

iNode Care GSM

instruction manual

© 2015-2016 ELSAT®

1. About

We would like to introduce a family of iNode devices working in the Bluetooth Low Energy®. We will show you that it's not just tags to find lost keys, whether location tags, but still something more.

Our devices are capable of:

- these are mainly battery device.
- work without battery replacement for up to 12 months, depending on the type of application and usage.
- have memory for logging events, readings of measurements, etc.
- contain precise temperature, humidity sensors, accelerometer or magnetometer which allow home automation control, care of older persons or vehicle detection.
- as a remote control device, although a small power consumption, have a large range and features unavailable to other competitive facilities - password protection, AES encryption, control directly from the smartphone with BT 4.0.
- a unique encryption technology ensures the safety of the JPEG images recorded by our cameras.
- BT4.0 - LAN or BT4.0 - GSM gateways connect iNode sensors with the Internet.

iNode can also help to control the movement of people or goods, saving the time of appearance and disappearance (active RFID ® long range). New features related to the development of the product is also not a problem – this allows to remote firmware update with PC or smartphone with Bluetooth 4.0 ® and Low Energy Bluetooth enabled ® (Smart Bluetooth ®).

iNode Care GSM allows for existence of BLE devices (Bluetooth Smart, IoT-Internet of Things) in the IP protocol networks: GPRS and the Internet. Using the iNode Care GSM you can receive alert notifications from the iNode Care Sensors either directly on your mobile phone (SMS and/or CLIP) and/or to the HTTP server in the Internet. You can find here a sample of on-line charts powered by ThingSpeak.com.

The product is made with the use of the GSM module G510 Open CPU company Fibocom (authorized distributor Maritex). After the purchase, for registered users, we provide the full source code for the iNode Care GSM and OpenCPU-Kit.

Trademarks or registered trademarks:

Bluetooth Low Energy ®, Bluetooth 4.0 ®, RFID®,CSR®,Windows®, Android, Google, Microsoft, ThingSpeak, Raspberry Pi, Domicz, BlueZ, Linux are used for informational purposes only.

All trademarks are property of their respective owners.

Please read this manual before starting the installation! We can not take on responsibility for damage caused by improper use of the device.

Warning!

This device is a class A device. In residential environment it can cause electromagnetic interference. In such cases, you can request that the user apply appropriate countermeasures.

2. The safety of use



Before turning on the device, please read the information regarding the safety of use.

2.1 Power Supply

The device can be turned on to the mains alternating current AC 230V 50 Hz exclusively by stabilized 230V AC/5V DC double insulation or reinforced and protection against over-current power supply unit. Nominal value of this current may not be greater than 2A.

2.2 General terms and conditions of safe use.

- The unit should be placed in a stable, safe place.
- External power supply unit should be placed in an easily accessible outlet (not hidden in furniture). Some power supplies of this type do not have their own network switch, so their disconnection is possible only by completely removing from the wall socket.
- Do not use external power supplies outside the building or in places with high humidity.
- At the device with an external power supply note the placement of the cable so that it was not vulnerable to trampling, snags or pulling out the power supply from the power outlet by people or animals moving along the room.
- Do not place the unit or the AC adapter on a wet surface. Do not use in humid environments. Do not create the possibility of access the rain by the open window. Never put on the device or the power supply of the containers with liquids: vases, cups, cans, glasses, etc.
- Never put the device or power supply sources of open fire: candles, olive lamps etc.
- If you noticed any damage to the power cord or plug, for your own safety, immediately go to the site in order to remove this vulnerability.

2.3 Cleaning

- Before cleaning, always switch off the device from the network by removing the power cord or the AC adapter from the wall outlet.
- Do not use liquid cleaners or aerosol cleaners.
- For cleaning only use a dry soft cloth lint tiny hairs-strands.

2.4 Ventilation

- All holes and slots in the housing of the device or the power supply are provided for ventilation. Must not obscure or cover, as this can cause overheating of internal components.
- Protect the device and the power supply against young children able to throw through the ventilation openings to the Interior of the various small things.

2.5 Service

If necessary, give the device to a specialized service. Inside there are no controls for use by the user, or useful items.

3. Before installation

- Before installation, check the voltage of your mains with the information on the device or the power supply.
- Switching on and off of the outlet follow the holding for the mains plug or the power supply cover, and not the power cord.
- If you only plug the power cord or the AC adapter is plugged in a network, the device is still powered. The power plug DC is the only part of the disconnect the power supply from the device.
- If anything falls into or dropped inside the device or power supply, immediately remove the plug from the wall outlet. The device or the power supply cannot be used until the inspection carried out by an expert.
- Do not disassemble the device or power supply unit. Dangerous voltage may be present inside a life-threatening health and even life. Any repairs and adjustments inside should only be carried out by qualified service personnel.

4. Placement

- Place the device and the power supply unit in a place with good ventilation-free air flow. This will prevent the overheating of the internal components.
- Never install the appliance or the power supply in the area of heating devices, or in sunlight.
- Never place heavy objects on it.

5. Steam Condensation

In certain circumstances (e.g. sudden change the location of the room cold to warm) and/or can cover to steam by preventing temporarily use. In this situation, you must wait about 1 hour for the temperature to stabilize the device and the evaporation of moisture.

6. Connect the iNode Care GSM

To run the iNode Care GSM in GSM.GPRS network you must do the following:

- Connect to the device the GSM antenna (fig. 1). If it has a radiator, it should be set vertically.

PLEASE NOTE! Do not tilt the radiator antenna if it is tightened to the device, because it can cause damage. Please note that the radiator of the antenna shall be at least 20 cm away from the human body.

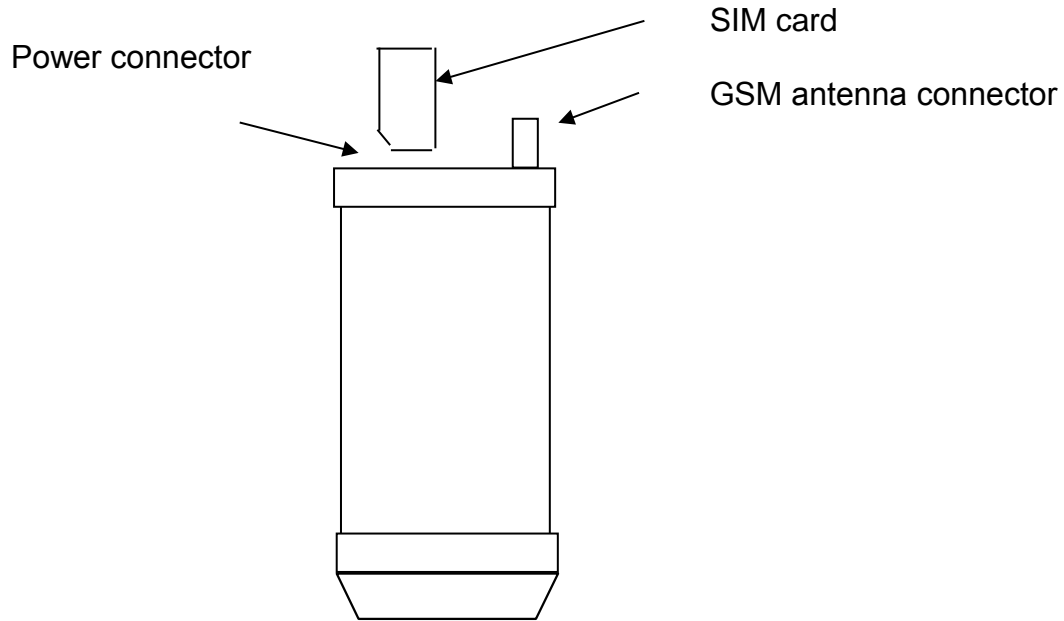




Fig.1 The view from the top of the device.

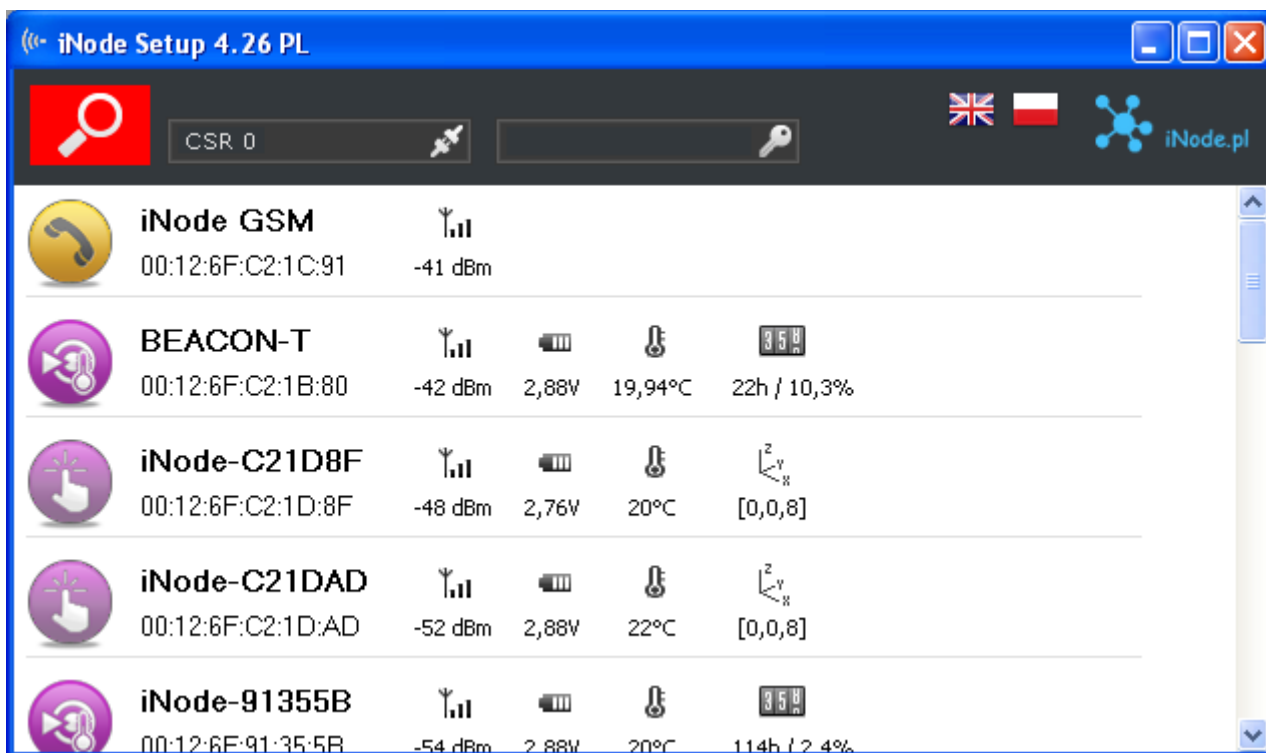
7. How to configure the iNode Care GSM

Install application **iNode Setup** and BT4.0 drivers on PC. Next run **iNode Setup** application (on Windows 7 to 10 with administrative rights), and press the red button with magnifying glass picture. If a BLE device you want connect to is password protected you should type the password in the text box with a key . If you press the button  you can change the type of adapter which will be used to communication – standard BT4.0 adapter (signed CSR ...), **iNode Serial Transceiver** (signed COM ...) or **iNode LAN** (signed the name of the device).

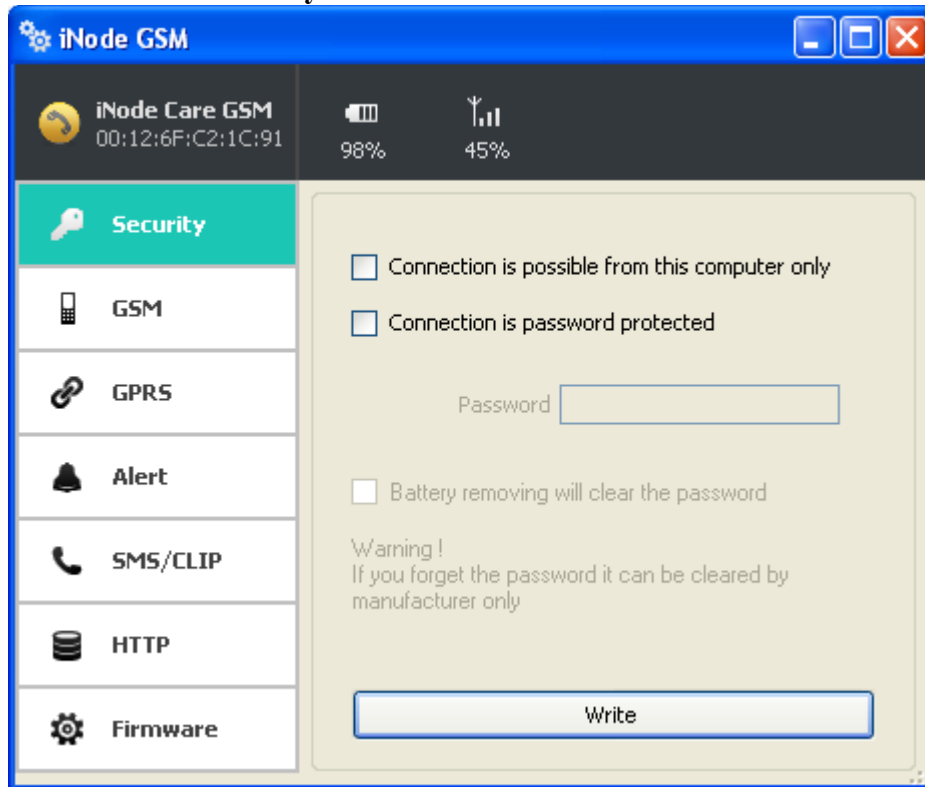
In case the application cannot start or system error you should try to install **Microsoft Visual C++ 2005 Service Pack 1 Redistributable Package MFC Security Update** from that page: <http://www.microsoft.com/en-us/download/confirmation.aspx?id=26347>.

iNode Setup will find all nearby iNode devices and sort them regarding receiving signal strength. Each type of iNode device has a different icon. For **iNode Care GSM** it is the first picture in the window below.

To configure **iNode Care GSM** device you should double click on its icon. Application connects with this device and reads its settings:

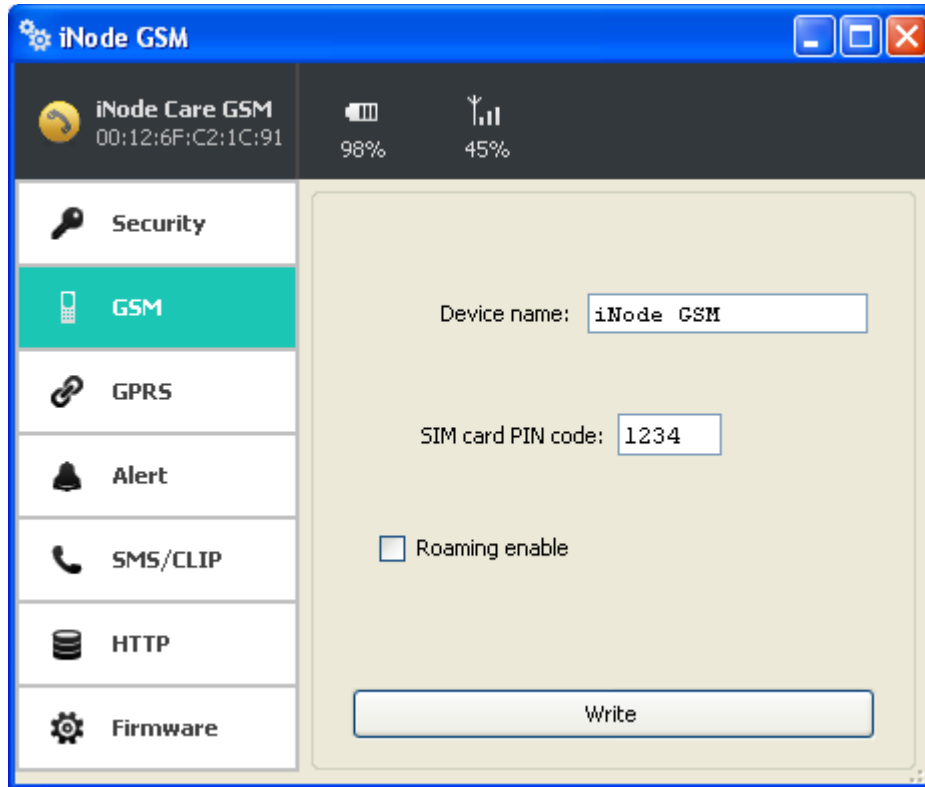


The picture below shows the **Security** tab:



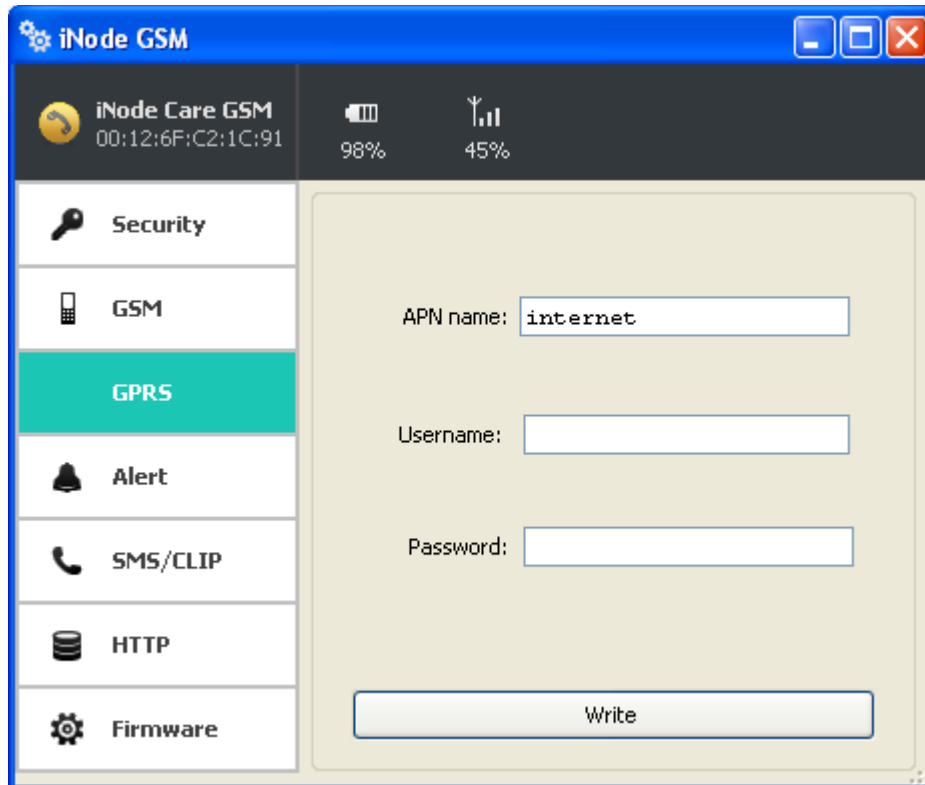
- The following items can be set:
- **Connection is possible from this computer only**: this option enable you to protect the **iNode Care GSM** access from others PCs or phones.
- **Connection is password protected**: access to the **iNode Care GSM** is password protected. Password length is 16 characters maximum.
-
- You can save modified settings by pressing the **Write** button.

The picture below shows the **GSM** tab:



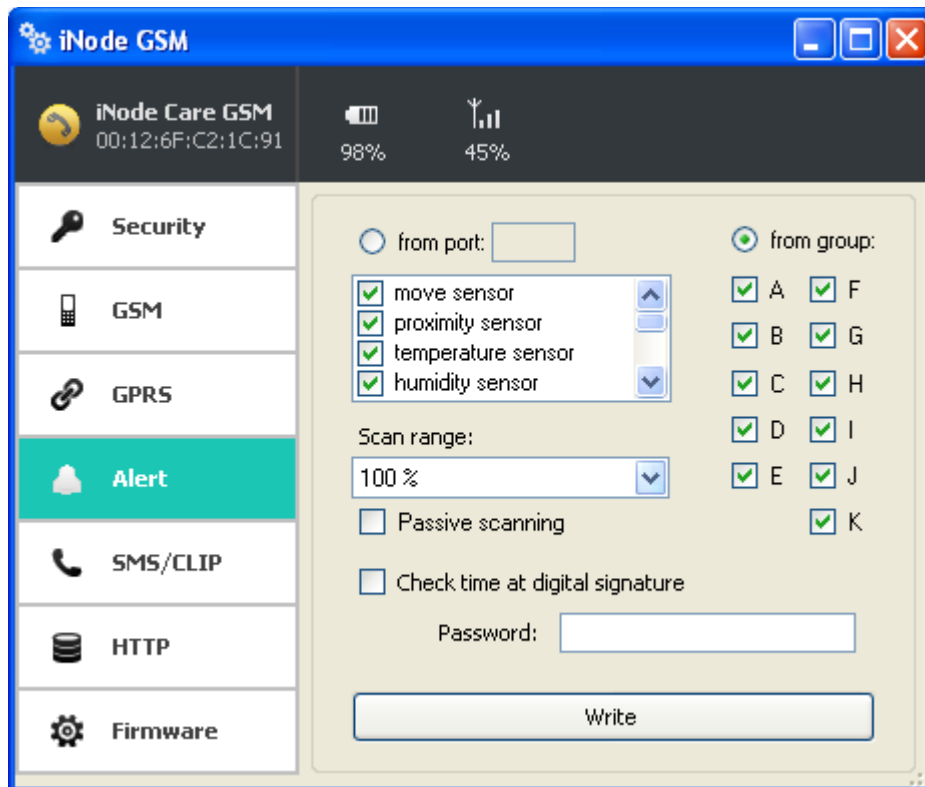
- The following items can be set:
- **Device Name:** you can change default device name typing a new one in this text box. Its length is 16 characters maximum.
- **SIM card PIN code:** It is used to unlock the SIM card access.
- **Roaming enable:** When selected, it is possible to work in roaming. It is advisable to select this option if you use e.g. SIM cards from PLAY, as they are in the national roaming.
- You can save modified settings by pressing the **Write** button.

The picture below shows the **GPRS** tab:



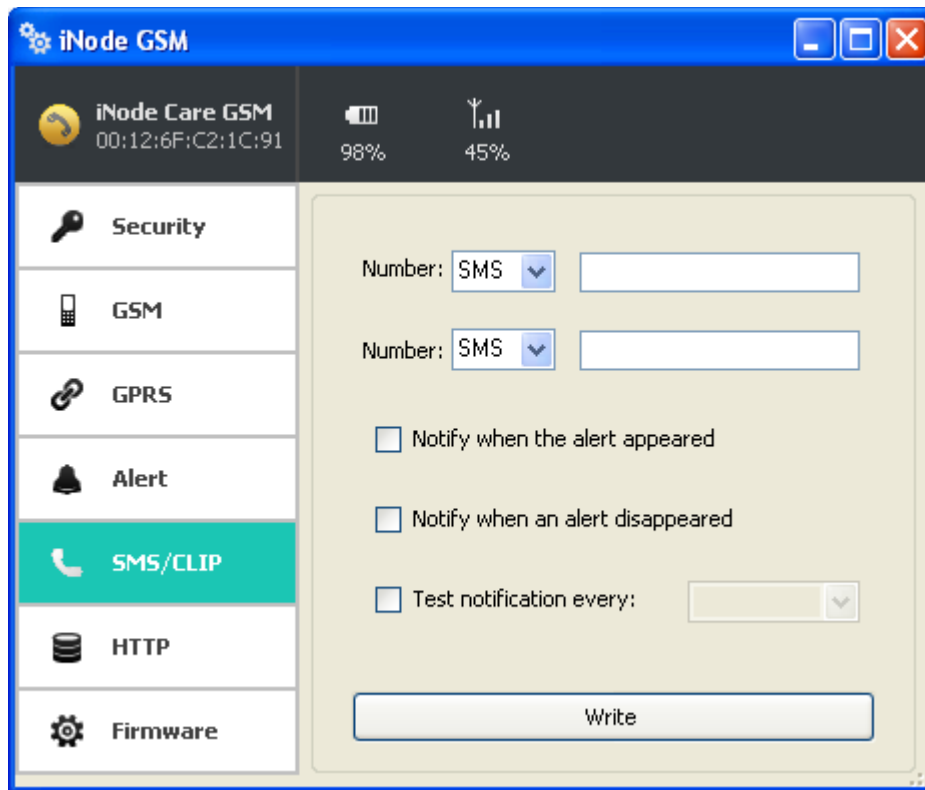
- The following items can be set:
- **APN name:** We can provide the name of the APN for GPRS data transmission.
- **Username:** Here you must enter the user name for your APN.
- **Password:** Here you must enter a password for your APN and the user.
- You can save modified settings by pressing the **Write** button.

The picture below shows the **ALERT** tab:



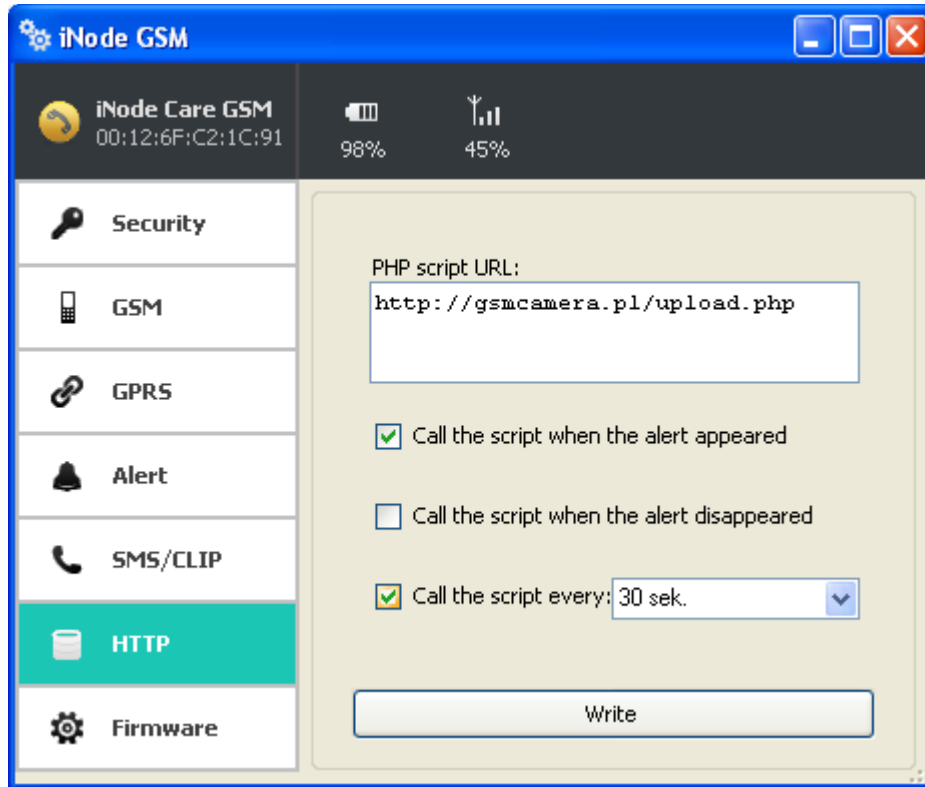
- The following items can be set:
- **from port** or **from group**: select from which a logical group of tags iNode Care Sensor device receives the alert messages and what kind they are. Division of sensors on group makes it easy to manage and configure the iNode system.
- **Passive scanning**: select BLE passive scanning mode.
- **Check time the digital signature**: in the case of iNode Care GSM time is used to verify messages received from the iNode Care Sensor.
- **Password**: the password can have up to 16 ASCII characters. The same password must be entered in all iNode Care Sensor working with this iNode Care GSM.
- You can save modified settings by pressing the **Write** button.

The picture below shows the SMS/CLIP tab:



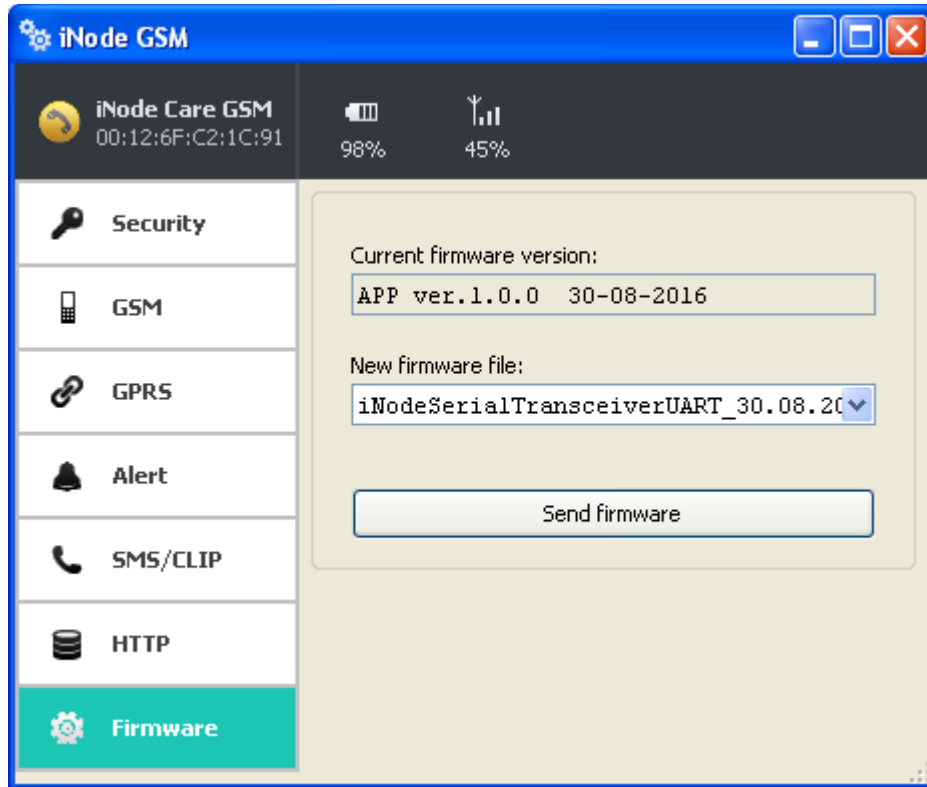
- The following items can be set:
- **Number:** select the type of notification (SMS or CLIP) and the phone number for which it is to be sent. SMS means sending a text message, and CLIP the execution connection. The two numbers can be chosen.
- **Notify when the alert appeared:** the selection will send notifications in the event of the emergence of an alarm.
- **Notify when the alert disappeared:** the selection will send notifications in the case of the disappearance of an alarm.
- **Test notification every:** the selection will send test notification in the selected time period.
- You can save modified settings by pressing the **Write** button.

The picture below shows the **HTTP** tab:



- The following items can be set:
- **PHP script URL:** here enter the name of the HTTP server and the name of the PHP script receiving the data from the iNode Care GSM. They are sent to the server through the HTTP/POST.
- **Call the script when the alert appeared:** the selection will send data to the server in the event of the emergence of an alert.
- **Call the script when the alert disappeared:** the selection will send data to the server in the case of the disappearance of an alert.
- **Call the script every:** If selected message sent to the HTTP Server contains full information on all iNode devices within range of the iNode Care GSM in selected time period.
- You can save modified settings by pressing the **Write** button.

The picture below shows the **Firmware** tab:



Current firmware version field shows the version and creation date of the firmware in the device.

To change the firmware in the device first select **New firmware file**. You should select the firmware for the **iNode Serial Transceiver UART**.

Firmware is uploaded to the device after clicking **Send firmware** button. Application checks if this firmware is correct for this type of device to avoid situation that we want to upload the firmware which needs the button to be pressed for broadcasting in the device but this device doesn't have it.

The *fep* files with the firmware, manuals or other information you can find at our technical support: <http://support.inode.pl/> user: *inode* no password.

8. The connectors and LEDs features

8.1 Mini USB connector

This connector is used to connect an external power supply 5VDC current performance of not less than 1000. You can also use this connector to connect to a PC to replace the firmware on a GSM/GPRS module.

8.2 GSM antenna connector

External GSM antenna should be connected to the SMA connector (fig. 1).

8.3 LEDs

- Red LED-indicates receipt of a advertisement frame by the BLE.
- Green LED-shows the status of the GSM/GPRS modem.

9. Technical specifications

Bluetooth Low Energy & GSM/GPRS:

- configurable from your PC:
 - GPRS network settings: APN, username and password;
 - the name of the device on the GSM/GPRS network and BLE;
 - the password to access the device;
 - password to verify the messages received from the sensors;
 - group (logical network) from which the alerts are received;
 - the type of the received alerts;
 - the name of the HTTP server, and name of the PHP script that receives data from the device;

GSM antenna connector:

- type SMA-female;
- the parameters of the recommended antenna:
 - frequency: Quad Band: 850/900/1800/1900 MHz
 - gain: 0 dB but not more than 2.5 dBi
 - impedance: 50 Ω
 - VSWR: 1.5:1; in the worst case of 2.5:1

Power supply:

- mini USB socket for connecting an external power supply 230V AC/50 Hz / 5V DC 1000mA of double insulation or strengthened;
- the maximum length of the connection cable: 3 m;

Housing:

- metal case;
- dimensions: 60 mm x 38 mm x 22 mm;

Others:

- possibility of remote Exchange bluetooth software; the firmware of the GSM module is replaced by mini USB connector;
- connector for micro-SIM cards;
- LED: Red-Green;
- reset button (restore factory settings);
- temperature sensor with a resolution of 1 °C;
- operating temperature: from -20 to 45 °C;
- humidity: 35-80 % RHG.
- weight: 45 g;

Software:

- Windows NT/XP/Vista/7.0/8.0/8.1/10.0;

Equipment:

- GSM antenna SMA type;

10. Disposal



All the packaging materials are recyclable and are labeled as such. Dispose of the packaging in accordance with local regulations. Keep the materials out of children reach, as the materials can pose a hazard.

Proper disposal:

- According to WEEE Directive (2012/19/UE) the crossed-out wheeled bin symbol (shown on the left) is used to label all electric and electronic devices requiring segregation.
- Do not dispose of the spent product with domestic waste: hand it over to an electric and electronic device collection and recycling point. The crossed-out wheeled bin symbol placed on the product, instruction manual or package communicates this requirement.
- Plastics contained in the device can be recycled in accordance with their specific marking. By recycling materials and spent equipment you will help to protect the environment.
- Information on electric and electronic devices collection locations is available from local government agencies or from the dealer.
- Spent or fully discharged single-use and rechargeable batteries must be discarded in dedicated labeled bins, handed over to hazardous waste collectors or returned to electric equipment dealers.

DECLARATION OF CONFORMITY 1/06/2015

(according to ISO/IEC Guide 22)

Producer: **ELSAT s.c.**

Address: Warszawska 32E/1, 05-500 Piaseczno k/Warszawy POLAND

Declares that the product:

Product: **iNode Care GSM**

Model: **iNode:0x0b10**

Conforms to the following Product Specifications and Regulations:

PN-EN 60950-1:2007/AC:2012

PN-ETSI EN 301 489-1 V1.9.2:2012

PN-ETSI EN 301 489-3 V1.6.1:2014-03

PN-ETSI EN 301 489-17 V2.2.1:2013-05

PN-ETSI EN 300 328 V1.8.1:2013-03

PN-EN 62479:2011/Ap1:2013-07

PN-EN 50561-1:2013-12

PN-EN 61000-6-2:2003

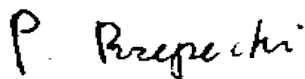
This product contains a GSM/GPRS modem module - Fibocom G510 GPRS which meets the essential requirements of article 3 of the R&TTE Directive 1999/5/EEC, which is used in accordance with the intended use and the manufacturer's recommendations and has the CE mark CE0700.

The product herewith complies with the requirements of the Low Voltage Directive 73/023/EEC, the EMC Directive 89/336/EEC, the RoHS Directive 2011/65/EU and carries the CE - marking accordingly.

Place of issue:
Piaseczno k/Warszawy

Signed on behalf of producer: Paweł Rzepecki
Function: Co-owner

Date of issue:
01.06.2015

Signature: 

ELSAT s.c. ul. Warszawska 32E/1 05-500 Piaseczno k/Warszawy
tel.: 22 716 43 06 faks: 22 716 43 07
<http://i-node.pl/>