



C4MAX v2 Installation Guide

Internal & external antenna



Version 1.3
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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. New Eagle reserves the right to make changes in the content without obligation to notify any person or organization of such changes or improvements. New Eagle 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.

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.

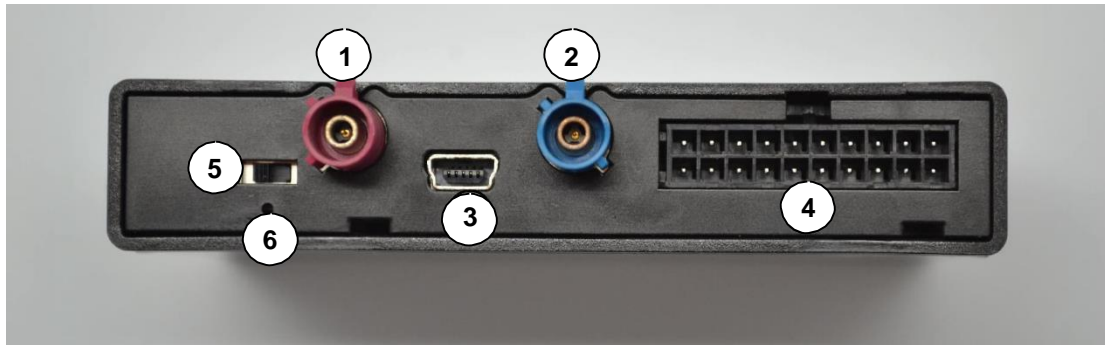
There is a risk of explosion if the battery is replaced by a wrong battery type. Please discard empty battery according to local regulations.



1. Hardware description

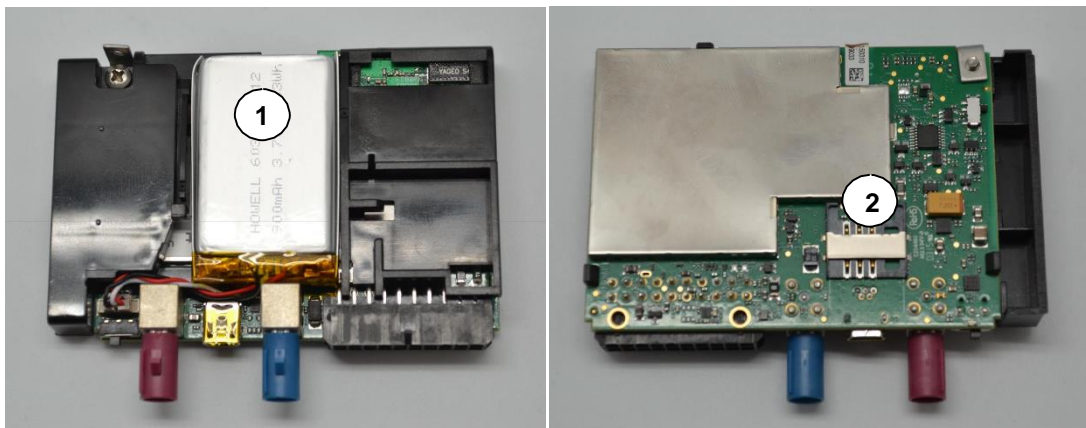
1.1. C4MAX v2 with external antenna

Front:



1. GSM connector
2. GPS connector
3. USB connector
4. Molex (20pins) connector
5. Inner battery switch
6. LEDs

Inside:

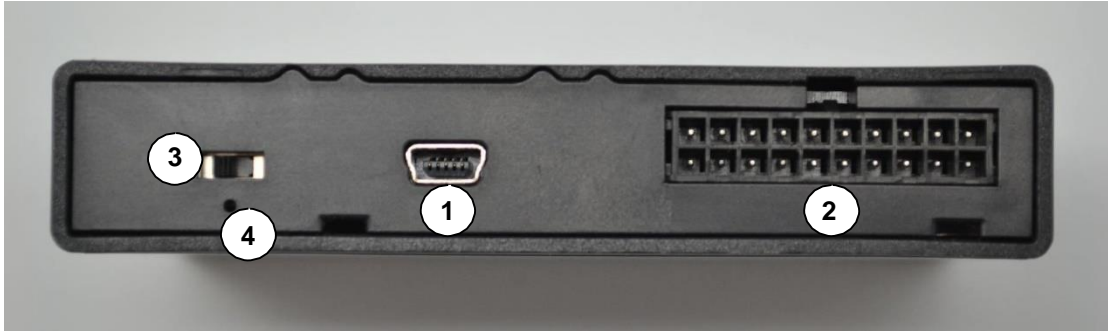


1. Internal battery
2. SIM card slot



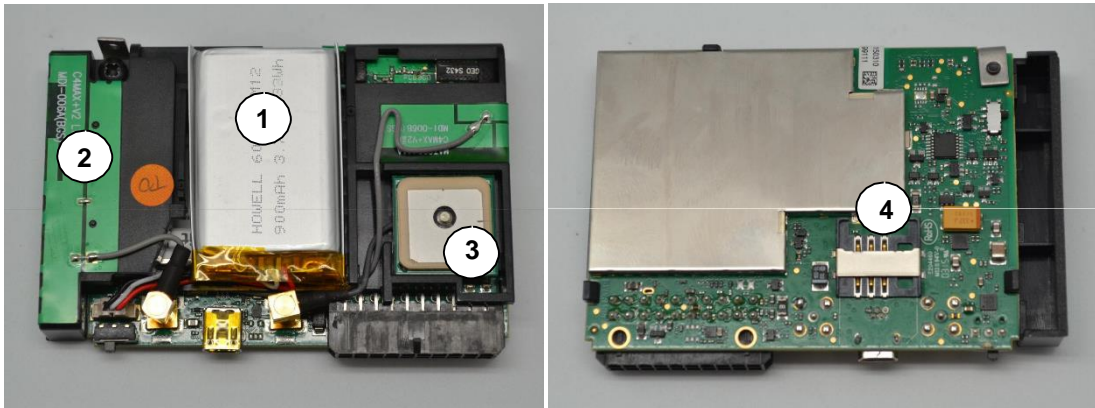
1.2. C4MAX v2 with internal antenna

Front:



1. USB connector
2. Molex (20pins) connector
3. Inner battery switch
4. LEDs

Inside:



1. Internal battery
2. Internal GSM antenna
3. Internal GPS antenna
4. SIM card slot



1.3. Recommendation for both types:

→ **Move the switch inwards (I) to activate the internal battery.**

The switching ON of the internal battery requires a running system. This is about 10 seconds after ignition (the led 4 must be lit then unlit).



→ **Move the switch outwards (O) to deactivate the internal battery.**

The switching OFF of the internal battery is instant. Thus, don't switch off the internal battery if the device is running without be connected to an external battery.



If using a custom SIM, the SIM card PIN code must be deactivated.



2. Preparing/installing the device

2.1. Open the device to insert a sim card

If you ordered your device without a SIM card (e.g. you are planning to use your own SIM card). Please follow the directions below to install the SIM card.

Insert a flat screwdriver into the 2 holes and pry it to remove the back cover.

Be careful not to insert the screwdriver too far into the case, as you may contact the circuit board inside and damage it.





2.2. Connect the GSM/GPS external antenna



2.3. 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 GPS signals. External antenna should never be covered by any kind of object or material, especially not by metal or aluminum. Transmission and reception of GPS signal is however not hindered by plastic or normal glass. Moreover, put at least 20 cm between the antenna and a speaker.

It is important that the unit be mounted LABEL SIDE UP so that the internal GPS antenna is facing the sky.



2.4. Insert the device on harness







2.5. Pin out & Wires description

| Signal | Pin | Color |
|-------------------------|-----|-------------------|
| DIG_OUT1 | 1 | Purple |
| DIG_OUT2 | 2 | Blue |
| RS485_A | 3 | White with black |
| RS485_B | 4 | Red with black |
| DIG_IN1 / TACHO DATA | 5 | Green |
| RS232_CTS1 | 6 | Blue with black |
| RS232_RXD2 | 7 | Green with black |
| RS232_RTS1 | 8 | Grey with black |
| ONE_WIRE | 9 | Grey |
| AN_IN1 | 10 | Brown |
| VBAT | 11 | Red |
| GND | 12 | Black |
| CANL | 13 | Yellow with black |
| CANH | 14 | Purple with black |
| IGNITION | 15 | White |
| ALARM | 16 | Orange |
| RS232_RXD1 | 17 | Orange with black |
| RS232_TXD1 | 18 | Brown with black |
| RS232_TXD2 | 19 | Black with white |
| AN_IN2 | 20 | Yellow |



| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|
| 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 |
| 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

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.



2.6. Plug the device to the external battery

The device must have a direct connection with the main power (external battery).

1. Check that all the inputs implied in the wake-up reasons configured on your device are not connected.
2. Plug the device (black wire) to the ground of the external battery.
3. Plug the device (red wire) to the permanent positive of the external battery.
4. Plug the device (white wire) to the ignition (after contact).

In some case, the use of a circuit breaker can let the ignition (after contact) active. Thus, the device will be ON indefinitely. So, it's important to find a signal where the ignition can be ON or OFF.

Moreover, it is imperative to insulate the GPS antenna in order to avoid it get in touch with the car's chassis.

The device should be always plugged to:

- The ground of the external battery.
- A ground point defined by the vehicle manufacturer (if different from the ground of the external battery).



A circuit breaker should never be enabled as long as:

- Ignition is active.
- Ignition goes OFF since less than 2 minutes. This is the time for the device to do a proper shutdown.

It is mandatory to add a fuse (2A) to the permanent positive. It is advised to make this as close to the connection point with vehicle power as possible.

3. Inputs activation threshold

Here are inputs activation thresholds (voltage).

- **Ignition (active high)** is active if voltage greater than 3V (disabled if smaller than 1V)
- **Alarm (active low)** is active if voltage is below 1V (disabled if greater than 3V)
- **Digital Input1 (active low)** is active if voltage is below 0.5V (disabled if greater than 3V)

Note: Range voltage on inputs is 0-30V

4. Outputs information

The two Outputs are active low and they can deliver up to 300mA.

Note: Outputs have a pull-up resistance of 10Kohms



5. LEDs sequences

| Green LED (Soft) | | Red LED (System) | |
|-----------------------|---|-------------------------|---------------------------------------|
| Sequence | Meaning | Sequence | Meaning |
| No Cellular No GPS | 3 times (50ms ON/100ms OFF) 3550ms OFF | C4Max OFF | OFF |
| No Cellular GPS OK | 2 times (50ms ON/100ms OFF) 3700ms OFF | Ext. Power/Run | ON |
| Cellular OK No GPS | 1 time (50ms ON/100ms OFF) 3850ms OFF | Int. Bat/Run | ON |
| Cellular OK GPS OK | 2000ms ON 2000ms OFF | Shutdown (hibernate) | 5ms ON/2000ms OFF |
| | | Idle/Sleep (idle) | twice (5ms ON/50ms OFF) 1895ms OFF |

6. Support

For all questions please contact the support team by email at support@neweagle.net.