 hours
Detection angle	90°
Maximum detection range	10 meters

1.4 Main Functions

Short description of main functions:

1. SMS-PIR holder used for wall fixing
2. SIM card socket
3. Detector lense with LED indicator light
4. SMS-PIR sensor

5. Power supply socket

6. Power supply

7. Power supply connector

8. Button to restore default parameters

9. SMA type connector for GSM modem

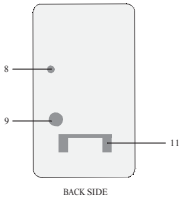
10. Microphone

11. Holder

fixing place

12. Backup Battery

13. Micro-USB connector (only from SMS-PIR v2 version)



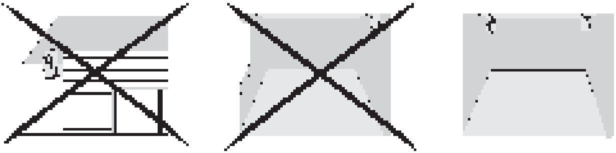
BACK SIDE

1.5 System installation

The system should be installed indoors. Choose location where [illegible] entry is more likely.

To avoid fault alarms, avoid installing in following locations:

- facing [illegible] direct sunlight or facing windows
- near devices with high temperature fluctuations, e.g. fireplace or heating device
- places with increased dust or air flow traffic
- metal or shielded rooms where GSM connection might be lost



Insert SIM card in the module place and make sure that SIM card PIN code is disabled by following appropriate menu on GSM phone and delete [illegible] any remaining SMS messages.

RECOMMENDATION

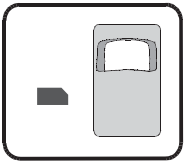
It is recommended to choose the same GSM cellular provider as most users use ensuring fast and reliable SMS message delivery and phone call connection.

RECOMMENDATION

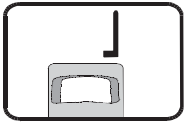
To increase system reliability it is recommended not to use prepaid SIM cards. The system would fail to send any messages upon depletion of prepaid account. It is also recommended to disable call forwarding and voice mail.

1. Fix the holder to the wall

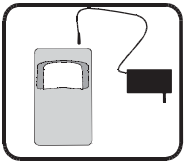
2. Insert SIM card with PIN code disabled



3. Connect antenna

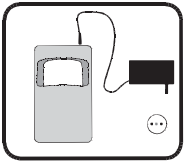


4. Plug power supply connector



5. Place SMS-PIR into the holder

6. Plug power supply into mains socket



7. The system starts in 1-2 minutes. When LED is off, move your hand in front of SMS-PIR lense and watch the system detecting motion and turning on LED for few seconds. If LED indicator is blinking fast (few times a second), could be that SIM card in not inserted properly or PIN code has not been disabled.

* The SIM card is inserted into the slot facing the cut end. SIM card contacts should face SMS-PIR lower cover. After inserting SIM card push it in until you hear a click. In this way the card locks in the slot. If you do not hear a click check if you inserted SIM card correctly. Do not use excessive force. To remove SIM card from the slot push it in. You should hear the click again and SIM card should come out from the slot.

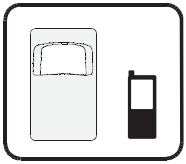
2. System pre-operation and essential control commands

VERY IMPORTANT!!!

Underscore symbol '_' in this manual is used to represent space. When writing SMS messages, every underscore symbol should be replaced by single space symbol. XXXX – means password. Don't leave any space at the beginning and the end of the message.

To set SMS-PIR system parameters easier and quicker you can use the computer, USB cable and configuration program SMS-PIR ConfigTool. You can read more in chapter 4.2.

2.1 Selecting device language and verification of SMS central number



The language in which the device communicates with the user can be chosen before changing factory default password. To change the lan- guage in the system that is already configured reset default settings as described in 4.1 appendix.

Send SMS message with the required language code to the number of the SIM card inserted in SMS-PIR.

Table of possible languages

Language	Code
lithuanian	LT
english	EN
russian	RU

E.g., if you want to set the English language send the following SMS message:
EN

30-60 seconds later you should get an SMS message: „English language confirmed." Go to chapter 2.2 upon reception of this message.

Otherwise check for network connection and call SMS-PIR system from your mobile and wait until the system drops the call. You should get an SMS message asking to change default password. Ot- herwise check for network connection and change SMS central number.

SMS central number is saved in SIM card, therefore if SIM card has been used to send SMS messa- ges with a mobile phone, then you don't' need to change SMS central number. Often SMS central number is already saved in SIM card by cellular operator.

Central number can be entered by sending SMS message:

```
XXXX_SMS_+37011111111
```

XXXX – is a password. Default password is four zeros: 0000. SMS central number is provided by cellular network provider.

Example: 0000_SMS_+37069899992

Message should be sent to the number of SIM card which is placed into the system. If all went correct, the system will send a message: *SMS central number has been successfully changed to +37011111111*

2.2 Password change

All SMS commands start with a password, so please memorize it well. Manufacturer default password is four zeros 0000, **which is necessary to change.** Manufacturer default password can be changed by sending SMS message to SMS-PIR :

```
0000_PSW_XXXX
```

To replace your password, send SMS message:

```
YYYY_PSW_XXXX
```

XXXX – any four digit number except four zeros. Non-numerical characters like dots, colons, spaces are not allowed. YYYY – old system password.

E.g. 0000_PSW_1111

Default manufacturer password can be restored, see chapter 4.1 for more details.

2.3 User numbers

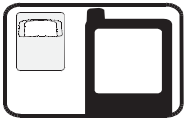
System SMS-PIR allows to pre-program up to five different mobile numbers which will have access to and controls the system. Number NR1 is mandatory while others can be skipped. All numbers must be entered starting with international country code. E.g. national code for Lithuania is 370, UK – 44. Numbers should be entered based on priority, since the system will try to contact first entered number and in case of failure will follow with second and so on.

2.3.1 Saving or Changing numbers

Send SMS message with text to SMS-PIR :

```
XXXX_NR1:37011111111_NR2:37011111111_NR3:37011111111_
NR4:37011111111_NR5:37011111111
```

Ones should be replaced with user numbers. Numbers don't have to be entered all or in sequential order right away. E.g. use can enter first and fourth number by sending following SMS message:



```
XXXX_NR1:37011111111_NR4:37011111111
```

Or individually one number at a time:

```
XXXX_NR3:37011111111
```

Numbers can be changed same way as described above. New number will overwrite old one, therefore no erasing is necessary.

E.g. 0000_NR1:37011111111

2.3.2 Verification of saved numbers

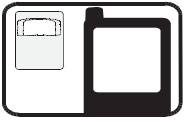
To inquire the system about pre-programmed numbers, send SMS message:

```
XXXX_HELPNR
```

E.g. 0000_HELPNR

The system will reply with all pre-programmed numbers.

2.3.3 Deletion of saved numbers



Pre-programmed numbers can be erased by sending SMS message with numbers to be erased.

```
XXXX_NR2:DEL_NR3:DEL_NR4:DEL_NR5:DEL
```

To erase NR2 send following:

E.g. 0000_NR2:DEL

The system will not allow erasing first number NR1. It can only be changed.

2.4 Date and time settings

It is important to set correct date and time, so that the system can send reports at specified times. Date and time can be set by sending following format SMS message:

```
XXXX_MMMM.mn.dd_hh:mi
```

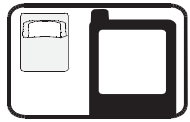
Where MMMM – means year, mn – month, dd – day, hh – hour, mi – minutes

E.g. 0000_2009.01.01_14:15

3. Additional system capabilities

3.1 Renaming security zones

Manufacturer initially set following zone names: Z1- Motion. User is free to change any of these names keeping in mind that names cannot be same or match system commands.
Zone names can be changed with following SMS message:



```
0000_Z1:NewZoneName
```

Zone names can have up to 14 characters.

E.g. 0000_Z1:passage

3.2 System and Zone status

To find out current zone names, settings and status, send SMS message

```
XXXX_STATUS
```

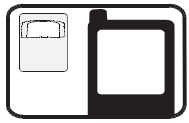
The system will reply, e.g. *System is armed/disarmed Z1:MOTION:ON/OFF*

ON- means enabled. OFF- disabled

3.3 Exit time-out configuration

When system is armed, the user should leave premises within specified time (manufacturer default 15 seconds). During this period detector ignores motion. Running time-out is indicated by blinking LED (once a second).
Time-out period can be configured with SMS message:

```
XXXX_INOUT:SSO
```



Where SSO – exit time-out in seconds.

There is no time-out if period is set to 0.

3.4 Info on status SMS

Security system SMS-PIR can be inquired at any time about its status, signal strength, zone status. At the same time system can be tested. If SMS response message is received, means system is functioning properly.
This is also useful for users with prepaid SIM cards. It can be checked whether SIM card has enough remaining balance for sending SMS. Send SMS message:

```
XXXX_INFO
```

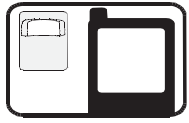
E. g. 0000_INFO
The response SMS message will be received, e.g. *2008.08.07 11:15 System armed/disarmed Signal Strength Fair. Z1:OK/ALARM*
Where OK – if zone has not been activated, ALARM – if been activated

By default, this status SMS message will be sent daily at 11:00 in the morning. These parameters can be configured with SMS message:

```
XXXX_INFO:PP.VV
```

PP – message period in days, valid values [00 – 10]
VV - time when message is sent, valid values [00 – 23]

E.g XXXX_INFO:01:10, means that status message will be sent every 1 day at 10:00. If PP value is 0, and VV in the range of [1-23], then periodic status messages will be sent multiple times per day, with period being specified as VV time.



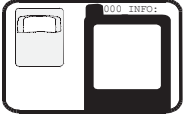
E.g. XXXX_INFO:0.2, means that status message will be sent every 2 hours.

To disable periodic status messages, send SMS:

```
XXXX_INFO:00.00
```

E.g. XXXX_INFO:00:00

The status messages will not be sent until enabling or restoring default parameters.


000 INFO:

3.5 Blocking unknown incoming numbers

By default SMS-PIR can be controlled from any of the pre-programmed numbers NR1 .. NR5. But user can access the system and control parameters from any number as long as password is know.
To enable this feature, send SMS message:

```
XXXX_STR:ON
```

E. g. 0000_STR:ON

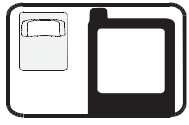
To disable this feature, send SMS message:

```
XXXX_STR:OFF
```

3.6 External power supply control

The system SMS-PIR will report every time mains 230V power supply fails or recovers. In some remote places where mains power supply is unreliable, the system can be configured to ignore these changes. Send SMS:

```
XXXX_M:OFF
```



E.g.. 0000_M:OFF

Or it can be enabled by SMS message:

```
XXXX_M:ON
```

3.7 Remote Microphone listening

To be able to listen what is going on in remote house can be done in two different ways:

1. When alarm has been activated, the system will ring pre-programmed numbers and user can answer the call. Remote microphone will be enabled for listening.

2. By sending SMS message

   ```
   XXXX_MIC
   ```

   The system will ring the sender of former SMS, and upon answering the call, user can listen to any sounds in the building. The phone call must be answered within 20 seconds other-

wise the system will stop trying and return to previous state.

3.8 SMS message delivery to multiple users

Upon activated alarm, SMS messages are repeatedly sent until first successful delivery to one of the users. System starts with NR1, and if delivery fails, follows with NR2, etc.
It is also possible that SMS message will be sent to all recorded users.

To enable this function, send SMS message:

```
XXXX_SMSALL:ON
```

To disable this function, send SMS message:

```
XXXX_SMSALL:OFF
```

3.9 SMS message informing about system arming/disarming

By default the user NR1 will receive a short message every time system is armed or disarmed. To disable this function, send SMS message:

```
XXXX_MASTER:OFF
```

To re-enable this function, send SMS message

```
XXXX_MASTER:ON
```

3.10 Setting detector sensitivity level

The manufacturer has set optimal detector sensitivity level. However, in some cases the system is installed in windy premises where the air flow can cause false alarms.
In such cases sensitivity level can be reduced.
In order to increase or reduce motion detector sensitivity the user has to send the following text message to the system SMS-PIR :

```
XXXX_LEVEL:XX
```

where XX is a two-digit number that can be [20-99]. Factory default value is 40. The greater the number value, the lower detector sensitiv- ity level.
In order to find out the set sensitivity level the user should send the following SMS message:
XXXX_LEVEL

4. Appendix

4.1 Restoring default parameters

To restore system default parameters, press button on the back side of detector using a needle or other sharp pointed device.

4.2 SMS-PIR ConfigTool configuration software

Configuration program works only with SMS-PIR devices starting with v2 version.
To configure the system quicker and easier as well as use more system capabilities use configuration program „SMS-PIR ConfigTool" which can be downloaded from our website www..lt Before connecting USB cable to the computer read SMS-PIR ConfigTool user guide available in the program chapter HELP.

4.3 Replacing back-up battery

Normally real back-up battery will last at least 2 years. This largely depends on surrounding temperature and frequency of mains power disruptions.

To change back-up battery, follow these steps:

1. Unplug power supply form mains power
2. Remove SMS-PIR from holder
3. Unplug power supply connector
4. Remove screw located on the back side of SMS-PIR
5. Open SMS-PIR enclosure
6. Carefully remove back-up battery
7. With one hand holding back-up battery, unplug battery connector
8. Replace battery. Use battery type as specified in technical specifications.
9. Repeat all steps in inverse order

4.4 Technical support

Indication	Possible reason
Lense indicator OFF	· No mains 230V power · Power supply connector unplugged · out of coverage or to weak signal.
Indicator is blinking once a second	· missing SIM card · PIN code hasn't been disabled · SIM card not active
System does not send any SMS messages and/or does not ring	· SIM card account depleted · Incorrect SIM central number · No network signal · User number is not programmed in (or disabled access from unknown numbers)
Received SMS message "Incorrect Format"	· Wrong syntax · Could be space left in wrong SMS message place · Manufacturer default password not changed · Missing user NR1