Tire Pressure Monitoring System (TPMS) RCU Gen 5 Racing User Manual

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1. DOCUMENT PURPOSE

This document describes procedure for installing and using the **RACING CONFIGURATION** product.

1.1. ACRONYMS AND ABBREVIATIONS

PC	Personal Computer
USB	Universal Serial Bus
DCU	Diagnostic Control Unit
RCU	Receiver Control Unit
WUS	Wheel Unit System
GUI	Graphical User Interface
TPMS	Tire Pressure Monitoring System

2. GENERAL SYSTEM PRESENTATION

The Racing TPMS system consists of powered wireless pressure sensors fitted to a wheel rim which send data over an RF link to a compact receiver control unit (RCU) placed within the vehicle.

Transmission mode automatically changes when an acceleration is detected (more than 4g).

The RCU sends data's (real time transmission) to the acquisition module via CAN.

RCU Electrical Features

- ➢ Frequency : 434 MHz
- ➢ Supply voltage : 9 to 16Vdc
- ➢ Supply current 50mA@12V (connected to IGN)
- ➢ CAN bus 2.0A active, up to 1Mbps
- ➢ Each sensor transmits an unique encrypted serial number

RCU Mechanical Features (see drawing in ANNEX)

- ➢ Weight less than 100g
- ➢ Size 42mm x 42mm x 20mm
- ➢ Sealing connector on wires

Environmental Features

- ➢ Resistant to standard motorsport fluids
- ➢ Operating temperature -10 to +85°C
- ➢ Vibration random spectrum for 2 hrs

3. SOFTWARE USE

3.1. GENERAL OVERVIEW

List of all sensor identifiers in your stock

List of all vehicles

Add and remove sensor from the stock

Assign sensors to the wheels

Verify the connection

3.2.   SENSOR MANAGEMENT

3.2.1.   Sensor stock
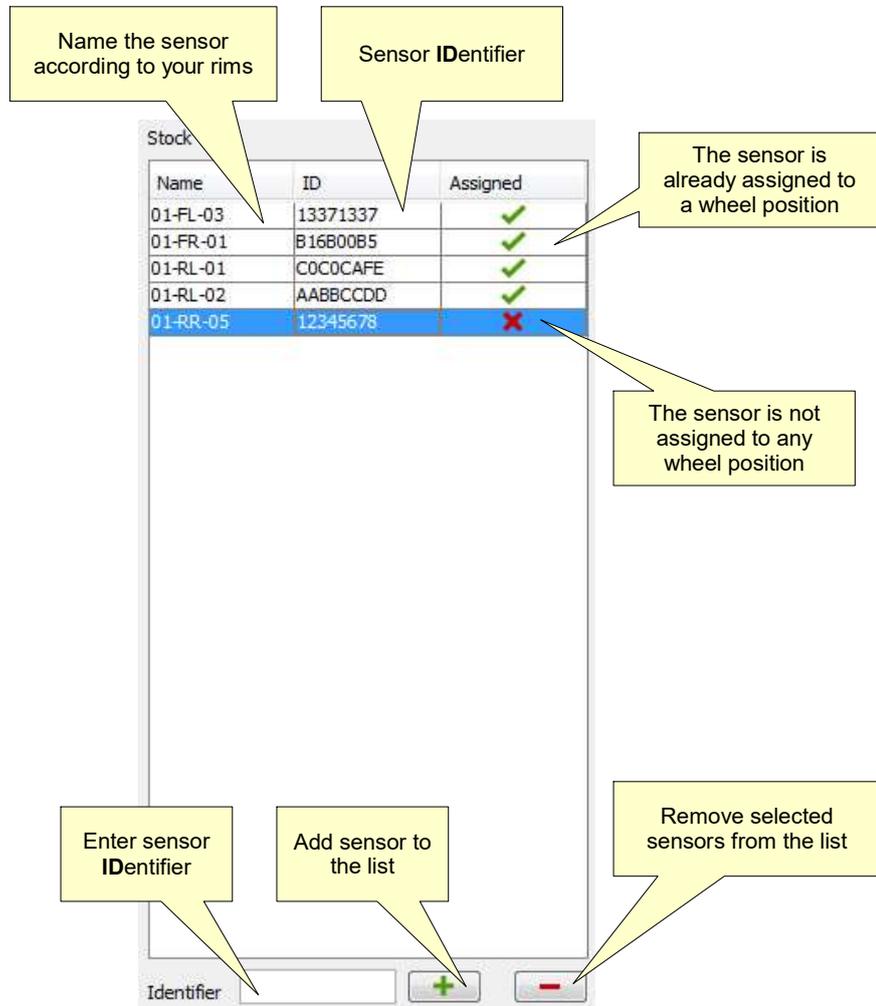
The name of the sensor can be only edited in the list. It cannot be changed in the wheel view.

The same sensor IDentifier shall not be added twice. If same identifier, it will turn **orange**.

3.2.2.   Wheel assignment

Drag and drop one or several sensors from the stock list to the wheel where they will mounted on. You can affect the same sensor to several vehicle but it has to be at the same position (e.g. Front Right).

When the wheel is received, the tick box is checked.

Name	ID	Received
01-RL-01	C0C0CAFE	☐
01-RL-02	AABBCCDD	☑

The wheel can be deassigned, you have to drag and drop the sensor to the stock list.
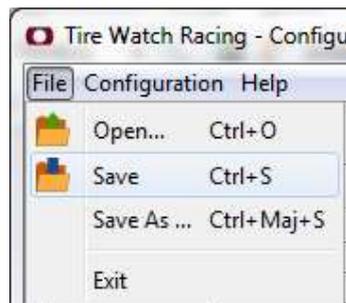
3.3. VEHICLE MANAGEMENT

Click on the + to add a new vehicle. Then enter the name of your vehicle.

You can remove a vehicle with a middle mouse click on the vehicle name.

3.4. CONFIGURATION FILE

You can load and save configuration file (XML format) from "**File**" in the menu bar.
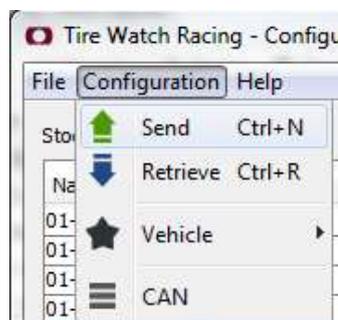

3.5. DEVICE CONFIGURATION

3.5.1. Wheels

Once the sensors have been assigned to the wheels, the device shall be configured in order to operate. Select the correct vehicle and then select "Send" from "Configuration" in the menu bar.

It is also possible to retrieve the configuration from a device. Select "Retrieve".

3.5.2. Vehicle type

You can select the vehicle type:
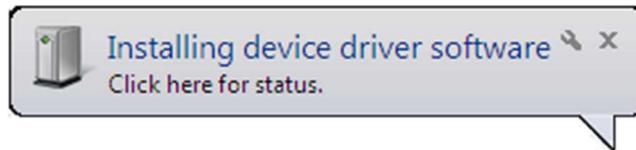- auto
- moto

3.5.3. CAN
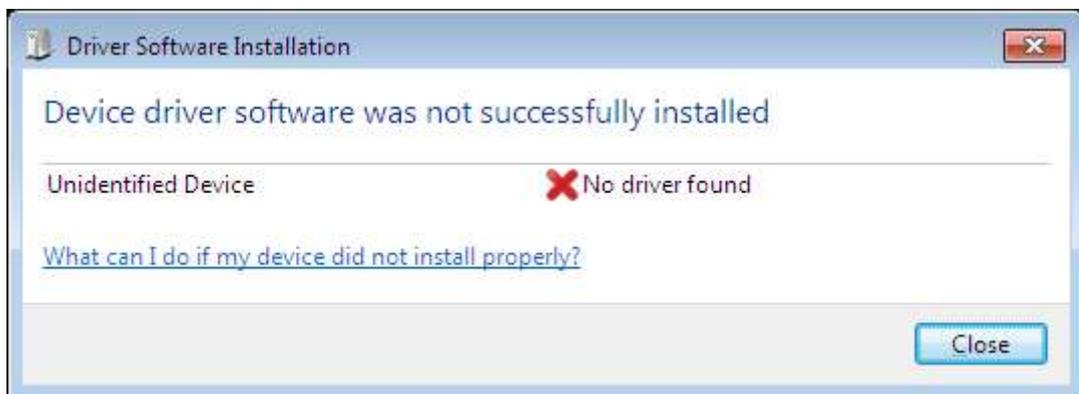
CAN Bitrate is 500 kbps

4.   DRIVERS INSTALLATION

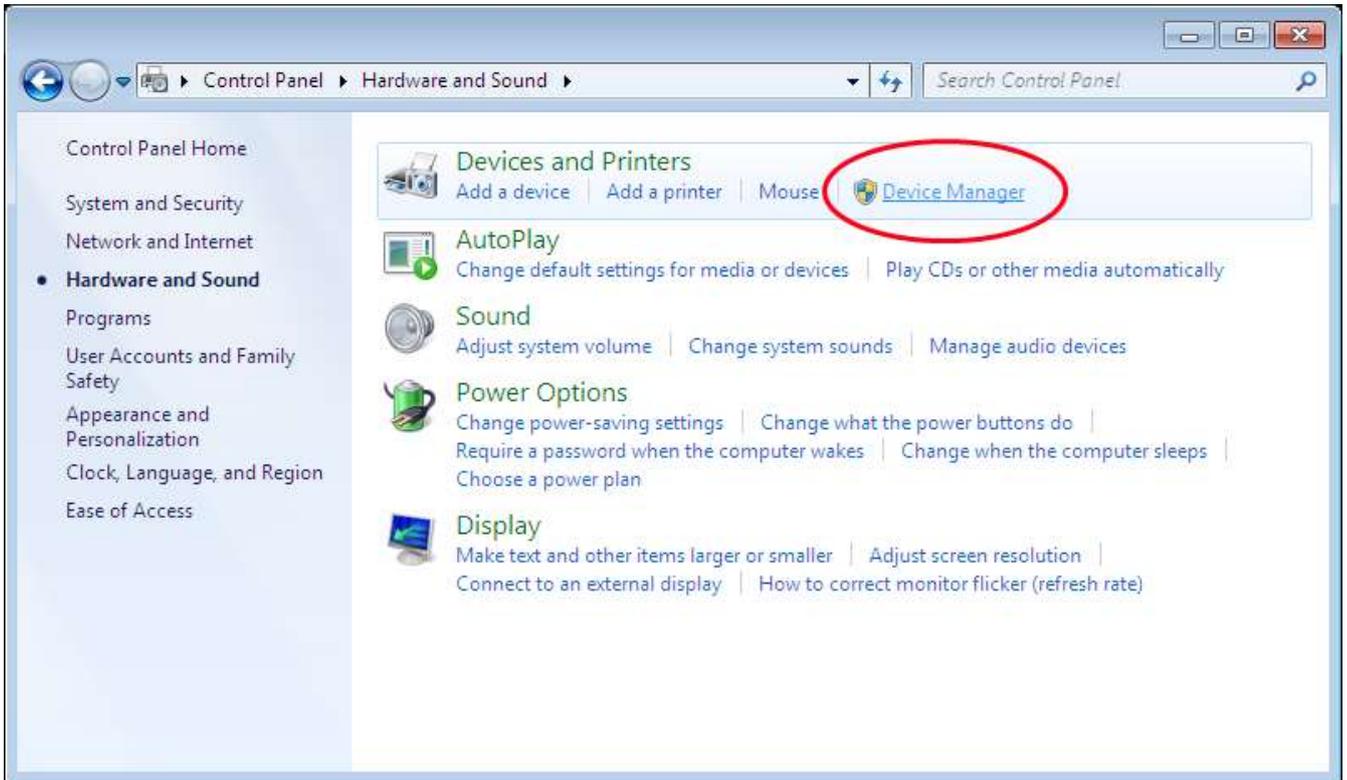USB drivers need to be installed on your PC to use the RCU.

- ⚔ Plug your device to your computer on an USB port. A pop-up that indicates a device driver is being installed should appear.

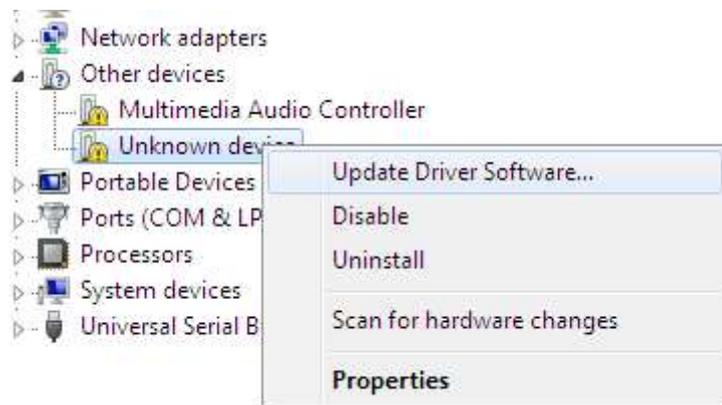- ⚔ You will be prompted that Windows wasn't able to find a driver for your device.

- ⚔ Open the "Control Panel".
- ⚔ Select "Hardware and Sound"
- ⚔ Select "Device Manager" into "Devices and Printers" section.

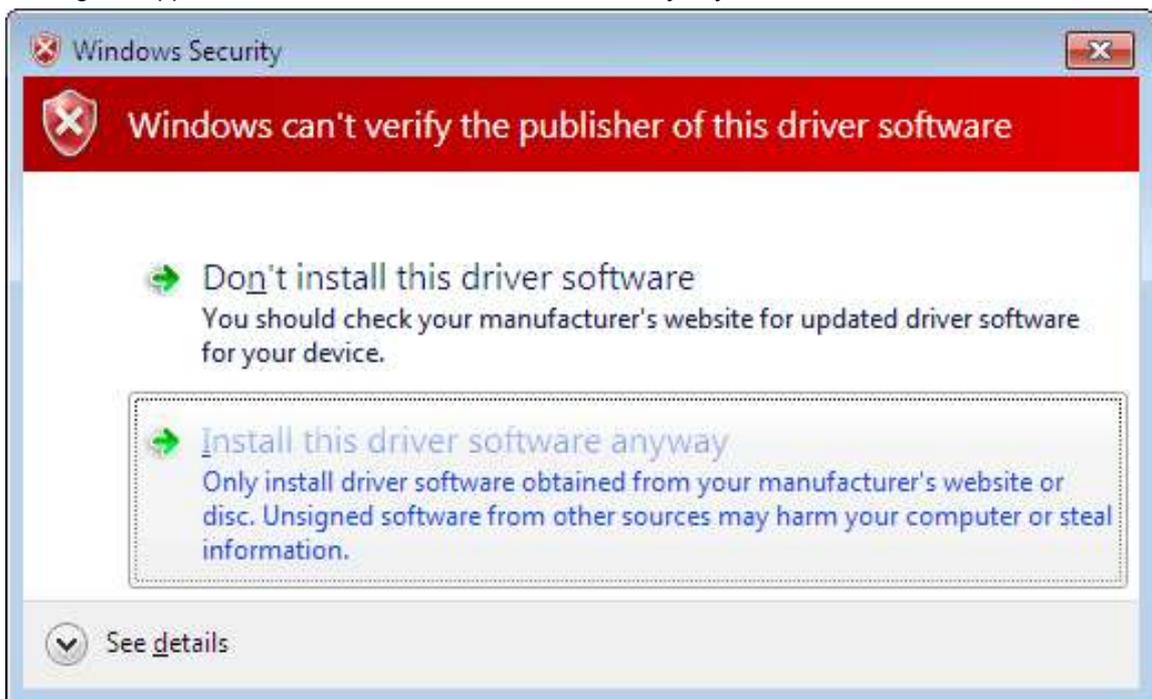- Right-click onto "Unknown device" and select "Update Driver Software..."
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- You will be asked to browse for driver on your computer. Select the location where you have copied LDL driver or the CD-Rom if it has been provided.
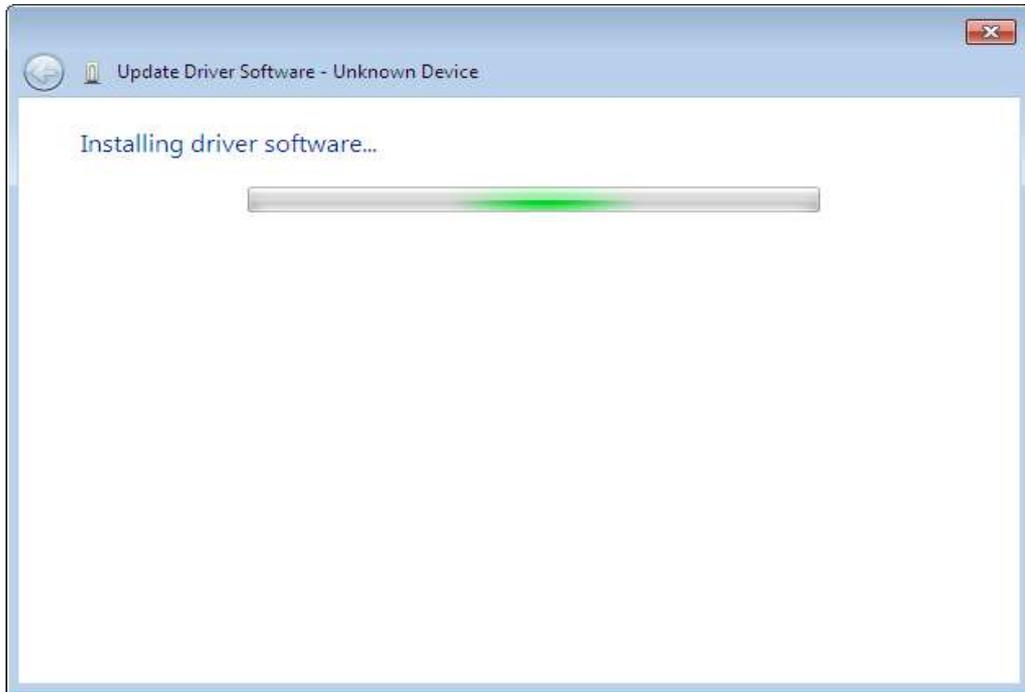-

⮎ A dialog will appear, select "Install this driver software anyway".

⮎ Wait while the driver software is being installed.

⚐ Once the driver software has been installed, your device is ready to be used.