



GuardMagic VB Programming Tool

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1. INTRODUCTION

“GuardMagic VB programming tool” is the special technological complete set intended for programming and change the setting of **GuardMagic VB1, GuardMagic VB2, GuardMagic VB3, GuardMagic VB4, GuardMagic VB5**, modules by Personal Computer.



2. PACKAGES

Complete set consist of:

- Program “**GM VB PT**” – 1CD;
- Connection cable “**GuardMagic VB – PC (RS-232)**”;
- 220/12V AC/DC power adapter with cable (for connection to GuardMagic VB);
- User manual.

3. REQUIREMENTS TO PC

Minimum requirements to the PC:

- MS Windows XP, MS Windows Vista;
- Intel Pentium IV 600 or above (or AMD analogue);
- Main memory 256MB or above;
- 500 free space on a hard disk;
- Mouse and keyboard;
- Free serial port (RS-232);
- Video adapter and color monitor with the resolution not less than 800 x 600;
- CD or DVD ROM.

4. NECESSARY INFORMATION FOR MODULE PROGRAMMING

4.1. NECESSARY INFORMATION FROM YOUR LOCAL GSM PROVIDER

Before carrying out of the module programming, it is necessary to get information from your GSM operator:

parameters of GPRS at yours GSM the provider, namely:

- **access point** name/APN - APN server of yours GSM provider;
- **name (Login)*** – user name for access to a server of yours GSM the provider;
- **password*** – password for access to the server of yours GSM the provider;

* - often GSM provider has not (and don't give) Name and Password to access to its GPRS server.

This information will be entering in module during programming procedure.

4.2. NECESSARY INFORMATION FROM YOUR MONITORING STATION

For the module connection to monitoring station you have to get data from monitoring station (monitoring software), namely:

- **IP address** of monitoring station (server IP address);
- **port number** of monitoring station server.

If monitoring station (monitoring software) has an additional module name in system you have to get this information.

You also have to inform monitoring station about type of module and module factory number.

This information will be entering in module during programming procedure.

4.3. NECESSARY INFORMATION TO YOUR MONITORING STATION

For connection module to monitoring station (monitoring software) also will be needed to enter your module (information about your module) in to monitoring software.

This base information is:

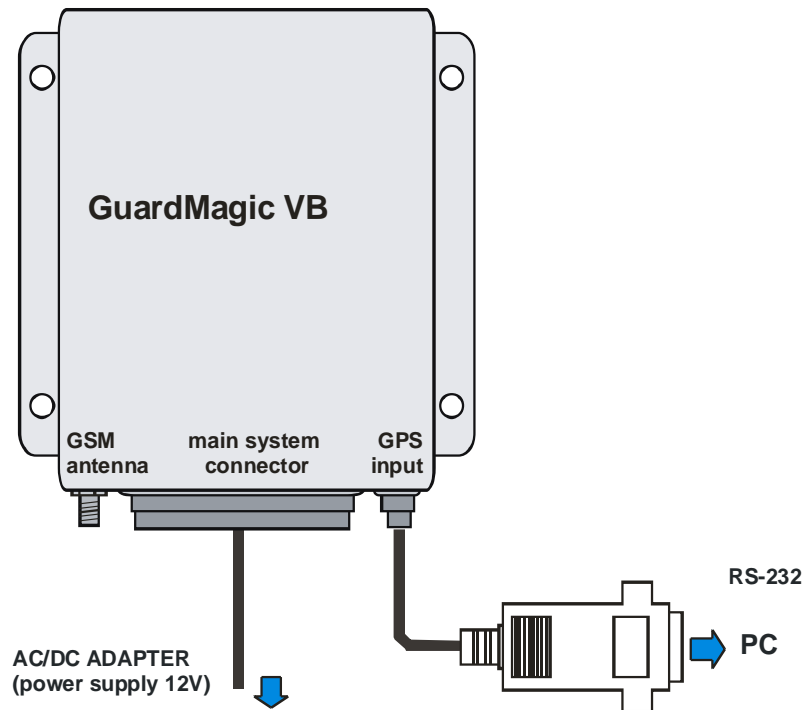
- type of module (code of module type),
- factory number of your module.

4.4. ABOUT ADDITIONAL NAME

GuardMagic VB modules also support so named “additional module name” in system.

If the monitoring station (or monitoring software) supports this function, “additional module name” can be programming in module and necessary has be taken to monitoring station (entering in monitoring software).

5. MODULE CONNECTION



Connection order:

- Connect module **GuardMagic VB** to serial port of personal computer by the special connection cable (Connection cable PC-GuardMagic VB);
- Connect the cable of AC/DC power adapter (from complete set) to 4 pin connector on GuardMagic VB;
- Connect power adapter to AC 220 V.

6. START THE PROGRAM AND OVERVIEW OF BASIC FORM

6.1. START THE PROGRAM

Copy program "GM VB PT" (VB-programmer.exe) from CD to hard disk of yours PC.

Start the program "GM VB PT" (VB-programmer.exe).

After start the program on the screen will open the basic form, shown on figure.

ProgrammingTool for GuardMagic VB - 15.08.2009

Main Data
Unit Type: Unit Factory Number: Unit Firmware Version: BootLoader Version:

Base Settings External Devices Operation Parameters Communication Parameters

GPS communication speed:

SMS Confirmation Password:

Additional Name:

GuardMagic VB programmer ("GM VB PT") is the special technological program intended for user programming the setting of GuardMagic VB1, GuardMagic VB2, GuardMagic VB3, GuardMagic VB4, GuardMagic VB5, modules by Personal Computer.

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www.guardmagic.com, www.guardmagic.lv

Get Log COM1 Read Data Save Data

All further works with the program is carried out by means of this form.

6.2. SERVICE LINE

Read Only.

ProgrammingTool for GuardMagic VB - 17.11.2008

Main Data
Unit Type: Unit Factory Number: Unit Firmware Version: BootLoader Version:

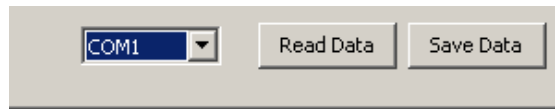
Service line located on bottom of the form and is intended to give main information about connected GuardMagic VB module:

- Unit Type* - type of module;
- Unit Factory Number* – factory number of module;
- Unit Firmware Version – version of module internal firmware;
- BootLoader Version – version of module BootLoader

* - content of this field will be needed for your monitoring station (monitoring software).

6.3. CONTROLS ELEMENTS

Controls elements located on below of the form and are intended for operations “Read Configuration” and “Write Configuration” in module.



Name	Description	Note
Serial Port (com1)	Select the operation serial port (on PC)	
Read Data	Button; Read data (configuration) of VB module	
Save Data	Button; Save configuration and setting	

6.4. OPERATION BOOKMARKS

There are four main working bookmarks for module programming:

- Base Setting;
- External Devices;
- Operation Parameters;
- Communication Parameters.

6.5. MAIN NOTICE

Some fields in bookmarks are disabled and are intended for module growing functionality in future.

7. OPERATION BOOKMARKS DESCRIPTION

7.1. BASE SETTING

Bookmark is intended for main module setting.

ProgrammingTool for GuardMagic VB - 15.08.2009

Main Data
Unit Type: Unit Factory Number: Unit Firmware Version: BootLoader Version:

Base Settings External Devices Operation Parameters Communication Parameters

GPS communication speed:

SMS Confirmation Password:

Additional Name:

GuardMagic VB programmer ("GM VB PT") is the special technological program intended for user programming the setting of GuardMagic VB1, GuardMagic VB2, GuardMagic VB3, GuardMagic VB4, GuardMagic VB5, modules by Personal Computer.

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Get Log COM1 Read Data Save Data

Fields		
Name	Description	Note
Additional Name	GuardMagic VB unit additional name in system. Using like additional password.	Enter / Change Not necessarily, depend of system or monitoring software

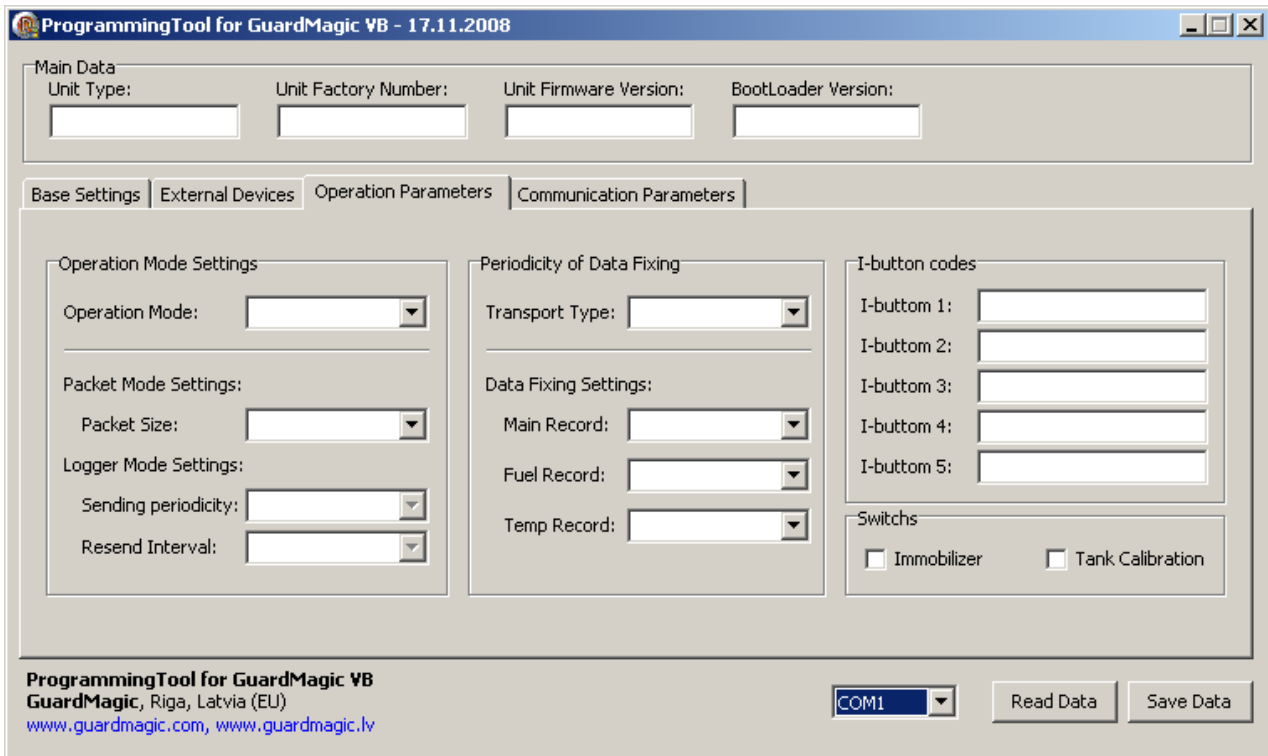
7.2. EXTERNAL DEVICES

Bookmark is intended for configuration external sensors: fuel and temperature (activate deactivate).

Fields		
Name	Description	Note
Analog fuel sensor	Activation function of “Analog Fuel Records” (fuel level measurement of analog fuel sensors)	Only for VB2
Fuel sensor activation	Activation analog fuel sensor 1; 2	Only for VB2
Digital Fuel Sensor 1	Activation function of “Digital Fuel Records1” (fuel level measurement of digital fuel sensors group 1)	Only for VB3, VB4, VB5
Activation in Group 1 Main Tank 1 (2;3)	Activation fuel level sensors in main (regular) vehicle tanks.	Only for VB3, VB4, VB5
Activation in Group 1 Cargo Tank 1 (2...4)	Activation fuel level sensors in cargo tanks.	Only for VB4, VB5
Digital Fuel Sensor 2	Activation function of “Digital Fuel Records2” (fuel level measurement of digital fuel sensors group 2)	Only for VB5
Activation in Group 2 Cargo Tank 5 (6...11)	Activation fuel level sensors in cargo tanks	Only for VB5
Temperature Control	Activation function of “Temperature Measurement”.	Only for VB4, VB5
Sensor Activation Sensor 1 (2...7)	Activation temperature sensors and entering address of temperature sensors on “Temperature Bus”	Only for VB4, VB5

7.3. OPERATION PARAMETERS

Bookmark is intended for programming module operation mode and operation parameters.



Fields		
Name	Description	Note
Operation Mode	Select one type of operation mode: "Real Time", "Packet", "Logger" (logger mode for future models).	
Packet Size	The size of Packet transmitting size on "Packet Mode"	
Logger Mode Setting (Sending Periodicity ; Resend Interval)		Not active ; for future models
Transport Type	Select one type of transport	
Data Setting Main Record	Select Periodicity of "Main Record" fixing	
Data Setting Fuel Record	Select Periodicity of "Fuel Record" fixing	Only for VB2, VB3, VB4, VB5
Data Setting Temperature Record	Select Periodicity of "Temperature Record" fixing	Only for VB4, VB5
i-Buttons code	Field for entering iButton code	Driver ID code (iButton Key)
Switch "Immobilazer"	Activate / Deactivate immobilizing function	
Switch "Tank Calibration"	Activate "Tank Calibration" mode	Only for VB2, VB3, VB4, VB5

7.4. ABOUT IBUTTON KEY

The field on "OPERATION PARAMETERS" for enter driver ID code, that will have the access to drive the vehicle.

Five fields for entering till 5 ID keys (5 ID driver numbers);

Drivers code (i-button code), which will have access rights (management) of transport. Code information is entered in field "iButton code" from the i-button:



Main i-Button code will be (like from photo): **00000F2E3013**

Additional code:
family code : **81**
control code: **01**

It will be necessary to enter: "family code" + "main code" + "control code";
Like: **8100000F2E301301**

7.5. COMMUNICATION PARAMETERS

Bookmark is intended for programming module communication parameters.

Fields		
Name	Description	Note
APN	access point name - APN server of yours GSM provider;	Given by GSM provider; Necessary field
GPRS User Name *	user name for access to a server of yours GSM the provider	Given by GSM provider Necessary
GPRS User Password*	password for access to the server of yours GSM the provider;	Given by GSM provider
Host IP1	IP address of Main monitoring station (server IP address);	Given by monitoring station (monitoring software); Necessary field
Host IP1 port	port number of Main monitoring station server.	Given by monitoring station (monitoring software); Necessary field
Host IP2	IP address of Reserve monitoring station (server IP address);	Given by monitoring station (monitoring software)
Host IP2 port	port number of Reserve monitoring station server.	Given by monitoring station (monitoring software)

* - often GSM provider has not (and don't give) Name and Password to access to its GPRS server.

8. STARTING OPERATION WITH PROGRAM

After start the program it is necessary to choose COM PORT and to press button "Read Data".

After pressing the button "**Read Data**" will open "Base Setting" and will appear the information like this:

The screenshot shows the 'ProgrammingTool for GuardMagic VB - 01.12.2008' window. It features a 'Main Data' section with four input fields: 'Unit Type' (GuardMagic VB2), 'Unit Factory Number' (8000003), 'Unit Firmware Version' (0.9), and 'BootLoader Version' (1.0). Below this is a tabbed interface with 'Base Settings' selected. The 'Base Settings' tab contains three input fields: 'GPS communication speed' (4800 bps), 'SMS Confirmation Password' (1234), and 'Additional Name' (VB2-test). To the right of these fields is a text block: 'GuardMagic VB programmer ("GM VB PT") is the special technological program intended for user programming the setting of GuardMagic VB1, GuardMagic VB2, GuardMagic VB3, GuardMagic VB4, GuardMagic VB5, modules by Personal Computer.' At the bottom, there is a 'COM1' dropdown menu, a 'Read Data' button, and a 'Save Data' button. The footer includes the text: 'ProgrammingTool for GuardMagic VB, GuardMagic, Riga, Latvia (EU), www.guardmagic.com, www.guardmagic.lv'.

In the "Service Line" will be information about **GuardMagic VB** module.

Note:

1. At the first reading the configuration of **GuardMagic VB** in some fields can appear the "ZERO" or "FFFF" information
2. Record interval can be mark like "Read Only".
It will be necessary to change all "record intervals" to the "correct" record interval.
The correct Record Intervals select from the list of record interval.

9. PROGRAMMING PROCEDURE

The module programming procedure is consistently completing the required fields on the persistence and saving entered data.

For the data saving it is necessary to push button “Save Data”.

After saving data for the checking will be needed to read new module configuration (push button “Read Data”).

Samples of programming data are shown below.

9.1. SAMPLE OF “BASE SETTING” BOOKMARK

The screenshot shows a software window titled "ProgrammingTool for GuardMagic VB - 01.12.2008". The window is divided into several sections:

- Main Data:** Contains four input fields: "Unit Type" (GuardMagic VB2), "Unit Factory Number" (8000003), "Unit Firmware Version" (0.9), and "BootLoader Version" (1.0).
- Base Settings:** A tabbed section with sub-tabs for "External Devices", "Operation Parameters", and "Communication Parameters". It includes:
 - "GPS communication speed:" set to 4800 bps.
 - "SMS Confirmation Password:" set to 1234.
 - "Additional Name:" set to VB2-test.
- Right Panel:** Contains a text block: "GuardMagic VB programmer" ("GM VB PT") is the special technological program intended for user programming the setting of GuardMagic VB1, GuardMagic VB2, GuardMagic VB3, GuardMagic VB4, GuardMagic VB5, modules by Personal Computer.
- Bottom Panel:** Includes the text "ProgrammingTool for GuardMagic VB", "GuardMagic, Riga, Latvia (EU)", and two website URLs: www.guardmagic.com and www.guardmagic.lv. It also features a "COM1" dropdown menu, a "Read Data" button, and a "Save Data" button.

9.2. SAMPLE OF “EXTERNAL DEVICE” BOOKMARK

ProgrammingTool for GuardMagic VB - 01.12.2008

Main Data
 Unit Type: Unit Factory Number: Unit Firmware Version: BootLoader Version:

Base Settings | **External Devices** | Operation Parameters | Communication Parameters

Analog Fuel Sensors Digital Fuel Sensors 1 Digital Fuel Sensors 2 Temperature Control

Fuel Sensor Activation	Activations in Group 1	Activations in Group 2	Sensor Activation
<input checked="" type="checkbox"/> Analog Fuel 1	<input type="checkbox"/> Main Fuel Tank 1	<input type="checkbox"/> Cargo Fuel Tank 5	<input checked="" type="checkbox"/> Sensor 1 <input type="text" value="EA0000012A619328"/>
<input checked="" type="checkbox"/> Analog Fuel 2	<input type="checkbox"/> Main Fuel Tank 2	<input type="checkbox"/> Cargo Fuel Tank 6	<input type="checkbox"/> Sensor 2 <input type="text" value="FFFFFFFFFFFFFFFF"/>
	<input type="checkbox"/> Main Fuel Tank 3	<input type="checkbox"/> Cargo Fuel Tank 7	<input checked="" type="checkbox"/> Sensor 3 <input type="text" value="A00000012A9D8A28"/>
	<input type="checkbox"/> Cargo Fuel Tank 1	<input type="checkbox"/> Cargo Fuel Tank 8	<input checked="" type="checkbox"/> Sensor 4 <input type="text" value="4400000117923928"/>
	<input type="checkbox"/> Cargo Fuel Tank 2	<input type="checkbox"/> Cargo Fuel Tank 9	<input type="checkbox"/> Sensor 5 <input type="text" value="FFFFFFFFFFFFFFFF"/>
	<input type="checkbox"/> Cargo Fuel Tank 3	<input type="checkbox"/> Cargo Fuel Tank 10	<input checked="" type="checkbox"/> Sensor 6 <input type="text" value="F600000129CF3028"/>
	<input type="checkbox"/> Cargo Fuel Tank 4	<input type="checkbox"/> Cargo Fuel Tank 11	<input type="checkbox"/> Sensor 7 <input type="text" value="FFFFFFFFFFFFFFFF"/>

COM1 Read Data Save Data

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9.3. SAMPLE OF “OPERATION PARAMETERS” BOOKMARK

ProgrammingTool for GuardMagic VB - 01.12.2008

Main Data
 Unit Type: Unit Factory Number: Unit Firmware Version: BootLoader Version:

Base Settings | External Devices | **Operation Parameters** | Communication Parameters

Operation Mode Settings	Periodicity of Data Fixing	I-button codes
Operation Mode: <input type="text" value="Real Time"/>	Transport Type: <input type="text" value="Special Machinery"/>	I-button 1: <input type="text" value="FFFFFFFFFFFFFFFF"/>
Packet Mode Settings: Packet Size: <input type="text" value="4"/>	Data Fixing Settings: Main Record: <input type="text" value="10 sec"/>	I-button 2: <input type="text" value="F500000F31917601"/>
Logger Mode Settings: Sending periodicity: <input type="text" value="5 hour (read only)"/>	Fuel Record: <input type="text" value="1 min"/>	I-button 3: <input type="text" value="FFFFFFFFFFFFFFFF"/>
Resend Interval: <input type="text" value="1 hour"/>	Temp Record: <input type="text" value="1 min"/>	I-button 4: <input type="text" value="FFFFFFFFFFFFFFFF"/>
		I-button 5: <input type="text" value="2C00000F2B8B1D01"/>

Switches
 Immobilizer Tank Calibration

COM1 Read Data Save Data

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9.4. SAMPLE OF “COMMUNICATION PARAMETERS” BOOKMARK

The screenshot shows the 'ProgrammingTool for GuardMagic VB - 01.12.2008' window. The 'Main Data' section contains the following fields:

Unit Type:	Unit Factory Number:	Unit Firmware Version:	BootLoader Version:
GuardMagic VB2	8000003	0.9	1.0

The 'Communication Parameters' bookmark is active, showing two sets of parameters:

Communication Parametrs 1

APN:	Host IP 1:	Port:	GPRS IP:	Port:
okarte.lmt.lv	212.98.173.107	20167	255.255.255.255	65535
GPRS User Name:	Host IP 2:	Port:		
guardmagic				
GPRS User Password:			SMSC:	
test [asword]			0000000000000000	
			Password 1 for GPRS:	
			gprspassword	

Communication Parametrs 2

Host 1 Name:	GSM 1:
	0000000000000000
Host 2 Name:	GSM 2:
	0000000000000000
DNS IP 1:	GSM 3:
255.255.255.255	0000000000000000
DNS IP 2:	
255.255.255.255	
	Password 2 for GPRS:
	gprspassword

The bottom of the window displays the company name 'GuardMagic, Riga, Latvia (EU)', website URLs 'www.guardmagic.com, www.guardmagic.lv', a COM port dropdown menu set to 'COM1', and 'Read Data' and 'Save Data' buttons.

9.5. ADDITIONAL NOTES

Calibration mode in “Operation Parameters” bookmark is using only for the calibration procedure.

For exit from the program it is necessary to press the button "X"

10. WIRING DIAGRAMS OF GuardMagic VB

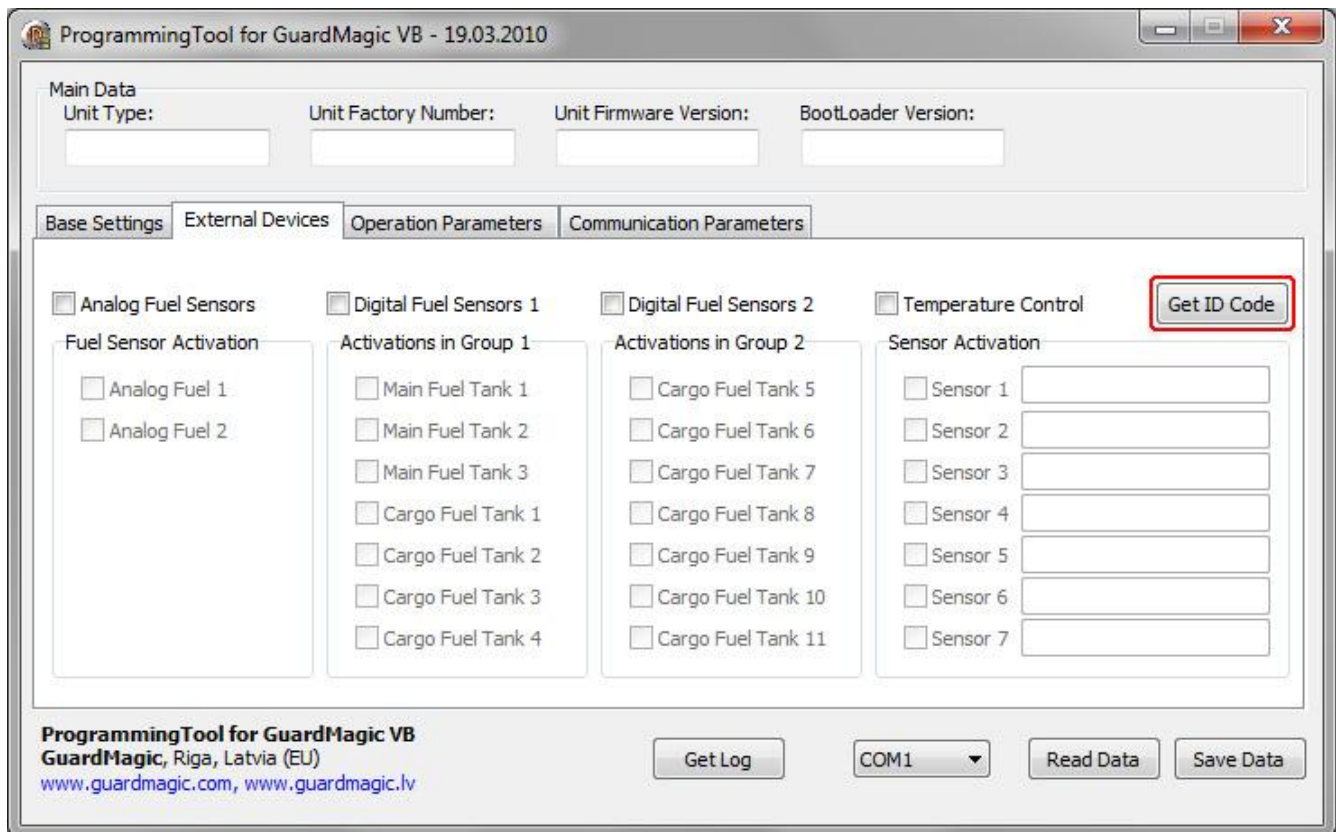
10.1. Power - main connector (24 PIN)

pin	name	description
15	+12 V	Power + 12 V
16	GND	Ground

10.2. RS-232 connector (4 PIN)

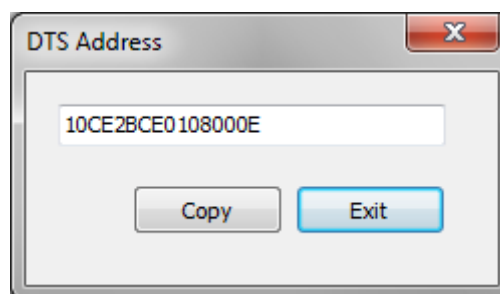
pin	name	description
1	GND	Ground
3	RXD	Data RX
4	TXD	Data TX

11. APPENDIX 1 - Digital thermometer ID number reading



In order to read the address of the connected sensor it is necessary to:

1. Connect one sensor to the 1-wire bus (during the address reading procedure only ONE sensor could be connected).
2. Press the button "Get Address" on the "Programming Tool for GuardMagic VB" software on the page "External Devices".
3. On the shown window you can see the address of the temperature sensor.
To copy the address from the form to the clipboard, press the button "Copy".
To close the window "DTS Address", press the button "Exit".



4. If it is necessary to get the address of another sensor, disconnect the connected sensor, connect another sensor (the one from which you want to get the address), and follow the steps from the beginning.
5. To save the addresses of the connected sensors, it is necessary to enter the received addresses into the group box "Sensor Activation", and save the entered data.