FIFOTRACK 4G PORTABLE GPS TRACKER

Model: Q2

Version: V1.6

www.fifotrack.com

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Revision History

Version	Author	Revision Date	Description of change
V1.1	Cici Wu	Aug 15, 2021	Initial revision
V1.2	Cici Wu	Oct 27, 2021	1. Add Latin America and Australia countries bands 2. Add 3600 seconds time interval battery working time
V1.3	Cici Wu	Nov 15, 2021	1. Add "Short press call button to check device in sleep mode or power off status" description
V1.4	Cici Wu	March 28, 2022	1. Add Tilt/Man down/Fall down feature 2. Add A version USA and Canada Bands
V1.5	Cici Wu	May 27, 2022	1. Add charging cradle to the standard packing list 2. Add Q2 parameter tool description
V1.6	Cici Wu	Oct 16, 2023	1. Update battery working time 2. Modify Button descriptions 3. Modify LED lights descriptions 4. Modify setting IP and port description 5. Add tilt/No movement alarm description

Related Files

Version	File	Remarks
V1.2	<fifotrack A03 GPRS Protocol >	GPRS protocol between terminal and server
V1.2	<fifotrack Q2 Command List>	Command details of GPRS/SMS/COM
V1.1	<fifotrack Personal Tracker Parameter Tool User Guide>	PC software tool for parameters configuration
V1.1	<USB Cable Driver Installation Guide>	How to install USB cable driver
V1.1	<Firmware Upgrade Guide>	How to upgrade firmware
Download link: http://www.fifotrack.com		

Related Software

Version	Software	Remarks
V1.0	< Personal Tracker Parameter Tool >	Parameter configuration tool on PC
V1.11.0	< PL2303_Prolific_DriverInstaller >	Driver for USB cable
V1.0	< Firmware Upgrade Suite>	Tool for firmware upgrade
Download link: http://www.fifotrack.com		

Contents

1. Product Overview

Q2 is a latest generation new portable GPS tracker designed for kids, elders, employees, lone workers, pets, animals, and valuable asset tracking. It keeps a good balance between size and battery working life, the working time is up to 3 days at every 5 minutes tracking time interval. Q2 has passed IP67 waterproof standard, which is suitable for outdoor activities. With built-in microphone and speaker, Q2 supports two-way communication between the user and the preset SOS phone guardian. Powered by the built-in 6-axis motion sensor and excellent firmware algorithm, the Q2 device is able to detect the Tilt/Man down/Fall down events accurately. Q2 uses original simple and professional FIFOTRACK A03 GPRS PROTOCOL, the programmers can integrate this protocol in their own platform and develop APP efficiently.

2. Product Main Functions

- Real Time Tracking
- Mobile Phone Tracking
- Tracking by time interval
- Heartbeat interval
- Tracking by LBS
- Tracking by WiFi option
- Two-way calling
- Voice monitoring
- IP67 Waterproof
- GEO-Fence Alarm
- SOS Alarm
- No movement alarm
- Fall down alarm
- Tilt alarm
- Internal battery low alarm
- 4 MB Flash Memory
- Long battery working time
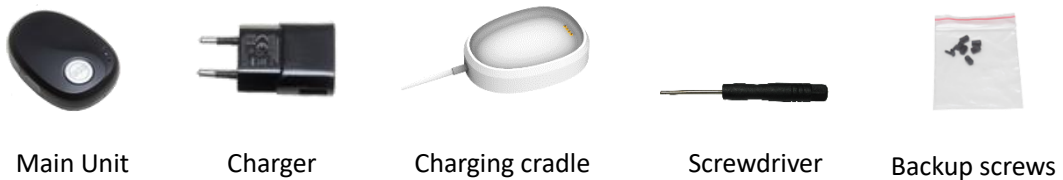- Smart power saving modes
- OTA

3. Product Appearance

Button Description

SOS Button	
Press SOS button for 2 seconds and feel the motor vibration	SOS alarm triggered
Short press SOS button	Hang up calling
Short press SOS button	Cancel fall down alarm
Power Button	
Press power button for 3 seconds	Power on or power off
Call Button	
Short Press Call button to pick up call	Pick up incoming two-way call
Press Call button for 2 seconds to call	Call favorite contact number
Short Press Call button during calling conversation to adjust voice volume	Short press switch volume modes between default volume and the self-defined volume

Standard Packing Box

| Main Unit | Charger | Charging cradle | Screwdriver | Backup screws |

Optional Accessories

Data cable　　　Lanyard　　　Belt Clip　　　　Wristband　　　　Key ring

4. Specification

Item	Specification		
Dimension	65*46*17mm		
Weight	48g		
GSM Module	SIMCOM7500, Cat 1 type		
GPS Module	ZKW AT6558		
Charging Voltage	DC 5V/1A		
Internal Battery	1000mAh/3.7V Lithium ion battery		
Full charging time	<2 hours 10 minutes		
Power Consumption	Average 8.3mA standby current		
Working hours	Refer to chapter 6 for details. 5 minutes time interval working time 3 days 2 hours.		
Microphone	Built-in microphone		
Speaker	Built-in speaker		
Operating Temperature	-20℃~70℃		
Humidity	5%~95%		
Waterproof	IP67 (Testing condition: Immersed in 20cm depth water for 30 minutes)		
LED Light	2 LED lights indicate GPS/GSM/Power status		
Button/Switch	1 SOS button, 1 power button, 1 call button		
Flash Memory	4MB (Buffer storage: GPRS 8000 units, SMS 400 units)		
Motion Sensor	6-axis motion sensor (for Tilt /Fall down/No Movement detection)		
Vibration motor	Built-in, vibration reminder incoming call/button press		
WiFi	802.11 n (2.4 GHz, scan only)		
Frequency Band	**E version:** for Asia, Europe, Middle East, Africa countries	**2G** GSM: 900/1800 MHz	
		3G WCDMA: B1/B8 (2100/900MHz)	
		4G FDD-LTE: B1/B3/B7/B8/B20	
	SA version: for Latin America and Australia countries	**2G** GSM: **Don't support**	
		3G WCDMA: B1/B5(2100/850MHz)	
		4G FDD-LTE: B1/B3/B5/B7/B8/B28	
	A version: for North America USA and Canada	**2G** GSM: **Don't support**	
		3G WCDMA: B2/B5(1900/850MHz)	
		4G FDD-LTE: B2/B4/B12	

GPS Sensitivity	-167dBm
GPS Start Speed	Cold start 30s
	Hot start 1s
Position Accuracy	2.5m
Charging Port	1 magnetic contact port for charging/configuring
Charging Cradle	Available, is standard packing accessory

5. LED Light

GPS Light (Green)	
Flash 0.1s on and 3s off	GPS valid
Flash 2s on and 2s off	Searching GPS signal
GSM Light (Orange)	
Flash 0.1s on and 3s off	GRPS connected
Flash 2s on and 2s off	GSM searching
flash every 0.1s	Initial, device start or No SIM card insert
Battery status (Both GPS and GSM lights flash synchronously)	
Both flash 3s on and 3s off	Breathing light, indicates battery status
Both off	Power off
Both flash every 0.1s	Low battery
Both solid on	On charging
Both flash 0.1s on and 3s off	Battery recharging full

6. Battery Working Time

Q2 has a built-in 1000mAh rechargeable lithium ion battery. Longer battery working time is one of our core design goals from the beginning. After hard efforts on the firmware and hardware development, now we can achieve below excellent results:

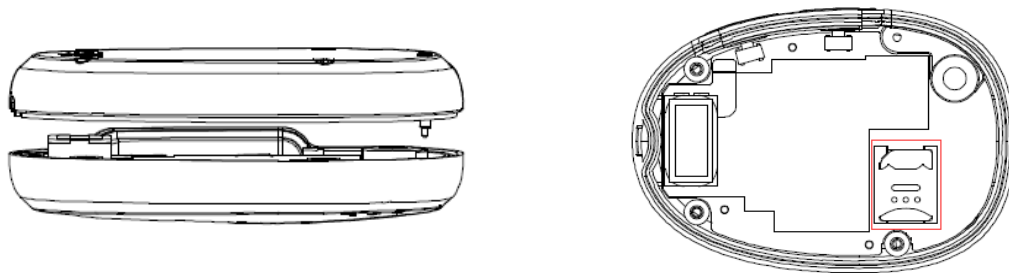| Testing conditions (WiFi turn off)	Working time
30 seconds time interval	12 hours
60 seconds time interval	22 hours
300 seconds (5 minutes) time interval	74 hours (3 days 2 hours)
600 seconds (10 minutes) time interval	92 hours (3 days 20 hours)
3600 seconds (1 hour) time interval	96 hours (4 days)
86400 seconds (24 hours) time interval	108 hours (4 days 12 hours)
Disable uploading GPRS data by time interval, standby for calling or SMS command to reply location message	5 days

7. Fall down Detection

"Fall down" is a state that a person who falls down freely.

Powered by the Q3 model built-in 6-axis motion sensor and our excellent algorithm in firmware, The Q3 device can detect the fall down event with higher accuracy, and reduce the false alerts to minimum. Please refer to B36 command for details.

8. Insert the SIM Card

- The SIM card type is **Nano SIM card**
- Ensure the SIM card has GPRS service
- Ensure the PIN code has been closed.
- Power off device before Insert SIM card

Screw out the back case you will find the SIM card slot, insert the Nano SIM card correctly.

9. Charging

Charging by charging cradle.

The original charger is DC5V/1A

Full charging time: <2 hours 10 minutes

The GSM and GPS lights flash **synchronously** to indicate battery status, details are below

Both flash 3s on and 3s off	Breathing light, indicates battery status
Both off	Power off
Both flash every 0.1s	Low battery
Both solid on	On charging
Both flash 0.1s on and 3s off	Battery recharging full

Turn on device

Press power button for 3 seconds to turn on/turn off device

Power button

10. Tracking by phone

10.1 Setting SOS Number – B11

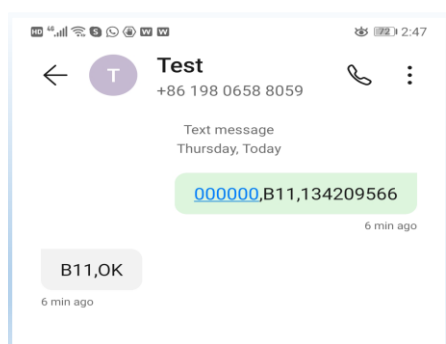SMS Command: 000000,B11,<number1>,<number2>,<number3>
SMS Reply: B11,OK
For example: 000000,B11,134209566,134209677,138290708
Authorize 134209566 as first SOS number, 134209677 as second SOS number, 138290708 as third SOS number.
Note:
1)   Only SOS numbers are allowed to call device if any SOS number is authorized.
2)   Maximum 3 SOS numbers can be authorized.
3)   Set up only one phone number, SMS command example is: 000000,B11,134209566
4)   Delete all SOS numbers, the command is: 000000,B11
5)   **Press SOS button for 3 seconds,** device will call all preset SOS numbers twice circularly, until any SOS number is answered. In addition, the device will send the SOS Alarm SMS message with Google map link location to all authorized SOS numbers.

10.2 Setting SMS Message Time Zone – B14

SMS Command: 000000,B14,<time zone>
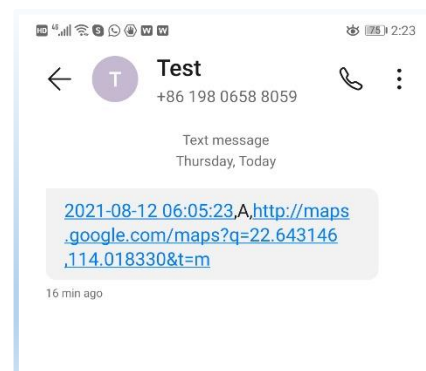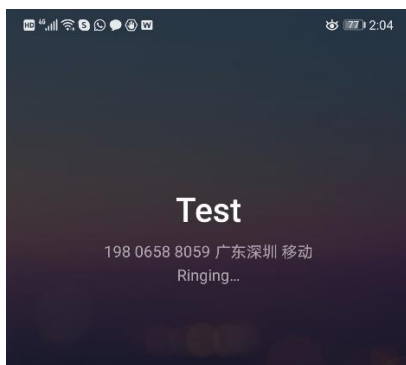SMS Reply: B14,OK

For example: 000000,B14,8

Set SMS message time zone to Eastern eight zone (GMT+8).

Note:

1) Time zone, range [-12, 12]. Western zones are minus sign in front, eg: 000000,B14,-8

2) Default time zone is 0, the user needs to set up his corresponded time zone.

3) When time zone is set, all SMS Messages use new time zone for date and time.
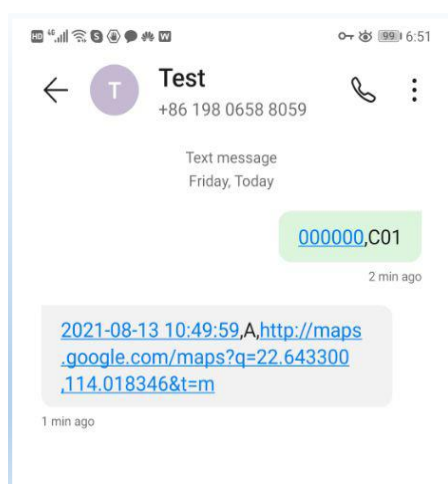

10.3 Tracking by Calling

Call the SIM card number inside the device by authorized SOS number, you will get a SMS reply with Google map link. Click it to check the location.

10.4 Tracking by SMS Command- C01

SMS Command：000000,C01

SMS Reply: Current location map link

10.5 SMS Reply Content Example

2021-08-13 10:49:59,A,http://maps.google.com/maps?q=22.643300,114.018346&t=m
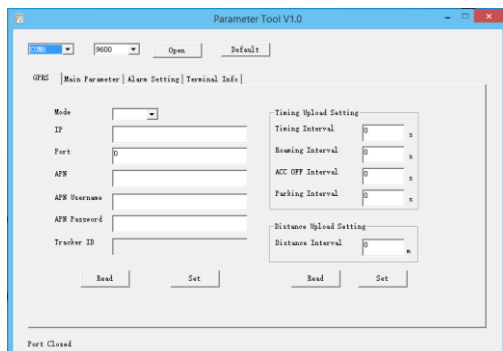
SMS Reply Format:

Field	Detail	Remarks
2021-08-13 10:49:59	Date and time, format YYYYMMDD hh:mm:ss	Date and time
A	GPS valid	GPS Status，"A" means GPS valid, "V" means GPS invalid.
http://maps.google.com/maps?q=22.643300,114.018346&t=m	Google map link, latitude in front of longitude. Unit is degree Latitude=22.643300° Longitude=114.018346°	Google map link with latitude and longitude, which can be opened directly on smart phone.

11. Configuring in PC

We provide parameter tool software for configuring parameters in PC. Please download USB cable driver and install it before using the parameter tool. Refer to <USB CABLE DRIVER INSTALLATION GUIDE> if need.

Connect device to PC with *configuration data cable* (optional accessory). Run "Q2 Parameter Tool" software, choose correct port, always select 9600 baud rate, click "open" button.

Please read <FIFOTRACK PARAMETER TOOL USER GUIDE> for more details.

12. Platform Tracking

Adding device to the tracking platform or APP, the user needs to configure the device as below steps.

Step 1: Setting IP and port

Command: 000000,B00,<type>,<IP>,<Port>

For example: 000000,B00,1,47.88.35.165,10502

Note:

1) 000000 is device SMS command password, default 000000

2) B00 is command

3) Type: open/close TCP (GPRS) connection. "1" is open, "0" is close

4) IP: server IP or domain, 47.88.35.165 is server IP

5) Port: server port, 10502 is port

6) Between fields is comma without any space

Step 2: Setting APN

Command: 000000,B01,<APN name>,<APN user>,<APN password>

For example: 000000,B01,cmnet

Set APN name as cmnet, no APN user and APN password

Note:

1) APN name "cmnet" is for China mobile, don't copy, just an example.

2) Please contact your SIM card operator or Google to get APN information. Part of APN only have APN name, don't have APN user and APN password, leave the APN user and APN password blank.

Step 3: Setting GPRS tracking time interval

Command: 000000,B03,<move time interval>,<stop time interval>

For example: 000000,B03,30,300

Set GPRS tracking time interval at every 30 seconds when the device moves, at every 300 seconds when the device stops.

Note:

1) Time interval, unit s, more than 30s is suggested

2) move/stop, the state of device, detecting by built-in 6-axis motion sensor

3) move time interval: tracking time interval under moving, unit is second, default 30 seconds

4) stop time interval: tracking interval when the device stops, unit is second, default 30 seconds

5) If <stop time interval> field parameter is empty, the device will always upload GPRS data as <move time interval> field parameter, no matter this device moves or stops.

Eg: 000000,B03,30

Device will upload data at 30 seconds interval always, ignore move/stop state.

13. Power Saving

Q2 will enter into different working modes automatically for power saving according to different time interval settings. Based on the 6-axis motion sensor, the device can detect its move/stop state accurately. The users only need to adjust GPRS uploading time intervals to achieve the excellent tracking performance and power saving results.

Command to set GPRS tracking time interval	
000000,B03,<move time interval>,<stop time interval>	
1) 000000: SMS command password, default 000000.	
2) <move time interval>: tracking time interval under moving, unit is second, default is 30 seconds	
3) <stop time interval>: tracking time interval when the device stops, unit is second, default 30s.	
4) No matter what time interval is set, incoming SOS number phone call or SMS command message always can wake up device.	
Configuration SMS command examples	
I want to track at every 30 seconds always, no matter this device moves or stops	000000,B03,30,30
I want to track at every 24 hours	000000,B03,86400,86400
I want to track at 30 seconds while the device moves, track at every 3600 seconds while the device stops	000000,B03,30,3600
I want to track at every 300 seconds while the device moves, disable the data uploading while the device stops	000000,B03,300,0
I want to disable the time interval tracking, only call the device to get location when I need.	000000,B03,0,0

Please e-mail us at info@fifotrack.com if any questions or feedback.