

# TRACKINGTHEWORLD

## GSM/GPRS/GPS WorldTracker Enduro Pro User Manual

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## **0. Introduction**

WorldTracker Enduro Pro is a powerful GPS locator designed for vehicle, pets and assets tracking. With superior receiving sensitivity, fast TTFF and GSM frequencies 850/900/1800/1900, its location can be real time or schedule tracked by backend server or specified terminals. Based on the embedded @Track protocol, WorldTracker Enduro Pro can communicate with the backend server through GPRS/GSM network, and transfer reports of emergency, Geo-fencing, device status and scheduled GPS position etc... It is easy for Service providers to setup their tracking platform based on the functional @Track protocol.

# 1. Product Overview

## 1.1. Appearance



## 1.2. Buttons/Mini USB Interface Description

Button /Mini USB Interface Description	
Power Key	<ul style="list-style-type: none"> <li>● Turn on WorldTracker Enduro Pro</li> <li>● Turn off WorldTracker Enduro Pro when without charging. (If power key is enabled)</li> </ul>
Function Key	<ul style="list-style-type: none"> <li>● Geo-Fence mode Long press the key to enable/disable Geo-Fence ID0</li> <li>● Geo-Fence in current position mode Long press the key to enable/disable Geo-Fence ID0. If enable Geo-Fence ID0, using the current position as the centre of Geo-Fence 0.</li> <li>● SOS mode (default) Long press the key to active SOS alarm</li> </ul>
Mini USB interface	<ul style="list-style-type: none"> <li>● Connect a 5V DC adapter can power WorldTracker Enduro Pro and charge the internal battery</li> <li>● Connect a 3.7V Li-ion or Li-Polymer battery can power WorldTracker Enduro Pro</li> </ul>

	<ul style="list-style-type: none"> <li>● Backend server developer or administrator can use the Data_Cable_M to configure</li> </ul>
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### 1.3. LEDs Description

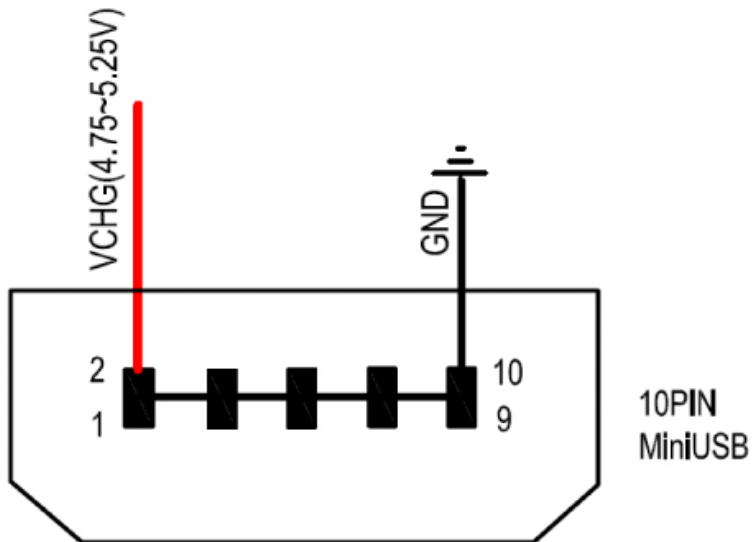
There are three LED in WorldTracker Enduro Pro, the description as following.

Light	Event	State
GSM light	Searching network	Fast flash
	Network has been registered	Slow flash
	Power off	Dark
GPS light	GPS has fixed	Solid
	GPS is in fixing	Fast flash
	GPS is on and GPS data wrong	Slow flash
	GPS is off	Dark
	If “LED On” is not selected, and the GPS LED will not work after turn on 150 seconds.	Dark
Power light	Power on and normal	Dark
	Charger inserted and charging completed	Solid
	Charger inserted and charging	Fast flash
	Power key was pressed and prepare to power off	Fast flash
	Abnormal	Fast flash
	Power low alert	Slow flash
	Power off or turn off the power light by command	Dark

### 1.4. External Power Interface

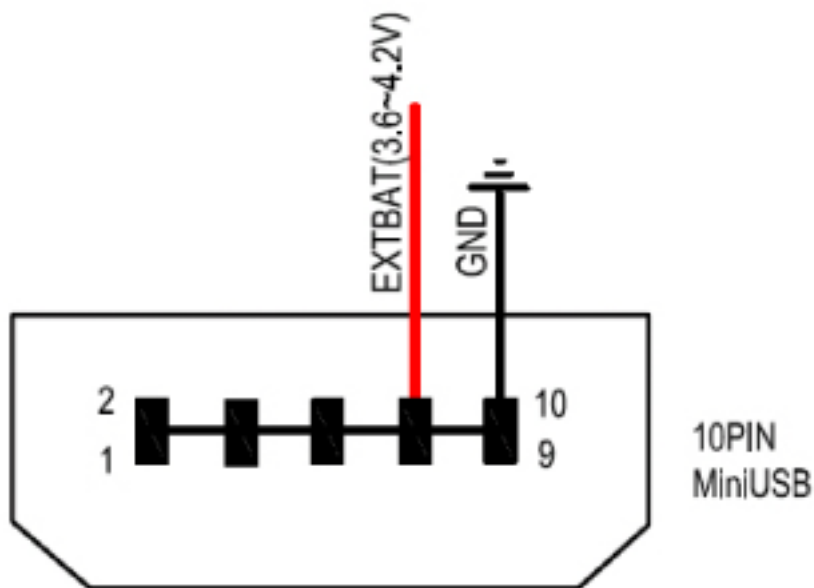
#### 1.4.1. External DC Charger Interface

The Pin2 on Mini-USB connector are used for charging and named as VCHG pin. It can be connected to a 5V DC power supply to power WorldTracker Enduro Pro and charge the internal battery.



### 1.4.2. External Battery Interface

The Pin 8 on Mini-USB connector is for external battery and named as EXTBAT pin. It can be connected to 3.7V Li-ion or Li-Polymer battery to power WorldTracker Enduro Pro.



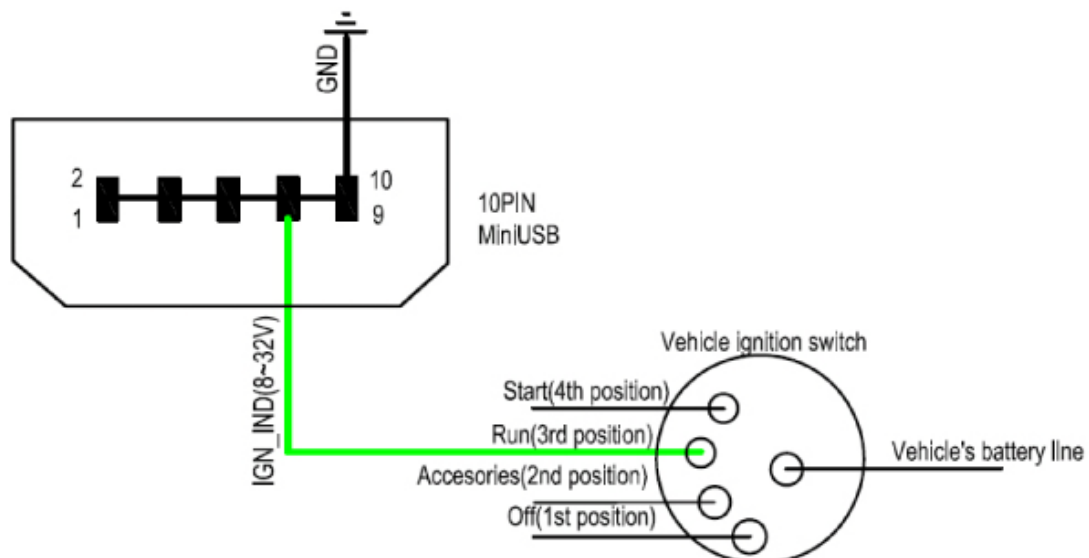
## 1.5. External GPS antenna specification

There is a MMCX RF connector on WorldTracker Enduro Pro and it is for the external GPS antenna. The specification of the external GPS antenna is listed in the following table.

GPS antenna:	Frequency: 1575.42MHz
Bandwidth:	>5MHz
Beamwidth:	>120 deg
Supply voltage:	3.3V
Polarization:	RHCP or Linear
Gain:	Passive: 0dBi minimum Active: 15dB
Impedance:	50Ω
VSWR:	<2
Noise figure:	<3
Connector	MMCX

## 1.6. Ignition Detection

The Pin 7 on Mini-USB connector is for ignition detection when WorldTracker Enduro Pro is used in vehicle tracking application. It is named as IGN\_IND pin.









## 2. Getting Started

### 2.1. Parts List

Name	Picture	Remark
WorldTracker Enduro Pro Locator		The GSM/GPRS/GPS locator.
AC-DC Power Adapter (Standard accessory)		used to charge the internal battery
WorldTracker Enduro Pro Sheath (Optional accessory)		used to attach to a belt.
Car Cigarette Charger (Optional accessory)		used to power the WorldTracker Enduro Pro with a cigarette power output on the vehicle.
Car Kit Charger (Optional accessory)		used to power the WorldTracker Enduro Pro with the battery output on the vehicle.
External Battery Kit (Optional accessory)		a set of accessories including an external battery, and a pelican waterproof case With a magnet. It will greatly increase the time between charges of The Enduro Pro and also let the Enduro Pro be used for special applications, like container tracking.

WorldTracker Enduro Pro Data Cable (Optional accessory)		the USB data cable which can be used for firmware upgrading and configuration.
WorldTracker Enduro Pro External Cable (Optional accessory)		the extend cable which includes the charger interface and external battery interface. It also includes the ignition detection interface.
WorldTracker Enduro Pro External GPS Active Antenna (Optional accessory)		External GPS active antenna is optional according to application scenarios.
WorldTracker Enduro Pro Mini-Mag Magnetic Case (Optional accessory)		used to hold the WorldTracker Enduro Pro to metal with the magnet.

## 2.2. Battery Charging

- Please connect AC-DC power adapter to WorldTracker Enduro Pro.
- Insert the AC-DC power adapter into the power socket.
- During charging, the PWR LED will flash fast. When the battery is fully charged, the PWR LED will be Ever-light.
- You can also charge the battery by the USB cable, which connects the WorldTracker Enduro Pro to a PC.
- Charging time is about 5 hours.

**Note: Before the first time using WorldTracker Enduro Pro, please full charge the battery.**

### 2.3. WorldTracker Enduro Pro External Cable Interface

- WorldTracker Enduro Pro External Cable is a cable with a Mini USB connector and four wires, which include the external power interface and ignition detect for WorldTracker Enduro Pro. Please find the detail description in following table.



Color	Name	Remark
RED	External DC IN (5V)	Please refer to 2.4.1 for detail
Black	Ground	Please refer to 2.4.1 for detail
Blue	External Battery IN (DC 3.4V to 4.2V)	Please refer to 2.4.2 for detail
White	Ignition Detect	Please refer to 2.6 for detail
Yellow	Reserved	Reserved for future use

### 2.4. Install SIM Card

- First, open the cover of SIM card.
- Then insert the SIM card into the slot of SIM card according to the direction shown.
- Finally, cover the slot.



### 2.5. Install Device Into The Holder

- Please install the WorldTracker Enduro into the Mini mage by:
  - Remove the Door by unscrewing it and lifting it out.
  - Slide the device into the case with the lights facing away from the magnets
  - Replace the door and screw into place.

## 2.6. Turn on/Turn off

- Turn on:
  - ◆ Method 1: Press the Power key at least 3 seconds and release it to turn on WorldTracker Enduro Pro. At the same time, PWR LED light will come on.
  - ◆ Method 2: Connect device to charger or external battery, and it will turn on automatically, PWR LED light will turn on.
- Turn off:
  - ◆ Method 1: Press the power key about 2 seconds; PWR LED will flash fast and then turn off. No lights lit indicates that the WorldTracker Enduro Pro is turned off. The time of power off is dependent on the quality of network. The maximum time of power off is 90 seconds. It can only be turned off when using internal battery. Please note the end-user cannot power off the WorldTracker Enduro Pro when the power key is disabled by protocol.
  - ◆ Method 2: If using external battery, device will power off when the external battery is disconnected.

### 3. Troubleshooting and Safety info

#### 3.1. Troubleshooting

Trouble	Possible Reason	Solution
After WorldTracker Enduro Pro is turned on, the GSM LED flashes quickly always.	The SIM card is not inserted.	Please insert the SIM card into WorldTracker Enduro Pro.
	The signal is too weak; WorldTracker Enduro Pro can't register to the network.	Please move WorldTracker Enduro Pro into place with good GSM coverage.
	PIN locked	Using SIM card without SIM-PIN, or unlock SIM-PIN.
Messages can't be reported to the backend server by GPRS.	The SIM card in WorldTracker Enduro Pro doesn't support GPRS.	Try a GPRS supported SIM card.
	APN is wrong. Some APN cannot visit the internet directly.	Ask the network operator for the right APN.
	The IP address or port of the backend server is wrong.	Make sure the IP address for the backend server is an identified address in the internet.
Unable to power off WorldTracker Enduro Pro.	The function of power key was disabled by AT+GTSFR.	Enable the function of power key by AT+GTFKS.
	Unable to power off Enduro Pro if charger connected or using external battery.	Disconnect charger or external battery, and try again.
No response from UART when configure WorldTracker Enduro Pro through UART	WorldTracker Enduro Pro is in power saving mode.	Remove the Data_Cable_M, and plug it in again. After this operation, Enduro Pro will exit from power saving mode for 10 seconds.
		Re-try Enduro Pro manager tool again, it will try to wake up device.
WorldTracker Enduro Pro can't get successful GPS fixing.	The GPS signal is weak.	Please move Enduro Pro to a place with open sky.
		It is better to let the top surface face to sky. (The same surface with indication LED)

### **3.2. Safety info**

- Please do not disassemble the device by yourself.
- Please do not storage the device in overly hot or humid places, avoid exposure to direct sunlight. Too high temperature will damage the device or even cause the battery to explode.
- Please do not use WorldTracker Enduro Pro on an airplane or near medical equipment.