

C4MAX-E_V8 - INSTALLATION GUIDE

V 1.0

30/09/2026



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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.

RF Exposure Information (SAR)

For this device, the highest reported SAR value for usage near the body is **X.X** W/kg.

According to REDCA Technical Guidance on the publication with a restriction in the Official Journal of Europe of the reference of standard EN 50566:2017, ensuring the safe a **separation distance of Xmm** or less is applied for handled device and body-mounted wireless communication device used by the general public, the 5mm distance is used for SAR testing and this device is compliance with Specific Absorption Rate (SAR) for general population/ uncontrolled exposure (Localized 10-gram SAR for head and trunk, limit : 2.0W/kg) specified in Council Recommendation 1999/519/EC, and ICNIRP Guidelines, and RED (Directive 2014/53/EU), and had been tested in accordance with the measurement methods and procedures specified in EN50566:2017, EN62311:2008 and EN62209-2:2010

1. Hardware features

C4MAX v8		
Performance	Processor	ARM A7 – 1.3 GHz
	NAND Flash	512 MB
Power supply	External power supply	8-32 V 2A max*
	Li-pol battery	450mA.h
Communication	Modem	LTE Cat 4 module (EC25)
	Modem antenna	External
Positioning	GNSS receiver	Single band L1
	GNSS antenna	External
Inertial sensors	Internal 3-axis accelerometer	3 axis $\pm 2/4/8/16$ G - 16 bits – 1 KHz
Interface & Telematics features	USB 2.0	Host / Device
	Digital Input / Analog input	2-4 (Ignition, alarm & 2 shared input/output) / 2
	Digital Outputs	2-4 (2 shared input/output)
	1-wire	Yes
	LEDs	1
	RTC	Yes
	CAN-FD interface	2
	RS232	2 (RXD, TXD)
	Relay	1 mono-stable relay with 2 lines
Product specific feature	Bluetooth	Bluetooth 5 (internal antenna)
	WiFi	WiFi b/g/n/ac (internal antenna)
	Other features	LIN (optional)
	Connectors	Micro-Fit 3.0 - 24 pins
		USB type C connector
		2 Fakra connectors for external antennas
		IX Ethernet connector
	Operating temperature **	-30/+70°C
	Dimensions	80.5x84x18.8mm
	SD card	Micro SD slot 2TB max / 512GB recommended
Environmental	SIM card	Micro SIM slot (3FF)
	Dual GSM/GPS external antenna	3 meters cable With 27mm Fakra connectors

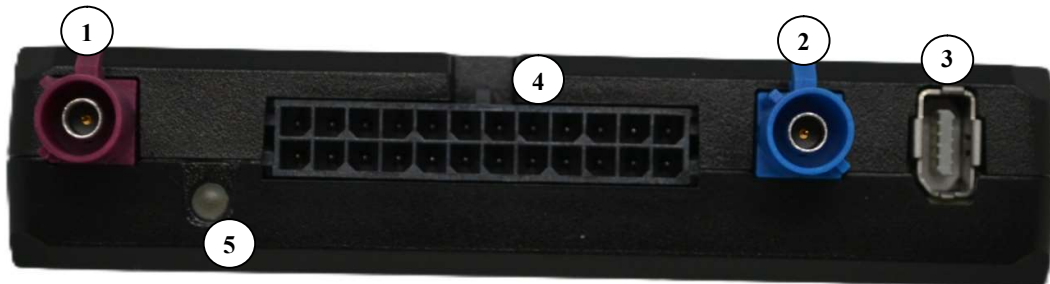
* = : direct current

**without internal battery

2. Hardware description

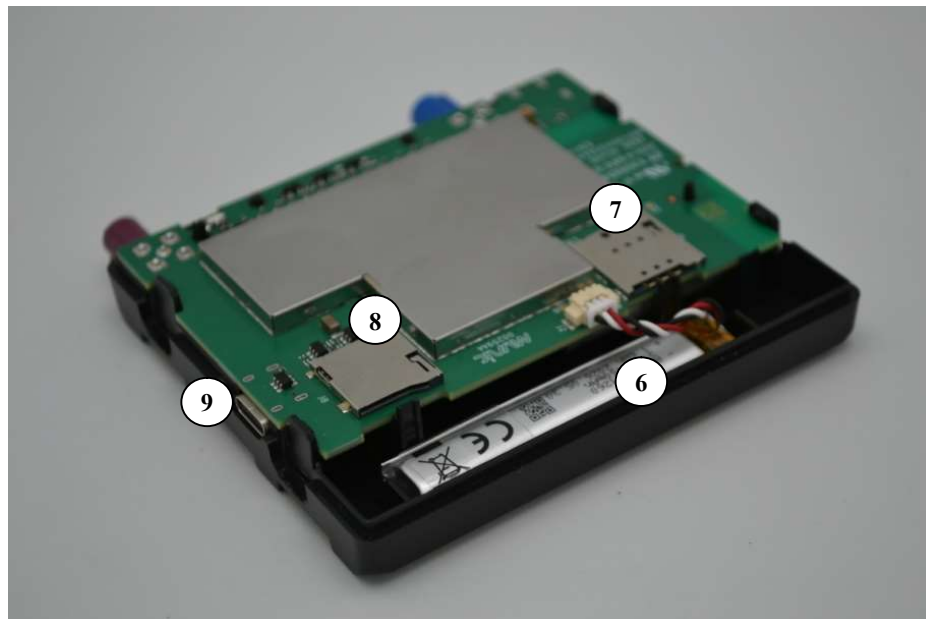
2.1. Device views :

Front :



1. Modem antenna connector
2. GNSS antenna connector
3. IX Ethernet connector
4. Micro-Fit 3.0 - 24 pins connector
5. Leds

Inside :



6. Internal battery
7. Micro SIM card slot (3FF)
8. Micro SD card slot
9. USB-C connector

2.2 Pin out & Wires description

Signal	Pin	Wire color
Relay line 2 open	1	Black with white line
Relay line 2 common	2	Orange with white line
CAN 1 Low	3	Yellow with black line
CAN 1 High	4	Purple with black line
DIG_OUT1	5	Purple
DIG_IN/OUT4	6	Blue with black line
RS232_1_RXD	7	Blue with white line
RS232_1_TXD	8	Pink
RS232_2_RXD	9	Orange with black line
RS232_2_TXD	10	Brown with black line
ONE_WIRE	11	Grey
GND	12	Black
Relay line 1 open	13	White with black line
Relay line 1 common	14	Red with black line
CAN 2 Low	15	Green with black line
CAN 2 High	16	Grey with black line
DIG_OUT2	17	Blue
DIG_IN/OUT3	18	Green
ALARM	19	Orange
IGNITION	20	White
AN_IN1	21	Brown
AN_IN2	22	Yellow
5V_OUT	23	Red with white line
VBATT	24	Red



Power supply may be derived directly from the vehicle's main power or from the board installation. In the first case, it is an absolute must that a fuse on the main cable is present.



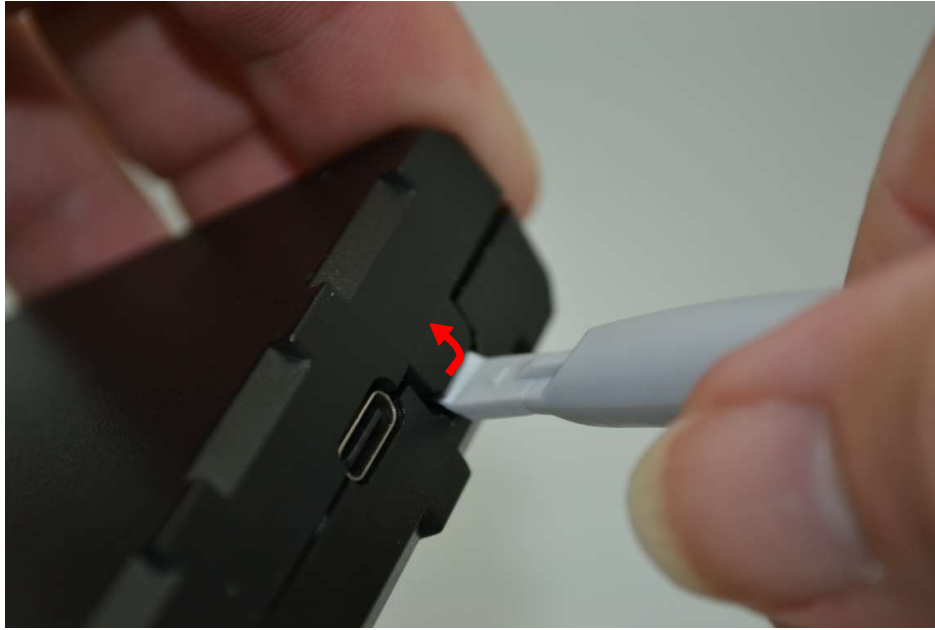
Ignition wire must always be connected to the vehicle's ignition OR tied with the permanent positive to the vehicle's battery.

Ground must be always connected first. It is mandatory to add a fuse (2A) to the permanent positive. The closer to the connection point with vehicle power.

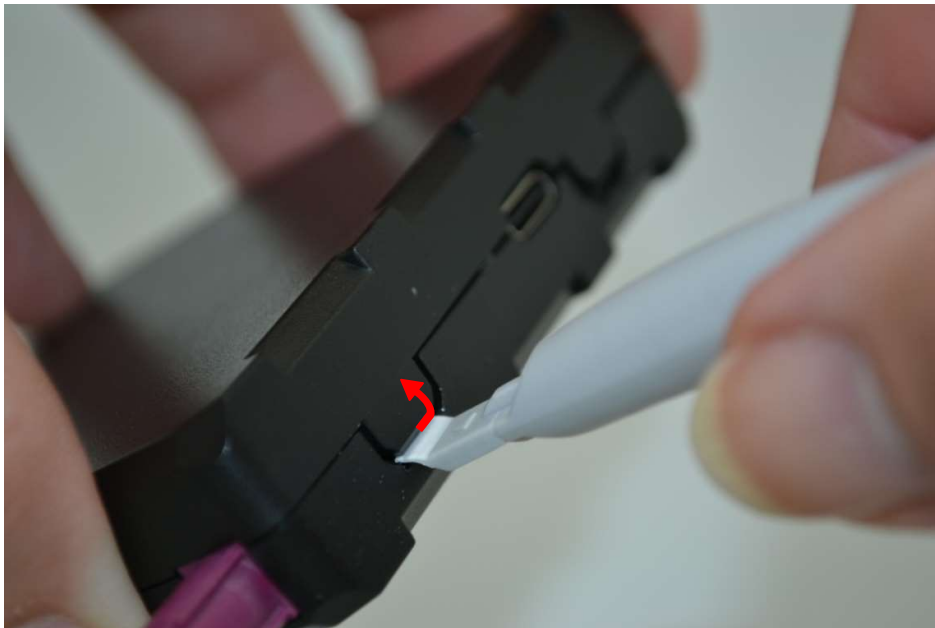
3. Preparing the device

3.1. Open the device

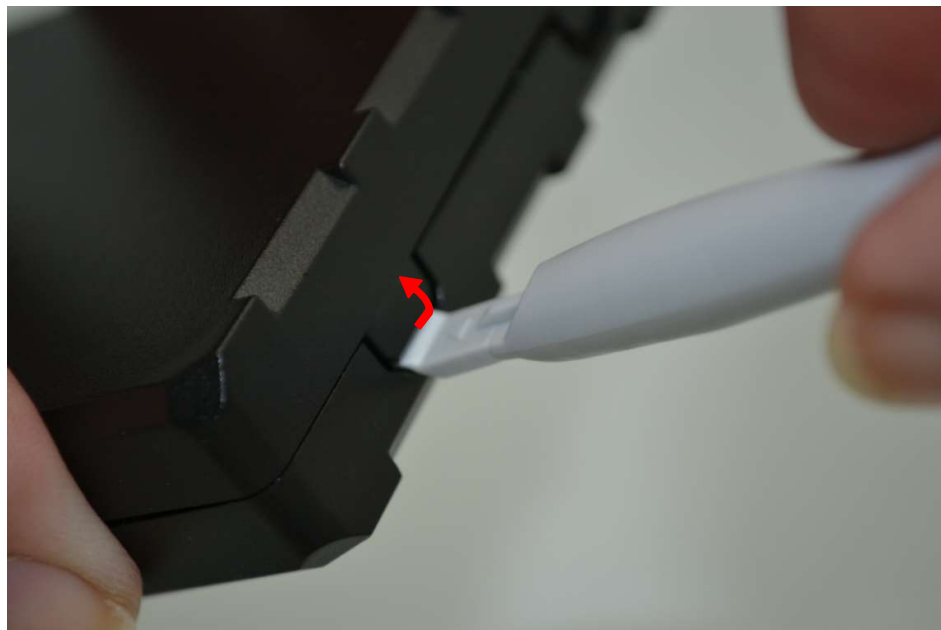
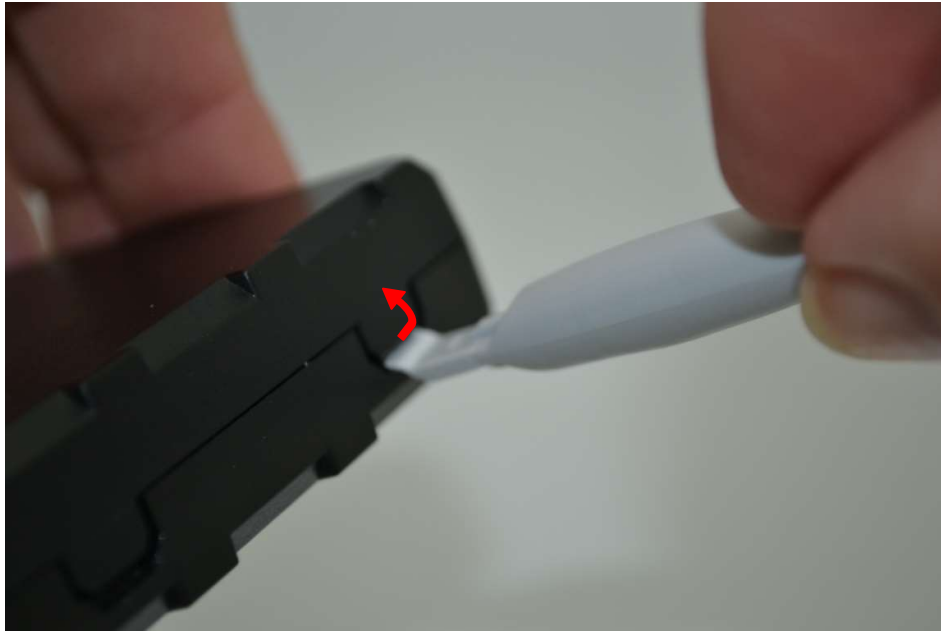
Insert a flat plastic tool into the holes on top of lug in the side of the device and pry it to disengage the lug.



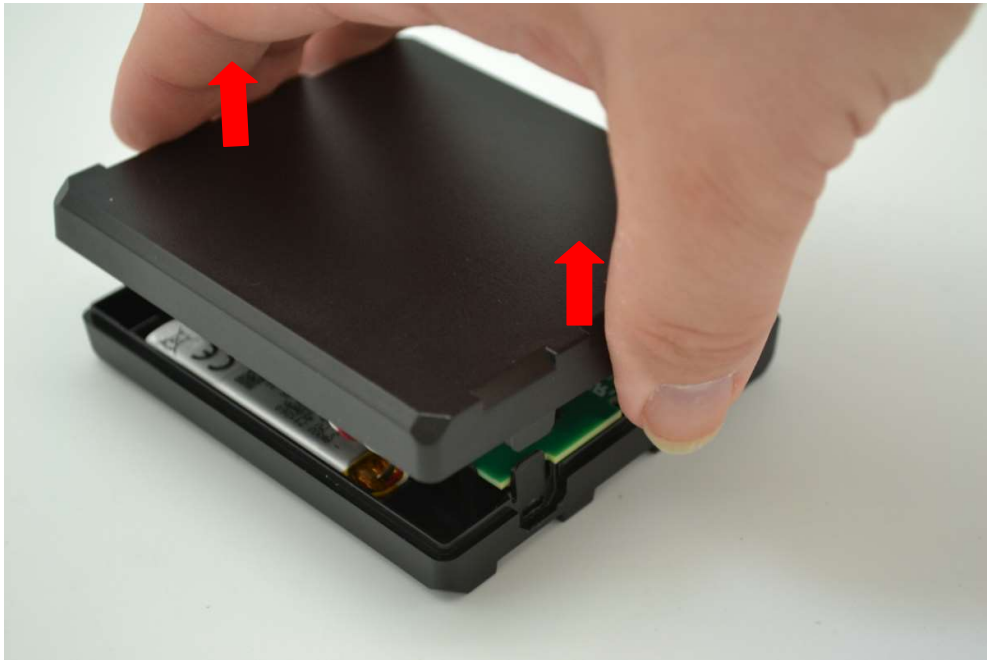
Repeat the operation on the second lug.



And repeat previous operation on the other side.



Then you can separate the top cover



Device is now open

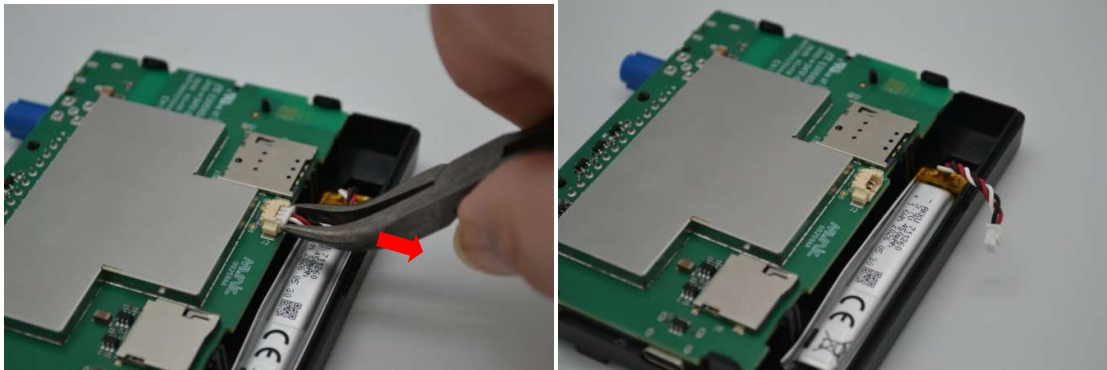


3.2. Insert the SIM card

The micro SIM card slot is located on the top of the circuit board, please note that there is a plastic pin that prevent unwanted extraction and card movement.



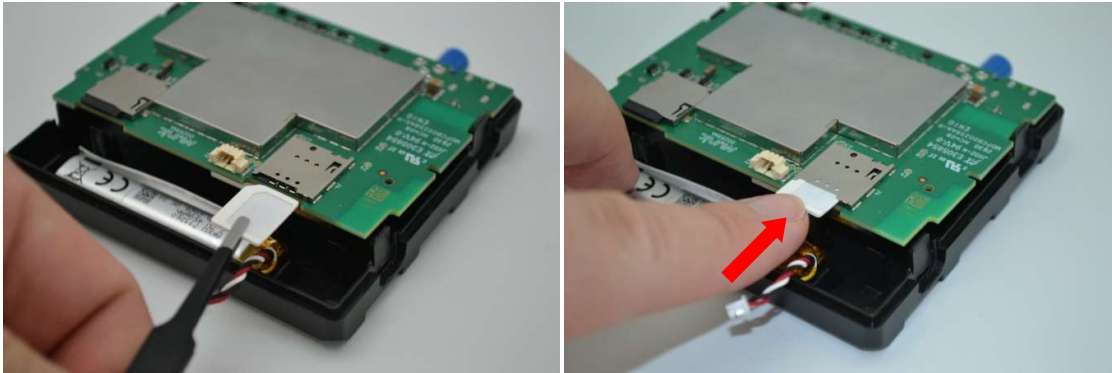
First we recommend to unplug the battery by pulling the battery connector with an adapted pliers. It's important to pull the connector and not the wires to be sure to not damage connectors.



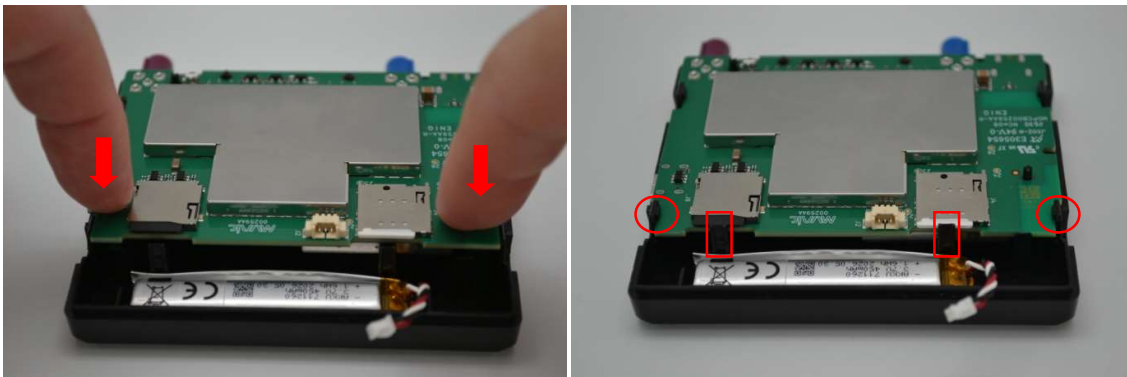
Second, you need to extract one side of the circuit board to remove the plastic pin from the front of the SIM connector. Disengage the lug by pulling on the side while pulling up gently the circuit board.



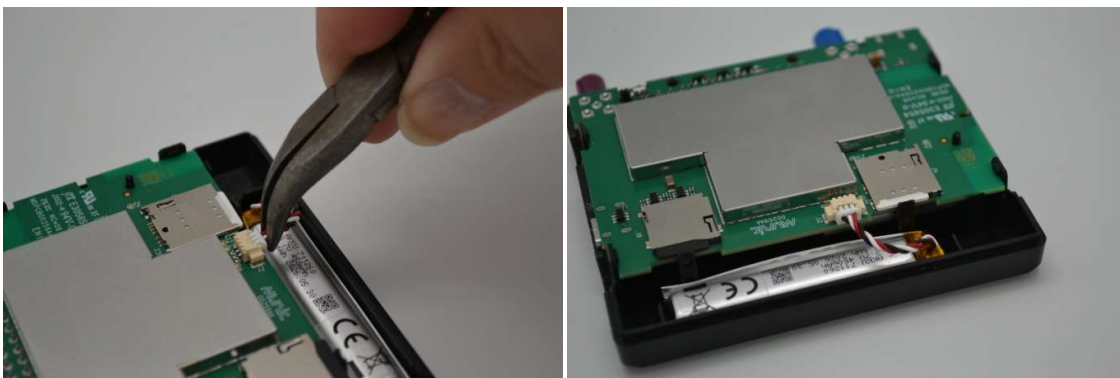
Insert the card with contact on bottom and marked corner first into the slot and push it until you sense the locking mechanism.



Insert back the circuit board into the lug, please check that lug on both side are engaged and that plastic pin are in front of SIM card slot and SD card slot.



Replug the battery connector.

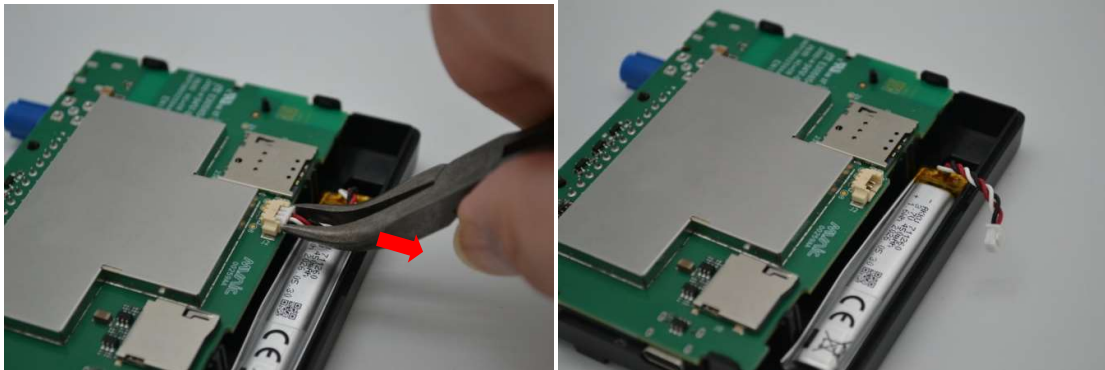


3.3. Insert the SD card

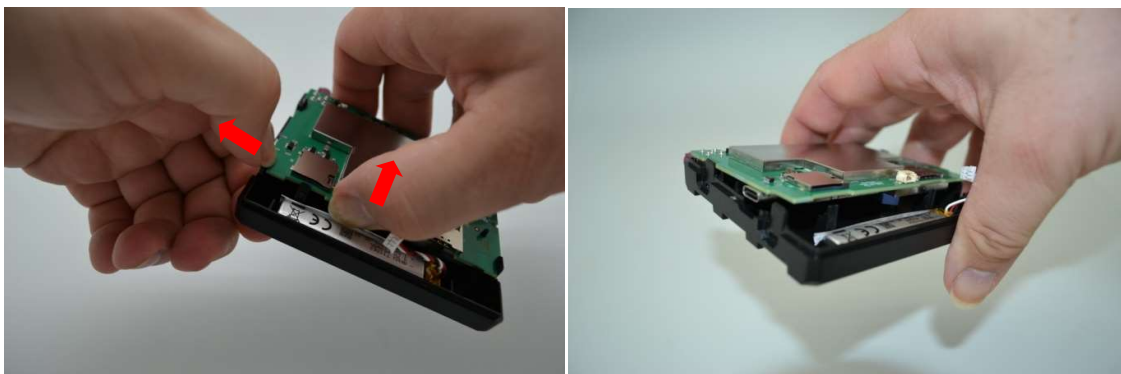
The micro SD card slot is located on the top of the circuit board, please note that there is a plastic pin that prevent unwanted extraction and card movement.



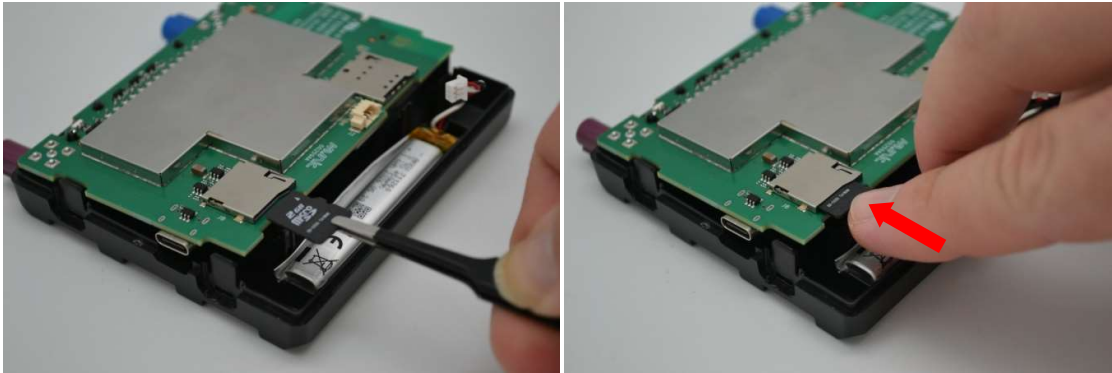
First we recommend to unplug the battery by pulling the battery connector with an adapted pliers. It's important to pull the connector and not the wires to be sure to not damage connectors.



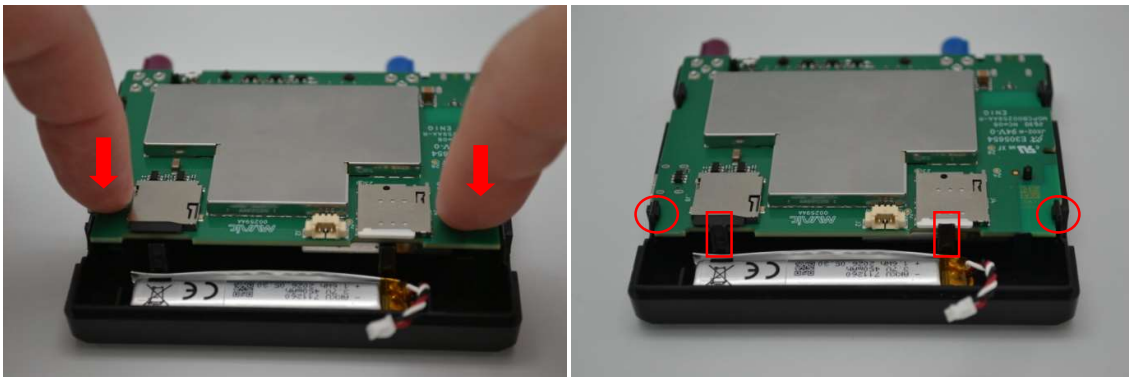
Second, you need to extract one side of the circuit board to remove the plastic pin from the front of the SIM connector. Disengage the lug by pulling on the side while pulling up gently the circuit board.



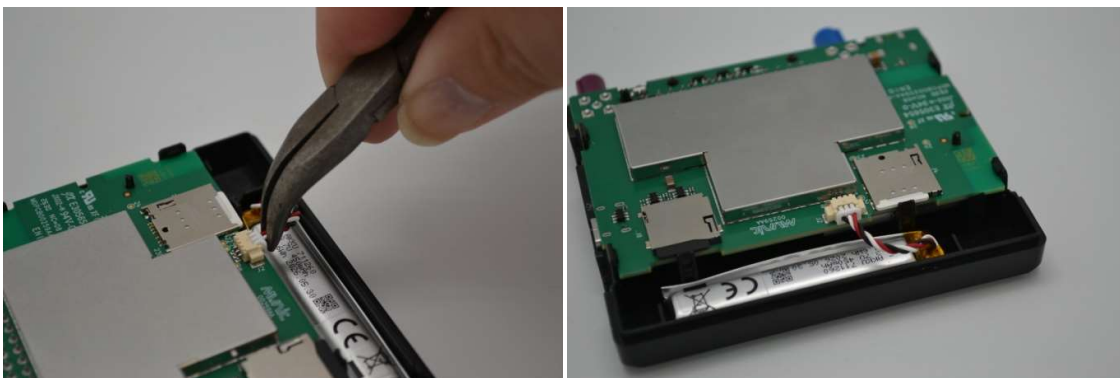
Insert the card with contact on bottom and small side first into the slot and push it until you sense the locking mechanism.



Insert back the circuit board into the lug, please check that lug on both side are engaged and that plastic pin are in front of SIM card slot and SD card slot.



Replug the battery connector.



3.4. Connecting the device

You need to have the antenna and cable harness to fully connect the device



First connect the Micro-Fit 24 pins connector from the cable harness to the device.



You can now plug the modem and GNSS antennas following the colour code of the connector.



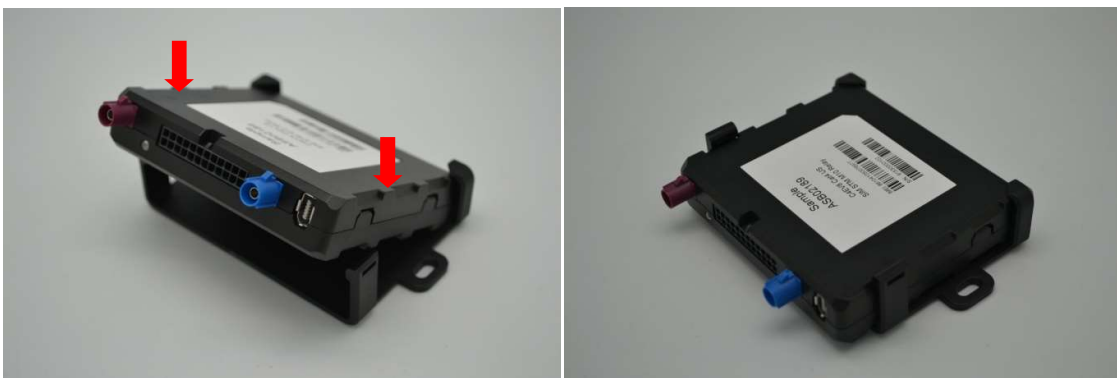
The device is now ready to use

3.5. Fixing device on cradle

In order to install the device into the cradle, you must first insert the back of the device into the corner lug of the cradle.



Then you need to push down the device to insert it into the side lug.



In order to fix the device on cradle, we recommend using plastic ties with size 4,8x360mm. Insert the ties on the hole of the first lug.



Go all the way through to the second hole of the lug in the other side.



Bend the end of the ties into the hole of the ties and pull the end of the ties all the way through.



Cut the end of the ties and the device is now correctly fixed on the cradle.



3.6. Choose the appropriate location for mounting

The ideal location for mounting the device is under the dashboard. However, some types of coated windshields, as well as windshields with an in-screen heating system can block GNSS signals. External antenna should never be covered by any kind of object or material, especially not by metal or aluminium. Transmission and reception of GNSS signal is however not hindered by plastic or normal glass. Moreover, put at least 20 cm between the antenna and a speaker.

4. Inputs information

Here are the typical voltage range and threshold at 25°C (77°F) :

Ignition	active high	range : 0-32 V DC	threshold : 2.5 V DC
Alarm	active low	range : 0-32 V DC	threshold : 2.5 V DC
Digital Input 3 (no output3)	active low	range : 0-32 V DC	threshold : 2.5 V DC
Digital Input 4 (no output4)	active high	range : 0-32 V DC	threshold : 2.5 V DC
Analog input 1	resolution : 8 mV	range : 0-32 V DC	
Analog input 2	resolution : 8 mV	range : 0-32 V DC	

5. Digital Outputs information

Output 1	active low	pull-up 33K Ω	max output : 500 mA
Output 2	active low	pull-up 33K Ω	max output : 500 mA
Output 3 (no input3)	active low	pull-up 33K Ω	max output : 500 mA
Output 4 (no input4)	active high	pull-up 33K Ω	max output : 500 mA

6. LED sequences

The device has a two-coloured LED, green and red.
When both colours are brightened, you can see an orange light.

Green LED		Red LED	
Sequence	Meaning	Sequence	Meaning
		Device OFF	OFF
No Modem /No GNSS	3 times (50ms ON/100ms OFF) 3550ms OFF	Ext. Power/Run	ON
No Modem /Fix GNSS	2 times (50ms ON/100ms OFF) 3700ms OFF		
Modem OK /No GNSS	1 time (50ms ON/100ms OFF) 3850ms OFF		
Modem OK /Fix GNSS	2000ms ON 2000ms OFF		
		Shutdown/Hibernate	30ms ON / 1 s OFF
		Idle/Sleep	30ms ON / 1 s OFF

7. Support

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