AGIS P12 DRIVER MANUAL

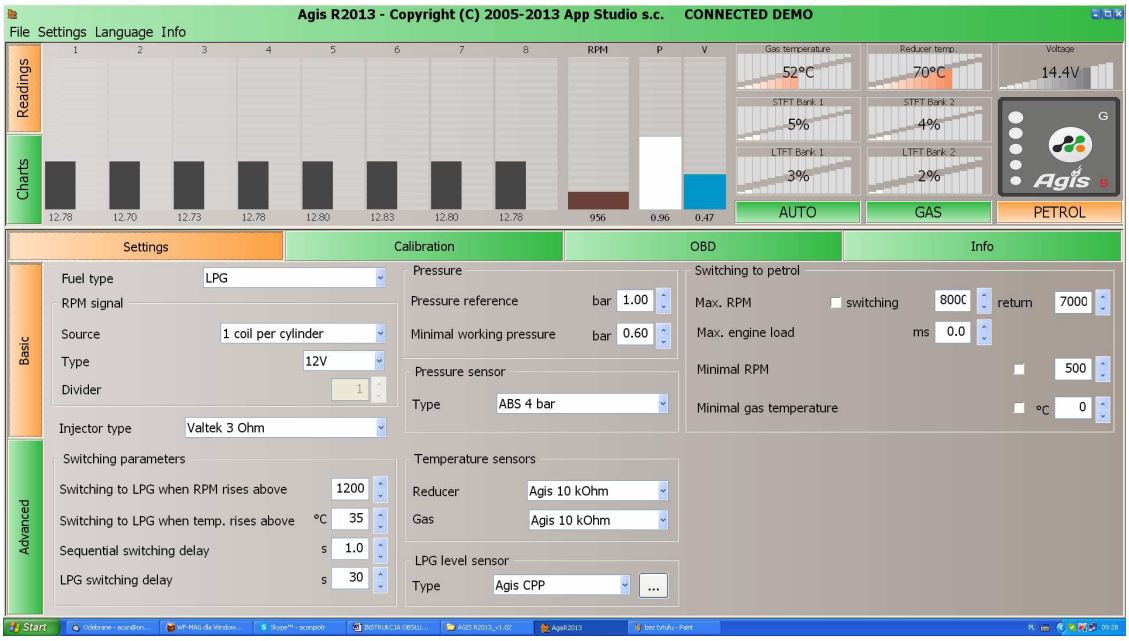
AGIS P12 SETUP VER. 1.01

Table of Contents

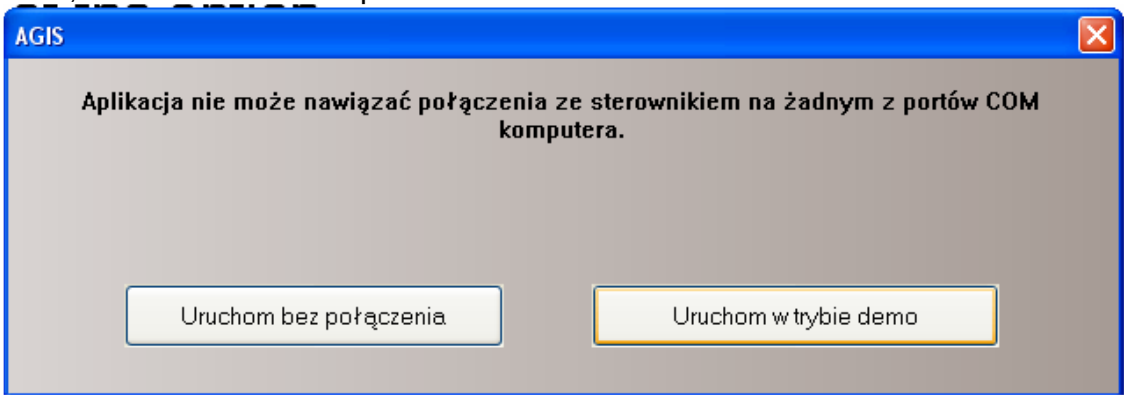
1. AGIS P12 DRIVER CONNECTION WITH PC

To connect the control panel of the AGIS P12 diagnostic program is required interface. Each of our production USB is compatible with the previous driver and driver version
/ AGIS, ALTIS, AGIS OBD / CAN, AGIS MINI, M210 AGIS, AGIS P12, AGIS D12 /.
For proper operation of the interface, the interface used to install the drivers for

the type of interface. Drivers are provided on our website. COM port interface, every time you connect with an application is automatically selected. If you do not establish communication with the application, verify that an interface is listed PORT COM / Device Manager / PC. In extreme cases, the interface BT / Bluetooth / COM PORT installed higher than our interface, render it impossible to establish the application, in this case, the programming time, turn off the BT INTERFACE.
After you have installed the interface, we can start working with the application. The vehicle ignition must be turned on. Once launched, the program automatically scans all active COM Ports and finds an interface.
The program always starts on the Basic tab window



You can also run the application without connection or DEMO version, in this case, choose one of the option.

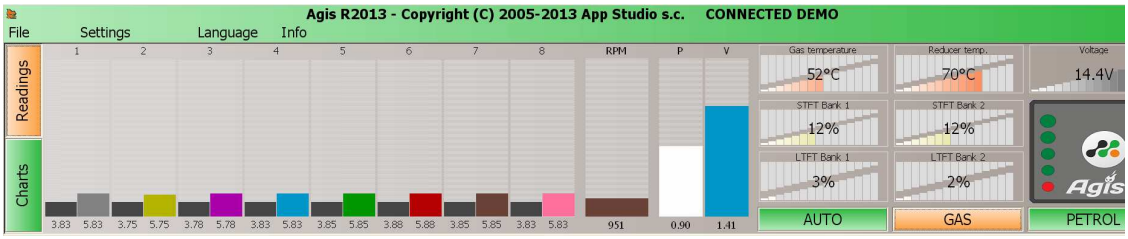


2. DESCRIPTION OF THE FUNCTIONS

The application of the new controller is designed and placed so that all the necessary basic features found in one window without having to switch between tabs.
The application is divided into several panels.

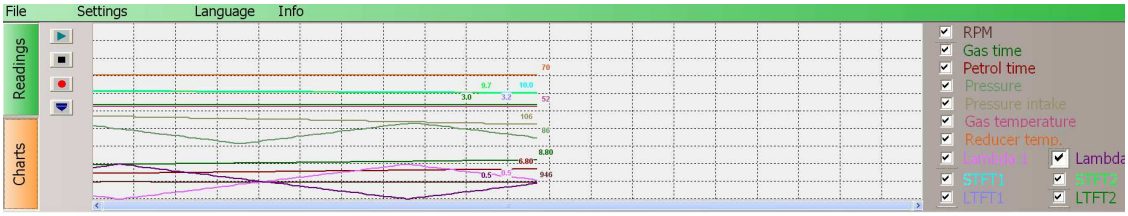
2.1 INFORMATION PANEL

Information panel at the top of the application and the panel settings below. Information panel is a constant independent panel settings at the bottom of the application



The information panel we find such parameters as:
* Gasoline injector opening times marked in black / bar graph and digital display /
* Gas injector opening times are marked in orange / bar graph and digital display /
* Speed marked with green / bar graph and digital display /
* Vacuum in the intake manifold in the bar, marked in blue /bar graph and digital display/
* Operating pressure in bar, marked in blue / bar graph and digital display /
* The temperature of the gas and the temperature regulator
* Value of the system voltage
* Readings OBD settings, readable from petrol ECU
* View switch B / G mode, indicating that the vehicle and the gas level in the tank
* Switch mode AUTO / GAS / PETROL, the mode switch, the switch indicates activity mode and backlight on the keys highlighted in orange.

Information panel also includes a recording function by pressing the diagnosis GRAPHS on the information panel automatically starts reading selection. When you are finished with the application, the file is automatically saved to diagnostic folder located
C :/ Program Files / AGIS_I8/DIAG. If you need or you have a problem with the interpretation of charts, you can send it for analysis with the file settings and data on the installed components on the address info@acon.com.pl

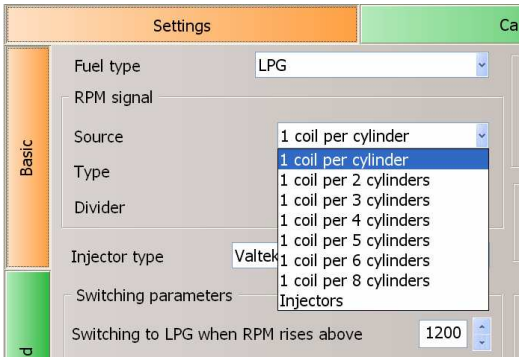


2.2 SETTINGS PANEL

The panel was divided on the settings tab. Number of bookmarks has been kept to a minimum to avoid scrolling tabs to edit them. The functions are grouped so that one tab settings were the most basic and necessary for the initial control of the vehicle.

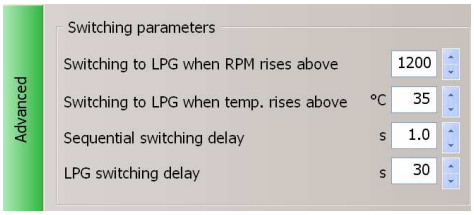
2.3 BASIC SETTINGS

FUEL TYPE - default selection of LPG / CNG mode, change control algorithms dedicated CNG applications and highlight color to distinguish the two fuels
RPM SIGNAL - the signal source selection speed, depending on the type of ignition system, we have a choice of several variants of the RPM signal, but the last option, all require a cable connection. Place the signal cable connection RPM: coil, injector shaft rotation sensor, camshaft sensor, tachometer.
Injector option does not require connection cable, is calculated from the vacuum and the injector opening time. In case of incorrect readings when selecting the type of source used to determine the correct divisor speed readings.



* The type of signal - signal sensitivity, threshold voltage above which will read the signal turns. Value to choose from depending on the location from where is the speed signal.
* Divisor - a feature that allows to determine the correct RPM reading when choosing a speed signal from the sensor shaft rotation, the camshaft or INJECTOR
TYPE INJECTOR - the active window for the possibility of any type of injector selection in the list box. After selecting the type of injector is automatically entered in the characteristics and parameters of the warm-up voltage injector in the Advanced tab.
SWITCHING - the basic parameters of the system settings.
* Automatic switching speed - the speed at which the temperature is reached or the switch-off temperature warm-up is expected transition from one fuel supply to another.
* Automatic switching temperature - the temperature of the regulator obtained providing that the gas has evaporated and can be fed to the collector in the

volatile phase by gas injectors.
* ON delay emulators - Sequential function that provides both power switching fuels such as set time each cylinder of 1 s, the delay set to 0 s, will simultaneously switch all cylinders at one time.
* Delay switch - a cold engine, the additional delay allowing dopompowanie achieved in spite of the temperature switch and turns. The value of this parameter can be set to 0

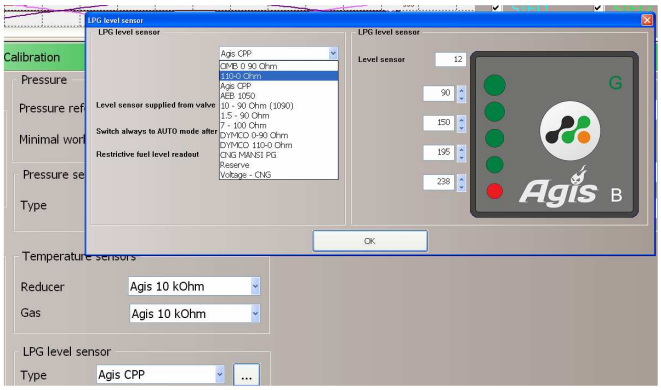


PRESSURE
* Pressure - pressure reducer measured, calculated automatically in the auto calibration
* Minimum pressure - the pressure at which it switches to gasoline power, calculated automatically in the process of calibration as 60% of the operating pressure

PRESSURE SENSOR - SENSOR TYPE - the type selected by default in sensor applications, the sensor currently used in the system is a sensor MPXHZ6400A absolute, there is an option PS4250DP differential sensor applications, including the need to change the type of sensor in order to obtain the correct pressure reading. PS4250DP pressure sensor can not be read as a separate vacuum value, in which case the application appears as a vacuum will be set to 1 bar.

TEMPERATURE SENSORS - delivered by our components in the kit are always selected as the default. It is important to check and select the correct sensor values if they were to be replaced with the original. Another value of the sensor will affect the switch / temp sensor in the regulator / and adjustments calculated from the temperature of the gas / temperature sensor for gas /. The application allows you to change the 4 most popular of sensors, from 2.2 ohms to 10 ohms.

GAS SENSOR LEVEL - to display the correct gas level in the tank is necessary to select the type of sensor types installed gas level. Basically sensors available in the selection list of sensors are calibrated to multivalve Tomasetto. If there is no indication of the correctness and accuracy, you can manually modify any indication of gas level sensor. Manual modification of any sensor is available after editing window located in choosing the type of sensor.

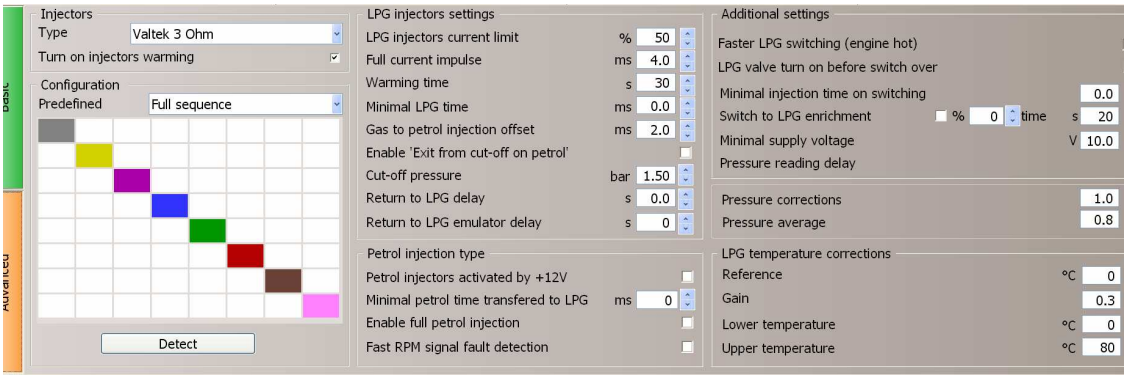


Reading the gas level is displayed in the editable window panes levels. The level of gas and the minimum and maximum ranges can be determined by changing the position of the sensor to indicate the multivalve and enter a value for a given level of gas. After the manual calibration reading should be correct.
There are two types of gas level sensors, mechanical and electronic. The easiest way to identify them on the site or the amount of wires in the wiring harness sensor. Two wires and tip indicate that it is a mechanical sensor, LED and three connecting cables - an electronic sensor. The sensor needs a power supply. Basically the driver has three wiring terminals for connecting the sensor no matter what we are going to use mechanical or electronic, then we will use only the amount of wiring you need to isolate the rest. If you happen to be wired controller has only one or two wires / signal or signal, w /, with an electronic sensor, you can use the power solenoid on the multivalve, in this case, you must select: POWER SUPPLY VALVE

SWITCHING TO PETROL - parameter group is not helpful in domaganiach injectors or regulator, provides the ability to set the maximum speed at which the gas is switched over to gasoline power.
* Maximum speed - you can set any desired value with the assumption that the return must have a value less than the maximum speed
* Maximum load - limit the opening of the gas injectors when you change control pulses so as not to prevent their damage and still be able to control them, the limit value of 40 ms, above the set switches to gasoline power
* Minimum speed - the minimum speed on the gas, below which the controller switches on the gas supply. The function is used when the problem with slow speed too slow using injectors or non-linear wydatkowi the shortest shutter.
* The minimum temperature of the gas - in order to prevent the injection of the liquid phase at low temperature of the heater, we can power down low gas depending on the temperature of the gas.

2.4 ADVANCED SETTINGS

Advanced settings are another group of useful features for more advanced editors who know how to diagnose the ills of the system components, and to try to correct the operation of the whole system.



This tab expanded to include more functions compared to the basic settings, the ability to configure the injectors, configure how to handle gasoline injection, not domagań reducer configuration and some additional pressure and temperature adjustments.

2.5 INJECTORS

In this section repeated the choice made in the previous injector basic settings tab, so as not to return to the previous page. Pre-warm features included gas injectors. Warm-up parameters are displayed on the right side of the function: SET INJECTORS.

* Configuration / Predefined - both diagnostics and configuration. Cutting the petrol injectors regardless of the type of fuel injection in separate emulators have the ability to change control of gas injectors, and the ability to disable any amount of gas injectors permanently.

After pressing Detection, the system automatically determines the type of fuel injection / full sequence, half sequence, full group /, and automatically changes the display in the information panel by typing in the appropriate configuration control algorithm.

* Injectors warming - warming function allows the gas injector at a time when the vehicle is running still on the gasoline supply. The initial start injector is opening it to short pulses of gas dose not hinder work on petrol and after a certain period resulted in a smooth transition to the gas supply.

Warm injector parameters are entered automatically when choosing the type of injector. Typically, a full half of the pulse. / Pulse parameters are not warming up to the user /. Value possible for the user to change only the injector warm-up time, the extra time after reaching the automatic switching temperature, followed by fuel switching.

* Minimum injection - a feature that allows the use of free gas injectors for gasoline short time. Regardless of the fuel injection time, you can open full gas injector pulse. This function allows you to control gas injectors very short times at which the injector is not able to physically be opened by entering the value of the minimum opening time of a linear-type gas injector, the injector, regardless of petrol injector opening time will be treated the impulse.

* Delay the beginning of the injection - offset - the beginning of a permanent shift

time to the beginning of the gas injection petrol injection
* Exit cut off - this function to eliminate deficiencies regulator and injectors with the engine running while cut off. When cut off, gas injectors are closed regulator valves open, thus increasing the pressure in the supply system. Each injector has a maximum allowable pressure at which she wants to open, an elevated gas pressure in the system can cause difficulty in opening the injector, which may result in stalling. So there is a possibility at this critical time, turn off the power to the vehicle on gasoline, drop the pressure in the system and within the normal operating pressure of the gas supply back on. In this function, specify the pressure switch to gasoline power, time, and pressure drop at what time is to take place next sequential switching of cylinders in the gas supply back on.

2.6 PETROL INJECTION

* Injectors switched 12 V - option you need to change the polarization
petrol injector signal if the vehicle is
Custom polarization signal.
Standard injectors are attached "mass", in exceptional
if it happens inverted signal polarity.
How to recognize if we are dealing with reverse polarity?
On petrol at idle for stable readings have very
long injection times (greater than 100 ms and decreasing by increasing the turns)
If you enable this option should appear in times of "normal"
option is disabled by default.
* Ignoring the injections less than - this function to set the pulse width to be ignored when control
gas injectors / cut /, a useful feature will give some engines Mazda, Rover engine as well as the part cut off,
* Support for continuous fuel injection - a feature allows you to operate the petrol injectors signals at the time of the pulse does not open / continuous opening of the petrol injectors above a certain engine speed /. For example, at 5000 RPM petrol injection time to go over 20ms continuous mode fuel injection. The standard behavior of the driver in this case AGIS a gaseous fuel shut-off (no pulse on the petrol injectors). After using this function, the driver at the time of injection ADT also continuously moves in the same mode, allowing the engine to continue working. Option is most useful when cars tuned, but also appears in the factory models (eg Peugeot 407 2.2 L after 2007 R, Peugeot 206 1.1L from 2000). By default, this option is disabled, and for 99% of the vehicles are not required to use it.
How to recognize when there is a continuous injection of gasoline?
If the engine has a long injection times (eg above 25ms) is
check or decrease during acceleration up to about 4500 RPM.
If you do not decrease it at 5000 rpm achieve continuous injection.
Then the injection times disappear from the readings in the Application AGIS (no pulse injectors permanently switched on until the engine stops acelarating)
* Quickly detect the absence of RPM - helpful feature when connected to +12 V after ignition key from the place where the off switch is still maintaining the

voltage drop sometimes causing dose injection of gas from the terminal during the shut down.
Such a connection may be difficult to reveal the vehicle starting immediately after its extinction. In this case took place just such a situation. When this feature is a drop in turnover below 400 driver is automatically disabled preventing the dosage of gas during fire engine.

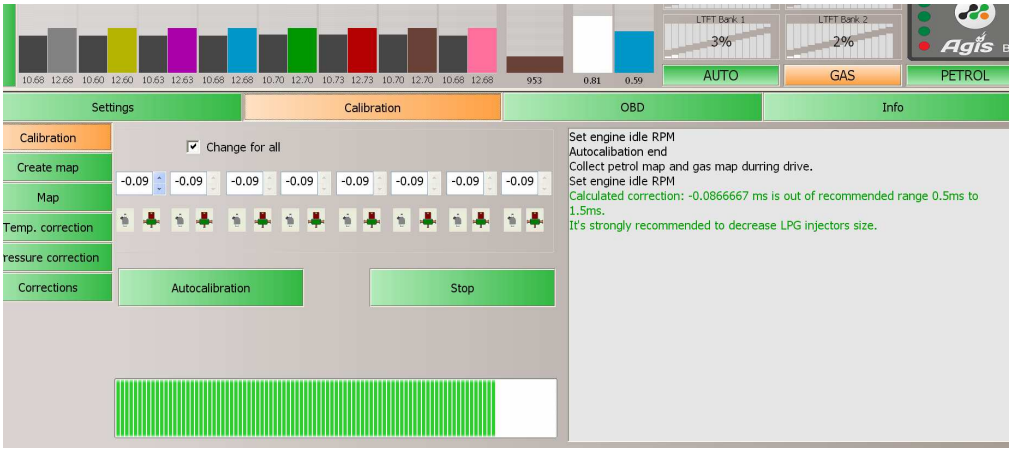
2.7 ADDITIONAL CONTROL ALGORITHMS

* Fast switching to gas - in the case of a gear after turning off the engine is still at an automatic switch to LPG, the engine is restarted, we start directly from the gas without any delay.
* The inclusion of the valve only when switching to gas - helpful function at low temperatures to prevent broken, inclusive regulator gas valve when the temperature reaches a gear automatic transition and not 5 seconds after the start of the engine as is done in normal
* Minimum injection time during the transition - helpful feature when using the wrong injectors especially when we are dealing with short injection times at idle, and so we have also set a parameter switch, in this case, we can also make the switch from the minimum time injection petrol injector you want to set, in this case must be fulfilled three conditions to occur switch / automatic transition temperature, speed automatic transition and minimum fuel injection /
* Enrichment switching - This feature makes it possible to increase the dose rate of gas through the fixed time, for the first transition from petrol to gas, while some do not domaganiach heater regulator
* Minimum supply voltage - Serial parameter specifying the minimum voltage required to power the whole of the gas, the voltage drop on the controller below that limit will disable the installation of the power gasoline.
* Delayed pressure reading - the function is disabled on the pressure adjustments for the transition from petrol to gas, in this case, the system uses stored pressure as a reference while ignoring the actual pressure switch
* Correction on the pressure - describes the enrichment of the mixture when the pressure begins to fall on the terminal, it is a fast electronic adjustment causing immediate extension of the gas injection time according to the level observed pressure drop. The value of 1 means 10% correction.
* Averaging pressure - the value that specifies the time interval at which readings are taken and vacuum pressure in the system. Smooths the pressure changes in the regulator so that it does not result in a loss of the introduction of excessive corrections.
* Amendments to the temperature - a set of algorithms that cause continuous adjustment of the gas injector opening times depending on the temperature of the gas injected. The algorithm is set so that the entire range of permissible operating temperature installations, depots mixtures were as close as desired.
* Reference - reference temperature, the base
* Slope - correction algorithm at 0.3, this means that for every degree change in temperature from 0 degrees, we introduce the 0.3% correction or a change of gas temperature by 20 degrees - adjustment of injector opening time will be 6%.

* Fold lower temp - min temp from which adjustments are made to the temperature
* Upper temperature kink-maximum temperature to which the adjustments are made at

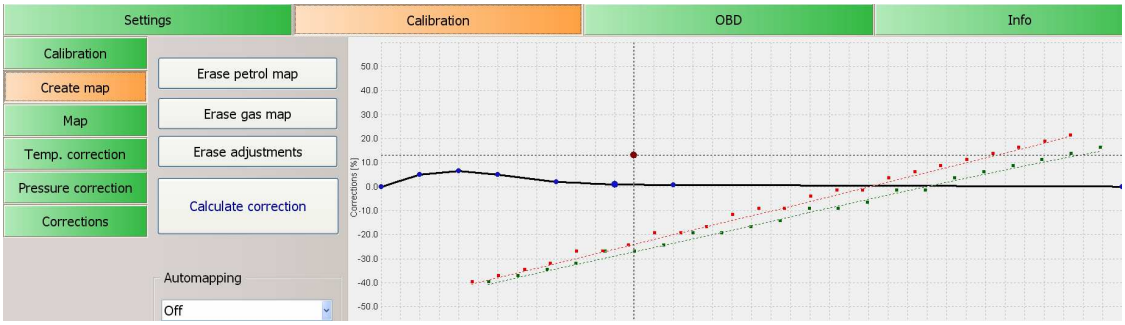
3. AUTOCALIBRATION - ADJUSTMENT

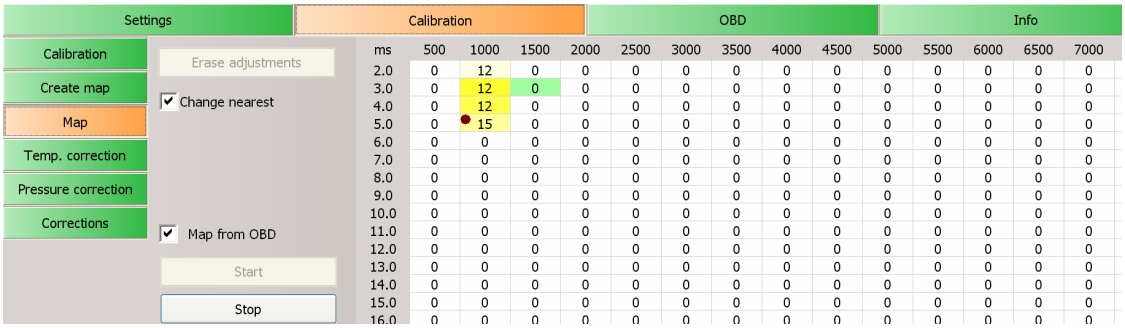
Auto pre-calibration is adapted to the specific engine installation to specific elements mounted on the vehicle. User through the entire process is carried out using the on-screen instructions



After the selection: speed signal, switching parameters, temperature sensors / if used other than the supplied /, gas level sensor, a gas injector, we can begin the process of auto-calibration for this purpose, press the button and leave AUTOCALIBRATION car idling.
The system will switch the power petrol / gas automatically in order to calculate the main patch. It is the first system configuration parameter specifies the difference of gas injector opening time constant of gasoline for the entire range of the injector.
The 4-cylinder engine auto-calibration takes a few seconds and if unsuccessful the display will be displayed next to conduct further guidance.
The next step is to collect the calibration of the map, depending on the engine load. This type of mapping called calibration is best done during normal driving or on an engine dynamometer.
To do this, select the Calibration tab MAPPING function, press the CLEAR MAP gas, CLEAR MAP gas and start driving on petrol. The system will immediately collect / draw the map of the petrol / what is the height of the posts indicated in orange. If the value of the posts to the maximum level reached in each range, the collection of maps on gasoline can be considered complete and you can switch on the power supply system of gas continuing to ride, this time picking up points for the gas supply. The number of points collected maps indicate the time of the green bars. In the case when the system determines the number of points on both maps to be sufficient, it will automatically propose and write, map amendments as a black line. If the proposed map amendment goes as smoothly

without any sharp declines wzniosów or it shall be considered valid. At any time after I saved maps can be edited and corrected manually in any field. For this purpose, the arrow / left / right on your keyboard to change the position of the blue point, confirm the location of the Enter and arrow / up, down / change location map amendments at that point. Correction changes the acceptable range for each point of the graph is + - 50%. Not recommended patches 20-25% larger than the corresponding range. In this case, it is recommended to change the larger injector nozzles. In the case of the maximum size of the injector nozzle, increasing the pressure of the regulator.



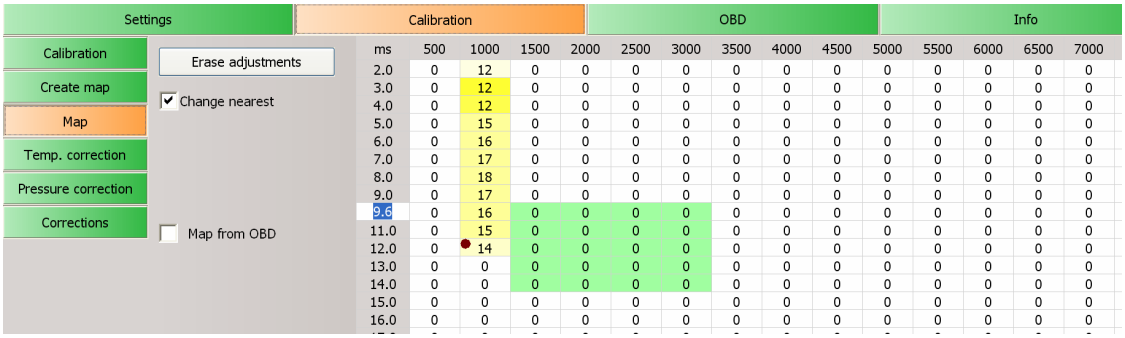


AUTOMAPING

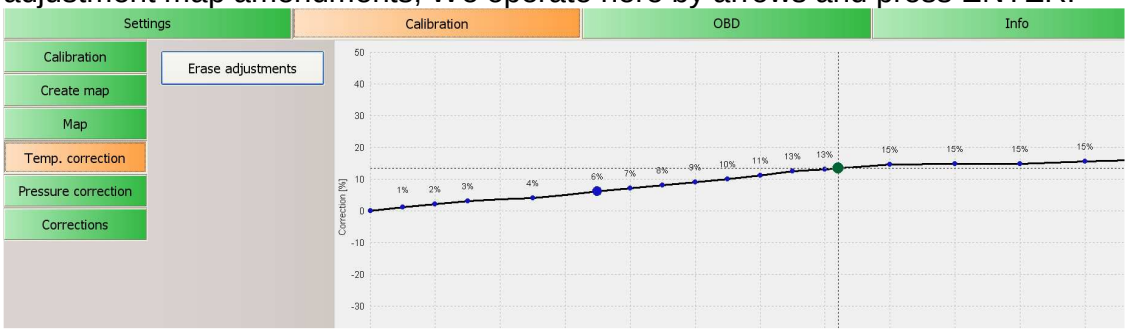
The system has the function of auto-adaptation at a set range of miles. In this case the system without user intervention, mapping, and taking turns previously saved the petrol, "the maps" automatically while driving car on gas and correct the previously saved map corrections. The procedure will be repeated automatically every selected period AUTOMAPING window.

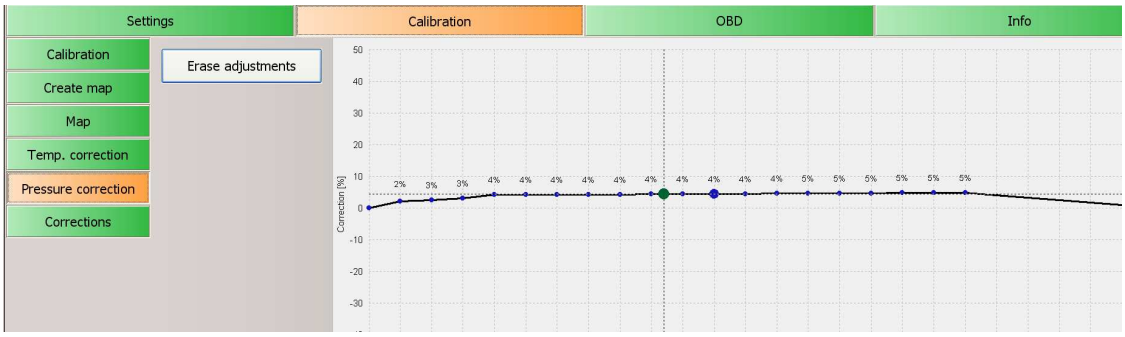
MAP - the system also allows the mapping using the OBD computer settings gasoline. By connecting the controller AGIS P12 / see diagram connection / to the vehicle's diagnostic connector, we can take advantage of the setting and arrangement of OBD maps very closely to the characteristics of each item exactly as on gasoline. When you select a function CHANGE neighboring smooth system we value in adjacent windows to prevent potential jumps of windows resulting from the collection of the map on the OBD. This type of maps does not require a license for both fuels and only running on gas. Map for each of the points to be collected until the percentage change for each point would be insignificant or cell values will remain unchanged. This situation is indicated by

backlit red cells on or close to the same color. This type of mapping can be performed multiple times, each subsequent mapping of this function does not erase the previous maps and only the correction of minor value.
This type of map is also used to manually modify adjustments for more advanced editors. Select the check box followed by holding down SHIFT and arrow keys on the keyboard handling. Enter values for the selected field adjustments while holding down the CTRL key and the up / down arrows.
There is also the ability to change the pitch for the injector opening time and speed. Double-click and highlight in blue point scale, enables its editions and typing on the keyboard.



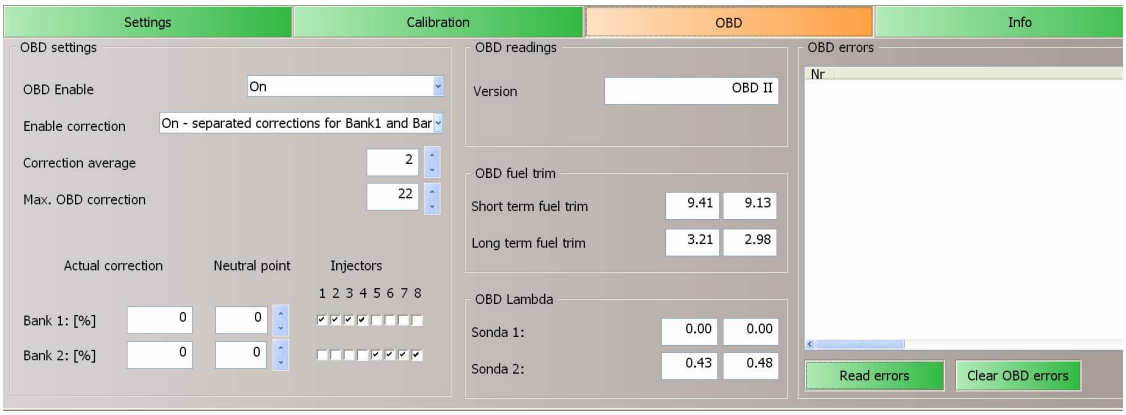
For the more demanding and advanced users can also added maps for laying gas temperature and pressure, in addition, and irrespective of the automatic correction algorithm stored in the controller.
Selecting the correct and make adjustments done on the same basis as an adjustment map amendments, We operate here by arrows and press ENTER.





4. FEATURES OBD

Driver AGIS OBD P12 version has an advanced interface for connection to the vehicle's diagnostic connector holding the transmission parameters on both the lines OBD CAN BUS / CAN protocols / analog transmission as well as data / protocols ISO, KWP /. In this way it is possible to read and continuous automatic correction mixture by modifying the original OBD settings without user intervention. With this feature, the system is practically maintenance-free, and our control is limited to periodically check the status of mechanical components and replacement filters.



Connect the wires to the vehicle's OBD socket.

The AGIS P12 wiring loom will find four wires used to connect the driver with the vehicle OBD. It can optionally be delivered against the connector, the diagnostic interface of the vehicle.

CAN protocols:
White - Pin 6 CAN H
yellow - pin 14 CAN L
Protocols ISO / CSO
blue - pin 7 K-line
green - pin 15 L-line

Data type and the type of protocol, it is best to check with a scan tool that instantly shows us what we're dealing with and what lines should connect.
If you do not have such equipment, it can be as well to determine the distribution of the pins on the vehicle's diagnostic connector.
And so, if there are only diagnostic connector pins 6 and 14/7 and there is no 15 / we have to deal with the transmission of the CAN, if in addition to 6 and 14, there is also any pin 7 and / or 15, then we have to deal with protocols ISO / KWP.
List of vehicles and supported by the protocols can be found on our website www.acon.com.pl

4.1 Connection to OBD

AGIS OBD P12 driver must activate the application by selecting the OBD tab bar

OBD TURN ON position. The driver will begin to communicate with petrol ECU OBD protocol specifying mode, type and bit rate, set long-and short-term oxygen sensor before and after the catalytic converter depending on the amount of data banks control transmission gasoline.

Priority establishing communication are always external devices and original diagnostic scanners if they are at the same time connected. In this case, the driver enters the AGIS P12 passive reading OBD and OBD data in the application will not be displayed. If the first driver establishes communication AGIS OBD P12 and there are problems with communication other diagnostic tester, remove main fuse supply the gas and try to connect again.

* Averaging adjustment - read interval parameter specifies the setting OBD
* Maximum adjustments - adjustments acceptable range for the vehicle
* Neutral - Original OBD basis point adjustments, in most cars, the correct term correction varies between 0%

If the controller connected to the vehicle OBD and all readings are displayed properly, we can enable the automatic adjustment of OBD. The result is a fine-tuning of the vehicle while driving on the gas to the original parameters of the petrol computer without user intervention.

Driver at all times while driving on gas monitors how and where different OBD setting compared to the original settings in your gasoline / current correction OBD /, all the observed differences at the time they are sent to the driver, petrol, asking for a correction settings to change parameters while driving on the gas immediately returned to the original level.

The adjustment settings for multi-cylinder engine with a number of data banks is independent for each database separately. In this case, it is necessary to determine which gas cylinders which are working on the database, because it does not necessarily cut petrol injectors emulators have to be in the same order as the petrol injectors allocated for the database.

To this end, the tab uncheck auto calibration function AMENDMENT ONE FOR ALL CYLINDERS, and increase sequentially patch for each cylinder separately following the change in short-term settings. Changing the setting of short-term assignment of a negative value indicates the cylinder to the bank.

After checking all the injectors should be noted that we assign gas injectors for the bank.

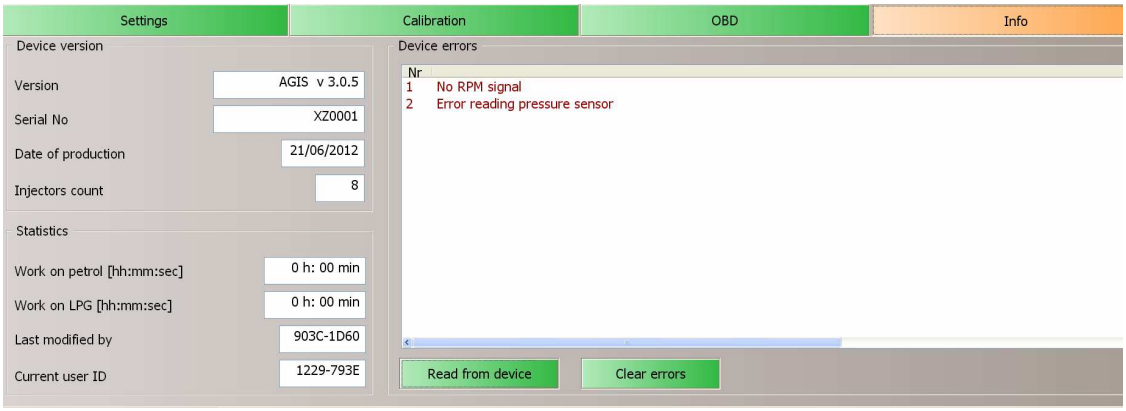
Soon will be available driver software update that will automatically such an operation during auto calibration.

AGIS controller also has the ability P12 ECU diagnosis of gasoline. From the application you can upload the petrol ECU OBD errors and delete them, if deemed necessary. The function performed by pressing the LOAD ERRORS OBD, OBD CLEAR ERRORS.

Driver features mentioned above make it unrivaled in the market when it comes to the level of service and available features. Soon available in OLED technology konsolka forms an overview of the several functions at the user level driver without connecting applications and interface.

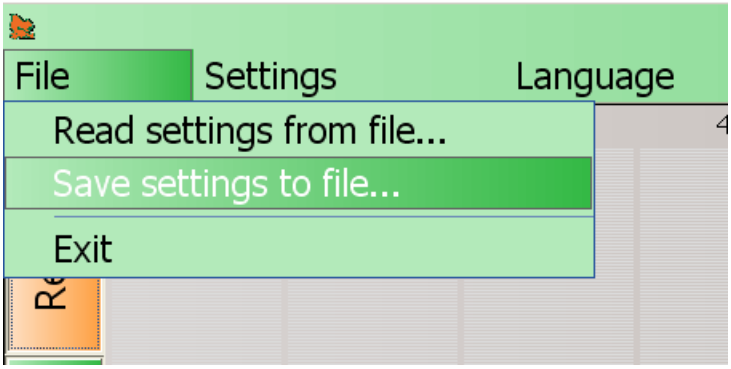
5. Driver information

This tab provides information about the driver and firmware version, serial number, date of manufacture, the number of supported injectors, statistics on working time on gas and petrol, the amount modify the settings and modifying the ID and the identification of the first call.
This tab also provides a diagnostic interface driver gas. Any errors associated with the disability system are possible to read in this section. In a simple and quick way to give us an opportunity to detect and remove defects.
List of fault codes at the end of the study.



6. SAVING DATA TO FILE / SETTINGS LOADING

All data, application settings can be saved to a file and use them for setting the same vehicle models without the need for calibration and mapping. Just save the file to the settings by clicking in the upper left corner, window FILE / SAVE SETUP TO FILE, name the file and click SAVE. The first time you save the file with the settings automatically to the C: drive, create a folder to store these files.
C :/ Program Files/AGIS_I8



Loading settings file can be the same way when you open the saved file location settings, the choice of the desired file, it will be prescribed to the driver.

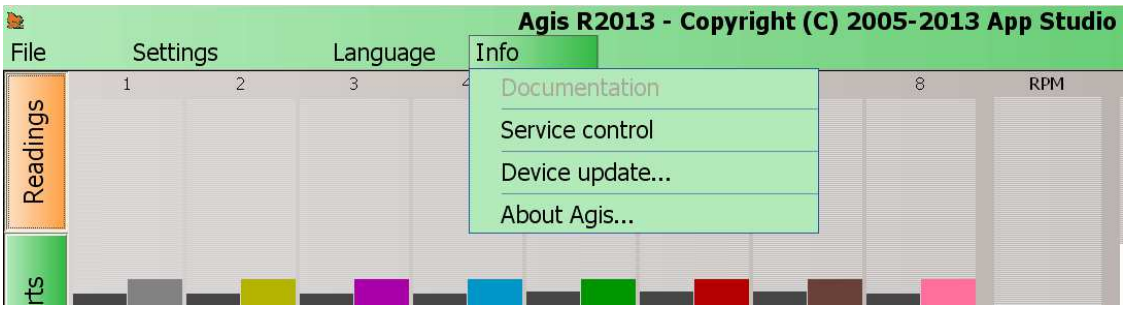
6.1 DEFAULT

Restore to factory settings in case the gate for some reason there was a block

driver or it was not possible to type data is always a possibility to reset the controller and start all over again.

6.2 UPDATE DRIVER

Any recent version of the software includes the driver inside the folder named FIRMWARE, the controller is connected to the engine is running, we are always able to update your driver. This process takes a few seconds. The system will ask us in advance if you want to make the upgrade to a newer or older version. Soon version available automatic notifications of new software, after registering on our site www.acon.com.pl
The function is available from the windows INFO / Update Driver /



7. CONNECTIONS DIAGRAM