RenCOM
User manual

www.obdtester.com/rencom

PRELIMINARY BETA VERSION

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SECONS Ltd. is not connected with Renault Renault SA or other Renault group companies in any way.

SECONS Ltd. is not liable for damages caused by using of RenCOM software.

Please read carefully this user manual before using the RenCOM software.

Before using the software please read license agreement.

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Table of Contents

1 Introduction

Thank you for purchasing the RenCOM diagnostic interface and software. RenCOM is professional tool for diagnostics of Renault / Dacia / Nissan / Infiniti vehicles. Please read carefully this User Manual before using the product.

We hope you'll find our products useful. In case you have any questions, problems or feedback please contact as at support@secons.com. We're here to help!

1.1 Key features

- Fully multiplexed all-in-one smart USB2.0 interface
- Automatic ECU recognition
- Automatic vehicle scan
- ECU Identification
- Fault code (DTC) reading
- Fault code clearing
- Measured values / live data
- Live data recording
- Diagnostic protocol printing
- Actuator tests
- Configuration
- Freeze frame

List of supported cars and control units including diagnosis capability is available at www.obdtester.com/rencom-eculist/.

1.2 Software updates

Updates of purchased software version are available for free download at www.obdtester.com/downloads. User name = serial number of RenCOM diagnostic interface. Password leave blank. The serial number can be found on a silver label of the interface or in *settings* of RenCOM after performing *test interface*. We recommend you to install updated version at least once a month, because updates provide support for new ECUs and fix various issues.We also recommend you to update firmware in diagnostic interface every time you update the software. Firmware upgrade process is as follows:

1. Connect your interface via USB to your computer.
2. Go to *settings* of RenCOM and perform *test interface.*
3. Click on "*Apply Changes*" button.
4. Click on "*Upgrade firmware*" button.

Do not disconnect the interface during upgrading the firmware.

1.3 Early release

RenCOM is ready to meet all requirements even of the most demanding customers. The product is capable of performing advanced diagnosis of hundreds of Renault / Nissan control units and remains still intuitive and easy to use.

Despite the fact of a long-term development, the software may still contain some bugs or missing functions. We started to offer the RenCOM as early release due to high demand from customers. In any case, our work on the product still continues.

Based on feedback from our testers and customers around the world, we continue to improve the software, expand its features, vehicle coverage and fix all software bugs. We fulfill tasks from our development list in the shortest possible period.

Your feedback is very important to us. We want to hear your requests for improvement or bug fixes. Based on your feedback, we expect to release software updates frequently. For the most effective communication with our technical support, please see the following chapter:

⇨ 9.Reporting bugs and improvement requests

2 RenCOM software and driver installation

2.1 Microsoft Windows operating System

1. Insert RenCOM installation CD to your CD-ROM drive
2. Run installation file RenComSetup.exe
3. Choose language for the installer
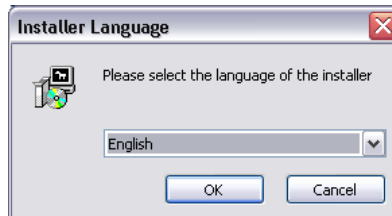
4. Choose your destination folder for the RenCOM and click on *Install* button and after successful installation click on *Close* button.
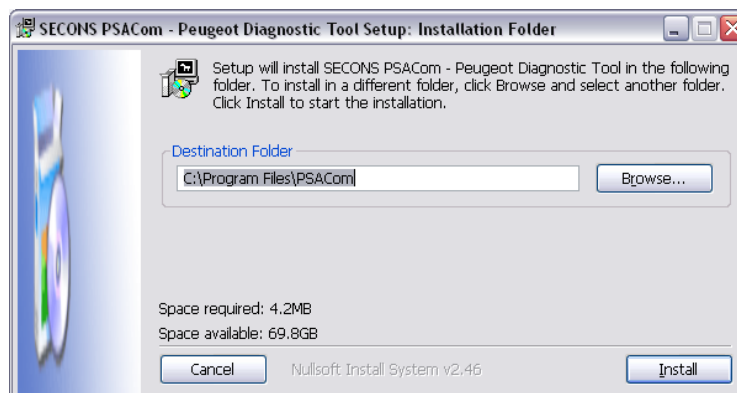
RenCOM drivers are automatically updated during the RenCOM installation. When prompted to install „unsigned" drivers, click on *Install this driver software anyway* (Microsoft® Windows® 7) or *Continue Anyway* (Microsoft® Windows® XP).
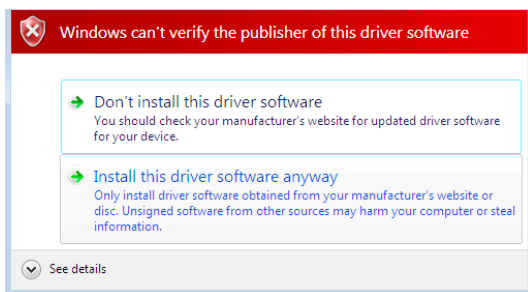
Microsoft® Windows® will automatically install drivers when you plug-in the RenCOM to USB port. Driver installation isn't required for operation on GNU/Linux system.

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2.2 Microsoft Windows 8 driver installation

In case of problem with installing drivers on Windows 8, please follow these steps:

1. Press Windows Key + R
2. In the window that appears, type: "shutdown.exe /r /o /f /t 00"
3. Press "OK" button
4. The System will restart to a "Choose an option" screen
5. Select "Troubleshoot" from "Choose an option" screen
6. Select "Advanced options" from "Troubleshoot" screen
7. Select "Windows Startup Settings" from "Advanced options" screen
8. Click "Restart" button
9. System will restart to "Advanced Boot Options" screen
10. Select "Disable Driver Signature Enforcement" (press number on keyboard for option shown on screen)
11. Once the system starts, install the diagnostic interface drivers as you would on Windows 7

Windows Vista & 7 required signed all .sys files (we use usbser.sys shipped by Microsoft with valid digital signature). Final version of Windows 8 requires also signed .inf file (which is not in our case). The above procedure helps to override unsigned .inf file. Once driver is installed, the program will work properly.
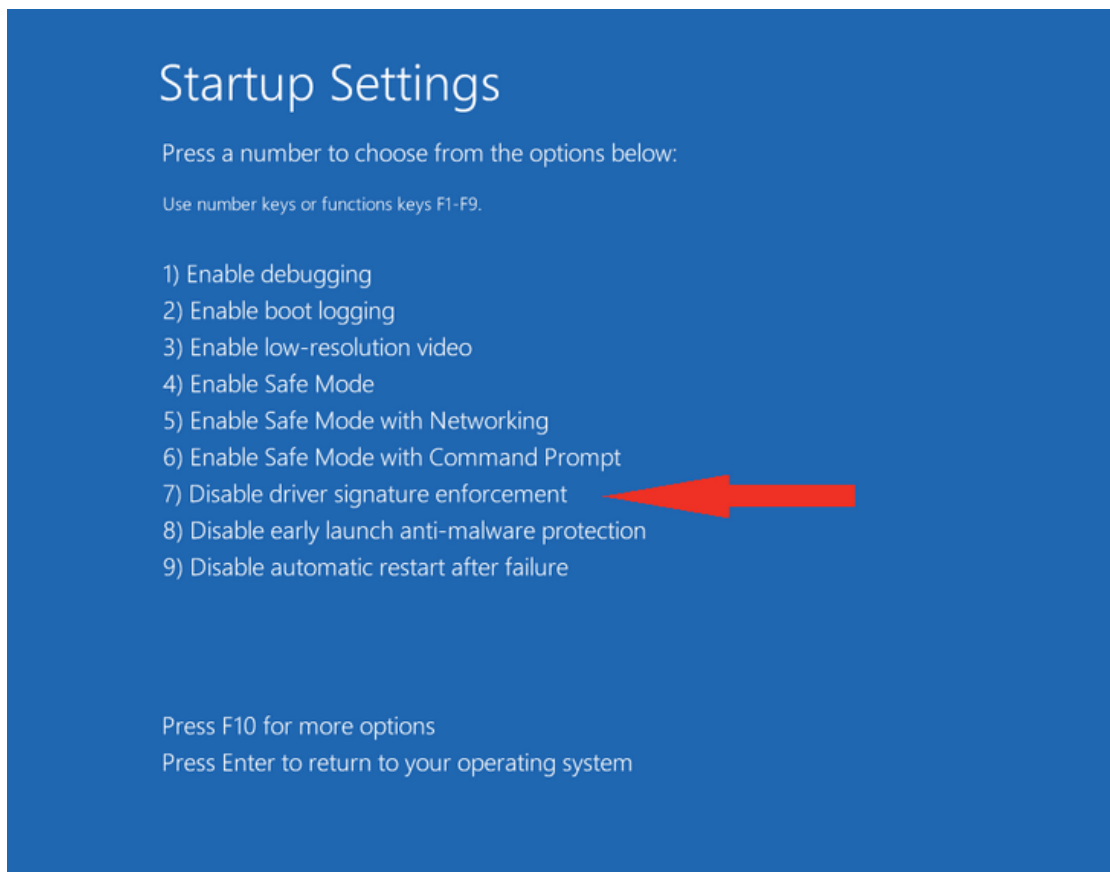
2.3 Interface busy issue [Microsoft Windows]

In case you receive error "Interface busy" while testing your interface, please make sure:

1. You're not running any modem, mobile phone, or printer monitoring application that blocks "COM ports" from being used by other applications.

2. You're not running Hella Gutmann software on the same PC. Process called "GMPortal.exe" prevents SECONS diagnostic applications from properly accessing the diagnostic interface. You may temporarily resolve this problem by running "Windows Task Manager", right-clicking on GMPortal.exe process in "Processes" tab and selecting "End process".

3. Software modem drivers do not block COM ports.

4. You have selected correct COM port (use "Device manager" button to find port number under "Ports (COM & LPT)" group.

2.4 GNU/Linux System
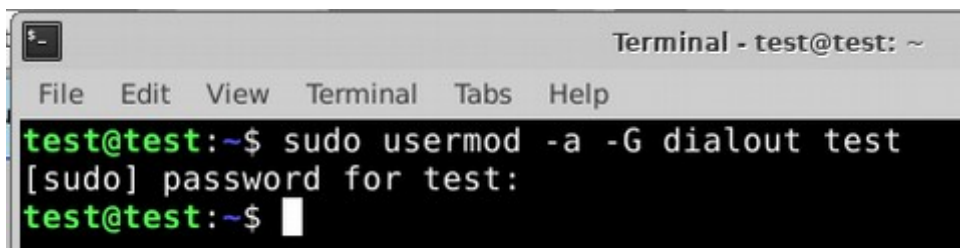
Our diagnostic application are tested to work under Linux. The applications can be run under Linux, BSD or Apple OS/X on Intel x86 using Wine environment. The installer and applications perform fully automated installation under these operating system.

Important information:

- Only Ubuntu distribution 19.10 or later is supported using this guide, however other distributions that meet our requirements may work. For more information see www.ubuntu.org

- The diagnostic application runs under Wine which must be installed on the system. For more information see www.WineHQ.org

- Bluetooth connection is NOT supported natively on Linux (however with some effort you might be able to get it running, just instead of /dev/ttyACMx device use /dev/rfcommx.

- It is highly recommended to try the diagnostic application first under Microsoft Windows operating system to get familiar with it.

Installation procedure:

1. Wine 4.0 or later on an x86 system is required. You can install Wine on Ubuntu using "sudo apt install wine"). You can verify Wine version by running "wine –version" from terminal. If you are running 64-bit system you must have 32bit libraries installed (which is usually done automatically when installing Wine from repositories). Other Debian-derived distributions use similar commands.

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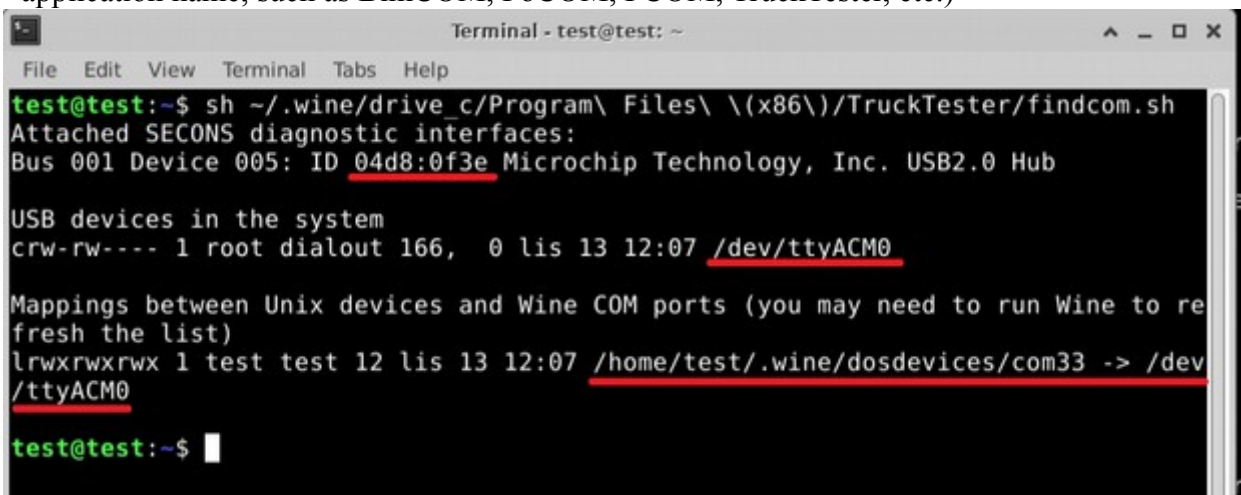2. Add users who need to access the diagnostic interface to the 'dialout' group. Type "`sudo usermod -a -G dialout username`" (replace 'username' with you username, in the screenshot we have used 'test' user)

3. Log off from Xwindow session and login again.

4. Install the diagnostic applications (either using correct file manager association or from terminal, e.g. "wine ~/Downloads/PoCOMsetup.exe"). After the installation you should see the diagnostic application icon on the desktop and in start menu.

5. Now you need to figure out assignments between emulated "COMx" ports and respective Unix devices. For this we have created diagnostic script called "findcom", which you can run in terminal using comand "`sh ~/.wine/drive_c/Program\ Files\ \ (x86\)/APPNAME/findcom.sh`" (replace APPNAME with actual diagnostic application name, such as BimCOM, PoCOM, FCOM, TruckTester, etc.)

6. When you know COM port used in Wine (in the screenshots com33), configure the diagnostic application and test the interface
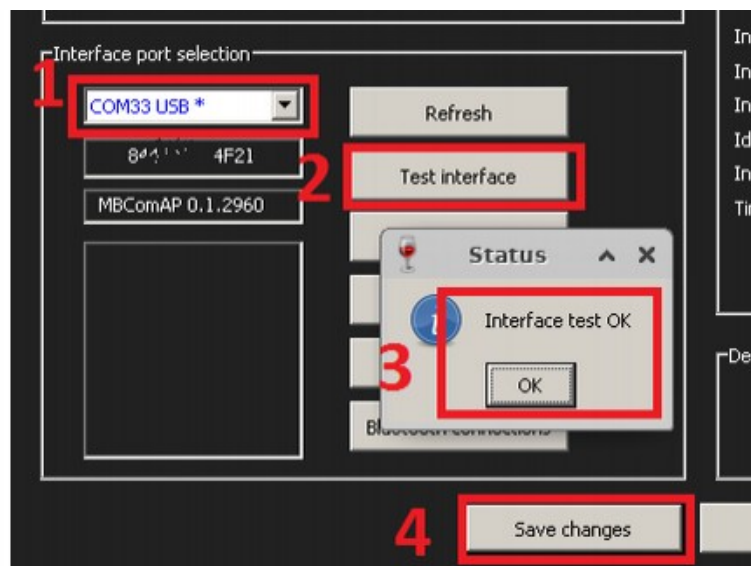
7. Save settings and you should be ready to go.

8. **Optional.** To override Wine's default device mapping, run `wine regedit` and create string entries in `HKEY_LOCAL_MACHINE\Software\Wine\Ports` where the entry name is the Windows device name and the entry value is the path to the Unix device. To make COM1 the first USB-attached serial port, create an entry with the name COM1 and the value `/dev/ttyACM0`. After editing the registry, shut down Wine with `wineserver -k` and the next time Wine runs a program, your changes will take effect.

3 First steps

1. Connect the RenCOM interface to your computer.

2. Connect the RenCOM interface to OBD-II connector in the vehicle. You can use picture gallery for find it, available from main menu – *OBD-II Connector Location* button
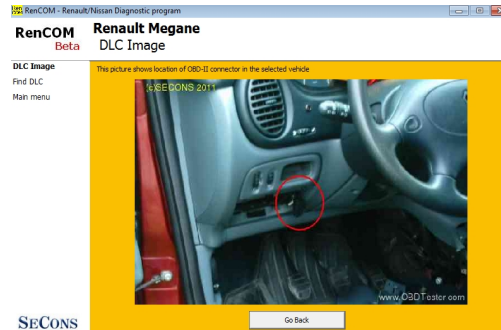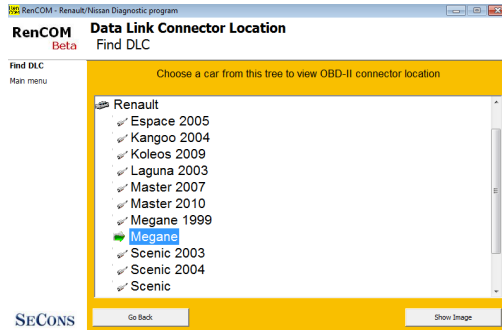
3. Set-up RenCOM application

Select *Settings* from RenCOM main menu and configure interface port. After clicking on *Refresh* button, software should find port to which RenCOM interface is connected. Choose this port. Then click on *Test Interface* to make sure everything is OK. The software should display *Serial number* and licenses (partially hidden on screenshot on the right side).
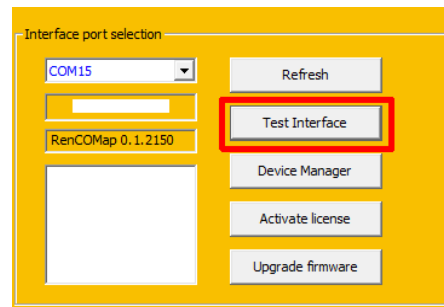
4. Save settings and return to main menu.

5. Turn ON the ignition, but don't start the engine.

6. Select control unit by clicking on *Select Control Unit* button.

7. Select exact vehicle model.

8. In a new window, choose desired control unit.
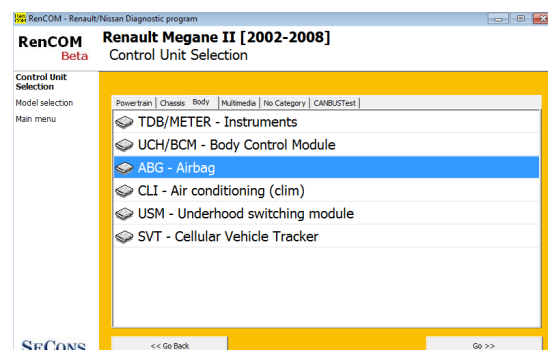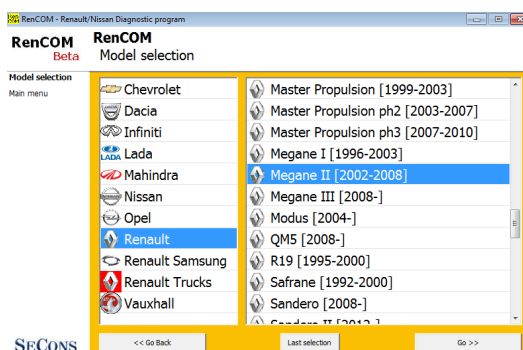
If the control unit was recognized, you can use diagnostic functions now. In other case, you must select correct type of control unit. (chapter *Unrecognized Control Unit*)

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4 Diagnostic connectors used in Renault / Nissan vehicles

Location of OBD-II and manufacturer-specific (OBD-I) connectors is available in DLC location database available from the RenCOM main menu.

4.1 OBD-II connector

Standard OBD2 connector is used on most vehicles since 1998.

	1	9	
	2	10	
	3	11	
Ground (GND)	4	12	
Signal ground (GND)	5	13	
CAN-H Powertrain	6	14	CAN-L powertrain
ISO9141 K Line	7	15	ISO9141 L-Line
	8	16	Battery voltage
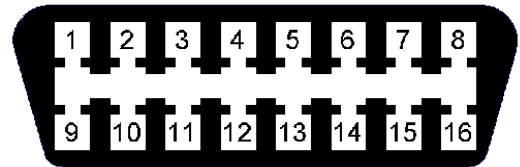
4.2 OBD-II connector on Nissan vehicles with DDL protocol

Nissan DDL diagnostics requries three wires: DDL TX, DDL RX, DDL CLK. RenCOM diagnostic interface requires ECU to accept 12V DDL levels.

For more information about DDL diagnostics please contact us at support@secons.com

4.3 Renault 12-pin connector

This connector us used on older vehicles up to 1998.

Pin	Description
1	
2	Ground
3	
4	
5	
6	Battery +
7	
8	
9	
10	L-Line
11	K-Line
12	
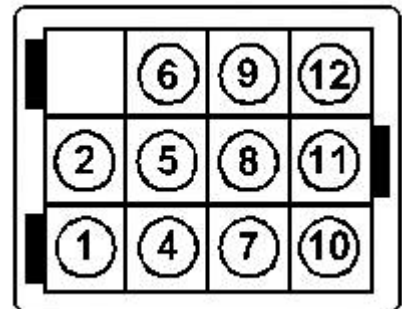
5 Settings
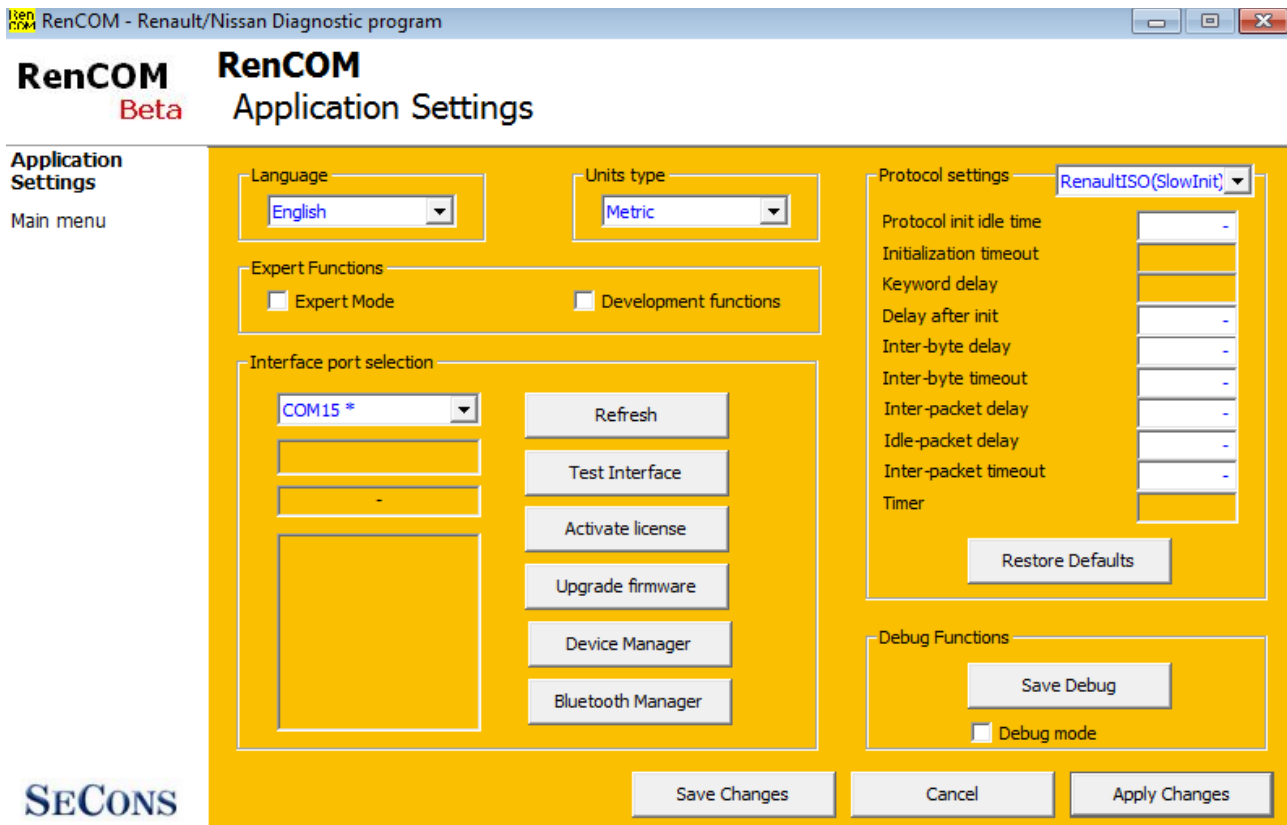
Language

Choose language of diagnostic application user interface in the drop down menu.

Units type

You can choose metric or imperial unit system for measured values.

Expert functions

Development functions - Enables additional functions under development. This setting is not saved before program exit and will be cleared on every application start. Do not enable this option unless requested by SECONS support staff as these functions may be dangerous to use without proper instructions.

Expert mode – Enables additional functions such as special coding functions or additional configuration options. These functions are intended for experienced technicians and are provided on "AS IS" basis, with absolutely no guarantee. It is highly recommended to leave this option unchecked. This mode also eliminates some warning messages and questions.

Interface port selection

Refresh - this button refreshes COM port selection drop down list. Correct COM port number should be already chosen after connecting diagnostic interface via USB to PC and clicking on

Refresh button. If not, choose correct COM port number from the list. It is needed in order to perform successful interface test.

Test interface – before each use of program, please test proper function of your connected interface by clicking this button. After successful test, you can see a serial number of your interface displayed below the COM port field, then firmware version and information about active licenses. 2.3.Interface busy issue

Activate license – this button is used for activating new license/s to use the program or special functions. Internet connection is required. Standard license is already activated for all interfaces before purchase.

Upgrade firmware – use this button to upgrade firmware in your diagnostic interface every time after installing the latest software version (available at www.obdtester.com/downloads). Do not disconnect your interface during upgrading the firmware.

Device Manager – is used to finding out correct COM port number, or to reinstall drivers. Your device appears as "ELM-USB Interface (COMx)" under "Ports (COM & LPT)".

Bluetooth Manager – is a preparation for upcoming bluetooth feature. The button is currently inactive.

Protocol settings

You can set various timings for each communication protocol. This is advanced feature used for example when problems occur with connection to control unit caused by slower ECU response and the like.

Restore Defaults – this button restores all modified timings of all protocols to default values.

Changing protocol settings is not required before normal use of the program. You will be asked to make changes by our tech. support when solving your issue at support@secons.com if necessary.

Debug functions

By clicking on **Save Debug** button, you can capture the latest data from elapsed communication between control unit and program into one file. Providing this file is required only by our technical support. Based on these data, we are able to monitor the whole process of performed operation and its correctness.

Use of debug function is important for successful resolution of any program failure or verifying its causes. For more information on how to proceed, please read the following chapter 9.Reporting bugs and improvement requests

6 Select Control Unit

Using this function you can connect to a specific control unit you wish to diagnose. Before is connection to control unit (or performing auto-scan) possible, correct selection of vehicle model and diagnostic system type (VAN or CAN) is required for proper diagnostic functions. If connection to control units is not possible at all, please verify if VAN or CAN system is correctly selected.

All control units present in tested vehicle can be detected by Auto-Scan function.
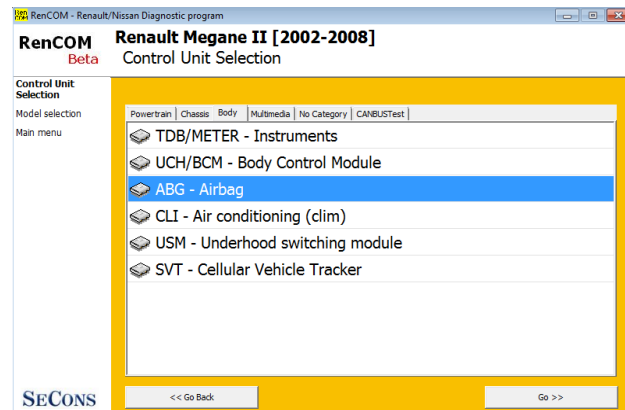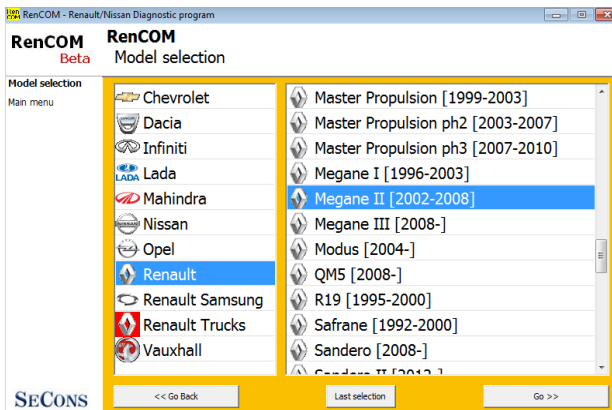
⚠ Incorrect model selection may result in wrong or incomplete live data, improper function of actuator tests and coding functions, possibly resulting in damaged car components.

⚠ Please make sure the vehicle does not enter battery saving "sleep mode" or "economy mode". When battery saving mode is entered, informative message is displayed on instrument cluster (TDB) and some control units may refuse to communicate properly.

The battery saving mode can be usually terminated by turning ignition OFF and back ON.

⚠ Also please note that some Renault/Nissan vehicles have 4 positions in steering wheel lock, first two positions do not allow full vehicle communication (despite of fact that most of the ECUs are active).

6.1 Unrecognized Control Unit

In a case RenCOM cannot automatically recognize ECU variant for installed ECU, the following screen is displayed and user must select correct ECU variant.

You can get more information about ECU by clicking on *Show ECU Identification* button.

⚠️
- It is important to choose correct ECU variant for proper diagnostics functionality.
- In some cases it is not possible to uniquely recognize control unit. For example some Bosch ABS 8.x and ESP 8.x control units have same identification data and cannot be recognized automatically.
- If you make a mistake in identification, do not perform any of coding or programming functions: incorrect usage may damage ECU or vehicle components.
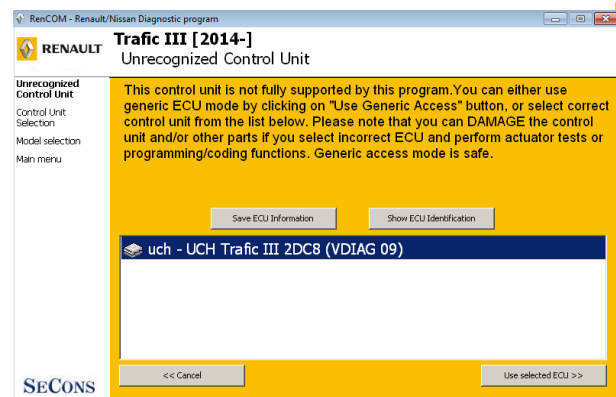
Function "*Save ECU Information*" make possible to save all development information about ECU to hard disc. In case that:
– the installed ECU is not available in the listing
– or you are not sure which control unit to choose
– or you wish to get the ECU automatically properly identified in next RenCOM version
– or you just want to help us to improve RenCOM

We will be more than happy to add support for any unsupported or unrecognized control units to next RenCOM version. We are usually able to do this within one or two working days based on so called "ECU snapshot file(s)":
In "Unrecognized ECU" window or "Control Unit Identification" window click on "Save ECU Information" button and save the file(s). Please send the generated file(s) to support@secons.com.

Please read also chapter .

6.2 Communication protocols

RenCOM supports following communication protocols:

Renaul ISO	Used on older ECUs (mainly pre-2000)
Nissan DDL	Used on pre-2003 Nissan vehicles
KWP2000	Used on most Renault vehicles for non-CAN ECUs
ISO15765	CAN-BUS protocol
ISO14229	UDS protocol

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7 Auto-Scan

This function scans for all known ECUs in selected vehicle, and shows the list of ECUs present in vehicle along with number of present or stored fault codes (DTCs).

It is necessary to select correct vehicle type before starting the auto-scan.
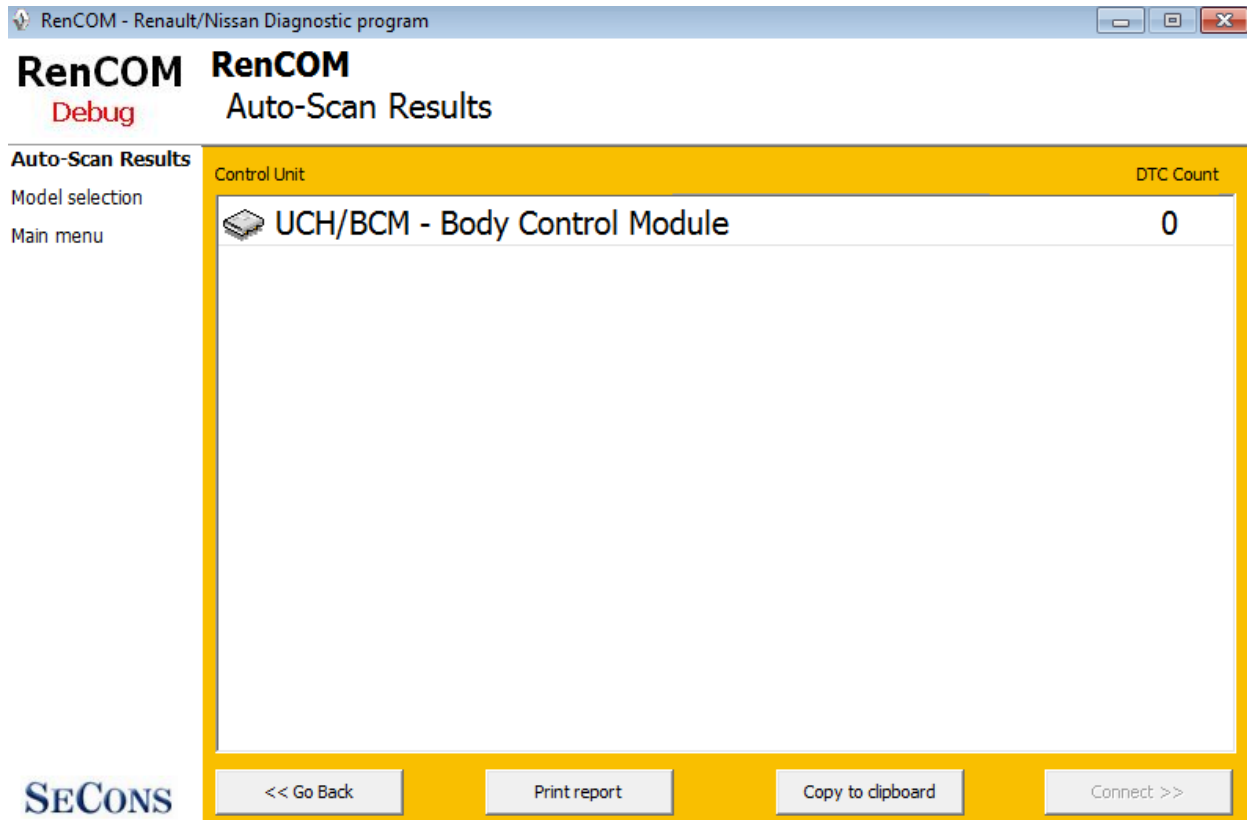
8 Diagnostic functions

You can connect to ECU by choosing control unit from list of ECUs in selected vehicle or auto-scan listing.

If control unit was identified uniquely, diagnostic menu will be available immediately, otherwise it is necessary to select control unit variant as described earlier in this manual.

Diagnostic menu is divided into three parts. Basic functions, Advanced functions and Expert functions. Basic functions generally safe to use under any conditions. Please note that clearing (deleting) fault code memory may result in additional fault codes appearance even in different control unit(s). Also messages may appear on on-board computer display.

Advanced functions require deeper knowledge of car components. Be careful before activating any actuators – incorrect actuation may damage vehicle components.

Expert functions may have serious consequences if used improperly. Please refer to technical service bulletins and workshop service manuals before running any of these functions.
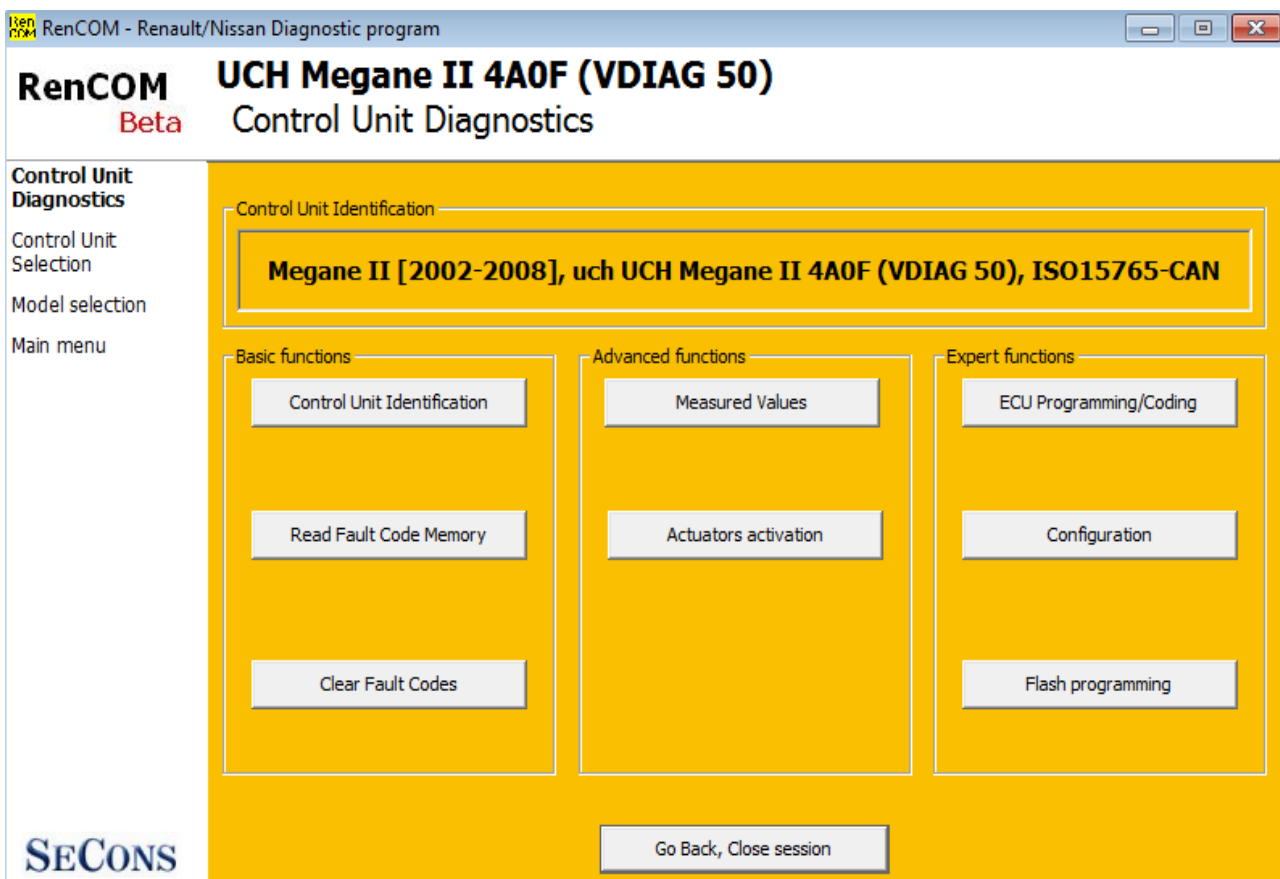
Please note that flash programming is in development and is available for selected beta testers only.

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8.1 Control Unit Identification

Works only on selected ECUs, mainly engine control modules. Other control units usually do not support identification functions.

This function can display only identification data accessed by ECU, for example:

- Manufacturer
- Hardware part number
- Software part number
- Calibration (software) identification

Please note that many vehicles do not have programmed VIN code or other data (such as programming date/etc).

You can print identification by clicking on *Print Values* button or you can copy it to clipboard by clicking *Copy Values*.

8.2 Read fault code memory

This function allows you to read and display diagnostic trouble codes saved in control unit memory.
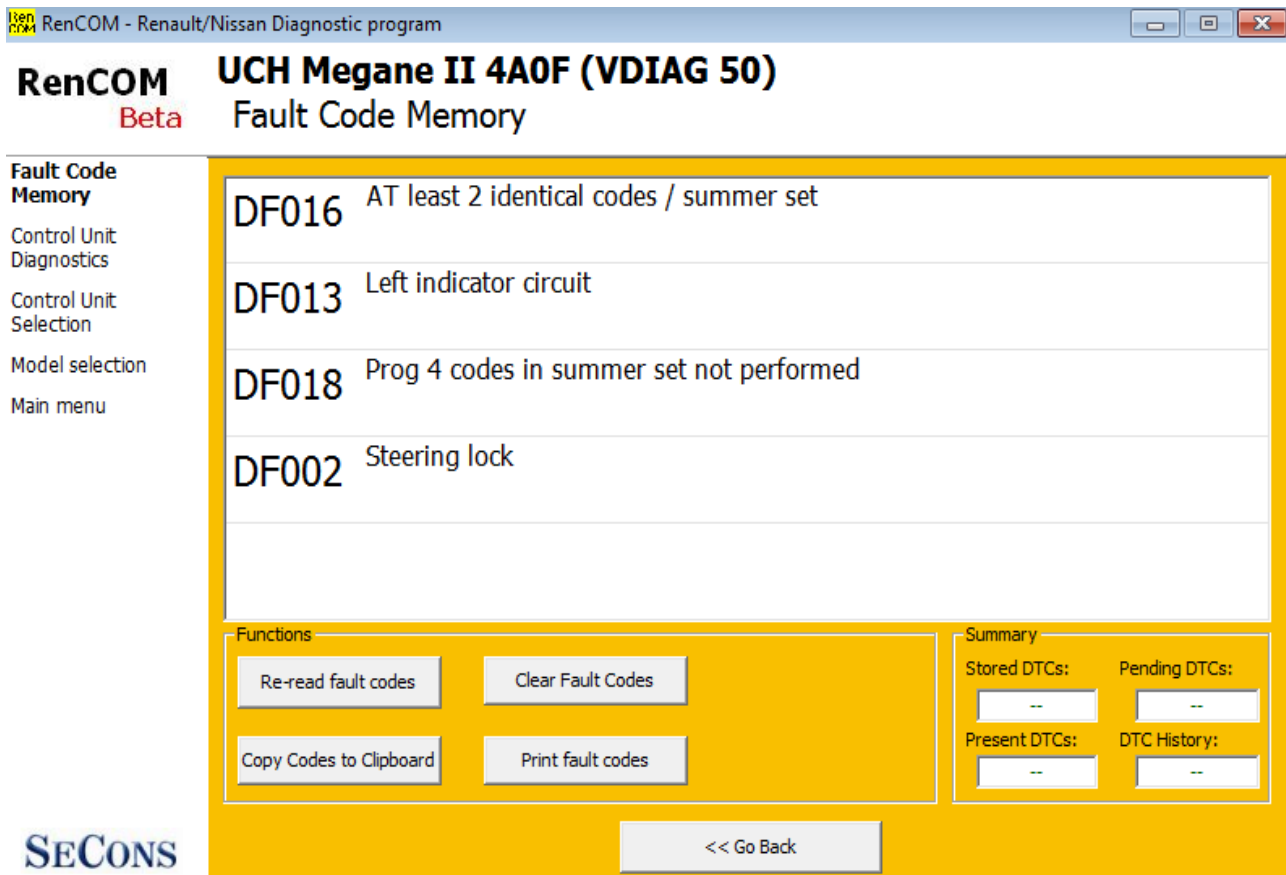
Note: Not all ECUs support fault code reading. In case Fault code memory reading is not available, error message is displayed. Use live data or actuator tests to diagnose ECU problems in such case.

8.3 Clear Fault Codes

This function clears fault code stored in ECU memory.

Fault codes might appear again or under some conditions isn't possible to clear fault codes at all. It's possible that in the presence of some faults control unit doesn't allow to clear fault codes or fault is in no time written back to memory.

It is recommended to read memory by clicking on *Re-read fault codes* button again.
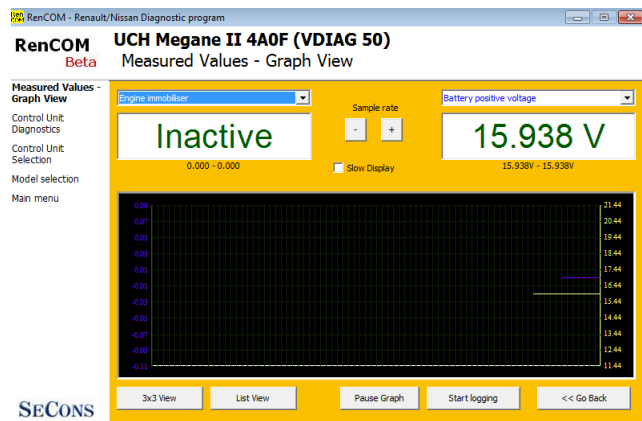
8.4 Measured values

Some control units are not equipped with all sensors: in this case, some sensors may show a limit values (minimum or maximum).

Important notice for Nissan vehicles: Due to difference between Nissan control unit variants RenCOM beta version may display duplicate values (e.g. multiple intake air temperatures) with different decoded values. Please use most probable value (in many cases all values but one will contain meaningless value). Please note this problem is related only to older Nissan/Infiniti ECUs, Renault/Dacia is not affected any way. In order to resolve this problem please provide us with ECU snapshot along with description of incorrect/duplicate values 9.2.How to create ECU Snapshot.

8.4.1   Graph display

This function displays two measured values (also known as live data or sensor values) simultaneously. Measured parameters can be chosen from selectors at the top of the window.

Buttons + and – allow to accelerate or decelerate speed of graph.

8.4.2   Display 3x3

For measuring 9 value simultaneously, click on *3x3 View* button.
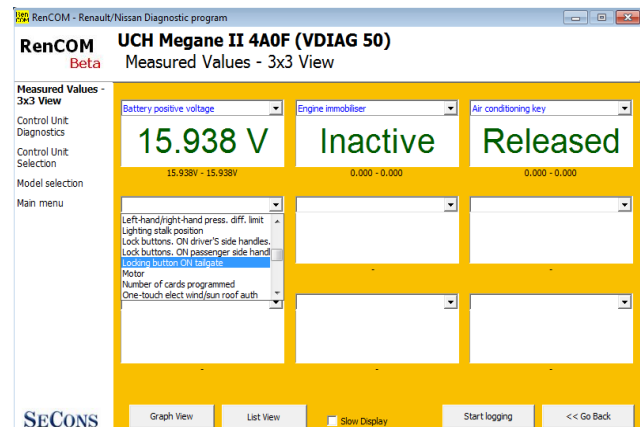
8.4.3   Display list

To measure all available values simultaneously, click on *List view* button.

Please note values means slower refresh rate.
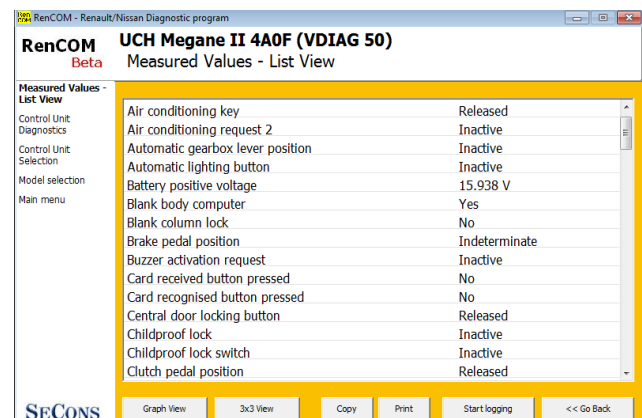
8.4.4 Save to log

Measured values can be saved/logged to a file by clicking on *Start logging* button. The log file is standard csv file and it is compatible with VagScope or can be imported to Microsoft Excel or OpenOffice Calc.

8.5 *Actuators activation*

This function can activate actuators and perform some actuators actions.

Most of the actuator tests will be performed automatically without any user intervention (in this case the Stop button is disabled and actuator test progress is indicated). Actuator tests may end up with an error when the control unit indicates a failure.
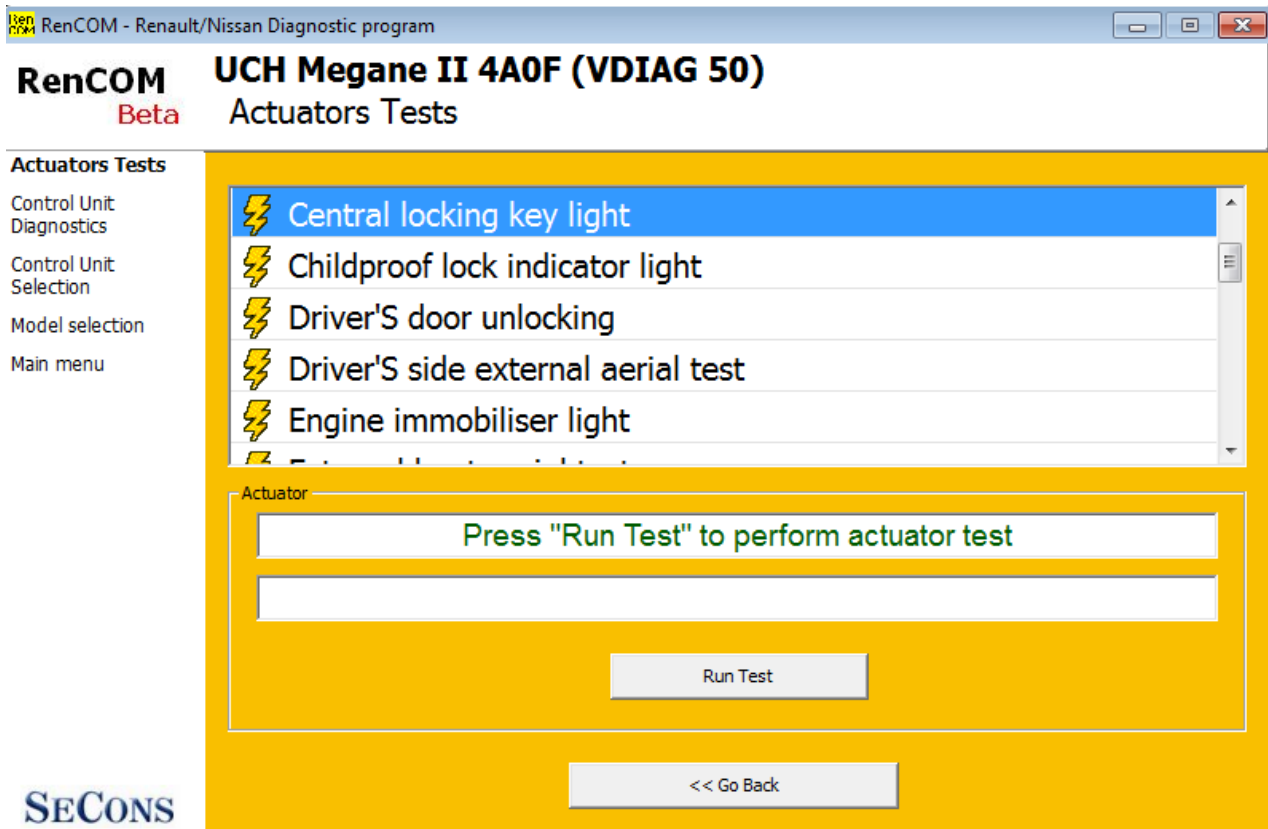
Make sure you understand consequences of activating ECU components. Also make sure that activation conditions (engine idle, engine running, etc.) are met. Always consult all tests with car repair handbook.

8.6 Coding and programming functions (commands)
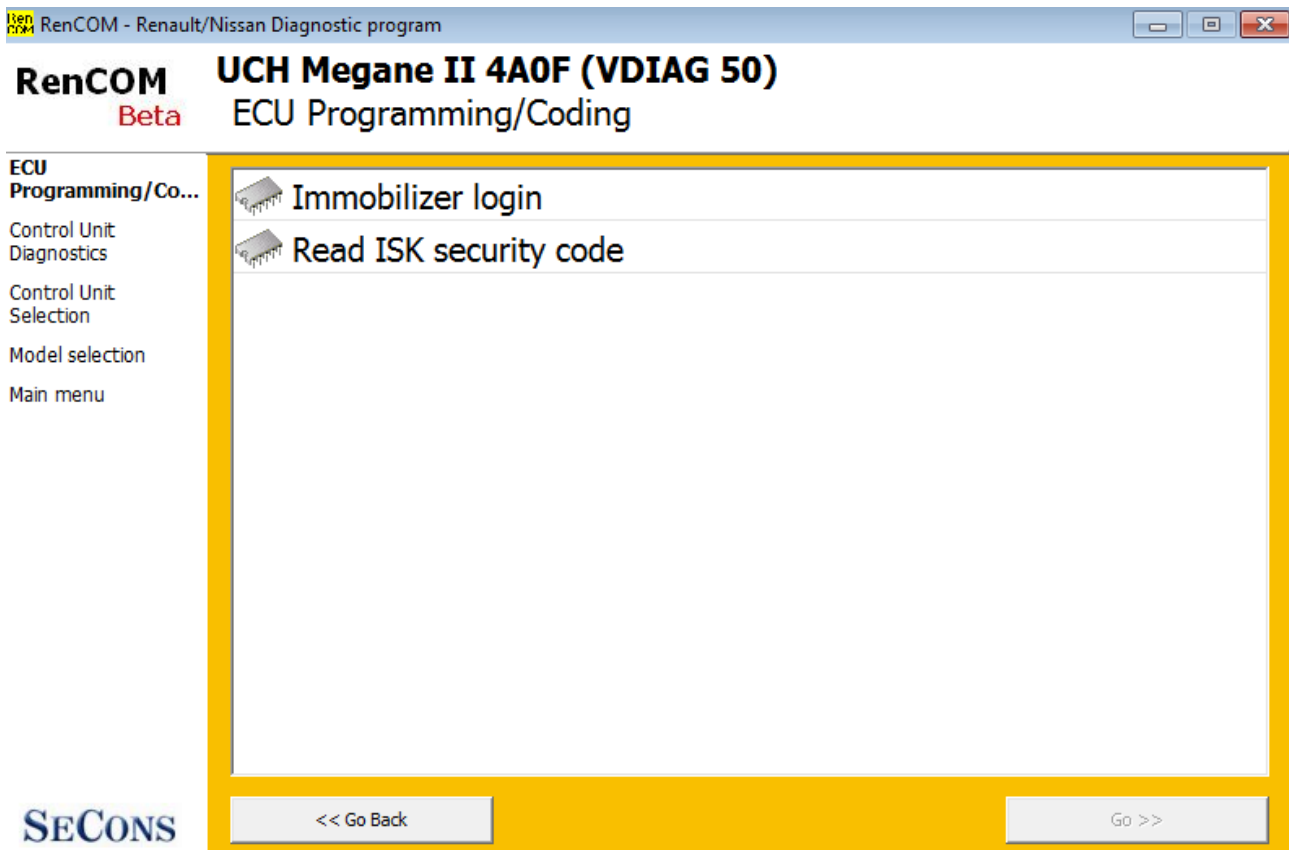
More information about programming functions is available at www.obdtester.com/downloads . Please note that this function is currently under development.

8.7 ECU Configuration

RenCOM ECU configuration function allows you to display control unit configuration. Selected values can be changed using "Edit" function.
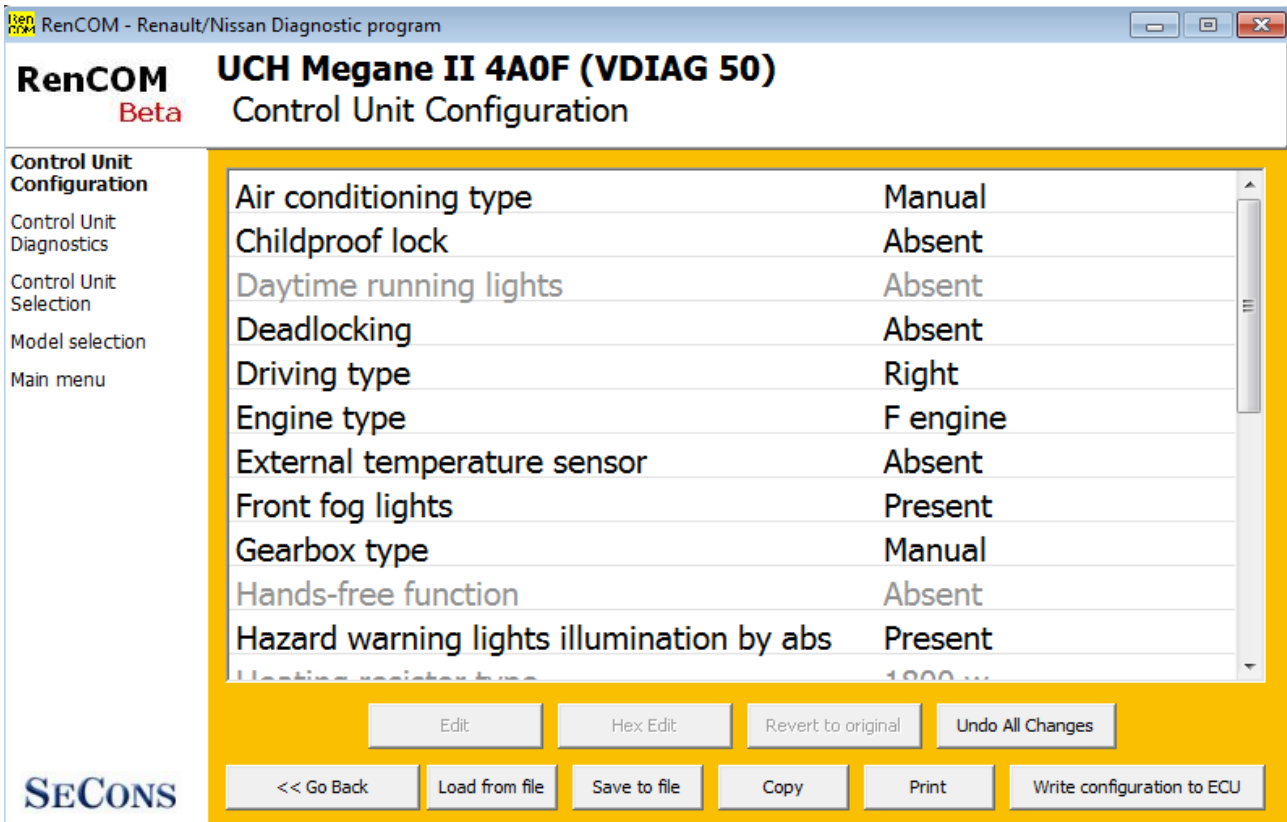
8.7.1   Edit

This button allows you to change currently selected value. Configuration is immediately saved to the control unit.

Configuration changing is possiblein development mode only 5.Settings.

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8.7.2 Go back

Returns back to diagnostic menu.
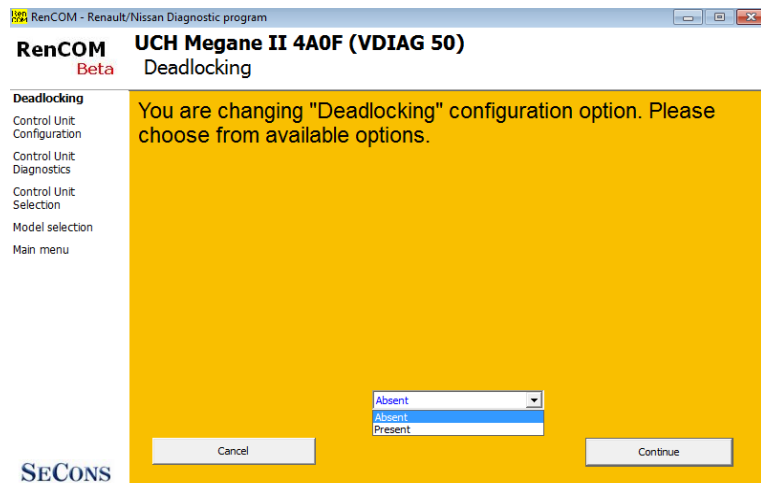
8.7.3 Load

Loads configuration from a file. Data file is checked if matches the connected control unit.

8.7.4 Save

Saves configuration to a configuration file (for restore or configuration transfer) or to a text file (report).

8.7.5 Copy

Copies configuration to operating system clipboard.

8.7.6 Print

Prints configuration.

9 Reporting bugs and improvement requests

Our customers can take advantage of our full technical support for free. In case you have any difficulties with using RenCOM, do not hesitate to contact us directly at **support@secons.com** or through your distributor.

Please read carefully this chapter in order to provide us with all information so as we can resolve your problem quickly.

Note:

Before sending support request for failing operation, please make sure you have met all conditions required for the operation (e.g. you are entering correct data, correct engine temperature for DPF regeneration, correct number of keys for engine start, etc).

In case of communication issues we recommend to check diagnostic plug connection and retry procedure at least once, connection problems may result in erratic communication issues.

In case you encounter to failure of any program functions (e.g. fault codes reading/clearing, coding functions, actuator tests, connecting to ECU …), or you're missing some function or some function does not work sufficiently, please prepare the following data in your email before sending your request to our technical support:

1. Detailed description of failure or your improvement request
2. Vehicle description - VIN code, model, manufacture year, engine type
3. Attach **Debug Log** (in case that required function doesn't work properly). This file captures data from the latest communication between program and ECU, so we can detect failure causes.
4. Attach **Snapshot** of tested ECU – this file contains important information about tested control unit In all cases please attach snapshot of **INJ (engine) + BSI (body computer).**

9.1 *How to create Debug Log*

It is necessary to perform operation that is not working correctly first. Once failure occurs, go back directly to settings in main menu (do not close the program). Click on "Save Debug" button. Name and save the file into well known directory in your computer.

Enable "Debug mode" check box only at our special request.
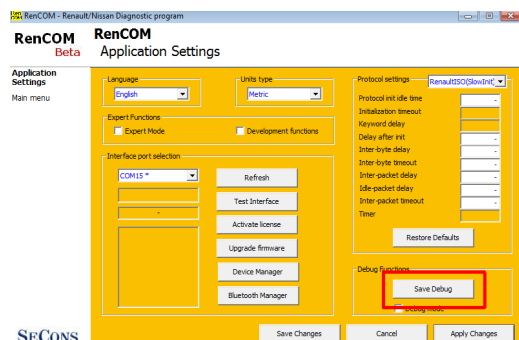
This function is used to tell program enable special functions in diagnostics interface and to log more data than required for normal operation.

SeCons

9.2 *How to create ECU* ***Snapshot***

After connection to tested control unit, click on "Control Unit Identification". In following screen, click on "Save ECU Information". Choose directory to save the file and confirm. Saving may take a few minutes.
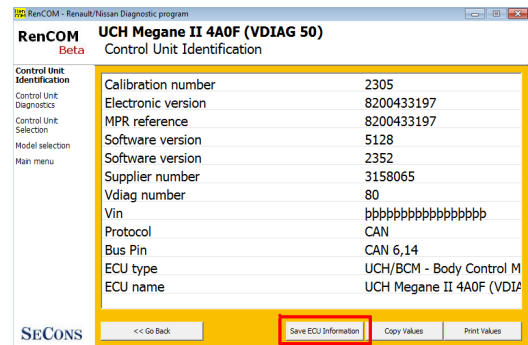
Please send all support requests along with required data attached to support@secons.com. Your case will be assigned with unique ticket number in order to communicate efficiently with you.

Also feel free to contact us with any suggestions for improvements in the software on the same e-mail address. Your feedback is greatly appreciated.

SeCons

10   Known issues

 – Freeze frame functionality is not finished
 – Actuator tests are not possible on DDL protocols
 – Live data on Nissan ECUs may display duplicate values, where only one of whole subset is valid for diagnosed ECU.

11 Planned improvements

The following improvements of user interface are planned for next release:

 – Font size change option

 – Screenshot to PDF or PNG

 – Connection to online services