TrackingTheWorld
GPS Tracking Solutions

GAT-Pro

Asset Tracking Device

USER MANUAL

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Revision History

Revision	Date	Author	Description of change
1.00	2012-6-11	Cid Xu	Initial
1.01	2013-6-3	Tony.Pei	Add the direction of GAT-PRO placement
1.02	2016-12-17	Hazard Zhang	Update pictures for new design

1. Introduction

GAT-PRO is a powerful GPS tracker designed for fixed asset tracking applications.GAT-PRO work with two CR123A lithium-batterys.GAT-PRO wakes up every 1-40hours and sends the info and then return to deepsleep.GAT-PRO can standby 1000days. With built-in motion sensor, GAT-PRO can also detect the motion of asset all the time and give a warning message. Based integrated @track protocol, the GAT-PRO can communicate with a backend server through the GPRS/GSM network to transfer reports of emergency, geo-fence boundary crossings, low battery or scheduled GPS position along with many other useful functions. System Integrators can easily setup their tracking systems based on the full-featured @Track protocol.

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.

(2) This device must accept any interference received, including interference that may cause undesired operation.

1.1. Reference

Table 1. **GAT-PRO Protocol Reference**

SN	Document name	Remark
[1]	GAT-PRO @SMS & @Track Interface Protocol	The @SMS & @Track protocol interface between GAT-PRO and backend server.

1.2. Terms and Abbreviations

Table 2. **Terms and Abbreviations**

Abbreviation	Description
AGND	Analog Ground
AIN	Analog Input
DIN	Digital Input
DOUT	Digital Output
GND	Ground
MIC	Microphone
RXD	Receive Data
TXD	Transmit Data
SPKN	Speaker Negative
SPKP	Speaker Positive

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2. Product Overview

2.1. Check Parts List

Before starting, check all the following items have been included with your GAT-PRO. If anything is missing, please contact your supplier.

Figure 1.   Appearance of GAT-PRO

2.2. Parts List

Table 3. **Parts List**

Name	Picture
GAT-PRO Locator	80*58*26.8 mm
GAT-PRO Data Cable (Optional)	
GAT-PRO MCU Download Kit (Optional)	

2.3. Interface Definition

The GAT-PRO has an 8 PIN interface connector. It contains the connections for power, RS232, MCU Interface, etc. The sequence and definition of the 8PIN connector are shown in following figure:
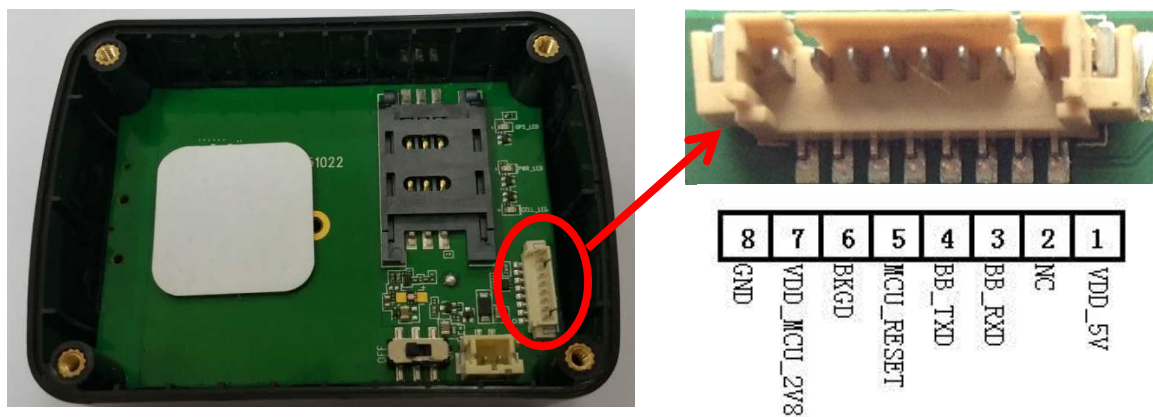
Figure 2. **The 8 PIN connector on the GAT-PRO**

Table 4. **Description of 8 PIN Connections**

| Index	Description	Comment
1	VDD_5V	External DC power input, 5V
2	NC	Not connected
3	BB_RXD	BB UART RXD
4	BB_TXD	BB UART TXD
5	MCU_RESET	MCU CHIP RESET SIGNAL
6	BKGD	MCU CHIP BKGD SIGNAL
7	VDD_MCU_2V8	MCU POWER INPUT，2.8V
8	GND	Power and digital ground

3. Getting Started

3.1. Opening the Case

Figure 3.   Opening the Case

Use the Screwdriver to remove the screws, and then open the case.

3.2. Closing the Case
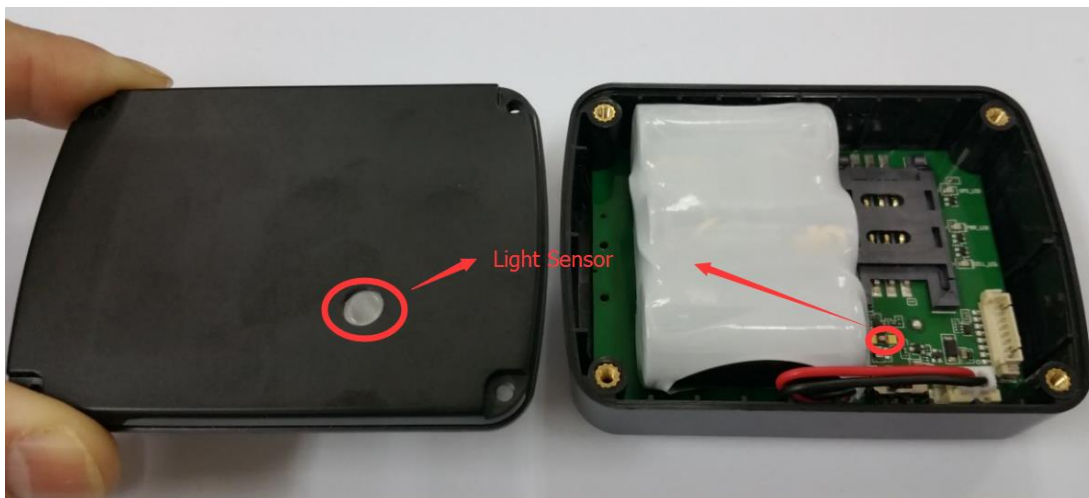
Figure 4.   Closing the Case

Place the cover in the correct position and then tighten the screws with a Screwdriver.

3.3. Installing a SIM Card

Open the case and ensure the unit is not powered (unplug the internal battery). Slide the holder right to open the SIM card. Insert the SIM card into the holder as shown below with the gold-colour contact area facing down taking care to align the cut mark. Close the SIM card holder. Close the case.
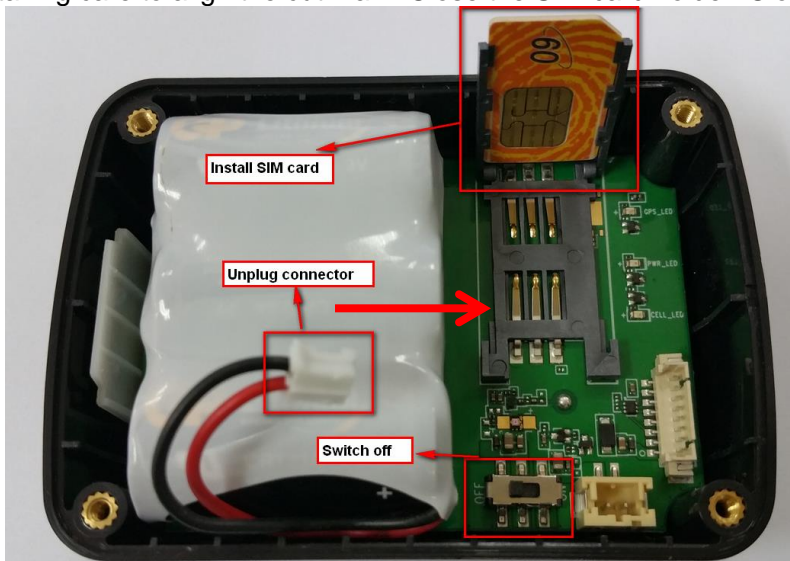

Figure 5.   SIM Card Installation

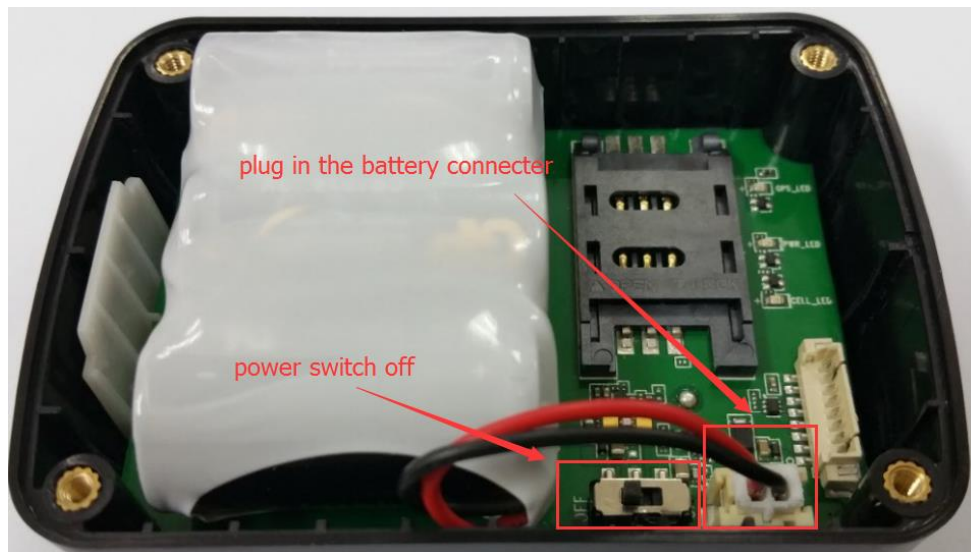## 3.4. Installing the Internal Backup Battery


Figure 6.   Backup Battery Installation

NOTE: Make sure the battery is switched OFF before installation.

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3.5. Power On the Device

After inserted the Battery, GAT-PRO will power on automatically, the Status LED will start work, detail description in the next section.

Blue   GPS

Red   PWR

Green GSM
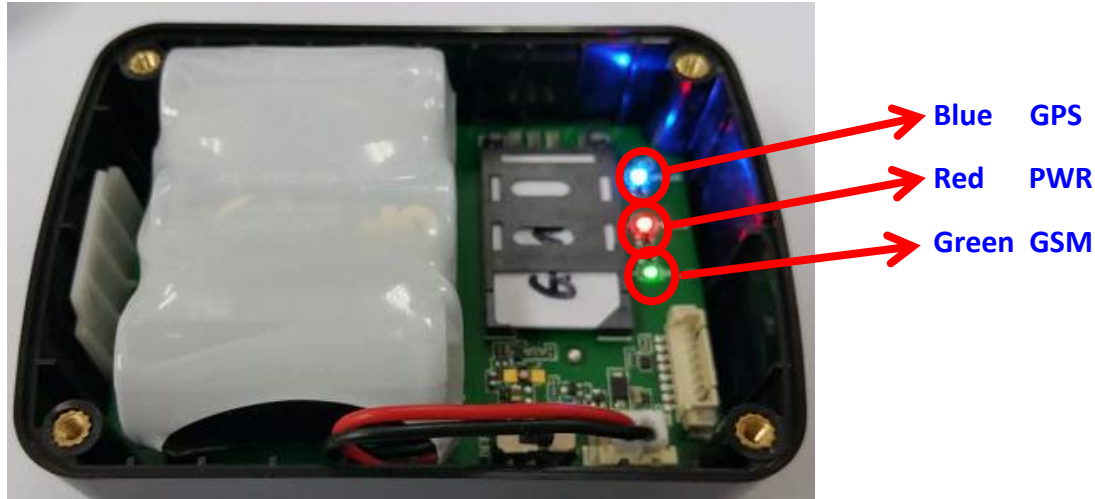
Figure 7.   GAT-PRO Status LED

3.6. Direction of GAT-PRO Placement

The side with label should point towards sky to ensure there is good GPS signal can be received.

GAT-Pro
FCC ID: YQD-GL500
CE 0678

IMEI: 359231037393509

THIS SIDE TOWARDS SKY

Made in China

Figure 8.   Direction of GAT-PRO Placement

3.7. Device Status LED

Table 5. **Definition of Device status and LED**

LED	Device status	LED status
GSM (Green)	Device is searching GSM network.	Fast flashing (Note1)
	Device has registered to GSM network.	Slow flashing (Note2)
	SIM card needs pin code to unlock.	ON
GPS (Blue)	GPS chip is powered off.	OFF
	GPS sends no data or data format error.	Slow flashing
	GPS chip is searching GPS info.	Fast flashing
	GPS chip has gotten GPS info.	ON
PWR (Red)	Battery voltage is lower than 0%.	OFF
	Battery voltage is below 10%.	Slow flashing
	Battery voltage is more than 10%.	ON

1 - Fast flashing is about 60ms ON/ 780ms OFF
2 - Slow flashing is about 60ms ON/ 1940ms OFF

Note:
1. In Battery mode, all LEDs are only enabled at the first 5 minutes after power on the device, and then will be shut down all the time.

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