



Quick guide:
software installation & calibration

Software

LiquidSI V2.20

Firmware version V X.20

Initial version released: 01-12-2014

Revision history

01-12-2014 : initial version released. V2.20

This manual is to be used for the V 2.20 software/Firmware. This Firmware runs in the new TEC2 hardware only!



For the TEC1 the software/Firmware V X.19 remains to be valid.



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General

This quick guide shows, in a very condensed way, the steps required to calibrate the LiquidSI system. There is a detailed description of all the Software functionality available in the Software Reference Manual, which is also available for download from the www.liquidsi.com website.

Definitions

TEC	By definition the electronic control unit in the LiquidSI system is called the TEC. there are two generations: TEC1 which was supplied upto December 2014 and the TEC2 which was supplied from December 2014 onwards. There are three types, TEC-4 for 2, 3 and 4 cylinder engines. TEC-6 for 5 and 6 cylinder engines and TEC-8 for 8 cylinder engines.
LiquidSI	Trade name of the new gas system.
Software	The term Software always refers to the Windows application which you can install onto you desktop or laptop PC. In the (top) title bar of the Software the exact version name and number are always shown: LiquidSI V1.xx or V2.xx. The Software can be freely downloaded from the download area of the www.liquidsi.com website.
Firmware	The term Firmware in this document refers to the hexadecimal code which is actually running inside the TEC. To communicate with the Firmware it is always necessary to use the LiquidSI software program (on your computer/laptop) as the user interface. If you make a change to the calibration data using the F3 or F2 page, pressing the TRANSMIT button will send these changed parameters/calibration data to the TEC so that this data can be used by the Firmware immediately. The Firmware is always downloaded from the Internet together with the Software so there is no need for a separate download.
Drivers	To transport data from the laptop to the TEC and vice versa a special LiquidSI interface cable is required. The USB port to which this cable is connected requires special software drivers. These drivers can be downloaded from the download area of the www.liquidsi.com website. Current version is 2.08.30 and works upto Windows 8 in 64 bit trim.

Software installation guide

The installation of the software is divided into several steps.

If you have no LiquidSI software installed onto your laptop or you need to update the software, follow these steps:

Step 1

Download and install the USB port drivers. To transport data from the laptop to the TEC and vice versa a special LiquidSI interface cable is required. The USB port to which this cable is connected requires special software drivers. These drivers can be downloaded from the download area of the www.liquidSI.com website. Current version is 2.08.30 and works upto Windows 8 in 64 bit trim.

Step 2

Go to the www.liquidSI.com website and navigate to the download section. Look for the latest release of software. Currently V1.19 for TEC1 and V2.20 for TEC2. If this is newer than the version you have already installed or if you have no software installed: select this file for download. This is a ZIP or RAR file. Save to your laptop, preferably to a location you can easily remember ("desktop" is a popular location...).

Step 3

Unzip the downloaded file. Again, unzip it to a location you can easily find! In the unzipped files, look for the file: **Setup_LiquidSi.exe**. run this file (by double clicking it) and preferably accept all the default file locations that the installation program suggests.

Step 4

Start the Software program by clicking on the shortcut which has been placed on your desktop by default.

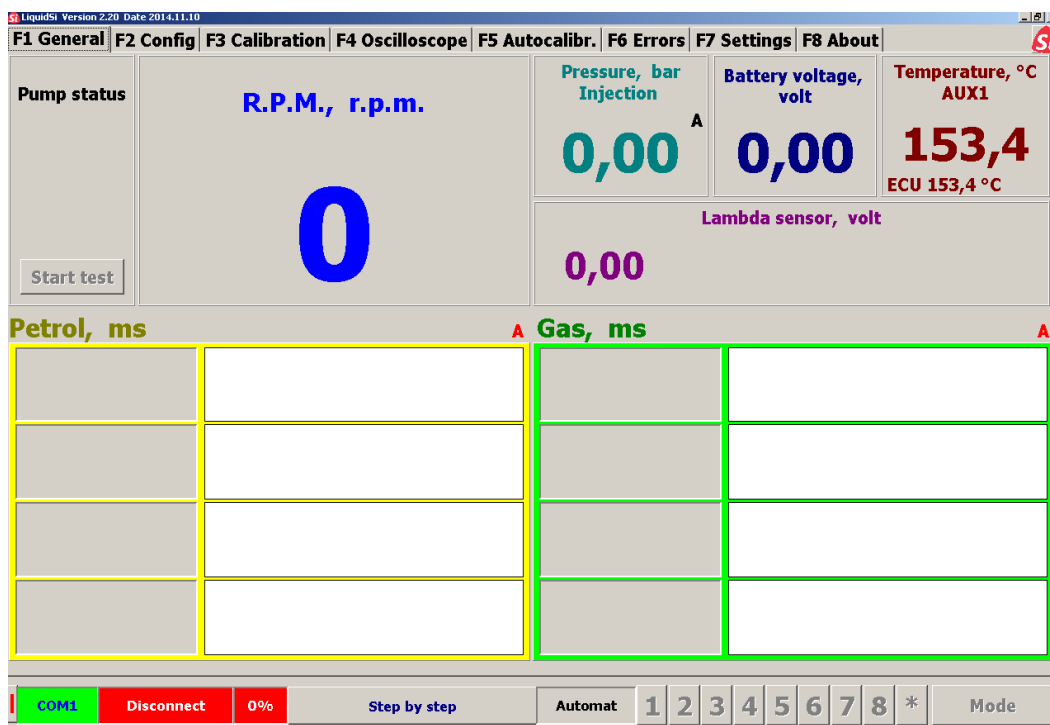
You should now see the F1 page of the LiquidSi software, together with a small pop up window showing the search for available USB ports.



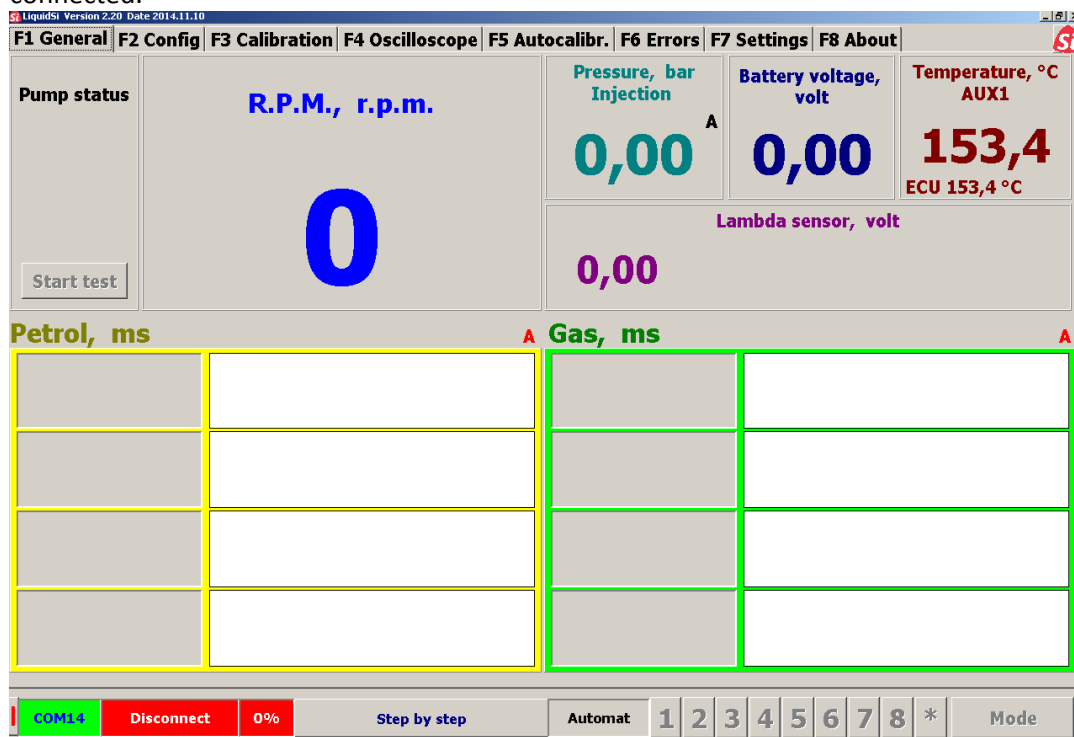
Step 5

Now, connect the USB interface (or: adaptor cable) to one of the USB ports of your laptop. Two things can happen:

1. Windows starts to search for the correct USB drivers automatically and you can see the typical Windows activity going on in the (lower) taskbar. This process should finish with the Windows message that the drivers are installed and the device is ready for use. If installed correctly, you should see a GREEN indication of the active USB port in the lower left corner of the LiquidSi software page (any page). Go to Step 5.



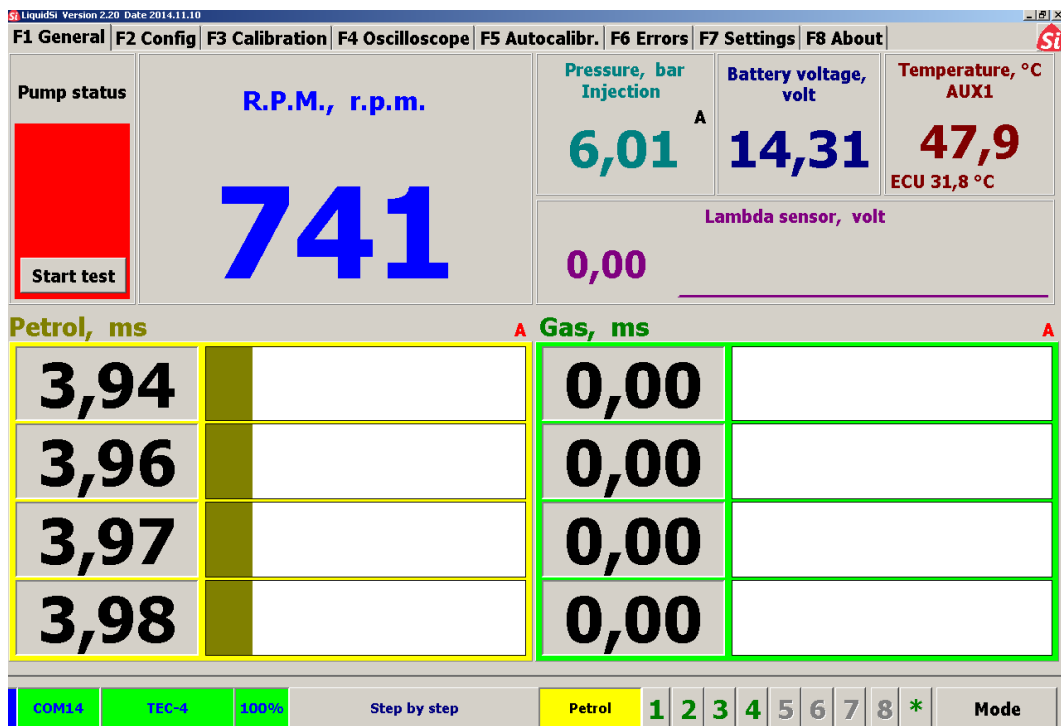
- if you see no action after you have connected the interface cable, there is the option of downloading and installing the drivers manually, if you didn't do that earlier. Go to the www.liquidsi.com website and find the download for the USB interface module drivers. This is a xxx.zip file. Download and unzip the file(s). run the xxx.exe file that is in the unzipped download and the drivers should be installed automatically. It is sometimes useful to shut down and restart the LiquidSi software for any installation changes to take (and show) effect. Finally, in the lower left corner of the LiquidSi software (on any page) you should see a GREEN coloured field indicating the now active USB port to which the interface cable is connected.



3. depending on the details of your laptop computer, you can now (or later) adjust the font size for the text, graphics text (those are the king size numerical values) size and the size of the graphics boxes. This option is now available through the F7 SETTINGS page under the button: “Font, Size, Style and Color”. See the reference manual for detailed explanation. Remember that you can click on each data field and a small pop up window appears which you can resize to any dimension you like. Very handy if you are working on a car!

Step 5

Connect the interface cable also to the TEC and you should now see the “Disconnected” indicator (in RED) in the lower status of the software change to “LPsi” (in GREEN). You are now ready to start the calibration process.



Vehicle check after installation of the LiquidSI kit

Make sure that the installed LiquidSI system is checked for any possible leakage points before moving on.

Furthermore, check that the correct type of injector is installed. Below is a table indicating which type of injector to use with the engine you are working on.

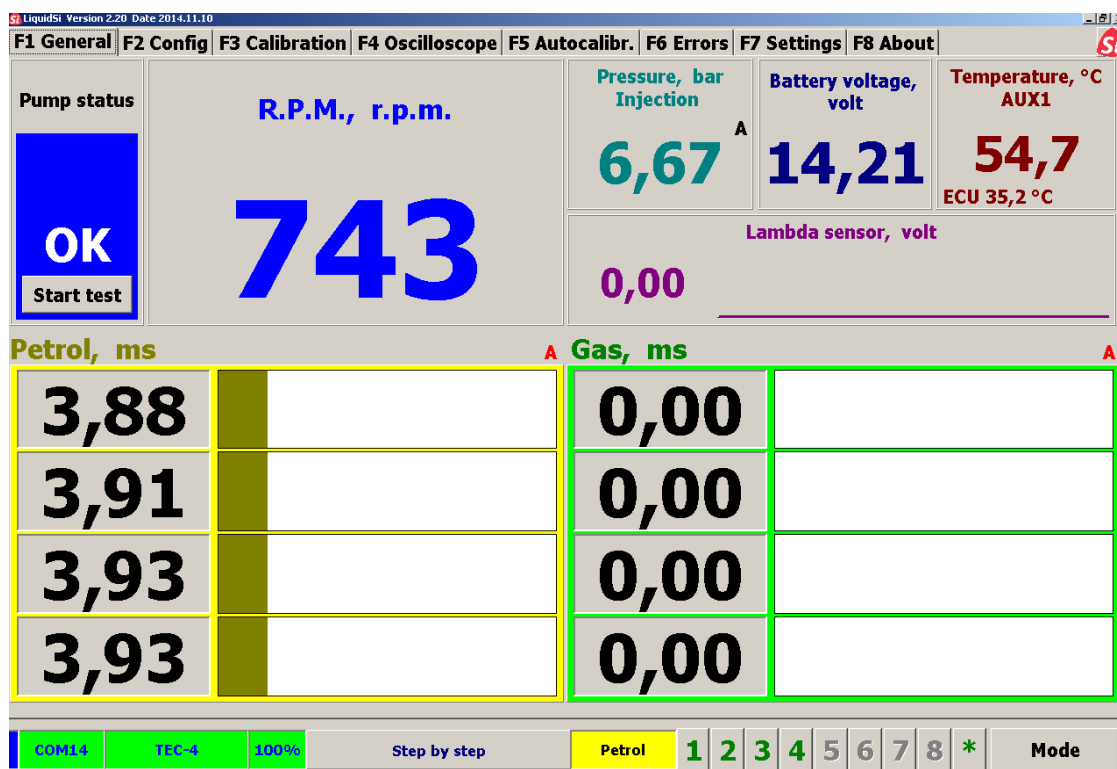
If your calculation of power/cylinder would allow you to select from two different injectors, always choose the smallest one.

		Power per cilinder											
		kW HP	10 13	13 17	15 20	18 23	20 27	23 30	25 34	28 37	30 40	33 44	35 47
Injector type													
	V12		Y	Y	Y								
	V15				P	P	P	P					
	V17						B	B	B				
	V20								W	W	W		
	V28										DB	DB	DB

Start the car and connect the TEC to your laptop using the LiquidSI adaptor cable. The car should now be running on Petrol and connection between laptop and TEC should be established automatically.

Engine must run continuously to preserve an active link between laptop and TEC.

Let the engine idle in Petrol mode and start checking the Petrol injection system:



Have the car run idle in Petrol mode. Now check the petrol injection system for irregularities. If you have the Lambda sensor connected, you can check the lambda sensor output signal for interruptions and distortions.

Pay particular attention to the Petrol pulses in the F1 software page. There should be as many pulses as there are cylinders **and these should be of approximately equal duration!**

Basic software

The TEC is factory programmed with the latest release of the Firmware that was available at the time of production of the TEC. this means that when you install the TEC there is most likely a newer version of the Firmware already available on the www.liquidsi.com website. So, always check if you have the latest Firmware in the TEC you are installing!!(currently Lpsi-6.19 for TEC1 or Lpsi-6.20 for TEC2 where “6” denotes the maximum number of cylinders this Firmware can handle). Remember that the Firmware version which is running inside the TEC can be checked through page F8 ABOUT.

NOTE: always check with the LOADER button in the F8/ABOUT screen, which is the latest Firmware that can be handled by the Software.

The Software, if you don't have it installed on you laptop already, should be downloaded from the download section on the www.liquidsi.com website. Software and Firmware always come together as a package. So if you download the Software you automatically also download the corresponding Firmware (although you can not see this). After you have installed the new Software onto your computer/laptop you can manually upload the new Firmware to the TEC.

Attention: newer software is downwards compatible with older Firmware!! This means that you do not always have to update the Firmware after a Software update if you don't want to. The new Software will automatically adapt its texts and layout to the Firmware version found inside the TEC. Parameters or functions available in the new Software will show up “greyed out” if the Firmware inside the TEC is not recent enough to allow these new functions to work properly. In that case you might consider to upgrade the Firmware inside the TEC. This you can do through the LOADER button available on the F8 ABOUT page of the Software.

The F8 page also informs you of version and release date for the Firmware currently installed in the TEC. From the example F8 ABOUT window below: *Program “TEC-4” Version:4.20. Date: 2014.15.09.* Note: the numeral “6” in the Program and in Version name denotes the maximum number of cylinders that this Firmware can handle.

Liquidsi Version 2.20 Date 2014.11.10

F1 General
F2 Config
F3 Calibration
F4 Oscilloscope
F5 Autocalibr.
F6 Errors
F7 Settings
F8 About

Hot Key

F1 - General
F2 - Configuration
F3 - Calibration
F4 - Oscilloscope
F5 - Autocalibration
F6 - Errors
F7 - Settings
F8 - About ...
F10 - Exit

"Z" - Gas injector 1 (On/Off)
"X" - Gas injector 2 (On/Off)
"C" - Gas injector 3 (On/Off)
"V" - Gas injector 4 (On/Off)
"B" - Gas injector 5 (On/Off)
"N" - Gas injector 6 (On/Off)
"M" - Gas injector 7 (On/Off)
"<" - Gas injector 8 (On/Off)
"A" or "*" - All Gas injectors

"I" - Installation diagram
"F" - Full screen
"T" - Transmit data to "TEC-4"
"R" - Receive data from "TEC-4"
"S" - Save data in file, Start/Stop
"L" - Load data of file
"D" - Default data

" F3 " - Control calibration point
"0", "1", "2", "3", "4", "5", "6", "7", "8" - Select / unselect point
"Arrow key" - Move selected point and break point
"Esc" - Unselect point
"P" + "point" - Select break point
"O" + "point" - Unselect break point

"Mouse right button" - Select break point
"Mouse left button" - Push to select point and hold for move point and break point. Push and release button for unselect break point

Run time (hours)

Gas 0,88
Petrol 0,62

Program "TEC-4"

Version : 4.20
Date : 2014.09.15

Technical support

If you have any question or need support, please contact your local distributor

Vialle alternative fuel systems BV

Visit our website regularly for updates and documentation downloads
www.liquidsi.com

Diagram
Loader

COM14
TEC-4
100%

Step by step

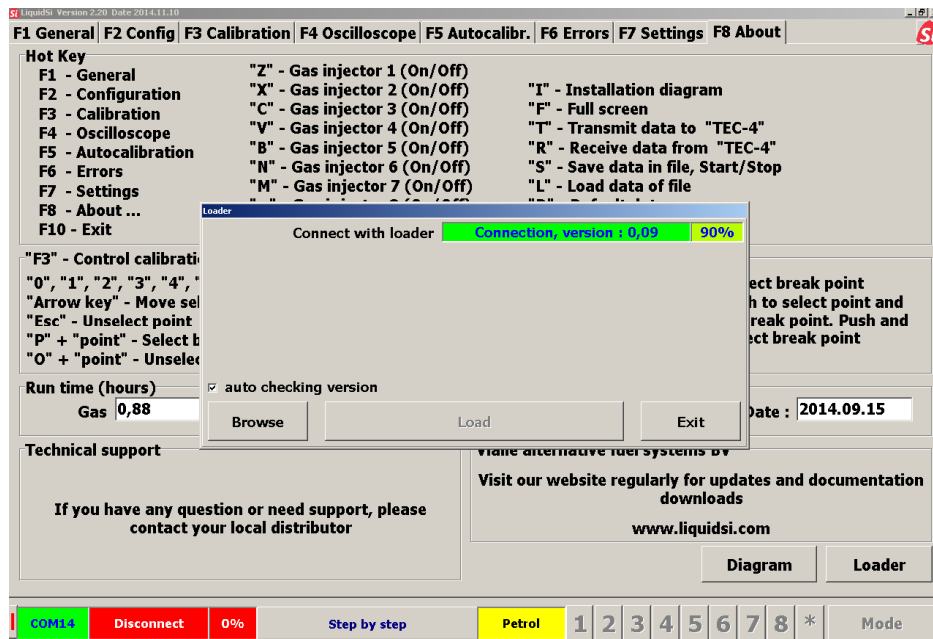
Petrol
1
2
3
4
5
6
7
8
*

Mode

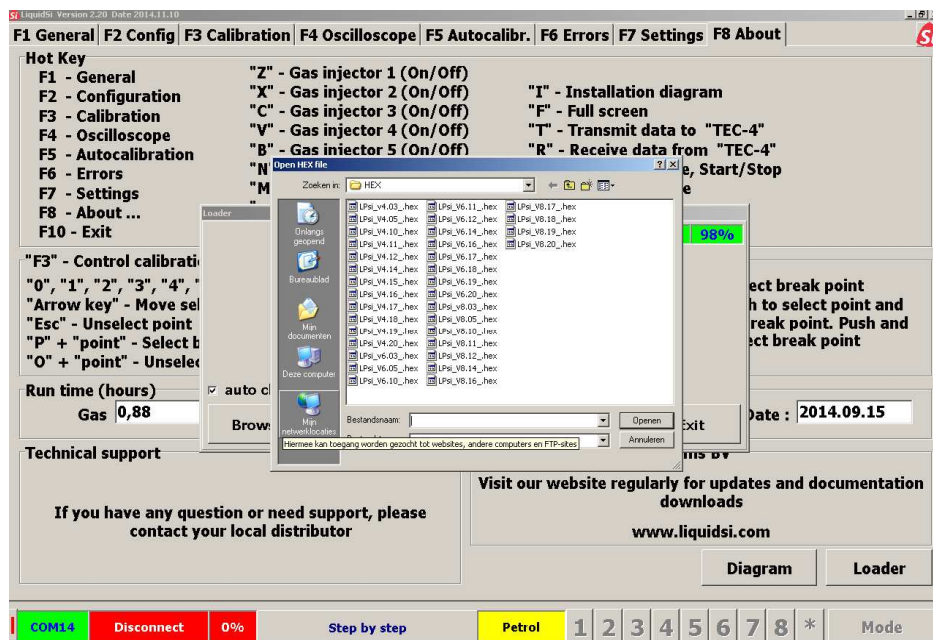
- 10 -

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311651.3

Pressing the LOADER button opens the below pop up window:



If you now press the BROWSE button, a new window pops up showing all the Firmwares which are available to you on your laptop/desktop computer (see below). The Firmwares are indexed in V4.xx, v6.xx and v8.xx. if you decide that you wish to upgrade the Firmware which is in the TEC to the latest version available to you in the above pop up window: just select the Firmware version, press OPEN and then LOAD in the loader pop up window. The selected Firmware is then being uploaded to the TEC and you will see a progress bar indicating the actual progress.



Calibration procedure

Step 1: Prepare a new calibration file

LiquidSI Version 2.20 Date 2014.11.10

F1 General F2 Config F3 Calibration F4 Oscilloscope F5 Autocalibr. F6 Errors F7 Settings F8 About

Car data

Number

Model

Engine power (kW)

Gas injectors type : Vialle Alternative Fuel System

Date

Last Save : 18-11-2014

Installed 18-11-2014

Time to TS at work on a gas

☐ Block work on gas

Remains, h 0,00

Mileage, km

Speed, km/hour

Assigned, h

Refresh

Disable Setting

Setting password

Gas injectors type

Archive

New

Again

Find

Transmit

Receive

Save

Load

Default

COM14 TEC-4 100% Step by step Petrol 1 2 3 4 5 6 7 8 * Mode

Go to the “F2 CONFIG / CAR” page. Now enter the relevant car data and finally enter a unique File name/number, no more than 8 characters may be used.

Car data

File : current

Number Doblo_18

Model Doblo

Engine power (kW)

If you like, enter car owner information in page “F2 CONFIG / OWNER”. Additional calibration or car related comments can be entered in software page “F2 CONFIG / COMMENTS”.

LiquidSI Version 1.10 Date 2013.08.09

F1 General F2 Config F3 Calibration F4 Oscilloscope F5 Autocalibr. F6 Errors F7 Settings F8 About

Owner data

Name

Phone

Address

For moving under the menu of a configuration use "mouse" or buttons of management of the cursor on the keyboard

Archive

New

Again

Find

Transmit

Receive

Save

Load

Default

LiquidSI Version 1.10 Date 2013.08.09

F1 General F2 Config F3 Calibration F4 Oscilloscope F5 Autocalibr. F6 Errors F7 Settings F8 About

Comments

Clear

Comments of the installing (feature of the car, installation, adjustment, etc.)

Archive

New

Again

Find

Transmit

Receive

Save

Load

Default

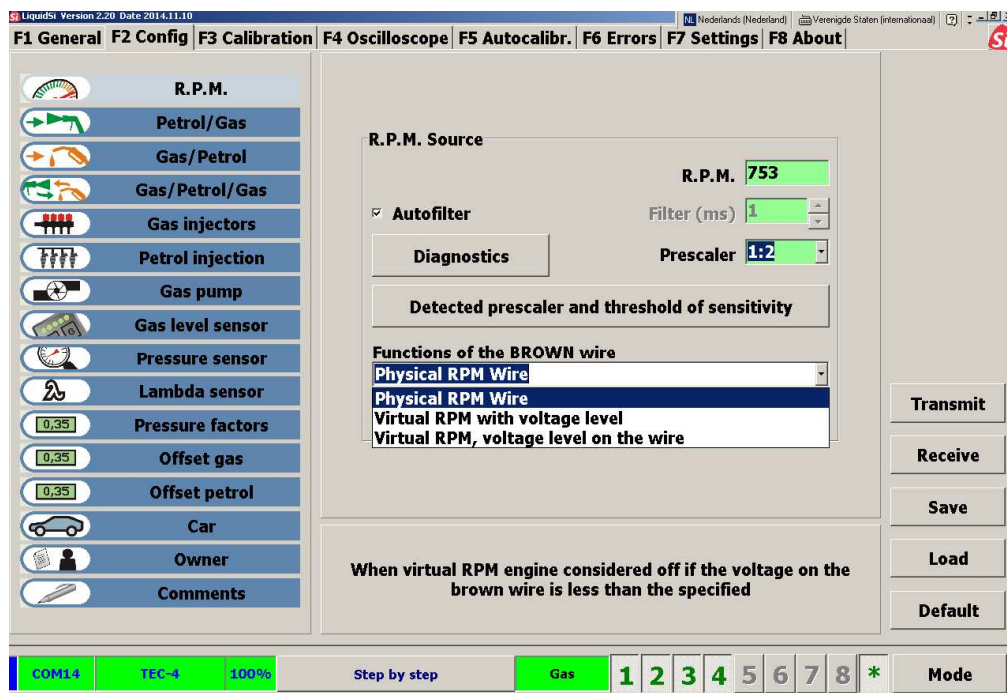
COM14 TEC-4 100% Step by step Gas 1 2 3 4 5 6 7 8 * Mode

Do not forget to save this new calibration file using the “SAVE” button available on many of the Software pages. Also make sure to push the “TRANSMIT” button, this should copy your changes to the TEC.

Note: It is of vital importance that at this point the file status indicator (next to the “File” field) is displaying “**current**” in GREEN. This makes sure that the calibration data inside the TEC is identical to the data on the hard drive and also is identical to the data shown in the user interface software.

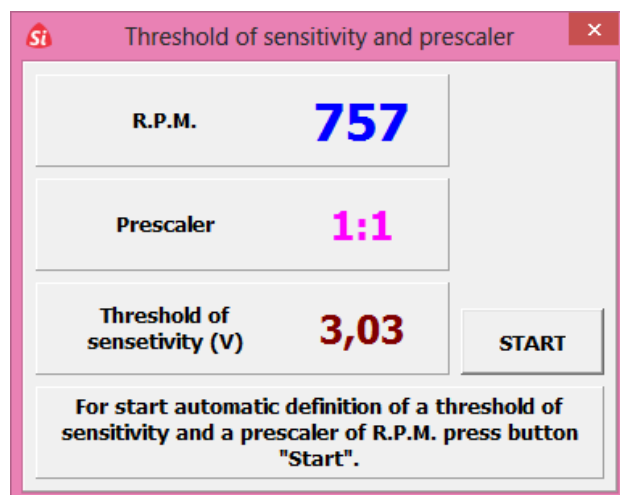
Step 2: RPM setting

Go to page “F2 CONFIG / RPM”.

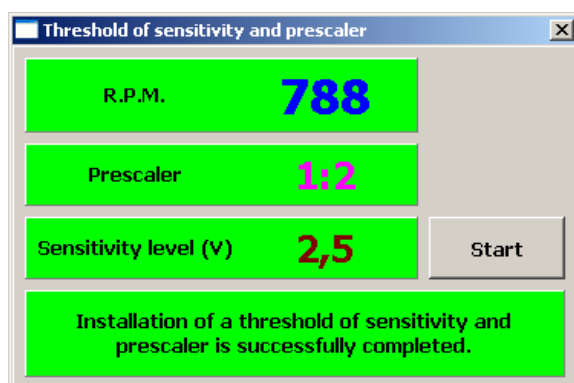


Engine speed (RPM) is one of the most important parameters in the Software. It is determined from either the (-) ignition coil signal or else it can be calculated from the timing intervals between the Petrol injections.

The first thing to do is decide which of these two options you wish to use for the particular car you are working on. The “Function of the BROWN wire” drop down menu gives you these two options. If you choose the first one, you need to connect the BROWN wire to the (-) ignition coil signal. After that, the software has many options for filtering and conditioning this signal. The easiest way is to use the automatic detection function which can be accessed through the button: “Detected prescaler and threshold of sensitivity”. A window pops up:



Press “START” and wait for the routine to finish. This will take several seconds. If routine finished successfully, all three output fields are coloured GREEN.

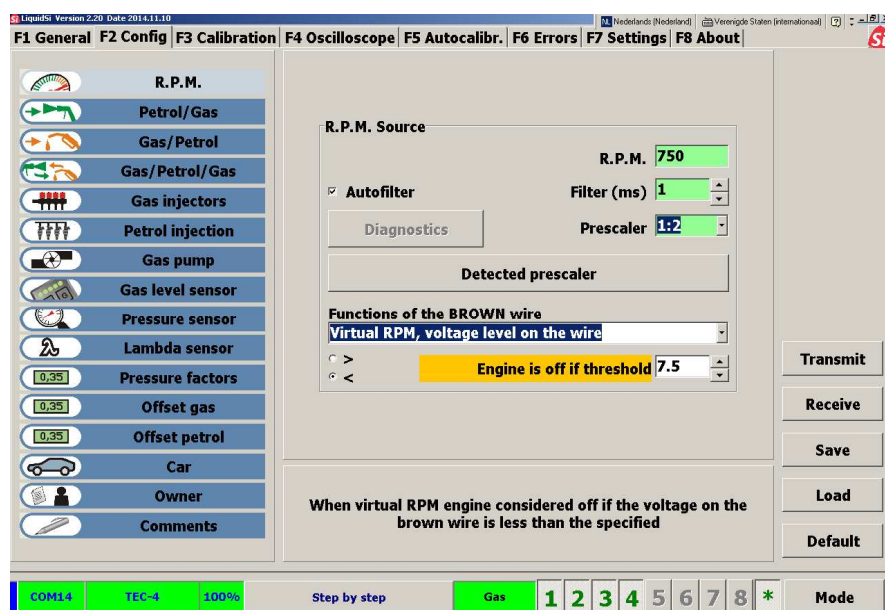


NOTE: from this moment on, the correct engine speed (RPM) should be indicated in the different RPM output windows. If not, check the Software Reference Manual.

Alternatively, if you choose to second option from the drop down menu, “Virtual RPM, voltage level on the wire”, things are very different. By doing this, you force the software to retrieve the RPM signal from the measured petrol injection pulses and not from the ignition system. The BROWN wire must then be connected to a DC voltage source which is a indication of the engine running or not running (stalled). This is a safety function, so care must be taken. In some cars, the battery voltage level is a good indication for determining whether the engine is running or not. Remember that the LiquidSi system is being shut down and switches over to Petrol in case the BROWN wire indicates that the engine is not running.

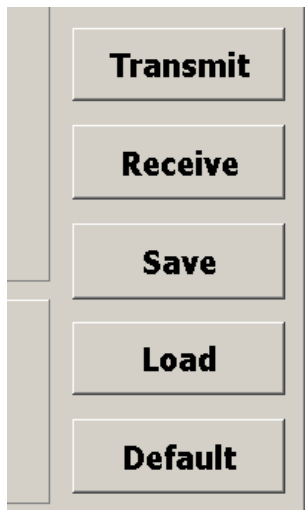
The voltage level for this action can be set by the user and also the direction for triggering can be set (higher OR lower than threshold value).

See the Reference Manual for more information on Virtual RPM.



Step 3: SAVE and TRANSMIT

On most Software pages, the following Block of buttons is available:



Transmit

You must use the TRANSMIT button if you want to save your calibration changes into the TEC. data is also being saved onto the hard drive. this newly uploaded settings will be applied immediately.

Save

Use this button if you wish to save the currently active calibration file under a new name. Data is not transmitted to the TEC.

Receive

Use this button if you want to retrieve the calibration data currently running in the TEC. a copy of this data is then displayed in the Software.

Load

With this button you can retrieve a calibration/configuration file stored onto your hard drive. This file is then loaded into the Software. You must use TRANSMIT if you want to upload this data to the TEC.

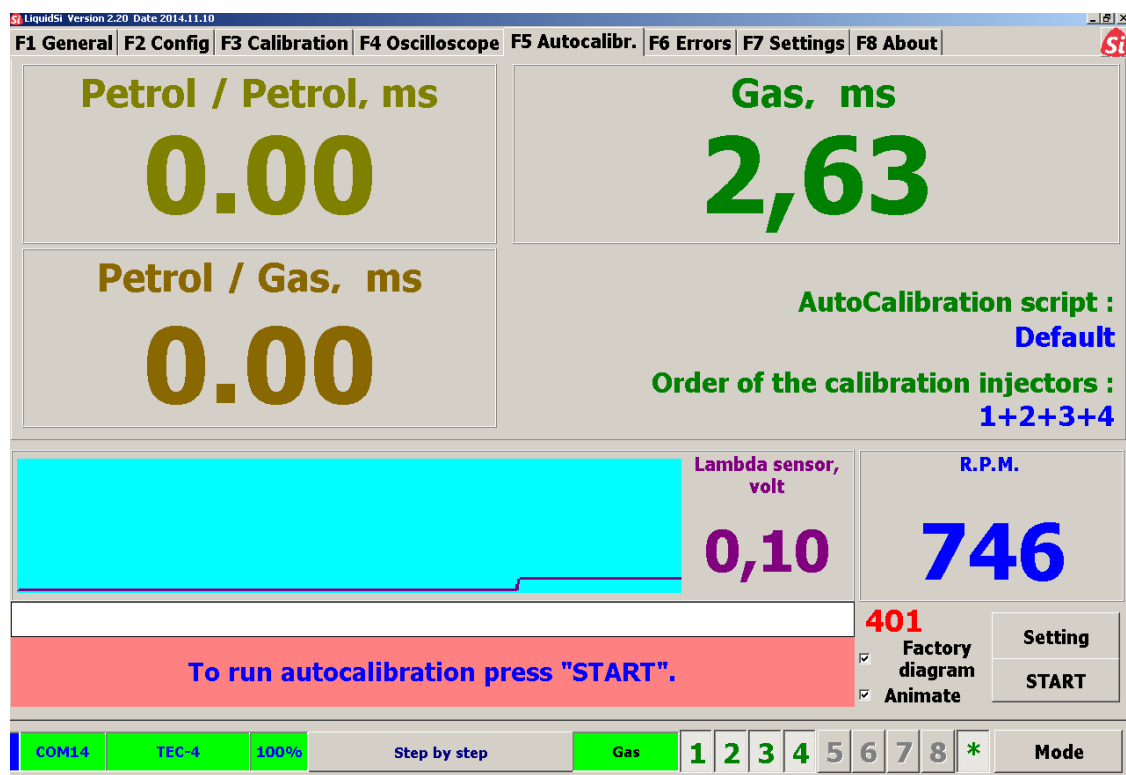
Default

Pressing this button results in changing all calibration data in the Software back to factory settings. Again, you must use TRANSMIT if you want to send this default data to the TEC.

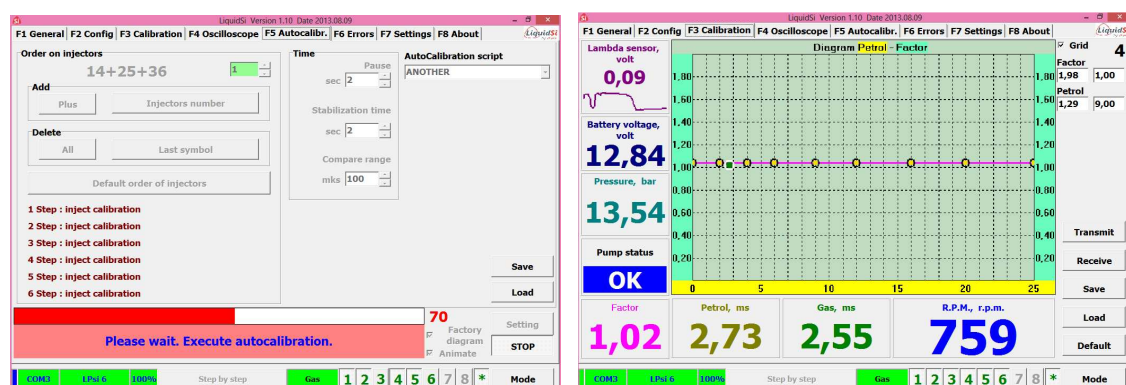
Note: See Software Reference Manual for more details on these functions!

STEP 4: Autocalibration

G0 to F5 AUTOCALIBRATION:



Press the button START to begin the autocalibration process. This will take several minutes and during that time the Software will alternately display pages F5 and F3 where you can see what the currently active value for the **Petrol_factor** is. The Software will indicate when the routine has finished successfully. Be sure to perform this autocalibration only when the engine is fully warmed up.



"F5 Autocalibration" page.

"F3 Calibration" page.

NOTE: if the Checkbox "Factory diagram" is checked (default), then the autocalibration routine starts with the default value for the **Petrol_factor** as a starting point, which is 1,0.

NOTE: If you anticipate that the **Petrol_factor** will deviate considerably from 1,0 then it is advised to first set the Petrol_factor to the (approximate) correct Petrol_factor value in the F3 CALIBRATION

page, before pressing START. In this case, you should uncheck the “Factory diagram” box because this will force the autocalibration routine to use the current F3 CALIBRATION settings as a starting point, not the default value.

Step 5: test drive

In most cases you should now be ready to drive the vehicle in Gas mode. If driving is satisfactory you still have many options to tweak and/or modify aspects of the system. The Software Reference Manual gives a complete listing of all the functions available inside the Software for which you can make modifications.

In case the test drive is not satisfactory you have two options:

- try and find the corresponding function in the Software Reference Manual and resolve the problem
- **you can try and use the LiquidSi diagnostics software “SIDIS”, the LiquidSI diagnostic fault finding software. SIDIS is available directly online from the download area of the www.liquidsi.com website. This program is a good starting point for finding both installation related faults as well as for finding calibration related faults. You can use any tablet or PC to view the SIDIS interactive program online while keeping your laptop connected with the TEC. SIDIS is based on HTML5 code and can be used on different platforms, try it!**

IMPORTANT: Make sure to perform the checks indicated on Page 24!

Alternatively: using the STEP-BY-STEP mode

Alternatively, you can use the integrated and partly automated STEP-BY-STEP functionality. This function is activated through the button STEP-BY-STEP located in the lower status bar of the Software.

Starting point is always the F1 GENERAL page:

The screenshot shows the 'F1 General' page of the software. The top menu bar includes 'F1 General', 'F2 Config', 'F3 Calibration', 'F4 Oscilloscope', 'F5 Autocalibr.', 'F6 Errors', 'F7 Settings', and 'F8 About'. The main display area shows 'R.P.M., r.p.m.' with a large blue '741'. To the right, there are three status boxes: 'Pressure, bar Injection' (6,01), 'Battery voltage, volt' (14,31), and 'Temperature, °C AUX1' (47,9). Below these, 'Lambda sensor, volt' is shown as 0,00. The bottom section has two columns of data: 'Petrol, ms' (3,94, 3,96, 3,97, 3,98) and 'Gas, ms' (0,00, 0,00, 0,00, 0,00). At the bottom, there is a status bar with 'COM14', 'TEC-4', '100%', 'Step by step', 'Petrol', and a row of buttons numbered 1 to 8, followed by a '*' button and a 'Mode' button.

Now, press the STEP-BY-STEP button. This will display the following "Car data" window:

The screenshot shows the 'F1 General' page with the 'Car data' window open. The 'Car data' window has fields for 'Number', 'Model', 'Engine power (kW)', 'Gas injectors type : Vialle Alternative Fuel System', 'Date', 'Current : 18-11-2014', 'Last Save : 18-11-2014', and 'Installed : 18-11-2014'. The 'Step by step' button is highlighted in the status bar. The main display area shows 'R.P.M., r.p.m.' with a large blue '741'. To the right, there are three status boxes: 'Pressure, bar Injection' (6,54), 'Battery voltage, volt' (14,21), and 'Temperature, °C AUX1' (55,8). Below these, 'Lambda sensor, volt' is shown as 0,00. The bottom section has two columns of data: 'Petrol, ms' (3,52, 3,56, 3,57, 3,58) and 'Gas, ms' (0,00, 0,00, 0,00, 0,00). At the bottom, there is a status bar with 'COM14', 'TEC-4', '100%', 'Step by step', 'Petrol', and a row of buttons numbered 1 to 8, followed by a '*' button and a 'Mode' button.

In this pop up window the user should a new or existing file name into which the calibration data will be stored. Press NEXT and a new window will pop up allowing the user to enter car and owner data.

Si SquidSI Version 2.20 Date 2014.11.10

F1 General F2 Config F3 Calibration F4 Oscilloscope F5 Autocalibr. F6 Errors F7 Settings F8 About

Pump status **R.P.M., r.p.m.**

OK
Start test

743

Pressure, bar Injection **6,34** A

Battery voltage, volt **14,21**

Temperature, °C AUX1 **55,0**
ECU 40,1 °C

Step by step

Information
Owner data
Name: Vialle
Phone:
Address:
Comments
TEC2
v2.20
< Back Next > Cancel

lambda sensor, volt

Petrol, ms

3,55	
3,56	
3,59	
3,57	

0,00
0,00

COM14 TEC-4 100% Step by step Petrol 1 2 3 4 5 6 7 8 * Mode

Press NEXT and again a new window will pop up asking the user for a calibration file to start with: in many cases the user will have accumulated a lot of calibration files from which he can choose one to use as a starting point for a new calibration. This window now offers the opportunity to choose a starting file from "config" directory on your hard drive.

Si SquidSI Version 2.20 Date 2014.11.10

F1 General F2 Config F3 Calibration F4 Oscilloscope F5 Autocalibr. F6 Errors F7 Settings F8 About

Pump status **R.P.M., r.p.m.**

OK
Start test

743

Pressure, bar Injection **6,28** A

Battery voltage, volt **14,25**

Temperature, °C AUX1 **54,6**
ECU 40,3 °C

Step by step

Configuration
Load configuration data from file
Show file list
< Back Next > Cancel

lambda sensor, volt

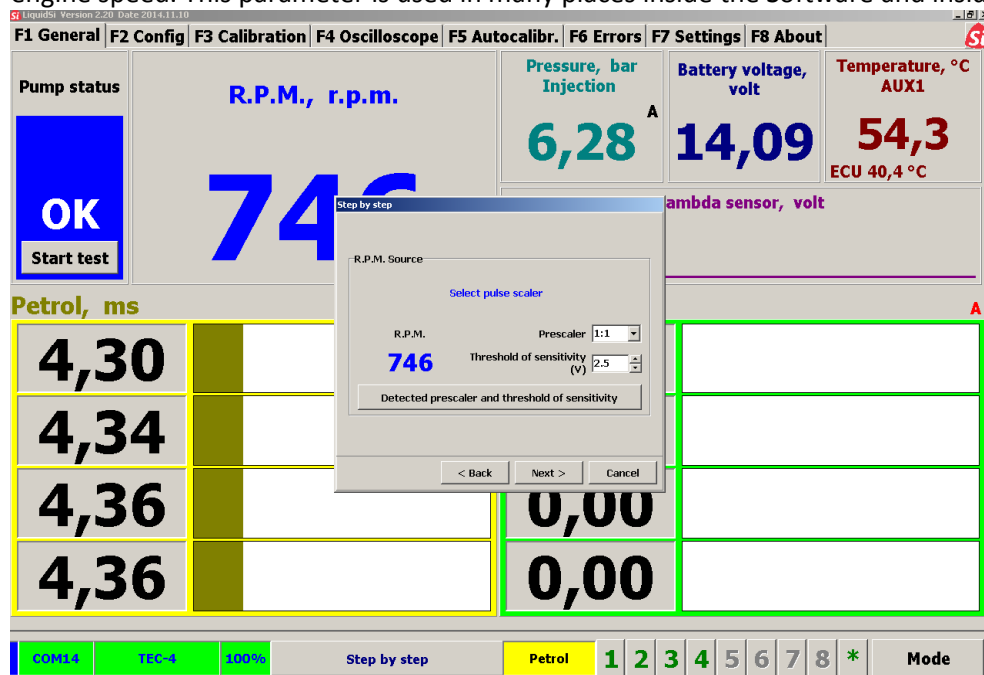
Petrol, ms

3,57	
3,60	
3,61	
3,58	

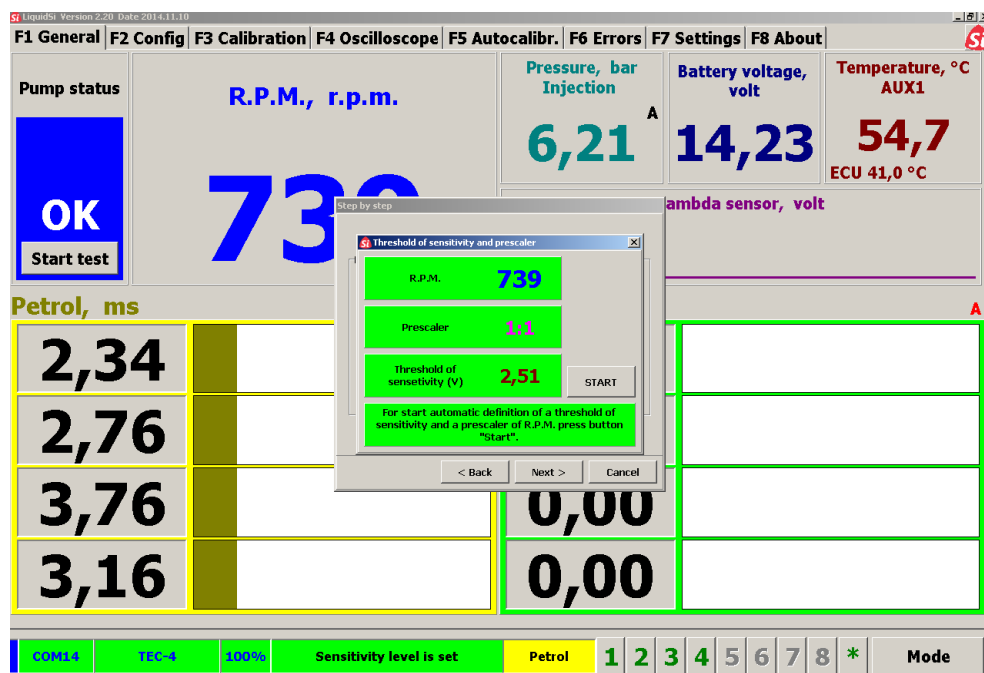
0,00
0,00

COM14 TEC-4 100% Step by step Petrol 1 2 3 4 5 6 7 8 * Mode

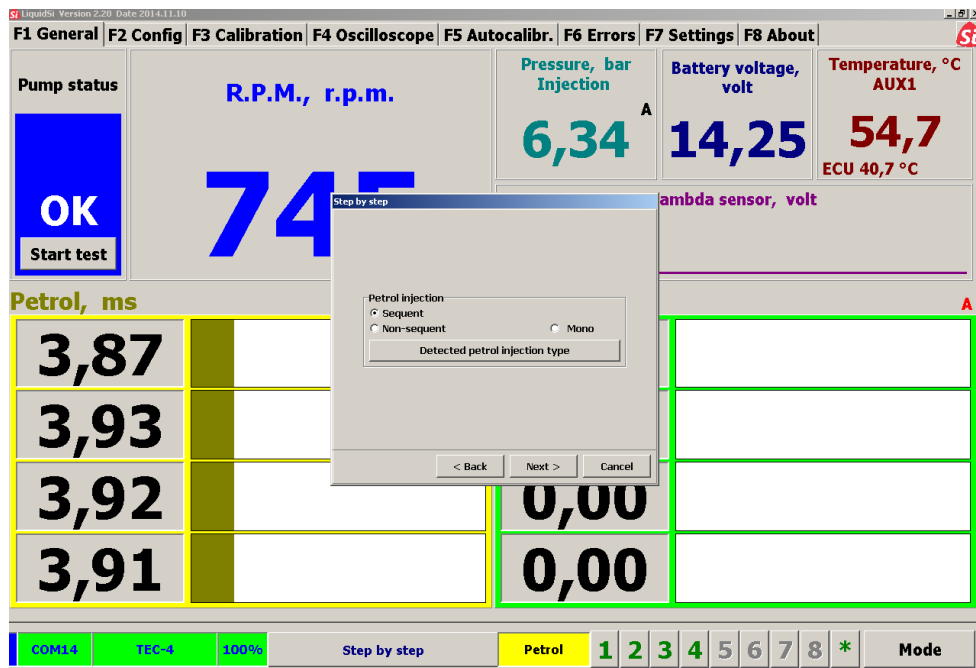
The next window is probably the most important one. It lists the data used for the calculation of engine speed. This parameter is used in many places inside the Software and inside the Firmware.



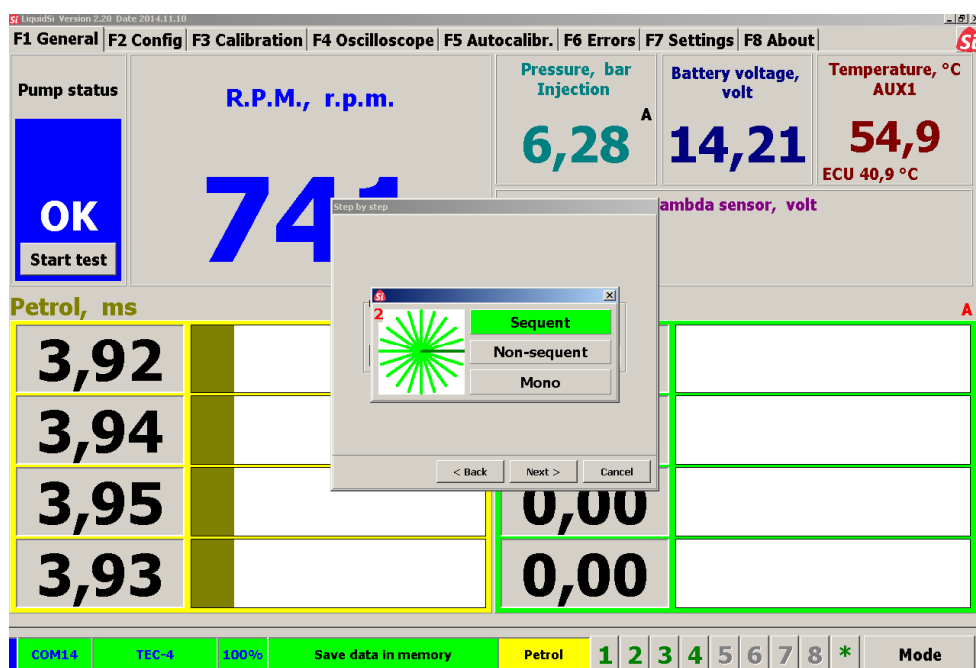
Luckily, pressing the button DETECTED PRESCALER AND THRESHOLD OF SENSITIVITY invokes an automated routine capable of determining the required data automatically. Press START to run the routine.



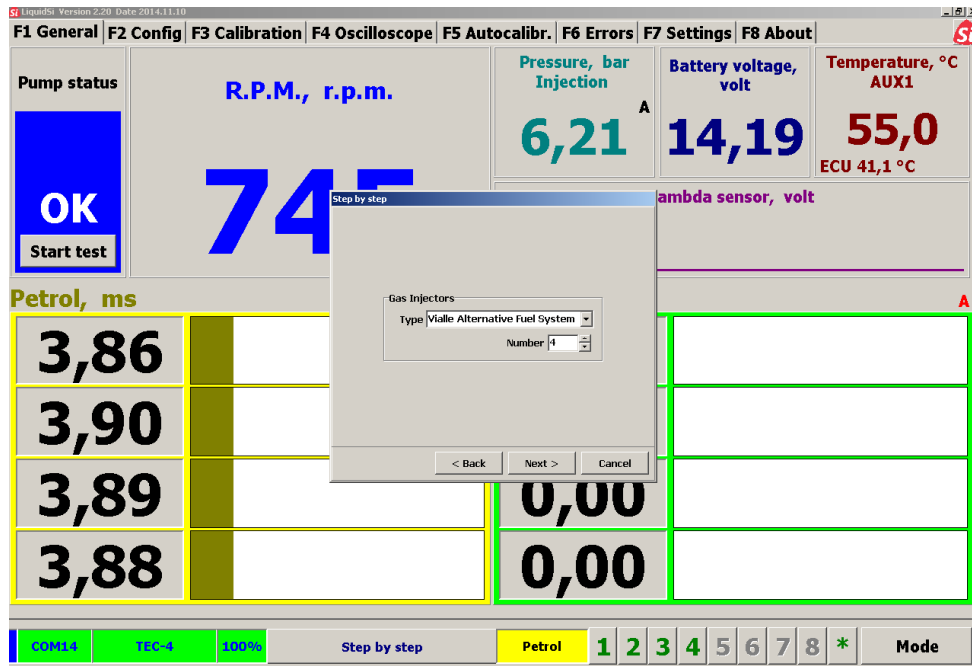
After several seconds the colour of the four text fields of the pop up window should turn GREEN. This indicates that the routine has finished successfully. Press NEXT.



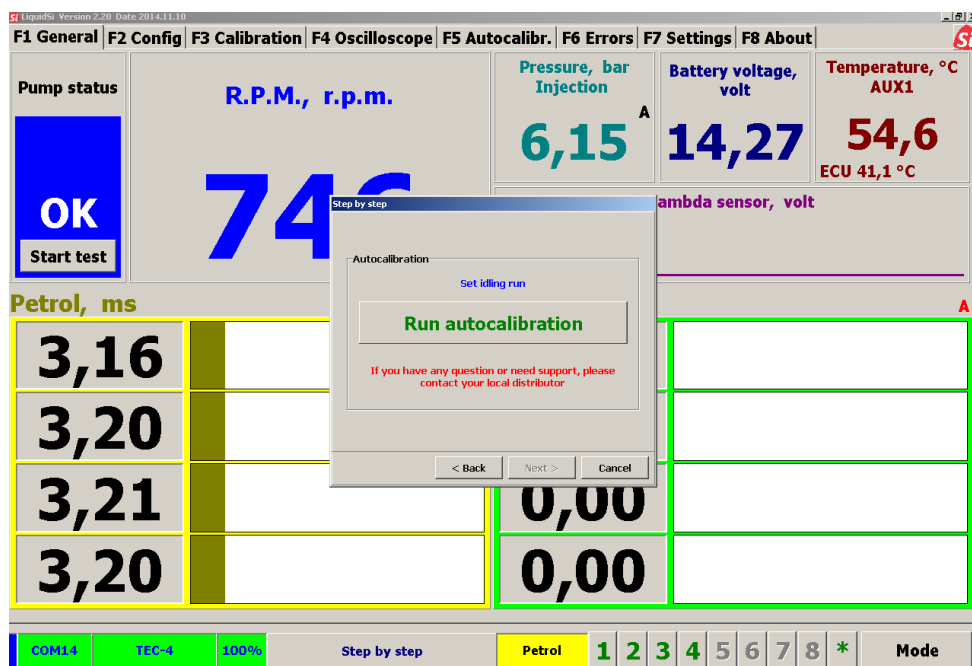
Again, pressing the button DETECTED PETROL INJECTION TYPE invokes a function capable of determining the type of Petrol injection system installed in the car you are working on:



This usually takes a few seconds and the identified injection type is highlighted in **GREEN**. You can now close the small detection routine window and then press NEXT.

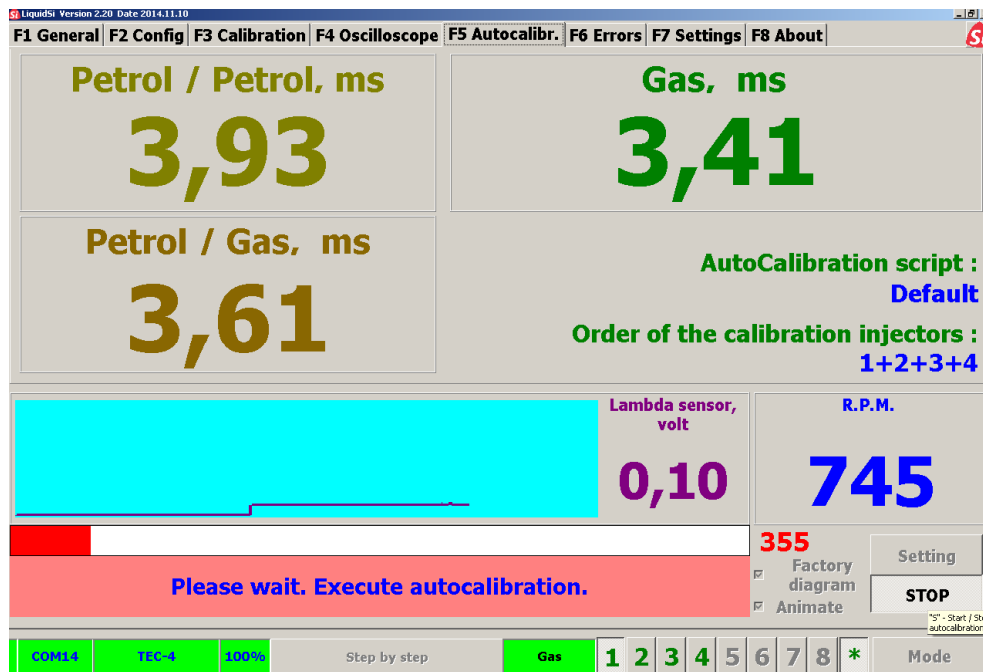


In the above pop up window it is important that you select the correct number of cylinders. This is important for screen lay-out purposes. When done, press NEXT:

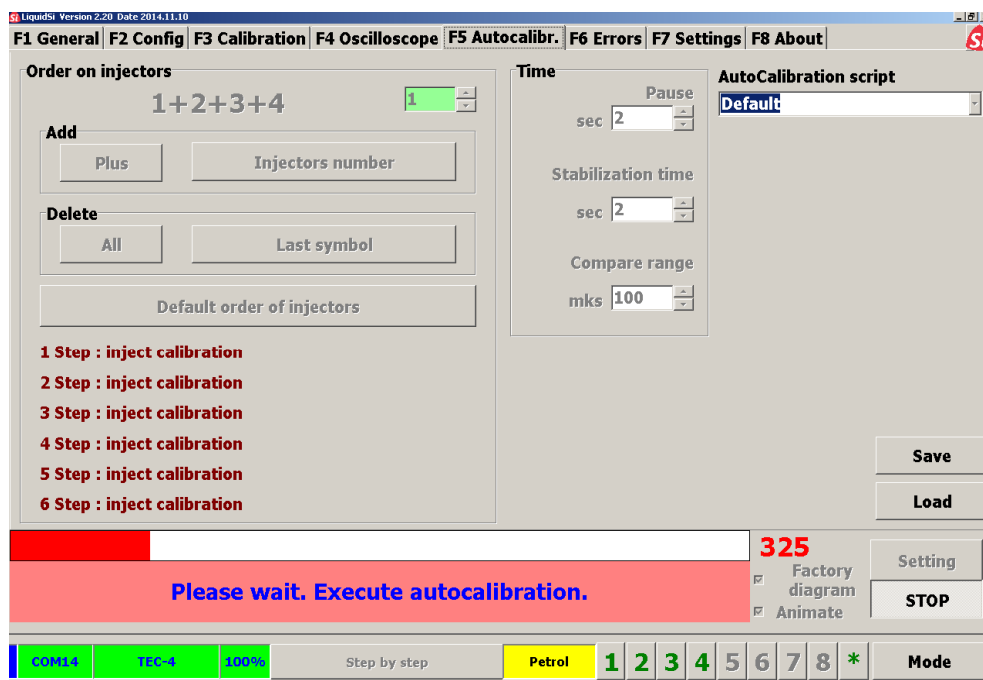


Finally, the last pop up window. First you need to wait 5 seconds and then press the RUN AUTOCALIBRATION button and this routine will be started. Alternately, the engine will on Petrol and on Gas for short periods of time whereby the routine tries to minimise the differences between the Petrol pulse time in Petrol mode and the Petrol pulse time in Gas mode.

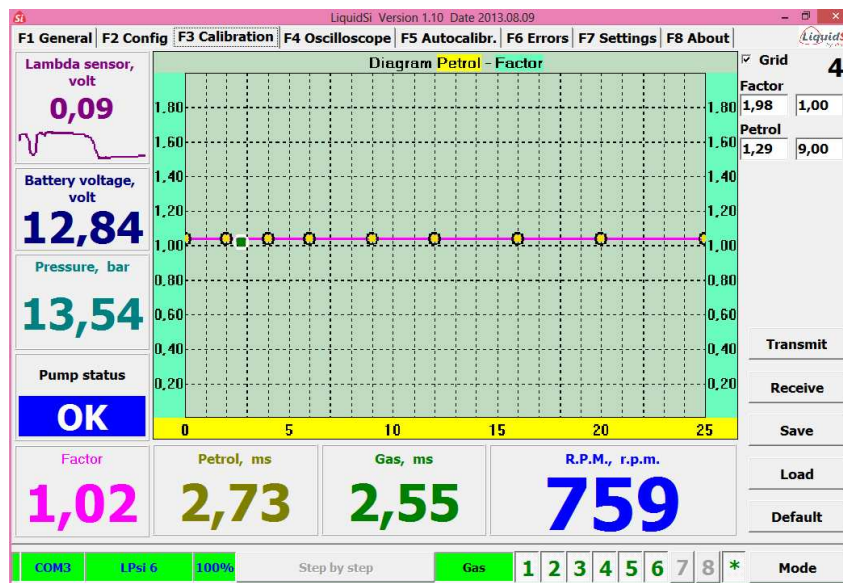
NOTE: Be sure to invoke as many energy consumers as you possibly can: the higher the engine loading during the autocalibration process, the more accurate the result will be!



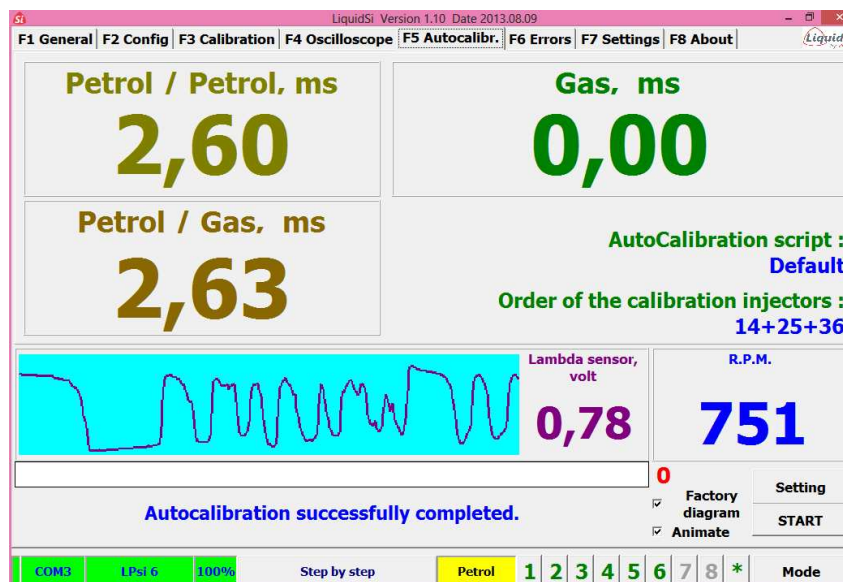
By pressing the button SETTING the user can toggle the display between the lay-out shown above, or the lay-out shown below:



When the checkbox ANIMATE is checked (default), the user will from time to time see the F3 page, showing the current value of the Petrol_factor. The current value of the Petrol_factor is shown in the lower left corner of the F3 CALIBRATION page:



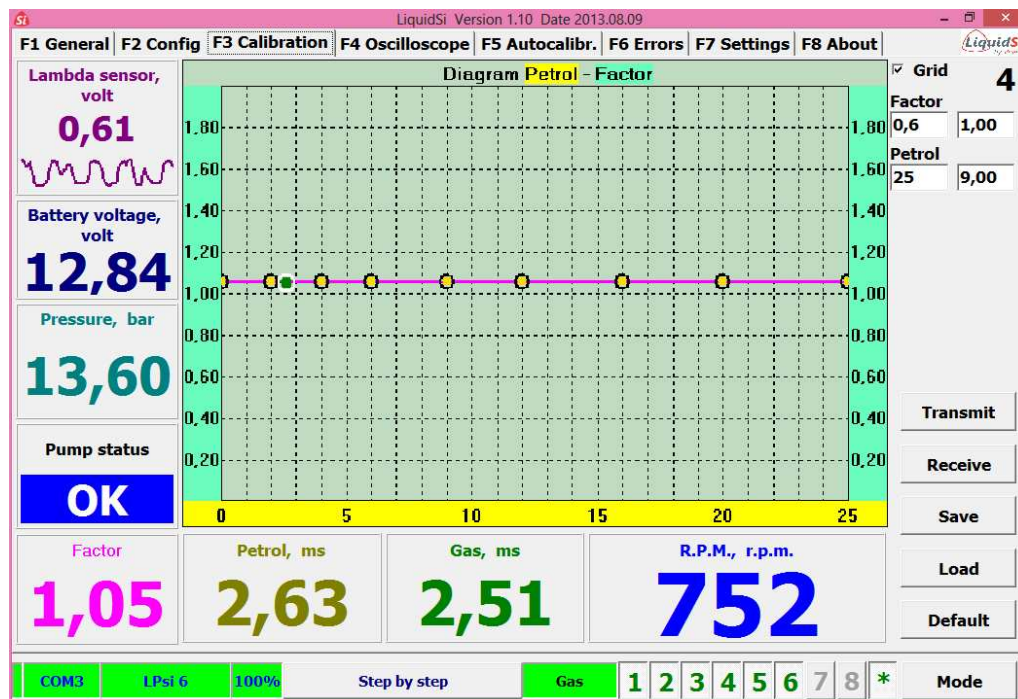
When the routine has finished, this can take several minutes, the display will look like this:



In this case, the final deviation between the Petrol pulse in Petrol mode and the Petrol pulse in Gas mode is indicated to be: 2,63 minus 2,60 equals 0,03 milliseconds. This result is very satisfactory. The resulting Petrol_factor is indicated in F3 window (see below). In this example the value is 1,05. In general, the closer this value is to 1.0 the better. However, depending on injector flow rates available, the Petrol_factor can (roughly) be anywhere between 0,50 and 1,50.

Attention: if so desired you can manually adjust the Petrol-Factor by selecting the left-most node on the calibration line and use the up and down arrows to modify the value for the Petrol-Factor **before** activating the Autocalibration function (uncheck the checkbox: "Factory Diagram" first).

NOTE: the Autocalibration function leaves the car in Petrol mode when finished! Please remember to switch to GAS manually before continuing calibration work.



Finally, a first quick check can be carried out by running the car on Gas mode first and then change to Petrol mode and vice versa a few times and observe the (if any) changes in the Petrol pulse time. Use the "*" button on the lower status bar to change over in the fastest possible way (there will be no priming time, no sequential change-over of injectors).

For more information on the calibration features available please check out the Software Reference Manual, also available for download on the www.liquidSi.com website.

Important checks to be performed before finishing up:

1. The default setting in F2 GAS/PETROL/GAS for Fuel Clipping is: ON. This function should ensure that engine Gas demand is never higher than the maximum Gas supply which the pump can deliver. When the engine demands more fuel than the pump can deliver, the fuel clipping kicks in and temporarily switches the fuelling from Gas to Petrol. This behaviour is controlled by two settings: the RPM where fuel clipping comes in (default = 4000 RPM) and the RPM below which the fuelling switches back to Gas.
To not confuse the TEC, the pressure drop resulting from increasing engine fuel demand must never be more than the 2,4 Bar (or a different value if you have changed the value in F2 GAS-PETROL field "If injection pressure drops >(Bar)") which is used as the threshold pressure-drop value for detecting an empty tank.
So, the best way to avoid this confusion is to make a test drive and use the F4 SCOPE to monitor the drop in injection pressure while increasing the engine speed/load. If pressure drop is considerably smaller than the threshold value at the point of fuel-clipping, then you can increase the RPM threshold. Or, in case of a relatively small engine, you might disable fuel clipping all together. Again, you must observe the injection pressure trace in the F4 SCOPE to make sure.
2. in case the Petrol-Factor is very small (make sure you selected the smallest feasible gas injector) and the engine behaviour is not smooth, you now have the option to adjust the Gas injection strategy slightly by ticking the (available from version 1.16 and onwards) box "Delay of the Gas injection" in F2/Petrol injection page. See the reference manual for more details.
3. in case you feel a short hesitation when switching from Petrol to Gas, you might try to tick the box: "dual fuel injection in switching". You can find this box on page F2/ Petrol-Gas. This function provides for one extra Gas injection during fuel switching. In case you have long hoses between the Gas injector and the intake manifold, this might improve the smooth fuel switching.
4. from version 1.19 on, you can use the 2FUEL function. Just tick the box in page F2/Gas-Petrol-Gas and be sure to carefully read the detailed explanation in the Software Reference Manual!
5. from the first quarter of 2014, Vialle offers two different pumps for the LiquidSi system: the PTS-40 and the PTS-70. please make sure that that you have selected the correct pump in the F2/GAS PUMP page! This important since a number of parameters in the software automatically change when you select a different pump (V2.20 and up)!