TPMS PROGRAMMING DIAGNOSTIC TOOL XTP-SP820 USER MANUAL

Safety Warning:

- Please conduct vehicle testing in a safe environment.
- Please keep the work area clean and orderly and adequately lit.
- Please keep clothing, hair, hands, tools and other inspection equipment away from moving or hot engine parts. Operators should stay away from or effectively protect hot parts such as vehicle engine exhaust, radiator, fan, fuel lines, spark plugs and water tank to prevent burns.
- Please operate this equipment in a well-ventilated and regulated workplace and avoid exposure to sunlight or rain.
- Please do not smoke or engage in sparking behavior near the equipment, and prohibit flammable and explosive items from approaching the equipment.
- Please do not operate the equipment in flammable atmospheres, such as flammable liquids, gases or highly dusty environments.
- Please keep the room well ventilated during operation and wear protective glasses, protective masks and protective clothing due to that vehicle exhaust contains many toxic and harmful gases (such as carbon monoxide, hydrocarbons, nitrogen oxides, etc.).
- Please equip with fire extinguishers available for gasoline, chemicals, and electronic fires in work area.
- Please do not use the equipment near corrosive chemicals to avoid damage to the equipment or its quality.
- Please do not connect or disconnect diagnostic equipment when the ignition switch is on or the engine is running.
- Please do not operate the diagnostic equipment while driving the vehicle to avoid distractions that could cause a crash.
- Please make sure the vehicle battery is fully charged and the connection of the vehicle diagnostic seat is clean and secure to avoid damaging the diagnostic equipment or generating incorrect data,
- Please do not place the diagnostic equipment on the vehicle distributor, strong electromagnetic interference will cause damage to the equipment.
- Please keep the device dry, clean and away from oil and water.
- Please do not charge for more than 24 hours.
- Please do not allow children or mentally handicapped persons to be near or touch the device when it is in operation.
- Please always observe electrical safety precautions when using equipment.
- Please maintain body balance and pay attention to the safe position of standing when operating equipment.
- Please do not wear jewelry and wear safety goggles that meet the standard when operating the equipment.
- Please do not use this product as a striking tool or throw it around to smash .

Marking Instructions:

 : Indicate the place that requires attention when operating the equipment.

 : Indicate safety warning information.

 : Indicate the possibility of danger or serious personal injury.

1 Convention

This manual contains instructions and procedures for the use of the equipment. Some of the illustrations shown in this manual may contain modules and optional equipment that are not available in the system you are using, so you may contact your local sales representative or distributor for additional optional accessories and modules.

The following conventions apply to this manual.

1.1 Bold

Bold is used to highlight optional items, such as **[Button]** and **[Menu]** options. For example, click **[OK]**.

1.2 Notice and Important Information

Note: Precautions warn of situations that should be avoided (shunned) to prevent damage to diagnostic equipment or the vehicle.

Tip: New batteries reach full capacity after approximately 5 charge and discharge cycles.

Important: Important indications could result in damage to test equipment or the vehicle if it is not avoided.

1.3 Hyperlink

This manual contains hyperlinks or links to relevant chapters, operating procedures, and illustrations in the electronic file. Blue italicized text indicates optional hyperlinks, and blue underlined text indicates links to websites or e-mail addresses.

1.4 Illustration

The illustrations used in this manual are samples and the actual test screens may vary for each vehicle being tested. Please follow the menu titles and screen instructions for proper operation.

2 Overview

2.1 Product Description

SP820 professional tire pressure repair and programming tool is a professional tire pressure

repair and programming tool with full functions of OBD and TPMS diagnosis, TPMS matching learning and guideline, TPMS sensor activation and programming, which is developed by our company in line with international leading standards. It can read various real-time data of tire pressure sensors, activate sensors of different frequencies and brands, including original sensors, program 16 sensors wirelessly at the same time, and also has tire pressure system diagnostic and matching learning functions covering a wide range of models. Unlimited repeatable programming can be realized with our programmable tire pressure sensor and it helps you to easily capture the growing tire pressure market. SP820 is the best choice for all kinds of auto service centers, quick repair and tire stores to provide tire pressure change and repair solutions.

2.2 Equipment and Button Instructions

SP820 Professional Tire Pressure Repair Programming Tool Overview

1. **LCD display**: Display function menu and test result.
2. **F3 button**: Used to operate [Yes], [OK] or [Save].
3. **F2 button**: Used to operate [Keyboard], [Save] or [Rename].
4. **F1 button**: Used to operate [No], [Back], [Cancel], [OK] or [Delete].

5．**Up button**: In menu mode, move up the menu option; in text box mode, turn up; in data stream or DTC or service function mode, turn up to the cursor moving position.

6．**Cancel or return button**: Exit the diagnostic system; cancel the activation operation; return to the previous level interface or menu.

7．**Left button**: In menu mode, switch to the previous screen menu display; in data stream mode, switch to the previous screen display.

8．**Down button**: In menu mode, move down the menu options; in text box mode, scroll down; in data stream or DTC or service function mode, move down the cursor position.

9．**Power switch**: Long press for about 3 seconds, power on or off.

10．**Confirm button**: Used to operate the [Yes], [OK], [Enter] button; under the activation function, display the activation information.

11．**Right button**: In menu mode, switch to the next screen menu display; in data stream mode, switch to the next screen display.

12．**Test and launch button:** For sensor activation, copy, programming and other operations.

13．**TF card slot**: Expand with external storage.

14．**USB port**: For upgrade or charging the device.

15．**OBDII diagnostic cable socket**: Connect with car OBD port through test main cable.

The pictures and illustrations, product features and functions, and accessories in this user manual may differ from the actual product and are for reference only. Product design and specifications are subject to change without notice.

2.3 Main Functions

1. TPMS diagnosis: Read sensor ID, read DTCs, clear DTCs, check data stream, match and relearn, etc..

2. Tire pressure sensor activation: Obtain and display sensor data, such as ID, pressure, temperature, power and other information.

3. Tire pressure sensor programming: Support manual input, automatic creation, activation clone, OBD clone to program.

4. OBDII diagnosis: Support system status, read DTCs, clear DTCs, read freeze frame, I/M readiness test, oxygen sensor test, vehicle monitor test, component test, vehicle information, existing module information, DTC finding.

3 Specifications and Parameters

3.1 Specification

Specification	Parameter
Model No.	XTP-SP820
Display	2.8-inch TFT color LCD display, 320X240 pixels, support contrast adjustment
RAM	64MB
Battery Capacity	3.7V, 3000mAh lithium polymer battery
Extended Memory	TF card
Diagnostic Mode	Wired
Learning Type	Support 4 ways
Programming Method	Wireless programming, support 4 programming methods
Simultaneous Programming Number	16
Received Frequency	315MHz/433MHz
Learning Assistance	Support
Upgrade Method	USB connection and free upgrade
Working Temperature	-20℃ to 60℃（-4℉ to 140℉）
Storage Temperature	-20℃ to 70℃（-4℉ to 158℉）
Net Weight	400g
Dimension	190X102X35mm（LXWXH）

3.2 Parcel Content

Item	Number	Description
SP820 Host	1	Host
OBDII Diagnostic Cable	1	Diagnostic Cable
USB Data Cable	1	Charging and Upgrading Cable
User Manual	1	User Manual
Certificate	1	Certificate
Card Reader	1	PC Kit

3.3 Icon Description

1.  ： Indicate that the battery is being charging.
2.  ： Display battery capacity.
3.  : Indicate that SP820 equipment is sending signal to the tire pressure sensor, activating or programming the

sensor.

3.4 Keyboard

Please use a mild, nonabrasive cleaner and a soft cotton cloth to clean the keyboard and display.
Please do not use solvents such as alcohol to clean the device.
Please do not soak the keyboard for the keyboard is not waterproof.

3.5 Charge

SP820 has built-in 3.7V3000mAhlithium polymer battery.

3.5.1 Charging Method

Use the USB cable to charge: Find the USB cable, connect it to the USB port of the device, and connect the other end to the USB port of the PC computer or other 5V USB charging adapters.

⚠ **Note:** Only use the equipment provided in our accessories for charging. The use of unapproved power supply causes damage to the equipment and makes the equipment unable to work, which is not covered by the warranty.

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4 Tire Pressure Maintenance

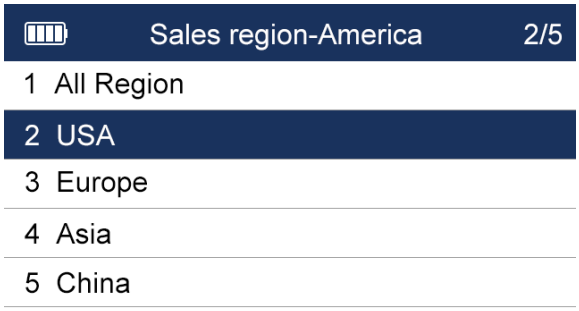
This equipment has tire pressure maintenance functions, including TPMS diagnosis and matching, sensor activation, information reading and copying, sensor programming and learning assistance.

4.1 Model and Year Selection

1. In the main menu of the equipment, select tire pressure maintenance, and then press [Y] key to enter the vehicle area selection page.

Select tire pressure maintenance

2. On the vehicle area selection page, select the area to which the vehicle belongs, and then press the [Y] key to enter the vehicle brand selection page.



Vehicle area selection

⚠ **Note:** Users in mainland China, please set the region to China before using the device, that is, in the [Settings] menu, select [Region], and then select [China].

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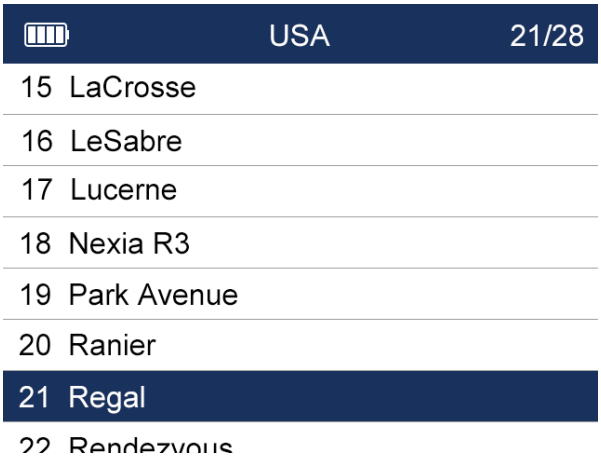
3. On the vehicle brand selection page, select a specific vehicle brand, and then press the [Y] key to enter the model or level selection page.

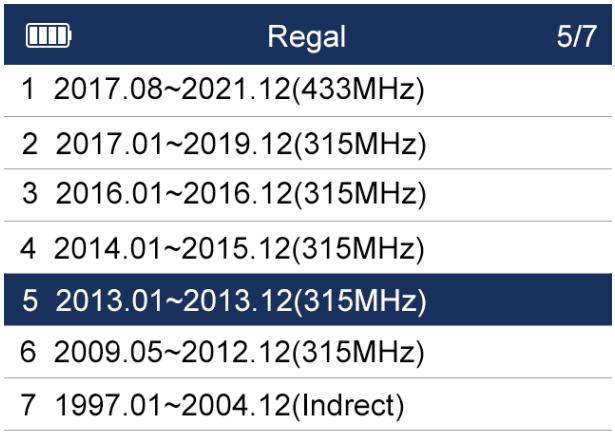
Vehicle brand selection

4. On the vehicle model or level selection page, select a specific vehicle model, and then press [Y] key to enter the year and sensor frequency selection.



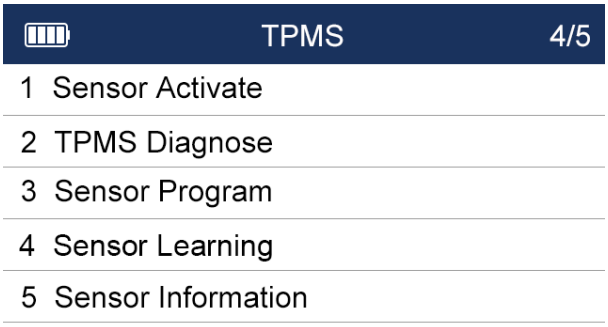
Vehicle model selection

5. On the vehicle year and sensor frequency selection page, select the specific year and sensor frequency, and then press the [Y] key to enter the tire pressure maintenance function selection page.



Year and sensor frequency selection

6. On the vehicle year and sensor frequency selection page, select the specific year and sensor frequency, and then press [Y] key to enter the function selection page of tire pressure maintenance.



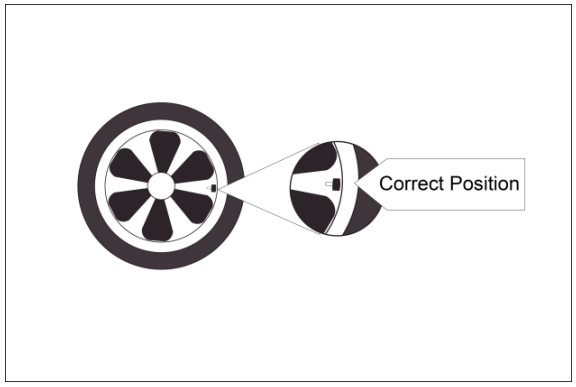
Tire pressure maintenance function selection page

⚠ **Note:** The number of functions depends on the model.

4.2 Activation

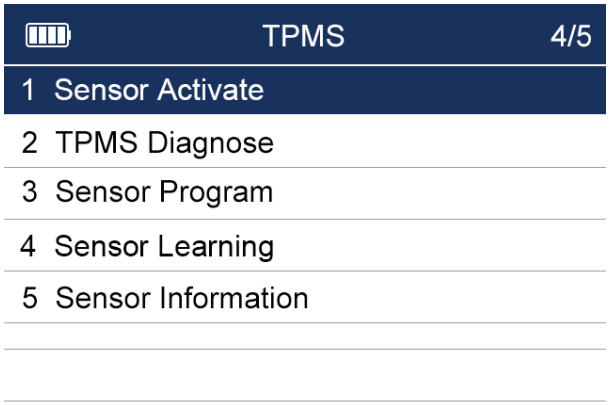
That is sensor activation. Activate the original sensor through SP820 and read the relevant data of the original car sensor.

Step 1: Put the top of the equipment close to the inflation port on the wheel hub. On the tire pressure maintenance function selection page of the equipment, select the [Activate] option, and then press the [Y] key to enter the function page for activating the sensor.



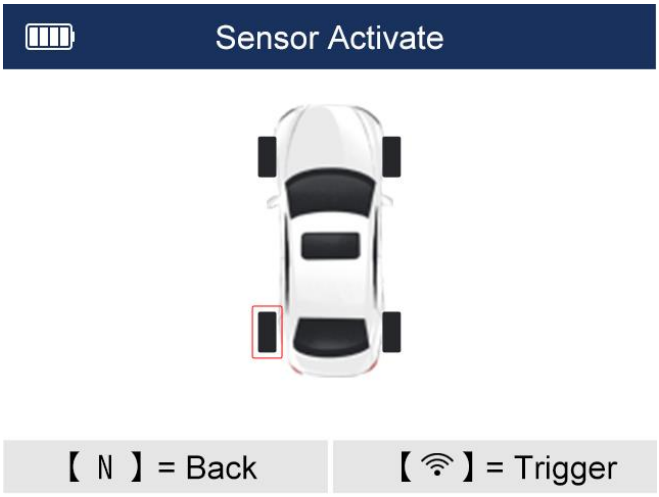
Bring the equipment closer to the sensor

Step 2: On the function selection page of tire pressure maintenance, select [Activate] and press [Y] key to enter the activation page.

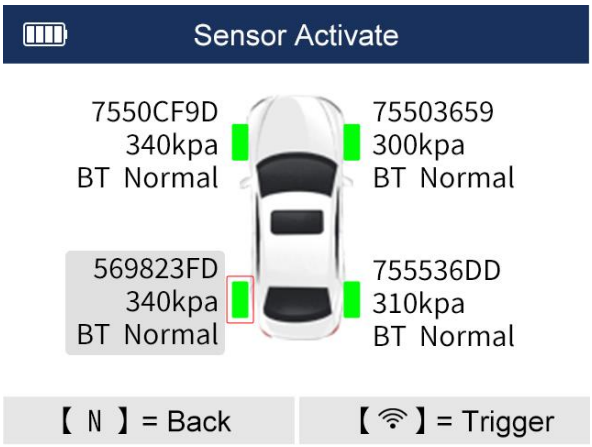


Select sensor activation and press [Y] key

Step 3: On the activation page, press the up, down, left, and right keys of the equipment to select the sensor corresponding to the tire to activate.



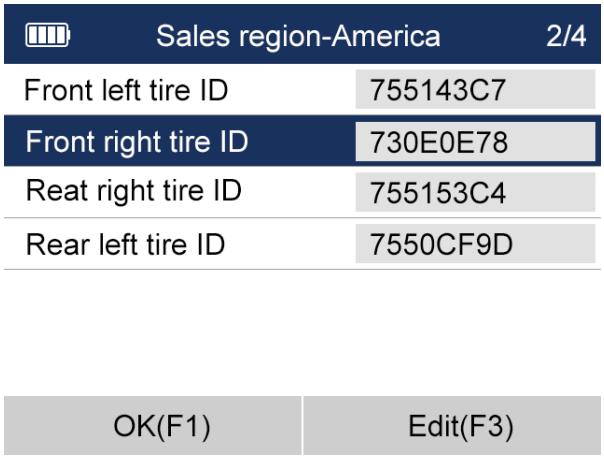
Step 4: Press the [ ] key, the equipment will automatically activate the sensor and read the sensor data. The sensor is activated successfully, and the sensor ID number, pressure (P), frequency (Freq), temperature (T) and Bs (battery information) are displayed on the right side of the screen.



Press the【 】 key， auto read the data

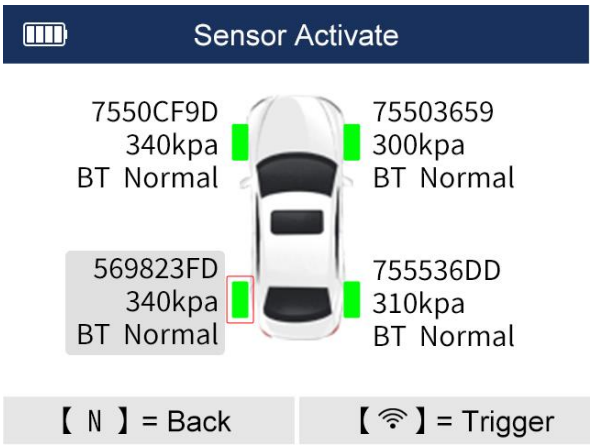
Tips: If the activation is successful, the tire color will be displayed in green; if the activation is not successful, the tire color will be displayed in red.

Step 5: After reading the sensor information, you can press the [Y] key on the equipment to enter the sensor status interface for viewing and saving. Press【F1】key to confirm and return to the previous step, press【F2】key to save the activated sensor data.



View and save sensor data

Step 6: After confirming or saving in the previous step, return to the activation page. Press the up, down, left, and right keys of the equipment to select the sensors on other tires of the car, activate and save them respectively.



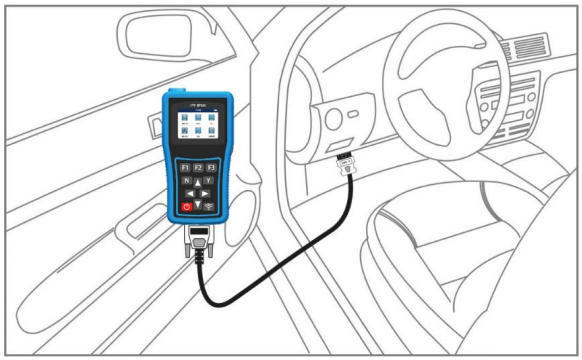
Select other sensors to activate

4.3 Diagnosis

The diagnosis function refers to the fault diagnosis of the tire pressure monitoring system (TPMS) of the car. The diagnosis function includes code reading, clearing code and viewing data stream.

4.3.1 Way of entry

1. Connect equipment and vehicle: Connect one end of the OBD diagnostic main cable to the OBD connection port of the equipment, and the other end to the OBD port of the car.



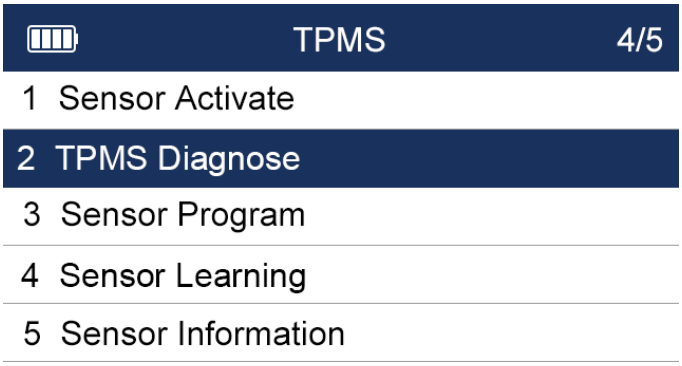
Connect equipment and vehicle

2. Start the vehicle

3. Turn on the equipment

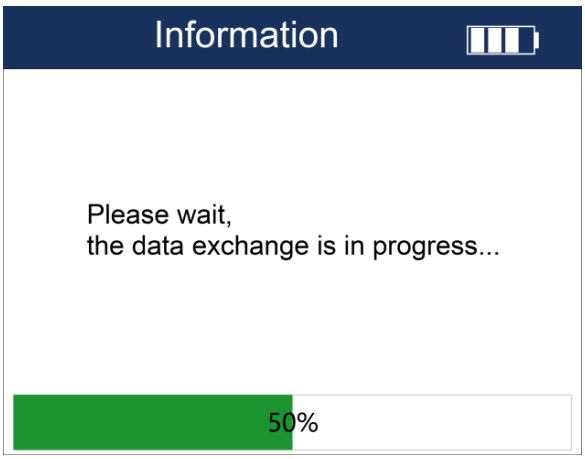
4. Select the model and the year, and enter the function selection interface of tire pressure sensor maintenance.

5. On the function selection interface of tire pressure sensor maintenance, select TPMS diagnosis and press [Y] key.

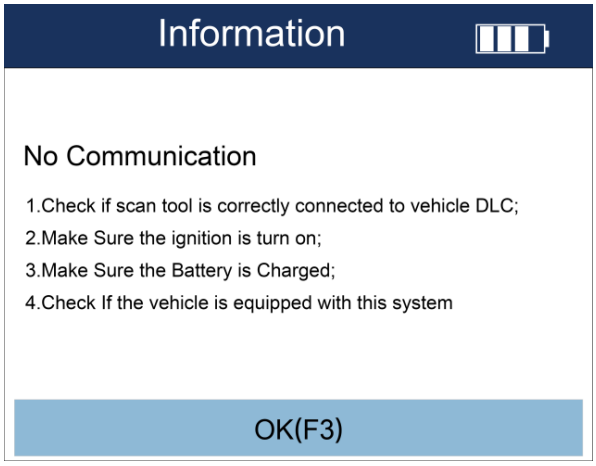


Select diagnosis and press [Y] key

6. The equipment will communicate with the car immediately, and the equipment will prompt "Please wait, the data exchange is in progress...". If the communication fails, it will prompt the communication failure.

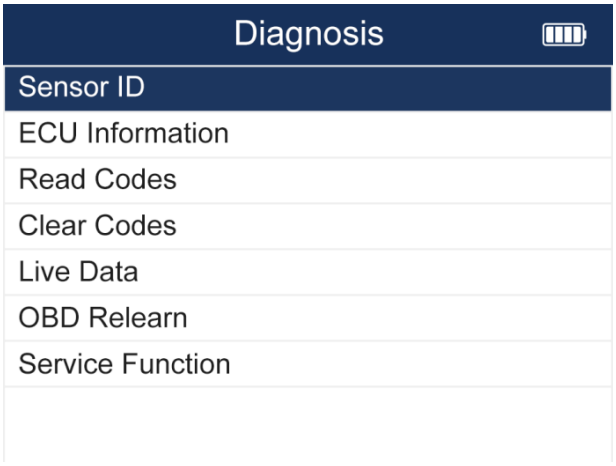


The data exchange is in progress, please wait



Communication failure prompt

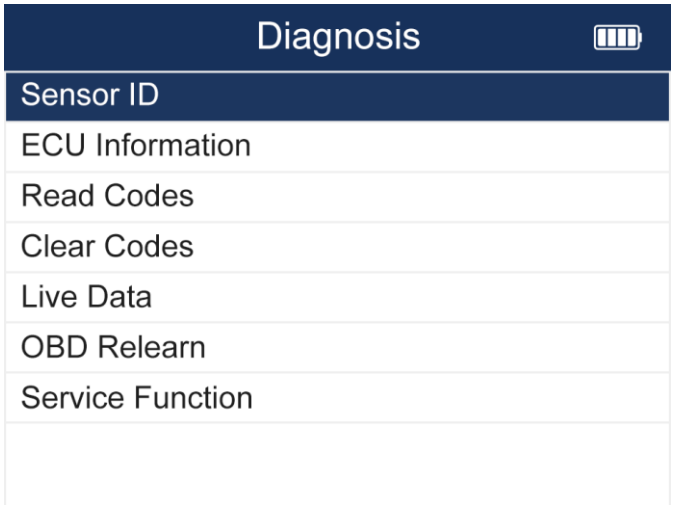
7. Diagnosis function menu page



Diagnosis function menu page

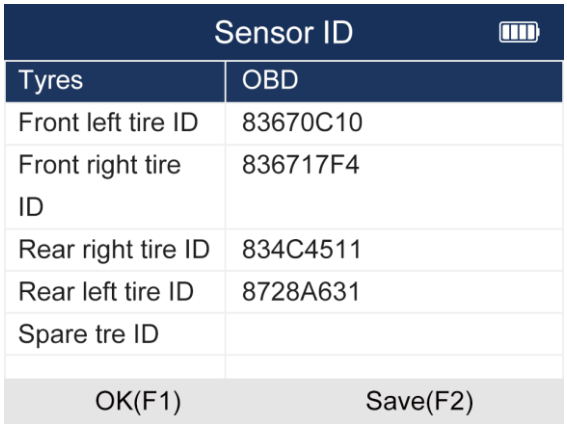
4.3.2 Sensor ID

1. In the diagnostic function page, select the sensor ID and press [Y] key to enter.



Select sensor ID

2. Read the sensor data of the whole vehicle as shown in the figure below.



Sensor ID read result

ⓘ **Prompt:**

1. Select the button [F2] to save the sensor ID data, and review the records in the data management menu of the main interface.

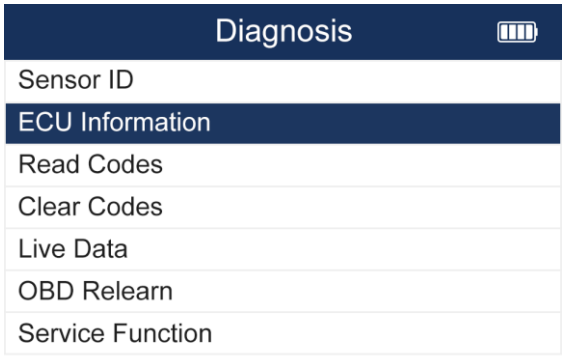
2. Select the button [F1] or [N] to exit the above interface.

3. On the sensor ID reading result page, press the [ ] key to activate the sensor.

4.3.3 Read Version Information

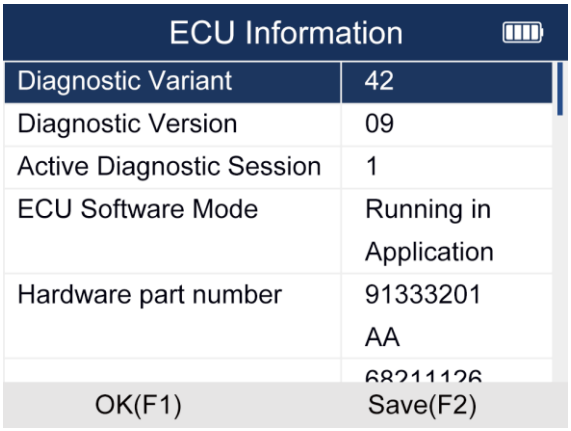
Read version information: refers to read the ECU version information of the vehicle tire pressure monitoring system.

1. On the diagnostic function menu page, select Read Version Information, and then press the [Y] key.



Selected version information

2. The result page of reading version information is as follows.



Reading result of version information

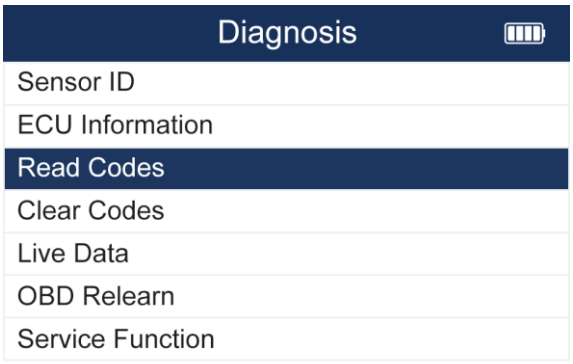
ⓘ **Prompt:**

1. Select the button [F2] to save the sensor ID data, and review the records in the data management menu of the main interface.

2. Select the button [F1] or [N] to exit the above interface.

4.3.4 Read DTCs

1. On the diagnostic function menu page, select Read DTC, and then press [Y] key.

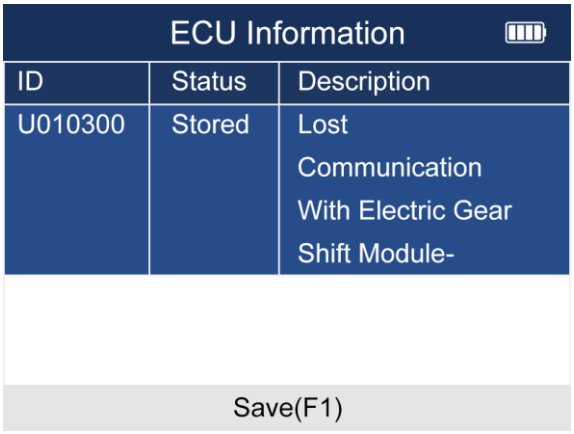


Select to read DTCs

2. Fault display interface

If there is no DTC and the following prompt is displayed, press [F3] or [N] to exit.

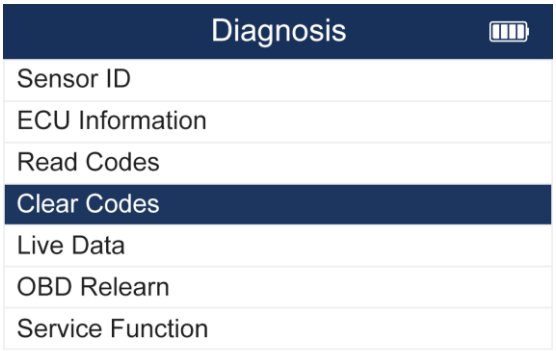
If there is a fault, the following prompt will appear, press [F1] to save the DTC.



Display page with DTC

4.3.5 Clear DTCs

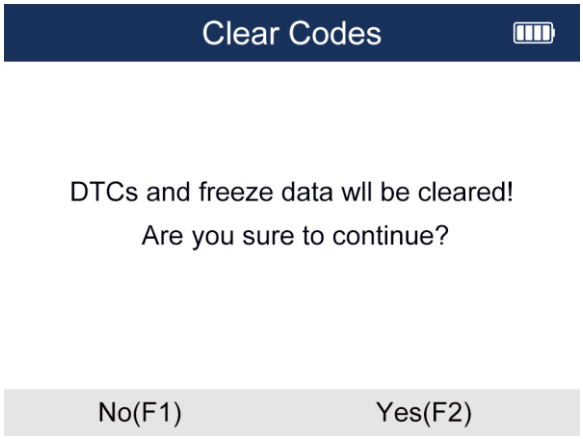
1. On the diagnostic function menu page, select Clear DTC, and then press [Y] key.



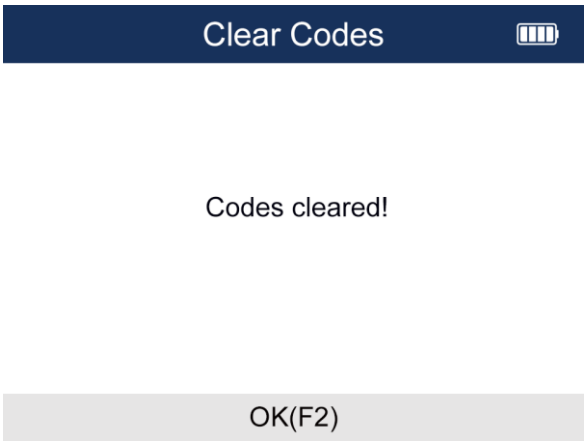
Select to clear DTC

2. On the diagnostic function menu page, select Clear DTC, and then press [Y] key.

During the process of clearing the DTC, if the following prompt page displays, select [F1] to continue to clear the code, and select the [N] button to exit.



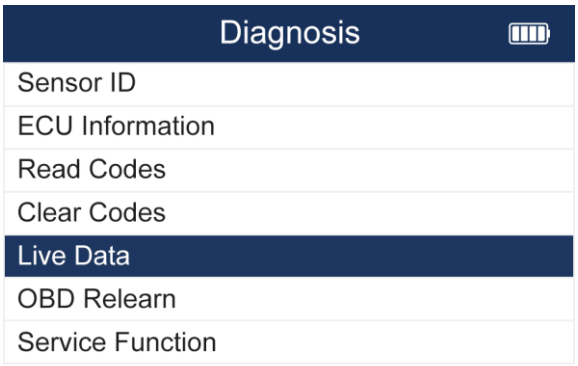
Press [F1] to continue to clear



Press [F3] to exit

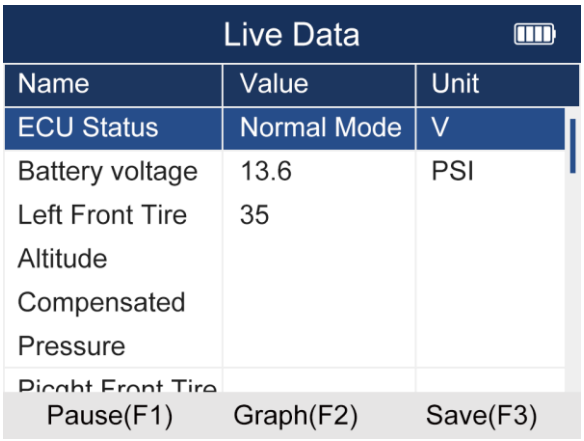
4.3.6 Read Data Stream

1. On the diagnostic function menu page, select Read Data Stream, and then press the [Y] key.



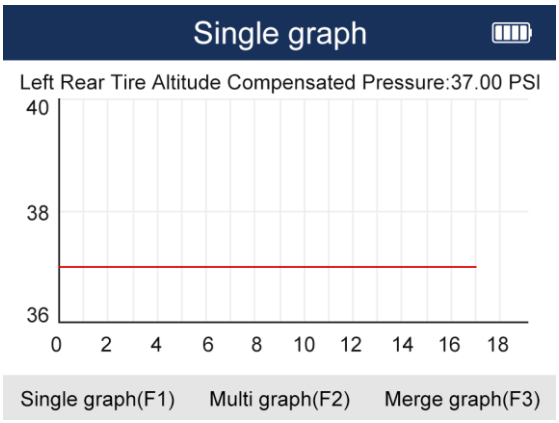
Select to read data stream

2. The read results are as follows. Select the button [F1]] to pause the data stream value refresh.



Data stream display

3. Select the button [F2] to enter the data stream single-graph, multi-graph, and combined graph interface, as shown in the figure below:



Data stream single-graph mode

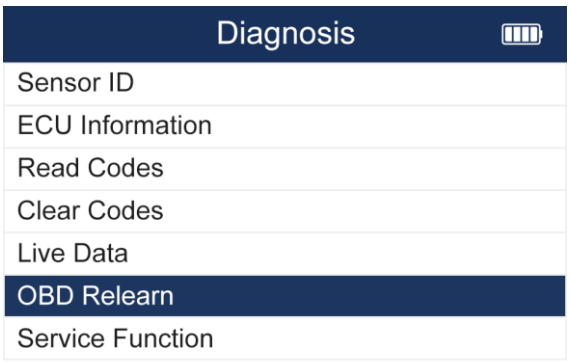
ⓘ **Tips**

1. Select the button [F3] to save the data stream, and review the records in the data management menu of the main interface.

2. Select the button [N] to exit the data stream function.

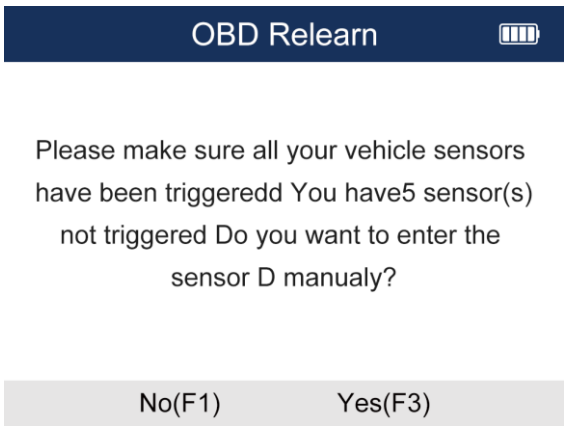
4.3.7 OBD Learning

1. On the diagnostic function menu page, select OBD learning, and then press [Y] key to enter the next step.

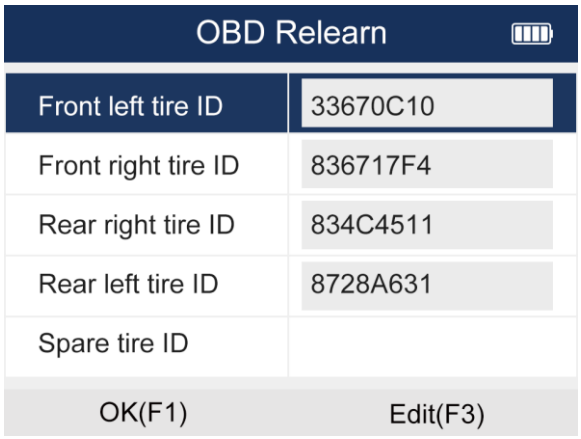


Select OBD learning

2. If the sensor is not activated, the following prompt will appear, and the tire ID needs to be entered manually. If the sensor is activated, the tire ID is automatically populated.



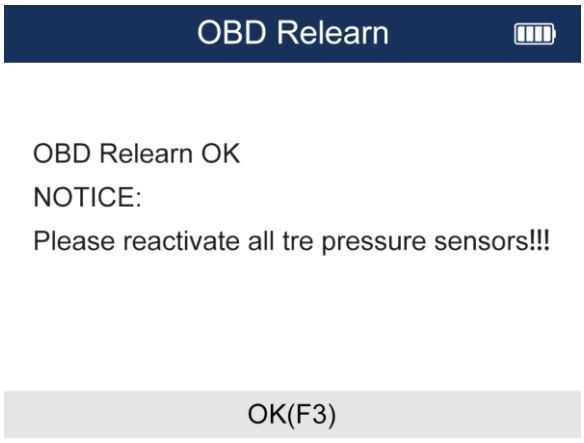
Sensor not activated reminder



If it is not activated, you need to manually enter the ID

3.Select the [F1] button to continue the subsequent operation of writing the sensor ID, and select [N] to exit and return.

4. If the learning is successful, it needs to be reactivated in sequence, and the car instrument will display the pressure information of the sensor, as shown in the figure below; if the learning fails, the instrument will not display the pressure sensor information, and the tire pressure system will turn on the fault light.

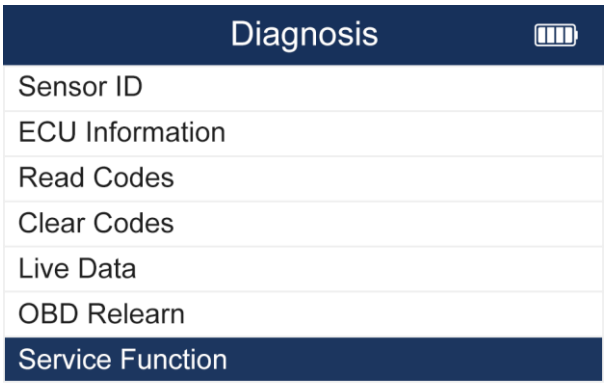


Learning

4.3.8 Service Function

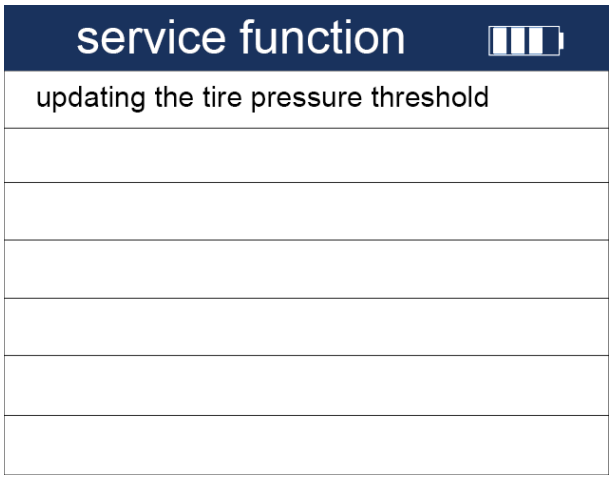
1. On the diagnostic function menu page, select the service function, and then press the [Y] key to enter the next step.

The device will pop up the following function menu, and perform on the basis of the operation instructions according to different functions.



Select service function

2. In the service function list, select the corresponding option, such as updating the tire pressure threshold, and then press [Y] key to enter the next step.

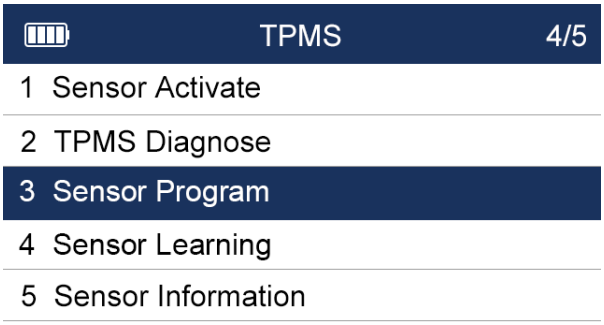


Select one function, and press [Y] key

4.4 Programming

Programming refers to writing data such as ID to new or empty sensors. SP820 provides 4 programming methods.

On the function selection page of tire pressure maintenance, select [Sensor Programming], and then press the [Y] key to enter the programming mode selection page.

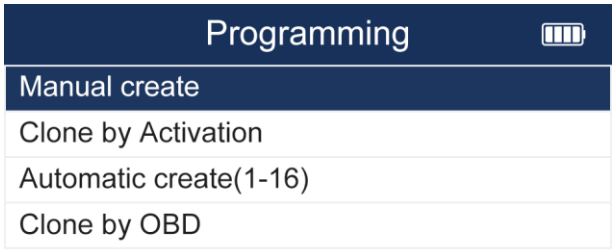


Select Sensor Programming

4.4.1 Copy by Manual Input

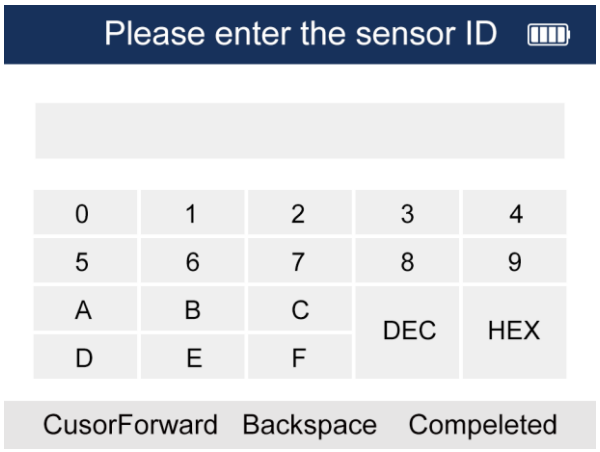
Manual input, that is, manually enter the sensor ID, and then write the sensor ID to the new sensor with the help of the equipment. You can also program multiple sensors by manual input method. Please place the sensor that needs to be programmed within 20cm of the programming antenna on the top of the equipment, and the sensor that does not need to be programmed is 100cm away from the equipment.

1. On the programming mode selection page, select [Manual Input], press [Y] key to enter the manual input page.



Select Manual Input

2. Enter the ID, select the character by pressing the up, down, left and right keys, and press the [Y] key to enter the character.



Press【F3】to program after entering the ID

3. Hold the new sensor close to the programming antenna on the top of the equipment. Then, press the [F3] key, the device will transmit a signal to program the ID into the new sensor.

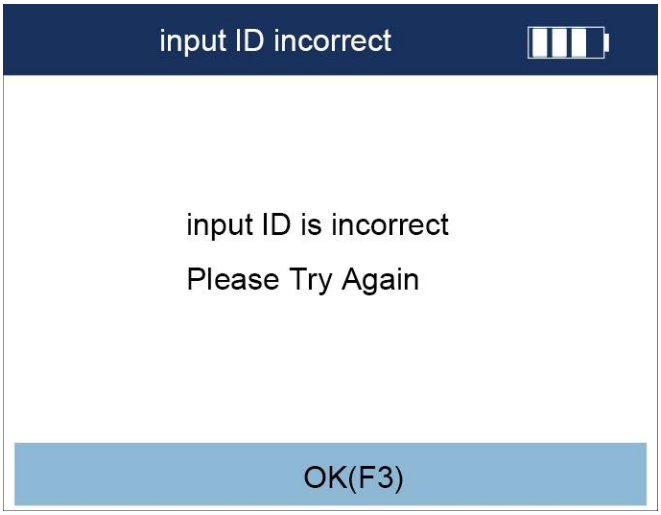
Press [F3] key

⚠**Note:** Place the sensor that needs to be programmed within 10cm of the programming antenna on the top of the equipment, and the sensor that does not need to be programmed should be kept away from the equipment by 100cm. SP820 supports simultaneous programming of multiple sensors.

---

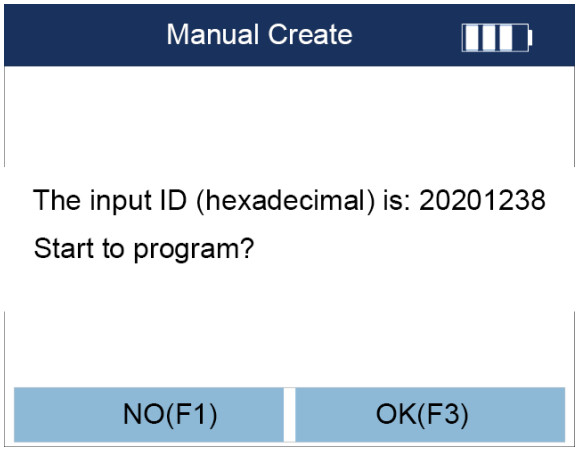
4. Prompt and confirmation

If the input ID is incorrect, the prompt is as follows.



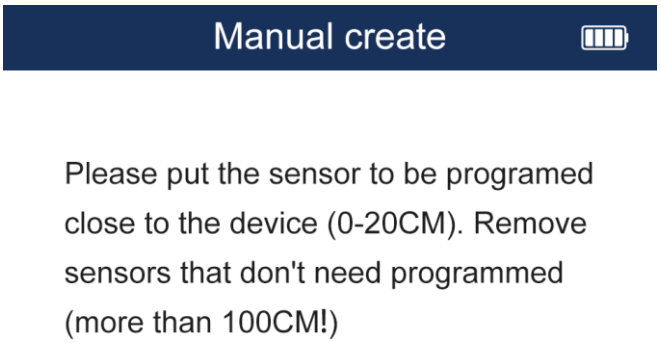
Press [F3] key to return

If the input ID is correct, the prompt is as follows. Please press【F3】key to confirm the ID and go to the next step.

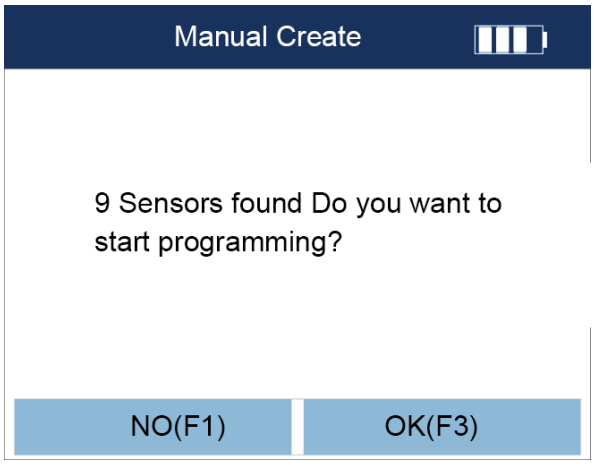


Press【F3】key to confirm the ID and go to the next step

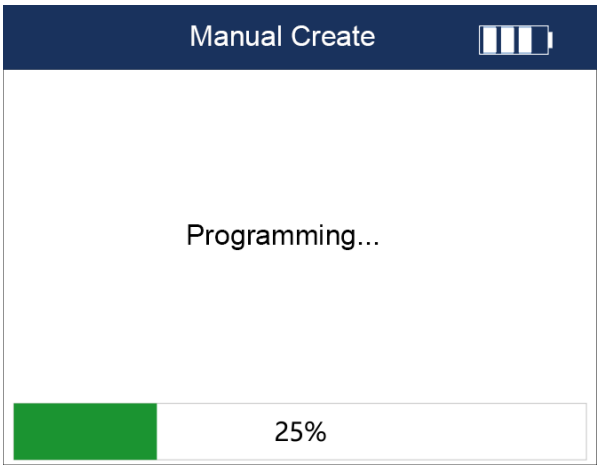
1. The equipment automatically detects the number of sensors, and at the same time prompts "Please bring the sensors that need to be programmed close to the equipment (0-20cm), and remove the sensors that do not need to be programmed (100cm away from the equipment)". Please confirm the number of sensors, and then press the [F3] key to formally program. During programming, it will prompt the progress of programming. After the programming is completed, it will prompt that the programming is successful. After the programming is successful, you can press the [F1] key to return to the programming mode selection page.



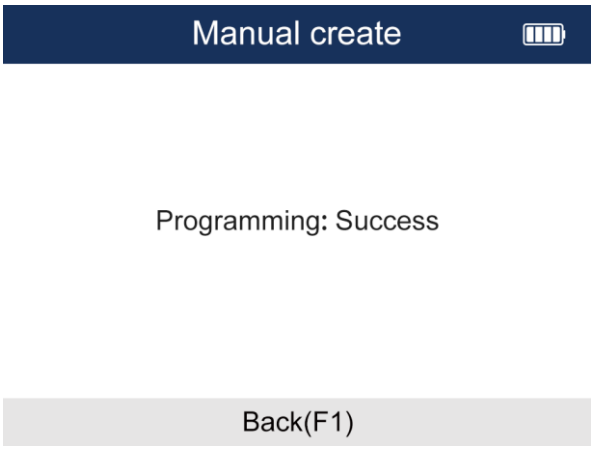
The sensor is not detected, please confirm that the equipment software is up to date, and make sure that the sensor is within 20cm of the equipment.



Multiple sensors are detected, confirm the number of sensors, and then press [F3] key to formally program.



Programming



Programmed successfully

If it prompts that the programming fails, please confirm whether it is the sensor of our company, and confirm whether the selected frequency is correct.

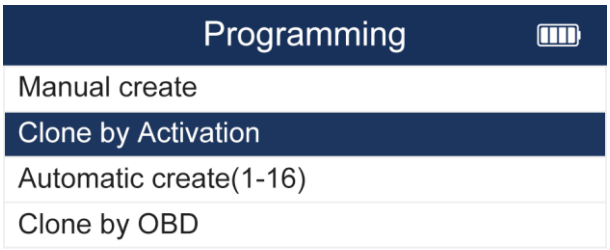
2. After the programming is successful, press the [F1] key to return to the programming mode selection page.

ⓘ **Note:** After the programming is successful, you can refer to Chapter 4.2, activation steps, to read the programmed sensor data to check whether the programmed data is accurate.

4.4.2 Copy by Activation

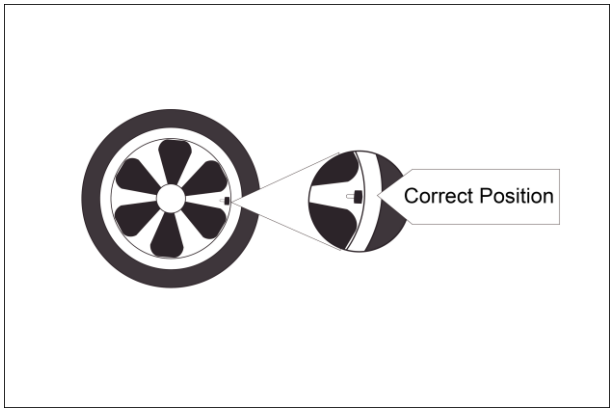
Copy by activation, i.e. by copying the data from the original or old sensor and writing it to the new sensor via the equipment.

1. On the programming mode option page, select [Copy by Activation], then press the [Y] key to enter the page for copying the original or old sensor data.

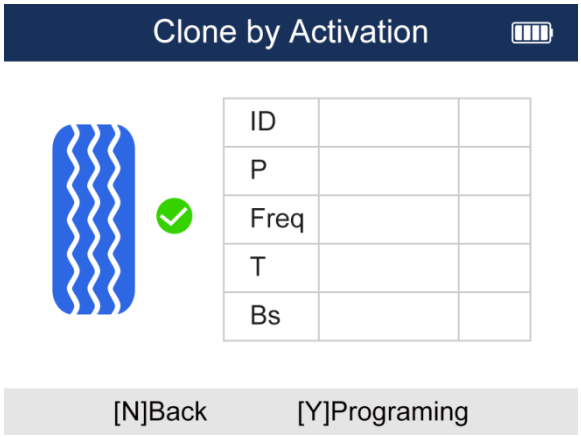


Select Copy by Activation

2. After entering the page of copy by activation function, put the equipment close to the original or old sensor of the tire, and then press the [ ] key to start copying.

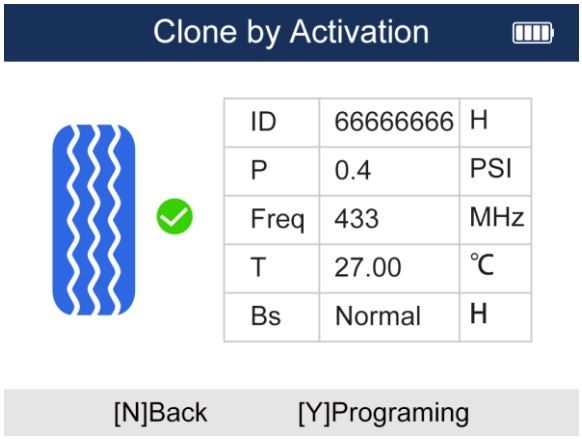


Put the equipment close to the original or old sensor



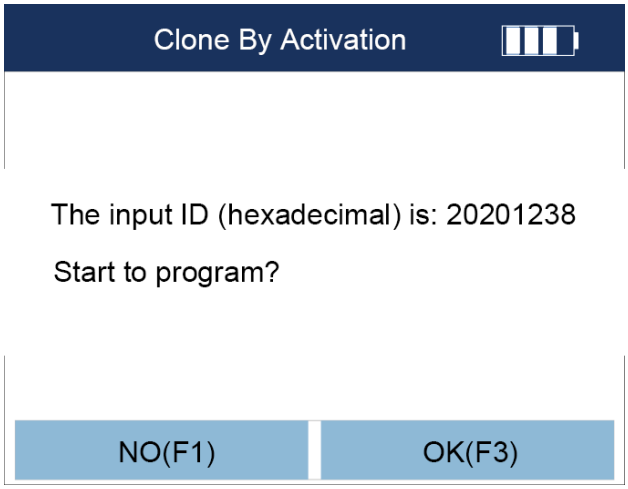
On the page of copy by activation, press the [ ] key

3. After pressing the [ ] key, the equipment will copy the original or old sensor data, display and save it in the equipment. If the page is displayed as follows, indicating that the data has been copied successfully.



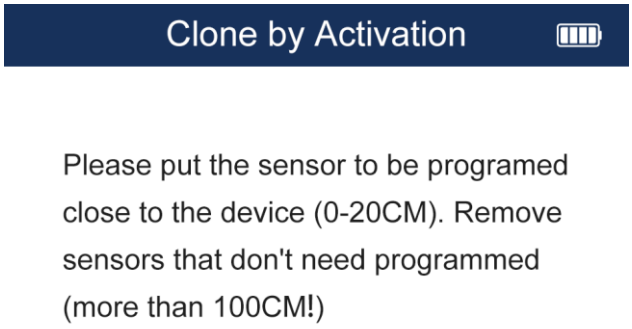
Indicating that the data has been copied successfully

4. Program the new sensor. Place the new sensor that needs to be programmed within 20cm of the programming antenna on the top of the equipment, and the sensor that does not need to be programmed is 100cm away from the equipment. Then press【Y】key to program.

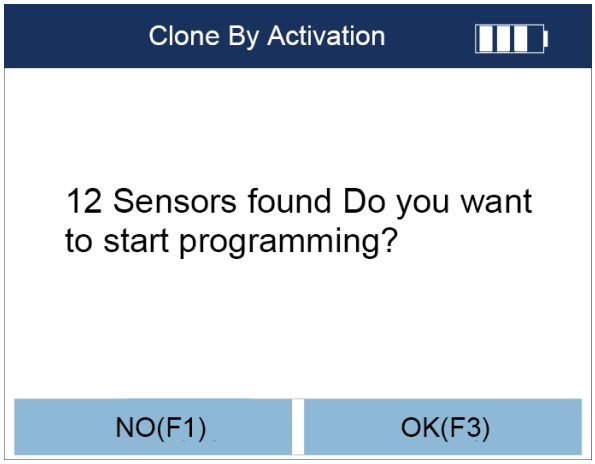


Press【F3】key to confirm the ID and enter the next step

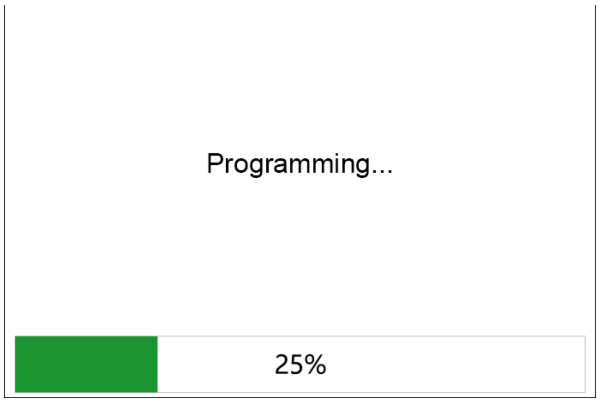
5. The equipment automatically detects the number of sensors, and at the same time prompts "Please bring the sensors that need to be programmed close to the equipment (0-20cm), and remove the sensors that do not need to be programmed (100cm away from the equipment)". Please confirm the number of sensors, and then press the [F3] key to formally program. During programming, it will prompt the progress of programming. After the programming is completed, it will prompt that the programming is successful. After the programming is successful, you can press the [F1] key to return to the programming mode selection page.



The sensor is not detected, please confirm that the equipment software is up to date, and make sure that the sensor is within 20cm of the equipment.



Confirm the number of sensors and press [F3] key



Programming

Programmed successfully

NO(F1)

Programmed successfully

6.After the programming is successful, press the [F1] key to return to the programming mode selection page.

ⓘ **Note:** After the programming is successful, you can refer to Chapter 4.2, activation steps, to read the programmed sensor data to check whether the programmed data is accurate.

4.4.3 Auto Create 1 to 16 Sensors

Auto Create, that is, automatically write the sensor data of the corresponding model to the new sensor through the automatic program and data of the equipment. SP820 supports simultaneous programming of 1-16 sensors.

1. Refer to Article 5.1 to select the vehicle area, vehicle brand and year, and choose the correct model. Then select [Programming] and press [Y] key to enter the programming mode selection page.

2. Hold the new sensor close to the programming antenna on the top of the equipment. Then, press the [F3] key, the equipment will transmit a signal to program the ID into the new sensor.

Press [F3] key

⚠**Note:** Place the sensor that needs to be programmed within 10cm of the programming antenna on the top of the equipment, and the sensor that does not need to be programmed should be kept away from the equipment by 100cm. SP820 supports simultaneous programming of multiple sensors.

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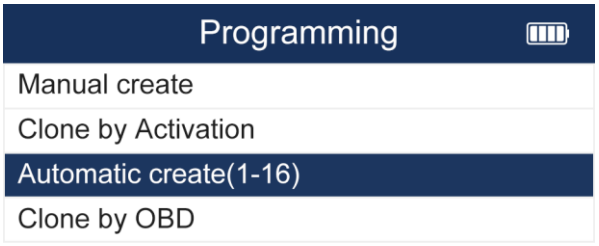
3. On the programming mode option page, select [Auto Create (1-16)], and then press the [Y] key to enter the page for copying the original or old sensor data.



Select Auto Create (1-16)

4. The equipment automatically detects the number of sensors, and at the same time prompts "Please bring the sensors that need to be programmed close to the equipment (0-20cm), and remove the sensors that do not need to be programmed (100cm away from the equipment)". Please confirm the number of sensors, and then press the [F3] key to formally program. During programming, it will prompt the progress of programming. After the programming is completed, it will prompt that the programming is successful.

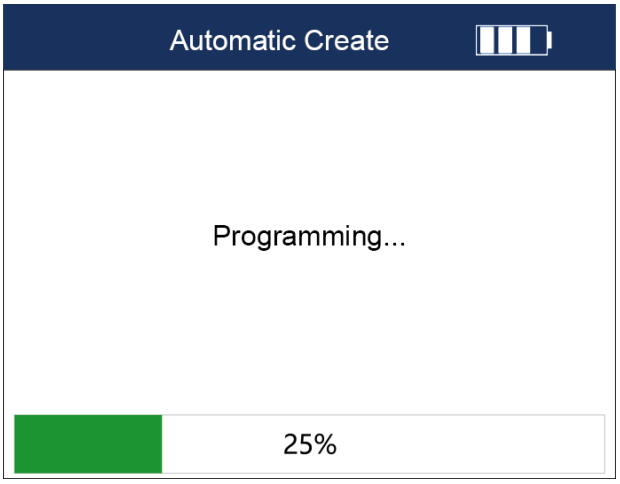
Please put the sensor to be programed close to the device (0-20CM). Remove sensors that don't need programmed (more than 100CM!)

The sensor is not detected, please confirm that the equipment software is up to date, and make sure that the sensor is within 20cm of the equipment.

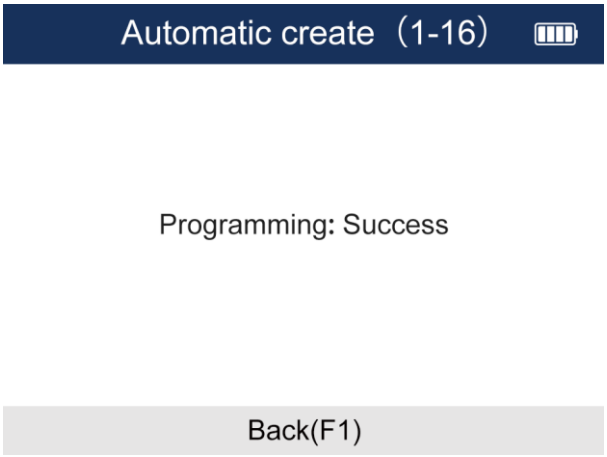
1 sensors found Do you want to start programrmming?

Cancel(F1) OK(F3)

Confirm the number of sensors and press [F3] key



Programming



Programmed successfully

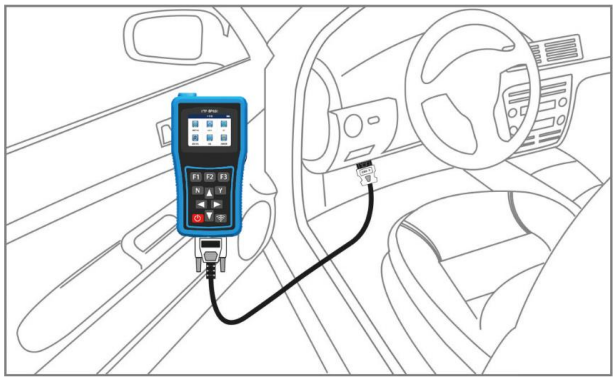
5. After the programming is successful, press the [F1] key to return to the programming mode selection page.

ⓘ **Note:** After the programming is successful, you can refer to Chapter 4.2, activation steps, to read the programmed sensor data to check whether the programmed data is accurate.

4.4.4 Copy by OBD

Copy by OBD, that is, connect the vehicle through the OBD test main cable of the equipment, read and copy the original or old sensor data from the vehicle, and then program to the new sensor.

1. Connect equipment and vehicles: Connect one end of the OBD diagnostic main cable to the OBD port of the equipment, and the other end to the OBD port of the car.



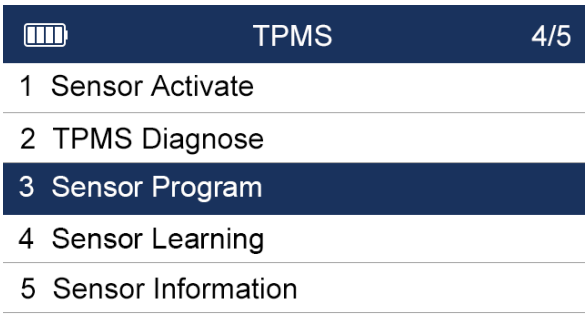
Connect equipment and vehicles

2. Start the vehicle

3. Turn on the equipment

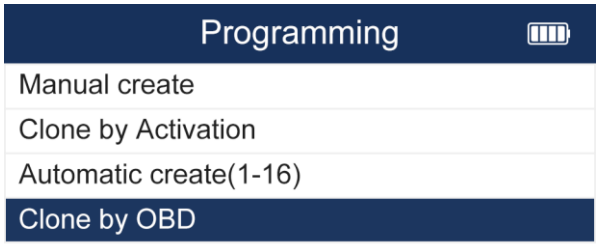
4. Select the model and year, and enter the function selection interface of tire pressure maintenance (be sure to select the correct one).

5. On the function selection interface of tire pressure maintenance, select programming, and press [Y] key to enter the programming mode selection page.



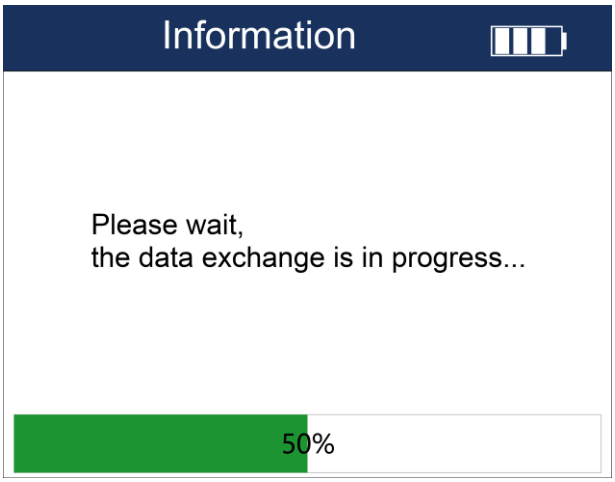
Select programming and press [Y] button

6. On the programming mode selection page, select Copy by OBD, and then press [Y] key.

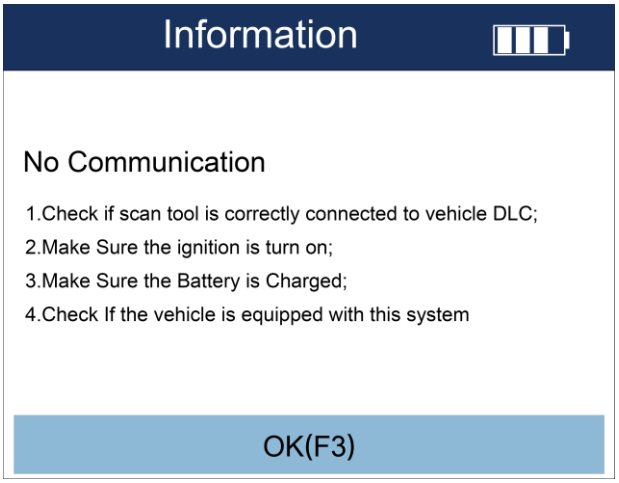


Select Copy by OBD

7. The equipment will communicate with the car immediately, and the equipment will prompt "Please wait, the data exchange is in progress...". If communication fails, it will prompt communication failure.

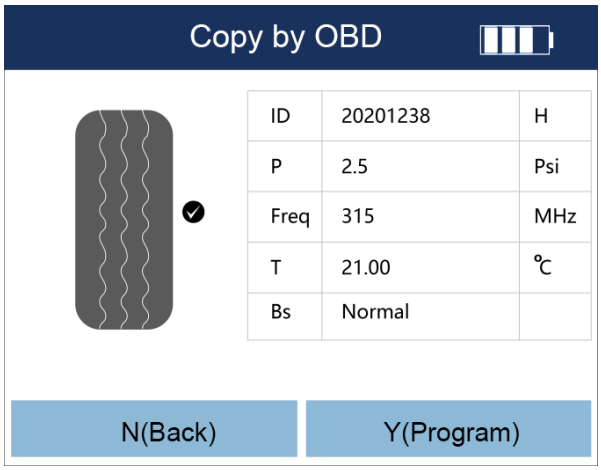


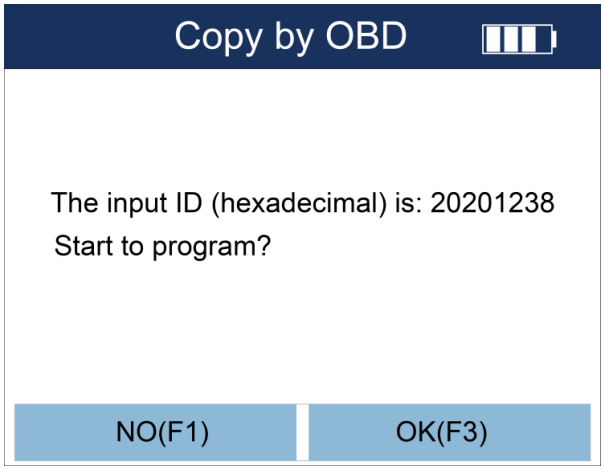
Please wait, the data exchange is in progress...



Communication failure prompt

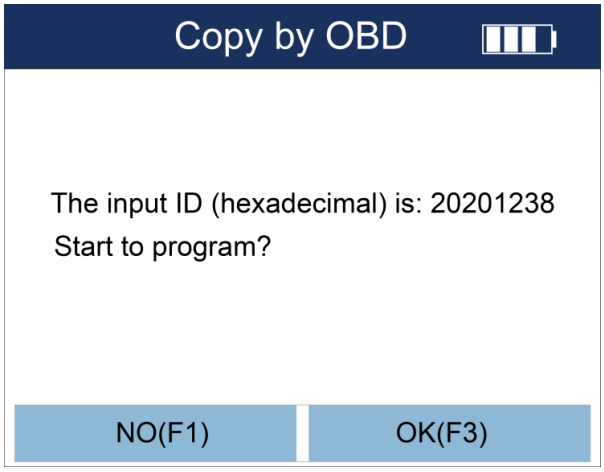
8. After successfully reading the data of the original tire pressure sensor, it will be displayed as follows and saved in the equipment for the next step of programming a new sensor.





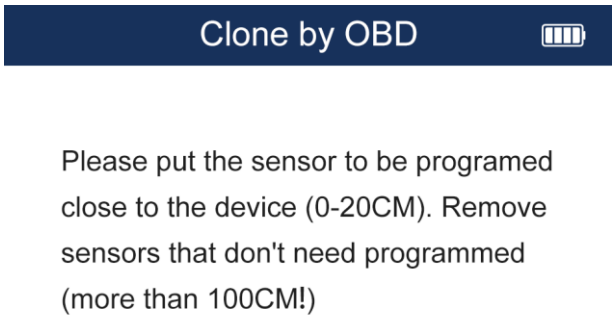
Copy original sensor data by OBD

9. Program the new sensor. Place the new sensor that needs to be programmed within 20cm of the programming antenna on the top of the equipment, and the sensor that does not need to be programmed is 100cm away from the equipment. Then press【Y】key to program.

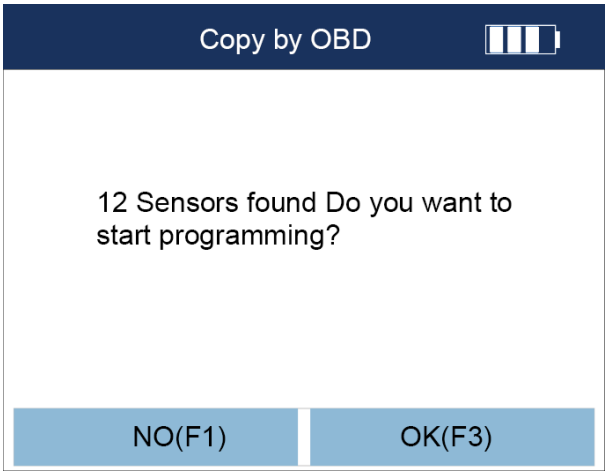


Press【F3】key to confirm the ID and enter the next step

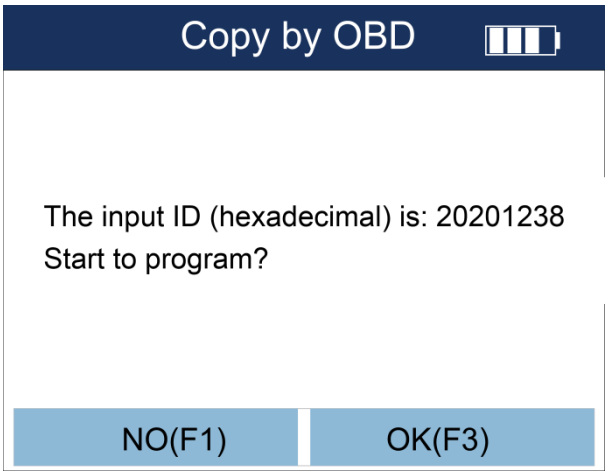
10. The equipment automatically detects the number of sensors, and at the same time prompts "Please bring the sensors that need to be programmed close to the device (10-20cm), and remove the sensors that do not need to be programmed (100cm away from the equipment)". Please confirm the number of sensors, and then press the [F3] key to start programming. During programming, it will prompt the progress of programming. After the programming is completed, it will prompt that the programming is successful. After the programming is successful, you can press the [F1] key to return to the programming mode selection page.



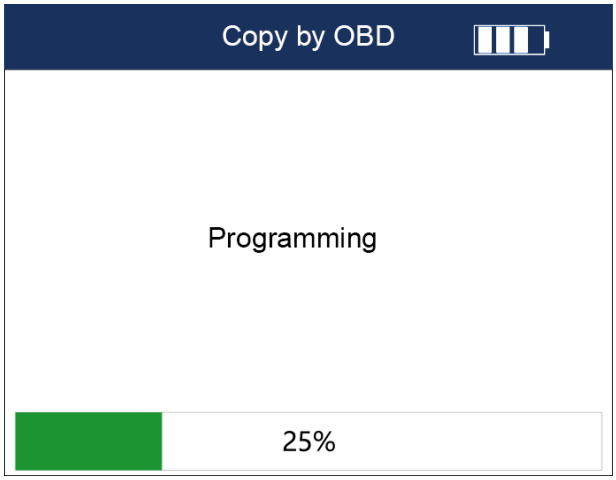
The sensor is not detected, please confirm that the equipment software is up to date, and make sure that the sensor is within 20cm of the equipment.



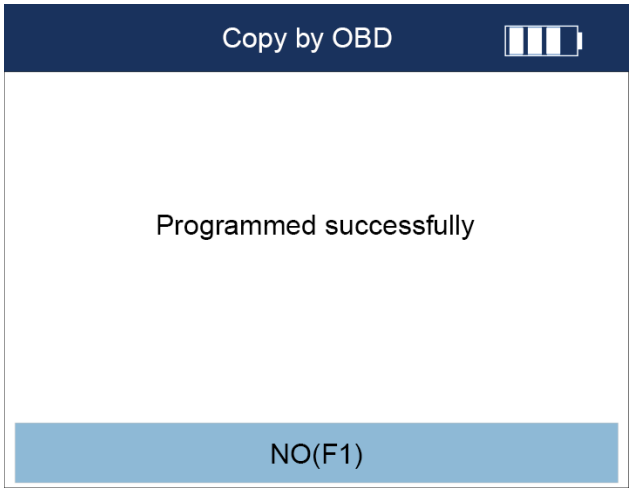
Confirm the number of sensors, press [F3] key



Programming



Programming



Programmed successfully

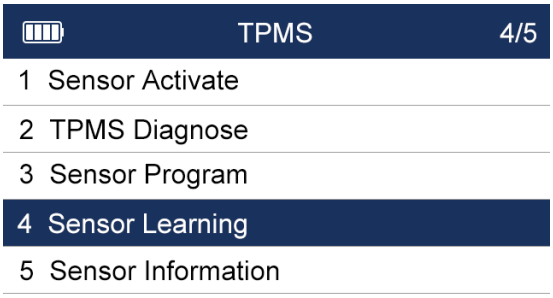
11. After the programming is successful, press the [F1] key to return to the programming mode selection page.

ⓘ **Note:** After the programming is successful, you can refer to Chapter 4.2, activation steps, to read the programmed sensor data to check whether the programmed data is accurate.

4.5 Learning Assistance

Learning assistance: After the new sensor is installed in the vehicle, the tire pressure monitoring system (TPMS) and the sensor of many models need to be learned and matched . SP820 has built-in a large number of learning functions, including learning type, learning method, learning steps, methods and steps of resetting tire pressure values, etc. Learning assistance will greatly facilitate your quick tire pressure repair, programming and replacement.

1. On the function selection page of tire pressure maintenance, select [Learning Assistance], and then press [Y] key to enter the Learning Assistance page.



Select Learning Assistance

2. On the viewing page of the learning assistance, press the up and down arrow keys to view more content. Press 【F3】to return to the function selection page of tire pressure maintenance.

5 OBDII

5.1 OBDII

The OBDII function is to troubleshoot and view data on the vehicle power system through the OBDII standard protocol of the equipment.

5.1.1 System Entry

1. In the equipment main menu, select OBDII icon, then press [Y] key to enter the OBDII diagnostic type selection page.

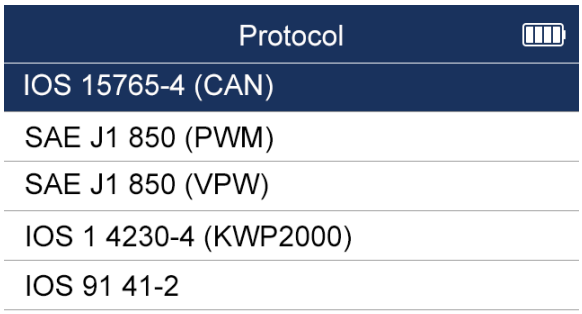
Select OBDII icon

2. In the diagnostic type selection page, you can carry out OBDII diagnosis on the vehicle by two ways of automatic scanning or selecting protocol respectively.

Diagnostic type selection

3. Automatic scanning: The equipment automatically identifies the vehicle, and then goes to the specific function selection page.

4. Select protocol: Select the protocol menu to enter the protocol selection page. SP820 provides up to 8 protocol entry methods. You can select one of the protocols to communicate with the car.



Protocol type selection

ⓘ**Tip:** If the vehicle is not started, the test main cable is not good or the vehicle ECU is faulty, etc., the equipment will automatically make a prompt.

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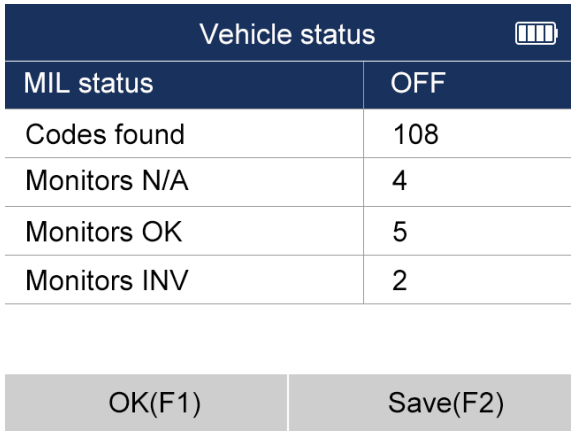
5. After the previous step, go to the following page for a general overview of the system status, and press [F1] to enter the OBDII main function page.

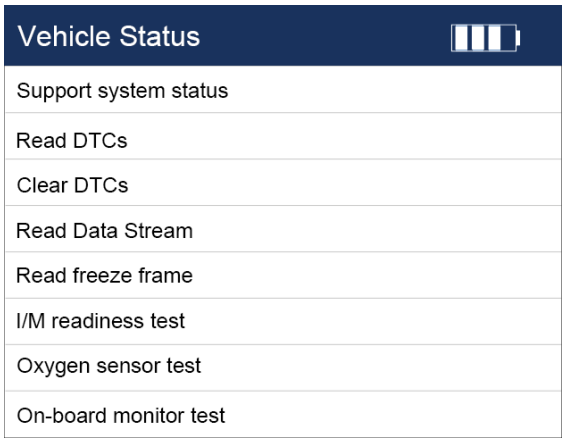


Press [F1] to enter the OBDII main function page

5.1.2 OBDII Function Operation

OBD function: Support system status, read DTCs, clear DTCs, read freeze frame, I/M readiness test, oxygen sensor test, on-board monitor test, component test, vehicle information, existing module information, DTC finding.

In the following function selection page, you can select different functions and then press the [F1] key to go to the next step.



Select and then press the [F1] key to go to the next step

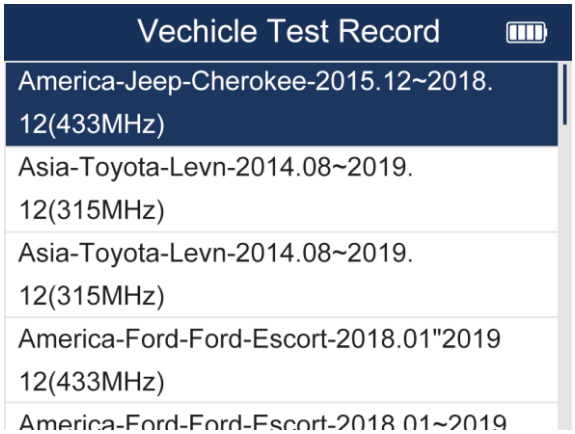
6 Latest Test

In the latest test function, the models you have tested recently are displayed in a list. Choose one for quick diagnosis and matching of your vehicle, as well as sensor activation and programming.

1. In the main menu of the equipment, select latest test, and then press the [Y] key to enter the list page of the most recently tested models.

Select latest test

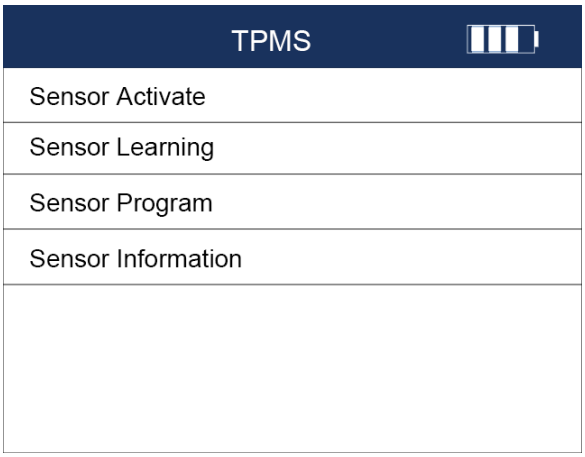
2. Select one of them, the model you want to operate again, and then press [Y] key.



Diagnostic record list

3. To confirm the vehicle information, press [F3] to confirm. After confirming that the model information is correct, press [F3] to continue.

4. Select one of the models you want to operate again, and then press [Y] key to enter the function selection page of tire pressure maintenance. Subsequent operations are the same as the tire pressure maintenance function, and you can refer to the tire pressure maintenance part in Chapter 4.



Subsequent operations can refer to the tire pressure maintenance part in Chapter 4

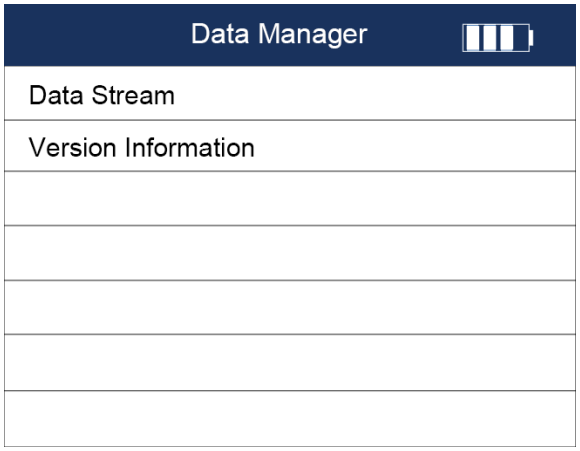
7 Data Management

When you are performing TPMS diagnosis and matching, sensor activation, copying and programming, relevant data, TPMS version information, data stream, DTCs, sensor ID, etc. are saved. After entering the data management function, you can manage them separately.

1. In the main menu of the equipment, select Data Management, and then press [Y] key to enter the data management page.

Select Data Management

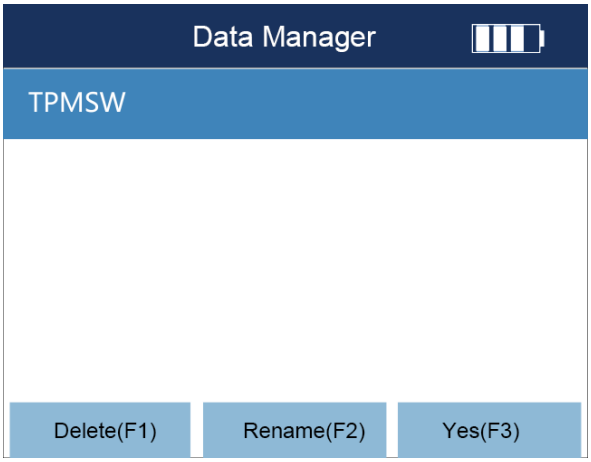
2. On the data management page, select the project to be managed.



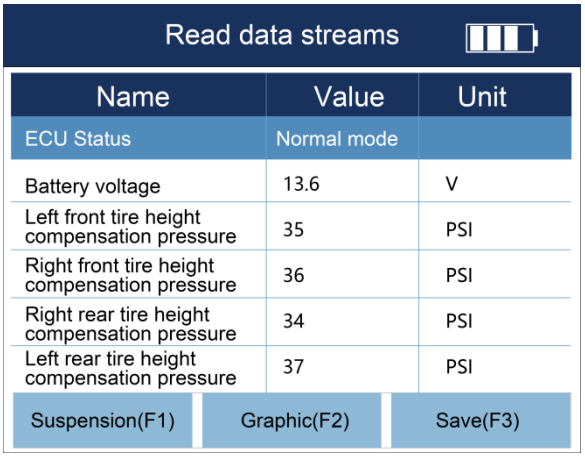
Select one of them, press [Y] key to manage

ⓘ **Tip:** On the data management page, there may be no data because the relevant data has not been saved.

3. Data management. Press [F1] to delete this data, press [F2] to modify the file name TPMSW, and press [F3] to view the saved data stream content.



Manage the data

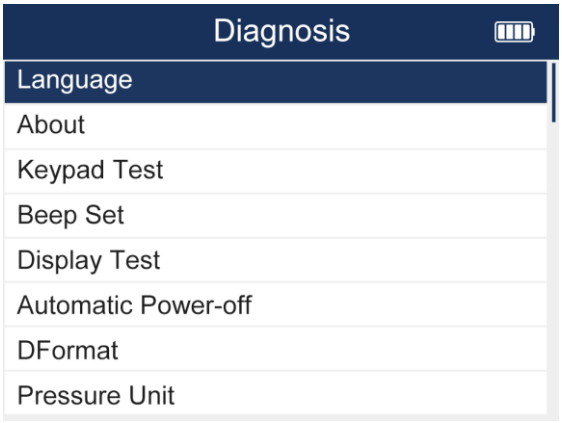


View the data stream

8 Settings

8.1 Items

In the setting module, it includes language, about, key test, buzzer setting, display test, automatic shutdown, numerical mechanism, pressure unit setting, temperature unit setting, unit, region and other setting contents.



Items that can be set, use the down key to view more items that can be set

8.2 Language

You can change the language of the equipment's operating system.

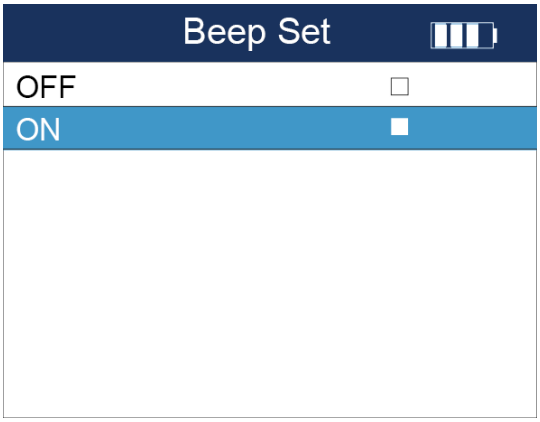
Language setting

8.3 Key Test

Test whether the keys are normal. Press any key to start the test. After the test is completed, press the [N] key twice to exit.

8.4 Buzzer Setting

You can set the equipment buzzer to be on or off. Press the up and down keys to select the buzzer option, and press the [Y] key to select.



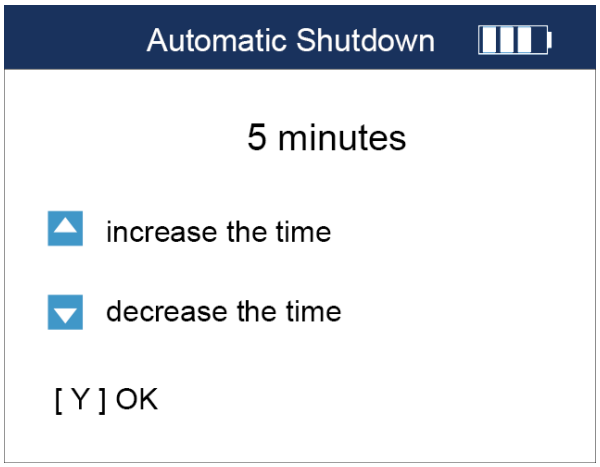
Press the up and down keys to select the buzzer option, and press the [Y] key to select

8.5 Display Test

It can test whether the display screen of the equipment is normal.

8.6 Automatic Shutdown

Set the auto power off time. Press Up to increase the time, press Down to decrease the time in increments of 1 minute, the maximum time is 20 minutes, press [Y] to confirm the time setting.



Press [Y] to confirm the time setting

8.7 Numerical Mechanism Setting

Select HEX to perform activation and view activation information, the displayed sensor IDs are displayed in

hexadecimal.

Select DEC to perform activation and view activation information, the displayed sensor IDs are all displayed in decimal.

Press the up and down arrow keys to perform the binary option selection, press the [Y] key to confirm and return.

8.8 Pressure Unit Setting

Pressure unit: KPa or Psi or Bar can be selected. When performing activation and viewing activation information, the pressure value of the sensor displayed is shown according to the corresponding unit value. Press the up and down arrow keys for pressure unit option selection, press the [Y] key to confirm and return.

8.9 Temperature Unit Setting

Select Celsius or Fahrenheit to perform activation and view activation information. The temperature values of the displayed sensors are displayed by the corresponding unit values. Press the up and down arrow keys for temperature unit option selection, press the [Y] key to confirm and return.

8.10 Unit Setting

Select metric or imperial units to perform the read data stream function of the diagnostic, and the displayed data stream values are displayed according to the corresponding unit values. Press the up and down arrow keys for unit option selection, press the [Y] key to confirm and return.

8.11 Region Setting

The regions here are the market regions, which are: Australia, America, Europe, Japan, Korea and China region. For mainland China market users, please select China region. Press the up and down arrow keys for region selection, press the [Y] key to confirm and return.

Region selection

⚠**Note: For users in mainland China, please be sure to set the region to China before using the equipment.**

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9 Upgrade

The upgrade function allows you to upgrade the equipment's firmware, operating system, and software over the network. This function requires you to operate and update on a Windows PC. Before the product is officially upgraded, you need to do several more preparations, as well as account registration and product activation.

Recommendation: When using the product for the first time, please register your account and activate the product.

9.1 PC Kit Installation

1. Take out the SD card inside the equipment and insert it into the PC computer with the supplied card reader.

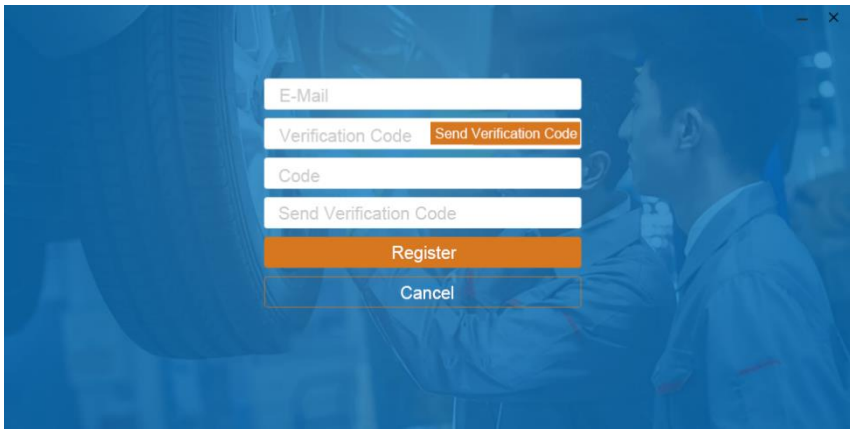
2. Find the compressed package (SP820_Setup_V1.01.002.exe) inside the SD card, double-click it to unzip and install.

3. Installation: Select "I agree to this agreement", then click Next.

9.2 Account Registration

PC upgrade software registration

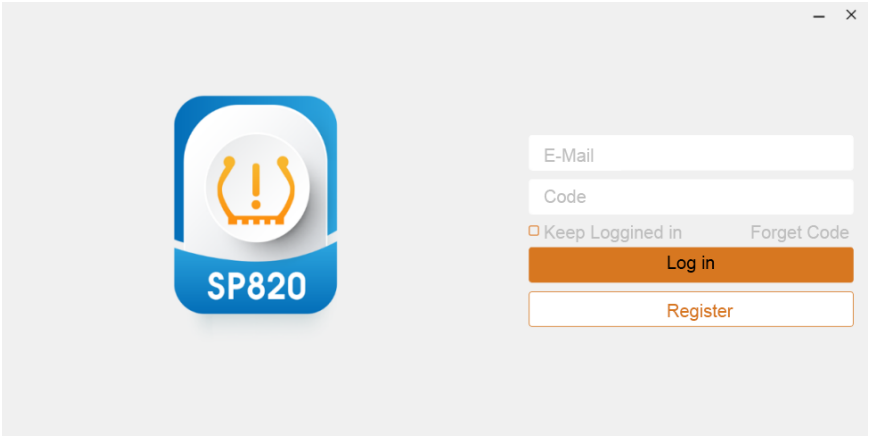
1. On your PC computer, open the SP820_Setup_V1.01.002.exe software that you have downloaded and installed. Enter your mail account, then click on Send Verification Code, find the verification code sent by the system in your mailbox, then enter the verification code and password. Then click the Register button, the system will automatically complete your account registration.



Register

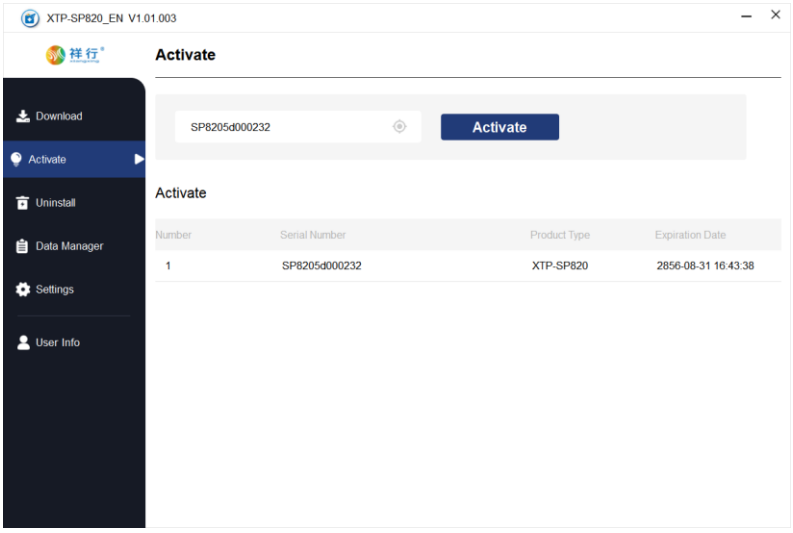
9.3 Product Activation

Step 1: On your PC computer, open the SP820_Setup_V1.01.002.exe software, enter the account login page, and then login to your account.



Login

Step 2: Click the Activate button, enter the product serial number and click Activate.

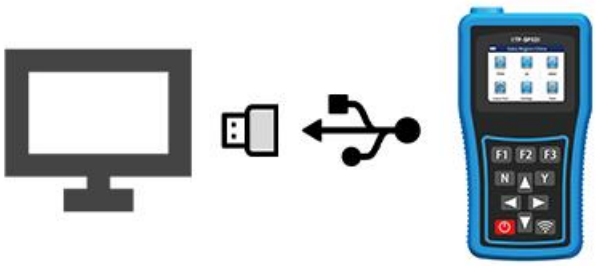


Enter the product serial number and click Activate

9.4 Upgrade

Before upgrading, please make sure your computer is connected to the Internet and that you have created an account with our division and activated the product.

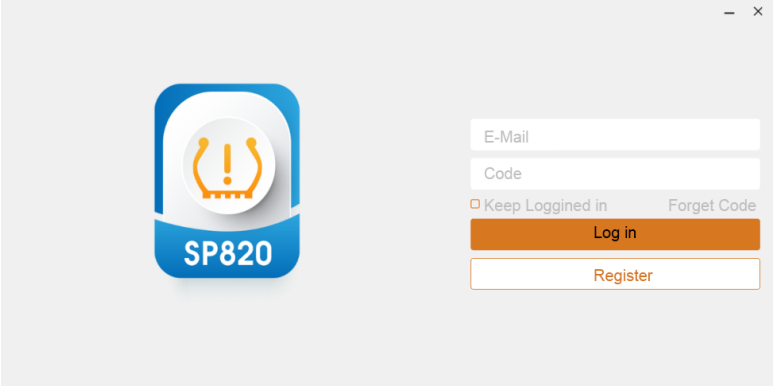
1. Connect the equipment to your PC computer via USB cable.



Connect to the computer

2. On the equipment home page, select the "Settings" icon to enter, go to the "Upgrade" option, wait until it connects with the PC computer.

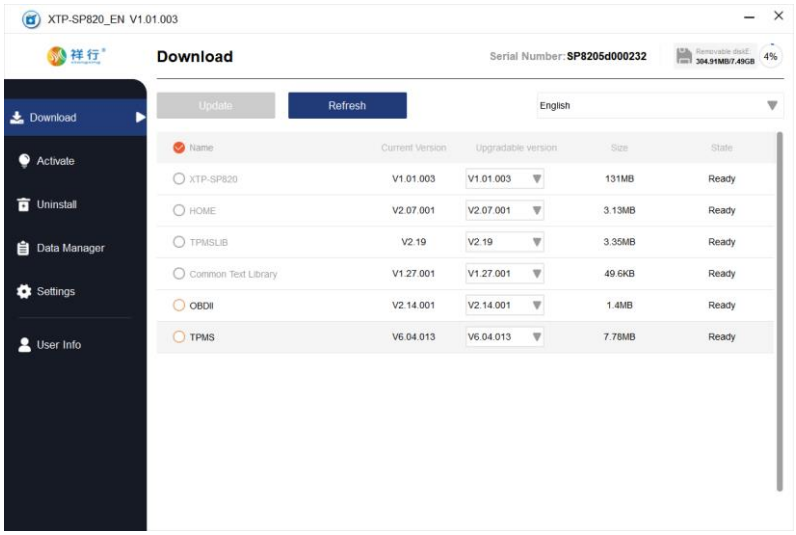
3. On your computer, find the SP820_Setup_V1.01.002 program that you have installed and double-click to open it. Go to the account login page, enter your account number and password, and then click Login.



Login the account

4. In the left menu bar, click Download. The system will display the contents that can and need to be updated. Click the "Upgrade" button and the system will automatically upgrade the SP820 and display the progress and status of the upgrade. When the file download is complete, press the [Y] key on the SP820 to complete the upgrade.

5. Click Upgrade directly, or select the content you want to upgrade, and then click Update.



Click Update

Batch Update:

1. Select the check button in the Name column and check all the items that need to be upgraded.

2. Click the Upgrade button.

10 FAQs

This section describes the problems that may be encountered, the causes that arise and the solutions when using the equipment.

Question	Cause	Solution
The equipment cannot communicate with the vehicle while performing diagnostics or OBD copying	Equipment and vehicle not connected to the test main cable; Vehicle ignition start; Older models with a non-OBDII interface for OBD; Vehicles not equipped with a tire pressure system; Incorrect selection of vehicle make, model and year, The vehicle control module is not faulty; Low battery level of the equipment;	Confirmation of reliable connection; Confirmation of an OBDII interface; Confirmation of vehicle ignition start; Confirmation of the presence of a tire pressure system; Confirmation of correct vehicle selection; Troubleshooting the control module; Securing sufficient power to the equipment;
Displays no sensor detected	Damage to the original sensor; Depletion of the battery of the original sensor; Sensors too far away from the equipment;	Bring the equipment close to the original sensor; Bring the sensor close to the equipment;
Unable to diagnose the model	Model needs to be upgraded	Please update the software in time
The display does not show or does not light up	Dead or low battery	Needs to be recharged as soon as possible

11 Warranty Policy

This warranty only applies to customers and distributors who purchase our products through normal channels.

Within one year from the date of purchase of the product, the warranty service is free of charge when the product is used in a normal way as confirmed by the Company and when you use the product in accordance with the operation requirements of the User Manual. The Company shall not be liable for any direct or indirect damages (including business interruption, loss of data and information, or other pecuniary losses) arising from the use or inability to use the Company's products.

Your product will not be covered by the free warranty in any of the following cases, and the Company will charge the appropriate repair costs;

- □ Products that exceed our promised warranty period.
- □ You are unable to provide the Product Warranty Card and invoice or other supporting materials.
- □ Disassemble the product, repair or change the configuration of the machine without our permission, and the seal is torn as unauthorized disassembly.
- □ Product host serial number and warranty card do not match, host serial number and purchase date, etc. are removed, altered or damaged.
- □ Malfunction or damage caused by improper operation or failure to operate according to the user manual, failure caused by reasons other than the quality of our products. Defects or flaws: including impact, drop, hit, knock, push hard, pull hard, drop, crush, improperly connected adapters.
- □ Due to your own handling, storage, improper use methods and other reasons caused by the damage to the components, including crushing, corrosion, leaching, rust, premature aging, damage, short-circuiting of wires burned host, etc.
- □ Damage caused by other human factors.
- □ Product natural wear and tear, due to force majeure factors (such as natural factors of the earthquake, lightning strikes, etc.) caused by the equipment can not work properly.
- □ The failure or damage of this equipment due to computer virus.
- □ Not being notified by our after-sales service organization of the product failure within the warranty;
- □ Who does not present the warranty card or other proof of warranty.

Note: All information on the equipment may be deleted during the warranty or repair process. Please back up all kinds of data on the equipment before warranty or repair.

12 Parts and Options Ordering

This equipment can only be used for unlimited repeat programming of our sensors, and the programmed sensors can replace the original sensors. Orders can be placed directly with our company or authorized distributors for our sensors and replaceable parts and optional accessories for the equipment.

13 Service Support

Any problems encountered during the operation of the equipment, please contact our local dealer;
When the equipment needs maintenance, please contact the local authorized dealer or maintenance center.