



GuardMagic VB6-VB8 Programming Tool (GM2.036)

User Manual

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1. INTRODUCTION

“**GuardMagic VB 6-8 programming tool**” is the special technological complete set intended for programming and change the setting of **GuardMagic VB6**, **GuardMagic VB7**, **GuardMagic VB8** modules by Personal Computer.

In additional "**GuardMagic VB6-VB8 programming tool**" utility allows to carry out fuel tank calibration procedure.

Fuel tank calibration procedure is carried by Personal Computer (Notebook).



2. PACKAGES

2.1. STANDARD PACKAGE

- AC/DC (220V/12V) power adapter with cable - 1 pc.
- Connection cable: VB module – PC (GM4.013) - 1 pc
- “GuardMagic VB6-VB8 programming tool” User Guide -1 book
- CD disk with manuals and software (GM9.211-302) -1 CD

2.2. OPTIONAL (order in additional)

- USB-Com adapter
(for connection VB6-VB8 modules to USB port in PC)

2.3. PACKAGE

The complete set is packed into a box of corrugated cardboard

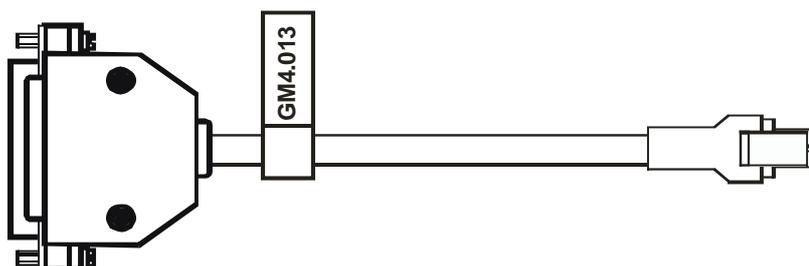
3. OVERVIEW OF MAIN COMPONENTS

AC/DC (220V/12V) power adapter with cable



Connection cable VB6-VB8 modules – PC (GM4.013)

(for connection to: GuardMagic VB6-VB8 modules to PC by RS-232 communication interface)



CD disk
with manuals and software

CD disk contents:

- VB6-VB8 programming software;
- “GuardMagic VB6-VB8 programming tool” User Manual

4. SYSTEM REQUIREMENTS

System requirements to the PC:

- MS Windows XP, MS Windows Vista, MS Windows 7; MS Windows 7;
- Intel Pentium IV 600 or above (or AMD analogue);
- Main memory 256MB or above;
- 10 free space on a hard disk;
- Mouse and keyboard;
- RS-232 port (or USB port*);
- Video adapter and color monitor with the resolution not less than 800 x 600;
- CD or DVD ROM.

Note:

If your PC has only USB interface in additional will be need to use standard USB-Com adapter.

5. NECESSARY INFORMATION FOR MODULE PROGRAMMING

5.1. 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.

parameters of "SMS" at yours GSM the provider, namely:

- **SMSC** – phone number of GSM provider SMS center (only if you want to receive SMS confirmation from module)

This information will be entering in module during programming procedure.

5.2. 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.

5.3. INFORMATION ABOUT MASTER PHONE

If you want to have possibility to remote change GPRS connection setting and monitoring station setting by SMS you have to select some phones number (up to three).

Only from this THREE GSM phone number will possibility to change GPRS connection setting and monitoring station setting.

5.4. 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.

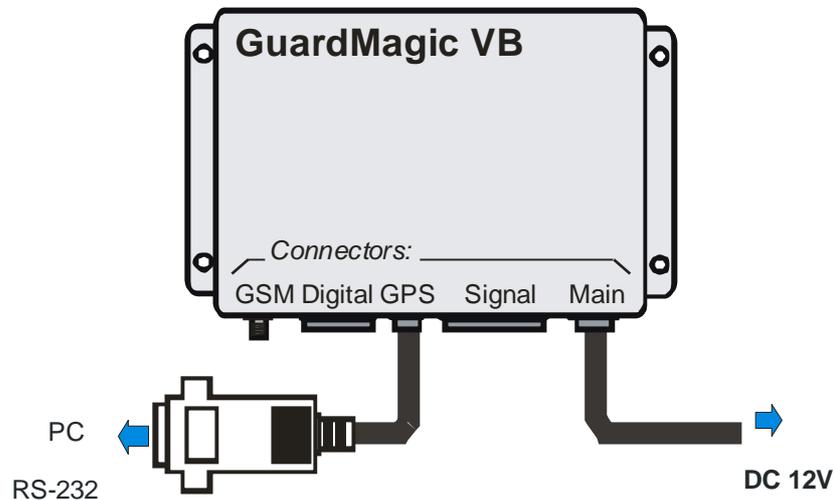
5.5. ADDITIONAL NAME

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).

6. MODULE CONNECTION

6.1. DIRECTLY CONNECTION TO PC

Diagram show connection structure to PC that has RS-232 communication interface



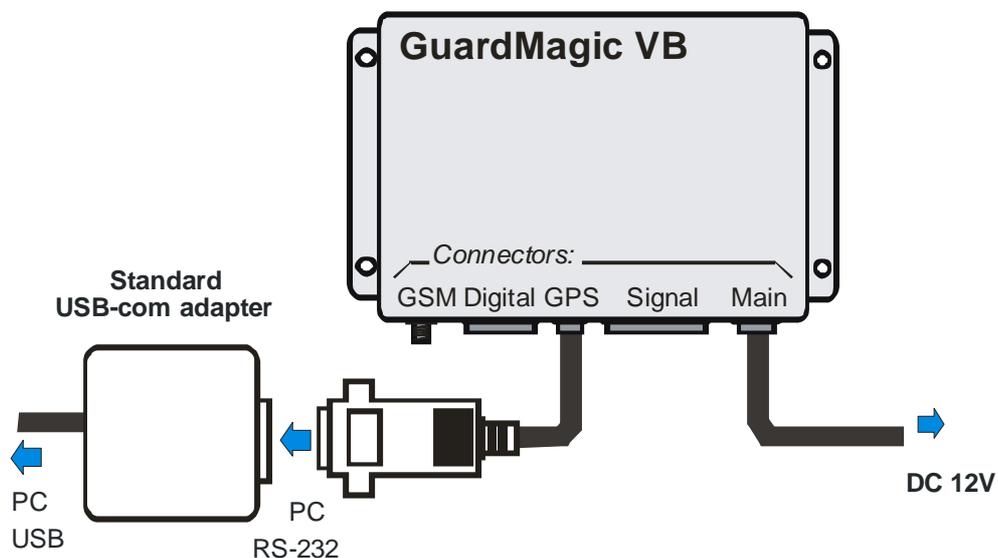
Connection order:

- 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.

6.2. CONNECTION TO PC BY USB-COM ADAPTER

If your PC has not RS-232 communication interface will be need to use additional standard USB-Com adapter for connection to USB interface.

Diagram show connection structure to PC that by USB communication interface



7. START THE PROGRAM AND OVERVIEW OF BASIC FORM

7.1. 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.

Unit Data

Unit Type: Factory Number: Frm/Boot:

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 VB6, GuardMagic VB7, GuardMagic VB8 modules by Personal Computer.

ProgrammingTool for GuardMagic VB6 - VB8
GuardMagic, Riga, Latvia (EU)
www.guardmagic.com, www.guardmagic.lv

Get Log 4800 COM1 Read Data Save Data

7.2. SERVICE LINE

Read Only.

Unit Data

Unit Type: Factory Number: Frm/Boot:

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;
- "Factory Number"* – factory number of module;
- "Firm/Boot" – version of module internal firmware and module bootloader;

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

7.3. CONTROLS ELEMENTS

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



Name	Description
Get Log	Button For service purpose only. Get log of module self testing, during module initialization procedure
4800 / 9600	Communication speed PC – module by 232 interface (select the necessary)
COM1	Serial port number. Select the necessary serial port (on PC)
"Read Data"	Button; Read data (configuration) of VB module
"Save Data"	Button; Save configuration and setting

7.4. OPERATION BOOKMARKS

There are four main working bookmarks for module programming:

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

8. OPERATION BOOKMARKS DESCRIPTION

8.1. BASE SETTING

Bookmark is intended for main module setting.

Fields		
Name	Description	Note
GPS communication speed	Communication speed with external GPS receiver. Can be 4800 or 9600. Select necessary speed, based on GPS receiver communication speed.	Enter / Change Necessarily to set
Additional Name	GuardMagic VB unit additional name in system. Using like additional password.	Enter / Change Not necessarily, depend of system or monitoring software

8.2. EXTERNAL DEVICES

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

The screenshot shows the 'ProgrammingTool for GuardMagic VB6 - VB8 - 26.01.2015' window. The 'External Devices' tab is selected. It contains several sections:

- Fuel Sensors Group 1:** Includes checkboxes for 'Activation' and individual tanks (Main Tank 1-3, Cargo Tank 1-4) and Trailer ID1.
- Fuel Sensors Group 2:** Includes checkboxes for 'Activation' and individual tanks (Cargo Tank 5-11) and Trailer ID2.
- Temperature Sensors:** Includes a 'Sensors Activation' checkbox, a 'Get ID Code' button, and seven input fields for sensor addresses (#1 to #7).
- Activate records:** Includes checkboxes for 'Main Service Record 2' and 'FST-code Record'.
- Maximum RPM Pulses:** Radio buttons for '7 680' and '61 440'.
- Density/Viscosity (VB8):** Checkboxes for DVS1 through DVS6.
- TRIM3 Controller:** A checkbox.

 At the bottom, there are buttons for 'Get Log', '4800' (dropdown), 'COM1' (dropdown), 'Read Data', and 'Save Data'. The footer contains the text: 'ProgrammingTool for GuardMagic VB6 - VB8 GuardMagic, Riga, Latvia (EU) www.guardmagic.com, www.guardmagic.lv'.

Fields		
Name	Description	Note
"Group 1 Activation"	Fuel sensors group 1 activation	
"Group 2 Activation"	Fuel sensors group 2 activation	
Main Tank 1..3	Activation of Man Tank 1..3	
Cargo Tank 1..11	Activation of Cargo Tank 1..11	
Temperature Sensor Activation	Activation function of "Temperature Measurement".	
Sensor Activation Sensor #1..#7	Activation temperature sensors and entering address of temperature sensors on "Temperature Bus"	
"Get ID Code"	Get ID Code of connected sensor	
"Main Service Record 2"	Activation of Main Service Record 2	
"FST-code Record"	Activation of FST-code Record	
"Maximum RPM Pulses"	Set the value of Maximum RPM Pulses	7 680 or 61 440 RPM
DVS1 .. DVS6	Activation of Density/Viscosity sensor (record)	

8.3. OPERATION PARAMETERS

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

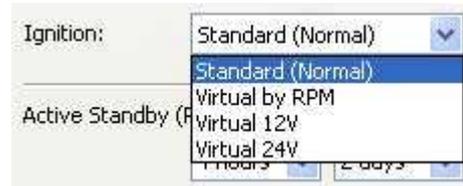


Fields		
Name	Description	Note
"Operation Mode"	Select type of unit operation mode: "Real Time" or "Packet"	"Real Time"- Internal Memory Off "Packet" -internal memory On. Store information when module is outside GSM coverage
"Packet Size"	The size of Packet transmitting size on "Packet Mode"	Recommend set 4 or 8
"Adaptive Speed"	Activate adaptive data fixing by speed change	Recommend activate
"Ignition"	Activate the necessary type of "engine On/Off" detection	Standard (Normal); Virtual RPM; Virtual 12V; Virtual 24V
"Active Standby"	Activation of Active Standby function	"Off" , 15 min; 1 hour; 4 hour
"Duration"	Duration of Active Standby mode	1 day, 2 day, 7 days (recommend set 1 or 2 days)
"Transport Type"	Select one type of transport	Vehicle; Special machinery
"Data Fixing "	Periodicity of data fixing	

Fields		
Name	Description	Note
"Overspeed buzzer"	Activate sounds overspeed notification	
"i-Buttons codes"	Field for entering iButton code	Driver ID code (iButton Key)
Switch "Immobilizer"	Activate/Deactivate immobilizing function	If immobilizing function activated: is possible to start engine only after correct driver identification. Driver i-button codes have to be entered in to module
Switch "Blocking"	block/unblock blocking output in manual	

8.3.1 IGNITION

Type of Engine On / Off detection:



Name	Description	Notes
Standard (Normal)	By connection to Ignition switch (Ignition key) Standard configuration	Strongly recommend
Virtual by RPM	By connection to RPM sensor. If is not possible possible to make electrical connection to ignition circuit (Ignition switch). Available connection only to RPM sensor	
Virtual 12V	By fluctuation of vehicle power voltage If is not possible to make electrical connection to ignition circuit (Ignition switch). For 12 V vehicle	
Virtual 24 V	By fluctuation of vehicle power voltage If is not possible to make electrical connection to ignition circuit (Ignition switch). For 24 V vehicle	

8.3.2 OVERSPEED BUZZER

Two step overspeed buzzer.

Single beep: oversped of single beep field

Constant beep: overspeed of constant beep field

Constant beep field have to be higher that single beep field

8.4. 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**

8.5. 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 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)

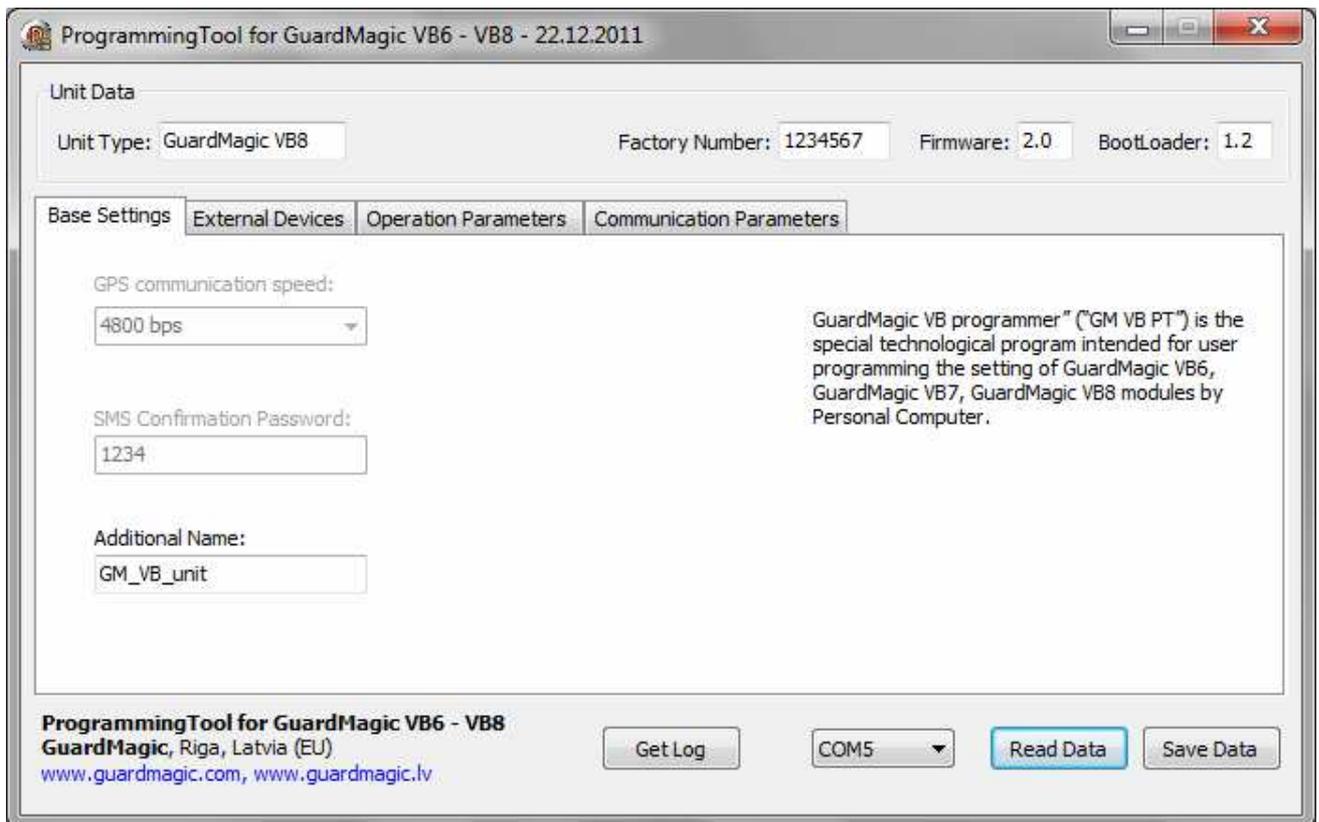
* - often GSM provider has not (and don't give) Name and Password to access to its GPRS server.

Fields		
Name	Description	Note
SMSC	Phone number of SMS center of your GSM operator (operator of your SIM card inserted in module)	Given by GSM provider
Master GSM numbers	Numbers of GSM phone. Only from this phones will be possible to send SMS commands to module.	Selected yourself

9. STARTING OPERATION WITH PROGRAM

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

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



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.

10. 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.

10.1. SAMPLE OF "BASE SETTING" BOOKMARK

The screenshot shows a software window titled "ProgrammingTool for GuardMagic VB6 - VB8 - 22.12.2011". The window is divided into several sections:

- Unit Data:** Contains input fields for "Unit Type" (GuardMagic VB8), "Factory Number" (1234567), "Firmware" (2.0), and "BootLoader" (1.2).
- Base Settings:** A tabbed interface with sub-tabs for "External Devices", "Operation Parameters", and "Communication Parameters". The "Base Settings" tab is active, showing:
 - "GPS communication speed:" set to a dropdown menu with "4800 bps" selected.
 - "SMS Confirmation Password:" with the text "1234" entered.
 - "Additional Name:" with the text "GM_VB_unit" entered.
- 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 VB6, GuardMagic VB7, GuardMagic VB8 modules by Personal Computer.
- Footer:** Includes the text "ProgrammingTool for GuardMagic VB6 - VB8", "GuardMagic, Riga, Latvia (EU)", and the website "www.guardmagic.com, www.guardmagic.lv".
- Buttons:** "Get Log", "COM5" (dropdown), "Read Data" (highlighted in blue), and "Save Data".

10.2. SAMPLE OF “EXTERNAL DEVICE” BOOKMARK

The screenshot shows the 'External Devices' tab in the software. It features several sections for configuring sensors and records:

- Fuel Sensors Group 1:** Includes checkboxes for 'Activation' (checked), 'Main Tank 1' (checked), 'Main Tank 2' (checked), 'Main Tank 3' (unchecked), 'Cargo Tank 1' (checked), 'Cargo Tank 2' (checked), 'Cargo Tank 3' (checked), 'Cargo Tank 4' (unchecked), and 'Trailer ID1' (unchecked).
- Fuel Sensors Group 2:** Includes checkboxes for 'Activation' (unchecked) and 'Cargo Tank 5' through 'Cargo Tank 11' (all unchecked), plus 'Trailer ID2' (unchecked).
- Temperature Sensors:** Includes a 'Sensors Activation' checkbox (unchecked) and a 'Get ID Code' button. Below are seven input fields labeled '#1' through '#7'.
- Activate records:** Includes checkboxes for 'Main Service Record 2' (checked) and 'FST-code Record' (unchecked).
- Maximum RPM Pulses:** Two radio buttons for '7 680' (selected) and '61 440'.
- Density/Viscosity (VB8):** Includes checkboxes for 'DVS1' (checked), 'DVS2' (checked), 'DVS3' (unchecked), 'DV54' (unchecked), 'DV55' (unchecked), and 'DV56' (unchecked).
- TRIM3 Controller:** A checkbox (unchecked).

At the bottom, there are buttons for 'Get Log', '4800' (dropdown), 'COM1' (dropdown), 'Read Data', and 'Save Data'. The footer contains the text: 'ProgrammingTool for GuardMagic VB6 - VB8', 'GuardMagic, Riga, Latvia (EU)', and 'www.guardmagic.com, www.guardmagic.lv'.

10.3. SAMPLE OF “OPERATION PARAMETERS” BOOKMARK

The screenshot shows the 'Operation Parameters' tab in the software. It features several sections for configuring operational settings:

- Operation Mode Settings:** Includes 'Operation Mode' (dropdown: Packet (Memory On)), 'Packet Size' (dropdown: 4), 'Adaptive Speed' (checked checkbox), 'Ignition' (dropdown: Standard (Normal)), and 'Active Standby (Periodicity/Duration):' with dropdowns for '4 hours' and '2 days'.
- Periodicity of Data Fixing:** Includes 'Transport Type' (dropdown: Transport), 'Data Fixing' (dropdown), and 'Overspeed Buzzer (0; 30 - 250 km/h)' with 'Single Beep' (input: 65) and 'Constant Beep' (input: 100).
- I-button codes:** Five input fields labeled '#1' through '#5', each containing 'FFFFFFFFFFFFFFFF'.
- Blocking Setting:** Includes checkboxes for 'Immobilizer' (unchecked) and 'Blocking' (unchecked).

At the bottom, there are buttons for 'Get Log', '4800' (dropdown), 'COM1' (dropdown), 'Read Data', and 'Save Data'. The footer contains the text: 'ProgrammingTool for GuardMagic VB6 - VB8', 'GuardMagic, Riga, Latvia (EU)', and 'www.guardmagic.com, www.guardmagic.lv'.

10.4. SAMPLE OF “COMMUNICATION PARAMETERS” BOOKMARK

The screenshot displays the 'ProgrammingTool for GuardMagic VB6 - VB8 - 26.01.2015' window. The 'Unit Data' section at the top shows 'Unit Type: GuardMagic VB8', 'Factory Number: 1234567', and 'Frm/Boot:'. Below this are four tabs: 'Base Settings', 'External Devices', 'Operation Parameters', and 'Communication Parameters'. The 'Communication Parameters' tab is active and contains three sub-sections: 'GPRS Settings' with fields for APN (www.lmt.lv), User Name (name1), Password, and SMSC (+37122222222); 'Connection Setting' with fields for Host IP 1 (77.74.50.102), Port (20167), Host IP 2, and Port; and 'Master GSM Numbers' with fields for GSM 1 (+37129999999), GSM 2 (+37129999999), and GSM 3. At the bottom, there is a footer with the company name 'GuardMagic, Riga, Latvia (EU)', website URLs, and a control bar with buttons for 'Get Log', a baud rate dropdown (4800), a COM port dropdown (COM1), and 'Read Data' and 'Save Data' buttons.

10.5. ADDITIONAL NOTES

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

11. WIRING DIAGRAMS OF GuardMagic VB

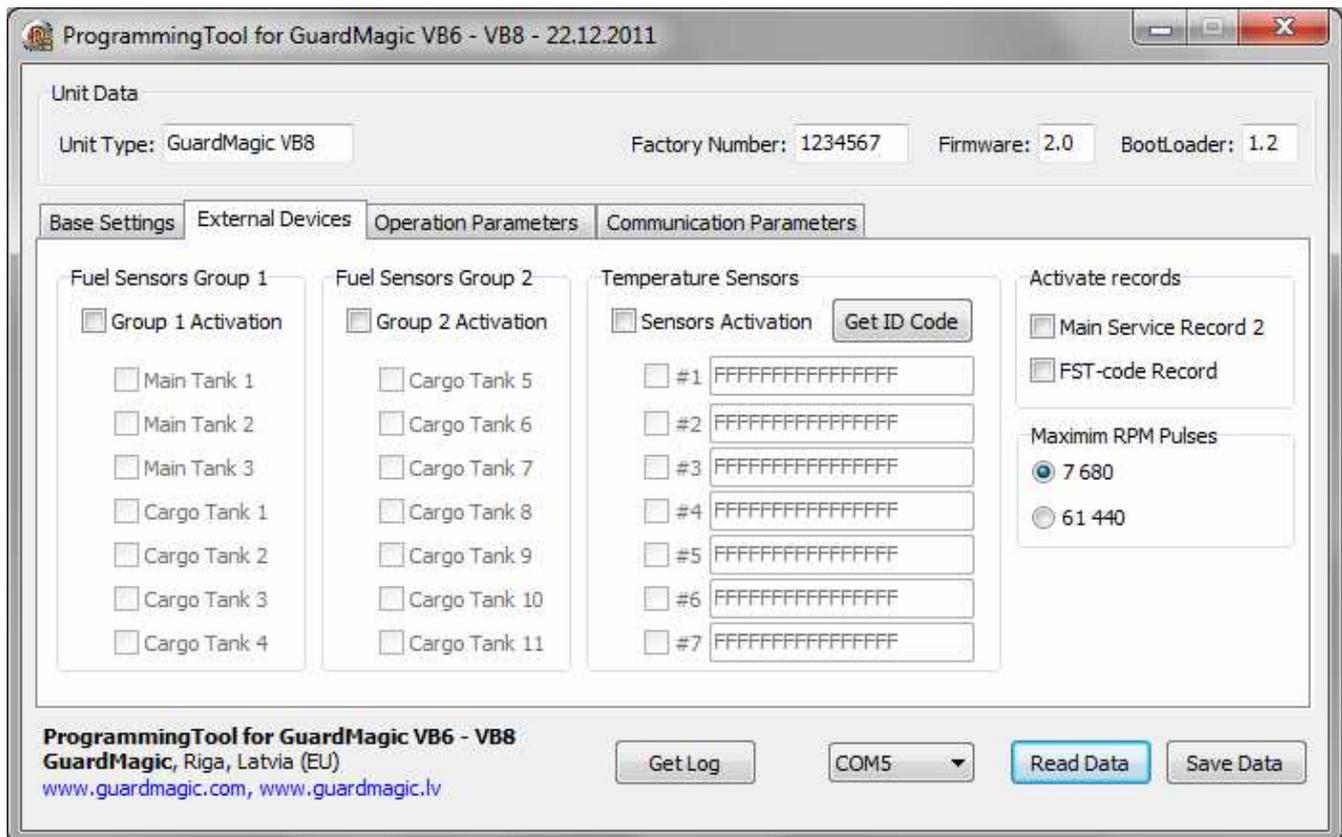
Power - main connector (8 PIN)

pin	name	description
5	+12 V	Power + 12 V
1	GND	Ground

RS-232 connector (4 PIN)

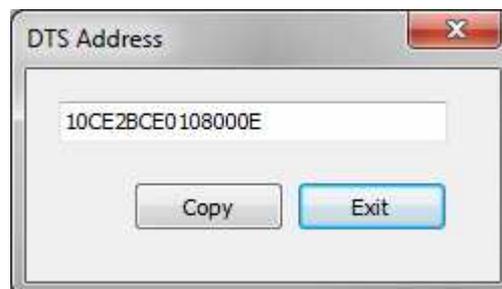
pin	name	description
1	GND	Ground
3	RXD	Data RX
4	TXD	Data TX

12. 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.