Ecotax
BEVEILIGINGSTECHNIEK

SG Cam Kit User Manual

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1. General

SensoGuard was established by a team with more than 10 years of experience in seismic security systems.
SensoGuard develops innovative seismic security systems to various purposes by using cutting edge technologies.
SensoGuard obliges to values of innovation, quality, professionalism towards its customers and partners.
The purpose of this user manual is to describe the installation steps of the SG-1 detector.

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2. About the SG-Cam Kit

The SG Cam Kit is a wireless Tactical kit composed of wireless buried sensor (Seismic sensor) and a wireless battery operated cellular high-definition 3G camera.

The SG Cam Kit is very easy to deploy, designed to deliver reliable early detection for a wide range of landscapes, sites, or tactical security activities

- Hunting and poaching
- Illegal dumping, etc.
- Tactical military
- Border intrusion
- Other law enforcement applications

3. Kit Content

- ✓ SG-RF wireless seismic sensor processing unit
- ✓ Seismic Sensor
- ✓ SG-Receiver
- ✓ SG-Receiver Battery Pack
- ✓ 30MP 3G GSM Camera+ configuration program (BMC config)
- ✓ ** Optional - Bag

4. Introduction - Getting Started

5. The Buried Sensor

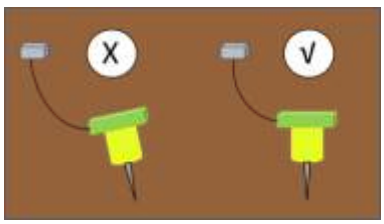
Overview

The SG-RF seismic detector composed of the SG-RF processing unit and the seismic sensor.
The outdoor detector can detect and classify intrusion by foot and/or vehicles (you can set different sensitivity for each).
The SG-RF seismic detector is battery operated by a standard 3.6V lithium battery (8 months battery included).

Deployment

- Dig a pit in the ground 30-50cm deep and about 25cm wide

- Compress the sand at the bottom of the pit, remove stones and fix the sensor at the bottom of the pit straight (as shown in the picture below).
- Verify that the sensor is tightly connected to the ground



- Connect the sensor to the processing unit
  (do not turn on the unit, yet)

- Cover the sensor with soil, compress the soil above the sensor

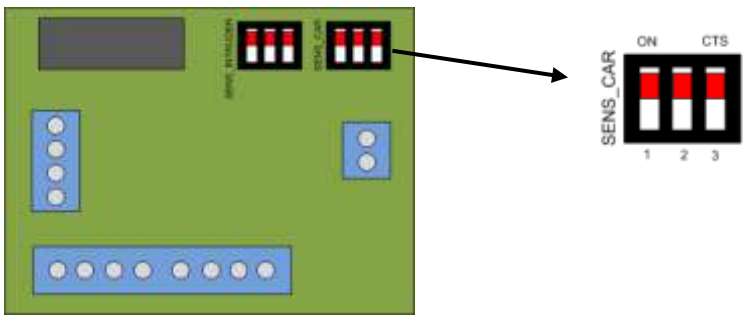
- It is recommended to put the processing unit in a 6 inch PVC pipe for clean and easy maintenance. Don't cover the PVC pipe yet.

- Do a performance test to select sensitivity level (refer sensitivity settings in the following section)
- Close the PVC pipe and cover it with sand

** It is recommended to disconnect the buzzer

Sensitivity settings

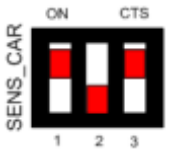
- You can set different sensitivity level for each threat (footsteps, vehicles).
- There are 8 sensitivity levels for each threat.
- The sensitivity levels are adjusted using the dip switches in the processing unit card



- Sensitivity levels

Sensitivity Level	Switch 1 position	Switch 2 position	Switch 3 position
0: threat canceled	OFF	OFF	OFF
1: lowest level	ON	OFF	OFF
2	OFF	ON	OFF
3	ON	ON	OFF
4	OFF	OFF	ON
5	ON	OFF	ON
6	OFF	ON	ON
7: highest level	ON	ON	ON

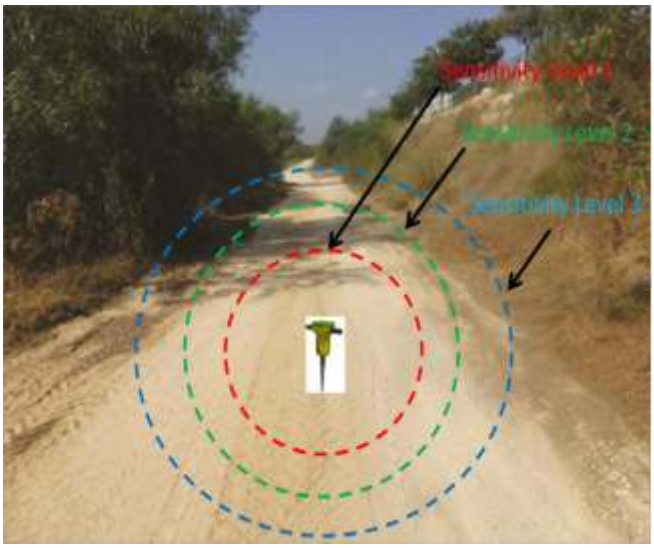
Example for sensitivity level 5 for Car



Performance Testing

The goal is to set the detector at the lowest sensitivity which covers the area of interest

- Open the enclosure of the processing unit, turn on the detector and wait for 1 minutes without movement for at least 10m from the sensor
- Set the sensitivity level for footsteps (intruder) to the lowest level ("1").
- Perform a back and forth walk test at the area of interest, if you hear the buzzer than alarm has been detected, if not set the sensitivity level one level higher, wait 1 minute (10m from the sensor) and repeat the test
- Detection range for different sensitivity levels



6. The Receiver

The SG-Receiver features low power RF UHF communication to recceive alarms from installed sensors.
Upon alarm detection, the receiver trigger immediatly the camera for image/video capturing.
The reciver includes a thin flexible antenna and small dimensions for easy installation.
The SG-Receiver is powered by a 3.6V rechargeable battery pack (default pack is for 2.5-3 months operation).

- Connection

The receiver includes two connectors – one for the external battery pack and the other is the trigger connection to the camera

Receiver Testing

- Open the receiver and connect it to the battery pack(5 pin connector), you soukd see the red LED blink for 1 seconed.
- Turn on the processing unit with disconnect sensor, wait for 5 second, you should hear the buzzer in the receiver(when you preform this test please keep distance of at-least 1 m' betwin the receiver and the processing unit)Connect the receiver to camera(after you finished configure the camera), and preform the test again – after hearing the buzzer you should get a picture in less then a minute. ** It is recommended to disconnect the buzzer

7. The Camera

Overview

The SG-Cam kit includes a low power 3G GSM camera for alarm validation with night vision using 940nm invisible IR leds.

The camera is a digital 30MP high definition camera and designed for outdoor environment.

In order to save battery life, the camera is on sleep mode most of the time, the camera turns on and imeediatly take snapshot image /video clip upon receiving an alarm from the seismic sensor.

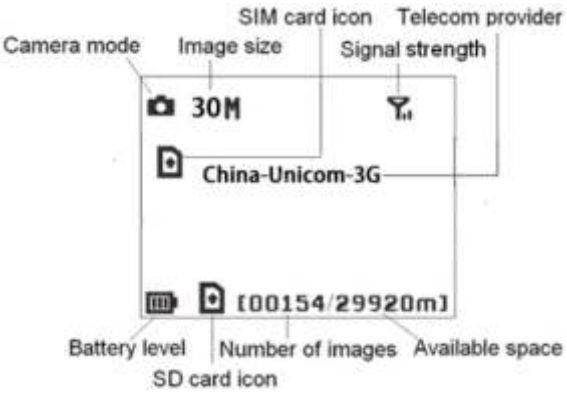
The photo/video is sent via MMS or email on the mobile data network

General

When the camera is turned on (the power switch is slid to SETUP position), the current settings will be displayed on screen.

Camera has 3 modes :

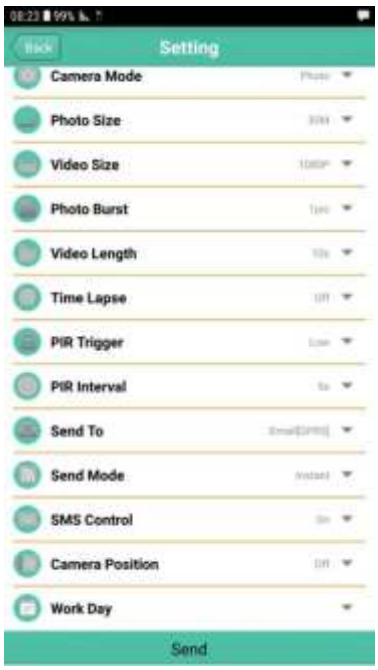
- Off mode- Shutdown
- Setup – to configure camera , view photos, send pictures manually
- On – the camera will go to sleep mode after approx 15 seconds and wait for alarms from the seismic sensor



Configuration of the camera can be performed locally or remotely (assuming the camera is connected to the cellular network).

Remote configuration is available using SMS commands or using smartphone APP - **BGTools2016** (for android(

Recommended configuration

- 

- Open the camera and insert 8 AA batteries
- **Insert Unlock SD card and activated SIM card (with MMS/DATA package)**
- Open the program BMC config (supplied with camera)

- Select country and carrier according to the inserted SIM card
- Input your number as the administrator number and receiving EMAIL address #1
- After finish above settings, click “Check WAP/Internet Parameters” to check whether you have all parameters filled in. Then save the GSM folder to the root directory of your SD card
- If your country / network provider is not on the list you should configure the parameters manually

***.Note** - *only SMTP is supported by the camera when sending email*

Testing

- Send picture manually

After you generate a setting file in your SD card, please move the power switch to SETUP position. When the camera acquires signal and the SIM card icon appears, target an object and press “SHOT” to take a photo manually. Then press “OK” to playback the photos, press “▲” and “▼” to switch to previous or next photo. Press “MENU” and you can see a Send Phone [MMS]/Email GPRS interface, press “OK” to send out the MMS or Email. After a few seconds (Usually less than 1Min), you should receive an MMS/ EMAIL with the picture.

8. Troubleshooting

9. Technical Specifications

Camera

Image Sensor	14MP Color CMOS, 20MP , 30MP Interpolation
Lens	F/NO=2.4； FOV (Field of View)=57°
PIR Detection Range	30m/100ft
Display Screen	3’’ LCD
Memory Card	From 8 MB to 32 GB
Picture Resolution	30MP=6400×4800 20MP = 5184×3888

	14MP = 4320×3240
Video Resolution	1080FHD(1920×1080) 720P HD (1280×720) VGA (640×480)
Trigger Time	1 sec
Weight	0.30 kg
Operation/Storage Temperature	-20 - +60°C / -30 - +70°C
PIR Interval	0 sec. – 60 min
Video Length	5–180 sec
Power Supply	8×AA or 4×AA
Stand-by Current	< 0.25 mA (<6mAh / Day)
Power Consumption	400 videos（interval=5 min, video length=10 sec） >500 MMS (use 8*AA batteries)
Dimensions	147 x96 x79 mm
Operation Humidity	5 % - 90 %
Security Authentication	FCC, CE, RoHS