

Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference,
- this device must accept any interference received, including interference that may cause undesired operation.

In addition, this device complies with Industry Canada's license-exempt RSSs. Operation is subject to the following two conditions: (1) This device may not cause interference; and (2) This device must accept any interference, including interference that may cause undesired operation of the device.

If you have any questions, please contact us by the following ways:

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Instrument Use Notes

- When using FCAR series products for testing, please be gentle and keep them away from heat and electromagnetic fields, to avoid interference to the main unit.
- When electrical components are energized, do not disconnect the circuit, to prevent self-inductance and mutual inductance current damaging the sensors and automotive ECU.
- When electrical components are working normally, magnetic objects are forbidden to approach the automotive control unit, otherwise the vehicle control unit may be damaged.

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1 Product Overview

FTP-SENSOR is a portable tool which is used to activate or program tire pressure sensors. This tool includes a small hardware set and an Android App. The App provides a human-computer interaction interface. The user sends commands to the hardware set through the App, and the hardware set executes the corresponding operations to tire pressure sensors.

1.1 Product Structure



1.2 Product Parameter

App System	Android5.0及以上 and above
Battery Capacity	Battery 3.0V (900MAH)
Operation Frequency:	315MHz 433.92MHz
Modulation Type:	315MHz:ASKor FSK 433.92MHz:ASKor FSK

2 power supply system

2.1 Sensor is powered by a DC3V button battery

2.2 AppInstalling

The App QR code is printed on the package of the hardware set. You can scan the QR code to install the APP through the Android phone. The App applies to Android 5.0 and above.

2.3 Connecting of APP and Hardware Set

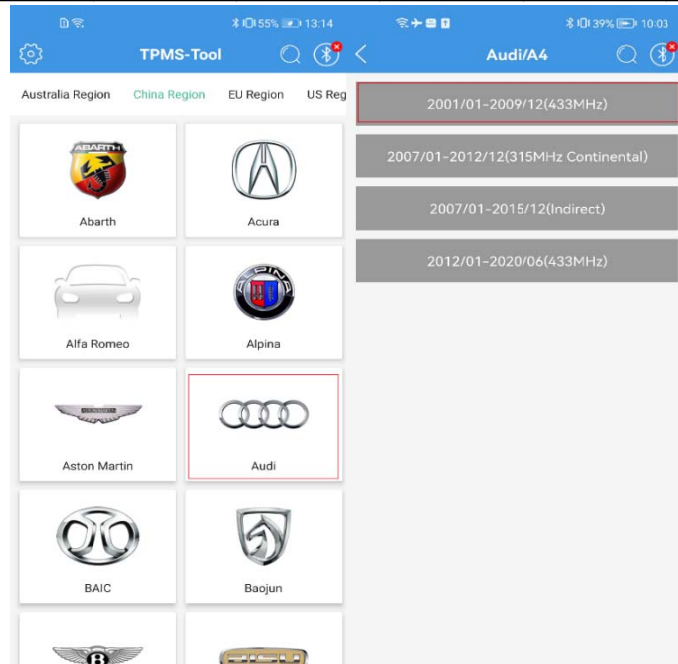
The tool has a built-in Bluetooth. The default 315MHz/433.92MHz name isFTP-SENSOR, and it connects the hardware set with the Android phone installed the App. The tire pressure sensor applies wireless communication protocol.

3 Operation Guide

This tool provides **【Activate】** - **【Program】** - **【Learn】** - **【Search】** TPMS services for maintenance Technicians. Before **Activate** operation, you need to select a car model. The tool doesn't apply to car models with indirect tire pressure detecting system.

3.1 Car Model Selecting

Take **【China Region】** -- **【Audi】** -- **【A4】** -- **【2001/01-2009/12(433MHz)】** as an example:

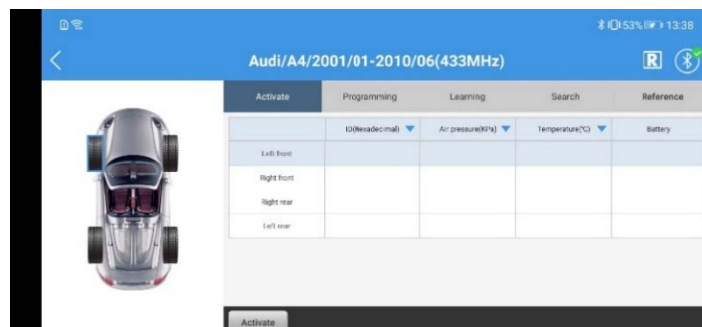


3.2 Activate

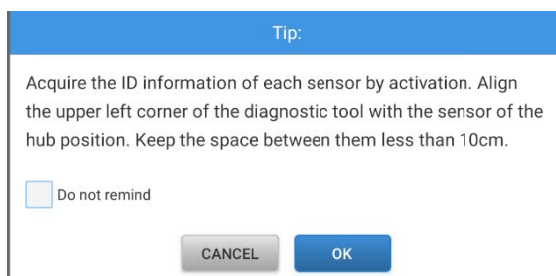
Read the original sensors installed in the car through this function. When performing **【Programming】** / **【Copy by activation】**, first get the original sensor ID through the **Activate** function, then copy the ID to the new sensor.

➤ How to activate sensors

- 1) Keep the hardware set close to the original sensor within 10cm, and enter the **Activate** interface, then select a tire and click **【Activate】** button.



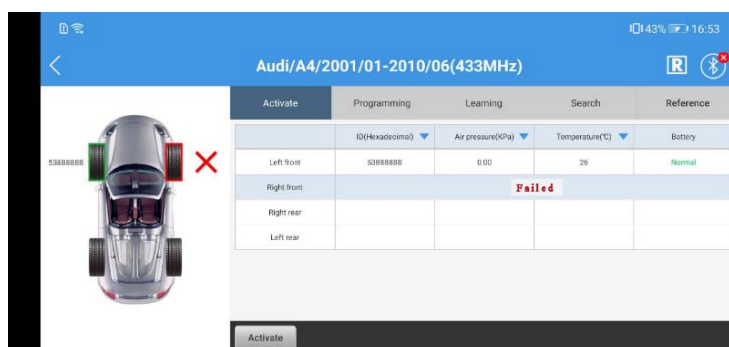
- 2) The following tip pops up, please operate according to the tip, and then click **【OK】** .



Keep the tool top close to the sensor from the outer edge of the tire. If failed, try to do it from different tire position or direction.

For the Ford cars using the Banded sensors, sensors are fixed in a position 180 degrees away from the tire valve. Try to find the position.

- 3) If activating succeeds, the ID is displayed in the figure as below. if not, failed information is displayed.



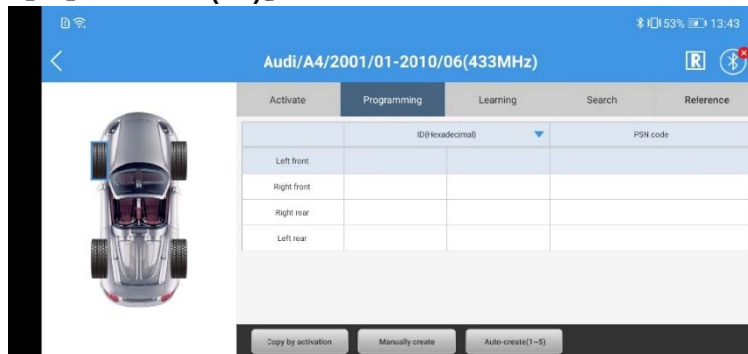
Activation status icons are shown in the table as follows:

	Activating succeeded
	Activating repeated
	Activating failed

3.3 Program

Three ways are used to program sensors: **【Copy by activation】** - **【Manually】**

create】 - 【Auto create(1-5)】

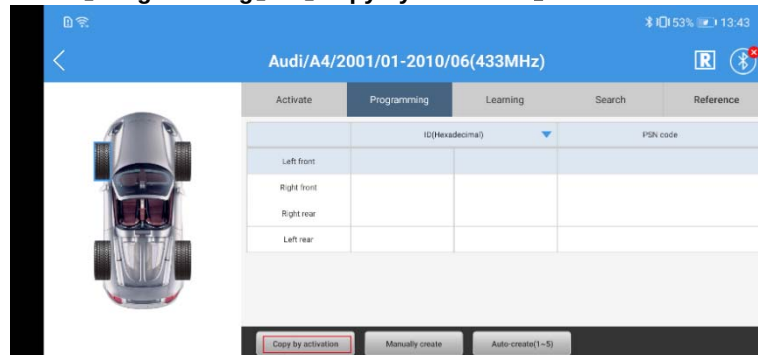


3.3.1 Copy ID through Activation

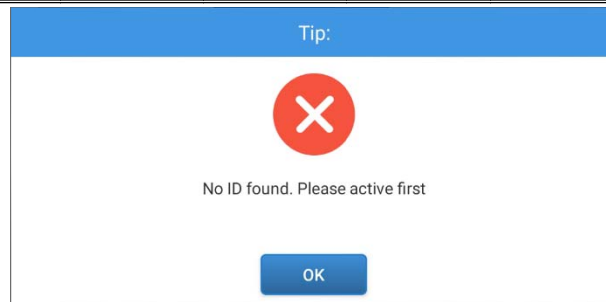
This function copies the original sensor ID to program it to the new sensors by activating the original sensor. The original sensor ID can be read by the car ECU, so you need not perform **Learn** operation when the new sensor replaces the original sensor.

➤ How to copy through activating

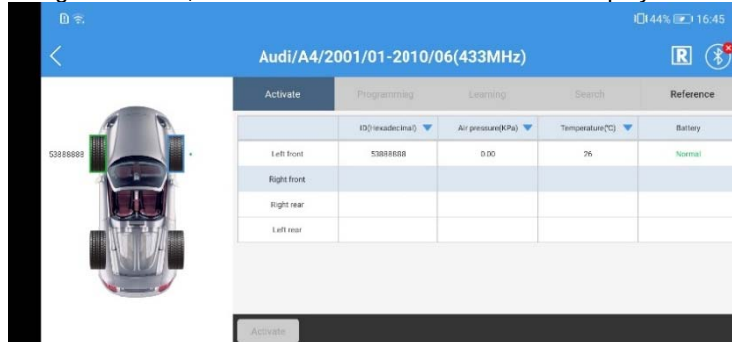
1) Select 【Programming】 -- 【Copy by activation】



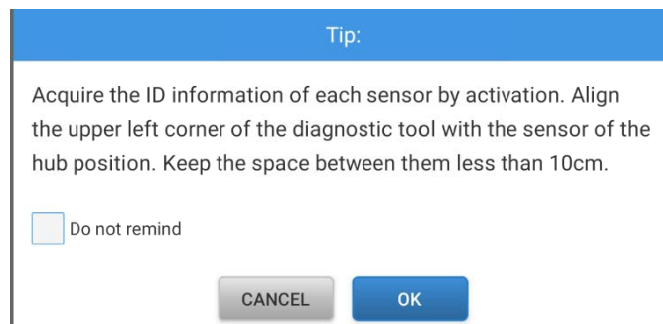
- 2) If the tip shown as below pops up, you need to activate the original sensor first. Click the **【Ok】** to transfer to the **Activate** interface.



- 3) If activating successes, the ID and relevant information are displayed.

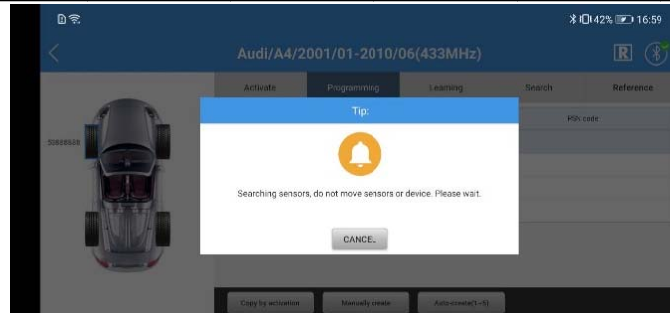


- 4) Return to **【Programming】** interface, click **【Copy by activation】**, and a tip pops up.

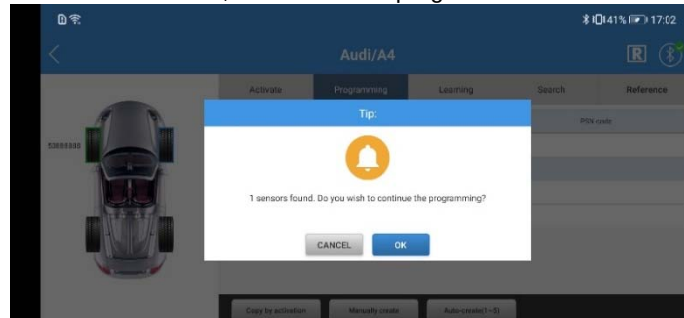


Note: Keep the hardware set top close to the sensor **to be programed** with 10cm. To avoid disturbing, keep other sensors 100cm away from the hardware set.

- 5) Click **【OK】** to search the new sensor, and don't move the sensor and the tool.



- 6) If two sensors or more are detected, and a tip pops up, please take other sensors 100cm away from the tool. Click **Ok** to restart searching.
- 7) If one sensor is detected, click **Ok** to program.



- 8) After programming finishes, and an ID information is listed. Click  to return for programming other sensors.



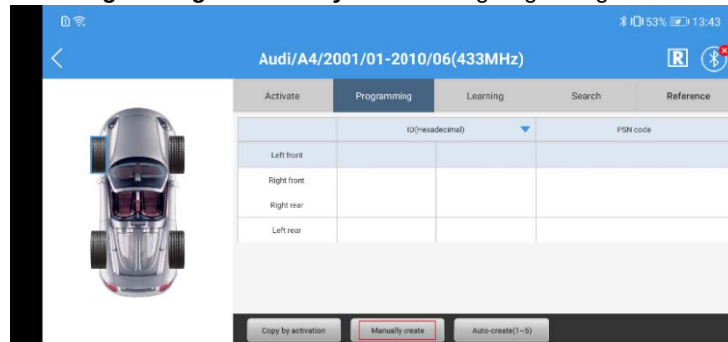
3.3.2 Manually Create ID

This function programs the original sensor ID to the new sensor by inputting the original sensor ID manually. Need not perform **Learn** operation when the new sensor replaces the

original sensor.

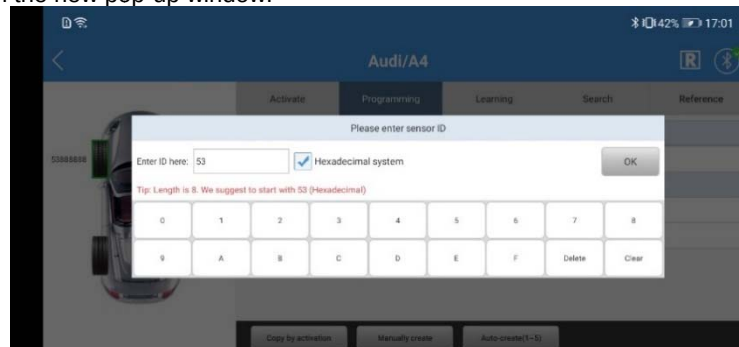
➤ **How to input ID manually**

- 1) Select **【Programming】** - **【Manually create】** after getting the original sensor ID.

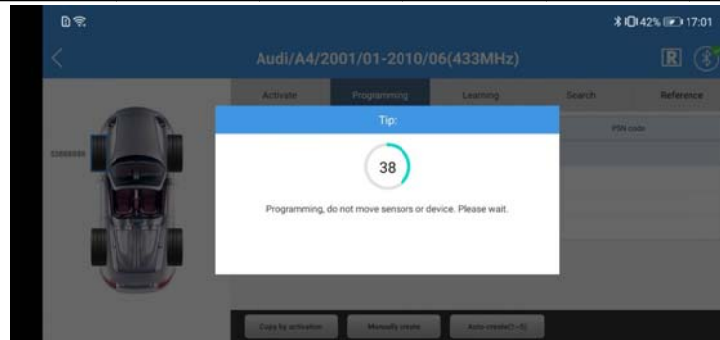


Note: Keep the hardware set top close to the new sensor with 10cm. To avoid disturbing, keep other sensors 100cm away from the hardware set.

- 2) The tool searches the new sensor, and don't move the sensor and the tool.
- 3) If two sensors or more are detected, and a tip pops up, please take other sensors 100cm away from the tool. Click **【Ok】** restart searching.
- 4) If one sensor is detected, input the sensor ID of 8 characters and click **【Ok】** in the new pop-up window.



- 5) Start to program



- 6) If programming succeeds, click  to return for other sensor's programming.

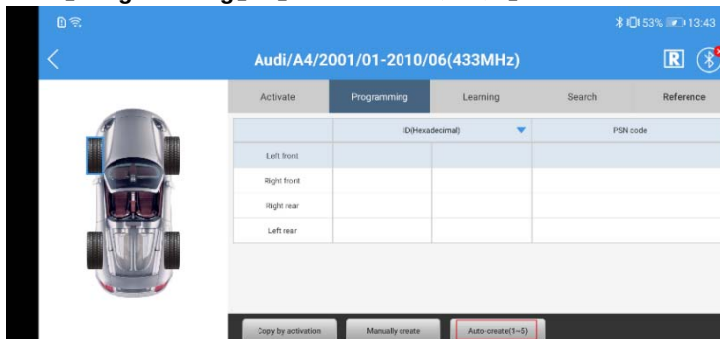


3.3.3 Auto Create ID

This function can program 1-5 sensors IDs randomly at the same time. Because the IDs are created randomly by the system, and the ECU cannot read them, so you need perform **Learn** operation to write the IDs to ECU when new sensors replace original sensors.

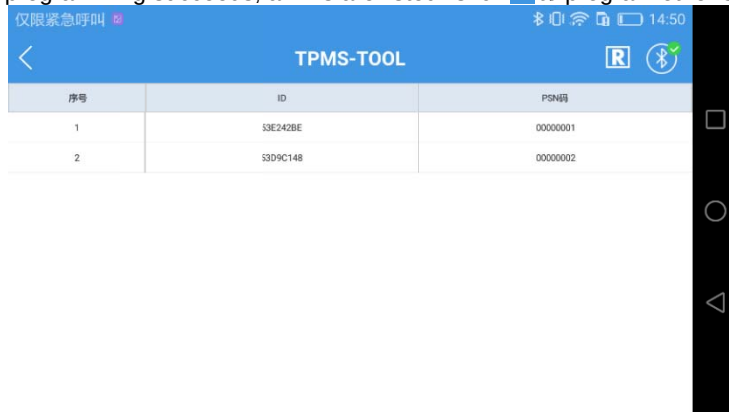
➤ How to create 1-5 new IDs

- 1) Select **【Programming】 - 【Auto create (1-5)】** .



Put 1-5 new sensors close to the top of the tool within 10cm.

- 2) Click **【OK】** to program if new sensors are detected.
- 3) If programming succeeds, all IDs are listed. Click **<** to program other sensors.



3.4 Learning

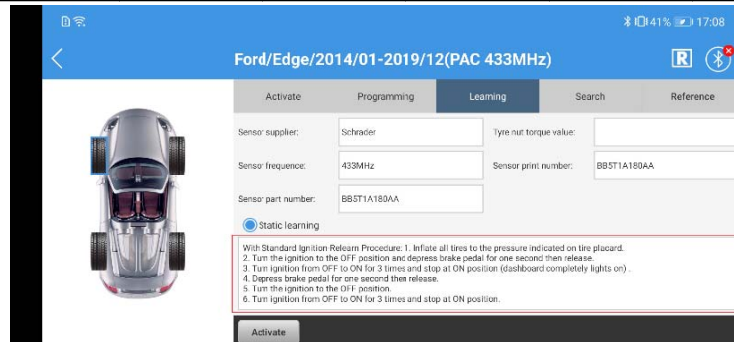
The function is used to write the new sensor IDs into the car ECU. If a new sensor is installed in a car to replace the original one, and its ID is different with the original ID, you must perform the **Learn** operation, so that the car ECU can distinguish the new ID.

There are three ways for the learning function: **Static Learning**, **Self-Learning**, **Copying Learning**. The learning way is also different on different brands of vehicles.

Among them, copying learning is to copy the ID of the original sensor to program it into the new sensor. The process of copying is the process of learning, so there is no need to perform actual learning operations.

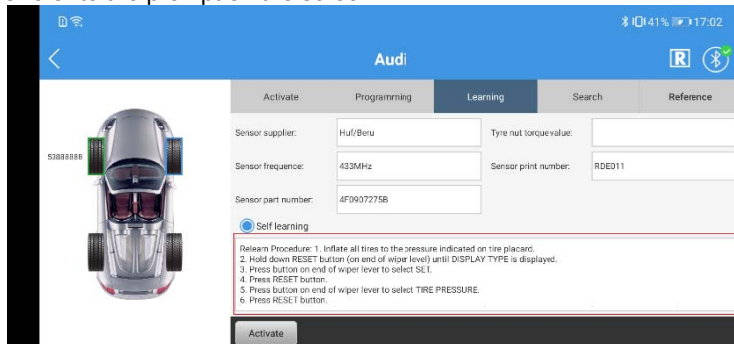
3.4.1 Static Learning

For detailed learning steps and driving process, please refer to the prompt on the screen.



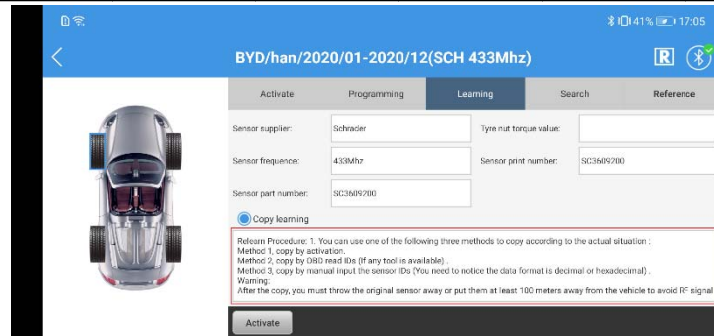
3.4.2 Self-Learning

This learning way is by driving. For detailed learning steps and driving process, please refer to the prompt on the screen.



3.4.3 Copy Learning

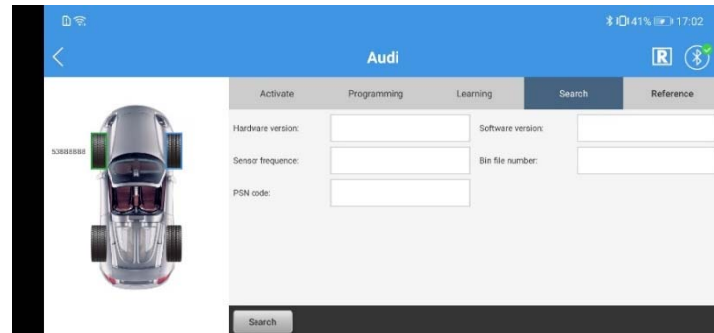
This way is by copying the original sensor ID to program the new sensor. The new sensor ID is the same as the original sensor ID, so learning is completed after programing.



TPMS Tool interface for BYD/han/2020/01-2020/12(SCH 433Mhz). The interface shows a car diagram on the left and a form on the right. The form has tabs: Activate, Programming, Learning (selected), Search, and Reference. The Learning tab contains fields for Sensor supplier (Schroder), Sensor frequency (433Mhz), Sensor part number (SC36N9200), and Type nut torque value. A "Copy learning" button is present. A warning box states: "Relearn Procedure: 1. You can use one of the following three methods to copy according to the actual situation : Method 1, copy by activation. Method 2, copy by OBD read IDs (if any tool is available) . Method 3, copy by manual input the sensor IDs (You need to notice the data format is decimal or hexadecimal) . Warning: After the copy, you must throw the original sensor away or put them at least 100 meters away from the vehicle to avoid RF signal". An "Activate" button is at the bottom.

3.5 Read SensorInformation

Select **Search** to read the sensor information.



TPMS Tool interface for Audi. The interface shows a car diagram on the left and a form on the right. The form has tabs: Activate, Programming, Learning, Search (selected), and Reference. The Search tab contains fields for Hardware version, Sensor frequency, PSN code, Software version, and Bin file number. A "Search" button is at the bottom.

3.6 Reference for operation

Select **Reference** to get the operation guider.