

# MEITRACK T311 User Guide



## Change History

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## 2 Product Overview

The T311 is an anti-theft GPS tracking device specially designed for motorcycles and electric vehicles. The T311 is equipped with a wireless remote control and a buzzer, so that vehicle arming, disarming, and keyless start can be implemented. In arming state, if a vehicle is faulty, the buzzer will generate an alarm, and thus the engine is stopped and the vehicle is locked to prevent stealing.

## 3 Product Function and Specifications

### 3.1 Product Function

#### 3.1.1 Position Tracking

- GPS + GSM dual-module tracking
- Real-time location query
- Track by time interval
- Track by distance
- Track by mobile phone
- Speeding alarm
- Direction change alarm

#### 3.1.2 Anti-Theft

- (Optional) SOS alarm by remote control
- Arming/Disarming
- Towing alarm
- (Optional) Electric vehicle anti lock motor
- (Optional) Remote engine stop
- GPS blind spot alarm
- External power cut-off alarm
- Buzzer alarm
- Geo-fence

### 3.1.3 Other Functions

- SMS/GPRS (TCP/UDP) communication (Meitrack protocol)
- Built-in 8 MB buffer for driving trace recording
- Low battery alarm
- Water resistant IP65
- (Optional) Electric vehicle keyless drive
- (Optional) Motorcycle keyless start/flameout
- (Optional) Panic button

### 3.1.4 Functions of Optional Accessories

| Accessory               | Function  |
|-------------------------|---|
| Wireless remote control | Arming/Disarming<br>Keyless start/flameout<br>Keyless drive<br>Panic button |
| External GPS antenna    | Improve the GPS signal reception.   |

## 3.2 Specifications

| Item                     | Specifications   |
|--------------------------|--|
| GSM frequency band       | GSM 850/900/1800/1900 MHz  |
| GPS sensitivity          | -162 dB  |
| Positioning accuracy     | 10m  |
| Dimension                | 86 mm x 65 mm x 25 mm  |
| Weight                   | 165g   |
| Coordinate system        | WGS-84   |
| Input voltage            | DC 11–90 V/1.5 A   |
| Built-in battery         | 730 mAh/3.7 V  |
| Normal power consumption | 60 mAh   |
| Operating temperature    | -22°C to 55°C  |
| GSM antenna              | Internal antenna   |
| GPS antenna              | Internal antenna (the side with the logo facing upwards)<br>(Optional) External antenna  |
| Built-in memory chip     | 8 MB   |
| Sensor                   | 3D acceleration sensor (for wake-up by vibration and towing alarms)  |
| Wireless remote control  | RF 433 MHz   |
| Port                     | 1 positive output<br>1 input for motorcycle flameout (upper flameout cable)<br>1 output for motorcycle flameout (lower flameout cable)<br>1 output for motorcycle start or input for electric vehicle motor start detection<br>1 input for motorcycle positive/negative start<br>1 output for a buzzer alarm |

|  |   |
|--|---|
|  | 1 USB port<br>1 wireless remote control antenna<br>1 negative terminal connection cable |
|--|---|

## 4 T311 and Accessories

### T311 and standard accessories:



T311 with a built-in battery



Motorcycle cable



Buzzer



Electric vehicle cable



USB cable



CD



3M double sided tape

### Optional accessories:



External GPS antenna



Wireless remote control

## 5 First Use

### 5.1 Installing the SIM Card

1. Remove the back cover.



Turn off the device. With the back panel facing you, use the mini screwdriver to remove the two screws to release the back cover. Then lift up the back cover from the notch at the bottom of the device.

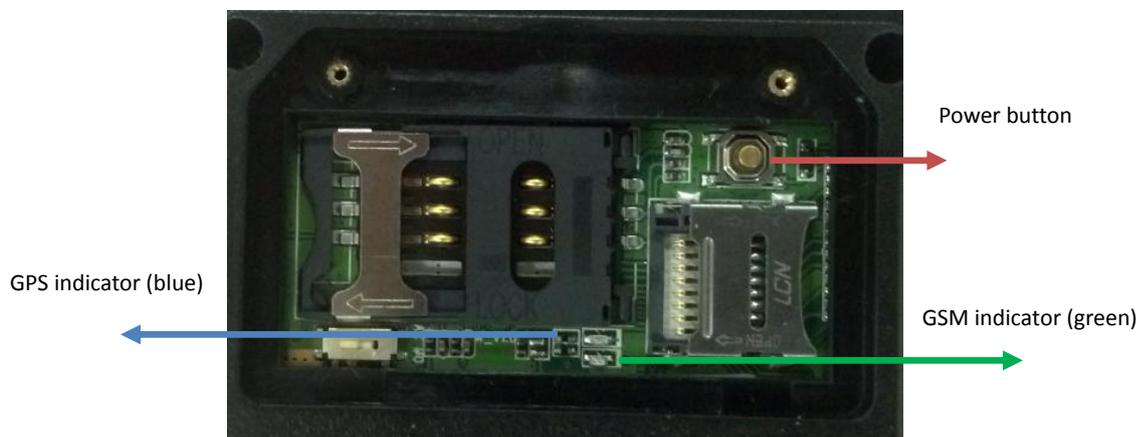
2. Insert the SIM card.



Gently push the SIM card into the slot until you hear a click with the gold-plated contacts facing down.

Note: Before inserting the SIM card, turn off the device. Ensure that the PIN lock of the SIM card is closed properly, and the SIM card has sufficient balance and has subscribed the call ID service. If you want to use the GPRS function, learn about the SIM card GPRS charging first.

### 5.2 LED Indicator



To start the T311, press and hold down the power button for 3s to 5s, or connect the T311 to external power supply.

| GPS Indicator (Blue)         |   |
|------------------------------|---|
| Steady on                    | One button is pressed or one input is activated.              |
| Blink (0.1s on)              | The tracker is being initialized or the battery power is low. |
| Blink (0.1s on and 2.9s off) | A GPS signal is received.                                     |
| Blink (3s on)                | No GPS signal is received.                                    |
| GSM Indicator (Green)        |   |
| Steady on                    | A call is coming in or a call is being made.                  |
| Blink (0.1s on)              | The tracker is being initialized.                             |
| Blink (0.1s on and 2.9s off) | A GSM signal is received.                                     |
| Blink (3s on)                | No GSM signal is received.                                    |

### 5.3 Configured by Computer

This section describes how to use Meitrack Manager to configure the T311 on a computer.

Procedure:

1. Install the USB-to-serial cable (PL2303) driver and Meitrack Manager.
2. Connect the T311 to a PC by using the USB-to-serial cable.



3. Run Meitrack Manager, then the following dialog box will appear:



Turn on the device, then Meitrack Manager will detect the device model automatically and the parameter page will appear accordingly.

For details about Meitrack Manager, see the *MEITRACK Manager User Guide*.

### 5.4 Tracking by Mobile Phone

This section describes how to query the current location of the T311, ensuring that the GPS is working normally.

Call the SIM card phone number that is used in the T311, and hang up after the dial tone rings 2-3 times.

Note: If an authorized phone number was set by SMS command A71, only this phone number can receive SMS reports.

A location SMS is received. Click the link in the SMS to query the location.



SMS example:

Now,110727 02:48,V,16,23Km/h,61%,http://maps.google.com/maps?f=q&hl=en&q=22.540103,114.082329

The following table describes the SMS format:

| Parameter | Description                     | Remarks  |
|-----------|---------------------------------|--|
| Now       | Indicates the current location. | SMS header: indicates the alarm type.<br>For details about the SMS header, see the <i>MEITRACK</i> |

|   |   |   |
|---|---|---|
|   |   | <i>SMS Protocol and MEITRACK GPRS Protocol.</i>   |
| 110727 02:48  | Indicates the date and time in <b>YYMMDD hh:mm</b> format.          | None  |
| V   | The GPS is invalid.   | A = Valid<br>V = Invalid  |
| 16  | Indicates the GSM signal strength.                                  | Value: 1–32<br>The larger the value is, the stronger the signal is. If the value is greater than 12, GPRS reaches the normal level. |
| 23Km/h  | Indicates the speed.  | Unit: km/h  |
| 61%   | Indicates the remaining battery power.                              | None  |
| <a href="http://maps.google.com/maps?f=q&amp;hl=en&amp;q=22.540103,114.082329">http://maps.google.com/maps?f=q&amp;hl=en&amp;q=22.540103,114.082329</a> | This is a map link.<br>Latitude: 22.540103<br>Longitude: 114.082329 | None  |

If there is no valid GPS available, the tracker will reply the most recent valid position.

If your mobile phone does not support HTTP, enter the latitude and longitude on Google Maps to query a location.



## 5.5 Common SMS Commands

### 5.5.1 Setting a Function Phone Number

SMS sending: 0000,A71,Phone number 1,Phone number 2,Phone number 3

SMS reply: IMEI,A71,OK

Description:

Phone number: A function phone number has a maximum of 16 bytes. If no phone numbers are set, leave them blank. Phone numbers are empty by default.

Phone number 1/2/3: SOS phone numbers. When you call the tracker by using these phone numbers, SMSs of locations, geo-fence alarms, low power alarms, and speeding alarms are received, and calls and SMSs of car towing and stealing alarms are received.

If all function phone numbers need to be deleted, send **0000,A71**.

When the SOS button is pressed, the tracker dials phone numbers 1, 2, and 3 in sequence. The tracker stops dialing when a phone number responds.

Example: 0000,A71,13811111111,1382222222,1383333333

Reply: 353358017784062,A71,OK

### 5.5.2 Arming/Disarming

SMS sending: 0000,B21,*Status*

SMS reply: IMEI,B21,OK

Description:

When **Status** is **1**, enable the arming function. In arming state, activating the engine is an unauthorized operation. If the operation is performed, the tracker will send an alarm SMS to the preset authorized phone number.

When **Status** is **0**, disable the arming function. In disarming state, all anti-theft alarms will be cleared.

**For details about SMS commands, see the *MEITRACK SMS Protocol*.**

Note:

1. The default SMS command password is **0000**. You can change the password by using Meitrack Manager and SMS commands.
2. The device can be configured by SMS commands with a correct password. After an authorized phone number is set, only the authorized phone number can receive the preset SMS event report.

## 5.6 Remote Control Functions

### 5.6.1 Definitions of RF Remote Control Keys



| Current Vehicle State   | Function Key   | Description  |
|-------------------------|----------------|--|
| Disarming state/ACC OFF | <br>Arm Key    | Press "Arm" key when the engine is off; and the tracker will confirm arming with a "beep" sound. While under this stage, if the vehicle is vibrated or attempted to start; the stealing alarm will be generated. |
| Arming state            | <br>Disarm Key | If the buzzer sounds "beep" twice, the arming state will be disabled.  |
| Start state             |                | Press "Disarm" key to cut off the vehicle.   |
| ACC OFF                 | <br>Start Key  | Press the key twice to start the vehicle. If the vehicle is started by using the remote control in the arming state, the arming state will be automatically disabled.  |
| Any status              | <br>Horn Key   | Press and hold down 'Horn' key for 2 seconds; an SMS/GPRS SOS alarm will be generated.   |
| ACC OFF                 |                | The buzzer will sound for 4 seconds to alert the location of the vehicle.  |

## 5.6.2 RF Remote Control Code Matching Function

If the remote control does not match the tracker, match the code manually. There are the following two code matching modes:

### 1. ACC code matching mode

- a) In disarming state, turn the vehicle key in the lock for 8 times from ACC OFF to ACC ON, and stay on the ACC ON state. After 3s, the buzzer will sound "bi" 3 times to enter the code matching state. Note that if it takes more than 3s to turn the key twice, the number of key turning times will recount.
- b) Press any key on one remote control. If the buzzer sounds 3 times, the code is matched successfully. Then press any key on the other remote control, the buzzer sounds 3 times. In this way, you can exit the code matching state. If a same remote control is pressed twice, code matching performed later for other remote controls does not take effect.
- c) The code matching must be completed within 20s. Otherwise, the code matching state exits automatically.
- d) When more than one remote controls are implemented code matching, if a same remote control is pressed twice, code matching performed later for other remote controls does not take effect.

### 2. Command code matching mode

- a) Send the SMS/GPRS command **000,B24,1** to enter the code matching state. After the tracker receives the command, the buzzer will sound 3 times.
- b) If you have two remote controls, press any key on one remote control. If the buzzer sounds "bi" 3 times, the code is matched successfully. Then press any key on the other remote control, the buzzer sounds 3 times. In this way, you can exit the code matching state.
- c) The code matching must be completed within 20s. Otherwise, the code matching state exits automatically.
- d) When more than one remote controls are implemented code matching, if a same remote control is pressed twice, code matching performed later for other remote controls does not take effect.

## 6 MS03 Tracking System

Visit <http://ms03.trackingmate.com>, enter the user name and password, and log in to the MS03. (Purchase the login account from your provider.)

For more information about how to add a tracker, see the *MEITRACK GPS Tracking System MS03 User Guide* (chapter 4 "Getting Started").

**The MS03 supports the following functions:**

- Track by time interval or distance.
- Query historical traces.
- Set polygon geo-fences.
- Bind driver and vehicle information.
- View various reports.
- Send commands in batches.
- Support OTA updates.

For details, see the *MEITRACK GPS Tracking System MS03 User Guide*.

## 7 Installing the T311

### 7.1 (Optional) Installing the GPS Antenna



Connect the GPS antenna to the GPS port on the side panel of the tracker. It is recommended that the antenna should face up to the sky and the antenna side with words should face downwards. Secure the antenna by using double sided tapes.

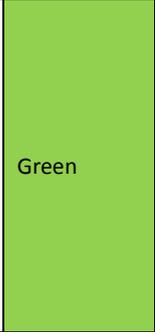
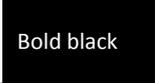
Note: Do not install the GPS antenna at a place with metals.

### 7.2 Installing an I/O Cable

#### 7.2.1 Port Definition

The I/O cable includes the power cable, positive and negative input, and output.

| Port                        | Color  | Description   |
|-----------------------------|--------|---|
| Positive power supply       | Red    | Connected to the positive wire, 11–90V, 10 A fuse.  |
| Negative power supply (GND) | Black  | Connected to the GND, negative wire.  |
| Positive output/Lock motor  | Orange | Connected to the positive output line (that is, the ACC cable) of a lock motor on an electric vehicle or motorcycle. Used to detect whether the vehicle key switch is turned on or whether to output positive electricity by simulating the original lock motor when the vehicle is started remotely.<br>For motorcycle: Connected to the positive output cable.<br>For electric vehicle: Connected to the lock motor cable.                                |
| Upper flameout cable        | Pink   | For motorcycle: remote flameout (Refer to the section 7.2.3 "Motorcycle Wiring Diagram.")   |
| Lower flameout cable        | Grey   | For motorcycle: remote flameout<br>For electric vehicle: anti lock motor. (Note: When the device is connected to an electric vehicle, the electric vehicle sheathed wire is blue.)  |
| Start cable                 | Blue   | For motorcycle: remote start.<br>For electric vehicle: ACC detection.<br>For positive start motorcycle: When the green cable is connected to the red cable (the positive wire), positive current flows through to start the motorcycle.<br>For negative start motorcycle: When the green cable is connected to the black wire (GND), negative current drains to the motorcycle.<br>(Refer to the section 7.2.3.3 "Positive/Negative Start Wiring Diagram.") |
| Buzzer output (PWM) cable 1 | Brown  | Buzzer plug: connects to the buzzer.  |

|  |   |   |
|--|---|---|
| Buzzer output (PWM) cable 2              |  |   |
| Positive/Negative selectable start cable |  | <p>For positive start motorcycle: When the green cable is connected to the red cable (the positive wire), positive current flows through to start the motorcycle.</p> <p>For negative start motorcycle: When the green cable is connected to the black wire (GND), negative current drains to start the motorcycle.</p> <p>If the device is installed on an electric vehicle, ignore the green cable. (Refer to the section 7.2.3 "Motorcycle Wiring Diagram" and 7.2.4 "Electric Vehicle Wiring Diagram.")</p> |
| GDN                                      |  | Connected to the GND cable or the vehicle body.   |
| Remote control antenna                   |  | RF remote control antenna for signal receiving  |
| USB232 cable                             |  | Connected to the USB232 port. Used for parameter configuration and program upgrade.   |

### 7.2.2 Port Pictures



Motorcycle cable



Electric vehicle cable



Remote control antenna

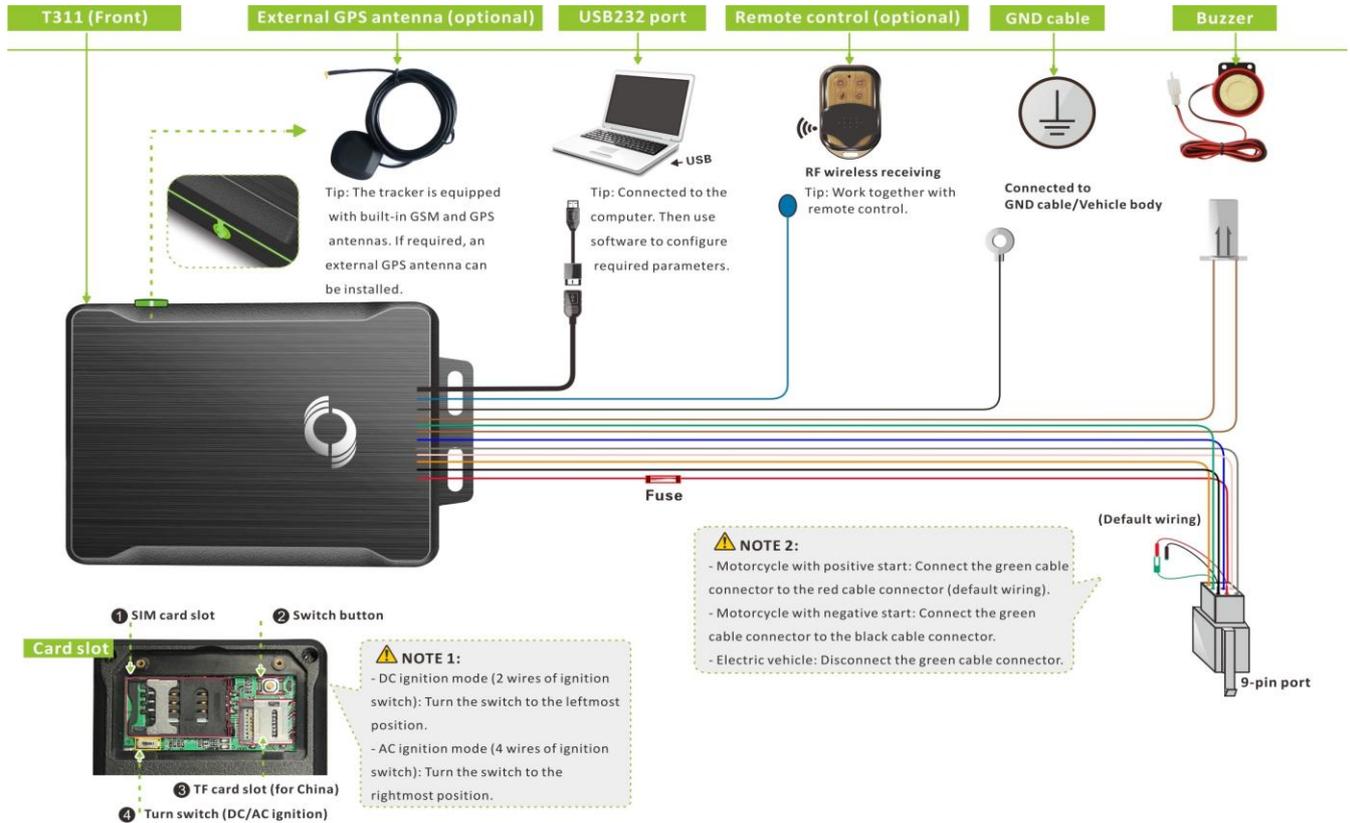


Buzzer output



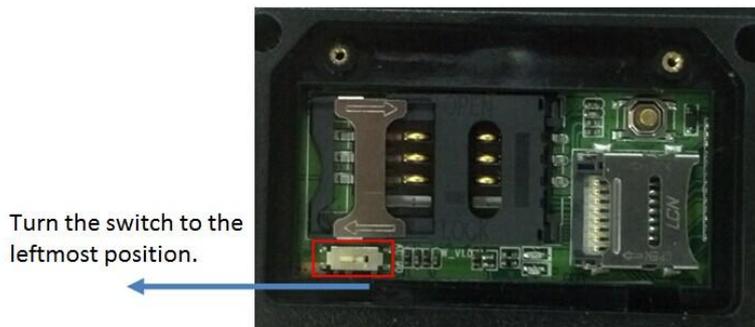
USB232 port

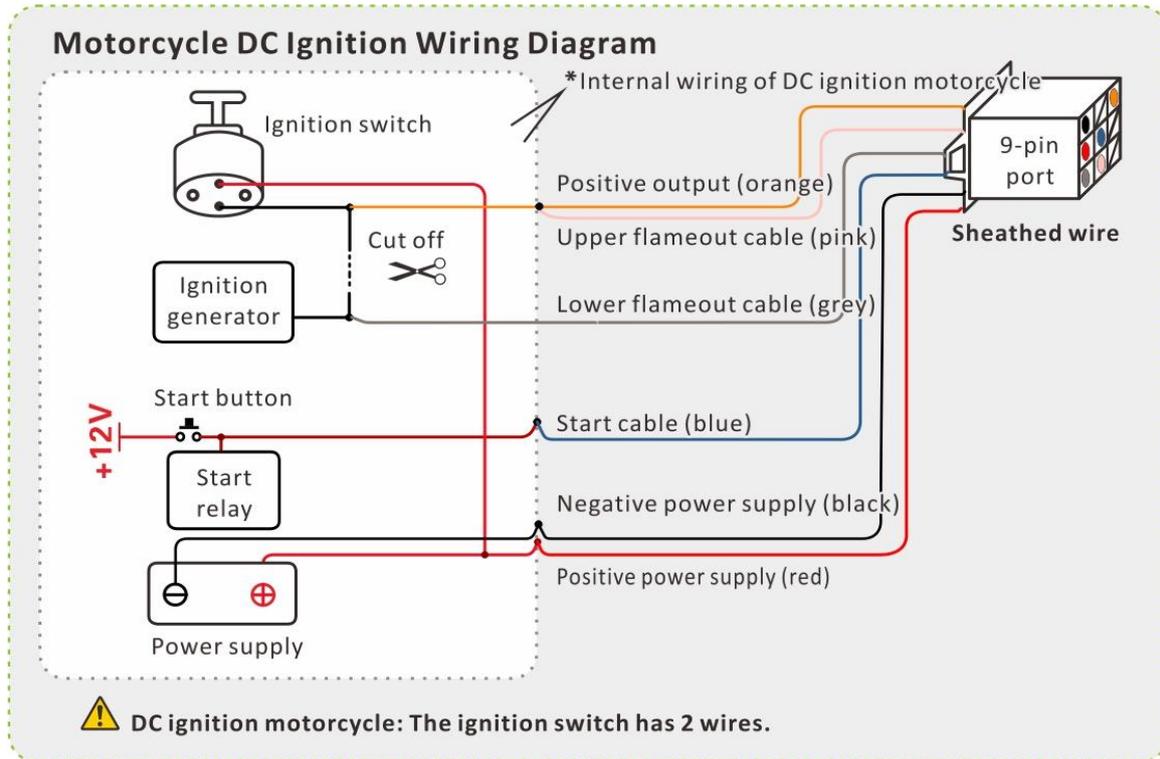
### 7.2.3 Motorcycle Wiring Diagram



#### 7.2.3.1 Motorcycle DC Ignition Wiring Diagram

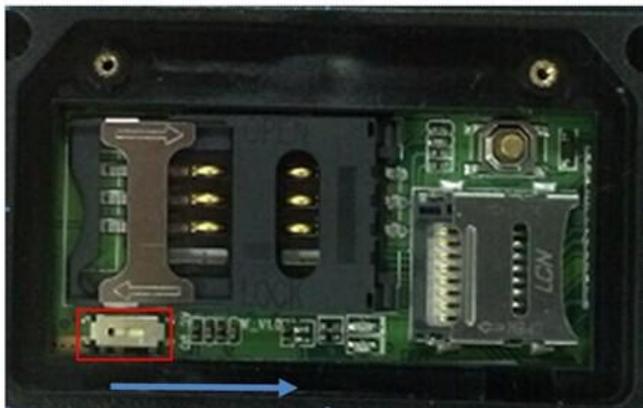
Turn the switch to the leftmost position (DC ignition mode):



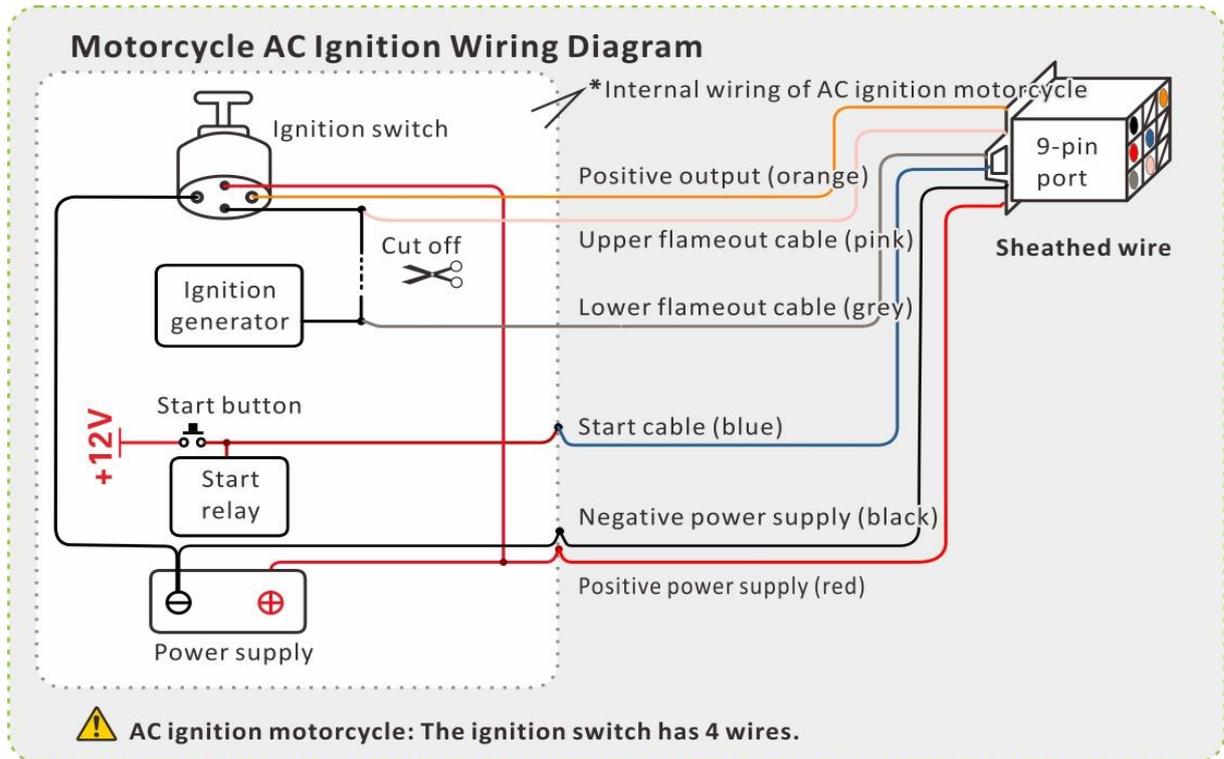


#### 7.2.3.2 Motorcycle AC Ignition Wiring Diagram

Turn the switch to the rightmost position (AC ignition mode):

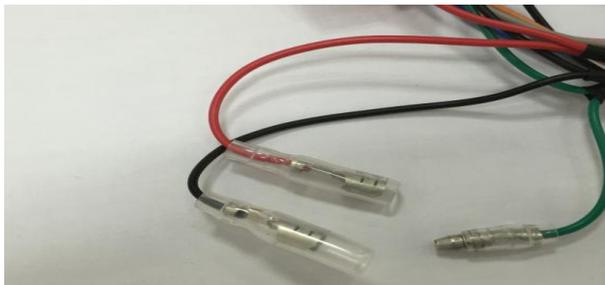


Turn the switch to the rightmost position.



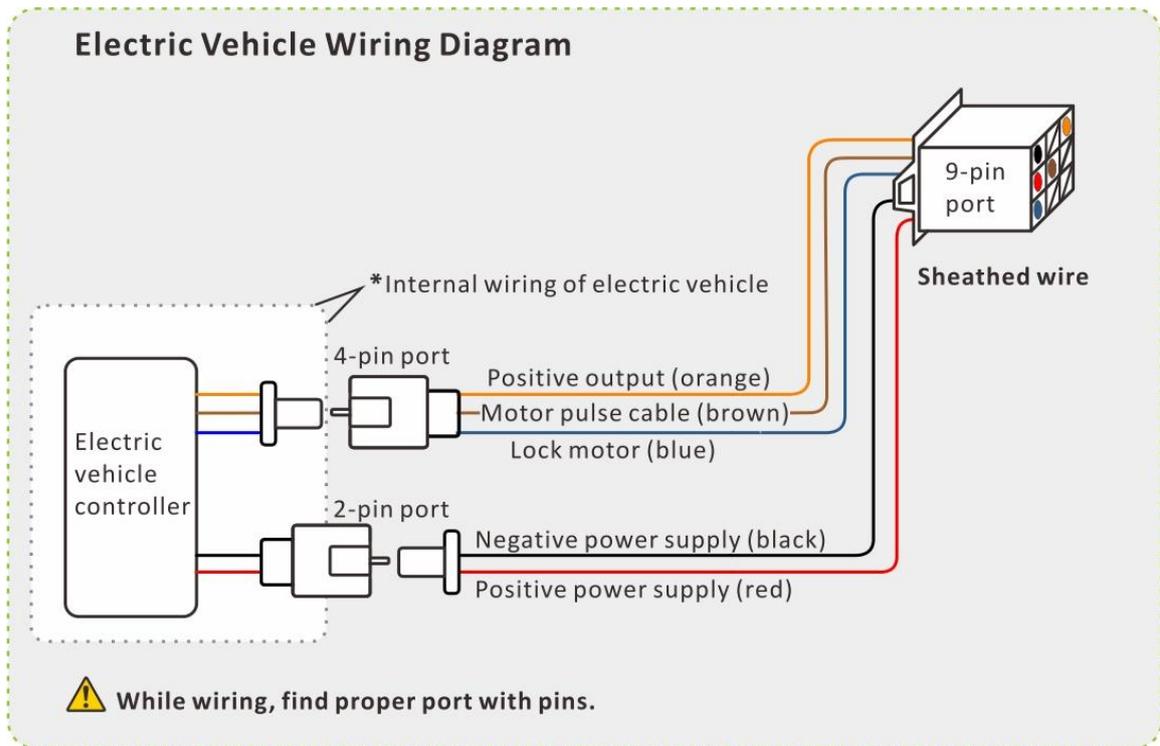
#### 7.2.3.3 Positive/Negative Start Wiring Diagram

Referring to the above diagrams, if positive current flows through to start the motorcycle, connect the green cable to the red cable; if negative current drains to start the motorcycle, connect the green cable to the black cable. (Green, red and black cables are from the tracker.)



If the device is installed on an electric vehicle, ignore the green cable.

### 7.2.4 Electric Vehicle Wiring Diagram



### 7.3 Mounting the T311

Use cable ties to fasten the T311 on the motorcycle.



Note: The device side with the Meitrack logo faces upwards to get better GPS signal.

If you have any questions, do not hesitate to email us at [info@meitrack.com](mailto:info@meitrack.com).