

**SPARK**

sistemi autogas

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**EVOLUZIONE**

**SOFTWARE MANUAL**

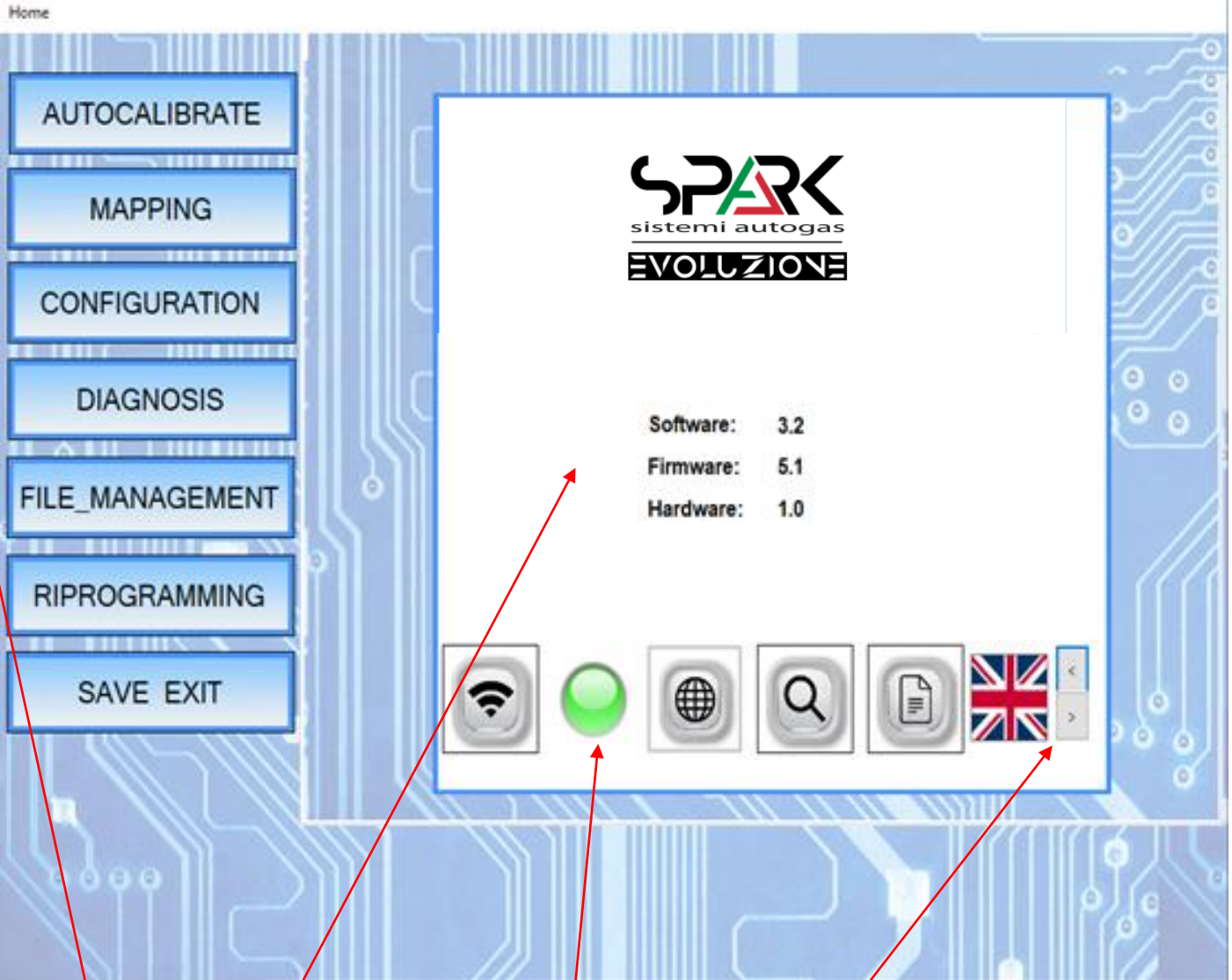
**Ver. 1.2.5.1**

**Rev.01**

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**MAIN SCREEN**



PROGRAM  
PAGES

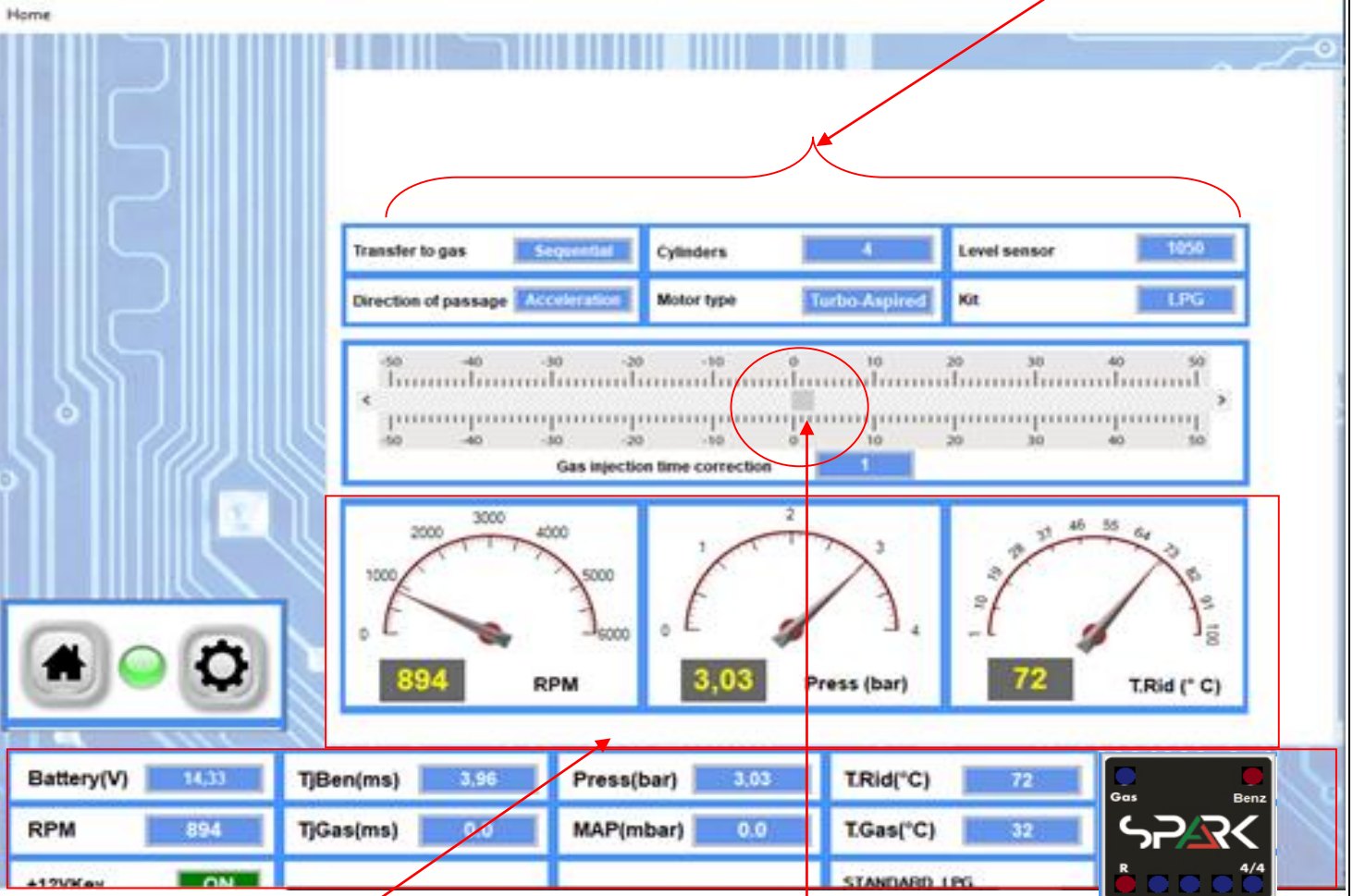
ECU DATA

CONNECTION LED

LANGUAGE

## AUTOCALIBRATE

CONFIGURATION  
DATE BASIC

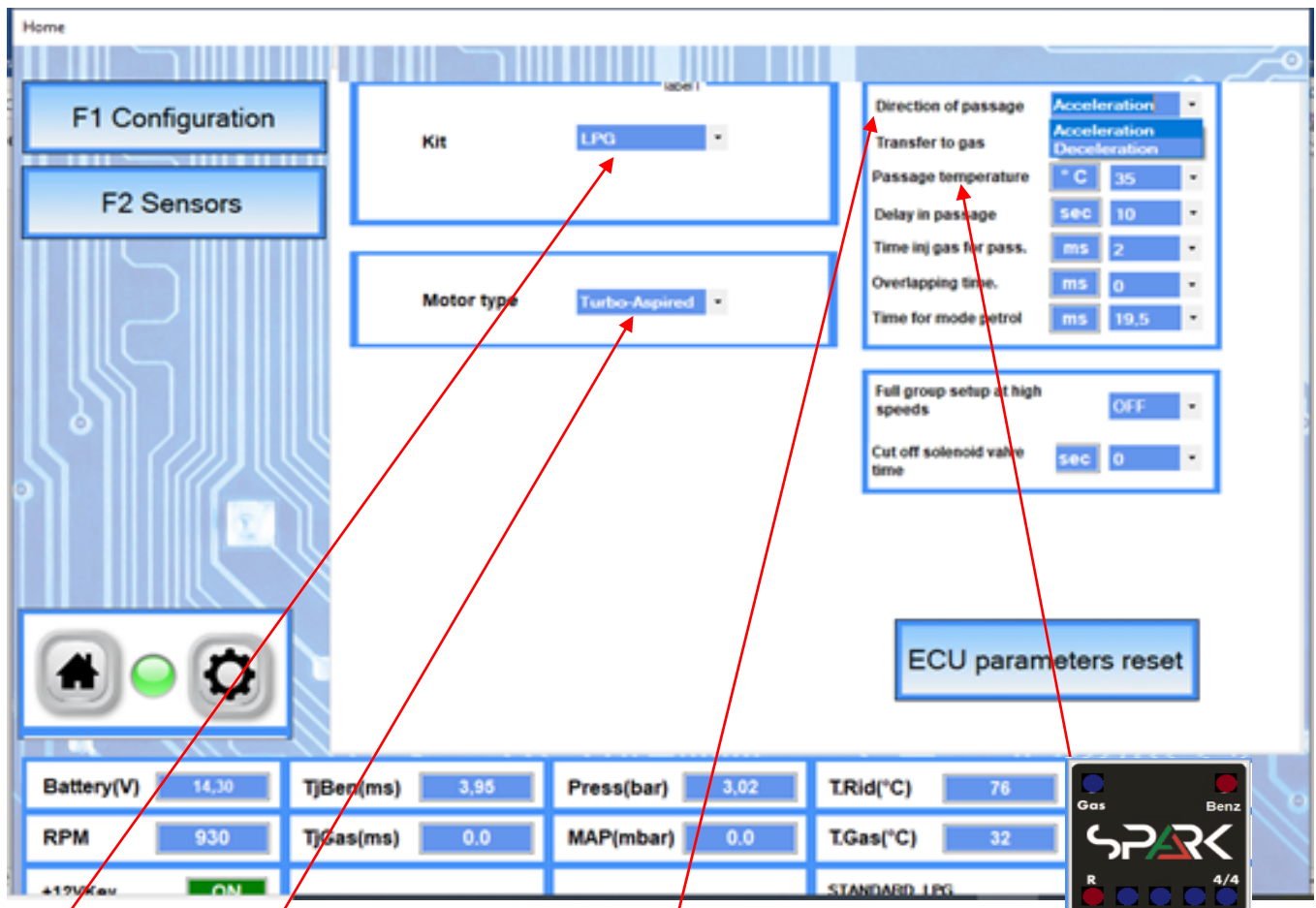


REAL TIME PARAMETERS

### INSTANT MANUAL SELF-CALIBRATION IS CARRIED OUT IN THIS PAGE

Leave the car idling and check the GAS carburetion with an OBDII PDA. If the carburetion is too thin, move the Gas Injection Time Correction slider to the right and if it is too rich, move to the left. At each modification the current value will be displayed on the software until you find the ideal carburetion at which point test the car on the road to check if the carburation is optimal. Attention, do not exceed 25% of the bar correction. Exceeding means that the nozzle needs to be replaced

## CONFIGURATION



TYPE OF FUEL

TYPE OF ENGINE

GAS PASSAGE IN ACCELERATION DECELERATION. IT IS RECOMMENDED TO LEAVE IT IN THE ACCELERATION POSITION BECAUSE THE PASSAGE HAPPENS ONE CYLINDER AT A TIME

TEMPERATURE FOR THE PASSAGE

## CONFIGURATION

Home

F1 Configuration

F2 Sensors

Kit: **LPG**

Motor type: **Turbo-Aspirod**

Direction of passage: **Acceleration**

Transfer to gas: **Acceleration**

Passage temperature: **° C 35**

Delay in passage: **sec 10**

Time inj gas for pass.: **ms 2**

Overlapping time.: **ms 0**

Time for mode petrol: **ms 19.5**

Full group setup at high speeds: **OFF**

Cut off solenoid valve time: **sec 0**

ECU parameters reset

Battery(V)	14.30	TjBen(ms)	3.95	Press(bar)	3.02	TRid(°C)	76
RPM	930	TjGas(ms)	0.0	MAP(mbar)	0.0	TGas(°C)	32

+12VKey: **ON**

STANDARD LPG

SPARK

Gas Benz

R 4/4

WAITING TIME FOR THE  
PASSAGE TO GAS

PETROL INJECTION TIME  
FOR GAS PASSAGE

FUEL OVERLAPPING  
TIME

HIGH RPM  
PETROL TIME

## CONFIGURATION

KEY TO RETURN TO THE HOME PAGE

KEY TO EXPERT FUNCTIONS PAGE

KEY TO ECU PARAMETERS RESET

KEY TO FUNCTIONS TEMPORARILY NOT IN USE

## SENSORS



END PRESSURE GAS. ATTENTION THE READING OF THE GAS PRESSURE IS IN ABSOLUTE MODE. RECOMMENDED VALUES ARE FOR LPG 1.20 WHILE FOR CNG 1.90

PRESSURE TIME FOR RETURN PETROL

SENSE LEVEL LPG CNG. POSSIBLE MANUAL CORRECTION

SETTING WATER TEMPERATURE SENSOR



## SENSORS



Setting only for turbo charge vehicles. Leave the car idling and check the gas pressure delta value p. From the displayed value, set the back-pass threshold back change of -600mb. Example if the delta p value is 1200, the threshold back change value will be 600.

## MAPPING

The screenshot displays the 'F1 Mapping' screen. On the left, there are menu options: 'F1 Mapping', 'F3 Gas/Petrol', and 'F4 ChangeCarb'. Below these are icons for Home, a green indicator light, and Settings. The main area contains a grid of 20 rows and 13 columns of numerical values. The first row is highlighted in blue. Above the grid are three buttons: a '+' button, a '-' button, and a 'Reset Map' button. At the bottom, there is a status bar with various engine parameters:

Battery(V)	14.28	TjBen(ms)	3.86	Press(bar)	3.02	TRid(°C)	79
RPM	918	TjGas(ms)	0.0	MAP(mbar)	0.0	TGas(°C)	32

Additional indicators include '+12VKey' and 'STANDARD LPG'. The SPARK logo and 'Gas Benz' indicators are also present.

RESET MAP

SELECT THE DESIRED AREA FROM TOP TO DOWN AND FROM LEFT TO RIGHT. WITH THE + OR - KEYS INCREASE

OR DECREASE THE NUMBERS ACCORDING TO THE NEED

## MAPPING

Home

F1 Mapping

F3 Gas/Petrol

F4 ChangeCarb

Tinj.Petrol

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1

Petrol Addition

Only LPG

Idle operation petrol

0 - ms

Battery(V) 14,28 | TjBen(ms) 3,81 | Press(bar) 3,01 | TRid(°C) 81

RPM 918 | TjGas(ms) 0,0 | MAP(mbar) 0,0 | TGas(°C) 32

412VKey ON | STANDARD LPG

Gas Benz

SPARK

R 4/4

### PETROL ADDITION

To activate the addition function you must change the function from only lpg to contribution. At this point, highlight the boxes one by one and with the + and - keys increase the percentage of addition based on the injection time.

## MAPPING

Home

F1 Mapping

F3 Gas/Petrol

F4 ChangeCarb

+

-

Reset map

Tinj.Petrol

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Petrol Addition

Only LPG

Idle operation petrol

0 - ms

Battery(V) 14.28

RPM 918

TjBen(ms) 3.81

TjGas(ms) 0.0

Press(bar) 3.01

MAP(mbar) 0.0

TRid(°C) 81

TGas(°C) 32

417VKey ON

STANDARD LPG

Gas Benz

SPARK

R 4/4

### IDLE OPERATION PETROL

Change the initial position of 0 to the value you want to use. Below the set value the vehicle will run on petrol.

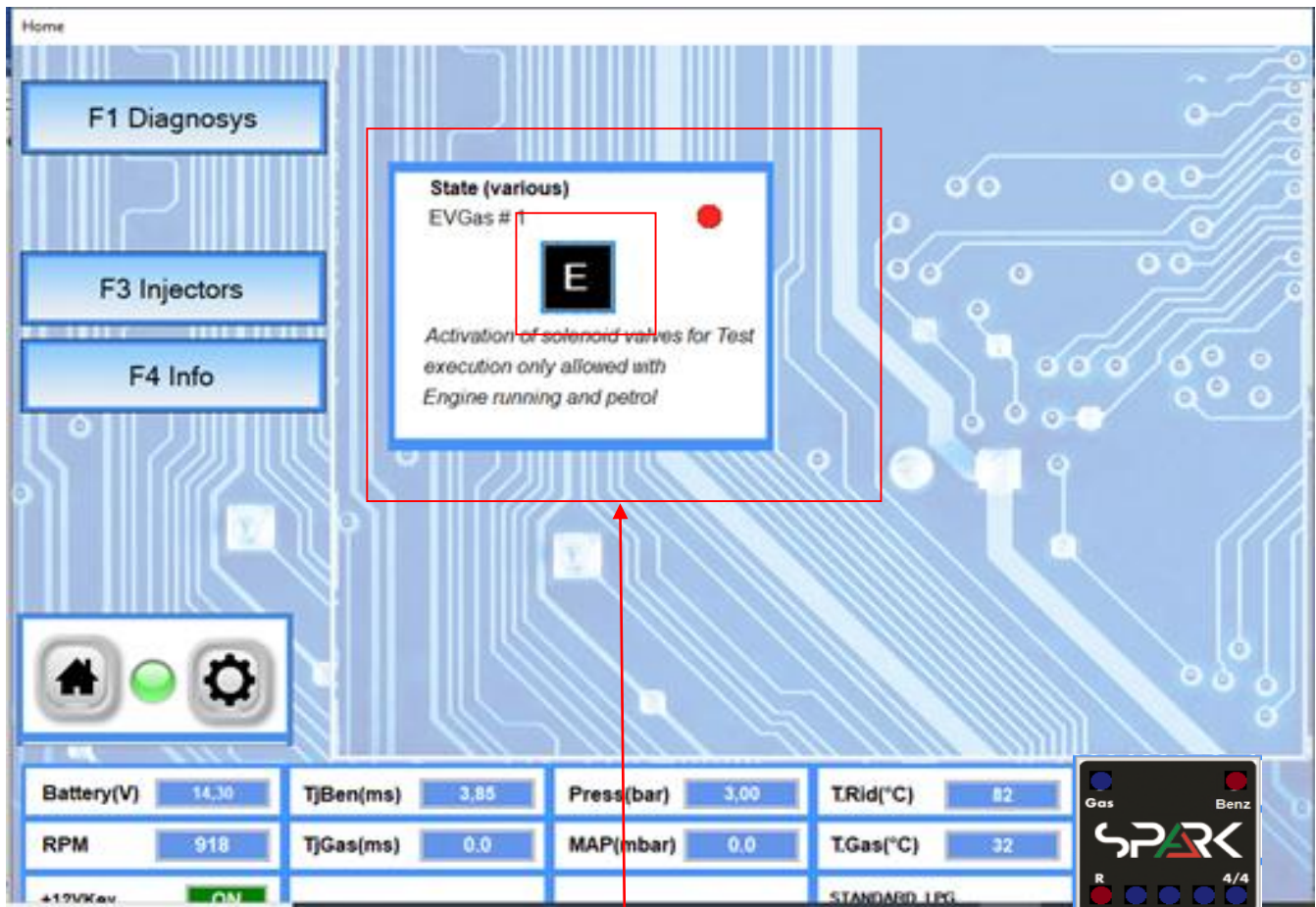
## MAPPING



### CHANGE CARB

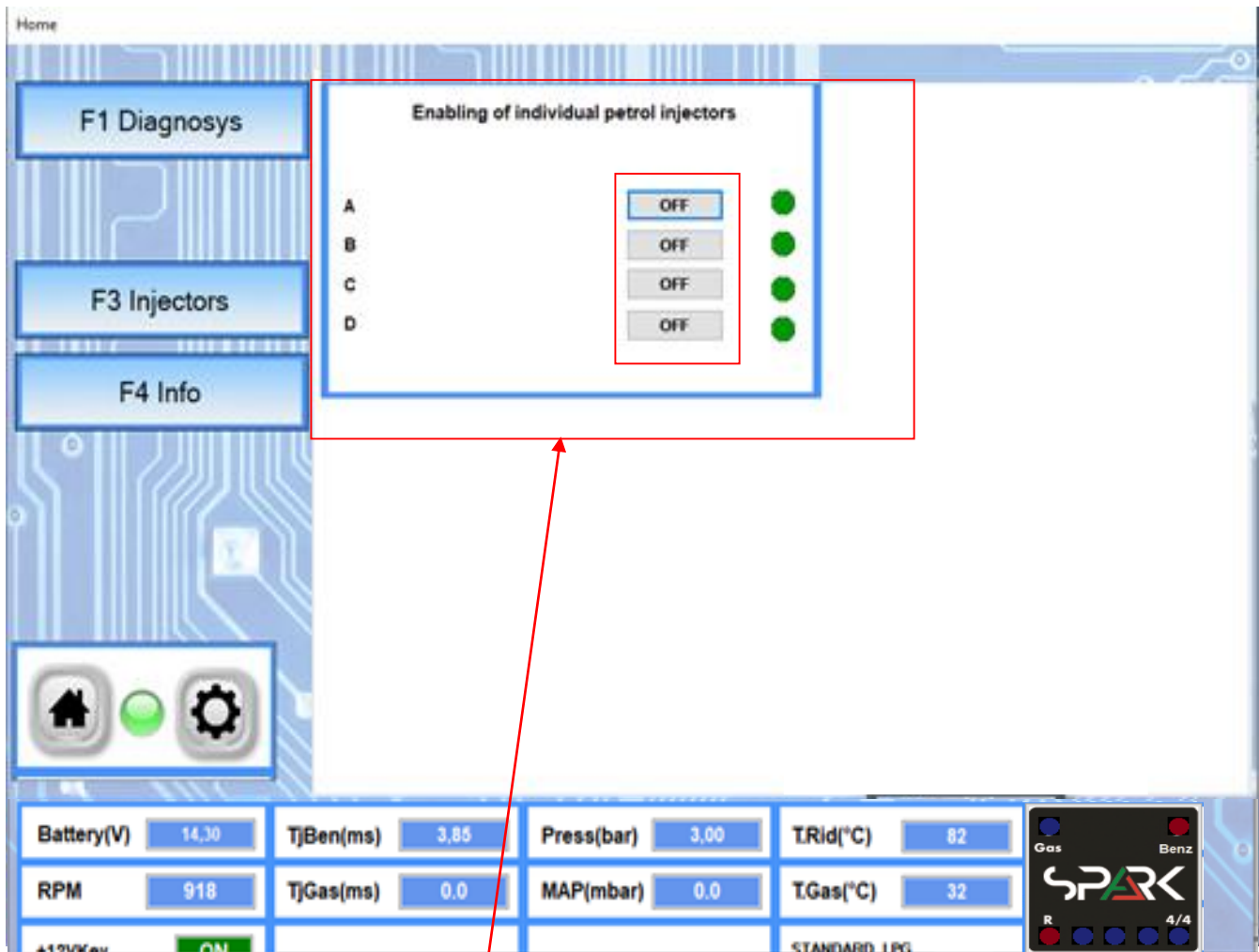
This function is used to manage extra injections. By default they are LPG ON 1.20 and CNG OFF. When they are in the ON position below the set value, the ecu implements strategies for controlling the extra injection

## DIAGNOSIS



Active diagnosis for the operation of the LPG solenoid valves. Car in petrol and click the E button

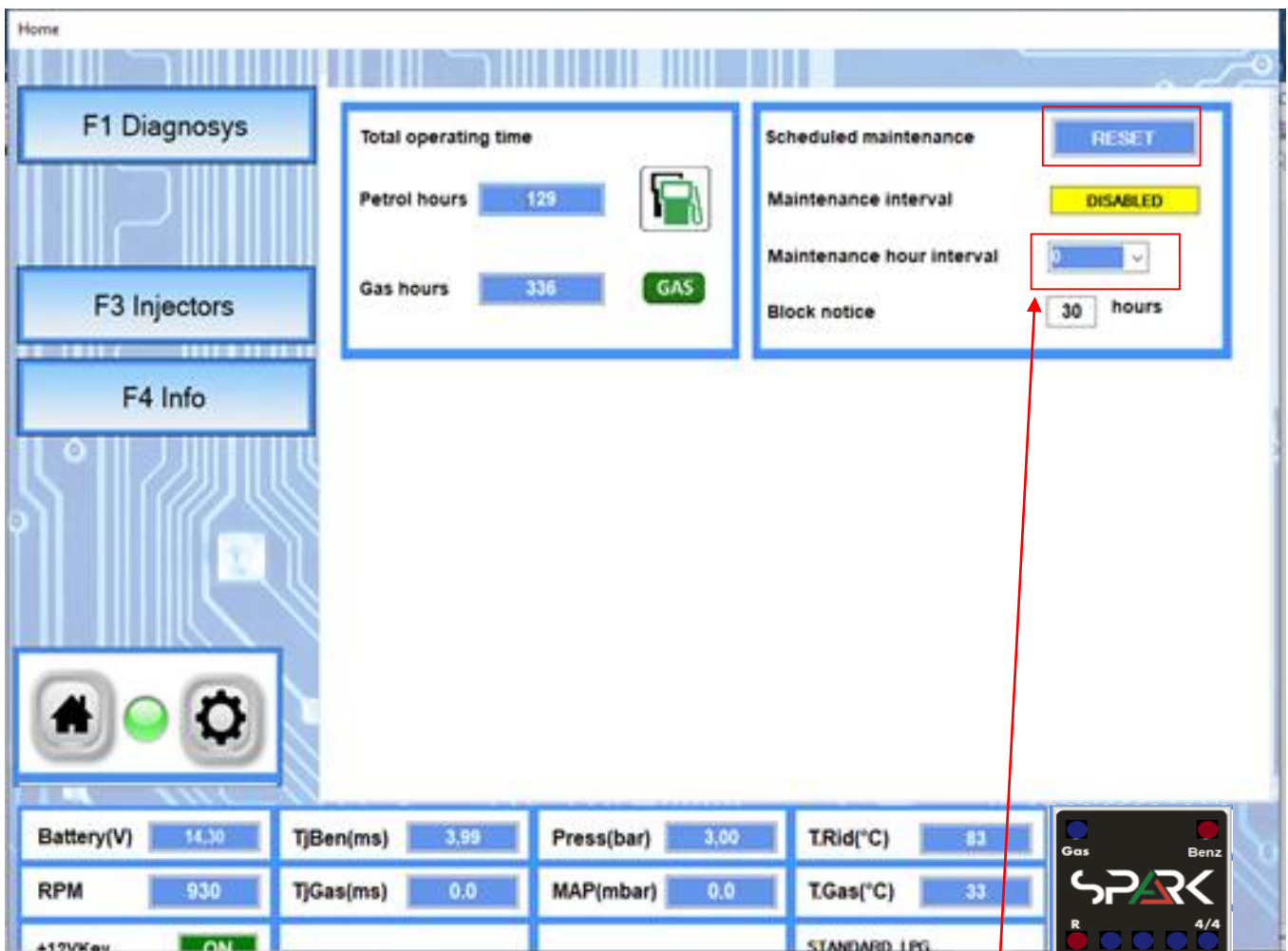
## DIAGNOSIS



### INJECTORS

With idle vehicle with LPG it is possible to deactivate a cylinder from LPG to Petrol. By clicking on the Off button you change to ON and the green LED will turn red from the selected cylinder.

## DIAGNOSIS

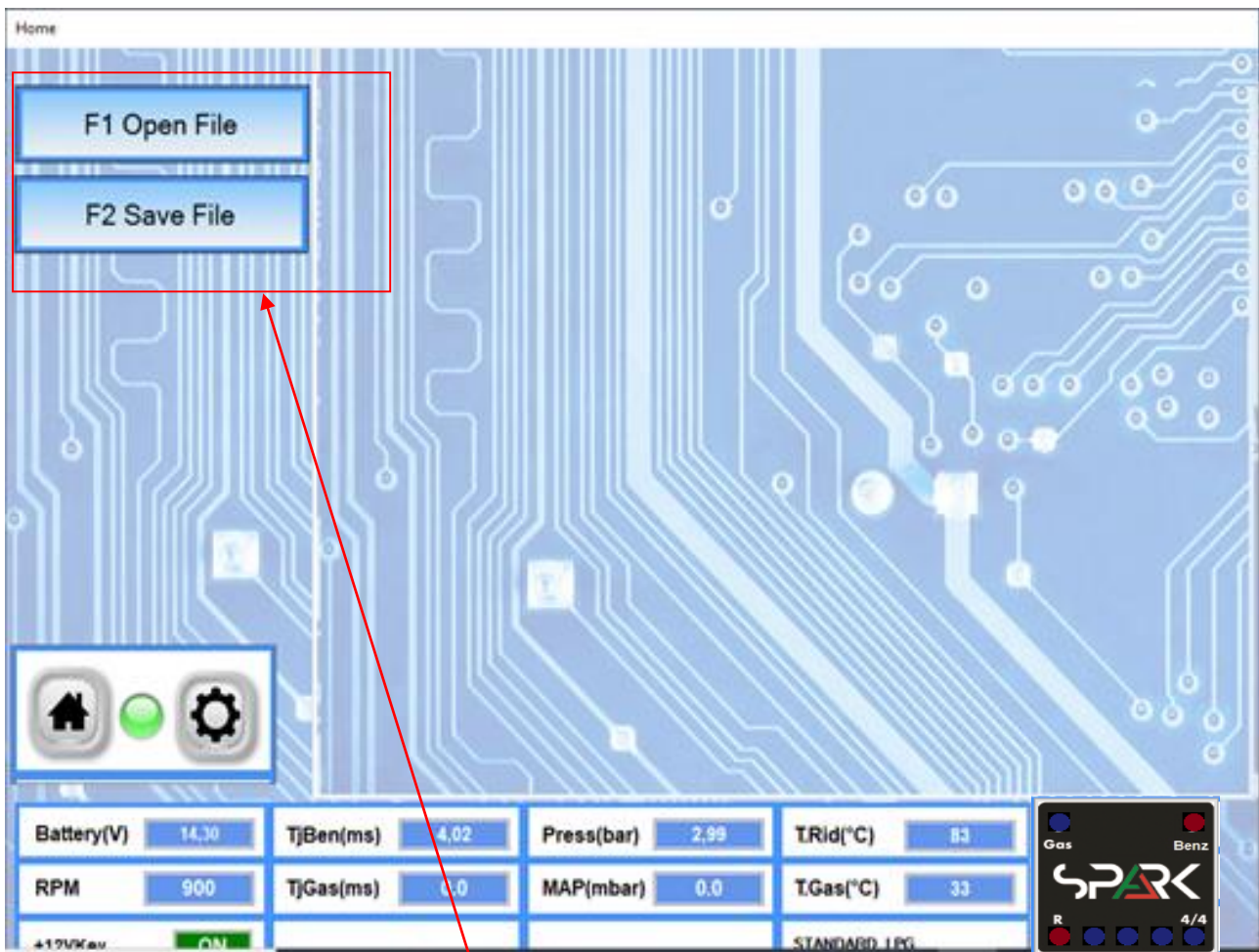


### INFO

The management of the operation of the default hours is disabled. You have the possibility to activate the cutting mode by setting the interval hours. At that point, once the hours are reached, the switch inside the vehicle will emit sounds to notify the customer of the coupon to be made. Use the reset button to reset the Whole system



## FILE-MANAGEMENT



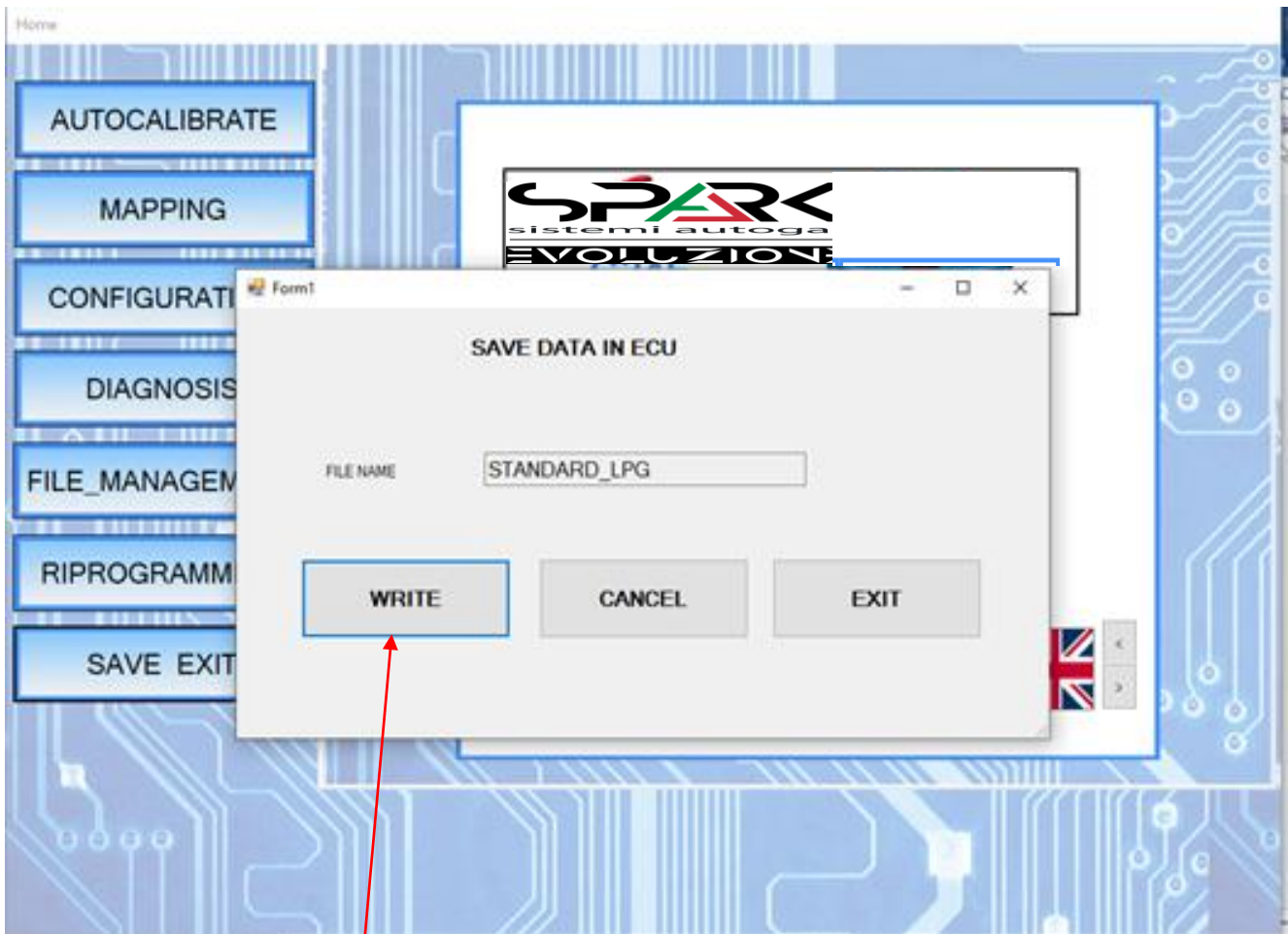
Management for saving or loading a configuration

## RIPROGRAMMING



To be used to update the ECU firmware. The existing version is displayed on the page, with the OPEN FILE key load the new firmware and with the PROGRAMMING key the new one is loaded. ATTENTION, all work must be carried out with the vehicle off

## SAVE-EXIT



Once the calibration and drivability of the vehicle have been completed, it is necessary to store the data permanently in the ECU. Then click on the WRITE button and then EXIT to exit the program

