



PT600X User Manual



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Contents

1. Introduction	1
1.1 Attention	1
1.2 Instructions of safety	1
1.3 Terminology	2
2. Basic Description	2
2.1 Standard Package	2
2.2 Basic Structure	3
2.3 Specification	3
2.4 Features	4
2.5 Application	5
3. Installation and Operation.....	5
4. Start Tracking.....	7
4.1 Tracking by mobile:	7
4.2 Tracking by FMS platform	9
4.2.1 Add New Tracker in FMS	9
4.2.2 Set Tracker ID by SMS.....	10
4.2.3 Set Tracker SIM card APN by SMS.....	10
4.2.4 Set FMS server and tracker port by SMS.....	11
4.2.5 Set Time Interval by SMS	11
5. Accessories.....	12
5.1 Optional accessories.....	12
5.2 Accessories connection	13
5.3 Accessories operation.....	14
6. SMS Commands List.....	16
7. Trouble Shooting.....	22

1. Introduction

1.1 Attention



Please do not touch the tracker before unplugging the power supply, if the tracker is damaged, the power supply cables are not isolated or the isolation is damaged.



The tracker must be installed and operated only by qualified personnel.



The tracker is susceptible to water and humidity.



Any installation and/or handling during a lightning storm are prohibited.



Use original parts, qualified batteries and peripheral equipments to avoid damages. BOFAN is not responsible for any harm caused by using wrong parts or cables.



BOFAN shall not be liable to any responsibility for accidents caused by customers using the products.

1.2 Instructions of safety

This chapter contains information on how to operate BOFAN tracker safely. By following these requirements and recommendations, you will avoid dangerous situations. Please must read these instructions vehicle fully and follow them strictly before operating the tracker!

To avoid mechanical damage, it is advised to transport the BOFAN tracker in an impact-proof package. Before usage, the tracker should be placed so that its LED indicators are visible, which show the status of operation the tracker is in.

When connecting the connection cables to the vehicle, please turn off the vehicle.

The tracker meets the requirements of standard as below:

- EN 301 489-1 V1.9.2 (2011-09)
- CISPR 25-2008
- ISO 7637.2-2011
- EN 60950-1:2006+A11:2009+A1:2010+A12:2011

- EN 301 511 V9.0.2 (2003-03)
- ETSI TS 151 010-1 V9.8.0 (2012-04)

1.3 Terminology

Acronyms and terminologies used in this manual:

- GPRS – General Packet Radio Service
- GPS – Global Positioning System
- GSM – Global System for Mobile Communications
- SMS – Short Message Service
- FMS – BOFAN tracking platform full managed server service include LiveGTS and dedicate server
- AC/DC – Alternating Current/Direct Current
- I/O – Input/Output.
- AD – Analog Input
- PC – Personal Computer
- Geo-fence – a virtual geographic area of interest that can be defined by a radius or polygon for the location. In this manual “Geo-fence” is often used as functionality, which generates an event when crossing a defined area.

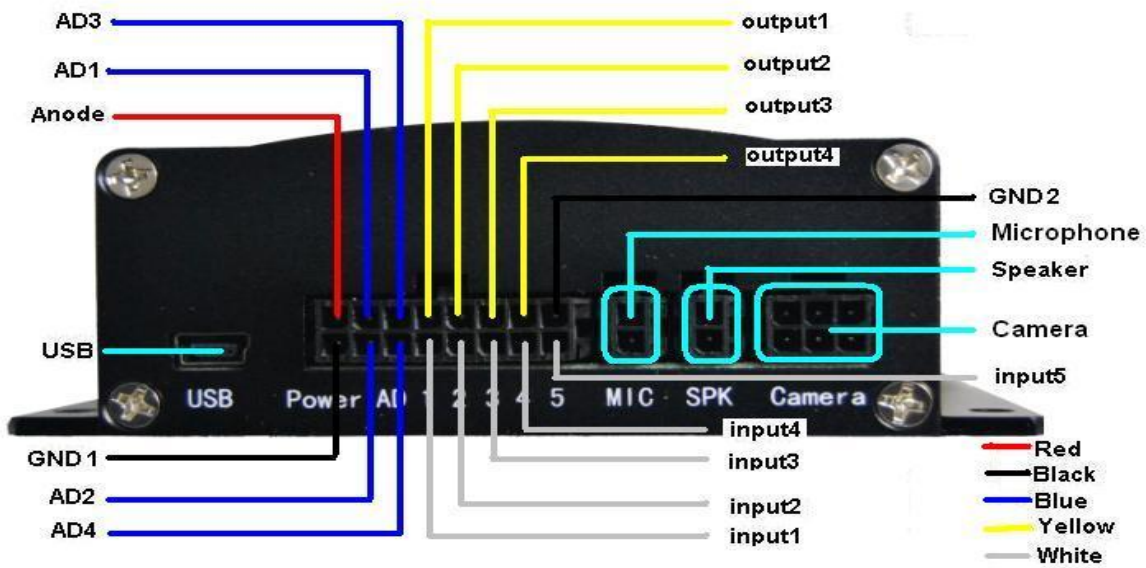
2. Basic Description



PT600X is an improved version based on PT600, it is a GPS/GSM/GPRS tracking tracker which is specially developed and designed for vehicle real-time tracking and security. With superior GPS and GSM modules, PT600X has good sensitivity and stable performance. Especially, PT600X is well designed to work with FMS, which is suitable for a company to establish their own tracking platform to provide real-time tracking service to their customers or manage their fleets.

2.1 Standard Package

Main Unit	GPS Antenna	GSM Antenna	Plug-in power Wires
			

2.2 Basic Structure



	Red	Anode	Ext. Power(+)
	Black	GND1	Ext. Power(-) / GND
		GND2	Be connected to SOS button 
	Blue	AD1	Can connect to fuel sensor
		AD2	Can connect to temperature sensor
		AD3	Can connect to alcohol sensor
		AD4	Can connect to any other analog input sensor
	Yellow	Output1	Can connect to relay
		Output2	Can connect to buzzer
		Output3/4	Can connect to any other OC output control accessories
	White	Input1	Be connected to SOS button
		Input2/3	Low frequency electric effective
		Input4	Must be connected to vehicle ignition
		Input5	High frequency electric effective

2.3 Specification

Items	Specifications
Weight	0.23KG (only for main tracker, without accessories)
Dimensions	88(L)x 83(W) x 35(H) mm
Input Voltage	DC 9V~36V/1.5A
Back-up Battery	600mAh/3.7v
Power Consumption	50mA standby current

Operating Temperature Range	-10°C to +60°C
Storage Temperature Range	-20°C to +70°C
Humidity	Up to 75% non-condensing
Back-up Battery work time	8~24 hours depends on preset report interval
GSM Frequency	GSM 850/900/1800/1900MHz
GPRS	Multi-slot Class 8(4Rx, 1Tx, 5 slot Max.) Support all 4 coding schemes(CS-1, CS-2, CS-3 and CS-4) ·Maximum download speed is 85.6kbps ·Maximum upload speed is 21.4kbps
GPS Chip	SIRF III
GPS Sensitivity	-159dBm
GPS Channels	4 channels 20 parallel
Cold Start	35 sec
Warm Start	35 sec
Hot Start	1 sec
Positioning Accuracy	10meters at 2D RMS
GPS Antenna	External
GSM Antenna	External
LED	3 LED lights to show GPS,GSM and Power status
Memory	Save 15,000+ blind data
Motion sensor	YES
I/O	5 digital inputs,3 negative and 2 positive triggering;4 outputs
AD	4ch*12Bits
Certificates	CE, FCC, RoHS

2.4 Features

- Manually tracking via SMS or automatically location update via SMS
- Get Google Map link for current location by SMS request
- Real-time online tracking in FMS platform via GPRS
- Update position online via time interval, distance, angle, move ratio and ACC ratio
- SOS alarm (available to preset 3 SOS number)
- External power cut alarm and low battery alarm
- Speed alarm, Geo-fence alarm, shake alarm,
- Stop Vehicle remotely via relay (Stop Engine)
- Engine On/Off alarm, engine on hours report
- Position logging capacity up to 15,000+ waypoints if no GPRS signal
- Take photo automatically at a preset time interval

- Take photo automatically when SOS or Geo-fence or any other alarm triggered
- Update door open/close status, available to control open/close vehicle door by SMS or platform
- Available to set different alarm notification ways, such as via SMS, call or email
- Synchronous record vehicle mileage
- Available to send mileage alarm to remind vehicle maintenance
- Automatically stop vehicle or activate buzzer/siren when Geo-fence, speed alarm or any other alarm trigger
- Support taking photo by extra camera (max 4pcs cameras), 6KB for each photo
- Support voice monitoring and two way conversation via extra speaker and microphone
- Support driver identification and students taking school bus management by extra RFID sets
- Support fuel / temperature and alcohol sensor
- I/O: 5 digital inputs, 3 negative and 2 positive triggering; 4 outputs.
- Analog Input: 4*10bits resolution analog inputs

2.5 Application

This tracker can be used for fleet management, vehicle rental tracking, taxi management, transportation, vehicle Insurance, and school bus etc. More details for each solution, please contact your sales representative.

3. Installation and Operation

Note:

- ✓ When test tracker in office, please charge the tracker via 12V external power charger for 3 hours at least before following below steps, once you connect the tracker power wire (red/black) to external power supply wire directly, it is in charging.
- ✓ The SIM card must support GPRS service, support calling and SMS service, can display caller's ID. It is a GSM card not CDMA card. And please disable the SIM card PIN code.




First step, install the SIM card

Press the yellow button to eject the SIM card Holder, Push it back after SIM card inserted.



Second step, connection

Basic connection as the following table is NEEDED:

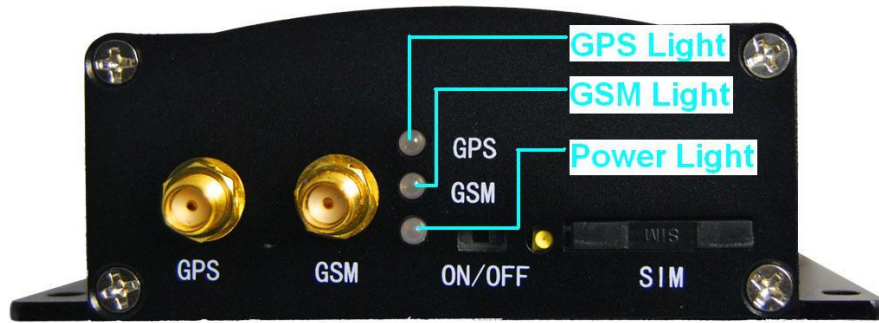
		
<p>Connect the GSM Antenna</p>	<p>Connect the GPS Antenna, put the GPS antenna black side upside face the sky</p>	<p>Connect the wires to tracker, and also connect red wire to vehicle battery (+), black wire to vehicle battery (-).</p>

Third step, turn on the tracker



make this toggle switch on left side to turn on PT600X

After turn on the tracker, please refer to the signal light functionality.



GPS signal Light - indicating GPS signal status

RED light Flashing fast	The unit is being Initialized
RED light Flashing (on for 2 seconds and off for 2 seconds)	Initialization succeed but GPS signal does not fix
Green light Flashing (on for 0.1 second and off for 2.9 seconds)	PT600X has GPS signal

GSM signal Light - indicating GSM signal status

RED light Flashing fast	The unit is being Initialized
RED light Flashing (on for 2 seconds and off for 2 seconds)	Initialization succeed but GSM signal does not fix
RED light Flashing (on for 0.1 second and off for 2.9 seconds)	PT600X is connected to the GSM network
Green light Flashing (on for 2 seconds and off for 2 seconds)	PT600X does not connect to server successfully after making GPRS communication settings
Green light Flashing (on for 0.1 second and off for 2 seconds)	PT600X connects to server successfully after making GPRS communication settings

Power Light - indicating Power status

Green Light keep on bright	PT600X is connected with external power source
Green Light keep on flashing	PT600X is not connected with external power source but has sufficient power
Red Light keep on flashing	PT600X is not connected with external power source and has no sufficient power
RED Light Flashing fast	No power, please charge immediately

4. Start Tracking

You can start to track your vehicle or test the tracker after GSM and GPS light work normally. There are two ways to track the vehicle, one is by mobile and the other one is by FMS platform.

4.1 Tracking by mobile:

✓ To get position by calling

1. Call the SIM card number in tracker from your mobile.

2. Tracker will hang up automatically after several rings, then replies a position SMS to your mobile phone.

Note: if you don't like the tracker reply a message after calling, you can send command **000000OPT0** to close this function, if you want to restore this function later, you can send command **000000OPT1** to activate this function again.

✓ **To get position by SMS command**

Note: The tracker default password is 000000, if you already changed it, please use the new one in all SMS command. Tracker only replies command from a user which uses the correct password. Commands with wrong Password will be ignored.

Send SMS command to SIM card number in tracker from your mobile, command format: **<password>RCP**

For example: you edit the SMS command 000000RCP and send it, after a few seconds, you will get a SMS reply similar with below contents:

Latitude = 22.5632 Longitude = 114.0940, Speed = 2.6854Km/h, Odometer = 10.98KM GPRS: OFF, EXPW: ON,
Time: 2010-12-07 08:47:45

Explanation:

GPRS means tracker connection FMS platform status

- ON: means tracker connect FMS platform ok
- OFF: means tracker connect FMS platform not ok
- Fail: means tracker connect FMS platform fail

EXPW means external power connection status:

- ON: means tracker already connect to external power
- OFF: means tracker does not connect to external power

Note: when tracker doesn't get GPS signal, it will reply a SMS starts with "**Last**", which means this data is for the last place where the tracker got GPS signal successfully.

Above two methods just got coordinate for position, you can locate this position in your FMS or <http://demo.livegts.com> which includes the Google map, manually input the latitude and longitude what you get from this reply SMS and click the "Locate" button. It will display the place on map. Please refer to following picture:

LiveGTS Live GPS Tracking System

Find building, addresses and road:

GPS Tracking | Get Directions

Please Enter:

Lat:

Lng:

Format: "22 32 40.81"
 "22.54268"
 "-22 32 40.81"
 "-22.54268"

Note If lat or lng is 'S' or 'W',
 please add '.' before data.

Address:



✓ To get position in Google Map link

Send SMS command to SIM card number in tracker from your mobile, command format: **<password>RCM**

For example: you edit the SMS command **000000RCM** and send it, after a few seconds, you will get a SMS reply with a position link, you can click this link directly and locate it on your mobile.

Note: it will cause GPRS cost for your mobile.

4.2 Tracking by FMS platform

Please ensure that your SIM card in PT600X supports GPRS connection.

If you want to do live tracking on platform, you need strictly to add new tracker, set tracker ID, tracker SIM card APN, FMS server, tracker Port and time interval as below steps 4.2.1~4.2.5.

4.2.1 Add New Tracker in FMS

Login FMS: open your FMS website by IE and login with your account

Go to **"Manage"** -> **"Tracker Config"** -> click **"Add New Tracker"**, please fill in name and tracker ID, select correct tracker Model, and finally click **"Modify"** to add this tracker successfully.

Modify GPS Tracker

Name:	<input type="text" value="PT600Xtest"/>
Tracker ID:	<input type="text" value="1152011"/> Please input digital number Tracker ID must start with 115 <i>This is a public account, please don't use SIM card number as tracker ID.</i>
Model:	<input type="text" value="PT600"/> <input type="button" value="v"/>
<input type="button" value="Modify"/>	

- **Name:** can be any name for your tracker.
- **Tracker ID:** Tracker ID can be any digit numbers, but must start with the fixed three numbers which display in your FMS (here the tracker ID starts with **115 just for example**), and total numbers should less than 10.
- **Model:** must select the correct model number **PT600**. (No PT600X option, just select PT600.)

Please remember to click “**Modify**” button after you input all information.

Now, please use your mobile to send below SMS commands to tracker and configure it to work with FMS platform, after you do all below setting, you can get back to FMS real-time to monitor your tracker online.

4.2.2 Set Tracker ID by SMS

SMS Command format : **<password>GID<ID>**

Example: Sending SMS command **000000GID1152011** to set the tracker ID what you just added in FMS.

Tracker will reply with an SMS “**SET OK, ID=1152011**”.

Note: 1152011 just for example at here, please use your correct complete tracker ID what you added in your FMS.

4.2.3 Set Tracker SIM card APN by SMS

SMS Command format : **<password >APN<APN>, <User>, <Pass>**

Example: Sending SMS command **000000APNCMNET** to set the tracker SIM card APN.

PT600X will reply with an SMS “**SET OK, APN: CMNET, USER: PASS : ”**.

Note: CMNET is China mobile’s APN, no username & password for it. You can ask your GSM operator for their SIM card GPRS connection APN, username and password, if it has user name and password; you just add the user name and password after APN and use “,” between each other, the complete command is

000000APN<APN data>, <User name>, <Password>

4.2.4 Set FMS server and tracker port by SMS

SMS Command format : <password> SVR<FMS domain>, <Port>

Example: Sending SMS command **000000SVRDEMO.LIVEGTS.COM,8600** to set the FMS domain and tracker port number.

PT600X will reply with an SMS “**SET OK, IP: DEMO.LIVEGTS.COM,8600**”.

Note: Please use your FMS complete domain name in capital in SVR command, DEMO.LIVEGTS.COM just for example at here. PT600X’s port number always is 8600.

4.2.5 Set Time Interval by SMS

It is for automatically update tracker position in FMS

SMS Command format : <password>GTI<time seconds>

SMS Example: Sending SMS command **000000GTI30** to set the time interval.

PT600X will reply with a SMS “**Set GPRS Time Interval=30 OK**”.

Note:

- If you want to save GPRS cost for SIM card in tracker

You can set the tracker using longer time interval when vehicle ignition is off. In this case, please connect the PT600X’s input4 to vehicle ignition wire, and send SMS command **000000GTI30,0,0,0,240** to tracker, and then PT600X will update position to FMS very 30 seconds when vehicle ignition is ON, and every 2 hours when vehicle ignition is OFF (30seconds x 240=7200seconds=2hours).

- If your vehicle often runs on the curve road, for get better route display in FMS

You can set the tracker update position at each corner, the complete command for better route and saving GPRS cost is **000000GTI30,0,30,0,240** to tracker, you also need to connect the PT600X’s input4 to vehicle ignition wire, the tracker will update position to FMS once the vehicle turns bend for 30 degree or over 30 degree, and also update position very 30 seconds when vehicle ignition is ON, every 2 hours when vehicle ignition is OFF (30secondsx240=7200seconds=2hours).

Note: Refer above 4.2.2 ~ 4.2.5 steps commands, also can be set via debug tool on your PC, please refer to “BOFAN Device Online Configuration User Manual”

After done all above settings, please login your FMS to track it online now.

If it still show “NO DATA” in FMS after few minutes, please send below four SMS commands to tracker for confirming tracker’s setting:

➤ **1st command: 000000ASKGID**

Tracker will reply you “Query Parameter OK, GIDXXXXX”, please check if it is the correct tracker ID number what you added in FMS, if no, please send new command 000000GID with correct ID number again.

➤ **2nd command: 000000ASKAPN**

Tracker will reply you “Query Parameter OK, APNXXXXX”, please check if it is the correct APN of your SIM card in tracker, if no, please send new command 000000APN with correct APN contents again.

➤ **3rd command: 000000ASKSVR**

Tracker will reply you “Query Parameter OK, SVRXXXXX,XXXX”, please check if it is the correct FMS domain and tracker port number, if no, please send new command 000000SVR with correct FMS domain and 8600 contents again.

➤ **4th command: 000000ASKGTI**



Tracker will reply you “Query Parameter OK, GTIXX”, please check if it is 0, you need to send new command 000000GTI30 again.

If you still need to get help from us, please kindly send your FMS login access and tracker’s full response of above four SMS commands and 000000RCP to us by email.

5. Accessories

5.1 Optional accessories

Relay (12V & 24V)	Speaker	Microphone	Buzzer	RFID Sets	
					
Fuel Sensor Sets	Temperature	Alcohol Sensor	Wired	Door	USB PL2303

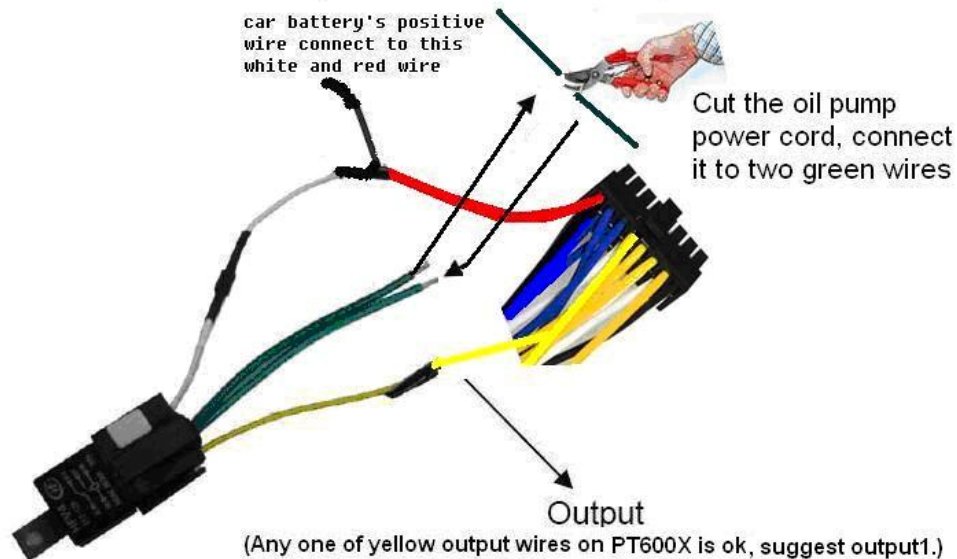
				
Normal Camera	Circular Camera (Infrared)	Conch Camera (Infrared)	Rectangular Camera (Infrared)	Camera Conversion Cable
				

5.2 Accessories connection

- ◆ **Microphone:** plug-in tracker interface where marked MIC
- ◆ **Speaker:** plug-in tracker interface where marked SPK
- ◆ **Normal camera:** plug-in tracker interface where marked Camera
- ◆ **Circular camera:** plug-in tracker interface where marked Camera
- ◆ **Conch and Rectangular camera:** Connect “camera conversion cable” to tracker interface where marked Camera.
- ◆ **Buzzer:** red wire of buzzer connect to tracker’s red wire for power supply directly, black wire of buzzer connect to tracker’s output2
- ◆ **Door sensor:** one wire of door sensor connect to tracker black wire, the other wire of door sensor connect to tracker input2
- ◆ **RFID sets:** using the RFID USB cable connect it between tracker and RFID reader, tracker must get external power supply when using RFID sets.
- ◆ **Fuel sensor:** it should be connected to AD1, please refer to fuel sensor user manual for more details
- ◆ **Temperature sensor:** if you bought temperature sensor, it already be connected to AD2
- ◆ **Alcohol sensor:** if you bought alcohol sensor, it already be connected to AD3
- ◆ **Relay:** as below picture, suggest connect to output1



Relay's connection on **PT600X**



5.3 Accessories operation

- ◆ **SOS:** sending SMS command **000000SOS,13112374567** to set phone number for receiving SOS alarm by SMS and call. Once you press the SOS button (black button in plug-in wires), will get SOS alarm on phone 13112374567.
- ◆ **Microphone:** Voice monitoring
 - ✓ Sending SMS command **000000TEN** to tracker, tracker will call you back soon, and then you can hear the voice around the microphone in vehicle.
 - ✓ Sending SMS command **000000TEM1** to tracker, you can call the tracker SIM card number directly to enter voice monitoring mode and listen the voice around the microphone in vehicle. But this voice monitoring mode will close after hung the call.
 - ✓ Sending SMS command **000000TEM3** to tracker, it activate the voice monitoring mode, any phone can call the SIM card number in tracker to enter voice monitoring mode at any time, it never close until you send above two commands to change it.
- ◆ **Speaker:** Two-way communication; must connect microphone too.
 - ✓ Sending SMS command **000000TEL** to tracker, tracker will call you back soon, and then you can talk to driver.
 - ✓ Sending SMS command **000000TEM2** to tracker, you can call the tracker SIM card number directly to enter two-way communication mode and talk to driver. But this two-way communication mode will close after hung the call.
 - ✓ Sending SMS command **000000TEM4** to tracker, it activate the two-way communication mode, any phone can call the SIM card number in tracker to enter two-way communication mode at any time, it never close until you send above two commands to change it.

- ◆ **Single Camera:** tracker must working in FMS very well
 - ✓ Sending command **000000PHO** to tracker to take one picture, the picture will be transferred to FMS and display in real-time and photo report page.
 - ✓ Sending command **000000PTI300** to tracker for setting tracker automatically take picture each 300 seconds, the picture will be transferred to FMS and display in real-time and photo report page.
 - ✓ Click “take photo” button in real-time page in FMS to take one picture, you will see it in real-time and photo report page.

- ◆ **Multiple Cameras:** each camera with one ID, they will work in sequence, each camera takes 2 minutes to take photo and transfer it to FMS.
 - ✓ Sending command **000000PHO1** to tracker to take one picture by No.1 camera, the picture will be transferred to FMS and display in real-time and photo report page.
 - ✓ Sending command **000000PHO** to tracker to take one picture by each camera, the picture will be transferred to FMS and display in real-time and photo report page.
 - ✓ Sending command **000000PTI720** to tracker for setting tracker automatically take picture by each camera each 12 minutes, the picture will be transferred to FMS and display in real-time and photo report page. More cameras you connected, more minutes request in this command.
 - ✓ Click “take photo” button in real-time page in FMS to take one picture by each camera, you will see it in real-time and photo report page.

- ◆ **Relay:** stop vehicle remotely
 - ✓ Sending SMS command **000000OPC1,1** to tracker, vehicle will be stopped immediately.
 - ✓ Sending SMS command **000000OPC1,1,1** to tracker, vehicle only be stopped after its speed lower than 20km/h.
 - ✓ Sending SMS command **000000OPC1,0** to tracker to restore the vehicle before you driving it.
 - ✓ Click “Stop Engine” button in real-time in FMS, select tracker, select output1, choose “Yes” after “Safe Mode”, select “Stop Engine” after “Action, finally click “Submit to tracker”, when you want to restore it, just select “Restore Engine” after “Action”, safe mode can be ignored when restore engine.

⚠ Please don't use this feature while car/vehicle with high-speed driving, and we suggest connect relay with fuel control line in your car, Bofan is not liable for any traffic accidents.

- ◆ **Buzzer:**
 - ✓ Sending SMS command **000000OPC2,1** to tracker to trigger buzzer for one time
 - ✓ It also can be set to automatically triggered by other alarms
For example, Speed Alarm → Buzzer keep working for 10 seconds,

- First you need to set Speed Alarm (both are ok by SMS or in FMS)
- Second sending two SMS commands **000000AN1'#OPC2,1',10,'#OPC2,0'** and **000000SALSPD10001** to tracker.

Note: the fifth parameter in SALSPD is for the AN command number, AN1 → 1 at fifth parameter, AN2 → 2 at fifth parameter, parameter 1st to 4th details, please refer to command list.

- ◆ **Wired Door Sensor:** once two parts away from each other, it will send you key2 alarm, you can rename this key2alarm to “door open alarm” in system config in FMS.
- ◆ **RFID sets:** it can be used for driver identification and students & school bus management, more details please refer to RFID user manual.
- ◆ **About Fuel Sensor, Temperature Sensor and Alcohol Sensor** operation details, please refer to its own separate user manual.

6. SMS Commands List

Note: the device password is 000000 as default

Get tracker firmware version	
Command	<password> VER
Remarks	VER=Version
Get current location	
Command	<password> RCP
Remarks	Get current location's latitude and longitude of PT600X
Two-way communication	
Command	<password> TEL
Remarks	PT600X SIM card will call your mobile phone after you send the command, once you answer the phone, two way communication begins
NOTE	Please install speaker and microphone on PT600X before using this function
Extending use of two-way communication	
Command	<password> TEM2
Remarks	If you want to save credit of SIM card number in PT600X, you can send this command, then dial out from your mobile phone to PT600X's SIM card number for two way communication
Voice Monitoring	
Command	<password> TEN
Remarks	PT600X SIM card will call your mobile after you send the command to PT600X, you can answer this call and start to listen the voice around microphone
NOTE	Please install microphone on PT600X before you use this function
Extending use of Voice Monitoring	

Command	<password> TEM1
Remarks	If you want to save credit of SIM card number in PT600X, you can send this command to PT600, later call PT600X's SIM card number from your phone to monitor voice
Get Google map link by SMS request	
Command	<password> RCM
Remarks	This command is still valid even don't configure PT600X's GPRS connecting
Change password	
Command	<password> PWD <new password>
Remarks	PWD=Password (must be 6 digits)
Reset password when the previous password is forgotten	
Command	000000 RPW <new password>
Remarks	Please long press the SOS button when you send this command to PT600X (new password must be 6 digits)
Set preset phone number for SOS button	
Command	<password> SOS ,<SOSNumber1>,<SOSNumber2>,<SOSNumber3>
Remarks	<ul style="list-style-type: none"> ● SOS Number: Preset phone number to receive phone call or SMS from PT600X. Max 16 digits. Maximum 3 SOS numbers can be set. ● If only set the 1st number, PT600X will send SMS and then call to this first number after pressing SOS button. ● If set the 2nd or 3rd numbers too, PT600X will send SMS to all 3 numbers, only call to the 1st number after press SOS button. <p>Note: <password>SOS, command is for cancel all pre set numbers.</p>
Set Over Speed Alert	
Command	<password> SPD <Max Speed>
Remarks	Max Speed (the preset speed value) <ul style="list-style-type: none"> ● =0 to turn off this function ● =[0,500](unit: Km/h) Example: 000000SPD80 it will send alert when it is over 80Km/h
NOTE	When car speed is higher than the preset value, PT600X will send an alert SMS to the preset SOS number.
Set Geo-fence Alert	
Command	<password> GOF <Type>,<SWLat>,<SWLng>,<NELat>,<NELng>
Remarks	<ul style="list-style-type: none"> ● Type =1, alert when out of range ● Type=2, alert when enter this range ● SW=South-West ● NE=North-East Example: 000000GOF0 , to turn off this function
NOTE	When car leaves out or enters a preset scope, PT600X will send one Geo-fence SMS to the preset SOS number.
Set Mileage Alert	
Command	<password> MLA <base mileage>,<increment>
NOTE	This Mileage Alert can be sent to your mobile by SMS if you set your mobile number as SOS number into this tracker installed in car and it also can be sent to your email address if you set your email address in software successfully.
Example	000000MLA10000,50000 This example means, if the tracker records the car driving more than 10000km, tracker will send

	one Mileage Alert for each 5000km mileage increments.
Set Odometer	
Command	<password> SOD
Remarks	unit: 100 meters
Example	000000SOD or 000000SOD0 : it is to set the tracker's odometer to be "0" 000000SOD100 : it is to set the tracker's odometer to be 10km. (100*100meter=10000m=10km) 000000SOD5000 : it is to set the tracker's odometer to be 500km.(5000*100=500000m=500km)
Set time zone for tracker	
Command	<password> TMZ <Time>
Remarks	Time from -13 to 13
Example	000000TMZ8 for set China time zone
NOTE	After setting time zone into tracker, you can get your local time in tracker reply message.
Restart	
Command	<password> RST <Type>
Remarks	<ul style="list-style-type: none"> ● Type=0 or null, to reboot PT600X ● Type=1 to reboot GPS ● Type=2 to reboot GSM
Reset PT600X to default	
Command	<password> DFT
Remarks	DFT=Default
Request Power	
Command	<password> RPO
Remarks	RPO=Request Power Voltage
Cut Power Alarm	
Command	<password> CPA <Value>
Remarks	<ul style="list-style-type: none"> ● Value=0 to disable Cut Power Alarm ● Value=1 to enable Cut Power Alarm ● Default set: 000000CPA1
Get IMEI	
Command	<password> IME
Remarks	To get tracker's IMEI number Note: IMEI number can't be tracker ID number.
Output Control	
Command	<password> OPC <Index>,<Action>
Remarks	Index <ul style="list-style-type: none"> ● =1 means Out1 ● =2 means Out2 ● =3 means Out3 ● =4 means Out4 Action <ul style="list-style-type: none"> ● =0 to close the output ● =1 to open the output
Take photo at a preset time interval	
Command	<password> PTI <time interval>

Remarks	Time Interval =0 to turn off this function Time Interval =[120-65535] (unit: second) Example: 000000PTI300 , PT600X will take photos every 300 seconds
NOTE	This feature is valid when PT600X's firmware version is 1.40 above
Set Alarm Action	
Command	<password> AN <Index1>'#<Index2>','<Index3>','#<Index4>'
Remarks	Index1= 1 mean NO.1 Action. (it can be 1-5) Index2=OPC2,1 means trigger output 2 on OPC3,1 means trigger output 3 on TEL13112345678 means trigger this TEL command to call 13112345678 NOTE: any other command can be used at index2 Index3=Time (Unit: second) NOTE: If you want to automatically close the above alarm or trigger another alarm in few seconds, please input the time at index3, and also set below index4. Index4=OPC2,0 means close output 2 OPC3,0 means close output 3 TEL13012345678 means trigger this TEL command to call 13012345678 NOTE: Any other command can be used at index4
Set Alarm	
Command	<password> SAL <Alarm type><Index1><Index2><Index3><Index4><Index5>
Remarks	Alarm type =IN1/IN2/IN/IN4/IN5/SPD/GEO/MLA/SKA/LPA/IU1/IU2/IU3/IU4/IU5 Index1=1, to alert on platform =0, do not alert on platform Index2=1, to send alert SMS =0, do not send alert SMS Index3=1, to call the preset SOS phone number =0, do not call the preset SOS phone number Index4=1, to take photo =0, do not take photo Index5=Action No. NOTE: if you want to trigger above alarm action, then please use related Action No. what you set in Index1 in above AN command Default Setting: 000000SALIN11110 000000SALIN21110 000000SALIN31110 000000SALIN40000 000000SALIN50000
Example	000000SALIN11110 That means, when input 1(SOS key) is pressed, PT600X will send SOS alarm on platform, send alarm SMS to SOS number, call to SOS number, but do not take photo

000000SALIN41111,IU41111

a b c d e f g h

- a Send "ignition on" alarm to software real-time page and email address
- b Send "ignition on" alarm to SOS number by SMS
- c Call SOS number when there is "ignition on" alarm
- d Take photo automatically when there is "ignition on" alarm
- e Send "ignition off" alarm to software real-time page and email address
- f Send "ignition off" alarm to SOS number by SMS
- g Call SOS number when there is "ignition off" alarm
- h Take photo automatically when there is "ignition off" alarm

1 means activate this function
0 means close this function

AD alarm

Command <password>**AD**<index1><index2><Parameter>,<alarm name>,<index3>

Remarks Index1 =1—4 means AD1—AD4
Index 2 =[/>]
Parameter=[0~100] (unit: %)
Alarm name = default is AD1 alarm, if you use "fuel alarm" at here, you will get alarm fuel alarm SMS contents.
Index3 = 1 means input1
2 means input2
3 means input3
4 means input4
5 means input5

Example **000000AD1<10,Fuel Low,4**
After you connect fuel sensor to PT600X AD1 wire, PT600X will send Fuel Low alarm SMS to SOS number when tracker get AD1 data <10%, but this alarm is effective only when input4 on (if you connect input4 to car ignition, then it means car ignition on).
NOTE: if your fuel sensor keep working even when car ignition off, you don't need to set index3 as input4 here.

Set Analog Voltage

Command <password>**AV**<AD Port><min voltage of sensor>,<max voltage of sensor>,24

Remarks AD Port=1—4 means AD1—AD4
Min voltage of sensor=input your sensor min voltage at here
Max voltage of sensor=input your sensor max voltage at here, it can't be over the max voltage of tracker support.

NOTE If your analog sensor max voltage is not 6V, then you need to do this setting, to let tracker know what is your sensor voltage specification

Shake Alarm(or Move Alarm)

Command <password>**SKA**<index>

Remarks Index = 1, to send shake alarm SMS to SOS number when PT600X shakes
= 0, not to send shake alarm SMS to SOS number when PT600X shakes.

NOTE PT600X with built-in motion sensor to support this function.

Define motion sensor sensitivity

Command	<password> MSS <value>
Remarks	Value= number range is 1-15. Default set: 000000MSS3 (The larger value, the lower sensitivity).
Set char for alert SMS contents	
Command	<password> ACH <Alarm><Char>
Remarks	ACH=Alarm Char Alarm=IN1/IN2/IN3/IN4/IN5/SPD/GEO/MLA/SKA, etc.
Clear Saved data	
Command	<password> CSV
Remarks	CSV=Clear Saved data
Check previous command setting	
Command	<password> ASK <Command>
Example	000000ASKSVR , to check the server & port what you set at before 000000ASKGID , to check the tracker ID what you set at before
Set ID	
Command	<password> GID <ID>
Remarks	Tracker ID can't exceed 10 digit
Set APN	
Command	<password > APN <APN>,<Username>,<Password>
Remarks	If your APN doesn't have username and password, type APN only; (Please get the correct APN of SIM card in tracker from your SIM card provider)
Set Server	
Command	<password> SVR <domain>,<Port>
Remarks	Domain: the tracking platform domain name Port: 8600, fixed for PT600X
Set Time Interval	
Command	<password> GTI <Time Interval>,<Distant Interval>, <Angle>,<Move Ratio>,<ACC Ratio>
Remarks	<ul style="list-style-type: none"> ● Time Interval =[5-65535] (unit: second); 0,to turn off this function ● Distant Interval =[100-65535], (unit: meter, suggest Distant Interval >500); 0, to turn off this function ● Angle= [15-360], (unit: degree, suggest Angle > 30); 0, to turn off this function ● Move Ratio ≥ 1 only integer; 0, to turn off this function ● ACC Ratio ≥ 1 only integer; 0, to turn off this function <p>NOT suggest use all Distant Interval and Angle and Move Ratio and ACC Ratio if you don't have special needs.</p>

7. Trouble Shooting

Problem: Device can't power on	
Possible Cause:	Resolution:
Wiring was not connected properly	Check if wiring connection is in order.
Battery needs charging	Recharge battery
Problem: Device doesn't respond to SMS	
Possible Cause:	Resolution:
GSM antenna was not installed properly	Make PT600X in good GSM network coverage.
Low power	Connect power cable to car battery directly or use 12V charger to charge it for 3hours at least
GSM Network is slow	Wait for SMS. Sometimes GSM network slows down during peak time or base has problem.
Wrong password in your SMS or wrong SMS format	Write correct password or SMS format
The SIM in PT600X runs out of credit	Recharge credit of the SIM card
No SIM card	Insert working SIM card. Check in phone that the SIM can send SMS message.
SIM card has expired	Check in phone if the SIM card can send SMS message. Replace SIM card if need.
SIM has PIN code set	Remove PIN code by inserting SIM card in your phone and deleting the code.
SIM is warped or damaged	Inspect SIM card, clean the contacts. If re-installing does not help, try another to check
Roaming not enabled	If you are in another country, your SIM card must have roaming service enabled.
Problem: Reply SMS starts with 'Last...'	
Possible Cause:	Resolution:
PT600X does not have clear view of the sky	Move the antenna of the unit to a location where the sky is visible.
PT600X is indoor	Make it work in an open area outside
Battery power is low	Recharge device
Problem: Can't real-time tracking on platform	
Possible Cause:	Resolution:
GPRS setting is not correct.	Please set each step strictly according to user manual.
APN is wrong	Ask your GSM provider for the correct APN, username and password if it has, then set again.
Tracker ID set by SMS command is not same as that one added in FMS	Check if the trackers ID you set into tracker is same exactly as the one you write in FMS.

If your problem still can not be solved by above resolution, please using debug tool to read tracker log, and send log to us for further analyze. For using debug to read tracker log, please refer to "Debug Read Tracker Log" user manual.