Rhinotracks-ST4 User Guide

1 Product Overview

The Rhinotracks-ST4 is the latest vehicle tracker supporting the 3G (WCDMA) network. In addition to real-time location tracking, the Rhinotracks-ST4 has two-way calling and remote listen-in functions. The Rhinotracks-ST4 features excellent and stable work performance. It used for vehicle tracking and fleet management.

2 Product Function and Specifications

2.1 Product Function

2.1.1 Location Tracking

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

2.1.2 Other Functions

- SMS/GPRS (UDP) communication (Rhinotracks protocol)
- Built-in 8 MB chip for recording driving routes (storing 8,192 GPRS caches, 256 SMS caches, and 131,072 GPS logs)
- Mileage report
- Low power alarm
- Build-in 3D acceleration sensor
- Support for Over-the-Air (OTA)

3.2 Specifications

Item	Specifications
Dimension	105 mm x 65 mm x 26 mm
Weight	190g
Input voltage	DC 11 V to 36 V/1.5 A
Standby battery	850 mAh/3.7 V
Power consumption	8 mA standby current
Operating temperature	-20°C to 55°C
Humidity	5% to 95%
Working hour	100 hours in power-saving mode and 10 hours in normal mode

Indicator	Green indicator showing the GSM signal Blue indicator showing the GPS signal
Button/Switch	1 power button
Storage	8 MB byte
Sensor	3D acceleration sensor
Frequency band	ST4-A: UMTS/HSDPA:850/1900MHz GSM/GPRS: 850/900/1800/1900MHz
	-161 dB
Positioning accuracy	10m
I/O port	Ignition Input

3 Rhinotracks ST4 and Accessories

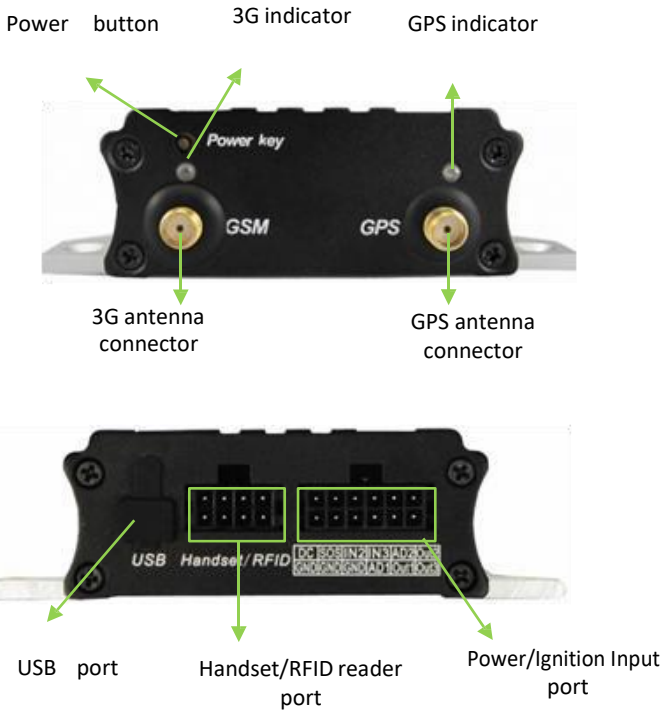
ST4 and standard accessories:

ST4 with a built-in battery

GPS antenna

3G antenna

4 Appearance



5 First Use

5.1 Indicator

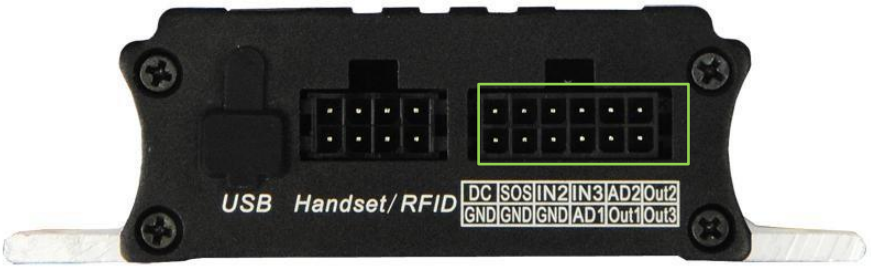
Press and hold down the power button for 3s to 5s to start the ST4.

GPS Indicator (Blue)	
Blink (every 0.1s)	The ST4 is being initialized or the battery power is low.
Blink (0.1s on and 2.9s off)	A GPS signal is received.
Blink (1s on and 2s off)	No GPS signal is received.
3G Indicator (Green)	
Steady on	Strong 3G connection
Blink (every 0.1s)	The ST4 is being initialized.
Blink (0.1s on and 2.9s off)	A base station signal is received.
Blink (1s on and 2s off)	No base station signal is received.

6 Installing the ST4

6.1 Installing an I/O Cable

The I/O cable is a 12-pin connector which we are only using power and ignition input.

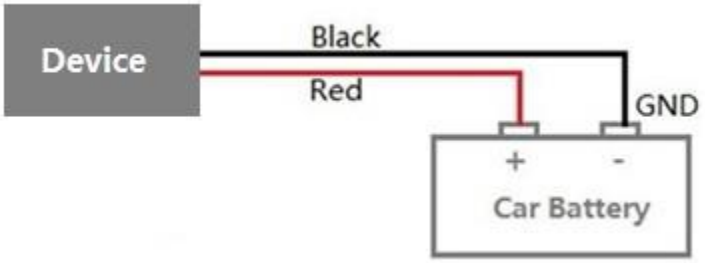


1 Power (+)	3 Not Used	5 Not Used	7 Input 3	9 Not used	11 Not used
2 GND (-)	4 Not Used	6 Not Used	8 Not Used	10 Not Used	12 Not Used

Pin Number	Color	Description
1 (Power +)	Red	Positive electrode of the power input, connected to the positive electrode of the vehicle storage battery. Input voltage: 11 V to 36 V. 12 V is recommended.
2 (GND)	Black	Ground wire, connected to the negative electrode of the vehicle storage battery or to the negative terminal.
3 (Input 1)	White	Digital input 1, negative triggering (SOS button by default)
4 (GND)	Black	Ground wire, connected to input 1 (SOS button)
5 (Input 2)	White	Digital input 2 (negative triggering) Connects to a door triggering signal cable to detect vehicle door status. (Most Chinese, Korean, and Japanese cars are negative edge-triggered.)
6 (GND)	Black	Ground wire It can be used as a ground wire connected to an analog sensor.
7 (Input 3)	White	Digital input 3 (positive triggering) Detect the vehicle ACC status by default.
8 (AD Input 1)	Blue	Analog input 1 with 12-bit resolution and valid voltage 0–6.6 V Connects to an external sensor, such as the fuel sensor.
9 (Fuel sensor input)	Blue	Analog input 2 with 12-bit resolution and valid voltage 0–6.6 V The AD cable is connected to the white plug. The cable is connected to the A53 fuel sensor by default.
10 (Output 1)	Yellow	Output 1 Valid: low level (0 V) Invalid: open collector Maximum voltage for output open collector (invalid): 40 V

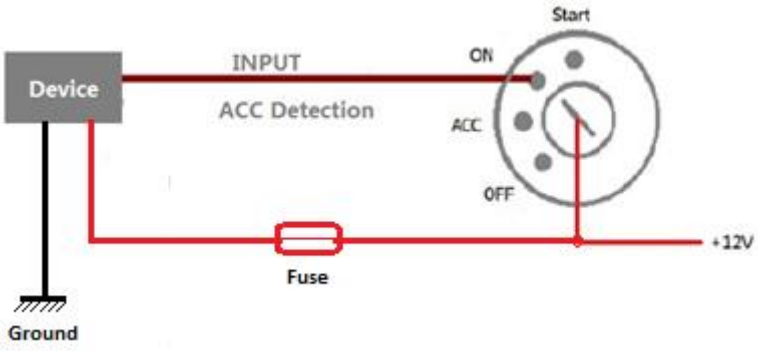
Power Cable/Ground Wire (PIN1, PIN2)

Connect the power cable (red) and ground wire (black) to the positive and negative electrodes of the vehicle battery respectively.



Power (PIN1, PIN2) and ACC wiring (PIN7)

Alternatively you may wire the power +12V (Red) to the barrel of the key switch provided you are careful to not damage existing wiring or leave exposed wire that could cause a short circuit.



Note: If input 3 is connected to ACC and the engine is started, ON-OFF-ON conversion occurs. If input 3 is connected to Start and the engine is started, OFF-ON-OFF conversion occurs. If the device is installed correctly and the engine is started, OFF-ON conversion occurs.

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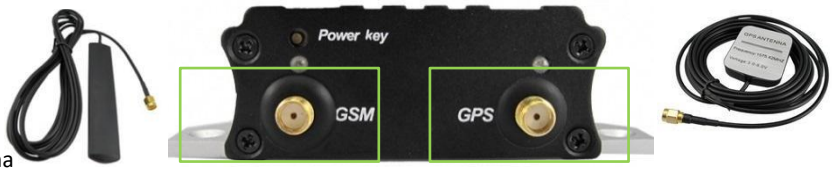
6.2 Installing GPS and 3G Antennas



3G antenna GPS antenna

Connect the 3G antenna to the SMA connector which is labeled "GSM". The 3G antenna is non-directional, so you can hide it in any place of a vehicle.

Connect the GPS antenna to the connector which is labeled "GPS". It is recommended that the antenna is facing up to the sky and the antenna side with words is downwards. Secure the antenna by using double sided tapes.

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

6.3 Mounting the ST4

Tighten the four screws shown in the following figure.

If you have any questions, do not hesitate to email us at support@rhinoco.com.au