

ALCAR TECH350

Tyre Pressure Monitoring System Tool

User Guide



Bartec Auto ID Ltd.

FOREWORD

Thank you for choosing the TECH350. 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: Means you may risk possible loss of life.



WARNING: Means you may risk possible bodily harm.

CAUTION: 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 personal safety.

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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 work place 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 in order 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 use of appropriate planning arrangements.
- Unauthorised disposal of waste electrical and electronic equipment is punishable by law with appropriate penalties.

DISPOSING OF BATTERIES

• The TECH350 contains a Lithium Polymer rechargeable battery which is 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 no throw batteries on to 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.

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 date of invoice (parts and labour) only if product has been correctly used. Serial number must stay readable and proof of purchase must be retained for presentation upon request.

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BEFORE GETTING STARTED

1. Charging

NOTICE: Only use the power supply or USB cable that is included in the TECH350 tool kit to charge this tool. The use of un-approved power supplies may damage it and will void the tool warranty.

2. Registration

The Bartec TECH350 can be registered through the TPMS Desktop software, found at www.tpmsdesktop.eu. This allows the user to update the tool to the latest software through the method they prefer.

3. Update

Once the tool is registered through TPMS Desktop, verify the software level loaded to the level available online and update the tool if necessary. Updating through the TPMS Desktop is recommended.

4. Disconnecting from PC

NOTICE: 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.

KIT COMPONENTS

The **TECH350** kit inside the tool box includes:

- TECH350 TPMS activation tool
- OBD Cable
- USB cable

Identifying Kit Components and Features

The TECH350 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.



REGISTRATION

Automatic registration takes place when the tool is first turned on. Registration enables the notification of software updates and the ability to download update files to the tool. Once an account has been made with TPMS Desktop, the tool will be registered to that account, and the latest available updates will be downloaded.



Screen when you first turned the tool on.

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



Download the TPMS Desktop software, and then install it using 'setup.exe'. When the TPMS Desktop has been load for the first time, the user will be presented with the following:



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

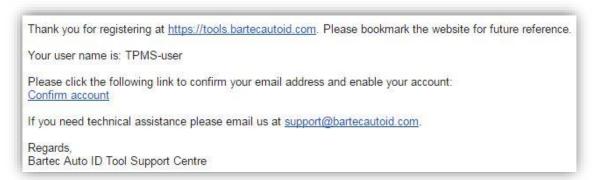


It is important to fill in all fields completely and accurately. This information will help Bartec remain in contact regarding updates and other important TPMS information. Choose a username (without a space) and password.

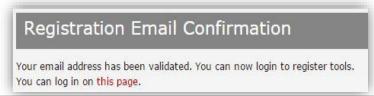
If the details are accepted, this message will show:



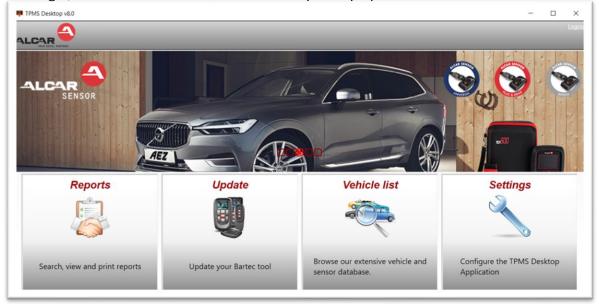
The following email should arrive within a few minutes:



When clicking 'Confirm account' it will bring the user to the website and the following page will show that the registration was successful. Return to the TPMS Desktop to login.

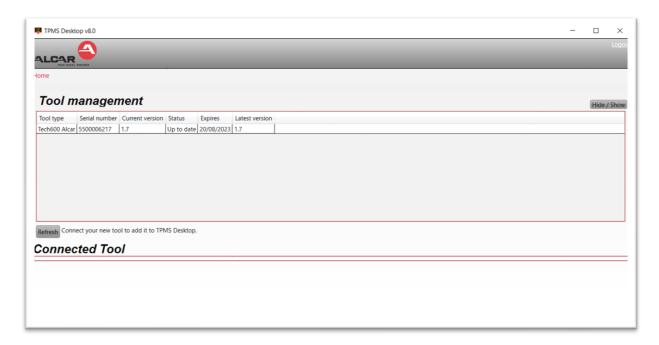


After Login, the main screen of the TPMS Deskop is displayed.



Connect the TECH350 to the computer. 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, the user can navigate to 'Update'.

Once registered, the user will see the tool listed, along with a whether the tool is up to date:



Updating the TECH350 and keeping it up to date using the TPMS Desktop is recommended.

CHARGING TOOL

The TECH350 is shipped with a minimum charged battery. It is recommended that the tool is charged **2+ hours** before first use. For optimum performance, always keep it sufficiently charged.

The TECH350 will notify the user when the battery has low power, and the battery icon will change colour from white to red. When there is an insufficient amount of power remaining in the battery, the TECH350 will save all of the TPM Data and then power itself off.

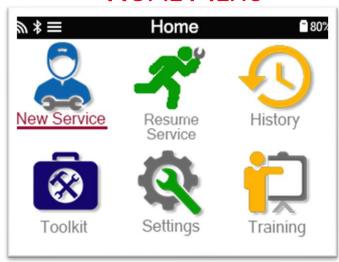
POWER ON/OFF SEQUENCE

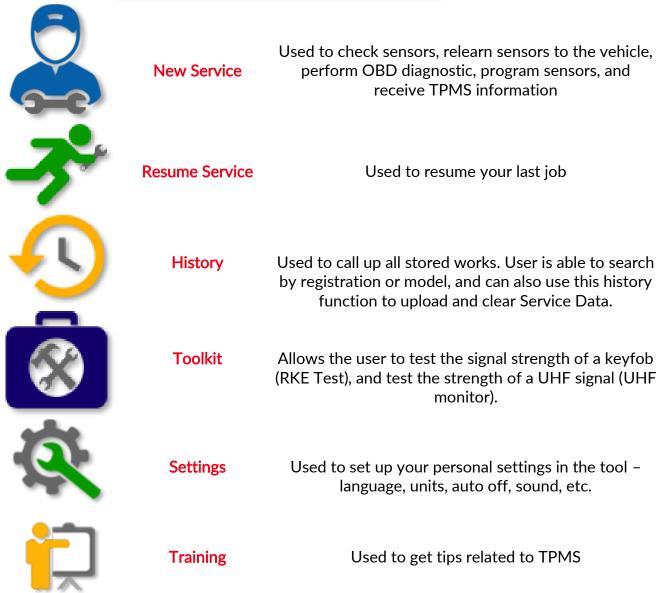
Press and hold the power button for two seconds to power on the tool. To power off the tool, press and hold the power button for three seconds.

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.

HOME MENU





Training

MORE TPMS INFORMATION

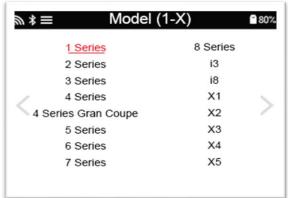


If you see this icon on the screen press for more TPMS information or TPMS options.

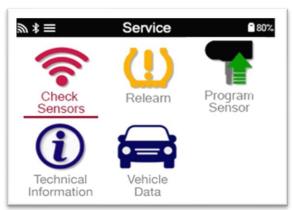
SELECT A VEHICLE

When starting a New Service, the user will be prompted to 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.

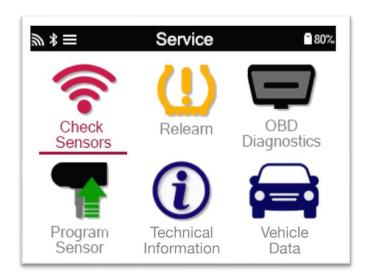








NEW SERVICE





Check Sensors

This uses a quick and easy to follow process which allows the user to read sensors, process the data, read battery status & IDs.



Relearn

All relearn procedures are available



OBD Diagnostics

Used to diagnose vehicle problems, receive sensor IDs and reads the vehicle VIN



Program Sensor

Create
Copy/clone ID (single)
Copy/clone ID (set)
Copy using stored data
Enter ID manually
Multiprogramming
Identify Universal sensor



Technical Information

Detailed sensor & service kits information



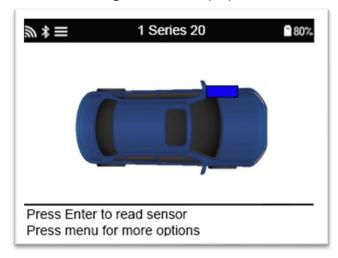
Vehicle Data

Allows the user to review the service data captured with the TECH350

1/6 CHECK SENSORS

Use this function to test the fitted sensors before continuing with further steps.

To check the status of the TPMS sensors on the vehicle, select Check Sensors from the Service Screen. A screen similar to the following should be displayed:



Use the arrow keys to select the sensor which needs to be read.

LF activated sensors

To test a sensor the tool should be placed alongside the valve stem and the 'Test' pressed.



key

Tool Positioning

Do NOT touch the metal rim. The tool needs to point through the rubber at the sensor.





(Note: with Ford Banded sensors the tool should be held 180°/opposite from the stem's position)

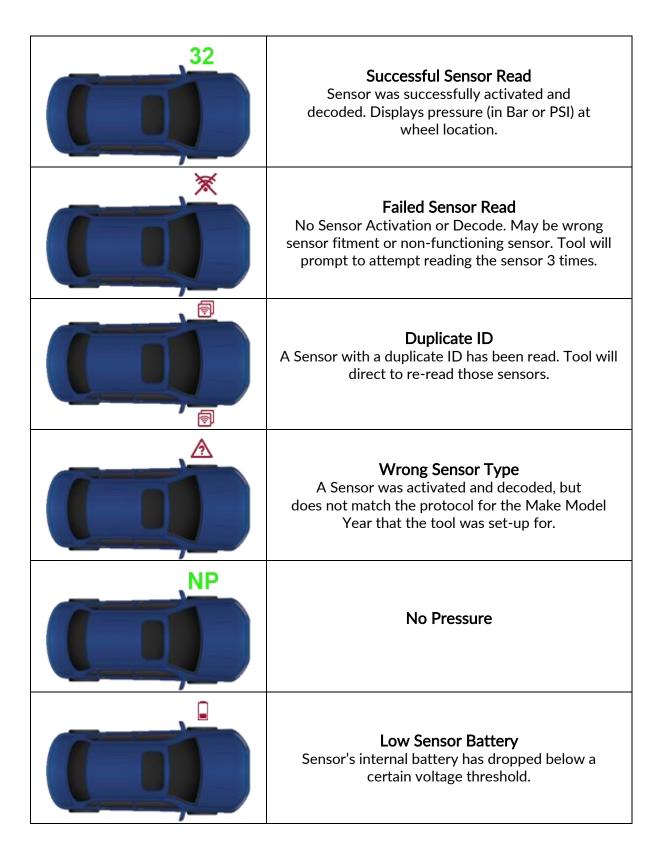
Non-LF activated sensors (some Beru sensors up to 2009)

If the tool requires rapid tyre deflation (of the order of 10psi or 0.5bar), then deflate the tyre and place the tool alongside the stem while pressing the test key.

During testing, the screen confirms the sensor type being tested and displays a progress bar. Different makes of Sensors respond at different speeds/ time intervals.

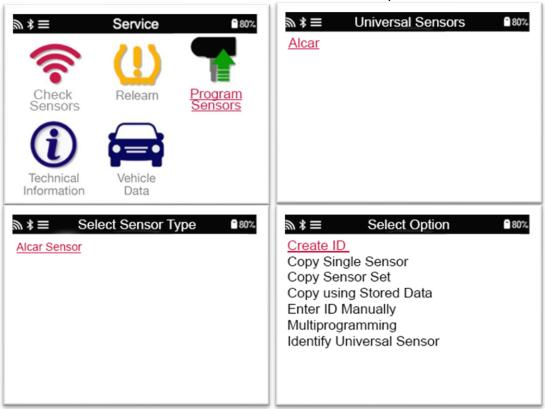
Possible Reading Scenarios

Note that if a faulty Sensor has been replaced, some method of relearn procedure will need to be followed, as explained later in this manual.



2/6 PROGRAMMABLE SENSOR

The "Program Sensors" on the service menu enables the function of programming aftermarket replacement sensors like the 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. The user can choose from a selection of sensors which match the preselected MMY.



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.
Create ID	Used to create a single sensor with a new ID. Can be repeated as many
	times as requested. The ID needs to be relearned to the vehicle's ECU. The
	following pages will describe this procedure.
Copy/Clone ID	Used to Copy/Clone a single ID. Can be repeated as many times as
	requested. Requires the reading of the old sensor to program the same ID
	on the replacement sensor to avoid the relearning process.
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 sensors body.
Copy Using	Gives you the option of using stored IDs either read from the TPMS sensors
stored data	or from the vehicle OBD

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

The user has the option to either create or copy the ID.

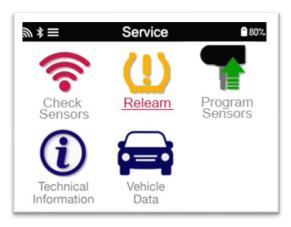
Notice: Sensors need to be read before copying.

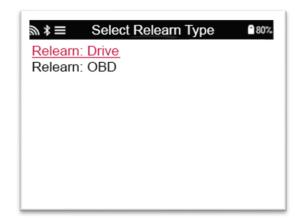
Sensors that can be programmed by the tool may have slightly different procedures and times.

Recommended sensor position for programming:



3/6 RELEARN





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

Stationary Relearns:

Stationary Relearns use the vehicles on-board 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 Relearns:

OBD connection allows the TECH350 to directly program the vehicle electronics module with sensor IDs.

Note that not all vehicles support vehicle communications modes.

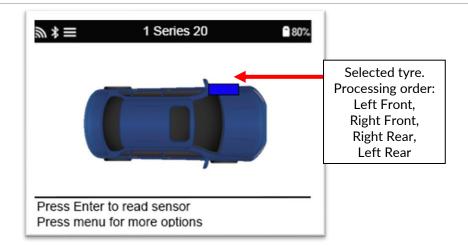
OBD can be connected when all sensors are successfully read and the message "All Sensors OK" is displayed.

Please use the "Technical Information" menu and select "View Vehicle Info" to find the OBD location.

Relearn Information:

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

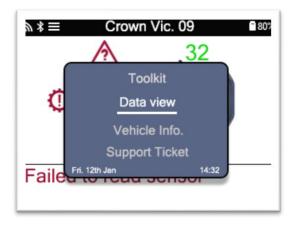
After selecting a Relearn method, follow the instructions given by the tool to relearn Sensors.



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 to access the Quick Access 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.

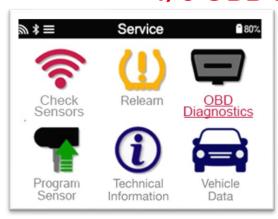
Special service advice for Kia and Hyundai Models:

• Reset YD Sensor

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

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

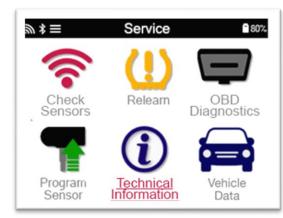
4/6 OBD DIAGNOSTICS



OBD Diagnostics

This option will only be listed for vehicles that Bartec has OBD coverage for. It reads information from the vehicle such as the VIN, DTCs (Diagnostic Trouble Codes) and the IDs of the sensors.

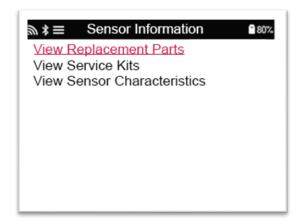
5/6 TECHNICAL INFORMATION



Technical Information

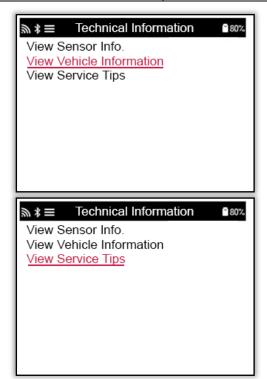
Gives detailed information about replacement parts, service kits, sensors, vehicles and service tips.





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

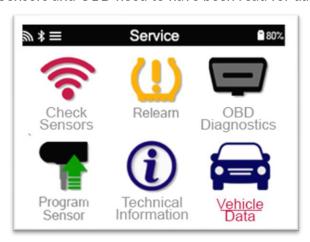
This option provides information about the Relearn method, the OBD port location and if there are programmable Sensors for the preselected MMY available.

View Service Tips

This option provides information about the specific meaning of the TPMS light as well as common mechanical faults for the preselected MMY.

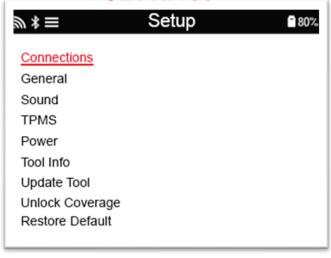
6/6 REVIEW VEHICLE DATA

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



The menu gives direct access to specific screens that display the Vehicle data. This option is helpful if the user wants to have a second look at the Sensor and OBD Data.

SETTINGS



Connections Connect with an OBD cable and TPMS Desktop. General Check and update time and date on the tool, and change the language displayed Sound Enable or disable tool sounds **TPMS** Change the units displayed when reading a TPMS sensor, for Pressure, Temperature, and the TPMS ID **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 14).

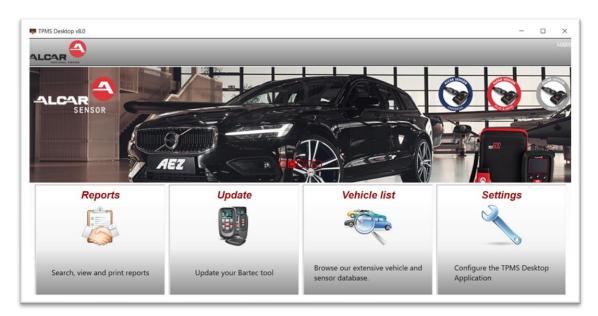
Restore the tool settings to factory settings.

Restore Default

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, TECH350, TECH450, TECH600, and the TAP100/200.

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



Reports	Complete job reports recorded and stored when needed
Update	Automatically retrieve update files from the current registered account
Vehicle List	Lookup TPMS information for a vehicle quickly and easily
Display	Software available to display vehicle details, tyre pressure and tread depth readings on a TV or Monitor for Tyre shop garages or waiting rooms

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 TECH350.

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. 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.

UPDATING THE TOOL VIA USB CABLE

The tool is compatible with PCs running Windows operating systems.

<u>Step 1:</u>

Power on the TECH350 and connect to a PC. The Tool will display a USB icon, to indicate that it is ready to receive update files.

Step 2:

Navigate to TPMS Desktop, and login. If the User does not have TPMS Desktop or has not registered the TECH350, please refer to the **Registration** pages in this document.

Step 3:

TPMS Desktop will check for the latest available update for the TECH350. If there is an update available, a notification will be displayed. Select 'OK' to confirm that the update can be applied to the tool.

<u>Step 4:</u>

TPMS Desktop will download the update files to the TECH350. When the files have been successfully downloaded, the TECH350 will install the files. Do not unplug the tool before the update has completed.

IMPORTANT: Please ensure that you "safely eject hardware" from the PC before unplugging the TECH350. This is to prevent data on the tool from being corrupted.

Step 5:

The tool is now updated and ready to go. The user can confirm that the tool is up to date via TPMS Desktop. The software version can also be checked in the Tool Info screen.

Trouble Shooting Tips:

- If Windows does not recognize the tool, please check that the USB cable is connected, that the tool is in update mode, and that there are no unnecessary update files on your PC available.
- If the tool becomes corrupted after being disconnected from the PC without safely ejecting it, the user can perform a check to attempt to fix the issue. To do so, right click on the drive you wish to scan, and navigate to "Properties". Select "Tools" from the available options, and then select "Check", to allow the PC to begin checking the device.

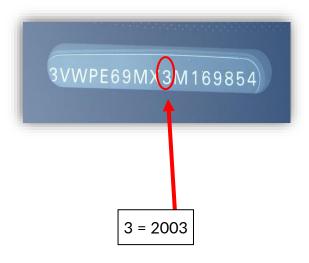
APPENDIX

APPENDIX A: Vehicle Identification Number (VIN)

When using the TECH350 tool, it is important for the user to verify the Model Year to help insure looking for that proper sensor and using the proper vehicle 10th Digit in

COMs when necessary.

By using the vehicles VIN and locate the 10th digit from the left the user can 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 which needs to be selected on the tool.



VIN	Year
W	1998
Х	1999
Υ	2000
1	2001
2	2002
3	2003
4	2004
5	2005
6	2006
7	2007
8	2008
9	2009
Α	2010
В	2011
С	2012
D	2013
E	2014
F	2015
G	2016
Н	2017
J	2018
К	2019

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 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, 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 TECH350 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 vehicle (MMY).
- Press enter when relearn procedure shows.
- Select the spanner in the upper left corner with the Up/Down buttons. Press Enter.
- Select "Set Sensor to Park Mode", 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 vehicle COMMS process to complete.

Check cable to tool connection

Ensure the OBD cable is connected at the OBD socket.

Check cable connection at vehicle

Make sure 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 tool and try again.

TECHNICAL SPECIFICATION

Power Supply	Lithium Polymer rechargeable battery (replaceable).
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	USB C 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:

315-433MHz - receive only

125KHz - 10uT @ 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/simplified-eu-declaration-of-conformity.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/simplified-eu-declaration-of-conformity.pdf