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# VCI Operating instructions

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## Parameters of VCI diagnostic instrument:

- 1、 VCI version: RTX002
- 2、 since shutdown time: 1 minute 58 seconds
- 3、 Working current after startup: about 31 mA
- 4、 The working current when the successful programming buzzer rings: about 115 mA
- 5、 LF excitation working current: LF is about 66mA data format, LF is the carrier when the data format is about 61.9mA LF is about 0.2-0.45A carrier format
- 6、 Working current during programming: about 66.1mA
- 7、 Working current during configuration: about 65.9mA
- 8、 Static current: about 11 microamps
- 9、 VCI Bluetooth maximum transmission distance: 50 meters
- 10、 The maximum excitation distance of VCI LF: LF is about 10-15cm in data format, LF is about 8-10cm in carrier format, LF is about 3-5cm in carrier format
- 11、 RF maximum receiving distance: 6-8m
- 12、 LED display: not connected green light, connected blue light
- 13、 Battery power: Red light flashing, flashing 4 battery percentage between 75%-98%,

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blinking 3 battery percentage between 50%-75%, blinking 2 battery percentage between 25%-50%, blinking 1 battery percentage below 25%

multifunction key:



- 1, boot: press the power button indicator light 1-3 seconds green light
- 2, shutdown: long press the power button for 5 seconds to turn off the power indicator
3. Incentive: After VCI programming a certain protocol, the APP enters the protocol incentive interface and long presses the button for 2-3s to motivate successfully

## Description of Bluetooth connection between diagnostic device and mobile APP

Login and authentication successfully enter the home page of the "Wheel Star" APP, you can perform Bluetooth connection operations as shown in the following figure

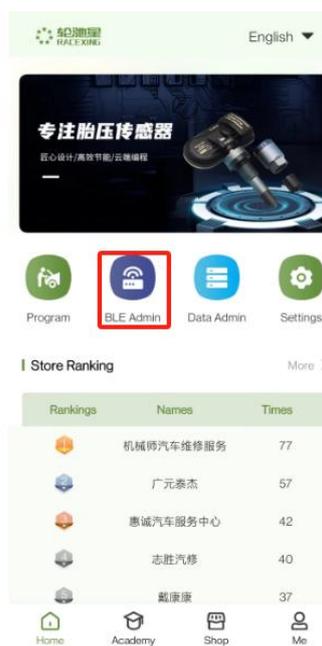


Figure 1

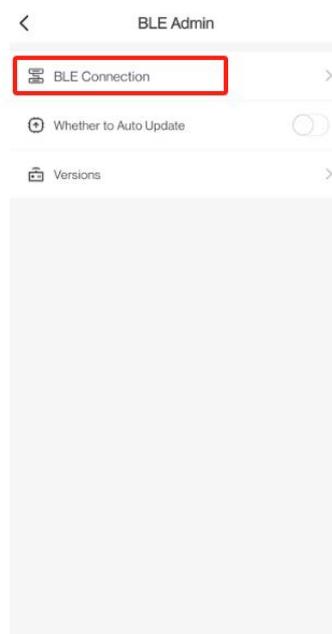


Figure 2

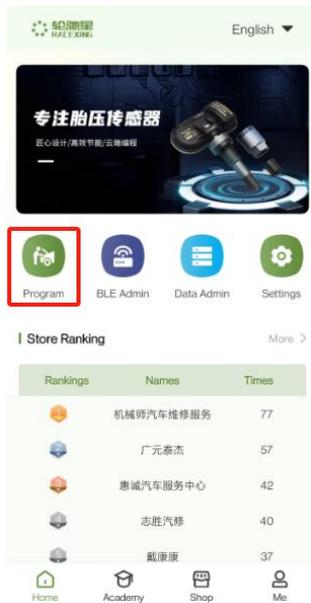


Figure 3

1. Turn on the braider, turn on the Bluetooth of the mobile phone and open the APP to enter the home page
2. Click Bluetooth Management-Bluetooth Connection-Scan device successively
3. After successfully scanning out the Bluetooth address of the device, click Connect to successfully connect

## Programming learning function description

Login and authentication successfully enter the home page of the "Ronchi Star" APP, you can operate programming and learn operations as shown in the following figure



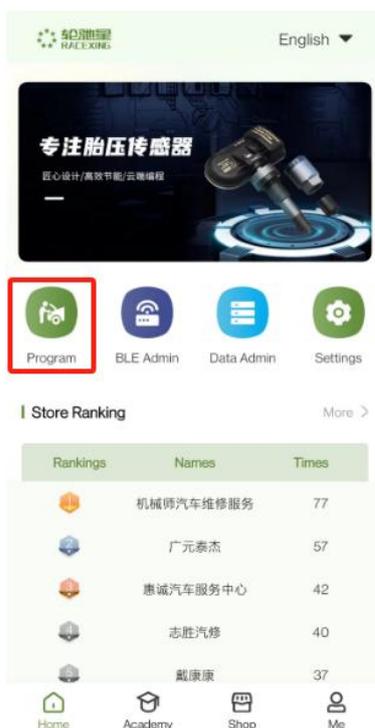
In this module, the user can select the corresponding vehicle for programming according to different vehicle information

There are four main ways of programming learning: NFC programming, VCI learning, copy learning and OBD learning

## NFC programming

Step 1: Go to the programming learning page from the home page

See the following figure for the page



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Model selection method:

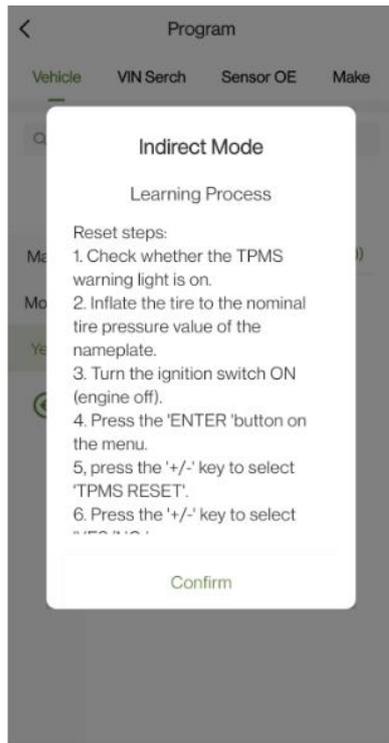
“Model Selection” Select a vehicle based on the brand, model, and year

See the following figure for the page

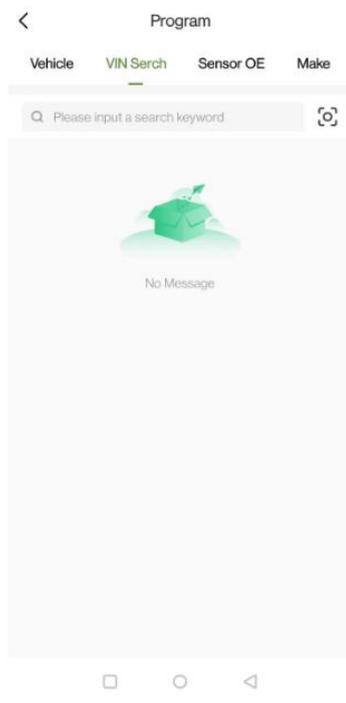


Note: If you choose the indirect model to program, only the learning process information will pop up

See the following figure for the page



"Frame Number Search" can enter the programming page by entering the frame number or scanning to identify the frame number. See the following figure for the page



"Sensor OE number" selects the corresponding vehicle according to the

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sensor OE number, and after entering the OE number, all models matching the OE number can be searched. Users can quickly click on the vehicle programming page according to the searched model. On the OE number search page, users can click on the historical search record to jump to the programming page

See the following figure for the page



"Sensor manufacturer" selects the corresponding vehicle according to the sensor manufacturer, after searching, the list shows all the vehicle data under the manufacturer, the user can quickly select the vehicle to enter the programming page, in the sensor manufacturer search page, the user can click the historical search record to jump to the programming page

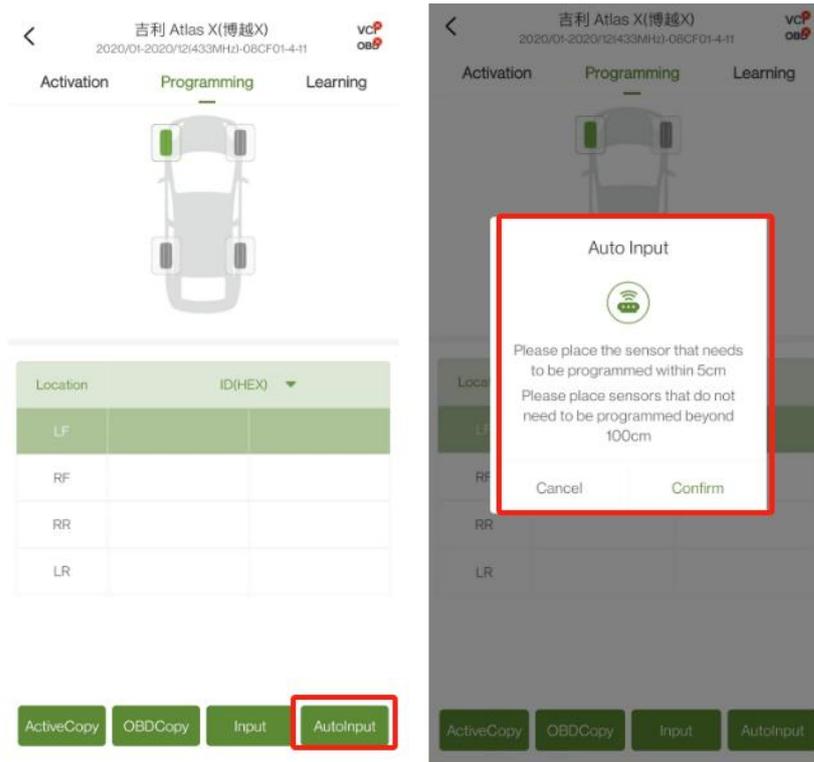
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See the following figure for the page



Step 3: Create a new ID to be used as the ID of the new sensor

Method 1: Auto Create Click Auto Create to directly write the ID to the sensor: The sensor device is near the upper right corner of the mobile phone device. See the following figure for creating the ID page



**Attention:**

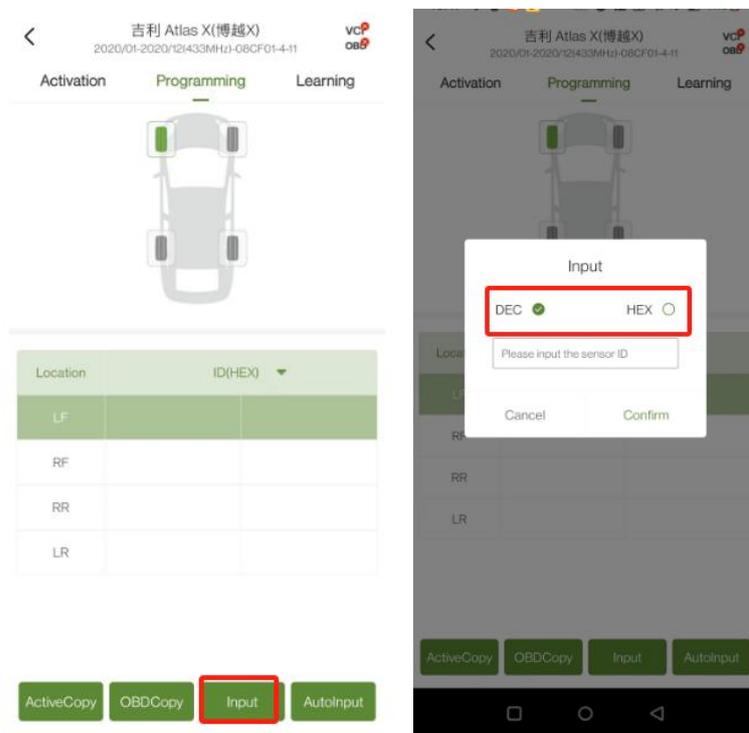
When performing NFC programming on an IOS mobile device, you need

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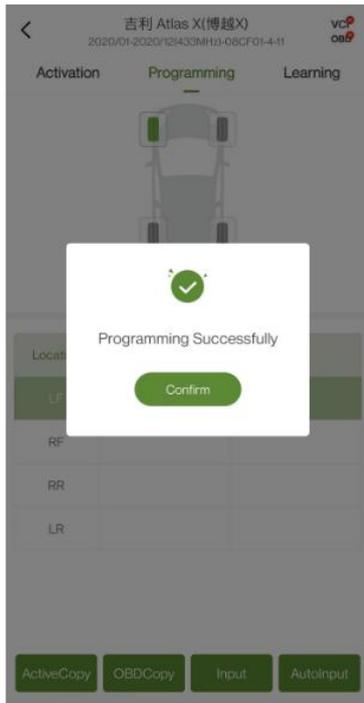
to select the NFC type to write the ID

Android mobile device NFC programming can be directly programmed to create ID writing

Method 2: Manually Create Click Manually Create, enter the decimal or hexadecimal ID, and write the ID to the sensor. See the following figure for the page



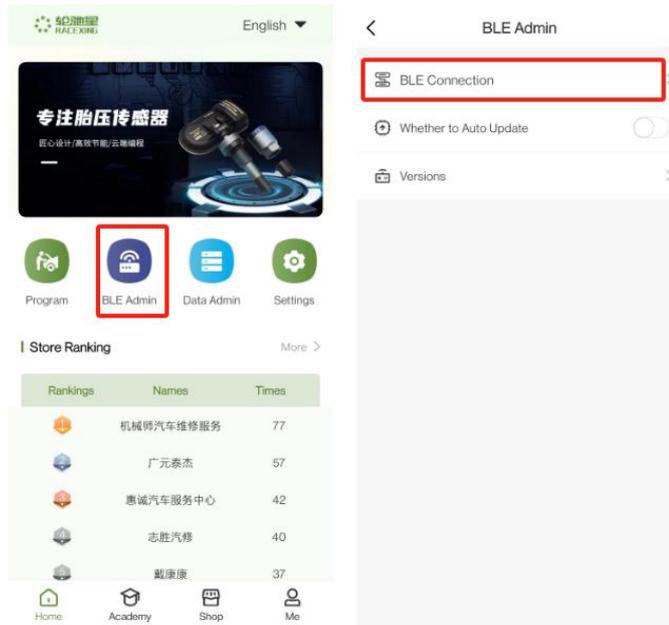
**Step 4: Put the sensor close to the mobile device and write the new ID**  
**After the new sensor is written, the writing succeeds. See the following figure for the page**



## VCI programming

### Step 1: Bluetooth connection to VCI

Bluetooth connection method 1: Click "Bluetooth Management" on the home page to enter the Bluetooth management page, then click "Bluetooth Connection" to enter the Bluetooth connection page, search for nearby devices by scanning and connect to "VCI". See the following figure for the page



You can click "Scan" to scan the QR code on the back of VCI to connect to VCI. See the following figure for the page



Attention:

Turn on Bluetooth scan nearby, you can select VCI to connect, VCI device name is "RACEXING"

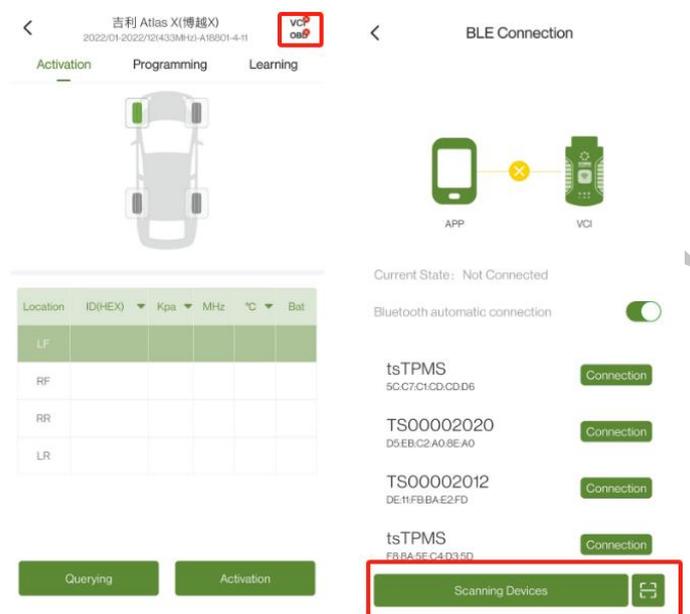
Bluetooth automatic connection: After the automatic connection is

turned on, the device can be automatically connected through Bluetooth next time

Disconnect: Click "Disconnect" to select another device for connection

Bluetooth connection method 2: After selecting the vehicle type, click the upper right corner of the programming page to enter the Bluetooth connection page, and search for nearby by scanning

Device and connect to "VCI". See the following figure for the page



Programming page icon description:

The "√" display on the VCI in the upper right corner indicates that the current mobile device has a VCI device. × indicates that the VCI device is not connected

The "√" displayed on the OBD in the upper right corner indicates that the VCI is connected to the OBD. × indicates that the VCI and OBD are not connected

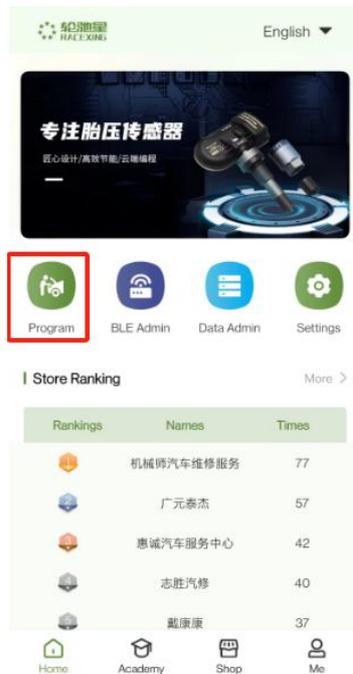
After the VCI is successfully connected, the current power supply of the

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VCI is displayed in the upper left corner

**Step 2: Go to the programming learning page from the home page**

See the following figure for the page



**Step 3: Select the corresponding vehicle**

Model selection method:

"Model Selection" Select a vehicle based on the brand, model, and year

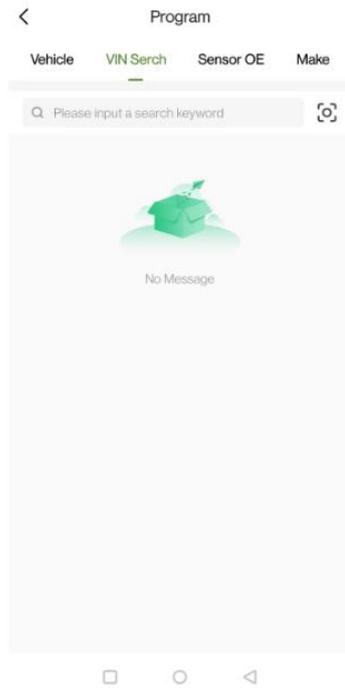
See the following figure for the page

Note: If you choose the indirect model to program, only the learning process information will pop up

See the following figure for the page



"Frame Number Search" can enter the programming page by entering the frame number or scanning to identify the frame number. See the following figure for the page



"Sensor OE Number" selects the corresponding vehicle according to the sensor OE number, and after entering the OE number, all models matching the OE number can be searched. Users can quickly click on the vehicle programming page according to the searched model. On the OE number search page, users can click on the historical search record to jump to the programming page

See the following figure for the page



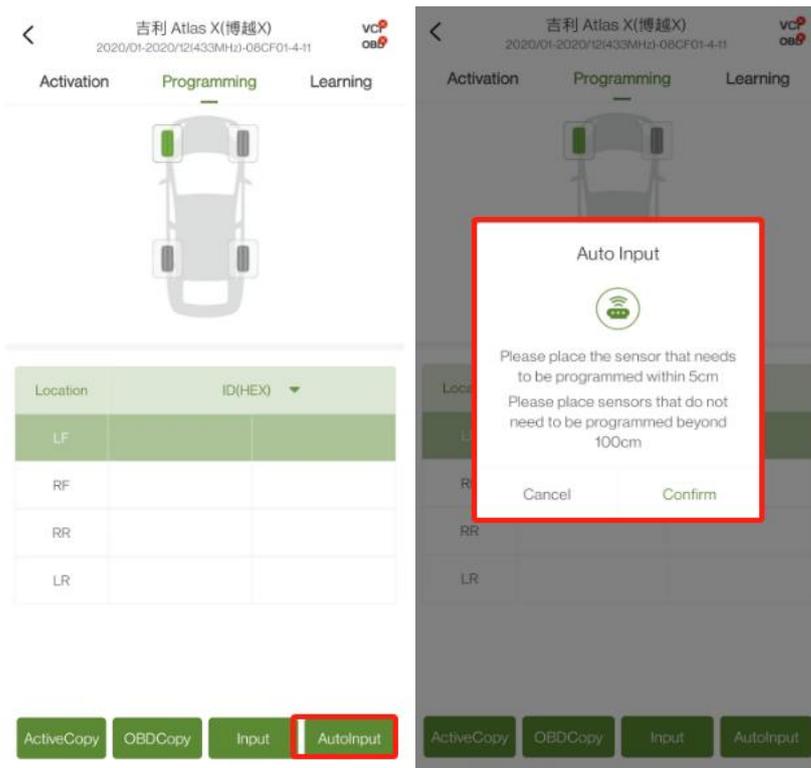
"Sensor Manufacturer" selects the corresponding vehicle according to the sensor manufacturer, and after searching, the list displays all the vehicle data under the manufacturer. Users can quickly select the vehicle to enter the programming page. On the sensor manufacturer search page, users can click the historical search record to jump to the programming page

See the following figure for the page



## Step 4: Create a new ID: Write to the new sensor ID

Method 1: Auto Create Click Auto Create to directly write the ID to the sensor: The sensor device is near the upper right corner of the mobile phone device. See the following figure for creating the ID page



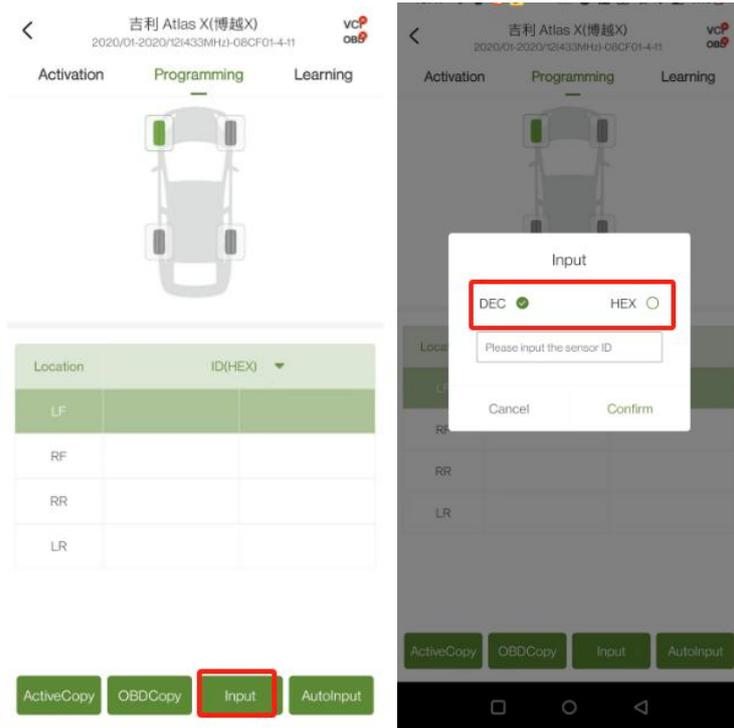


Attention:

When performing NFC programming on an IOS mobile device, you need to select the NFC type to write the ID

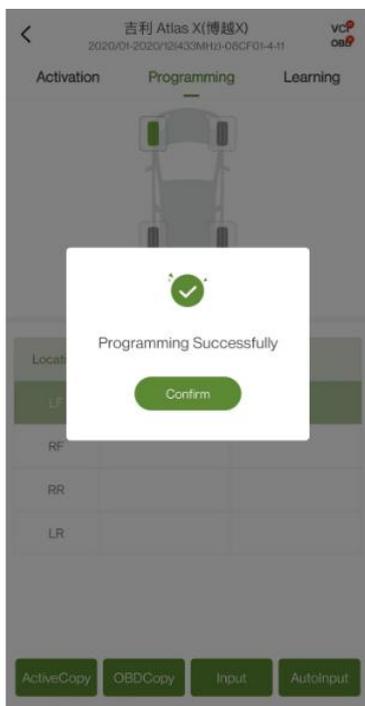
Android mobile device NFC programming can be directly programmed to create ID writing

Method 2: Manually Create Click Manually Create, enter the decimal or hexadecimal ID, and write the ID to the sensor. See the following figure for the page



### Step 5: Close the sensor to the VCI and write the new ID

After the new sensor is written, the writing succeeds. See the following figure for the page

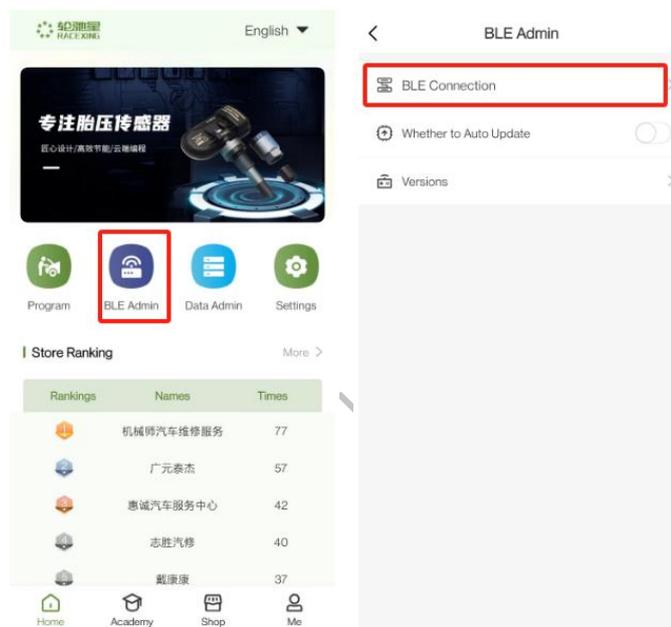


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## Replication learning

### Step 1: Bluetooth connection to VCI

Bluetooth connection method 1: Click "Bluetooth Management" on the home page to enter the Bluetooth management page, then click "Bluetooth Connection" to enter the Bluetooth connection page, search for nearby devices by scanning and connect to "VCI". See the following figure for the page



You can click "Scan" to scan the QR code on the back of VCI to connect to VCI. See the following figure for the page



#### Attention:

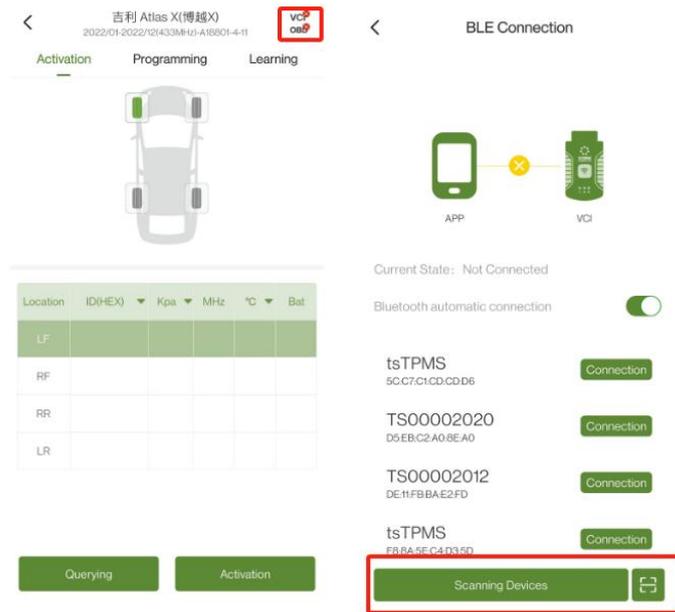
Turn on Bluetooth scan nearby, you can select VCI to connect, VCI device name is "RACEXING"

Bluetooth automatic connection: After the automatic connection is turned on, the device can be automatically connected through Bluetooth next time

Disconnect: Click "Disconnect" to select another device for connection

Bluetooth connection method 2: After selecting the vehicle type, click the upper right corner of the programming page to enter the Bluetooth connection page, and search for nearby by scanning

Device and connect to "VCI". See the following figure for the page



Programming page icon description:

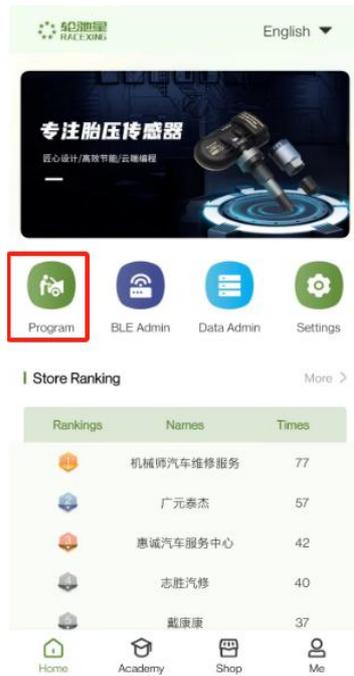
The "√" display on the VCI in the upper right corner indicates that the current mobile device has a VCI device. × indicates that the VCI device is not connected

The "√" displayed on the OBD in the upper right corner indicates that the VCI is connected to the OBD. × indicates that the VCI and OBD are not connected

After the VCI is successfully connected, the current power supply of the VCI is displayed in the upper left corner

**Step 2: Go to the programming learning page from the home page**

See the following figure for the page



### Step 3: Select the corresponding vehicle

Model selection method:

"Model Selection" Select a vehicle based on the brand, model, and year

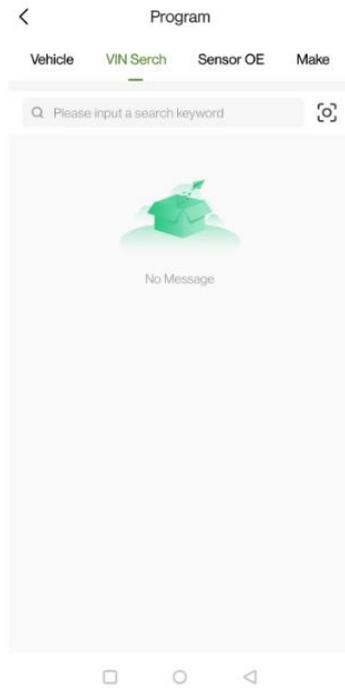
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See the following figure for the page



"Sensor Manufacturer" selects the corresponding vehicle according to the sensor manufacturer, and after searching, the list displays all the vehicle data under the manufacturer. Users can quickly select the vehicle to enter the programming page. On the sensor manufacturer search page, users can click the historical search record to jump to the programming page

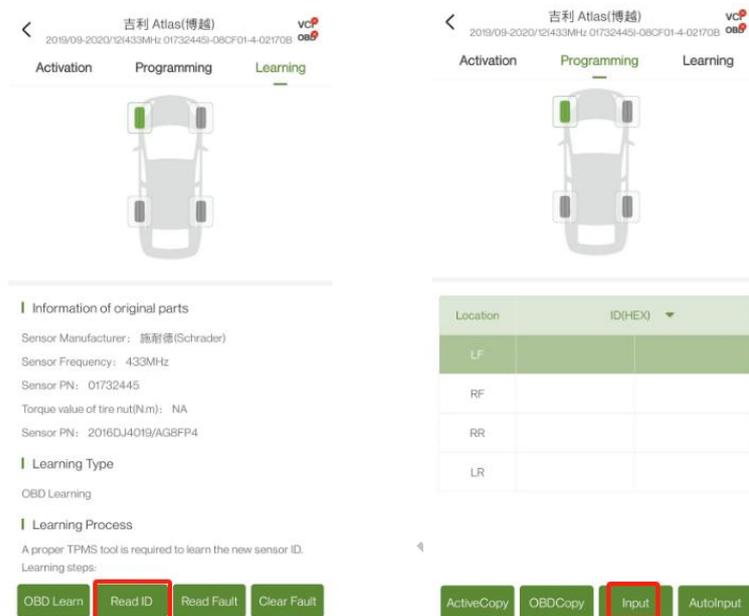
See the following figure for the page



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## Step 4: Connect the VCI to the body and read the sensor ID of the original car

Click "Read ID" to read the tire ID in the VCI. See the following figure for the page



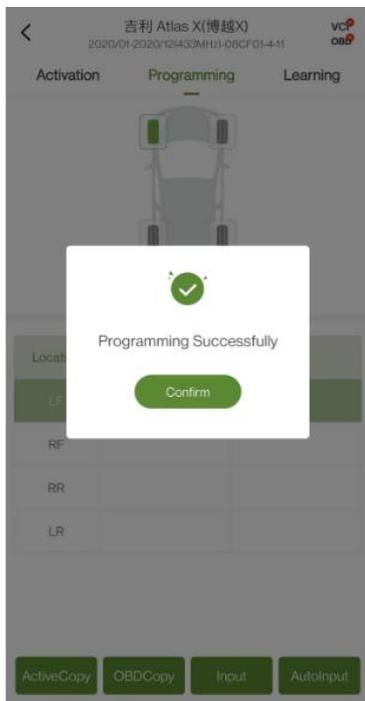
## Step 5: OBD replication

Click OBD Copy to copy the ID that has been read. See the following figure for the page



Step 6: Put the sensor close to the VCI and write the new ID

After the new sensor is written, the writing succeeds. See the following figure for the page



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## Other function description

About programming page function description

Bluetooth automatic connection: After the Bluetooth automatic connection button is opened, the device will automatically reconnect to vci after shutdown and restart, or after re-entering the APP, but will not automatically reconnect after shutdown.

Note: After the switch is set, you need to restart the APP to take effect.

Note: If the IOS mobile device exits the APP, it will not automatically reconnect. If it is disconnected due to distance, it will automatically reconnect. Shutting down and restarting the VCI device is automatically reconnected

Query:

(1) Attach the NFC chip to automatically sense and obtain the sensor information

Note: For IOS NFC query, you need to manually click the NFC query button to trigger the IOS NFC query function. For Android, you only need to manually place the sensor in the NFC identification module on the back of the phone in the query page

(2) Query the sensor button to obtain sensor information through the VCI

NFC creation: Programming directly through NFC recognition

OBD learning: After the motivation is successful, the tire displays the

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corresponding ID, and OBD learning can be carried out with the ID, and the ID is written into the VCI.

Code reading: Read the VCI fault code

Clear: Clear the VCI fault code

For all Class B Digital Devices, a statement like the following is needed:

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 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: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.”

The device has been evaluated to meet general RF exposure requirement

This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.