

BLUETOOTH OBD VEHICLE DEVICE

Users Manual

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ACT10, V0.1

**AnyDATA**

AnyTime AnyPlace Any Wireless Data Solutions™

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RF Exposure Warning:

The radiated output power of this device is below the FCC radio frequency exposure limits. Nevertheless, the device should be used in such a manner that the potential for human contact during normal operation is minimized. In order to avoid the possibility of exceeding the FCC radio frequency exposure limit, human proximity to the antenna should not be less than 20 Cm.

L'exposition RF Avertissement :

La puissance de sortie rayonnée de cet appareil est inférieure aux limites d'exposition de radio de fréquence IC. Néanmoins, le dispositif doit être utilisé de telle manière que le potentiel de contact humain pendant l'utilisation normale soit minimisé. Afin d'éviter la possibilité de dépasser la limite d'exposition de fréquence radio de la IC, la proximité humaine à l'antenne ne doit pas être inférieure à 20 cm.

Information to user (FCC Part 15.21):

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

Statement according to FCC part15.19

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.

Information to user (Industry Canada license-exempt RSS standards)

This device complies with Industry Canada license-exempt RSS standard(s).

Operation is subject to the following two conditions:

- (1) This device may not cause interference, and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil est conforme à Industrie Canada une licence standard RSS exonérés (s).

Son fonctionnement est soumis aux deux conditions suivantes:

- (1) s Cet appareil ne doit pas provoquer d'interférences
- (2) Cet appareil doit accepter toute interference reçue, y compris les interférences pouvant provoquer un fonctionnement indésirable de l'appareil.

INTRODUCTION

1.1 PURPOSE

This manual discusses the purpose and usage of the Bluetooth OBD Vehicle Device (ACT10).

1.2 TECHNICAL DETAIL

Please refer to [Technical Manual.pdf](#) for a more detailed description of the ACT10.

1.3 REVISION HISTORY

The revision history for this manual is shown in Table 1.1.

Table 1.1: Revision History

Version	Date	Description
V 0.1	AUG 2014	Initial Release - ACT10

2 PHYSICAL CONTENTS



Figure 2.1: Package Contents

The box should contain:

- One ACT10 Bluetooth OBD Vehicle Device
- One User Guide

3 DESCRIPTION: BLUETOOTH OBD VEHICLE DEVICE (ACT10)

3.1 THE LATEST OBD VEHICLE DEVICE IN BLUETOOTH TECHNOLOGY

ACT10 is the car tracking device for communicating several vehicle information to owners via Bluetooth Networks. ACT10 consists of two parts; OBD-II interface circuit and Bluetooth circuits. STN1170 of micro processor has been used for interface to vehicle with several OBD protocols, which include the CAN, ISO, and J1850 transceivers. Bluetooth system is supposed to provide several vehicle information to user by app.

3.2 ALERTS & MESSAGES

ACT10 has no button for user-set alert functions; It is supposed to provide alerts including the vehicle information.

3.3 BLUETOOTH SYSTEM

The ACT10 adapted integrating Bluetooth Basic Rate (BR) / Enhanced Data Rate (EDR) / Low Energy (LE) features fully compliant with the Bluetooth 4.0 specification up to the HCI Layer. This device is connected to Smartphone by proper application program.



Figure 3.1: External Interface

4 HANDING BLUETOOTH OBD VEHICLE DEVICE

4.1 SET-UP

1. Most of vehicle has an OBD-II (On Board Diagnostics) connector, which is located within 2 feet of the steering wheel.
2. The installation is very easy, just put the ACT10 to the OBD-II connector in user vehicle.
3. The ACT10 will power on automatically from vehicle battery and start initiation for Bluetooth system.
4. After install of device to vehicle, all services are ready.



Figure 4.1: Installation of ACT10 in vehicle

4.2 POWER SUPPLY FROM VEHICLE (TYPICAL 13.5V)

1. After insertion of ACT10 to OBD-II connector, the device has automatically power-on with the car battery, typically 9~20V.
2. If the engine has off, then the device decides to power off the OBD interface circuit.
3. If the engine has on, then the device work on the OBD interface circuit, which is charge of gathering the vehicle information such as fuel gauge, speed, engine RMP, and so on to report it to user via Bluetooth network.

5 POWERING ON/OFF THE BLUETOOTH OBD VEHICLE DEVICE

5.1 POWERING ON/OFF

To Power ON:

1. Insert the device to OBD-II connector.
2. Then, the device has automatically powered on according to vehicle condition.
3. There is no visual way to confirm whether device has power-on or not.
4. But, user can make sure from application.

To Power OFF:

1. If the device is needed for totally power-off, then just remove it from the OBD-II connector.
2. In case of the car has engine off with ACT10, and passed several days, the device has automatically power-off to protect the battery drain fully.
3. The device will stay power-off until the car ignition-on again.
4. If the device detects the battery level over 13.5V, then start the powering on.

6 BLUETOOTH OBD VEHICLE DEVICE SPECIFICATIONS

6.1 FORM FACTOR

- Dimensions : 48 x 28 mm, 30mm in Height
- Weight 21.7g

6.2 HARDWARE SPECIFICATIONS

- Operating Voltage 9 ~ 20V, (internally 3.5V for Bluetooth)
- Max Output Power 20mW
- Current Consumption Idle mode (45mA @ 13.3V)
- Light Sleep Mode (35mA @ 12.5V)
- Deep Sleep Mode (1.5mA @ 12.5V)
- Bluetooth : 2402MHz ~ 2480MHz

6.3 SOFTWARE SPECIFICATIONS

- GATT : Bluetooth Generic Attribute Profile
- SPP : Bluetooth serial port profile

6.4 EXTERNAL INTERFACE

- OBD-II

6.5 ENVIRONMENTAL

- Operating Temperature : -30 ~ +70C
- Storage Temperature : -40 ~ +85C
- Humidity (Operating) 5% ~ 95% non-condensing, (50C)

7 LIMITATIONS OF LIABILITY

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