Inova-bg Ltd.

GPRS Tau

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1. Main features

GPRS Tau is a communication device with the main purpose to transmit data from security panels and/or sensors through GPRS and/or IP based network. Combining the advantages of those two advanced communication technologies GPRS Tau provides the most secure connection with monitoring center.
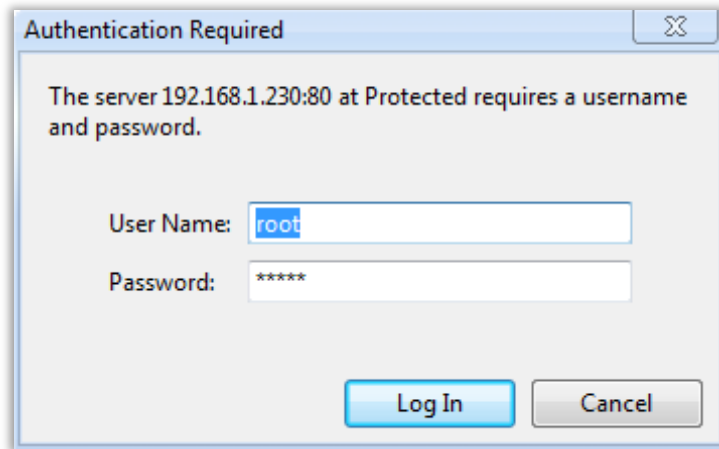
Features:

- Power supply 12VDC (8,5V to 16V)
- Low power consumption
- Capability to use communicator as input - using "Ademco Contact ID" protocol
- Six digital inputs working simultaneously with GPRS and/or IP transmitters
- HTML server for easy configuration and status check, protected with an username and a password
- Easy configuration without the need of specialized software for programming - using only a web browser (Internet Explorer, Google Chrome, Firefox etc.)
- Capability to use one or two fully independent servers. Additional option to use GPRS only as a backup in case the IP network fails
- SMS report of the status of the communicator and/or digital inputs to up to 5 mobile numbers

- Capability every digital input separately to be set to transmit SMS report
- PGM output controlled by SMS or call
- Capability to enter PIN or PUK code for the SIM card
- Graphical display of the status of the GPRS network in the web interface
- Encrypted connection with IP servers
- Verification with an unique ID code
- Capability to change the username and password of the html server
- Indication (4 LEDs) for:
    - LAN Status - Ethernet available
    - LAN Activity - Network packets service
    - GPRS LED – 'ON' when connected to GPRS network
    - Server LED - Established connection with server/s – when using 1 server - 'ON' when connection is established. When using 2 servers - 'ON' when connection is established with both servers, blinks if connection is established with only one server , 'OFF' when connection isn't established with both servers
- Configurable working mode for every digital input:
    - Normal Open
    - Normal Close
    - Check for AC voltage from 5V to 20V
    - Deactivated
- Configurable parameters sent for events on each digital input to IP servers

2.   Start working with GPRS Tau

The default IP address is 192.168.1.230. Make sure that your computer is in the same IP subnet (see Chapter 9. Error! Reference source not found.). To access the web server for onfiguration use Internet Explorer (Chrome, Firefox, Opera or any other web browser) and enter the GPRS Tau's address - **http://192.168.1.230/** (or the new one if you already change it). Alternatively you could write **http://gprstau**. If the device is accessible from that computer a connection will be established and you will be prompt to enter username and password:

The default settings (which will be recovered after hardware reset) are:

IP Address:	192.168.1.230
Username:	root
Password:	admin

If you enter the right credentials you will have access to the web page for configuration.

3.   Homepage

On the homepage you can find main information about the device, current status of the input voltage, last 5 messages received from the communicator, current state of each digital input, PGM state, GPRS status information about the operator and the signal strength. Through the menu you could select one of the following actions:

Home – Homepage

Device Config – Configuration of the main parameters

Login Config – Configuration of username and password for web-server access

About – Contact information

Reboot – Restart the device

4. Configuration of the main parameters
4.1. General settings

Device Name – Enter the name of the device. This value is used only for user convenience – to identify devices if you have more than one connected to one network. Maximum length – 30 symbols.

Select working mode and protocol:

Using communicator with Ademco Contact ID – In this mode, the sixth input, is used as a input for communicator on Ademco Contact ID protocol. The site's number is received from the security panel. Phone number must be entered.

Not using communicator – In this mode the device is working without communicator and all the inputs can be used. The phone number field is replaced with site's number and protocol selector fields. The protocol can be **Ademco Contact ID** or **Inova-bg Tau**. The protocol **Inova-bg Tau** sends **Ademco Contact ID** and **KP LARS** simultaneously. That requires some restrictions on the site's number and additionally system number must be entered. This protocol makes it possible to combine Radio, GPRS and IP transmitters in one monitoring system.

System – System number – must range 00 to 03. It is used in **Inova-bg Tau** for compatibility with **KP LARS** protocol.
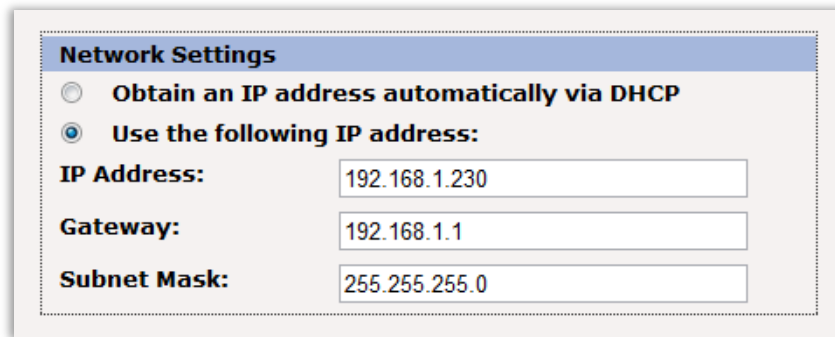
Account Number – Site's number.

    If working with **Inova-bg Tau** protocol - first three symbols must range 0 to 7 and the last symbol must range 0 to 9 or A to J. In the monitoring software, the last symbol can be set as a digit or letter (the digits 0 to 9 correspond to the letters A to J).

    If working with **Ademco Contact ID** protocol – each of the four symbols must be from 0 to 9 and/or from B to F.

Send message if DC is lower than 10V – Option that enables/disables generating of message if the input voltage drops under 10V.

4.2. General IP settings

IP settings:

Obtain an IP address automatically via DHCP – IP address is received automatically from a DHCP server in the current network. If you select this mode but after reboot the device cannot find a dhcp server for more than 10 seconds – GPRS Tau will load the last saved static address. In this case easy way to access the web-server is by entering the following address: http://gprstau

Use the following IP address – IP address and network parameters are set to static

IP Address – IP address

Gateway –Gateway address.

Subnet Mask – Subnet mask of the IP network.
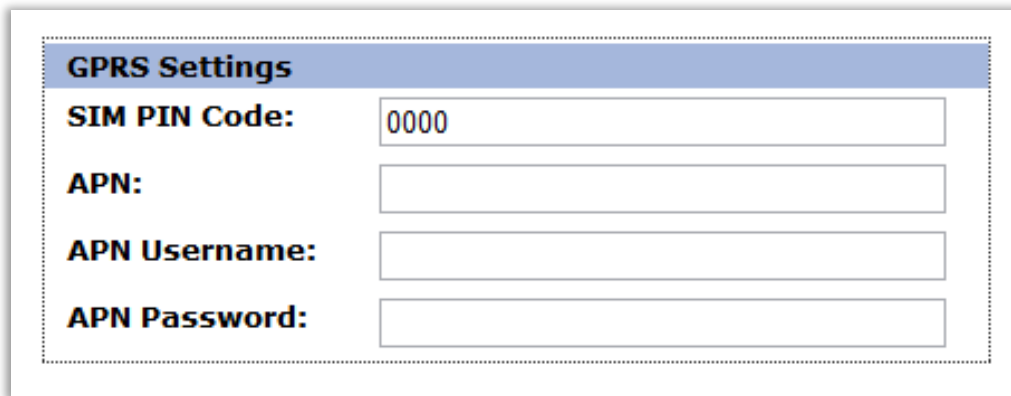
4.3. Server settings

      GPRS Tau can work with two independent IP servers. The first group is corresponding to the first monitoring server. The field - **Type** - sets the type of communication which must be used to connect to the server - IP network, GPRS network, IP network if available and GPRS as a backup if IP fails. This option is a good way to minimize the GPRS traffic. IP address and the communication UDP port must be set. Periodic test can be activated by selecting the checkbox **Use Periodic Test on Server 1** and then setting the test period.

      If you want to use the second server you must enable it - **Enable Server 2 –** and to set the parameters in the same way as for Server1.
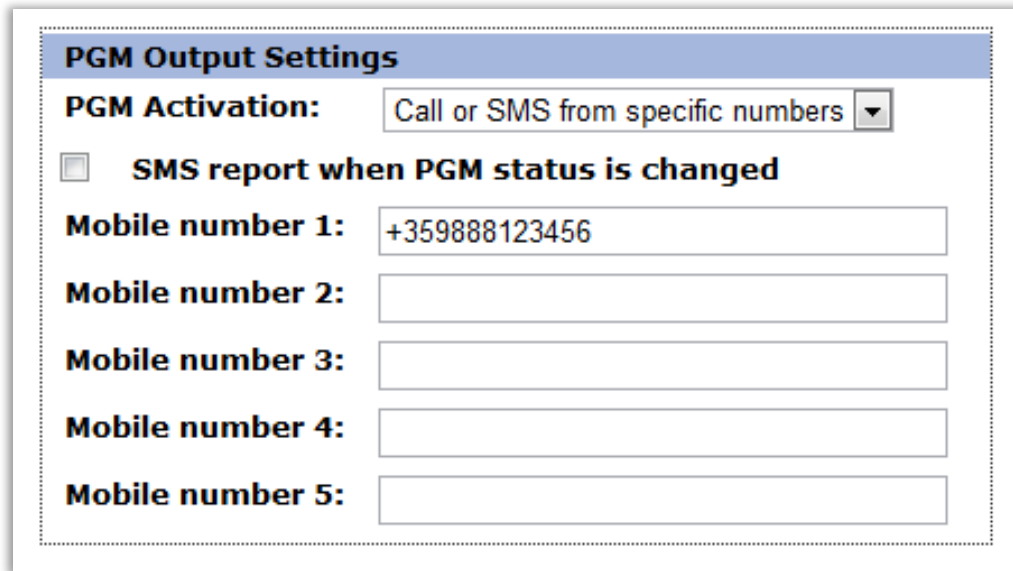
4.4. GPRS settings

In the GPRS Settings, the parameters of the mobile operator must be entered. If only IP network is used these fields can be empty.

In **SIM PIN Code** the PIN code must be entered. If the sim card doesn't use PIN code, this field has no role (empty or not).

APN (Access Point Name), **APN Username**, **APN Password** are parameters of the mobile network. The mobile operator must provide them.
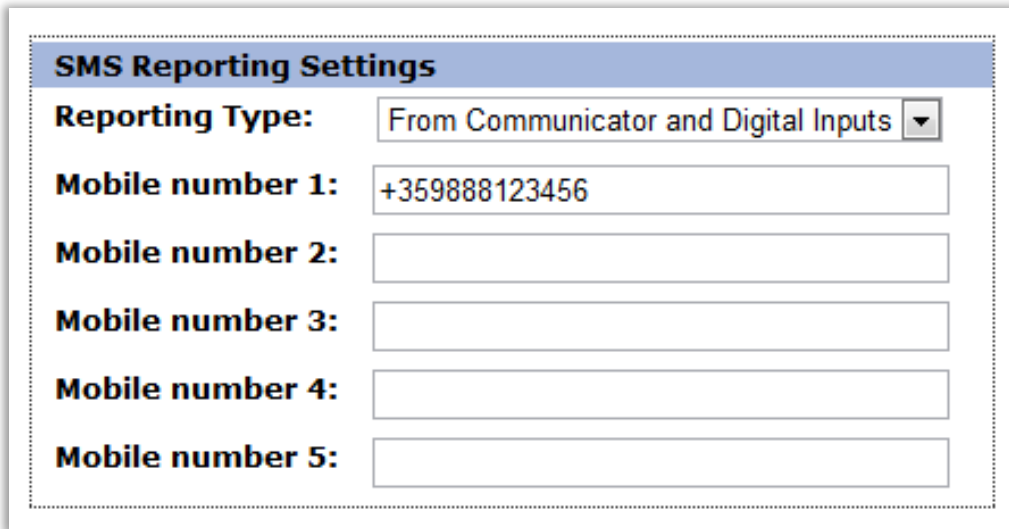
4.5. PGM output settings

     GPRS Tau has one programmable output - PGM. It can be used for remote controlling of different devices and processes.

     PGM Activation sets the working mode of the PGM. It can have the following values:

- **Disable PGM** – Deactivates the output.
- **Call or SMS from any number** – The output can be controlled with call or SMS from any phone number. When an incoming call is registered, the output changes its state alternatively - 1 to 0 and 0 to 1. If SMS with text **ON** is received, the output state will be set to 1, and SMS with text **OFF** will set the state to 0.
- **Call or SMS from specific numbers** - The output can be controlled only by the five phone numbers that are entered. When an incoming call is registered, the output changes its state alternatively - 1 to 0 and 0 to 1. If SMS with text **ON** is received, the output state will be set to 1, and SMS with text **OFF** will set the state to 0. If the phone number, which calls or send SMS, is not one of the entered numbers, the PGM status will not be affected.

     SMS report when PGM status is changed – Enables/ Disables SMS report when the PGM's state is changing. After GPRS Tau change the PGM state, it will send SMS to the number that initiate this action, to confirm the changes.

4.6. SMS report settings

SMS report can be sent to up to 5 phone numbers.

Reporting Type sets, which of the signals to be sent as a SMS report.:

- **Disable SMS Reporting** – Deactivates the SMS reporting function.
- **From Communicator** – SMS report will be sent to each phone number, only when alarm message is received from the communicator.
- **From Digital Inputs** - SMS report will be sent to each phone number, only when alarm message is received from digital inputs. To each digital input sms report can be enabled/disabled separately.
- **From Communicator and Digital Inputs** - SMS report will be sent to each phone number, when alarm message is received from the communicator or digital inputs. To each digital input sms report can be enabled/disabled separately.

4.7. Settings for the digital inputs

Digital inputs can be connected to PGM outputs of security panles or to any different kind of sensors – panic-buttons, tampers and etc. In the Active State field you can set the working mode of each input – normal close (N.O.) or normal open (N.C.) contact, check for AC on this input (Hardware AC) or you can disable the input (Not Used). When digital input is connected to PGM or dry contact, for '0' state is accepted value of the resistance to ground less than 300Ω and for active '1' – value more than 1,4KΩ (or open circuit), the hysteresis is between 300Ω and 1,4KΩ. If digital inputs are controlled by voltage for '0' state is accepted value of the voltage to ground less than 0,7V, and for active '1' – value more than 2,6V, the hysteresis is between 0,7V and 2,6V.

In the settings for each input you can set the following parameters:

Type – Choose a message which will correspond to the change of state of this input

Partition (two symbols each from 0 to 9 and from B to F) and **Zone** (three symbols each from 0 to 9 and from B to F) determines the corresponding parameters for the messages generated from each digital input.

If in **SMS Reporting** settings, **Reporting Type** is set to **From Digital Inputs** or **From Communicator and Digital Inputs**, then for each input a checkbox for reporting enable/disable will be shown – **Report SMS from this input**.

4.8. Saving the new configuration

When you click the Save Config button a validation check is performed. If there is invalid data in one or more fields – they will be colored in red. Additionally under the button **Save Config** a field will be generated – **Error List** – which describes in details the errors and how to fix them. If all the input data are correct GPRS Tau will save the parameters and will reboot with the new configuration.

5.   Username and password configuration

In **Login Config** menu you can change the username and password used to access the web-server. Maximum length for both fields is 11 symbols. If you forget your credentials you can perform a hardware reset to recover default settings:

Username: root   Password: admin

When you click the Save Config button a validation check is performed. If there is invalid data in one or more fields – they will be colored in red. If all the input data are correct GPRS Tau will save the parameters and will reboot with the new configuration.
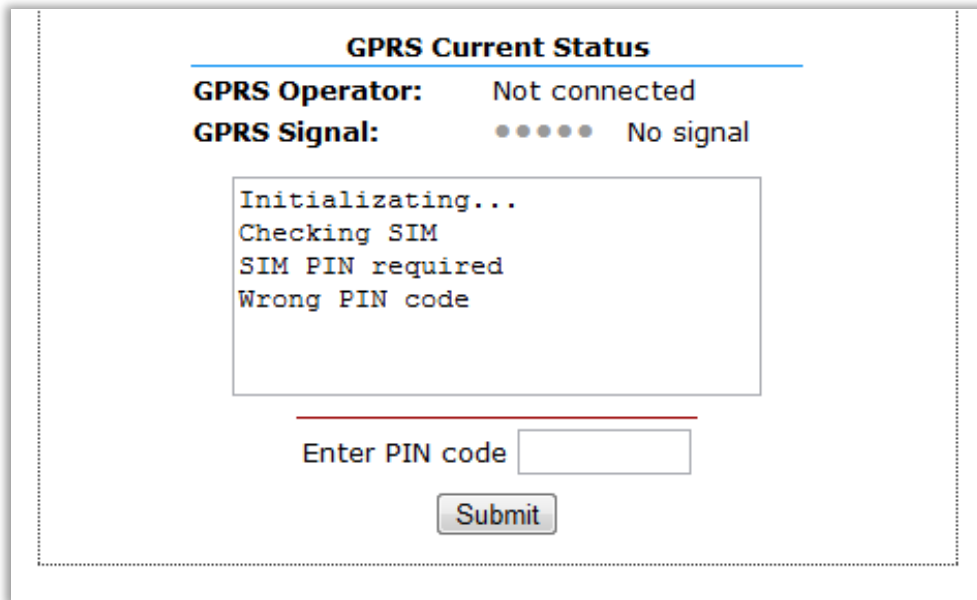
6.   Reboot

If you choose the **Reboot** menu this will cause the device to restart.

7.   Hardware reset

In case you changed the settings and can't reach the device or if you forgot your username or password, GPRS Tau is capable to return to its factory defaults. For this purpose you must disconnect from power supply, push and hold the button for hardware reset and reconnect to the power supply. Hold the button for 5 seconds until the green LED is blinking. Once the LED goes off you can release the button and connect to the device.
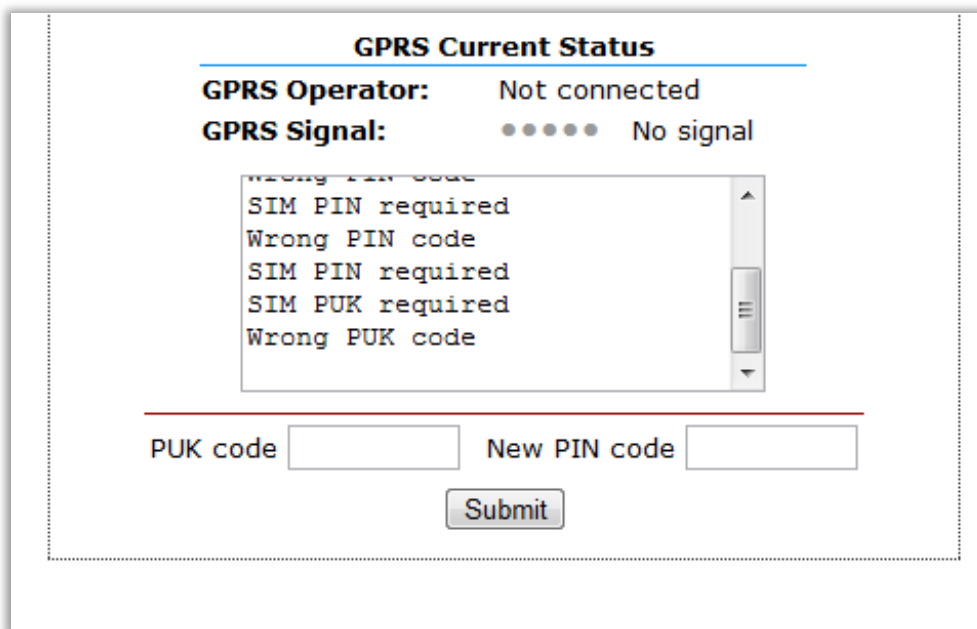
8.   Wrong PIN code. PUK code

If the PIN code entered in **Device Config** menu is wrong, on the **Home** page this information will be shown. In that case a field for new PIN code will be shown on this page.

If the PIN code is incorrectly entered 3 times, a PUK code will be requested. GPRS Tau automatically recognizes this case and a field for the PUK code will be shown, along with new PIN code field on the **Home** page.

9.   Windows Network configuration

If you want to access the web-server, your computer must be in the same IP subnet. You must change the settings of your network adapter (if they are different than needed).

If your computer is in a different network than: 192.168.1.xxx with mask 255.255.255.0 you will need to change your current configuration of Windows network:

Start → Control Panel → Network and Sharing Center → Change adapter settings → Right-Click on your network adapter → Properties → Right-Click on Internet Protocol Version 4 → Properties → Use the following IP address

IP Address :   192.168.1.xxx, xxx is between 2 and 254 and must be different than 230

Subnet Mask: 255.255.255.0