

TECH450 Tyre Pressure Monitoring System Tool

User Guide



DOWNLOAD YOUR
FREE TPMS DESKTOP

See page 23.
for details



FOREWORD

Thank you for choosing the TECH450. This manual will help you get your tool up & running and explains how to get the most out of all its great features.

PLEASE ENSURE THAT YOUR TOOL IS FULLY CHARGED BEFORE YOU FIRST USE IT AND BEFORE REGISTRATION.

If you need any further assistance, please visit the support pages on our website at www.bartecautoid.com

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IMPORTANT NOTICES

SAFETY DEFINITIONS

All **Danger**, **Warning**, **Important**, and **Note** messages must be followed for your safety. These safety messages are in the following form.



DANGER: This means you may risk possible loss of life.



WARNING: This means you may risk possible bodily harm.

CAUTION: This means you risk damage to the vehicle or the tool.

These safety messages cover situations Bartec is aware of. Bartec cannot know, evaluate and advise you as to all the possible hazards. You must be certain that any conditions or service procedures encountered do not jeopardise your safety.

COPYRIGHT

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DISCLAIMER

All information, illustrations, and specifications contained in this technical instruction manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without obligation to notify any person or organization of such revisions or changes. Further, Bartec shall not be liable for errors contained with the furnishing, performance, or use of this material.

SAFETY PRECAUTIONS

Read carefully the installation, operating, and maintenance instructions in the Operator's manual.

Do not allow unqualified persons to use this equipment. This will prevent injury to persons and damage to the equipment.

The workplace must be dry, sufficiently lit, and well ventilated.

Do not forget that breathing carbon monoxide (odourless) can be very dangerous and even fatal.

WHEN WORKING ON THE VEHICLE:

- Wear suitable clothing and act in such a way as to prevent industrial accidents.
- Before starting, check to be certain the gear shift is in neutral (or in PARK (P) if the transmission is automatic) and put the handbrake on, and check to be sure the wheels are completely locked.
- Do not smoke or use naked flames when working on a vehicle.
- Wear safety glasses to protect your eyes from dirt, dust, or metal chips.

DISPOSING OF EQUIPMENT

- Do not dispose of this equipment as miscellaneous solid waste but arrange to have collected separately.
- The re-use or correct recycling of electronic equipment (EEE) is important to protect the environment and human health.
- In accordance with European Directive WEEE 2012/16/EU, special disposal points are available for waste electrical and electronic equipment.
- Public administrators and producers of electrical and electronic equipment are involved in facilitating the re-use and recovery of waste electrical and electronic equipment through these collection activities and the use of appropriate planning arrangements.
- Unauthorised disposal of waste electrical and electronic equipment is punishable by law with appropriate penalties.



DISPOSING OF BATTERIES

- The TECH450 contains a Lithium Polymer rechargeable battery which is not accessible to the user.



WARNING

- Risk of fire or explosion if the battery is replaced by an incorrect type.
- Batteries must be recycled or disposed of properly. Do not throw batteries away as part of normal refuse disposal.
- Do not throw batteries onto an open fire.

CORRECT USE OF THE TOOL

- Do not expose the tool to excessive moisture.
- Do not use the tool near sources of heat or polluting emissions (stoves, ovens, etc.).
- Do not drop the tool.
- Do not allow the tool to come into contact with water or other liquids.
- Do not open the tool or attempt to perform maintenance or repair operations on any internal parts.
- You are advised to keep the packaging and to re-use it if the tool is moved to another site.
- Do not apply metallic labels to the rear of the tool as this may cause heat build-up while charging and possible fire.

WHEN USING THE TOOL REMEMBER:

Do not subject the tool to magnetic or electric interference.

RECEPTION, MAINTENANCE AND GUARANTEE:

Inspect the tool when delivered. Damage sustained during shipment is not covered by the guarantee. Bartec will accept no responsibility for material or bodily harm resulting from inappropriate use of the product, failure to maintain it, or incorrect storage conditions.

Bartec provides training for clients desirous of acquiring the knowledge required for the correct use of its products.

Only personnel authorized by Bartec are permitted to make any repairs that may be necessary. This tool is guaranteed against any manufacturing fault for 12 months as of invoice date (parts and labour) only if the product has been correctly used. The serial number must stay readable, and proof of purchase must be retained for presentation upon request.

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TOOL LAYOUT



1	Display
2	Navigation keys
3	On/Off: Hold down for a few seconds. Menu: On some screens more options are available from the Quick Menu.
4	Enter/Test: Commence a TPM test, only works on vehicle audit screen.
5	Home/Back/Escape TIP: Press home for 3 seconds from anywhere to return to home screen.
6	Mini - USB
7	USB cable connector/OBD socket
8	Rubber housing.

KIT COMPONENTS

The **TECH450** kit inside the toolbox includes:

- TECH450 TPMS activation tool
- OBD cable
- Qi Charging cradle
- USB cable
- Tool case

IDENTIFYING KIT COMPONENTS AND FEATURES

The TECH450 tool is battery operated and generates a low-frequency magnetic field to activate tyre sensors. It receives UHF radio signals from the tyre sensors typically at 434MHz.



CHARGING TOOL

The TECH450 is shipped with a charged battery. It is recommended that the tool is charged 2+ hours before first use. For optimum performance, always keep it sufficiently charged.

The TECH450 will indicate when the battery has low power, and the battery icon will change color from white to red. When there is an insufficient amount of power remaining in the battery, the TECH450 will save all of the TPM Data and then power itself off.

Only use the power supply or USB cable that is included in the TECH450 tool kit to charge this tool. The use of unapproved power supplies may damage it and will void the tool warranty.

POWER ON/OFF SEQUENCE

Press and hold the power button for two seconds to power on the tool. To power off the tool, press and hold the power button for three seconds. Auto power off is after 10 minutes of inactivity. This can be changed in the Settings menu.

The unit automatically powers up when the charger or USB port is in use – auto power off is not operational. The tool cannot be operated when plugged in.

REGISTRATION

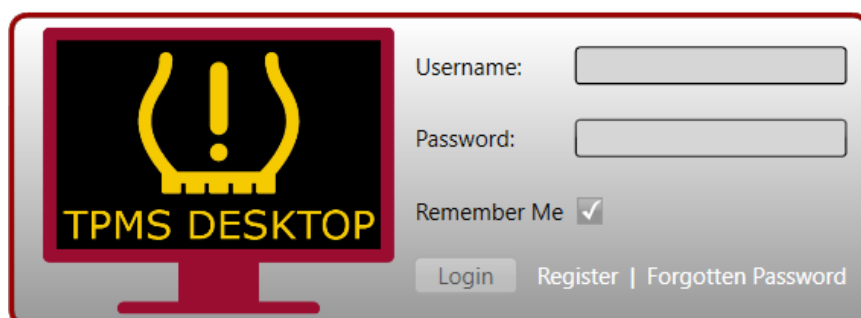
Registration enables the notification and download of software updates to the tool. When first powered on, the tool will display the following screen:



To register the tool, navigate to the Bartec TPMS Desktop at tpmsdesktop.eu on a PC.



Download the TPMS Desktop software and install it using 'setup.exe'. When the TPMS Desktop has been loaded for the first time, the following screen will be displayed:



Select 'Register' to create a new account. The following screen will be displayed:



The screenshot shows a web browser window with the title 'Bartec Auto ID Tool Support Center'. The header includes the Bartec logo and navigation links: Home, Log In, Register, My Account, and Downloads. The main heading is 'Customer Registration'. Below this, a message states: 'Thank you for choosing to register for the online support portal. Please fill in the form below to complete the process. - and a valid email address is needed to complete the process.' The form contains the following fields: 'User Name:' with a text box and a note 'Cannot contain spaces.'; 'Password:' with a text box; 'Confirm password:' with a text box and a note 'Passwords must be at least seven characters long. Spaces and characters are not allowed.'; 'First Name:' with a text box; and 'Last Name:' with a text box. A 'Close' button is located at the bottom right of the form.

It is important to fill in all fields completely and accurately. This information will help Bartec remain in contact regarding updates and other important TPMS information. Choose a username (without a space) and password.

If the details are accepted, this message will show:

Registration Complete - Awaiting Email Confirmation

Your registration is complete. Please check your email and follow the link to confirm your email address to enable your account.

The following email should arrive within a few minutes:

Thank you for registering at <https://tools.bartecautoid.com>. Please bookmark the website for future reference.

Your user name is: TPMS-user

Please click the following link to confirm your email address and enable your account:

[Confirm account](#)

If you need technical assistance please email us at support@bartecautoid.com.

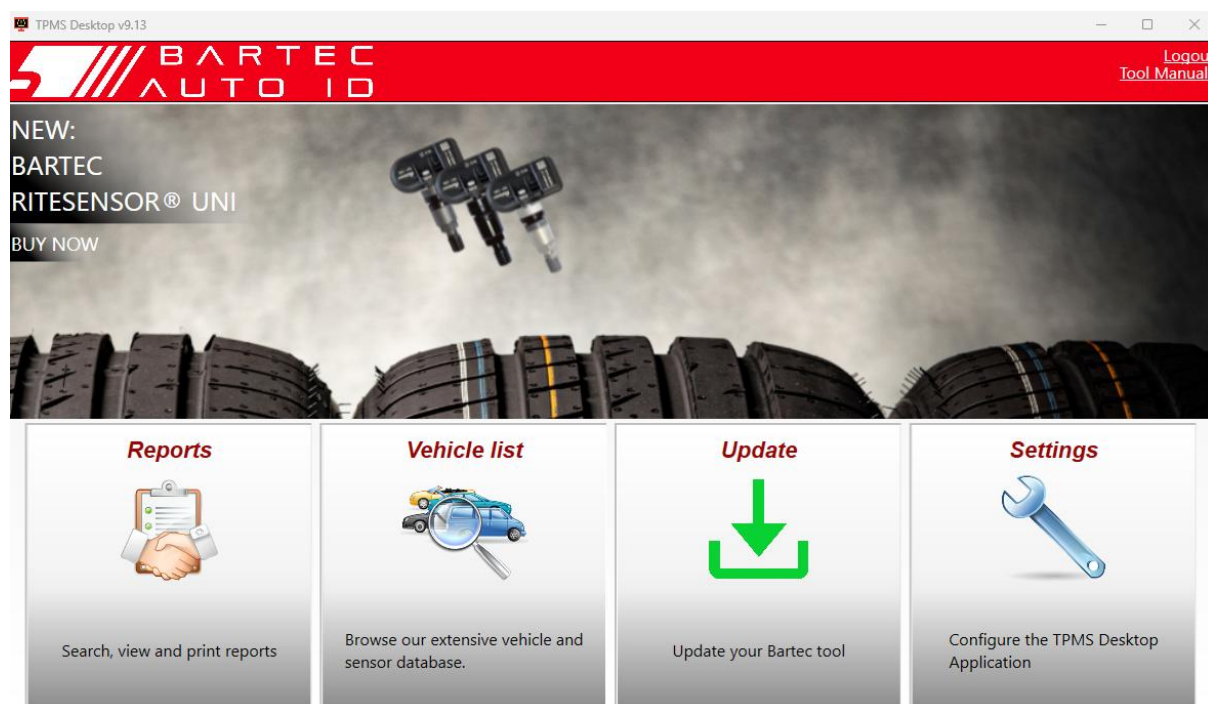
Regards,
Bartec Auto ID Tool Support Centre

When clicking 'Confirm account' this will navigate to the website and the following page will show that the registration was successful. Return to the TPMS Desktop to log in.

Registration Email Confirmation

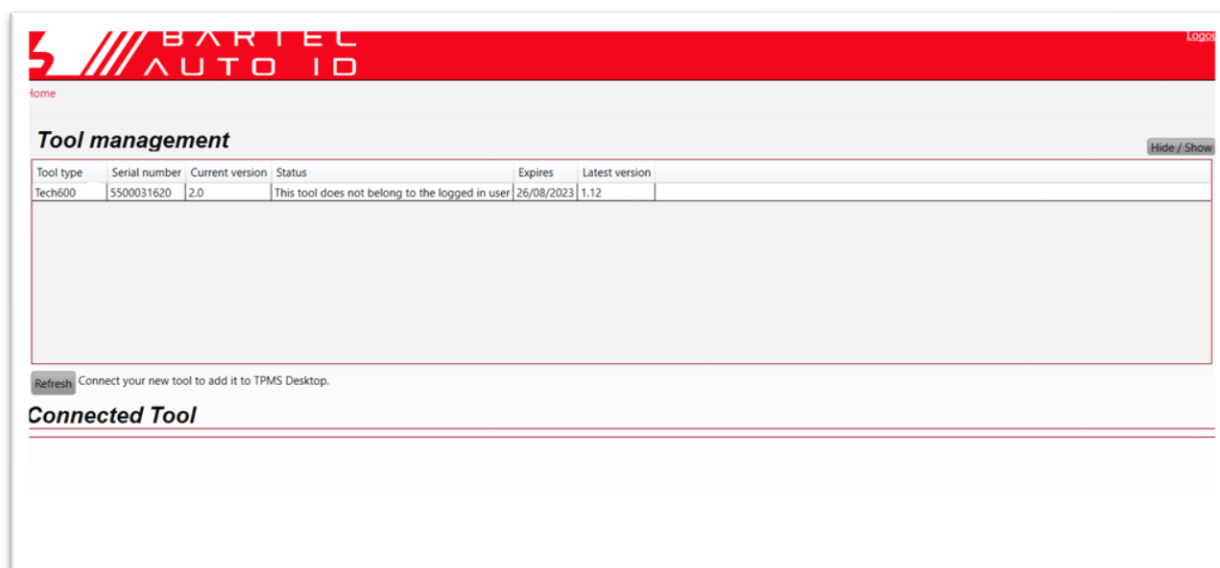
Your email address has been validated. You can now login to register tools.
You can log in on [this page](#).

After Login, the main screen of the TPMS Desktop is displayed.



Connect the TECH450 to the computer using the supplied USB cable. The TPMS Desktop will automatically register the tool and will display the message: “Tool successfully registered”.

The TPMS Desktop will then check for any updates that can be applied to the tool. Alternatively, select ‘Update’ to view all registered tools and their update status.



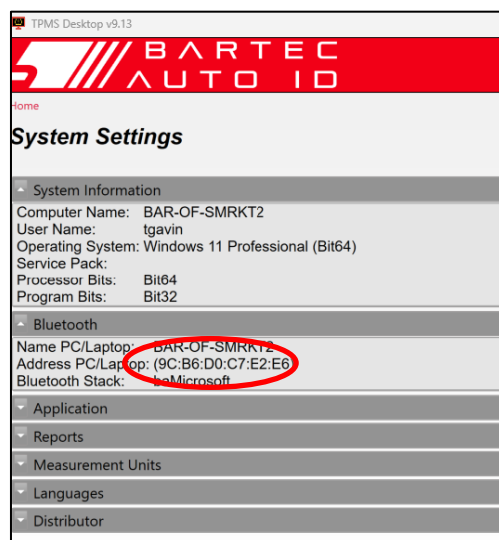
Whilst updating the Tech450 please keep the USB cable connected.

DISCONNECTING FROM PC

Before disconnecting the tool from a PC, please ensure to “safely remove hardware” first, by locating the “Safely Remove Hardware” icon on the lower right-hand side of the PC screen. This will prevent the data on the tool from being corrupted.

CONNECTING TO TPMS DESKTOP USING BLUETOOTH

Open TPMS Desktop, go to settings and note the PC name and address. Select connections in the settings menu, followed by TPMS Desktop: Add device. The tool will then search for nearby PCs. Once the search has completed, select the PC on the list that matches the name or address as shown on TPMS Desktop.



CONNECTING TO WIFI

Select connections in the settings menu, followed by Wi-Fi: Join Network. Select the correct network and enter the password.

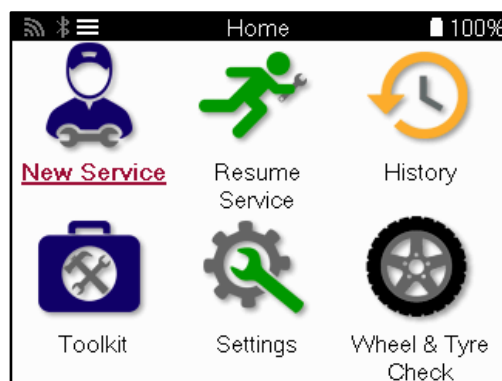
Connecting to Wi-Fi is important to get automatic software updates. This is the preferred method of updating to ensure the tool will always have support available for the latest vehicles.

The tool will automatically check for updates on boot, during shutdown or whilst on charge to ensure you stay updated.

Updating the tool can also be done manually once it is connected to Wi-Fi. To do this go to 'Update Tool' in the settings menu and press enter.

Selecting Wi-Fi again displays information on the network the tool is connected to and allows that network to be removed by pressing 'Forget', allowing connection to a different network.

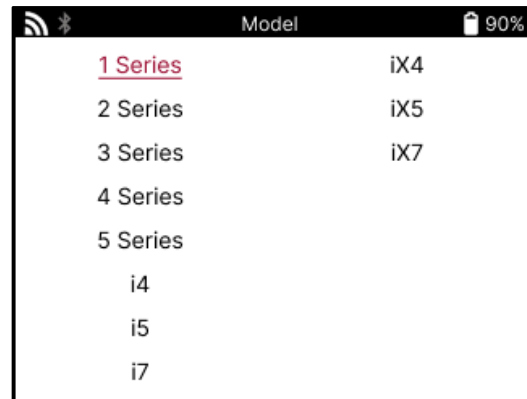
HOME MENU



	New Service Used to start a new service, for example: diagnose and repair TPMS issues, read DTCs and measure tyre tread depths.
	Resume Service Used to resume the last service.
	History Used to call up all stored services, searching by either registration or model. This function can also be used to upload and clear Service Data.
	Toolkit Used to identify a sensor type or aftermarket brand, scan for all known frequencies (RKE Test) or detect and display UHF signals (UHF monitor). Also used to get tips related to TPMS.
	Settings Used to set up preferences in the tool – Language, Wi-Fi/Bluetooth, units, auto – off, sound, etc.
	Wheel & Tyre Check Quick and easy access to enter tyre tread measurements without entering car details.

NEW SERVICE

When starting a New Service, firstly select the vehicle that requires TPMS maintenance. Scroll through the menus to select the correct manufacturer, model, and year to see all available service functions.



SERVICE MENU

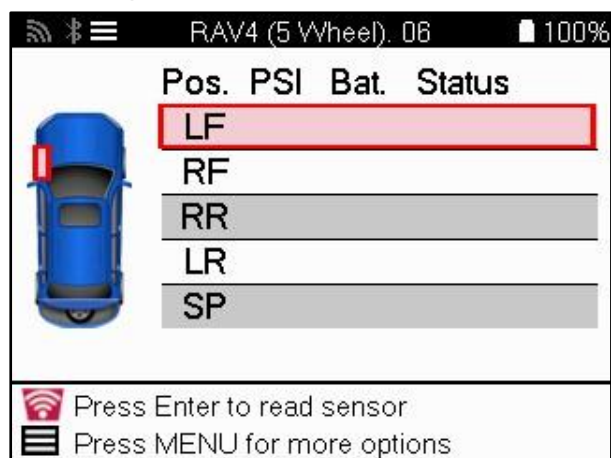
After selecting the vehicle, all the available options for the preselected MMY will be displayed. These functions will differ depending on the vehicle and whether the TPMS system is direct or indirect.



	Check The Check menu hosts additional sub menus: Check sensors, OBD Diagnostics and Wheel & Tyre as described below.
	Check Sensors Used to read sensors, including battery status and IDs and to help identify and diagnose sensor issues.
	OBD Diagnostics Used to help diagnose vehicle problems, read programmed sensor IDs, and read the vehicle VIN.
	Wheel & Tyre Used to input and record tyre tread measurements.
	Relearn Used to pair new sensors to the vehicle's TPM System.
	Program Sensor Used to program aftermarket sensors to replace OE sensors.
	Technical Information This lists detailed sensor and vehicle information as well as service tips.
	Vehicle Data Used to review all the recorded service data.

CHECK SENSORS

Check Sensors is located within the Check function of the Service menu if the vehicle is a direct TPM system. Use this service to read the installed sensors before continuing with further steps.



TIP:



If this icon is displayed on the screen press the Menu key for more options.

It is recommended to read all the sensors. The arrow keys can be used to select each sensor.

To test a sensor the tool should be placed against the tyre sidewall beneath the valve stem and not touching the metal rim as shown below. With the tool positioned correctly, press the 'Test' key to start the reading process.



The time it takes to read a sensor will vary depending upon the sensor brand. The tool will display a progress bar that depicts the maximum possible time the sensor may take.

Note: Some sensors require a rapid pressure drop of around 0.5 bar/10psi to activate them, the tool will indicate when this should be performed

After reading a sensor, the tool will display the data read back from the sensor, this will include the pressure reading, battery life and condition and also the sensor status. The most common states are listed below:

	Successful Sensor Read The sensor is operating correctly.
	Failed Sensor Read The sensor failed to read. This could be a result of a sensor that is no longer functional due to a flat battery or could be an incorrectly installed sensor. In some cases, the sensor may have simply failed to activate so a second or third read attempt may be advised, especially if other sensors on the vehicle show the same result. If aftermarket sensors have recently been installed, ensure that they were programmed.
	Duplicate ID Two or more sensors have been read with the same sensor ID. Check there are no additional sensors located about the car or person and re-read all positions marked as a duplicate. If a newly programmed aftermarket sensor has been installed, check that it was not programmed with the same ID as one currently installed on the vehicle.
	Wrong Sensor Type A sensor has been identified but it is not compatible with the vehicle. If it is an aftermarket sensor then it can be programmed to the vehicle.
	Low Sensor Battery The sensor battery is almost flat, replace the sensor.

For a full list of all sensor states and their associated icons see appendix F.

If a sensor has been replaced without cloning, some method of relearn procedure may need to be followed, as explained in the Relearn section of the manual.

BATTERY LIFE

For some vehicles the tool is capable of calculating the remaining battery life of the sensor. This allows for upcoming issues to be identified early to avoid revisits for the same vehicle. When battery life is supported, an additional column will be displayed on the screen. The battery life will be displayed as either percentage or months remaining depending on the preselected vehicle.

Battery life in months

Superb 2019 90%				
Pos.	PSI	Bat.(mth)	Status	
LF	32	19	✓	
RF	32	18	✓	
RR	34	10	⚠	
LR	34	3	🔋	

ID: 12345678 Temp: 23C
Mode: Diag.

Battery life in percentage

C Class 2021 90%				
Pos.	PSI	Bat.(%)	Status	
LF	32	23	✓	
RF	32	23	✓	
RR	34	15	⚠	
LR	34	5	🔋	

ID: 12345678 Temp: 20C
Mode: Diag.

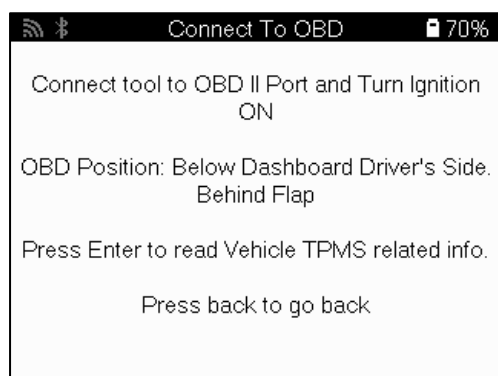
Colour	Range month	Range percentage	Recommended action
Black	13 or above	21 or above	None
Amber	12 or less	20 or less	Replace soon
Red	6 or less	10 or less	Replace immediately

OBD DIAGNOSTICS

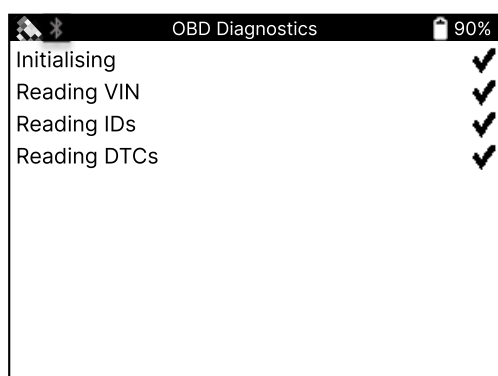
OBD Diagnostics is located within the Check function of the Service menu.

OBD Diagnostics reads information from the vehicle such as the VIN, Diagnostic Trouble Codes (DTCs), and the IDs of the sensors.

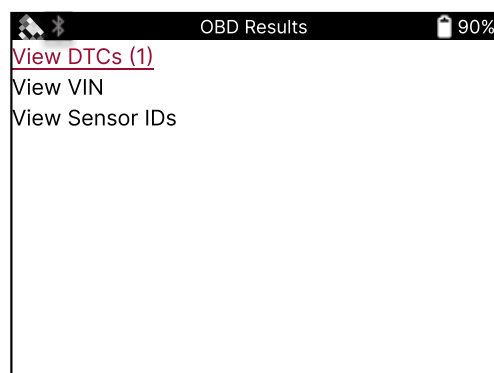
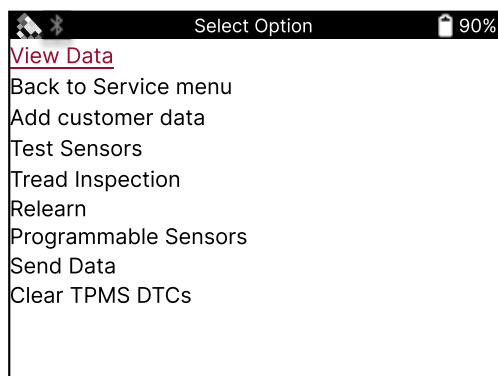
To read the OBD Diagnostics, select OBD Diagnostics. The tool will prompt to connect the tool to the OBD II port and to turn the ignition on, as shown below. The prompt will also indicate where the OBDII port is located on the vehicle



When ready, press enter to begin the read process. The tool will list all of the data that is being read from the vehicle. In some cases, not all vehicles will support all of the data, and this may be indicated by a cross.



Once the read process completes, select View Data to view the information that was read from the vehicle.



VIEW DTCs:

DTCs	
Current: 10 Historic: 0	
DTC-FTB	Description
C1121-51	Low Battery, Left Front
C1122-51	Low Battery, Right Front
B1A40-00	Left Front Tire Pressure...
B1A40-01	RF TPMS Module fault...
C1111-00	No Description Available
C1A40-01	No Description Available
C2A40-01	No Description Available
C3A40-55	No Description Available

DTCs are grouped into Current DTCs and Historic DTCs, use the left and right keys to select between the two. DTCs are listed with the DTC Code and the Failure Type Byte (FTB) along with a description (if supported).

If many DTCs are listed, the list can be scrolled up and down using the up and down keys. To see a longer description of the selected DTC, press the Enter key.

VIEW VIN:

The VIN is the 17-digit vehicle identification number, this is simply displayed on screen after making the View VIN selection.

VIEW SENSOR IDS:

The programmed Sensors IDs are listed along with the wheel location. The format of the IDs may be listed in either Hexadecimal or Decimal based upon the vehicle selection.

Sensor IDs	
Position	ID (Hex)
LF	6007FFA4
RF	6007F5FD
RR	6007F4CF
LR	60077F60

WHEEL & TYRE

Wheel & Tyre is located within the Check function of the Service menu. Use this service to input the tyre tread measurements.

To enter tyre tread depths, select the Wheel & Tyre option, followed by the tyre type: All season, summer, or winter.

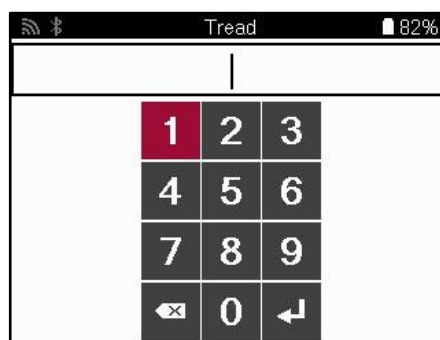
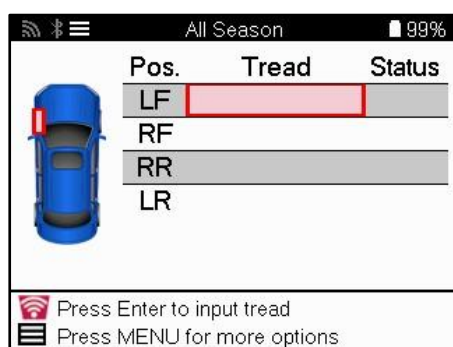
After selecting the Wheel & Tyre service, the selected wheel and tread position will be highlighted on the display.

Press the enter key to enter the tread measurement manually, the valid input range is 0-25mm.

Repeat this for each wheel and position: outer, centre and inner if using 3 tread measurements.

This can also be performed by using a TDR100 Tool.

The number of tread measurements to input can be changed from 1 to 3, with 3 being the default. The number of readings and the measurements can be configured in the Tread Settings.



The numbers will appear in different colours depending on measurement, as shown below:

Colour	Range mm (Summer and All Season)	Range mm (Winter)	Recommended action
Black	3.5 or above	4.5 or above	None
Amber	2.5-3.4	3.5 - 4.4	Replace soon
Red	2.4 or below	3.4 or below	Replace immediately

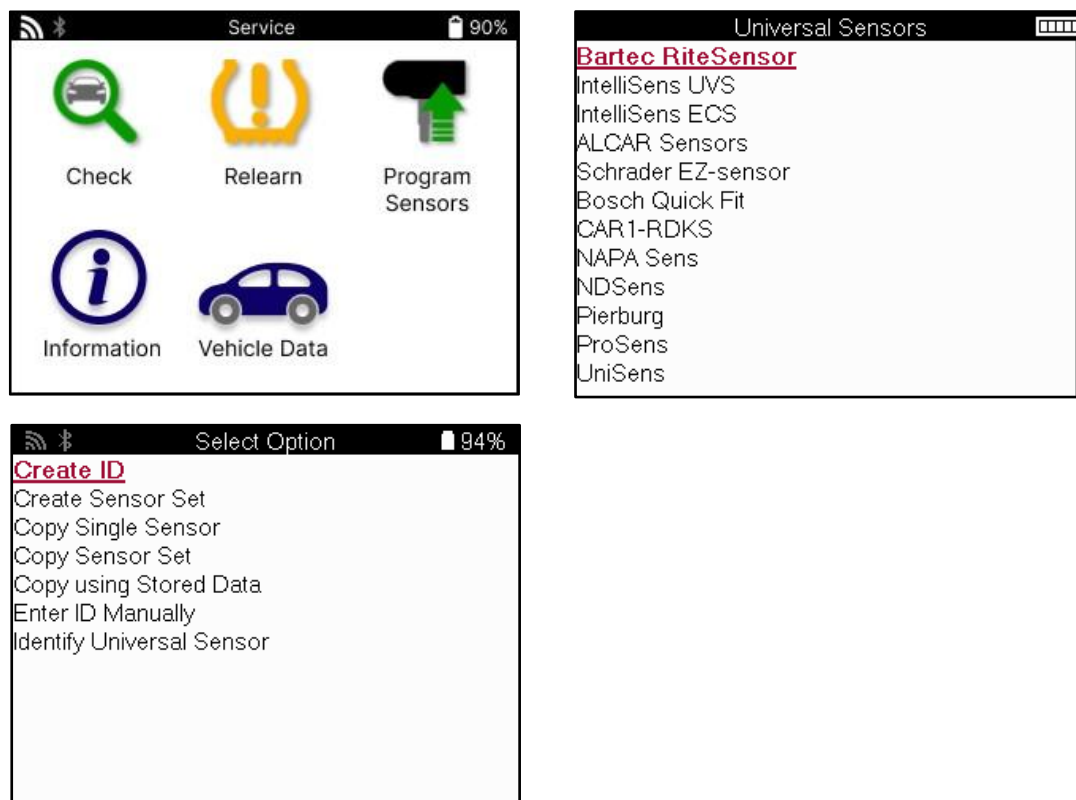
After entering the measurement for each wheel, when prompted select one of the following statuses:

	Damaged Tyre		Aged Tyre
	Damaged Wheel		Questionable Condition
	Worn Tyre		OK

PROGRAMMABLE SENSOR

The “Program Sensors” on the service menu enable the function of programming aftermarket replacement sensors like the Bartec Rite-Sensor, HUF IntelliSens, Alcar Sensors, Alligator Sens.it, or the Schrader EZ-sensor. Even when they are already mounted in a wheel or programmed to another vehicle.

Choose from a selection of sensors that match the preselected MMY.



Create ID	Used to create a single sensor with a new ID. Can be repeated as many times as required. The ID needs to be relearned to the vehicle's ECU. The following pages will describe this procedure.
Create Sensor Set	Used to create a set of sensors with a new ID. The ID needs to be relearned to the vehicle's ECU. The following pages will describe this procedure.
Copy Single Sensor	Used to copy a single sensor.
Copy Sensor Set	Used to copy/clone a winter tyre set with the same ID's as the summer tyre set. Requires the reading of the old sensor to program the same ID on the replacement sensor to avoid the relearning process.
Copy Using Stored Data	Used to store IDs either read from the TPMS sensors or from the vehicle OBD
Enter ID Manually	Used to create a sensor with a new ID that can be typed in manually. This option only appears for some sensors. If it is not possible to copy the ID, enter the same ID manually, which is written on the sensor's body. When entering the ID, the keypad can be changed from decimal to hexadecimal to match the sensor.
Identify Universal Sensor	Used to identify the type of universal sensor placed in front of the tool.

The current coverage list is available at www.bartecautoid.com

This gives the option to either create or copy the ID.

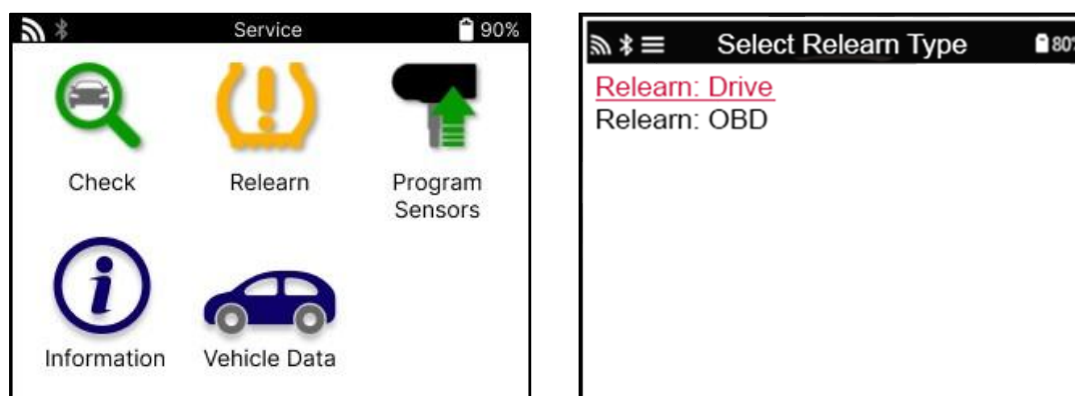
Notice: Sensors need to be read before copying Single Sensor/Sensor Set.

Sensors that can be programmed by the tool may have slightly different procedures and times.

Recommended sensor position for programming:



RELEARN



To find out which relearn type is available for a vehicle, just turn on the tool and select Relearn. Alternatively refer to the current coverage list at www.bartecautoid.com > Downloads.

Relearn is used to pair new sensors to the vehicle.
Select one of the following relearn methods and follow the instructions given by the tool to relearn sensors.

STATIONARY RELEARNS

Stationary Rlearns use the vehicle's onboard TPMS system to listen for transmissions from sensors while the vehicle is in a "Learn Mode".

Once the vehicle is in Learn Mode, use the tool to activate the sensors. The vehicle will listen for the sensor IDs and learn them to the vehicle.

ACTIVE (DRIVE) RELEARNS

Some vehicles can be reset by driving. Refer to the on-screen relearn procedures for details on how far/long to drive. It can take up to 20 minutes to relearn the sensor IDs.

OBD RELEARN

If the preselected vehicle is supported, relearn allows the TECH450 to directly program the vehicle's ECU with sensor IDs.

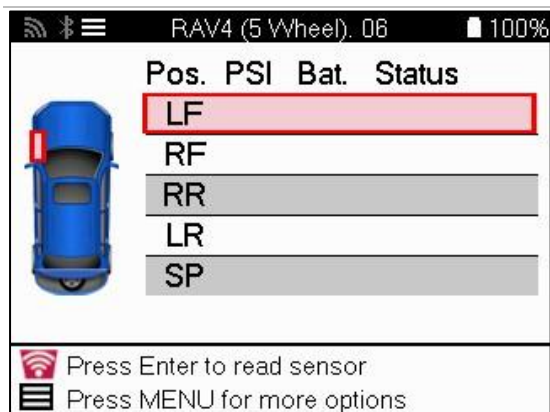
The tool will prompt when to connect to the OBD. This will be once all sensors have been successfully read and the message "All Sensors OK" is displayed.

RELEARN INFORMATION

This contains extra information about the relearn for the selected vehicle, which can assist with any problems. An example would be for some Toyota and Lexus vehicles which use a summer and winter tyre set.

RELEARN COMPLETION

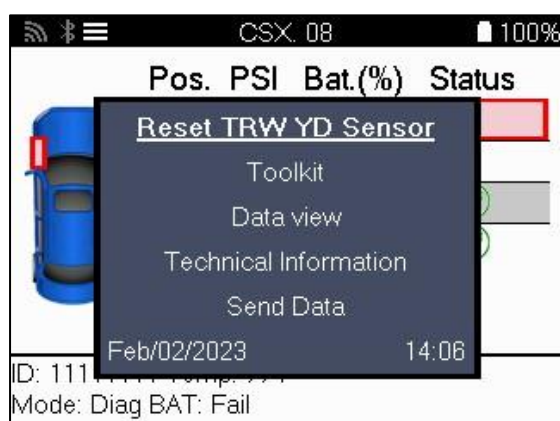
On some vehicles, after performing a relearn the TPMS light stays on. In this case finalisation is required to turn the TPMS light off. This often involves re-reading the sensors, again the tool will provide specific instructions to follow in order to turn the light off.



As well as the pressure and temperature, we also display the “mode” of the sensor. In some cases, the mode cannot be changed and isn’t important, but in some cases, it will need to be changed in order for the relearn to work.

For example, if sensors for a vehicle show “Park” or “Drive” they are already in the correct mode. Otherwise, use the “Mode Change” command in the Quick Access Menu. If the sensors are shown as Ship, Off or Test mode, put them in Park mode, using the “Mode Change” command in the Quick Access Menu

Press the Quick Menu and see the options available for the vehicle requiring a Relearn. Options that are not required on a vehicle will not be displayed.



Special service advice for Toyota Models:

Toyota ECU Reset

If at any time the vehicle TPMS Reset button is pressed with the new sensor IDs fitted, the ECU OBD relearn will not work until the Toyota ECU Reset is selected (with the tool connected to OBD). The TPMS Reset button should only be used to set new tyre pressures, and on some vehicles to change between winter and summer ID sets.

Special service advice for Kia and Hyundai Models:

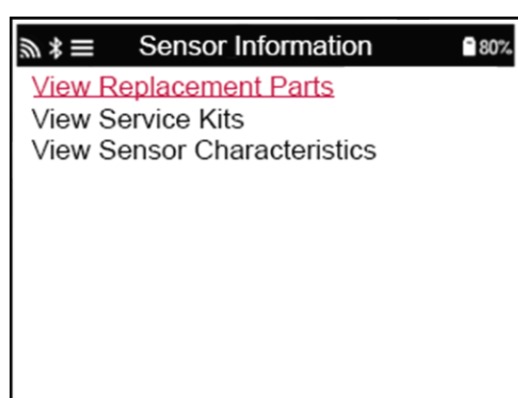
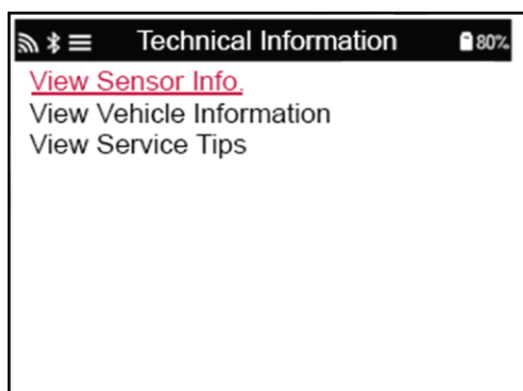
Reset YD Sensor

For some Kia and Hyundai vehicles with the newer low line TRW YD sensors, this allows the sensors to be put back into the correct mode (Sleep or Rest) to work with the vehicle.

This specific Service advice will only appear if applicable for the preselected Make, Model, and Year combination.

TECHNICAL INFORMATION

Gives detailed information about replacement parts, service kits, sensors, vehicles, and service tips.

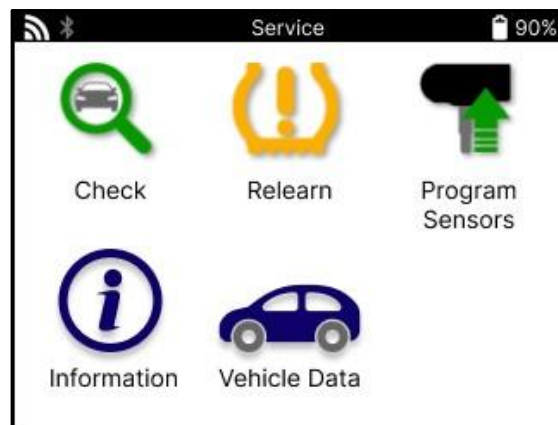


Sensors do not have to be read to access the following information.

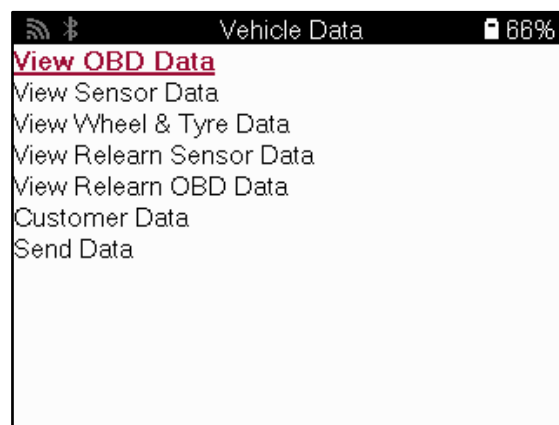
View Replacement Parts	Used to show all replacement sensor part numbers that can be fitted to the preselected MMY.
View Service Kits	Used to show all replacement service kit part numbers that can be fitted to the preselected MMY.
View Sensor Characteristics	Used to show technical sensor information of the sensor that needs to be fitted. e.g., Nut torque settings.
View Vehicle Information	Used to provide information about the Relearn method, the OBD port location, and if there are programmable Sensors for the preselected MMY available.
View Service Tips	Used to provide information about the specific meaning of the TPMS light as well as common mechanical faults for the preselected MMY.

VEHICLE DATA

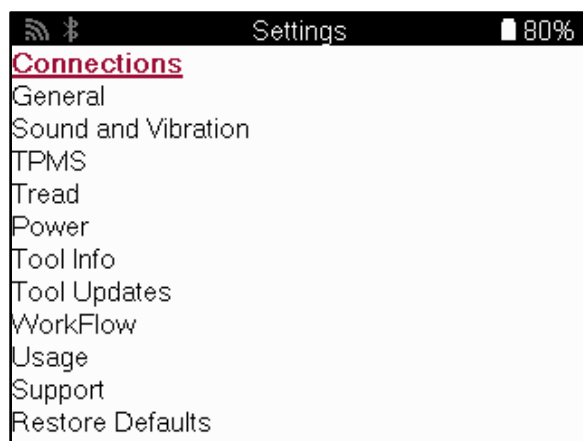
Sensors and OBD need to have been read for data to be shown.



The vehicle data gives direct access to screens that display the Vehicle Data. This makes it convenient to check all sensor, OBD, wheel & tyre and relearn data. It also contains customer data and gives the option of sending data.



SETTINGS

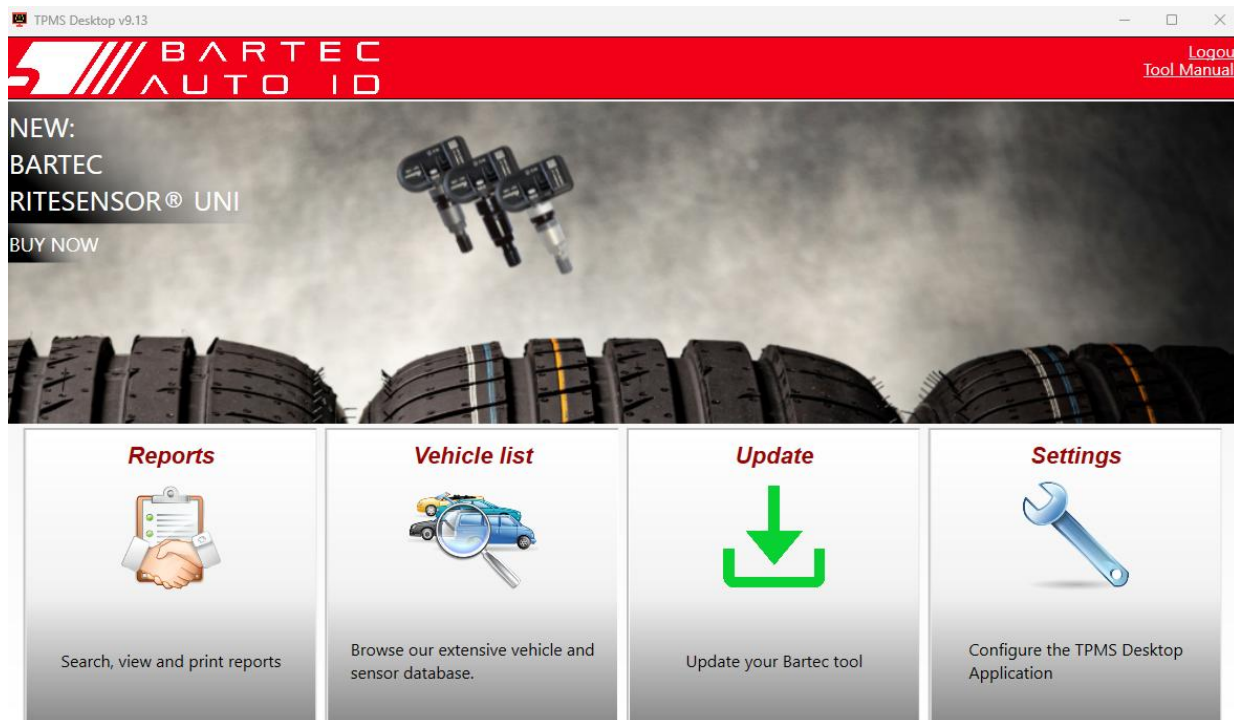


Connections	Connect to Bluetooth, TPMS Desktop, and Wi-Fi.
General	Check and update the time and date on the tool, and change the language displayed.
Sound and Vibration	Enable or disable tool sounds or vibrations.
TPMS	Change the units displayed when reading a TPMS sensor, for Pressure, Temperature, and the TPMS ID.
Tread	Change the units for tread measurement, configure the number of measurements to take at each tyre and change the seasonal tyre selection.
Power	Change the length of time before the tool automatically turns off.
Tool Info	Display the tool info, including software version, serial number, etc.
Update Tool	Update the tool to the latest software (requires the tool to be registered; see page 10).
WorkFlow	Enable Job ID or vehicle number during vehicle selection.
Usage	Shows analytical usage data on power cycles, sensor activations, OBD relearns and diagnostic codes.
Support	Displays the contact details for our technical support team.
Restore Defaults	Restore the tool settings to factory settings.

TPMS DESKTOP

The TPMS Desktop provides revolutionary technology to help manage Bartec TPMS tools on a PC. The TPMS Desktop is designed to work with the following Bartec tools; TECH400, TECH300, TECH500, TECH450, TECH600, and the TAP100/200.

Go to www.tpmsdesktop.eu to download a FREE copy now!



Reports	Complete job reports recorded and stored when needed.
Vehicle List	Lookup TPMS information for a vehicle quickly and easily.
Update	Automatically retrieve updated files from the current registered account.
Settings	Configure settings for Bluetooth and Wi-Fi configuration.

REPORTS

Search, view, and print job reports. This preformatted and detailed record contains the necessary job information needed for users and customers! To sort or filter reports by date, make, model, and year. Or to print a report and attach it to the invoice as proof of work completed. Reports can be used to create customer receipts and limit liability.

UPDATE

Register and update the Bartec Tool with the latest software. This feature helps to keep control of all tools in use and updates them with the most current software available. Simply connect the tool to a PC with TPMS Desktop installed and click *Update*. This is the preferred method for updating the TECH450.

VEHICLE LIST

Browse the extensive vehicle and sensor database. Search by make, model, and year to quickly find the data needed: OBD location, TPMS relearn, sensor information – it's all there with TPMS Desktop. Plus, the database is regularly updated.

SYSTEM SETTINGS

Configure the TPMS Desktop Application to meet the tyre shop's needs. Want to connect with Bluetooth? Connectivity is just a few clicks away with TPMS Desktop.

DISPLAY

Garage/Tyre shop display screen functionality enables the technician to show the customer their vehicle readings on a TV or monitor in the garage or waiting room. Gives the customer more confidence and sells more tyres.

APPENDIX

APPENDIX A: VEHICLE IDENTIFICATION NUMBER (VIN)

When using the TECH450 tool, it is important to verify the Model Year to help insure looking for that proper sensor and using the proper vehicle COMs when necessary.

By using the vehicle's VIN and locating the 10th digit from the left it is possible in most cases accurately determine the vehicle's Model Year. Take that digit and reference the chart on this sheet. This will be the Model Year that needs to be selected on the tool.



10 TH Digit in VIN	Year	10 TH Digit in VIN	Year
W	1998	C	2012
X	1999	D	2013
Y	2000	E	2014
1	2001	F	2015
2	2002	G	2016
3	2003	H	2017
4	2004	J	2018
5	2005	K	2019
6	2006	L	2020
7	2007	M	2021
8	2008	N	2022
9	2009	P	2023
A	2010	R	2024
B	2011	S	2025

APPENDIX B: TPMS SYSTEM REVIEW



When cycling the ignition for off to run, the TPMS tell-tale should come on, and go off. This would indicate a system with no fault present.

Solid Light: Pressure Problem

Check the tyre pressures and adjust to the placard.
NOTE: Some vehicles are equipped with sensors in the spare. Also, with some vehicles, over pressure may turn on the light.

Flashing Light: System Problem

System problems can range from faulty sensor(s) to sensors on the vehicle that haven't been learned to that vehicle.

APPENDIX C: MODES AND MODE CHANGING

Sensors can have many different “modes” when they have been read, such as Learn, Tool LF, YD Sleep, YD Rest, and Hi Norm Dly. Some of those are called sleep mode to preserve battery life.

Mostly, these modes are not important because the sensor will be supplied already in the correct mode to use. But for some sensors made by Continental, it is important that the mode is displayed as “Park”, as otherwise, it will not work on the vehicle.

The TECH450 tool has the ability to perform the necessary mode change. If a sensor is shown as “Ship”, “Test” or “Off” and the relearn toolkit provides the option “Set Sensor to Park Mode”, please use this option to change the sensor mode into the correct one:

- Go to “Relearn” and select the vehicle (MMY).
- Press Enter when relearning procedure shows.
- Select the spanner in the upper left corner with the Up/Down buttons. Press Enter.
- Select “Set Sensor to Park Mode”, and press Enter.
- Go to the wheel, hold the tool near the sensor, and press “Test”.
- Repeat for each wheel.
- Start the Relearn procedure.

Also, some sensors are supplied in a mode where they cannot be read by the tool unless they are pressurized in a wheel. Some examples would be replacement sensors bought from a Ford dealership, and some Mitsubishi Continental sensors.

APPENDIX D: COMMS ERROR TROUBLESHOOTING

If a problem or error occurs during the COMMS process, follow the steps below before calling customer support.

Check vehicle ignition.

Vehicle ignition must be in the RUN position in order for the vehicle COMMS process to complete.

Check the cable to tool connection.

Ensure the cable is connected at the DB15 and thumb screws are finger tight.

Check the cable connection at the vehicle.

Make sure the OBD cable connection is good.

Verify Make, Model, and Year

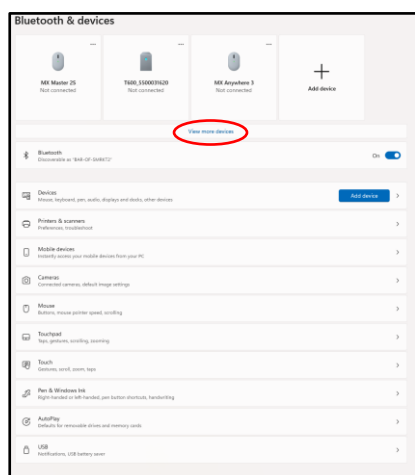
COMMS can change from Model to Model and Year to Year. Verify the tool is set up to the proper MMY.

Verify tool power level.

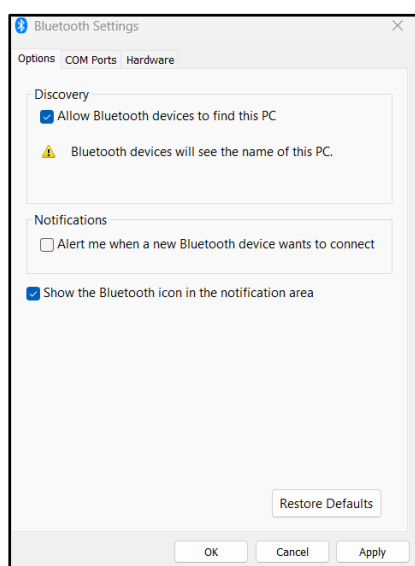
If the tool has a low battery charge, this may affect the COMMS process. Charge the tool and try again.

APPENDIX E: CONNECTING TO TPMS DESKTOP USING BLUETOOTH

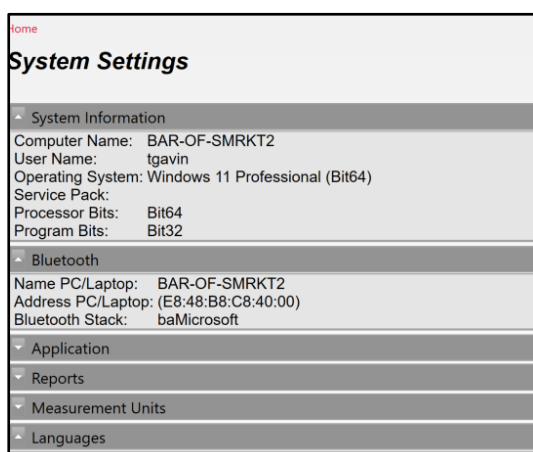
If there are problems using the built-in Bluetooth, use a USB dongle. Select Devices and Printers in Control Panel.



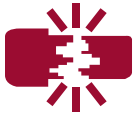
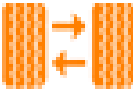
Right click on the Bluetooth dongle icon and click on Bluetooth settings. Tick the boxes as seen on the Options tab above. Press OK when finished.



Start the TPMS Desktop application and go to Settings. Open the Bluetooth section: the PC/Laptop should be connectable and discoverable for the TECH450.



APPENDIX F: SENSOR STATES AND DEFINITIONS

	Failed Sensor Read The sensor failed to read. This could be a result of a sensor that is no longer functional due to a flat battery or could be an incorrectly installed sensor. In some cases, the sensor may have simply failed to activate so a second or third read attempt may be advised, especially if other sensors on the vehicle show the same result. If aftermarket sensors have recently been installed, ensure that they were programmed
	Defective sensor The sensor has a hardware fault, check that it is not over pressurized or overheated. If the problem cannot be resolved the sensor should be replaced.
	Duplicate ID Two or more sensors have been read with the same sensor ID. Check there are no additional sensors located about the car or person and re-read all positions marked as a duplicate. If a newly programmed aftermarket sensor has been installed, check that it was not programmed with the same ID as one currently installed on the vehicle.
	Mechanically broken By pressing the quick menu, it is possible to manually record the sensor as having mechanical damage such as corroded or snapped stem. Replace the faulty components where possible or if not replace the sensor.
	Wrong Sensor Type A sensor has been identified but it is not compatible with the vehicle. If it is an aftermarket sensor then it can be programmed to the vehicle.
	New sensor The installed sensor has an Id that has not been programmed into the vehicle's ECU, a relearn is required.
	No Pressure The sensor is overpressurised but has not reported a hardware fault, check the pressure and ensure that the sensor meets the requirements of the vehicle.
	Rotated The sensor is installed in a wheel position that differs to the location it has been programmed to in the ECU. If the vehicle is not auto-locating, a relearn should be performed to program the ID into the correct location.

	Depleting Battery The sensor battery is low, it is recommended to replace the sensor.
	Incorrect mode The sensor is in the incorrect mode of operation for the vehicle. Use the Menu key to place the sensor into the correct mode.
	Success The sensor is operating correctly.

TECHNICAL SPECIFICATIONS

Power Supply	Lithium Polymer rechargeable battery, not user serviceable
Max power consumption	1.5W Schrader TPM, 0.5W all others
Display	LCD 16-bit colour, graphic, resolution 320x240
Keyboard	7 keys, dust, water, and grease-resistant
Input/output	Micro-USB style USB used to Connect to PC for firmware update and audit file download.
Vehicle connection	Uses OBD cable to connect to the vehicle
Working environment	Temperature 0°C - 40°C, Humidity: 20-55%
Storage environment	Temperature -10°C - 50°C, Humidity: 20-60%
Dimensions	187mm x 107mm x 47mm
Weight (including batteries)	490g

Radio frequency bands in which this equipment operates:

2.4GHz - 32mW maximum power output.

315-433MHz - receive only

125KHz - 15uT @ 8cm maximum magnetic field

Simplified EU Declaration of Conformity

Bartec Auto ID Ltd hereby declares that this device is in compliance with the essential requirements and other provisions of Directive 2014/53/EU (RED).

The full text of the EU Declaration of Conformity is available at:

<https://www.bartecautoid.com/pdf/declaration-of-ce-conformity-tech600450-2021-english-signed.pdf>

Simplified UK Declaration of Conformity

Bartec Auto ID Ltd hereby declares that this device is in compliance with the essential requirements and other provisions of The Radio Equipment Regulations 2017.

The full text of the UK Declaration of Conformity is available at:

<https://www.bartecautoid.com/pdf/declaration-of-uk-conformity-tech600450-english.pdf>

