



ADVANCED TUNING SOFTWARE GUIDE

ACESEFI.COM

About

ACES Fuel Injection specializes in developing and manufacturing state-of-the-art performance-engine management systems and ignition components geared toward do-it-yourself automotive enthusiasts. Our company was founded on an electromechanical engineering background, and our talented staff always keeps a grip on the newest technology available. We use our expertise to guarantee top-notch quality components and constant innovation of new products and services for car and truck enthusiasts around the world.

Our greatest advantage is the overall simplicity of our products. From a painless installation to real-time tuning in just hours, our fuel injection systems offer a great advantage over the competition. Our JACKPOT™ series GM LS EFI system features a built-in interface that allows users to have full control of the engine without the need of a PC. This allows you to install the system at home without the need of special tools or software. We also offer several other components to help seamlessly integrate our advanced technology into your LS-based vehicle.

Our craftsmanship and technology are built upon a foundation of extreme performance. With a history of producing winning results in a wide variety of applications, our pedigree offers proof of our commitment to attain the best results, wherever we compete. With more than 10 years of experience developing and designing high-performance products, ACES Fuel Injection has a product to fit your needs.

Mission

Research, innovate, and develop real, efficient, quality solutions, making engine management technology the key factor of success, and bring pride and satisfaction to customers by integrating them into the ACES Fuel Injection Team.

Vision

Become the world's leading company in engine management technology.

Values

Ethics, commitment, professionalism, teamwork, quality, pioneering spirit, creativity, continuous innovation, pursuit of results and customer satisfaction.

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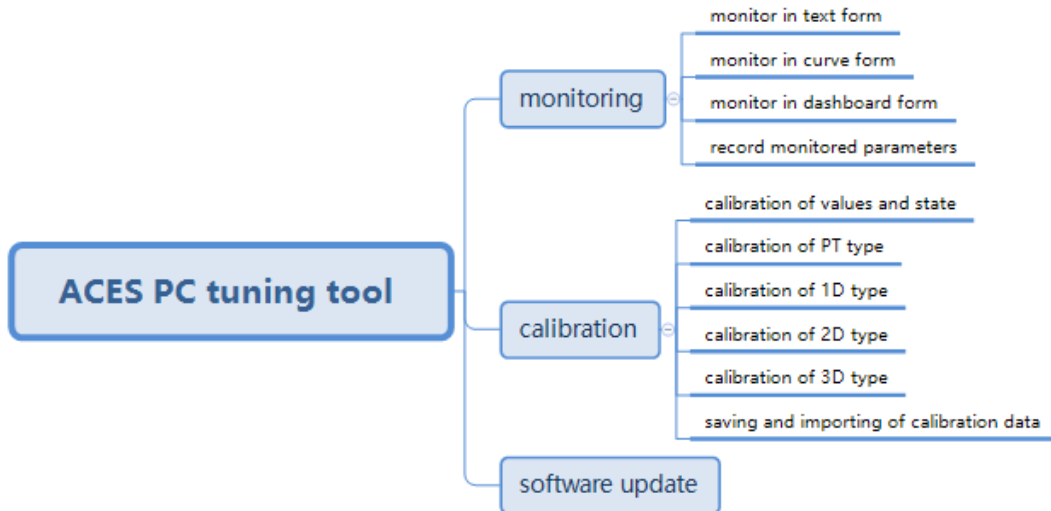
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1. Overview

This software is designed to enable customers to quickly and conveniently monitor and calibrate various parameters of the product in real time.

2. Functional Architecture



3. Software use

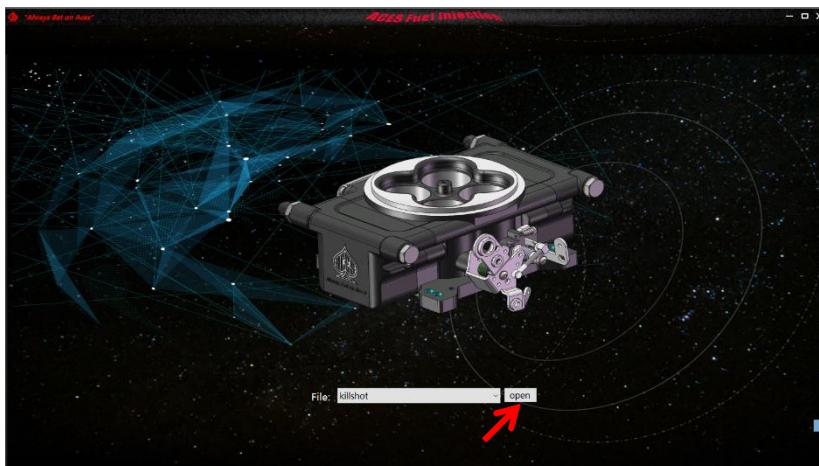
3.1 Monitoring

Real-time monitoring of a certain parameter of the product.

3.1.1 showing monitored parameters in text

3.1.1.1 Real-time monitoring a certain set of parameters

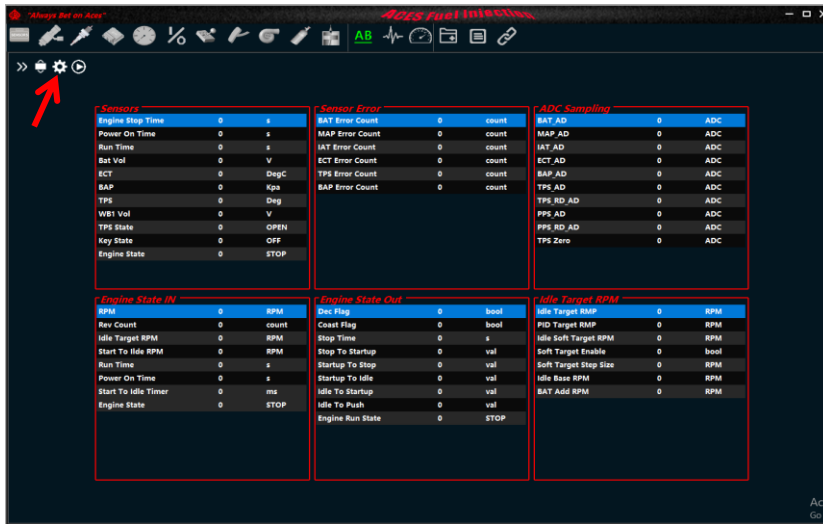
1) Open the software, select the corresponding product and click "open".



2) Different approaches to set up the monitored parameters for each window.

Approach One: Click "⊞" to enter the setting interface to make selection.

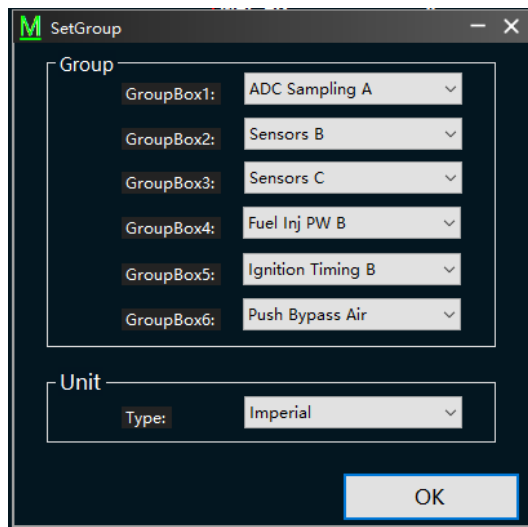
Approach Two: Right-click each window and it will pop up the monitoring group for making selection.



3) After entering the setting interface, you can select different monitoring groups and also select different Unit type.

Monitoring groups: Up to six different groups can be monitored at the same time. Click "OK" to complete the setting up.

Unit: Imperial units or Metric units

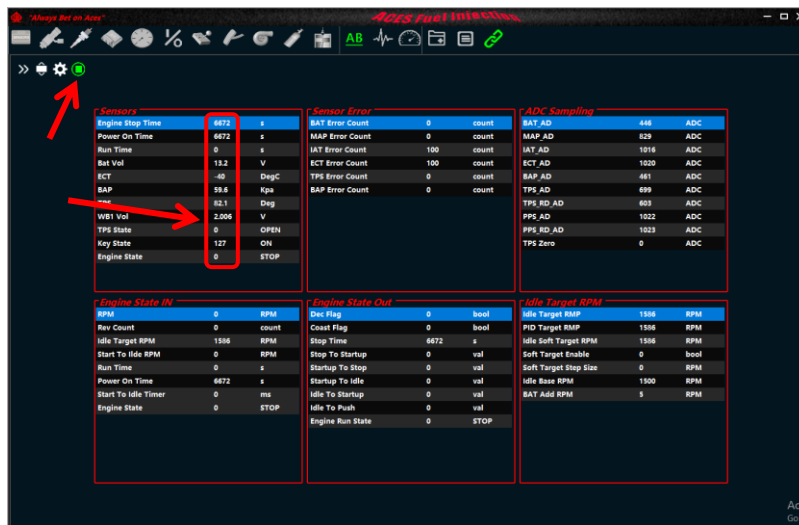


4) Connect one end of the USBCAN box to the product's wiring harness and the other end to USB port of computer. Turn the key to "ON", and click the "🔌" in the toolbar, wait for it to turn green "🟢" which means the connection is successful. If the pop-up window prompts that it fails, please check the USBCAN connection and installation of USBCAN driver (If it is connected, ignore this step).

Note: At the first connection, please be patient to wait for the calibration data of the controller to be uploaded first. A pop-up window will prompt no matter the connection succeeds or fails.

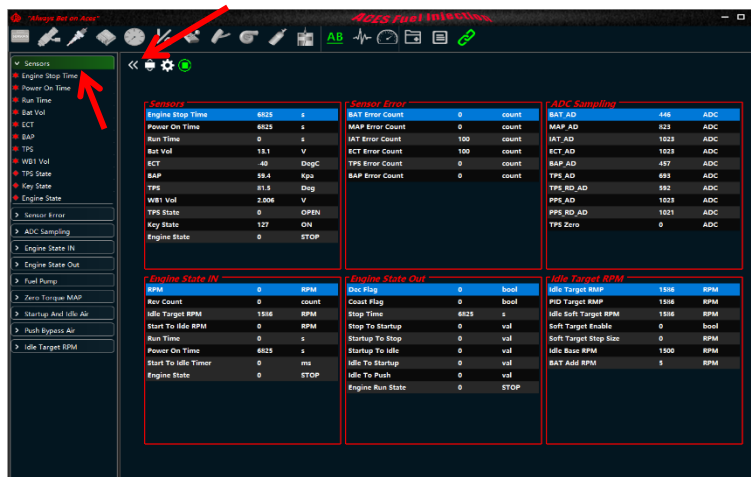


5) After successful connection, click "🔍", and wait it to turn to become "🟢", then real-time monitoring data will be displayed in the text box on the interface.



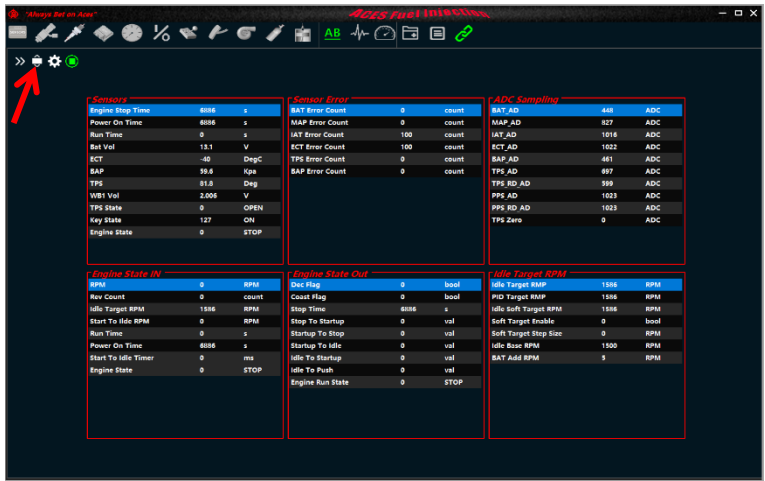
3.1.1.2 show/hide monitored items list

Click "☰" to view all the groups that can be monitored, click on the group to expand to view the specific monitoring parameters of the monitoring group.



3.1.1.3 Independent floating window

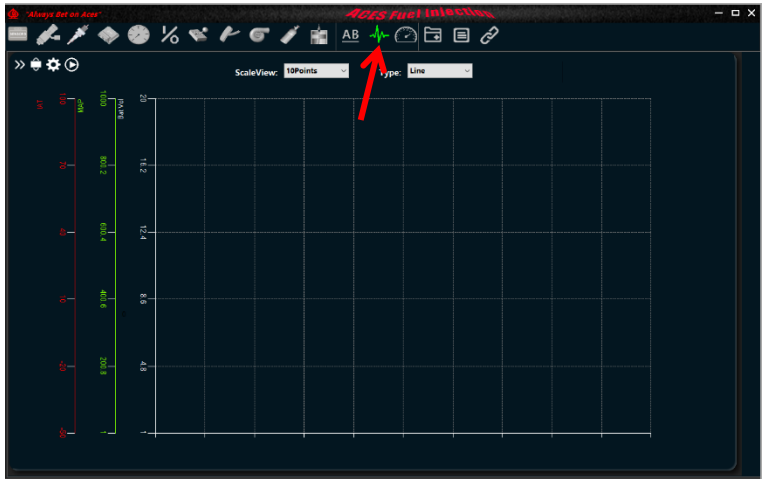
Click "📄" to float the current monitoring interface in front.



3.1.2 showing monitored values in curve

3.1.2.1. Real-time monitoring of a certain parameter

- 1) After entering the monitoring interface, click "📊" in the toolbar, the interface will jump to the curve monitoring interface.



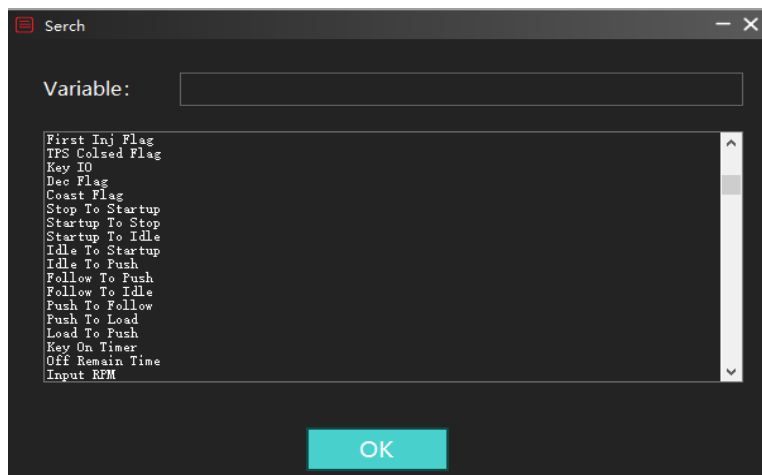
- 2) Click "⚙️" to enter the setting interface, which can support up to 10 parameters to be displayed in curve form at the same time.

	ItemName	Y_min	Y_max	Color
1	<input checked="" type="checkbox"/> Bat Vol	1	20	ffffff
2	<input checked="" type="checkbox"/> MAP	1	1000	80#00
3	<input checked="" type="checkbox"/> IAT	-50	100	f0#000
4	<input type="checkbox"/> MAP Error Count	1	100	00#000
5	<input type="checkbox"/> Run Time	1	100	0080#00
6	<input type="checkbox"/> Run Time	1	100	0080#00
7	<input type="checkbox"/> Run Time	1	100	0080#00
8	<input type="checkbox"/> Run Time	1	100	0080#00
9	<input type="checkbox"/> Run Time	1	100	0080#00
10	<input type="checkbox"/> Run Time	1	100	0080#00

OK

- 3) Check one of the monitoring parameters in the second column of the setting table (check it if wants to monitor the item, uncheck it if do not want to monitor the item).

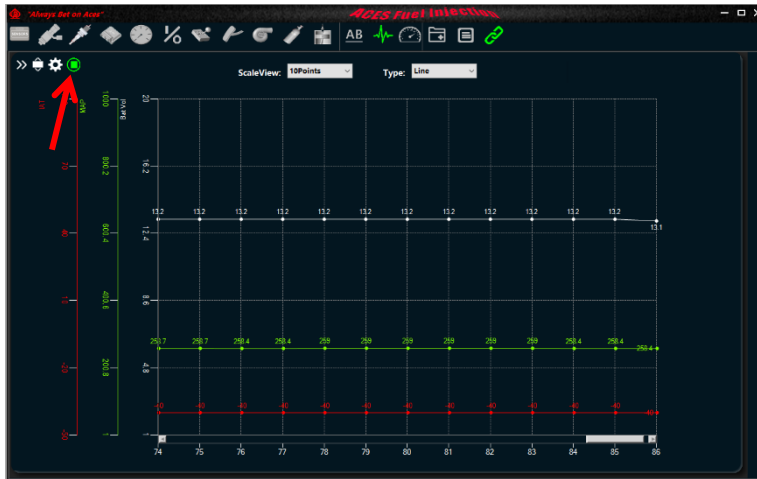
4) Double-click the third column of the setting table to enter the monitoring parameter selection interface. You can directly select a parameter in the list box with the mouse or enter the name of the parameter you need to monitor in the input box to search for it.



- 5) Select an option in the fourth column and directly use keyboard to modify the minimum value of the Y-axis coordinate.
- 6) Select an option in the fifth column and directly use keyboard to modify the maximum value of the Y-axis coordinate.
- 7) Double-click an option in the sixth column of the settings table to select the curve color.
- 8) Click "OK" to confirm the modification of the setting.
- 9) Connect one end of the USBCAN box to the product's wiring harness and the other end to USB port of computer. Turn the key to "ON", and click the "🔌" in the toolbar, wait for it to turn green "🟢" which means the connection is successful. if the pop-up window prompts that it fails, please check the USBCAN connection and installation of USBCAN driver (If it is connected, ignore this step).

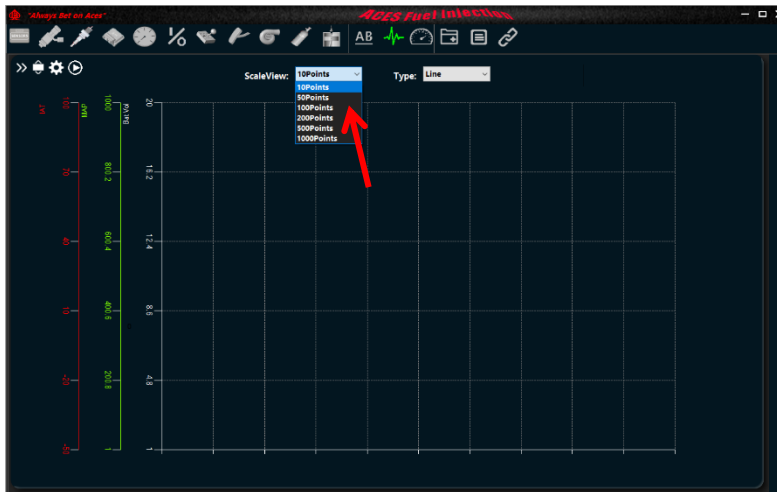


10) After successful connection, click "📺", and when it changes to "🟢", a real-time monitoring curve displays in the curve interface.



3.1.2.2 set up scale view of the curve.

Click the drop-down box to select the corresponding visual range.



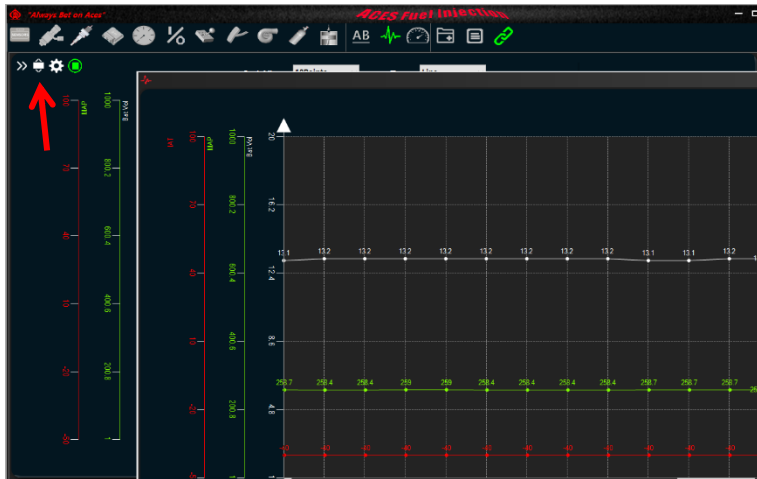
3.1.2.3 set up the type of curve

Click the drop-down box to set the curve to be displayed in the form of lines or points.



3.1.2.4 Independent suspension monitoring

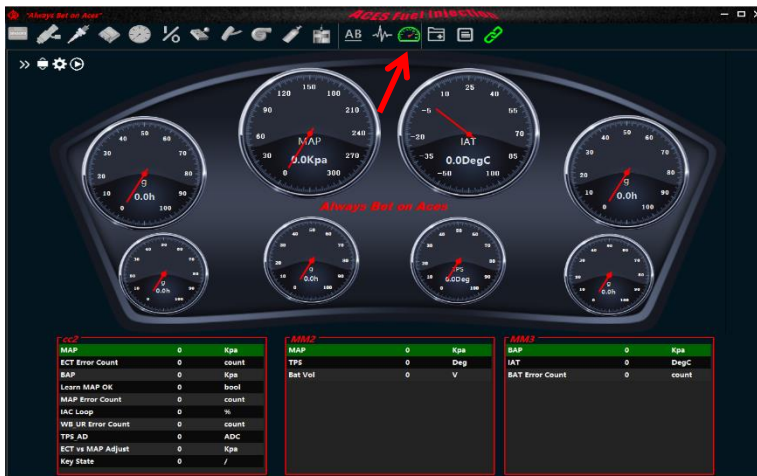
The current monitoring interface can be suspended in front by click "🏠".



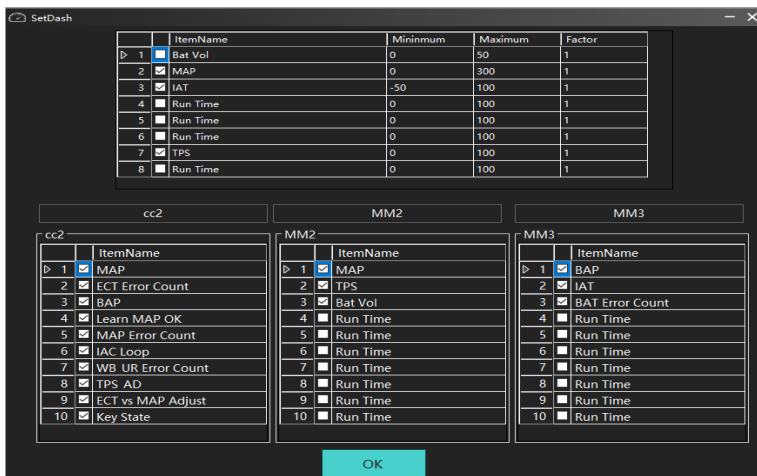
3.1.3 Dashboard form monitoring

3.1.3.1. Real-time monitoring of a certain parameter

1) After entering the monitoring interface, click "🔧" in the toolbar to jump to the dashboard monitoring interface.



2) Click "⚙️" to enter the setting interface. Up to 8 parameters can be displayed in dashboard form at the same time. It supports up to three groups of free combination of parameters displayed in text form under the dashboard and each group has up to 10 parameters.

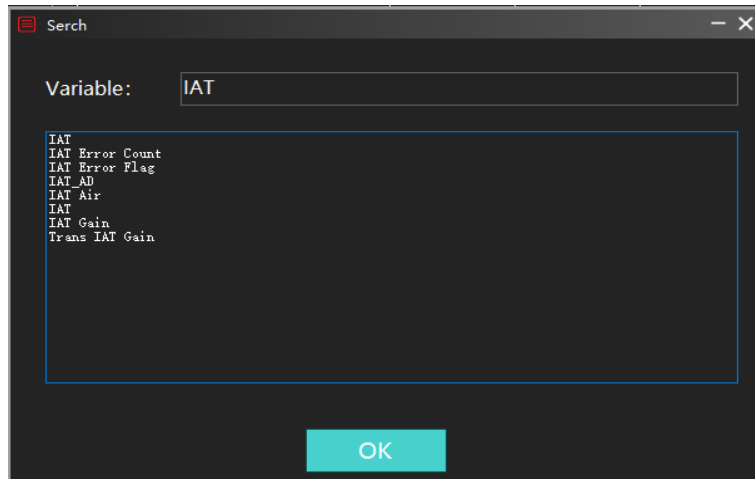


3) Dashboard and combo box settings

3-1. Dashboard settings

3-1-1. Check a monitoring parameter in the second column of the above setting table (check it to monitor the item, uncheck it if doesn't want to monitor the item)

3-1-2. Double-click the third column of the setting table to enter the monitoring parameter selection interface. Select a parameter in the list box with the mouse or enter the name of the parameter you need to monitor in the input box to search.



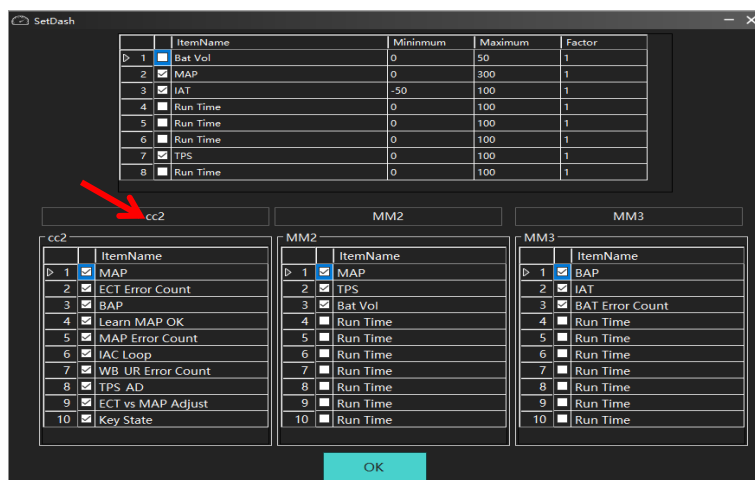
3-1-3. Select an option in the fourth column and modify the minimum value displayed on the dashboard (integer multiples of 10 are recommended)

3-1-4. Select an option in the fifth column and modify the maximum value displayed on the dashboard (integer multiples of 10 are recommended)

3-1-5. Select an option in the sixth column and modify the scale of the instrument panel scale.

3-2. Combo box settings

3-2-1. Select the title input box in the middle to set the title of the combo box.



3-2-2. Check one of the monitoring parameters in the second column of the setting table below (check it to monitor the item, uncheck it to not monitor the item)

3-2-3. Double-click the third column of the setting table to enter the monitoring parameter selection interface. Select a parameter in the list box with the mouse, or enter the name of the parameter you need to monitor in the input box to search.

4) Click "OK" to save and exit the setting interface.

5) Connect one end of the USBCAN box to the product's wiring harness and the other end to USB port of computer. Turn the key to "ON", and click "🔌" in the toolbar, wait for it to turn green "🟢" which means the connection is successful. If the pop-up window prompts that it fails, please check the USBCAN connection and installation of USBCAN driver (If it is connected, ignore this step).

6) After successful connection, click "▶️", when it turns to "🟢", real-time monitoring data displays in the dashboard and combo box in the dashboard interface.



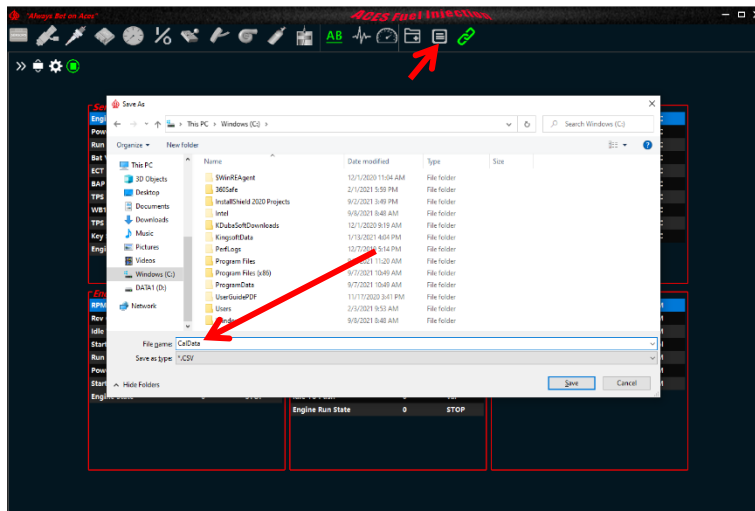
4.1.3.2 Independent suspension monitoring

The current monitoring interface can be suspended in front by click "🖥️".

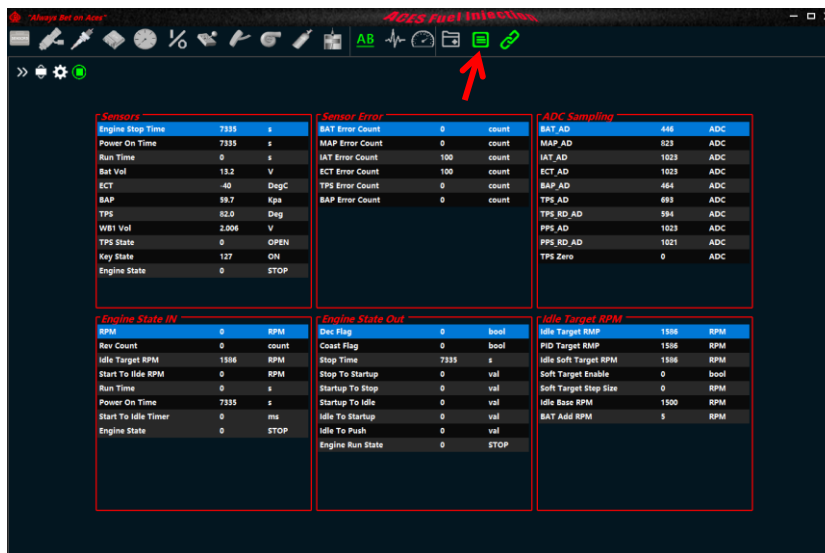


4.1.4. monitoring data record

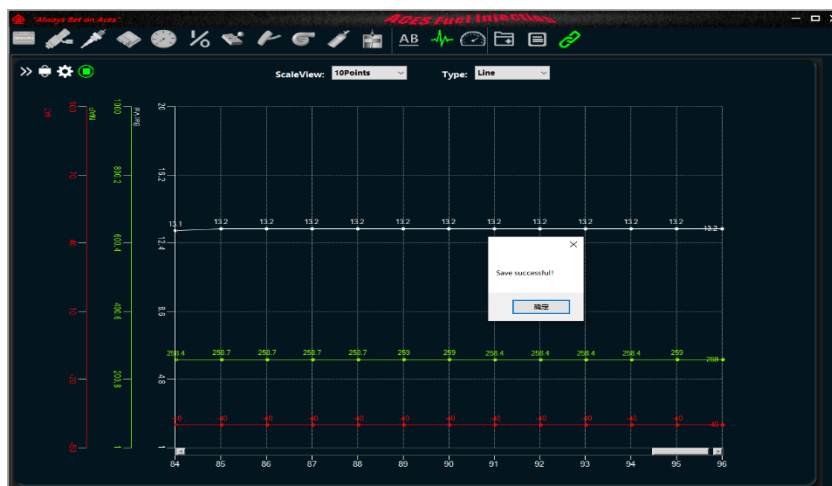
1) Click the "📄" icon on the toolbar, enter the file save path selection, and enter the saved file name



2) Click Save to exit the path setting interface. At this time, "📁" is in green. In this state, the data will continue to be recorded. And in this state, it is forbidden to enter the setting interface.



3) Click "📁" again to end the data recording and save the current record, and a prompt message will pop up.



4.2. Calibration

Real-time calibration of a certain parameter of the product.

4.2.1 To write calibration data.

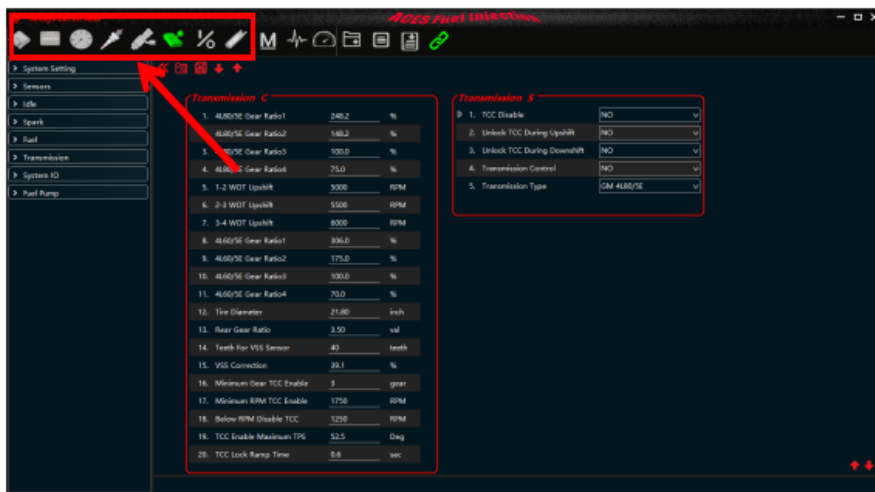
4.2.1.1 To write value and state type calibration data.

All values and state type parameters of each calibration group are calibrated in one calibration interface.

1) Connect one end of the USBCAN box to the product's wiring harness and the other end to USB port of computer. Turn the key to "ON", and click the "🔌" in the toolbar, wait for it to turn green "🟢" which means the connection is successful. If the pop-up window prompts that it fails, please check the USBCAN connection and installation of USBCAN driver (If it is connected, ignore this step).



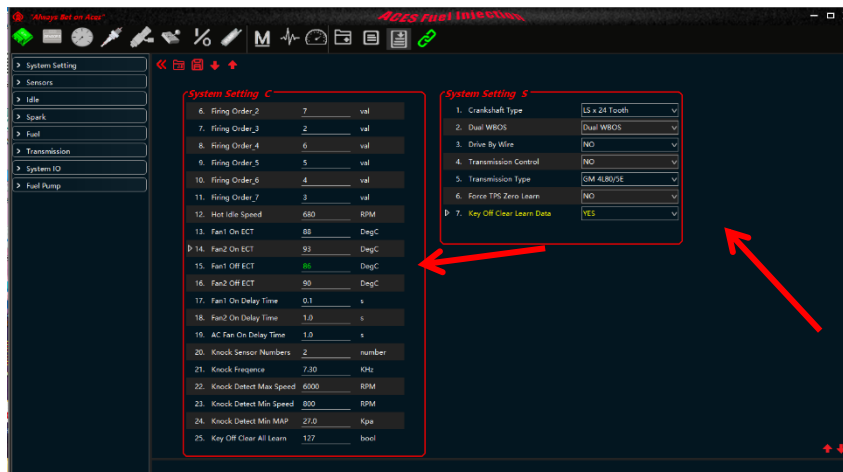
2) By clicking the calibration shortcut button in the tool bar, can jump to the corresponding calibration group conveniently and quickly. When you are in the calibration interface, you can also use the calibration list on the left, click the group name to expand, and click the specific calibration parameter to quickly jump to the location.



3) Definitions in the calibration table:

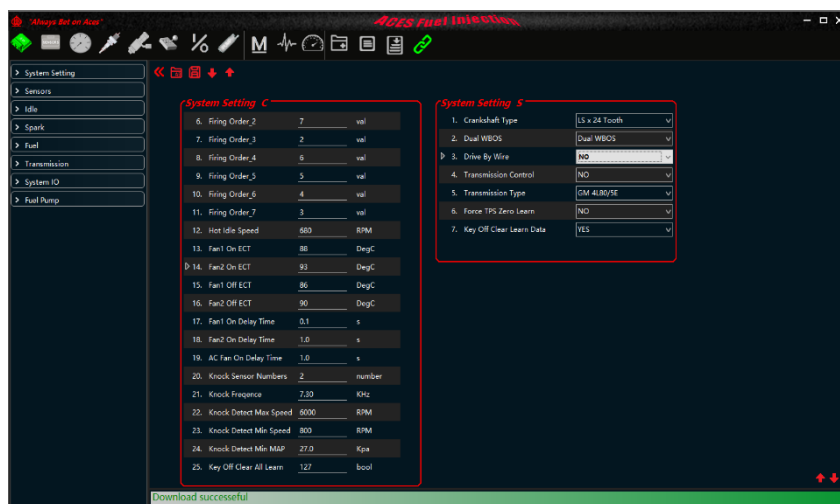
- 1st column: serial number
- 2nd column: the name of the parameter in the group
- 3rd column: parameter value
- 4th column: unit (state value)

4) Select a parameter that needs to be calibrated, enter the value with the keyboard or select the corresponding state with the mouse, and the value will turn green after the modification is completed.



5) Click "↓", and the writing is completed after the bottom progress bar is reset.

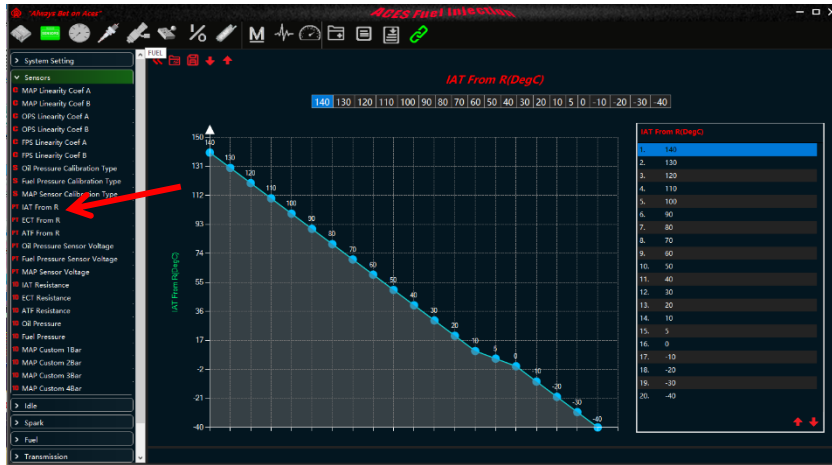
Note: Each writing is to write the calibration data of all the parameters in the interface instead of a single parameter.



4.2.1.2 Write PT type calibration data

The current interface only calibrates one PT type parameter each time.

- 1) When the computer is not connected with the product, refer to step 1 in 4.2.1.1 (Ignore this step if connected) .
- 2) Click the group name to expand, then click the PT type parameter that needs to be calibrated, and it will jump to the calibration interface of the parameter.



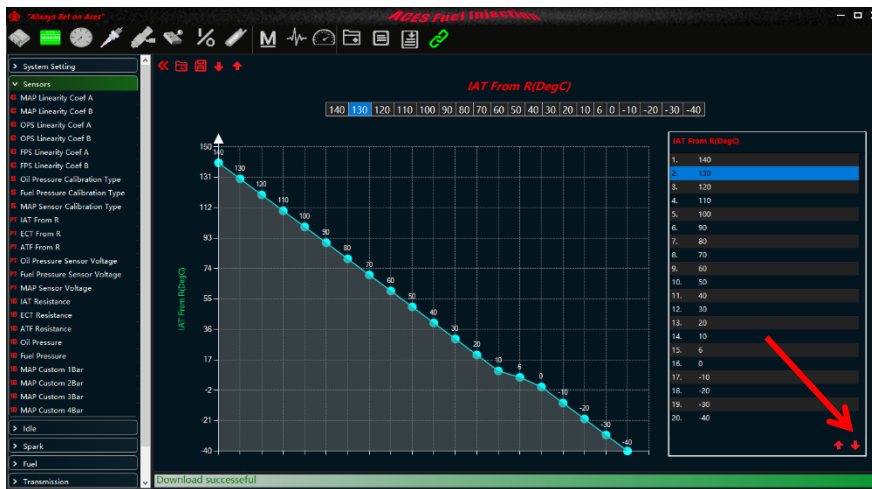
3) Parameters can be modified in three ways. After completing modification, the value turns green.

Approach 1: Move the mouse to a certain point of the curve that needs to be modified, hold down the left button and move the mouse up and down to change the value of the parameter.

Approach 2: Select a cell in the table above and directly enter the value with the keyboard.

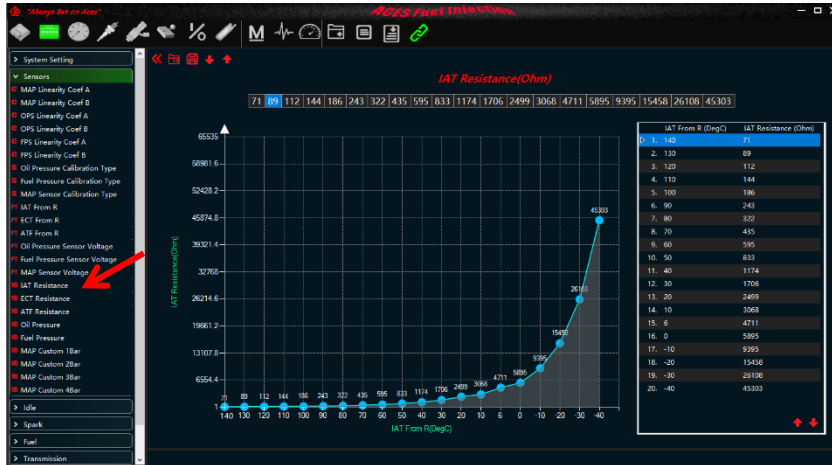
Approach 3: Select a row in the numeric value list on the right to directly enter the numeric value with the keyboard.

4) Click "↓" in the numerical list on the right to write the parameter calibration data, and the writing will be completed after the progress bar is reset.



4.2.1.3 Write 1D type calibration data

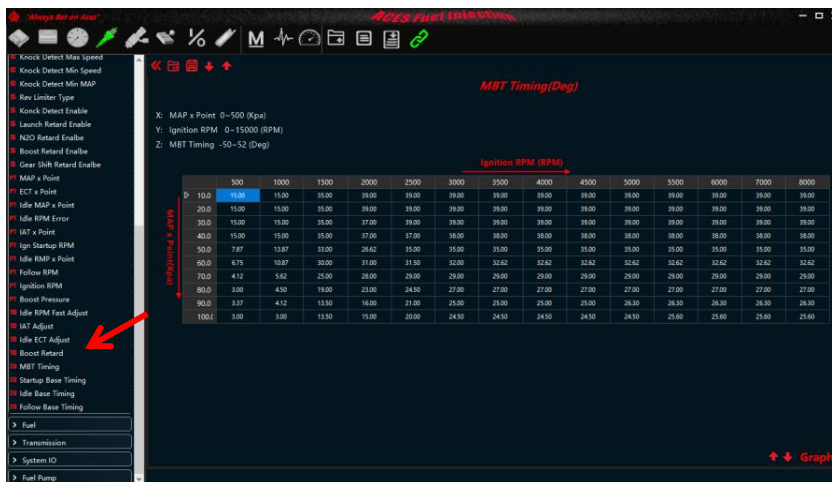
The current interface only calibrates one 1D type parameter each time. Please refer to instructions of calibrating PT type parameters for the calibration interface and calibration methods of ID type parameters.



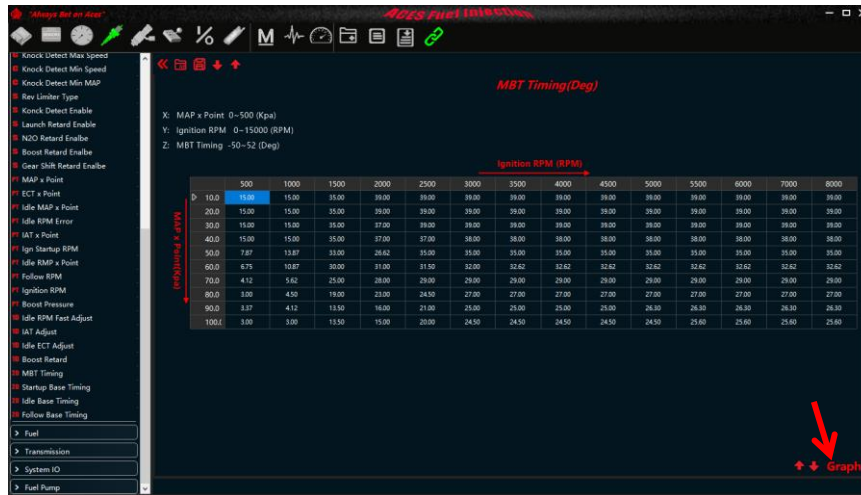
4.2.1.4 Write 2D type calibration data.

The current interface only calibrates one 2D type parameter at a time. The calibration interface and calibration method of the 2D type is same as 1D type and you can refer to the 1D type calibration method for calibration.

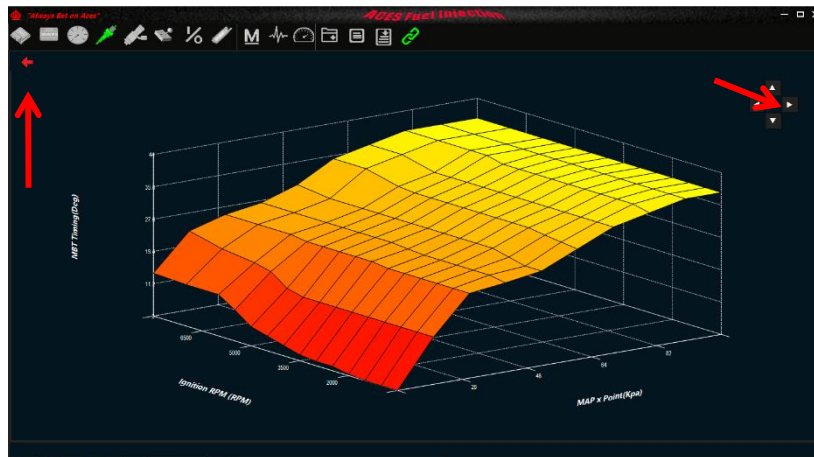
- 1) When the computer is not connected with the product, refer to step 1 in 4.2.1.1 (Ignore this step if it is connected).
- 2) Click group name to expand, then click the 2D type parameter that needs to be calibrated, and the calibration interface will jump to the calibration interface of the parameter.



- 3) Select the cell in the 2D table that needs to be modified, then enter the value with the keyboard, and the color of the modified value will be green.
- 4) Click **Graph** to view the smoothness of the three-dimensional graph of the table for better calibration of the parameters.



5) In the 3D graph interface, you can hold down the left mouse button and drag the 3D graph to rotate, or you can adjust the viewing angle through the function buttons on the upper right side. Click "↶" above to exit the 3D view.

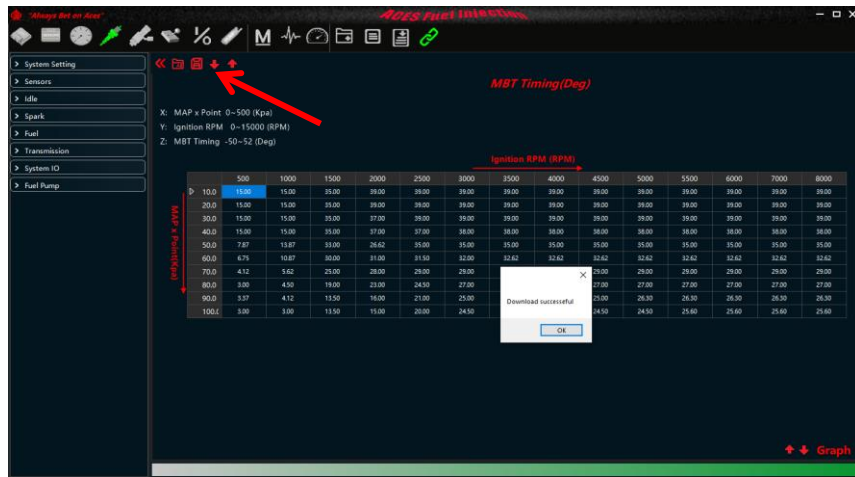


6) Click "⏴" in the numerical list on the right to write the parameter group, and the writing will be completed after the progress bar is reset.

4.2.1.5 Write all current parameter data

Write the calibration data of all the current parameters into the product at one time, and it is mostly used to import a new calibration data in order to write the new calibration data into the product.

- 1) Enter any calibration interface
- 2) When the computer is not connected with the product, refer to step 1 in 4.2.1.1 (Ignore this step if it is connected).
- 3) Click "⏴" at the top of the interface, and wait for the progress bar to complete and pop up the prompt message.

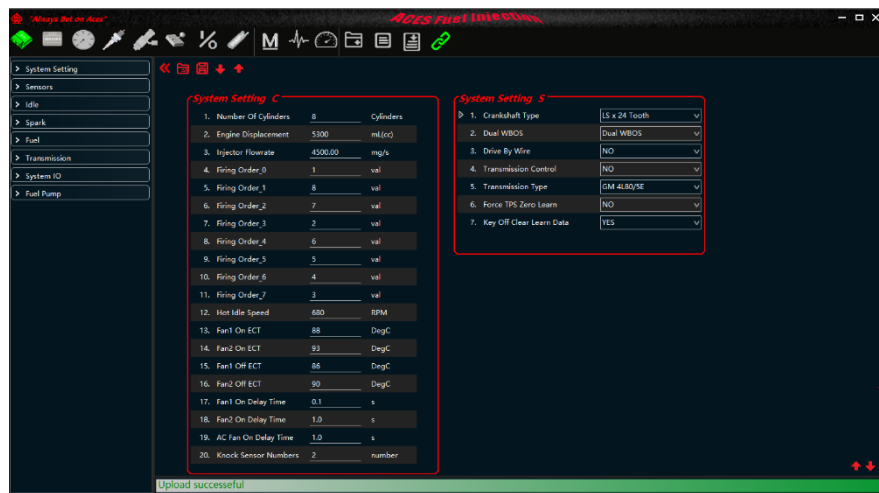


4.2.2 read calibration data

When the software and the product are successfully connected, the calibration data in the product can be read and shown on the software interface.

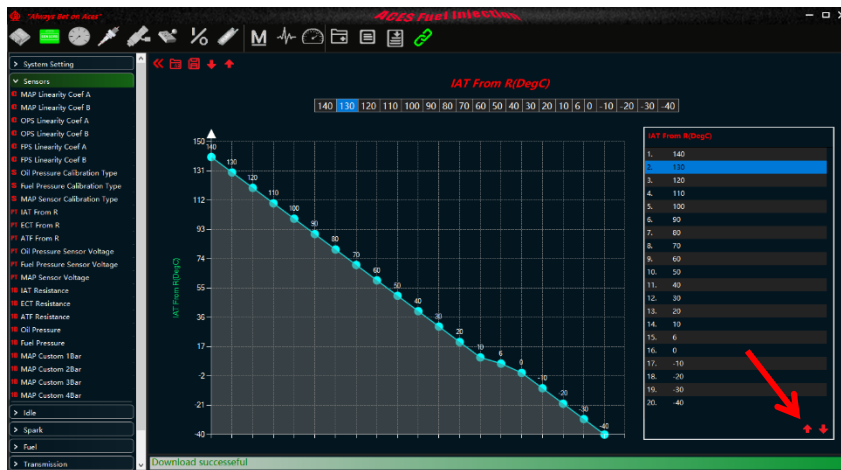
4.2.2.1 Read calibration data of a certain group.

- 1) Click the calibration group name to expand, and click any parameter option to enter the calibration interface.
- 2) When the computer is not connected with the product, refer to step 1 in 4.2.1.1 (Ignore this step if it is connected).
- 3) Click "Download" at the bottom of the calibration interface, and the upload is successful after the progress bar is reset. The interface will display the parameter value and state of the current group in the product.



4.2.2.2 Read the calibration data of a certain PT type.

- 1) Click the calibration group name to expand, and click the name of the parameter to be read to enter the PT type calibration interface.
- 2) When the computer is not connected with the product, refer to step 1 in 4.2.1.1 (Ignore this step if it is connected).
- 3) Click "Download" at the bottom right of the calibration interface, and the upload is successful after the progress bar is reset. The interface will display the currently read PT type of calibration data in the product.



4.2.2.3 Read the calibration data of a certain 1D type

The reading method is same as that of reading a certain PT type calibration data, and please refer to 4.2.2.2 for how to read data.

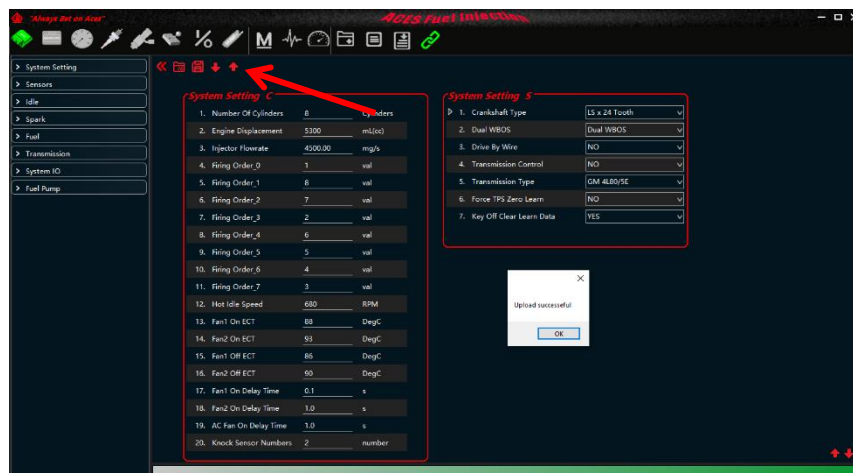
4.2.2.4 Read calibration data of a certain 2D type

The reading method is the same as that of reading a certain PT type calibration data, please refer to 4.2.2.2 for how to read data.

4.2.2.5. Read all calibration data in the product

Read all data of all groups at one time.

- 1) Enter any calibration interface.
- 2) When the computer is not connected with the product, refer to step 1 in 4.2.1.1 (Ignore this step if it is connected).
- 3) Click "🔴" at the top of the interface, and wait for the progress bar to complete the prompt message.



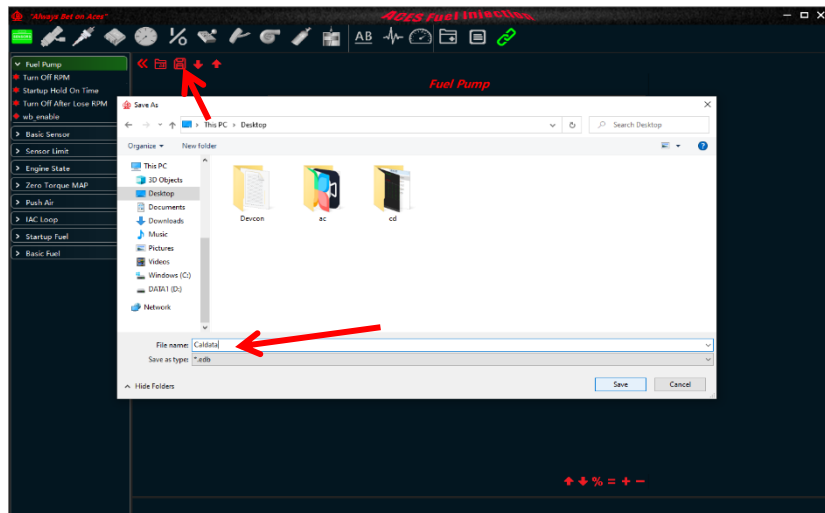
4.2.3 Hide and show the calibration list

Click "🔴" on the calibration interface to expand and hide the calibration list.

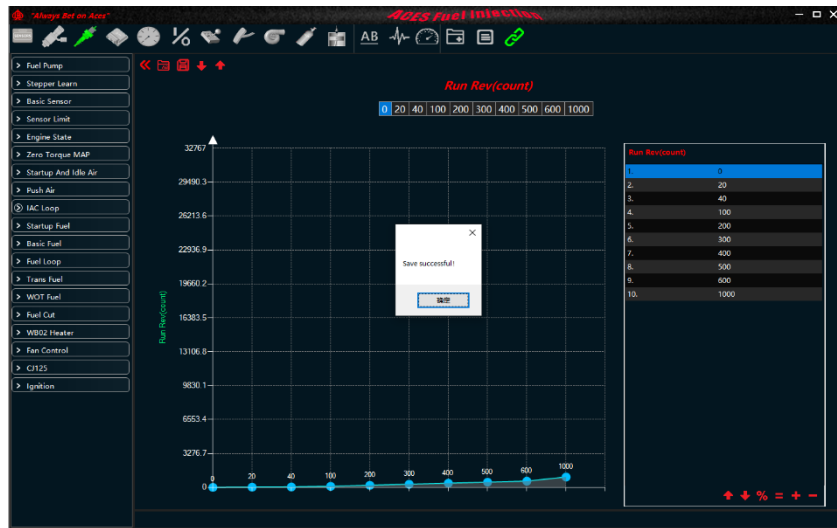
4.2.4 Save calibration data:

Save the current calibrated data locally.

- 1) Click "📁" at the top of the calibration interface, select the file path to save, enter the file name, and click "Save".



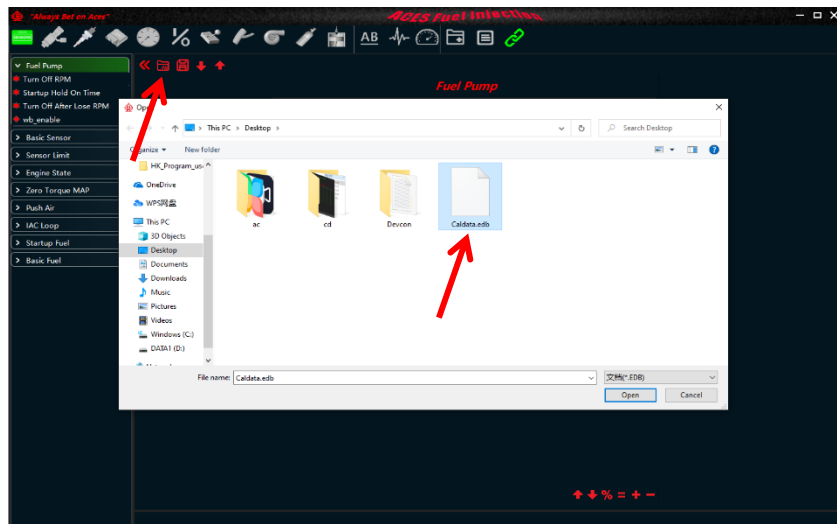
2) The interface pops up a prompt message box to complete the save.



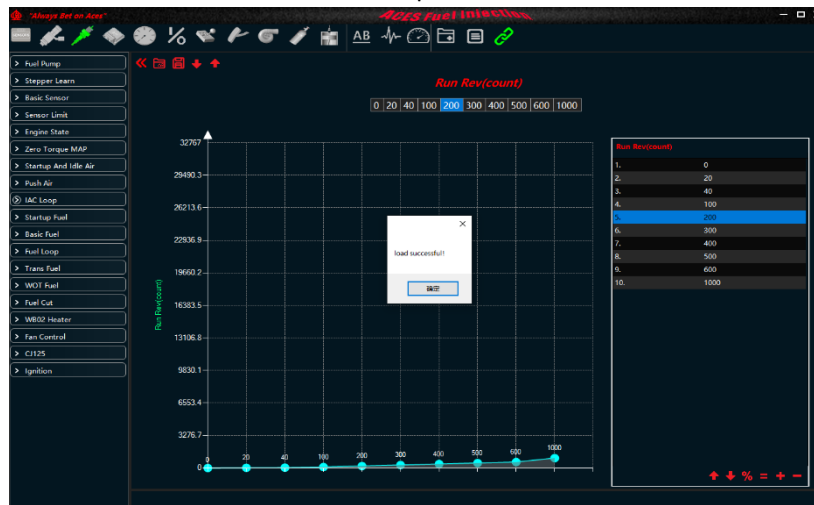
4.2.5 Import the calibration data.

Can import locally saved historical calibration data as needed.

1) Click "AB" at the top of the calibration interface, select the file path, and click "Open".



2) The interface pops up a prompt message box to complete the import. At this time, all the calibration data displayed on the calibration interface are the imported data.

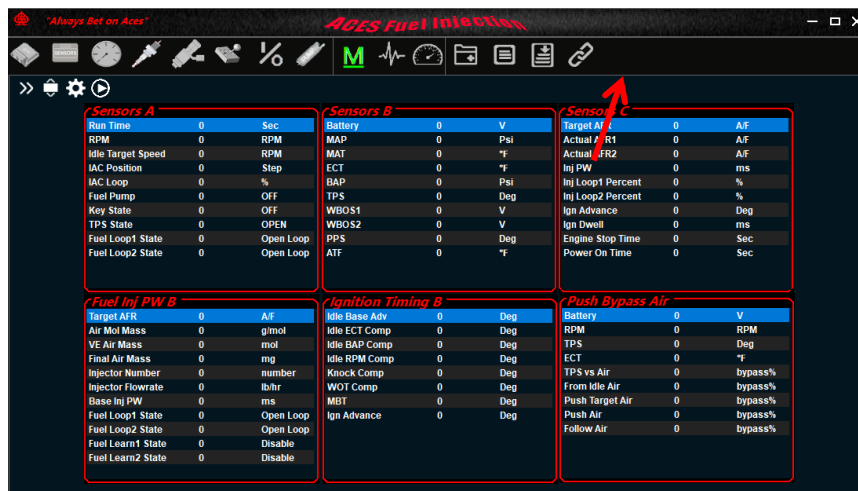


4.3 Update software for controller

This is to update software for ACES controllers.

1) When the engine is stopped, connect one end of the USBCAN box to the system's wiring harness and the other end to the USB port of the computer, and turn the key to "ON".

2) Click "📄" and select correct .aen file which should match with the system you are using.



3) Wait for software updating to complete and then a pop-up will prompt. If the pop-up prompts software updating fails, please check if the controller is powered on, the connection between the computer and the controller wiring harness is secure, or if the .aen file was selected correctly.

Always Bet on Aces
ACES Fuel Injection

Run Time 0 Sec
RPM 0 RPM
Idle Target Speed 0 RPM
IAC Position 0 Step
IAC Loop 0 %
Fuel Pump 0 OFF
Key State 0 OFF
TPS State 0 OPEN
Fuel Loop1 State 0 Open Loop
Fuel Loop2 State 0 Open Loop

Sensors A

Sensors B
Battery 0 V
MAP 0 Psi
MAT 0 °F
ECT 0 °F
BAP 0 Psi
TPS 0 Deg
WBOS 0 °F
WBOS 0 °F
PPS
ATF

Sensors C
Target AFR 0 A/F
Actual AFR1 0 A/F
Actual AFR2 0 A/F
Inj PW 0 ms
Inj Loop1 Percent 0 %
Inj Loop2 Percent 0 %
Ign Advance 0 Deg
Ign Dwell 0 ms
Engine Stop Time 0 Sec
Power On Time 0 Sec

Fuel Inj PW B
Target AFR 0 A/F
Air Mol Mass 0 g/mol
VE Air Mass 0 mol
Final Air Mass 0 mg
Injector Number 0 number
Injector Flowrate 0 lb/hr
Base Inj PW 0 ms
Fuel Loop1 State 0 Open Loop
Fuel Loop2 State 0 Open Loop
Fuel Learn1 State 0 Disable
Fuel Learn2 State 0 Disable

Ign
Idle B...
Idle EC...
Idle BAP Comp 0 Deg
Idle RPM Comp 0 Deg
Knock Comp 0 Deg
WOT Comp 0 Deg
MBT 0 Deg
Ign Advance 0 Deg

Push Bypass Air
Battery 0 V
RPM 0 RPM
TPS 0 Deg
ECT 0 °F
TPS vs Air 0 bypass%
From Idle Air 0 bypass%
Push Target Air 0 bypass%
Push Air 0 bypass%
Follow Air 0 bypass%

Controller software update succeeded!

确定