

CarPal

Bluetooth Vehicle Diagnostic Dongle

User Manual



TOPDON®

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Safety Is Always the First Priority!

- For your safety, the safety of others, and to avoid any damage to the product and your vehicle, **CAREFULLY READ AND MAKE SURE YOU FULLY UNDERSTAND ALL THE SAFETY INSTRUCTIONS AND MESSAGES ON THIS MANUAL BEFORE OPERATING.** You must also read the vehicle's service manual, and observe the stated precautions or instructions before and during any test or service procedure.
- Keep yourself, your clothing and other objects away from moving or hot engine parts and avoid contact with electrical connections.
- **ONLY OPERATE THE VEHICLE IN A WELL-VENTILATED AREA,** as the vehicle produces carbon monoxide, a toxic and poisonous gas, and particulate matter when the engine is running.
- **ALWAYS WEAR APPROVED SAFETY GOGGLES** to prevent damage from sharp objects and caustic liquids.
- **DO NOT SMOKE OR HAVE ANY FLAMES NEAR THE VEHICLE** when testing. The fuel and battery vapors are highly flammable.
- **DO NOT ATTEMPT TO INTERACT WITH THE PRODUCT WHILE DRIVING.** Any distraction may cause an accident.
- **TURN THE IGNITION OFF BEFORE CONNECTING OR DISCONNECTING THE PRODUCT FROM THE DATA LINK CONNECTOR (DLC)** to prevent causing damage to the product or vehicle's electronic components.

Section 1

What's in the Box?



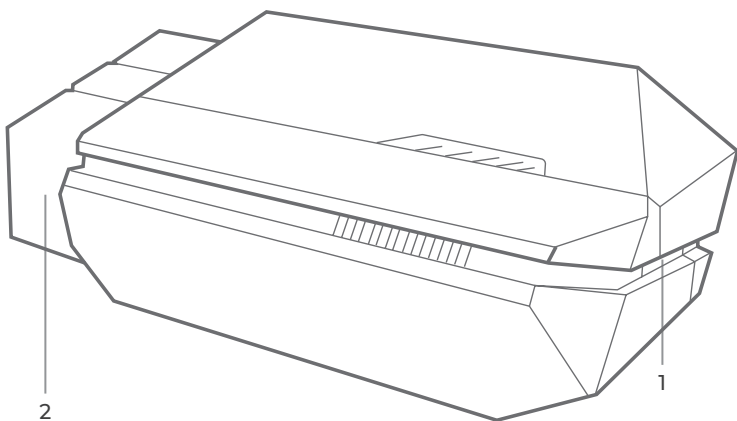
CarPal

Quick
User
Guide

Quick User Guide

Section 2

Product Overview



1. Indicator

Solid Blue: Bluetooth connected

Solid Red: power on

Solid Green: communicating with the vehicle

2. OBD-II 16 Pin Connector

Connects the CarPal to vehicle's DLC.

Section 3

Getting Started

3.1 Download the App

Search for "TOPDON CarPal" in App Store or Google Play to download and install.

Note:

This app is compatible with iOS 11.0 or later / Android 7.0 or later.

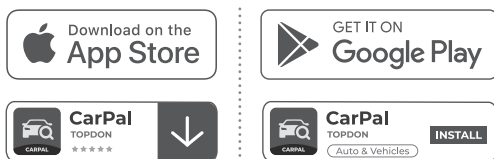


Figure 3-1

3.2 Register & Log In

Open the app and log in to your TOPDON account.

If you do not have an account, enter your email to register an account.

If you have an account, tap **Login with Password** to log in to your TOPDON account with the Email and password.



Figure 3-2

3.3 Add the VCI

To add a device for the first time, tap **Add Device**.

If you need to add more devices, tap **Me > Device Management >**



Figure 3-3



Figure 3-4

3.4 Plug the CarPal into the Vehicle's DLC

Follow the on-screen instructions to plug the CarPal into the vehicle's OBD-II port. Then tap **Next**.

Note: Make sure the ignition is OFF before plugging in the unit.

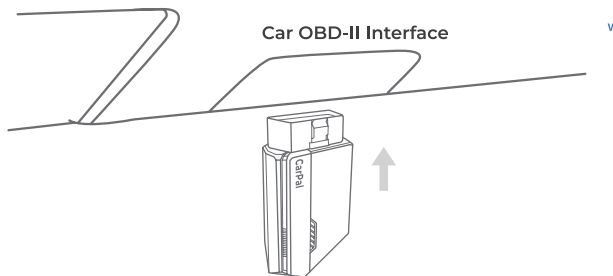


Figure 3-5

To locate the vehicle's DLC, tap **Is the OBD-II port not in the above location?** to select vehicle make, model and year, and tap **Next**. A picture of DLC location for the selected vehicle will display.



Figure 3-6

3.5 Turn the Ignition to the "ON" Position (see Figure 3-7)

Follow the on-screen instructions to start the vehicle engine. Then tap **Next**.

If your vehicle is equipped with a keyless start system and the ignition switch is an "Engine Start Stop" button (see Figure 3-8), press the "Engine Start Stop" button until the car is in "ON" mode. Do not apply the brake while pressing the "Engine Start Stop" button or you will start the car instead of putting it in the "ON" position.

The method of ignition varies by vehicle model. Refer to the vehicle's service manual for details.



Figure 3-7

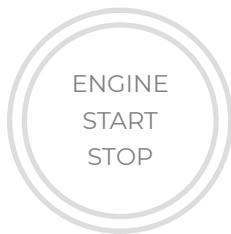


Figure 3-8

3.6 Bluetooth Connection

When the LED light is solid green, you can begin the Bluetooth connection. Tap **Next**. Then tap **Connect Now** to connect to the Bluetooth device on your phone settings.

When connection is established, the LED light on the device will turn solid blue, and the VCI will be activated automatically.

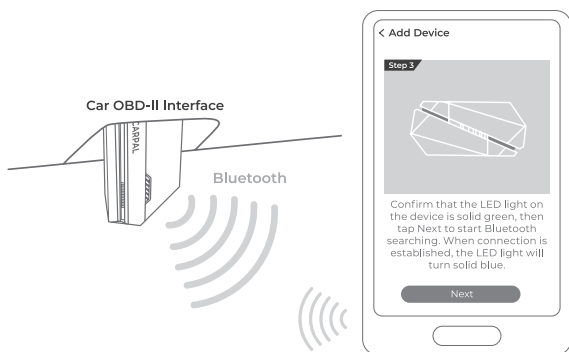


Figure 3-9

Section 4

Using the CarPal via the App

4.1 Home Screen



Figure 4-1

1. Full Vehicle Health Check

Provides quick access to check the health status of the vehicle.

2. Main Functions



Engine Inspection

Provides quick access to check the engine failure details.



Live Data

Provides quick access to read the data stream of the OBD.



Battery Test

Displays battery real-time voltage and cranking voltage of the vehicle.



HUD

Configures the phone to operate as a Head-Up Display (HUD) tool.

Maintenance

Provides 6 maintenance service functions.

I/M Readiness

Provides quick access to check the status of the emission-related systems.

Performance Test

Allows you to perform 0 to 100km acceleration tests on your vehicle.

3. Toolbar



Home

Selecting this icon returns you to the home screen.



Service

Includes DTC Repair Guide, Technical Service Bulletins, DLC Location and Warning Light Library, which provides reference information on vehicle inspection, diagnostics, and repair.



Me

Selecting this icon opens the User Info screen, which allows you to view the account profile, saved data files, user manual and FAQ, manage the connections to VCI, look up vehicle coverage, check for firmware updates, and access general settings.

4.2 Full Vehicle Health Check

The Full Vehicle Health Check module allows you to scan all supported vehicle systems at one time for Diagnostic Trouble Codes (DTCs). You can also access Diagnostic Feedback through this module.

4.2.1 Identifying the Vehicle

To perform full vehicle health check, you need to identify your vehicle first.

1. Tap **Full Vehicle Health Check** from the home screen.
2. Manually modify Vehicle Identification Number (VIN) or tap **Read** to acquire VIN, then tap **Confirm**. CarPal will automatically decode the VIN, and bind your vehicle make to the CarPal.

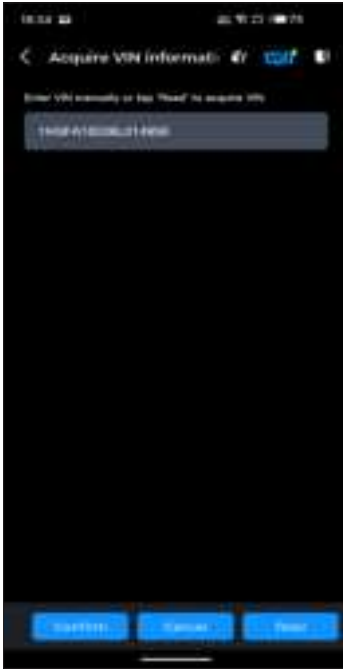


Figure 4-2



Figure 4-3

Note:

You may need to confirm the vehicle information for some vehicle models.

3. A system menu will display after the vehicle is identified.

Note: Systems may vary by vehicle make, model and year.

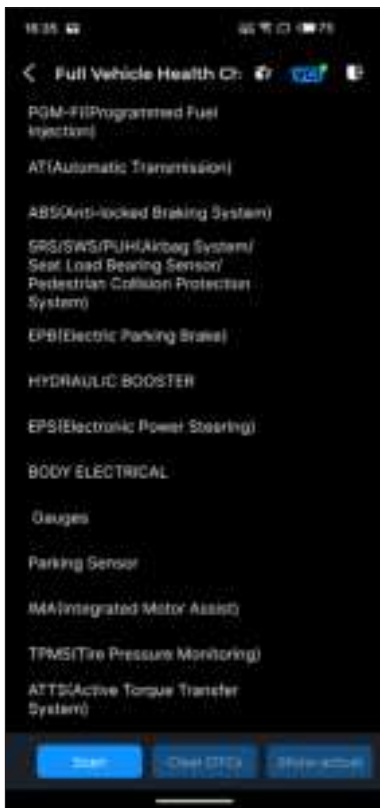


Figure 4-4

4.2.2 Scan

Scan detects the systems supported by the vehicle and retrieves DTCs for all of these systems, providing a complete health check of your vehicle. Performing Scan before and after repair could help in troubleshooting and validating repairs. Pre and post scan reports can allow you to record the condition of the vehicle before and after repair for comparison.

To perform a Scan, tap the **Scan** button. The CarPal will start scanning all the systems supported by the vehicle, and DTC retrieval will be automatically proceeded.

Results are displayed progressively as the systems are scanned. Tap the system with DTCs to view the detail information of the DTCs.



Figure 4-5

Button Description


Report - tap to save the current scan results in report format. (To view the saved reports, go to **Me > Diagnostic Report**.)

Clear DTCs - tap to clear all the DTCs retrieved.

Show All / Show Actual - tap to toggle between showing all vehicle systems and showing only the supported systems.

4.2.3 Diagnostic Feedback

The CarPal allows you to instantly send diagnostic feedback (with logs of diagnostic data automatically attached) while you are encountering a software problem with the diagnostics operations. To send diagnostic feedback:

1. Tap the  icon located at the top right corner.
2. Select the type of problem.
3. Write a description of the problem.
4. Tap **Submit** to send the feedback.

Note:

The Diagnostic Feedback function is available for the Full Vehicle Health Check, Engine Inspection, Data Stream, and Maintenance module.

4.3 Engine Inspection

The engine inspection function reads and clears engine fault codes. Here you can see the fault codes labeled as serious, slight, and ignore depending on the severity of the fault. You can also view the corresponding fault code details and maintenance suggestions.



Figure 4-6

4.4 Data Stream

To view data stream for the system:

1. Tap **Data Stream** from the home screen.
A data stream list displays.



Figure 4-7

Button Description

Edit - allows you to customize your data stream list. Select the check box of the data stream you are interested in viewing and tap **Confirm**.

Report - tap to save the current data stream values in report format. To view the saved reports, go to **Me > Diagnostic Report**.
Record - allows you to record and save data stream information

for comparison and analysis. To view the saved data stream information, go to **Me > Data Stream**.


Each entry of the list shows the name and the current value of the data stream. You can tap the  icon at the side of each entry to enter the setting screen. The data stream can be viewed in value, graph, or gauge format (see Figure 4-8).



Figure 4-8

2. For ease of comparison and observation, the Combine function is provided which allows up to 4 data streams to be viewed in one graph.

To access the Combine function:


① Tap the icon  and tap **Save** to change the display form, and go back to the data stream screen.



Figure 4-9


② Tap the full screen icon  at the right side. The following screen will appear.



Figure 4-10

- ③ Tap **Combine**, and select up to four data streams.



Figure 4-11

- ④ Tap **Confirm**. A combined graph will display.

Note:

IF THE VEHICLE MUST BE DRIVEN TO VIEW THE LIVE DATA STREAM, ALWAYS HAVE A SECOND PERSON HELPING YOU. DO NOT WATCH THE DATA STREAM WHILE DRIVING.

4.5 Battery Test

This function configures the CarPal into an automotive battery tester. With this function, you can perform battery test on your vehicle. Follow the on-screen instructions to perform the battery test function.



Figure 4-12

4.6 HUD

The HUD module allows you to configure the phone to operate as a Head-Up Display tool. You can choose the display style and switch to mirror mode as needed.



Figure 4-13

4.7 Maintenance

The CarPal supports 6 special functions, including Oil Reset, Throttle Adaptation, Electronic Parking Brake (EPB) Reset, Battery Management System (BMS) Reset, Tire Pressure Monitoring System (TPMS) Reset, and Diesel Particulate Filter (DPF) Regeneration.

4.7.1 Services Overview

Oil Reset

This function allows you to reset the oil service lamp for the engine oil life system, which calculates an optimal oil life change interval depending on the vehicle driving conditions and weather events. Oil reset is required every time the engine oil is changed.

Throttle Adaptation

If the ECU is disconnected accidentally, or if the throttle is replaced or cleaned, then the throttle actuators need to be initialized via the Throttle Adaptation function. This resets the ECU's data to its initial state so that the throttle can accurately regulate the air intake.

EPB Reset

This function helps you replace and reset the brake pads.

It needs to be performed in the following cases:

- After the brake pads and brake pad wear sensor are replaced;
- When the brake pad warning light is on;
- After a short circuit in the brake pad sensor is fixed;
- After the servo motor is replaced.

BMS Reset

After the car battery is replaced, the car battery control unit needs to be reset. This will clear fault information (such as low battery level) so that the control unit can match the relevant information of the newly replaced battery.

TPMS Reset

After the tire has been reinflated or replaced, the tire pressure information needs to be reset via the tire pressure reset function to resolve the tire pressure fault code.

DPF Regeneration

This function is mainly used for the regeneration of diesel particulate filters. To keep the filters performing well it removes particles by means of combustion and oxidation.

4.7.2 Performing a Service Reset

1. Tap **Maintenance** from the home screen. A function menu will display.



Figure 4-14

2. Select a function that you want to perform.

3. Vehicle identification is required before you can access the function (for more on identification operations, refer to **Identifying the Vehicle** on 4.2.1). When it completes, the function menu displays.

4. Follow the on-screen instructions to perform the service reset.

4.10 I/M Readiness

This function checks whether or not the various emission-related systems on the vehicle are operating properly, and are ready for I/M (Inspection and Maintenance) testing.

It can also be used to check the monitor running status and to confirm if the repair of a car fault has been performed correctly.

Note:

The vehicle should only be considered ready for inspection and allowed to pass emissions if all required tests have been passed.

4.11 Performance Test

Vehicle Performance Test allows you to make accurate measurements of vehicle acceleration, providing results at intervals defined by set speed and fixed distance measurements.

4.11.1 Performing a Vehicle Performance Test

1. Tap **Performance Test** from the home screen.
2. A warning message appears. Carefully read the message and tap **OK** to continue.



Figure 4-15

3. The default values for the start and end speeds are 0 MPH and 60 MPH respectively. If you want to change the values, tap the 0-60 MPH button, and tap Edit to set the start and end speeds.

4. Accelerate your vehicle to start the test.

Note: If you do not reach the end-of-measurement speed, the results will be automatically reset as soon as the speed of the car is equal to the start speed.

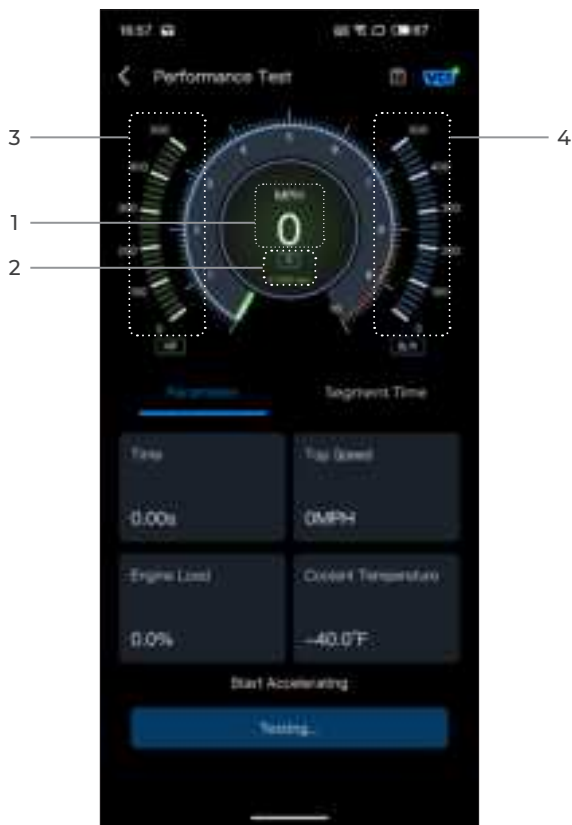


Figure 4-16

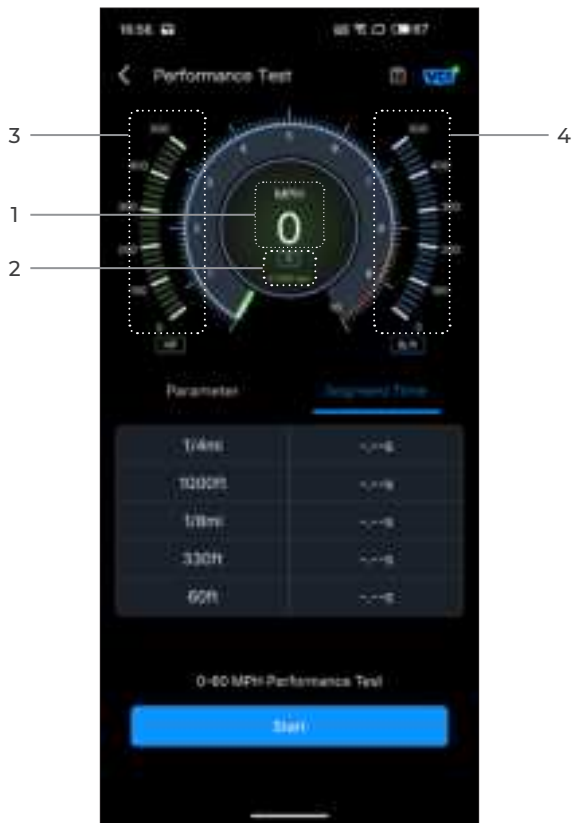


Figure 4-17

- ① Vehicle Speed
- ② Engine Speed
- ③ Horsepower
- ④ Torque

Button Description

Start - tap to reset for the next run

Test Report - tap to view the test results

0-60 MPH / (1/4 mi) - tap to toggle between 0-60 MPH result screen and 1/4 mi result screen.

Edit - tap to set the start and end speeds.

4.11.2 Viewing Test Results

- 1. From the test screen, tap **Test Report**. The result screen will appear.

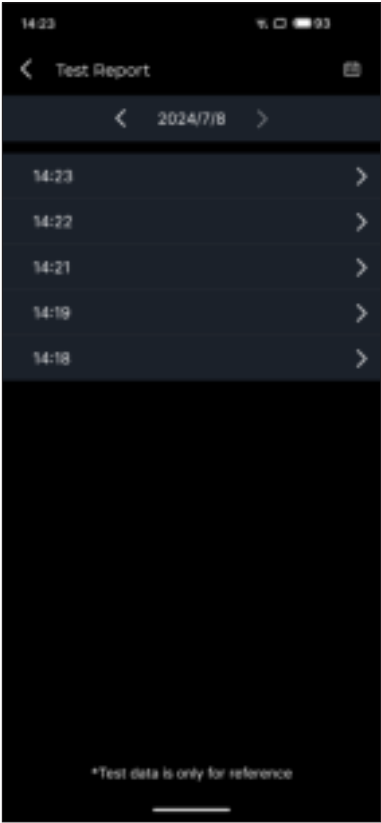


Figure 4-18

2. Tap the desired record to view its full content.



Figure 4-19

1/4 mi Test Results - record the elapsed time for a vehicle to travel a certain distance (60 ft, 330 ft, 1/8 mi, 1000 ft, 1/4 mi), and the instantaneous speed at each point (see Figure 4-16 and Figure 4-19).

0-60 MPH Test Results - record the elapsed time for a vehicle to accelerate from 0 to 60 miles per hour (see Figure 4-17). The values for the start and end speeds can be changed if desired.

Speed Test Results - record the elapsed time for a vehicle to accelerate to a specific speed (see Figure 4-19).

4.10 Service

4.10.1 DTC Repair Guide

The DTC Repair Guide is an experience-based database of generic OBD-II DTCs, which provides code-specific information, including popular fixes and repair steps for identifying faults.

To use the DTC Repair Guide:

Tap **Service > DTC Repair Guide**. Enter a DTC in the search bar to search.

4.10.2 Technical Service Bulletins

To view technical service bulletins:

Tap **Service > Technical Service Bulletins**. Select vehicle make, model, year, system and subsystem, and tap **Next**. A list of OEM technical service bulletins issued for the selected vehicle will display. Tap the desired option to view the full content.

4.10.3 DLC Location

To view DLC location:

Tap **Service > DLC Location**. Select vehicle make, model and year, and tap **Next**. A picture of the DLC location for the selected vehicle will display.

4.10.4 Warning Light Library

The Warning Light Library provides information on dashboard warning lights, including light descriptions, impacts on driving, typical causes, responsive measures and relevant FAQs.

To use the Warning Light Library:

Tap **Service > Warning Light Library**. A list of warning lights will display. Tap the desired option to view the details.

4.11 Me

In this page, you can access the User Info, Data Stream, Diagnostic Report, Diagnostic History, Device Management, Firmware Update, User manual and Help and feedback.

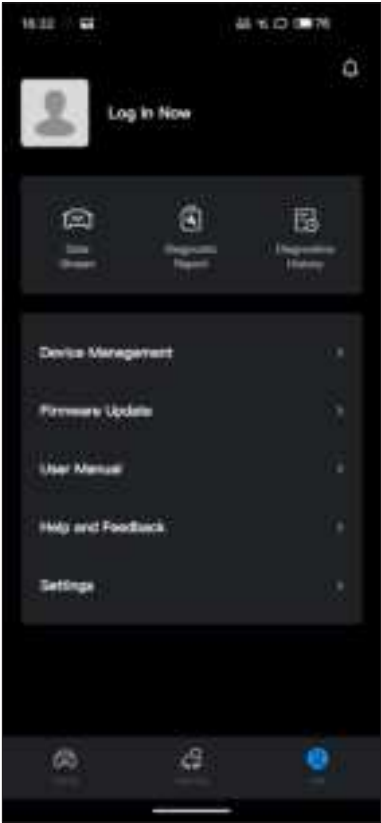


Figure 4-20

4.11.1 User Info

You can tap the profile photo to view and edit the avatar and nickname. You can also view your Email account and TOPDON ID, change login password, delete account, and log out to your account in this page.

4.11.2 Data Stream

Allows you to view the saved data stream information.

4.11.3 Diagnostic Report

Allows you to view the saved diagnostic reports.

4.11.4 Diagnostic History

Allows you to view the diagnostic histories.

4.11.5 Device Management

Allows you to bind the VCI to your account.

4.11.6 Firmware Update

Allows you to update the VCI firmware if a new version is available.

4.11.7 User Manual

Allows you to view the user manual of the CarPal app.

4.11.8 Help and Feedback

Allows you to view the frequently asked questions and submit feedback.

4.11.9 Settings

The Settings function provides general setting options including language setting, unit setting and cache clearing, and allows you to view the privacy and security center, version information of the app, and the contact information of TOPDON .

Section 5

Specifications

Bluetooth	Version: Bluetooth 5.0 Range: 33 feet (10 m)
Operating System Supported	iOS 11.0 or later Android 7.0 or later
Storage Temperature	-4°F to 158°F (-20°C to 70°C)
Working Temperature	14°F to 122°F (-10°C to 50°C)
Dimensions	84.1 × 50.4 × 27.2 mm (3.31 × 1.98 × 1.07")
Net Weight	78 g (2.75 oz)

Section 6

FAQ

Q What should I do if a communication error occurs?

A Follow the steps below to identify the problem:

- 1) Check if the ignition is ON.
- 2) Check if the CarPal is securely plugged into the vehicle's OBD-II port.
- 3) Turn the ignition off. Then, turn it on after 10 seconds and continue the operation.
- 4) Check if the vehicle's control module is defective.

Q Why do I need to download the diagnostic software after installing the CarPal app?

A Since there are various vehicle manufacturers, different diagnostic software is required for different brands.

Q What special functions does the CarPal support?

A The CarPal supports 6 special functions, including Oil Reset, Throttle Adaptation, EPB Reset, BMS Reset, TPMS Reset, and DPF Regeneration.

Q Do I need to update the firmware before using it for the first time?

A Yes. Firmware will automatically update to the latest version once the TopScan is connected with your phone via Bluetooth. You can also tap Me > Firmware Update to update the firmware manually.

Q Can multiple devices be bound to one CarPal app account?

A Yes.

Section 7

Warranty

TOPDON's One Year Limited Warranty

TOPDON warrants to its original purchaser that the company's products will be free from defects in material and workmanship for 12 months from the date of purchase (Warranty Period).

For the defects reported during the Warranty Period, TOPDON will either repair or replace the defective part or product according to its technical support analysis and confirmation.

TOPDON shall not be liable for any incidental or consequential damages arising from the device's use, misuse, or mounting.

If there is any conflict between the TOPDON warranty policy and local laws, the local laws shall prevail.

This limited warranty is void under the following conditions:

- Misused, disassembled, altered or repaired by unauthorized stores or technicians.
- Careless handling and/or improper operation.

Notice:



All information in this manual is based on the latest information available at the time of publication and no warranty can be made for its accuracy or completeness. TOPDON reserves the right to make changes at any time without notice.

Section 8

FCC

Any 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.

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

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

Scan the QR code for more support!





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