C4D-4G4USAA_V8+ - INSTALLATION GUIDE

V 1.6

21/12/2021

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Preface

The information contained in this installation guide is subject to changes in order to improve the reliability, design or features without prior notice. MUNIC Car Data reserves the right to make changes in the content without obligation to notify any person or organisation of such changes or improvements. MUNIC Car Data can in no event be held liable for technical or editorial errors or omissions herein, nor for incidental, special or consequential damages from the furnishing, performance or use of this installation guide.

Please contact our technical support for current updates and supplemental information concerning the use and operation of this or other MUNIC Car Data products.

Warnings and notices

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

Please read the installation guidelines, as well as the safety and operating instructions before operating your device. Follow all instructions and heed all warnings in the installation guide.

There is a risk of explosion if the battery is replaced by a wrong battery type. Please discard empty battery according to local regulations.

Dispose of used batteries according to the instructions.

Battery Warning:

a) Do not disassemble or open crush, bend or deform, puncture or shred
b) Do not modify or remanufacture, attempt to insert foreign objects into the battery, immerse or expose to water or other liquids, expose to fire, explosion or other hazard.
c) Only use the battery with a charging system that has been qualified with the system per CTIA Certification Requirements for Battery System Compliance to IEEE 1725. Use of an unqualified battery or charger may present a risk of fire, explosion, leakage, or other hazard.
d) Replace the battery only with another battery that has been qualified with the system per this standard, IEEE-Std-1725. Use of an unqualified battery may present a risk of fire, explosion, leakage or other hazard.
e) Only authorized service providers shall replace battery. (If the battery is non-user replaceable).
f) Promptly dispose of used batteries in accordance with local regulations
g) Avoid dropping the phone or battery. If the phone or battery is dropped, especially on a hard surface, and the user suspects damage, take it to a service center for inspection.
h) Improper battery use may result in a fire, explosion, or other hazard.

FCC Regulations

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.

This device 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 radiated 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.

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

FCC RF Exposure Information (SAR)

This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the United States.

During SAR testing, this device is set to transmit at its highest certified power level in all tested frequency bands (and placed in positions that simulate RF exposure in usage near the body with the separation of 15 mm and on extremity with a separation of 0 mm.) Although the SAR is determined at the highest certified power level, the actual SAR level of the while operating can be well below the maximum value. This is because the device is designed to operate at multiple power levels so as to use only the power required to reach the network. In general, the closer you are to a wireless base station antenna, the lower the power output.

The exposure standard for wireless employs a unit of measurement known as the Specific Absorption Rate, or SAR.
The SAR limit set by the FCC for body & head exposure is 1.6 W/kg.
The SAR limit set by the FCC for extremity exposure is 4.0 W/kg.

The FCC has granted an Equipment Authorization for this model device with all reported SAR levels evaluated as in compliance with the FCC RF exposure guidelines. SAR information on this model device is on file with the FCC and can be found under the Display Grant section of www.fcc.gov/oet/ea/fccid after searching on FCC ID: **A6GC4D-4G4USV8**.

For this device, the highest reported SAR value for usage near the body is **1.34 W/kg.**
For this device, the highest reported SAR value for usage on extremity is **3.30 W/kg.**

While there may be differences between the SAR levels of various devices and at various positions, they all meet the government requirement.

(SAR compliance for body operation is based on a separation distance of **15 mm** between the unit and the
human body.)

1. Hardware features

OBD Dongle		
Performance	Processor	ARM Cortex-A7 Dual-Core 1.2GHz
	RAM	256 Mbytes
	NAND Flash	512 Mbytes
Power supply	External power supply range	8-18V
	External voltage measurement	•
	Internal battery	Li-pol battery 270mAh
Communication	Modem	4G Cat.4 module EC25-T
	Bands	B2, B4, B5, B12, B66, B71
	Modem antenna	Internal
	SIM	MFF2 soldered SIM
WLAN	WiFi	WiFi 802.11 a/b/g/n/ac 2.4GHz, 5 GHz
	Bluetooth	BT 5.0 /BT 2.0
Positioning	GNSS receiver	U-blox M8 (GPS,GLONASS)
	GNSS antenna	Internal
Interface & Telematics features	Accelerometer	Accelerometer 3 axis ±2/4/8/16 G
	OBD protocols	CAN, ISO9141, J1850 (VPW, PMW)
	Buttons	1 reset button
	Leds	2 bicolor LED
Environmental	Connectors	OBD connector Micro USB type B connector
	Operating temperature	-20°C/+50°C with Battery -20°C/+60°C without battery
	Dimensions	27.3x51x71 mm

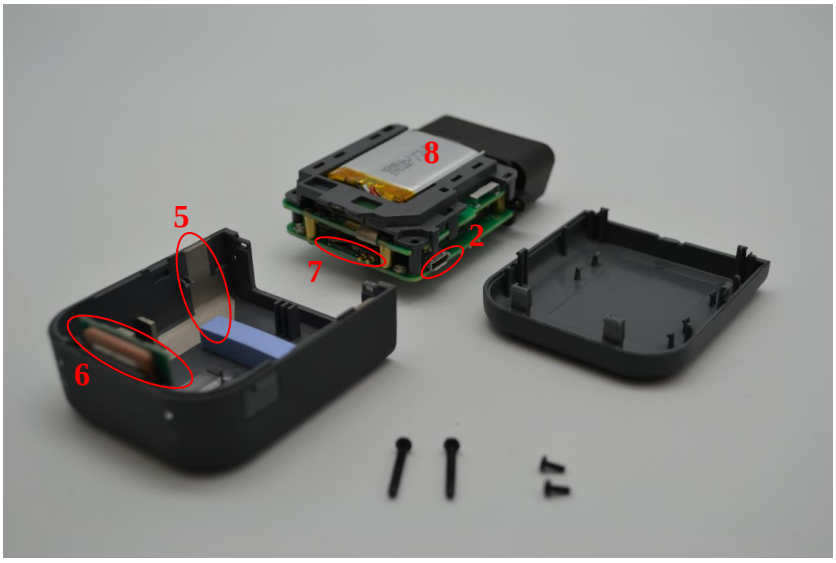
2. Hardware description

2.1. External view

1 : OBD connector
2 : micro USB connector
3 : signal bicolor led
4 : power bicolor led

2.2. Internal view

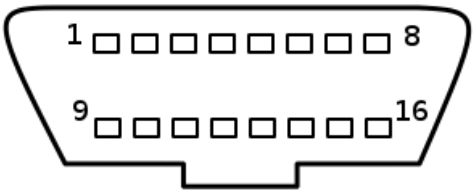
2 : micro USB connector
5 : Modem antenna
6 : GNSS antenna
7 : nano SIM holder*
8 : Internal battery**



* SIM holder can be absent if device have eSIM chip.
** Please read warnings section at the beginning of the installation guide.

2.3 OBD connector pin out

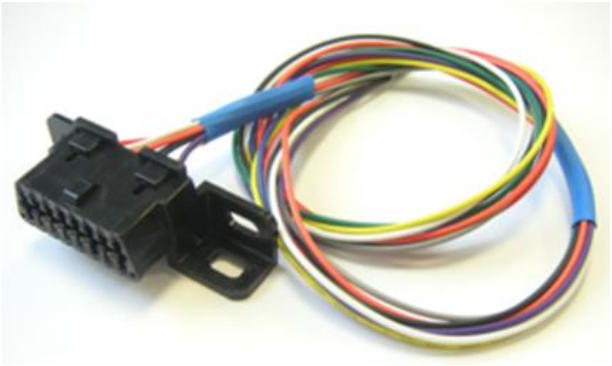
Pin #	Comment
1	OEM specific
2	J1850+ (PWM/VPW)
3	OEM specific
4	Chassis ground
5	Signal ground
6	CAN High
7	K line
8	OEM specific
10	J1850- (PWM)
11	OEM specific
14	CAN low
15	L line
16	Battery voltage



2.4 OBD adapter wires

This adapter is only used to connect the OBD to a computer (laptop/desktop).

Pin #	Wire color
2	Yellow
4	Black
5	Grey
6	Green
7	Blue
10	Violet
14	Orange
15	White
16	Red



3. Preparing/installing the device

Those operations may need the use of specific tools like :

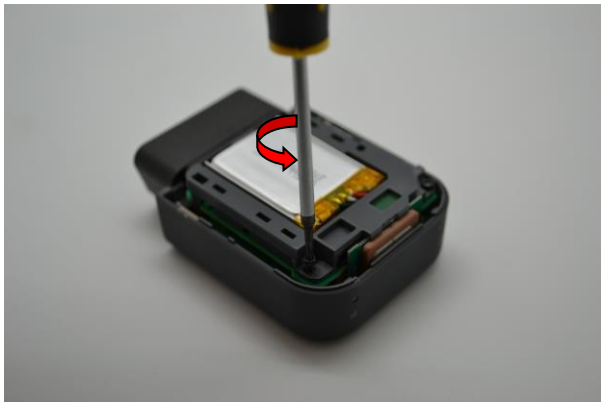
- T4 Torx screwdriver for the external screw.
- T6 Torx screwdriver for the internal screw.
- Small slotted screwdriver to remove the cover.
- Thin tweezers to insert/remove the SIM card.

3.1. Open the device

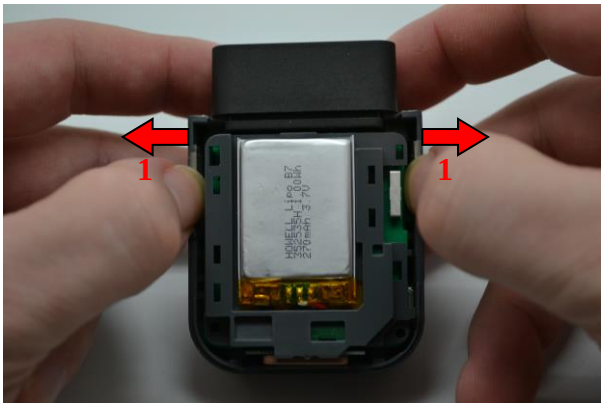
Insert slotted screwdriver between top cover and body to pop-out the top cover on each side and extract it.

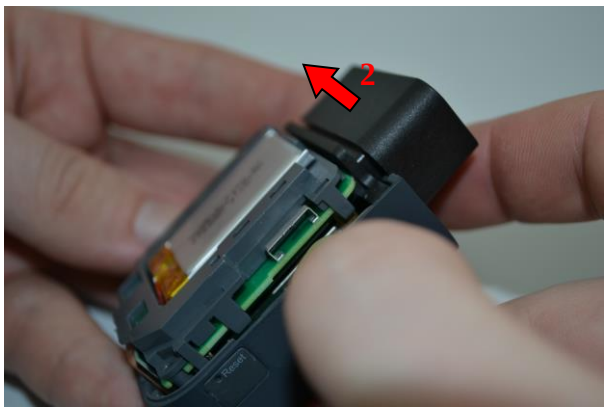
Remove the screw located on each side of the OBD connector using T4 Torx screwdriver


Remove the screw located on the PCB at the bottom of the device using T6 Torx screwdriver

Move apart the side of the device first and then pull the OBD connector out of the body.

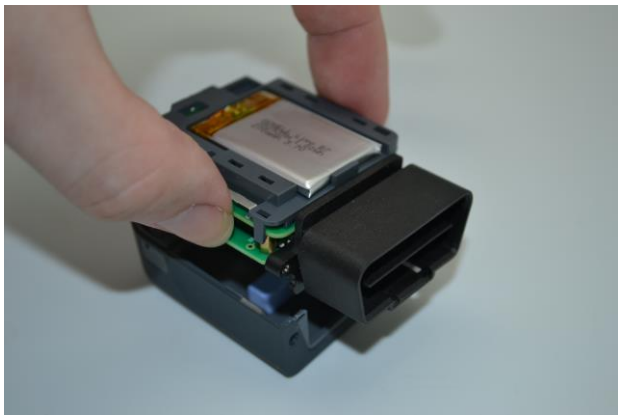




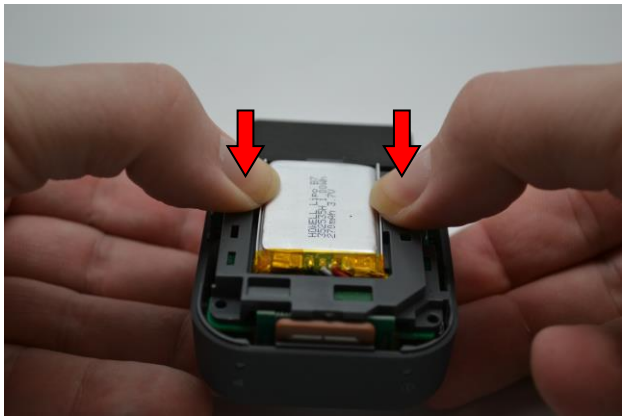
Device is now open

3.2. Properly close the device

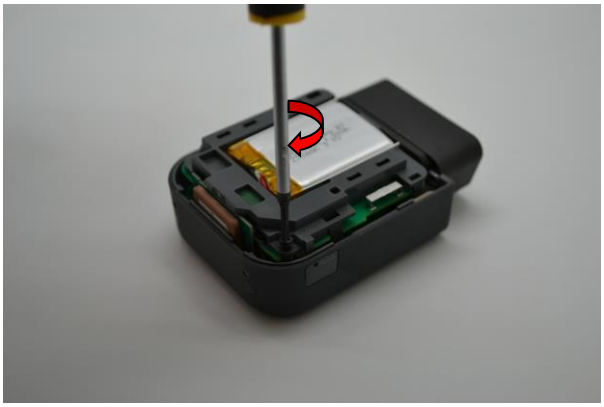
First, insert the main part into the bottom cover. Insert the rear first and take care of the pogo pin of the GNSS antenna.




Once inserted, push the main part into the back cover until your hear two “clac”



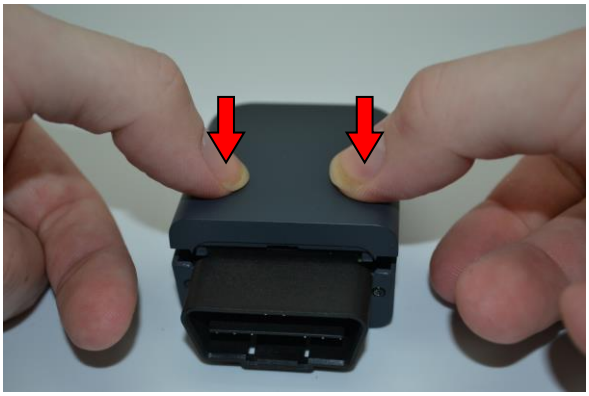

Place the long screw on the rear of the electronic cards in order to fix it to the body using T6 Torx screwdriver.




Place the screw on each side of the OBD connector to fix it to the body using T4 Torx screwdriver.


Insert the top cover beginning with the rear.


Finally, push the top cover down until you hear the "clac".




Device is ready.

3.3. Install the OBD Dongle

Connect the OBD Dongle on your vehicle OBD connector.

4. LED sequences

The Dongle has a two-coloured LED, green and red.
Please note that when both LEDs are brightened, you can perceive the colour as orange.

Signal LED (Left)		**Power LED (Right)**	
Sequence	Meaning	Sequence	Meaning
		Dongle OFF	OFF
No Modem /No GNSS	3 times 50ms Green ON/100ms OFF 3550ms OFF	Ext. Power/Run	Green ON
No Modem /Fix GNSS	2 times 50ms Green ON/100ms OFF 3700ms OFF		
Modem OK /No GNSS	50ms Green ON 3950ms OFF		
Modem OK /Fix GNSS	2000ms ON 2000ms OFF		
		Shutdown/Hibernate	30ms Green ON / 1s OFF
		Idle/Sleep	30ms Green ON / 1s OFF

5. Support

For all questions not related in this installation guide, please contact the support team by email at support@munic.io