

# Inova-bg Ltd.

GPRS Tau

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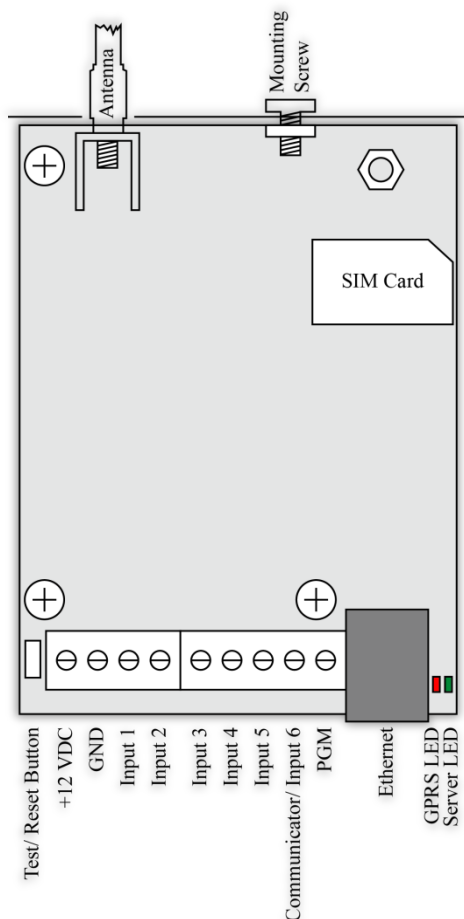
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# 1. Main features

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:



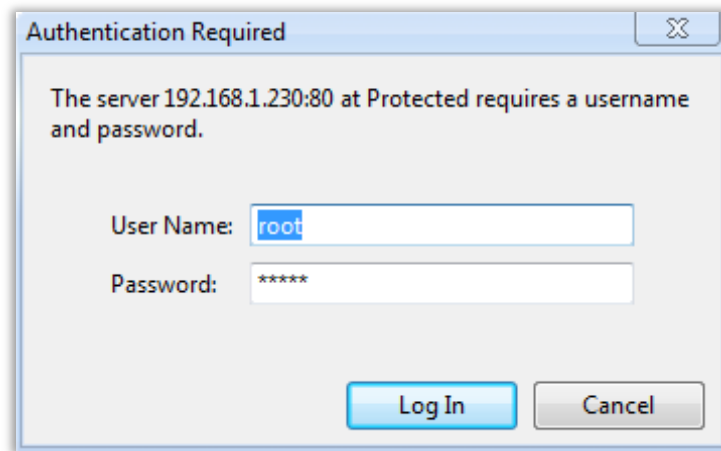
- Power supply 12VDC (8,5V to 16V)
- Low power consumption
- Capability to use communicator as input - using “Ademco Contact ID” protocol
- Six digital inputs working simultaneously with GPRS and/or IP transmitters
- HTML server for easy configuration and status check, protected with an username and 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 10. **Windows Network configuration**). To access the web server for configuration 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

# Inova-bg Ltd

GPRS Tau - GPRS & Ethernet Security

Home

Device Config

Login Config

Utility

About

Reboot

## Welcome to GPRS Tau home page!

Device Information

Device Name: GPRS Tau

Account number: 9999

Device MAC: 00:04:A3:4F:13:D4

Firmware version: 3.8

Power Supply

DC Voltage: 12.1V

Last 5 Received Ademco Messages

Last Message: 1235181131010157

Message 2: 1235181131010157

Message 3: 1235181131010157

Message 4: none

Message 5: none

Digital Input Current Status

Digital Input 1: High

Digital Input 2: High

Digital Input 3: Not Used

Digital Input 4: Not Used

Digital Input 5: Not Used

Digital Input 6: Not Used

PGM Output Current Status

PGM Output: Not Used

GPRS Current Status

GPRS Operator: Vivacom

GPRS Signal: ●●●● -57 dBm

Initializing...

Checking SIM

SIM PIN OK

Searching for network...

GPRS network connected

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GPRS Tau, ver: 3.8

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

Utility – Test the connection to the servers

About – Contact information

Reboot – Restart the device

## 4. Configuration of the main parameters

### 4.1. General settings

**Inova-bg Ltd**

GPRS Tau - GPRS & Ethernet Security

**Home**  
**Device Config**  
**Login Config**  
**Utility**  
**About**  
**Reboot**

### GPRS Tau Configuration

This page allows to configure GPRS Tau network settings.

General Settings	
<b>Device Name:</b>	GPRS Tau
<b>Protocol:</b>	Ademco Contact ID ▼
<b>Account Number:</b>	9999
<b>Communicator:</b>	Enable - Ademco Contact ID ▼
<b>Handshake Delay:</b>	16 x 100ms
<input type="checkbox"/> <b>Send message if DC is lower than 10V</b>	

**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:

**Protocol** – The device can use either **Ademco Contact ID** or **LARS** protocol. When using **Ademco Contact ID** the device can receive data from communicator/dialer.

**Account Number** – Site's number.

If working with **LARS** 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.

**System** – System number – must range 0 to 3. It is used only when the device works on **LARS** protocol.

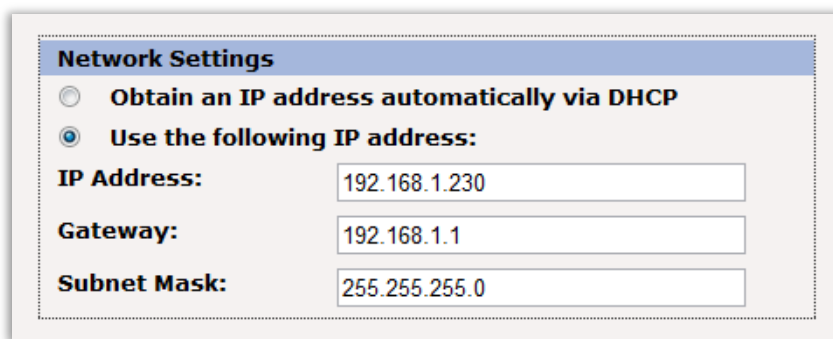
**Communicator** – When the device works on **Ademco Contact ID** protocol, the sixth input can be used as an input for communicator/dialer on Ademco Contact ID protocol. The **phone number** that should be set in the security control panel is - **9**.

**Handshake Delay** – Ademco Contact ID specific timing. It sets the delay between the phone number dial and the Handshake tones. Default value is – **16**.

**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



**Network Settings**

☐ Obtain an IP address automatically via DHCP

☒ Use the following IP address:

**IP Address:**

**Gateway:**

**Subnet Mask:**

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

The screenshot displays the 'Server Settings' window, divided into two sections: 'Server 1 Settings' and 'Server 2 Settings'.

**Server 1 Settings:**

- Type:** A dropdown menu set to 'Use IP communication'.
- IP Address:** A text field containing '91.211.189.253'.
- Port:** A text field containing '2549'.
- ☒ **Use Periodic Test on Server 1**
- Test Period:** A text field containing '20' and a unit dropdown set to 'Sec'.
- ☒ **Use Backup Server**
- Backup IP:** A text field containing '192.168.1.104'.
- Backup Port:** A text field containing '2550'.

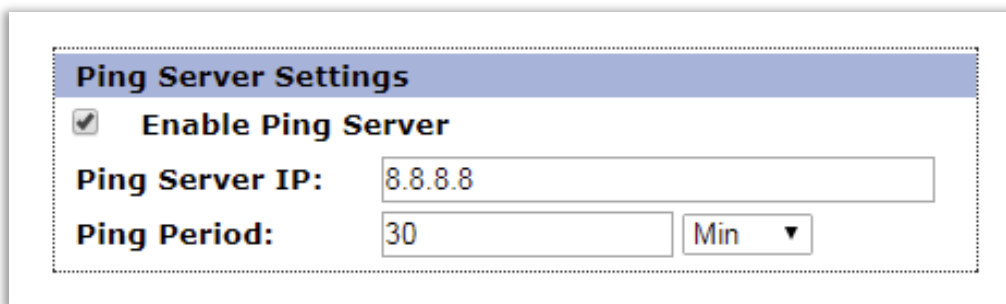
**Server 2 Settings:**

- ☒ **Enable Server 2**
- Type:** A dropdown menu with a list of options: 'Use IP if available and GPRS as backup' (highlighted), 'Use IP communication', 'Use GPRS communication', and 'Use IP if available and GPRS as backup'.
- IP Address:** A text field (empty).
- Port:** A text field (empty).
- ☒ **Use Periodic Test on Server 2**
- Test Period:** A text field containing '70' and a unit dropdown set to 'Sec'.
- ☐ **Use Backup Server**

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. Also a backup server can be enabled by selecting **Use Backup Server**. If the server on the primary IP address and UDP port fails – the device will try to send data to the backup IP address and UDP port.

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. Ping Server settings

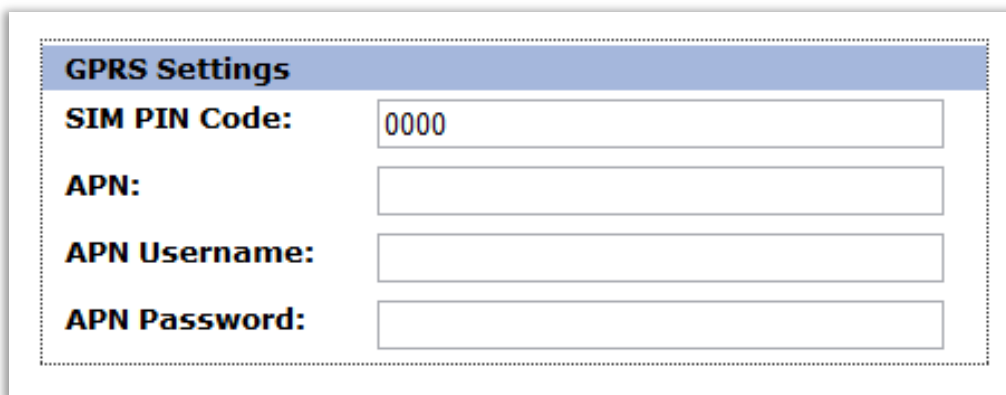


The screenshot shows a dialog box titled "Ping Server Settings". It contains a checked checkbox labeled "Enable Ping Server". Below this, there are two input fields: "Ping Server IP:" with the value "8.8.8.8" and "Ping Period:" with the value "30". To the right of the "Ping Period:" field is a dropdown menu currently showing "Min".

When working in **Use IP if available and GPRS as backup** mode – if IP is available the GPRS could be blocked because of different reasons (unpaid bill, SIM failure and etc.). In that case – the option for the Ping Server is very usefull.

When this option is enabled – the device will send a ping to the specified **Ping Server IP** through the GPRS channel. If the ping failed – the device will generate E358 message and send it to the server through IP/GPRS.

## 4.5. GPRS settings



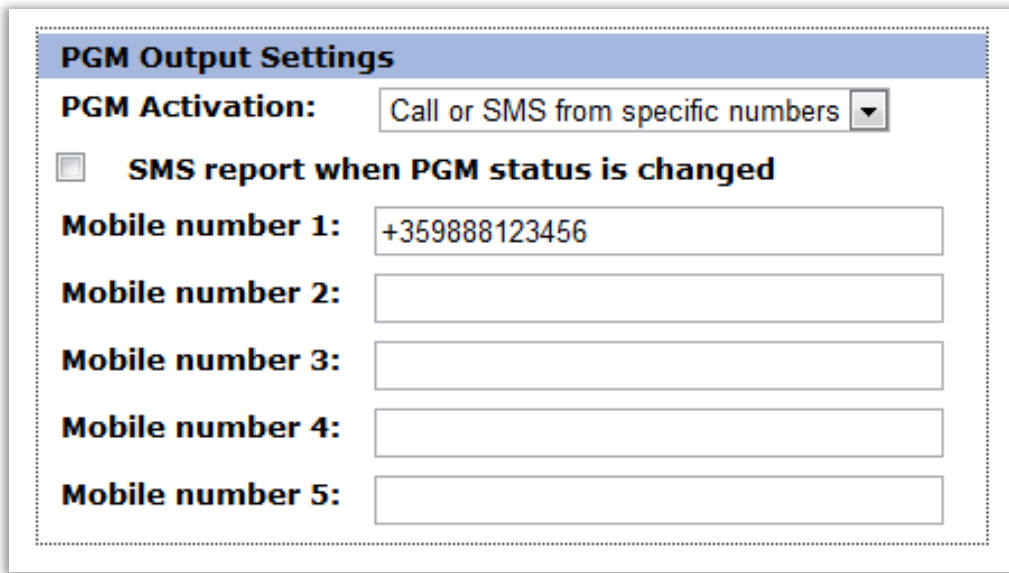
The screenshot shows a dialog box titled "GPRS Settings". It contains four input fields: "SIM PIN Code:" with the value "0000", "APN:", "APN Username:", and "APN Password:", all of which are currently empty.

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.

## 4.6. PGM output settings



**PGM Output Settings**

**PGM Activation:** Call or SMS from specific numbers ▼

☐ **SMS report when PGM status is changed**

**Mobile number 1:** +359888123456

**Mobile number 2:**

**Mobile number 3:**

**Mobile number 4:**

**Mobile number 5:**

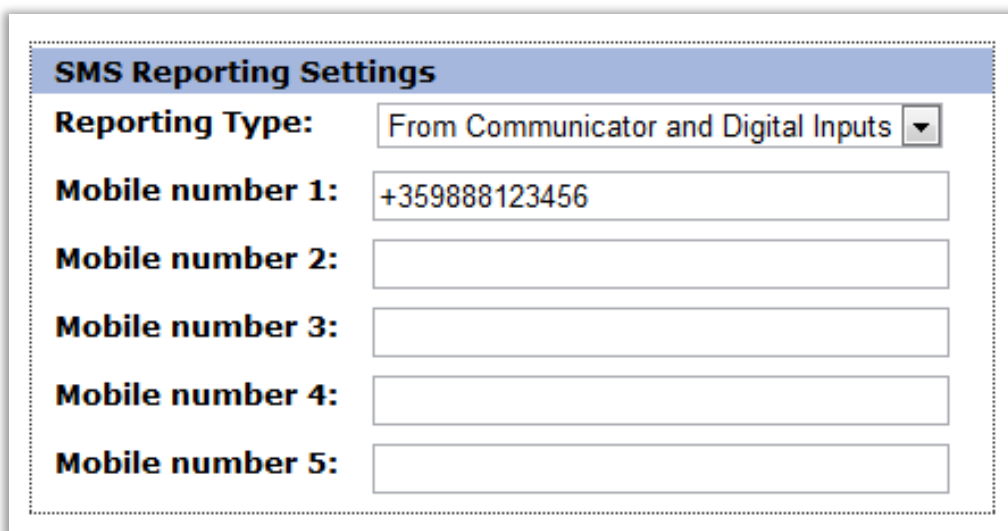
GPRS Tau has one programmable output - PGM. It can be used for remote controlling of different devices and processes.

**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.

## 4.7. SMS report settings



The screenshot shows a web form titled "SMS Reporting Settings". It contains the following fields:

- Reporting Type:** A dropdown menu with the selected option "From Communicator and Digital Inputs".
- Mobile number 1:** A text input field containing "+359888123456".
- Mobile number 2:** An empty text input field.
- Mobile number 3:** An empty text input field.
- Mobile number 4:** An empty text input field.
- Mobile number 5:** An empty text input field.

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.

## 4.8. Settings for the digital inputs

The screenshot displays the configuration interface for digital inputs. It is divided into two main sections: 'Digital Input 1 Settings' and 'Digital Input 2 Settings'.  
**Digital Input 1 Settings:**  
 - **Active State:** A dropdown menu set to 'N.C.' (Normal Close).  
 - **Type:** A dropdown menu set to '140 - General Alarm'.  
 - **Partition:** A text input field containing '99'.  
 - **Zone:** A text input field containing '901'.  
 - A checkbox labeled 'Report SMS from this input' is checked.  
**Digital Input 2 Settings:**  
 - **Active State:** A dropdown menu set to 'N.C.'.  
 - **Type:** A dropdown menu is open, showing a list of options: 'xxx - Custom Event Code', '110 - Fire Alarm', '120 - Panic Alarm', '130 - Burglary Alarm', '133 - 24 Hour Alarm', '137 - Tamper', '140 - General Alarm', '301 - AC Loss', '302 - Low System Battery', '309 - Battery Test Failure', '400 - Open/Close', '401 - Open/Close by User', and 'xxx - Custom Event Code'. The 'xxx - Custom Event Code' option is highlighted at the bottom.  
 - **Partition:** An empty text input field.  
 - **Zone:** An empty text input field.  
 - A checkbox labeled 'Report SMS from this input' is unchecked.  
**Digital Input 3 Settings:**  
 - **Active State:** A dropdown menu set to 'N.C.'.

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. If the “xxx – Custom Event Code” is selected – the event code can be manually inserted.

**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**.

## 4.9. Saving the new configuration

**Digital Input 6 Settings**

**Active State:** N.C. ▼

**Type:** 401 - Open/Close by User ▼

**Partition:** 99Z

**Zone:** 906

☐ **Report SMS from this input**

**Save Config**

**Error List**

Error List:

- Server2 Port must range 1-65535
- DigitalInput6 partition must be:
  - Maximum 2 symbols
  - Symbols must range 0-9 and/or B-F

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

The screenshot displays the web interface of the GPRS Tau device. At the top, the header reads "Inova-bg Ltd" and "GPRS Tau - GPRS & Ethernet Security". A left-hand navigation menu includes links for Home, Device Config, Login Config (which is highlighted), Utility, About, and Reboot. The main content area is titled "Login Configuration" and contains two cautionary messages. The first message states that the user needs login information to access the page and provides the default credentials: Username: root, Password: admin. The second message warns that clicking the "Save Config" button will cause the device to reboot. Below these messages, a form titled "Login Settings" contains input fields for "User Name" (with "root" entered) and "Password" (with "admin" entered). A "Save Config" button is positioned below the form. At the bottom of the page, a copyright notice reads "Copyright © 2012 Inova-bg, Ltd."

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GPRS Tau - GPRS & Ethernet Security

**Home**

**Device Config**

**Login Config**

**Utility**

**About**

**Reboot**

### Login Configuration

This page allows to configure Login Username and Password.

**CAUTION:** You will need this information to access this page. Use the "Hard Reset" button if you can't remember your Login information. After Reset default Username and Password will be recovered.  
Default Username: **root** Password: **admin**

**CAUTION:** Enter desired configuration and click **Save Config**. This will cause the device to reboot with the new settings.

Enter the new Login settings below (**maximum 11 symbols**):

Login Settings	
User Name:	<input type="text" value="root"/>
Password:	<input type="text" value="admin"/>

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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. Utility

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GPRS Tau - GPRS & Ethernet Security

**Home**  
**Device Config**  
**Login Config**  
**Utility**  
**About**  
**Reboot**

### GPRS Tau Utility page

Server 1	
Primary Server Status - IP:	Connection OK
Primary Server Status - GPRS:	Connection OK
Backup Server Status - IP:	Not Connected
Backup Server Status - GPRS:	Not Connected

Test Server1

Server 2	
Primary Server Status - IP:	Connection OK
Primary Server Status - GPRS:	N/A
Backup Server Status - IP:	N/A
Backup Server Status - GPRS:	N/A

Test Server2

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In **Utility** menu, connections to the servers can be tested. When the test button is clicked the device will send test messages by IP and/or GPRS to the server, corresponding to the mode selected for the server. If a backup server is enabled – the device will test this connection also.

## 7. Reboot

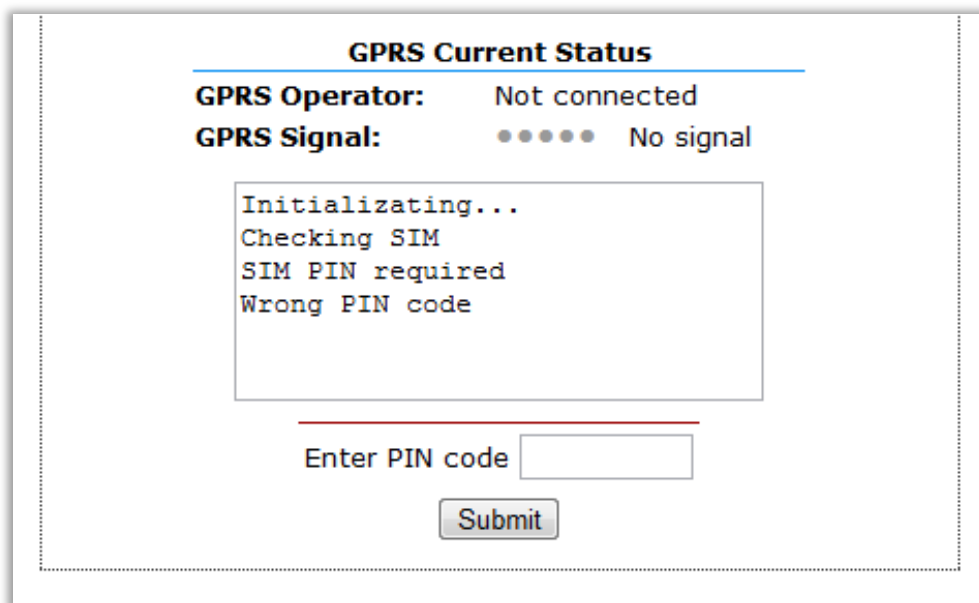


If you choose the **Reboot** menu this will cause the device to restart.

## 8. Hardware reset

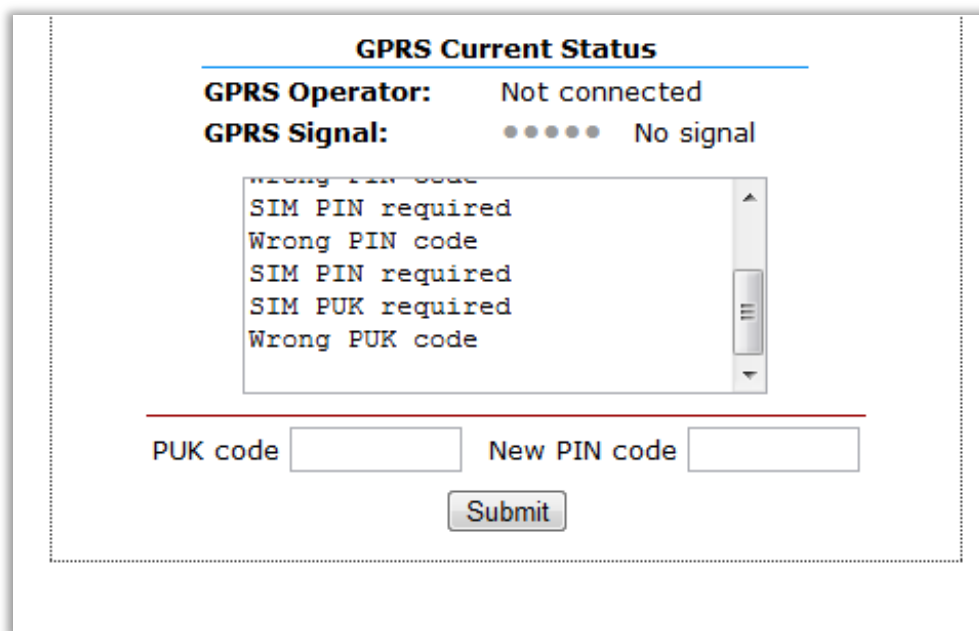
In case you changed the settings and can't reach the device or if you forgot your username or password, GPRS Tau is capable to return to its factory defaults. For this purpose you must disconnect from power supply, push and hold the button for hardware reset and reconnect to the power supply. Hold the 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.

## 9. Wrong PIN code. PUK code



The screenshot shows the 'GPRS Current Status' page. At the top, it says 'GPRS Operator: Not connected' and 'GPRS Signal: No signal'. Below this, a text box contains the following messages: 'Initializing...', 'Checking SIM', 'SIM PIN required', and 'Wrong PIN code'. At the bottom, there is a label 'Enter PIN code' followed by a text input field and a 'Submit' button.

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.

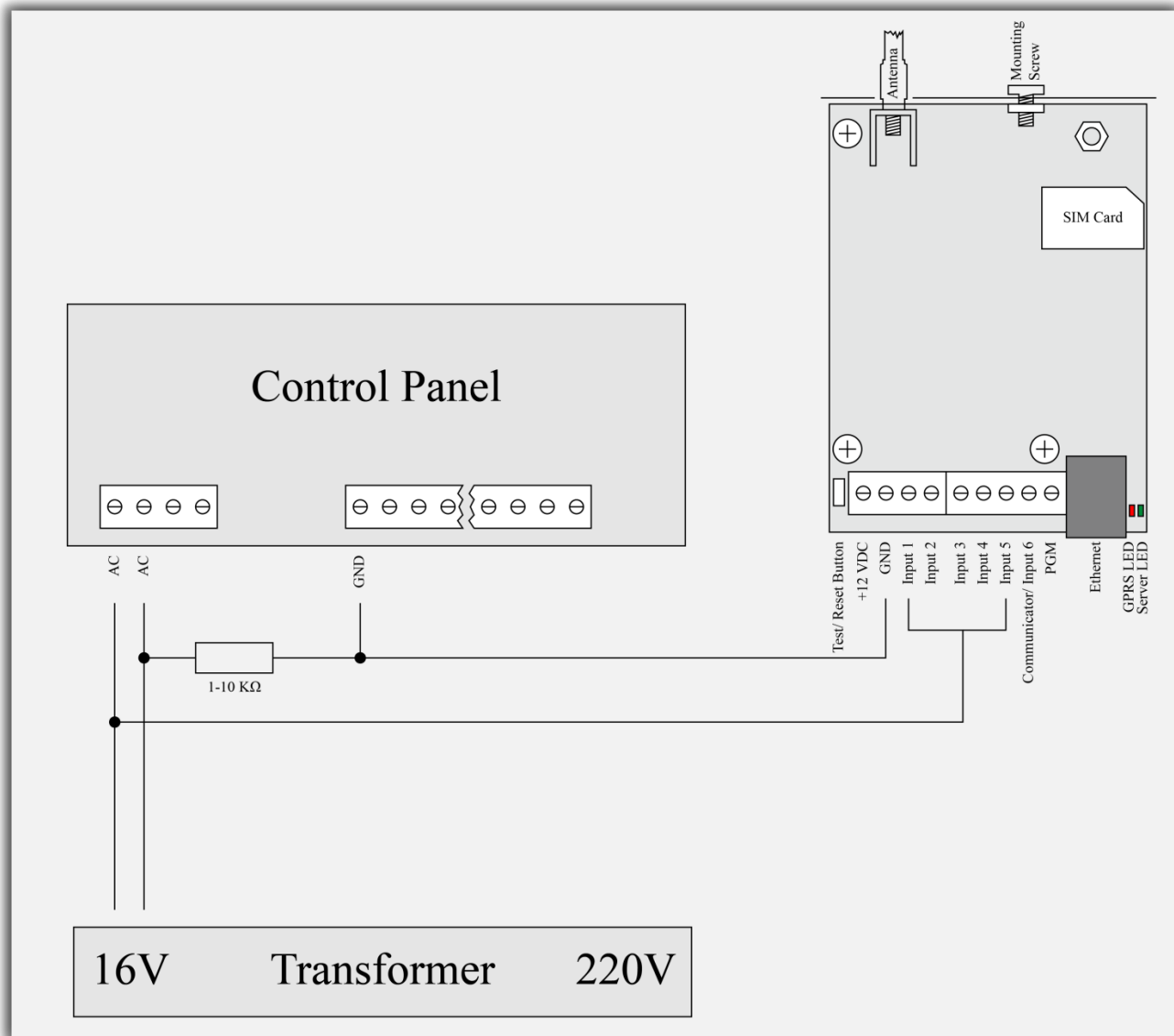


The screenshot shows the 'GPRS Current Status' page after three incorrect PIN attempts. The text box now contains a scrollable list of messages: 'Wrong PIN code', 'SIM PIN required', 'Wrong PIN code', 'SIM PIN required', 'SIM PUK required', and 'Wrong PUK code'. Below the text box, there are two text input fields: 'PUK code' and 'New PIN code', followed by a 'Submit' button.

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.

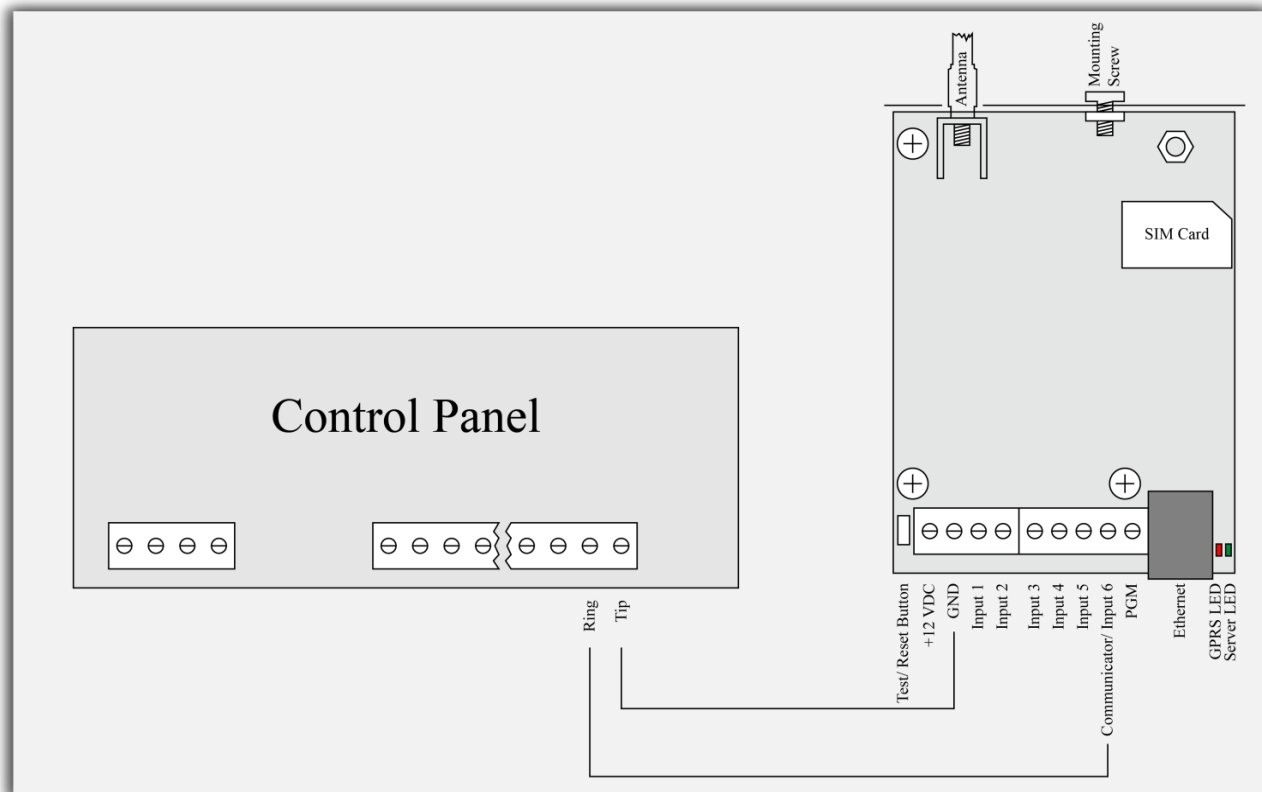
## 10. Hardware Connections

### 10.1. Hardware AC



Each of the digital inputs could be used as a “Hardware AC” input. In this mode it will monitor the AC and generate a message for “AC Loss/AC Restore”.

## 10.2. Communicator/Dialer Connection



GPRS Tau has built-in communicator/dialer receiver. It can receive data from each security panel with communicator/dialer option. Settings for the security panel (in some models additional settings may also need to be made):

**Phone Number:** 9  
**Protocol:** Ademco Contact ID  
**Wait Dialtone:** Disable

## 11. 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