

*GPS
Motorcycle
Tracker*

**USER MANUAL
V1.0**

TLT-2S



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1 Product Overview

TLT-2S is a GPS/GSM/GPRS tracking device which is specially developed and designed for motorcycle real-time tracking and security. With superior GPS and GPRS modules, TLT-2S has good sensitivity and stable performance. It can get accurate GPS fix even in remote places.

Main Features:

- Sirf-starIII GPS Chipset/SIMCOM GSM module*
- Build in GPS/GSM antenna*
- Internal Backup Battery*
- Track by SMS/GPRS*
- Track on Demand*
- Track by Time Interval*
- Track by distance interval*
- Track on Mobile Phone*
- Realtime tracking*
- GPRS reports via course*
- Water proof*
- SOS Alarm*
- Over-speed Alarm*
- Low battery Alarm*
- Support sleep mode*
- Detect the status of engine on/off*

Optional features:

Engine Cut (Relay)

2 For Your Safety

Read these simple guidelines. Not following them may be dangerous or illegal. Read the full user manual for more information.

Proper Connection - When connecting with other device, read carefully its manual so as to carry out correct installation. Do not connect it to other incompatible devices.

Qualified Accessories - Use original parts, qualified batteries and peripheral equipments to avoid damage to TLT-2S.

Safe Driving - Drivers should not operate this product while driving. -----

Qualified Service - Only qualified personnel can install or repair TLT-2S.

Water Resistance - TLT-2S is water resistant, but it can't support 100% water proof at the moment. So don't put it under water.

Confidential Phone Number - For safety reason, do not tell other people the mobile phone number of your TLT-2S without taking precautions of security settings.

3 TLT-2S Parameters

Power Supply	+6V/12V
Backup Battery	850mAh
Dimension	104mm x 62mm x 24mm
Installation Dimension	104mm x 83mm x 24mm
Weight	115g
Operating temperature	-20° to 55° C
Humidity	5% to 95% Non-condensing
Frequency	GSM 900/1800/1900Mhz or GSM 850/900/1800/1900Mhz
GPS Module	latest GPS SIRF-Star III chipset
GPS Sensitivity	-158Db
GPS Frequency	L1, 1575.42 MHz
C/A Code	1.023 MHz chip rate
Channels	20 channel all-in-view tracking
Position Accuracy	10 meters, 2D RMS
Velocity Accuracy	0.1 m/s
Time Accuracy	1 us synchronized to GPS time
Default datum	WGS-84
Reacquisition	0.1 sec., average
Hot start	1 sec., average
Warm start	38 sec., average
Cold start	42 sec., average
Altitude Limit	18,000 meters (60,000 feet) max.
Velocity Limit	515 meters/second (1000 knots) max.
LED	2 LED lights to show GPS/GSM working status.
Flash Memory	64K
Interface	2 digital inputs, 1 output

4 Getting Started

This section will describe how to set up your TLT-2S.

4.1 Hardware Features

TLT-2S includes:

- *TLT-2S Main Unit*
- *PIN Wires*
- *Relay*
- *CD including*
 - *User Manual*
 - *Other document or software if required*



4.2 Light and Button Functionality

Red LED - indicating GPS status	
On	One or more inputs are active
Flashing (every 0.1 second)	The unit is being Initialized
Flashing (on for 0.1 second and off for 2.9 seconds)	TLT-2S has a GPS fix
Flashing (on for 1 second and off for 2 seconds)	TLT-2S has no GPS fix
Green LED - indicating GSM status	
On	One call is coming in/ one call is being made
Flashing (every 0.1 second)	The unit is being Initialized
Flashing (on for 0.1 second and off for 2.9 seconds)	TLT-2S is connected to the GSM network
Flashing (on for 1 second and off for 2 seconds)	TLT-2S is not connected to the GSM network
SOS Button	Press it to send SMS alert

4.3 Connecting and Installation

Read this manual before using your TLT-2S and check if all parts are included in the packaging box.

Ensure that your TLT-2S has a working SIM installed.

- Check that the SIM has not run out of credit (test the SIM in a phone to make sure it can send and receive SMS)
- Check that the SIM Lock code is turned off
- If you require the function of sending an SMS location report to the authorized phone number when it makes a call to the TLT-2S, please make sure the SIM installed supports displaying caller ID.

Before inserting SIM card, cut off the power for the unit.

Install SIM Card

- Unscrew and remove the front cover of your TLT-2S.
- Insert the SIM card by sliding it into the card slot with the chip module facing to the connectors on PCB.
- Put back the cover and screw it up.



Find a suitable place on the motorcycle for installing the unit.,where the unit can get better GPS signal.Wiring connections must be firm and reliable and the joints should be wrapped with insulating tape tightly. The unused electrical wire should be properly insulated|

Check if all wirings have been connected correctly and then connect the unit to the motor power.

A connector for microphone is set in the PCB. If you need to link with an extra microphone for wiretapping purpose, contact us to add this optional function before we deliver the devices to you.

Installation Guide:

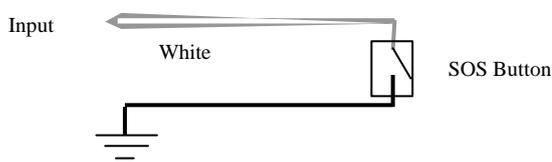
Descriptions of PINs

Pin	Color	Function
1	Red	DC In(Connected directly to battery positive). Input voltage: 6V./12v
2	Black	GND
3	Black	GND(SOS)
4	White	Digital Input1 (SOS) IN1
5	Blue	Ouput (Relay)
6	Yellow	Input2 (Positive) IN2

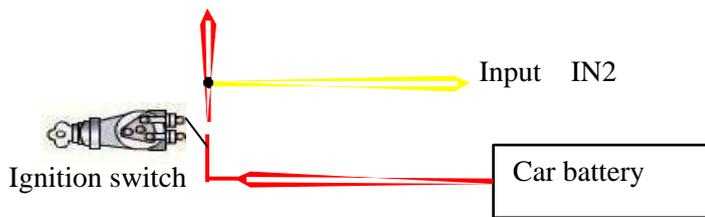
4.4 Examples of Interfacing Application

Inputs:

IN1:SOS button

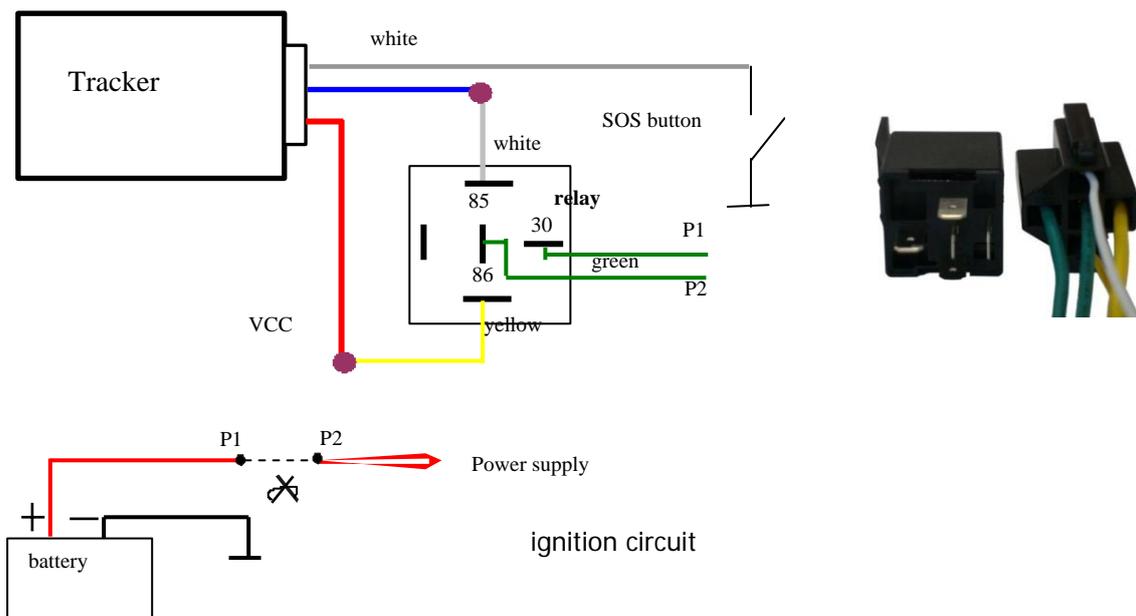


IN2 :Detect status of engine ignition



Ouput:

OUT:Cut off engine



5 Track by SMS Command

TLT-2S will only accept commands from a user with the correct password. Commands with wrong password are ignored. The default password is 000000.

5.1 Basic SMS Commands

5.1.1 Position Report

To know the location of your TLT-2S, send an SMS or make a telephone call directly to TLT-2S and it will report its location by SMS.

Command: W*****,000

Notes: The default password is 000000.

Example:

SMS sent: W000000,000

SMS received:

Latitude = 21 32 36.63N Longitude = 113 04 57.37E, Speed = 2.6854Km/h, 2008-12-24,01:50

To get TLT-2S's position by another easier way:

- (a) Call TLT-2S using your mobile phone.
- (b) After listening to the ring for 10 - 20 seconds, hang up the phone.
- (c) Then after 20 second, your mobile phone will receive a position SMS.

5.1.2 Set Interval for Automatic Timed Report

Description: Automatic timed reports will be sent to your mobile phone according to the time interval you set.

Command: W*****,002,XXX

Notes: XXX is the interval in **minute**. If XXX=000 it will stop tracking

Example:

SMS sent: W000000,002,005

SMS received: Set Timer Ok/005

TLT-2S will then report its location by SMS every 5 minutes.

5.1.3 Stop Automatic Timed Report

Description: Automatic timed reports will stop once TLT-2S receives stop command.

Command: W*****,002,000

Example:

SMS sent: W000000,002,000

SMS received: Set Timer Ok/000

TLT-2S will stop automatic timed report

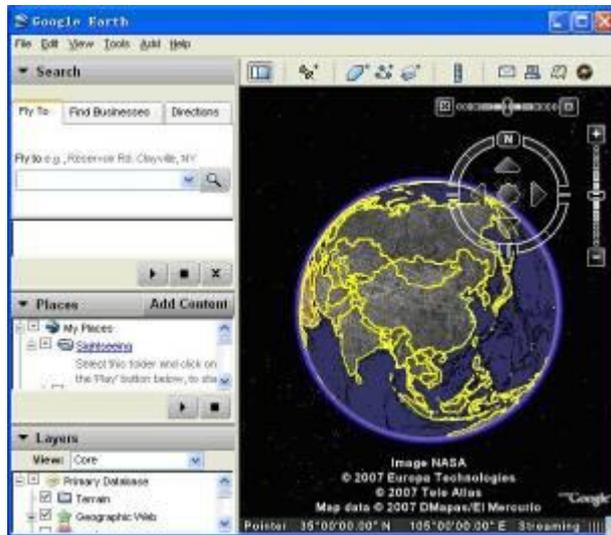
<For more detailed SMS commands please go to Chapter 8 - SMS Command List>

5.1.4 Track on map

Download Google Earth from <http://earth.google.com/>

Start the Google Earth (For more information about Google Earth please refer to <http://earth.google.com/>)

as the following picture shows:



Input the latitude and longitude that you receive from the tracker by SMS and click the search button.

Google Earth will display the location for you.

Example:

When you receive:

Latitude = 21 32 40.05N

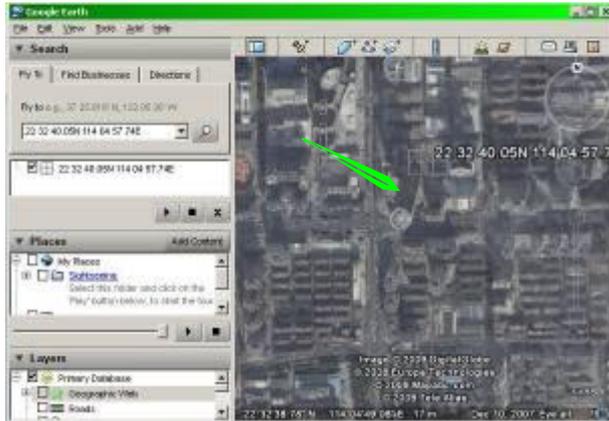
Longitude = 114 04 57.74E

Type as the following picture shows:

(Note: you should input the latitude and longitude as: 21 32 40.05N 114 04 57.74E)



Now you can find the location of your tracker:



Or you can start the Internet Explorer and connect to <http://maps.google.com> for displaying the location.
Or you can use local map software on PDA or car navigation device to input the coordinates.

Tracking via GPRS, you should set IP, Port and APN for tracker.

Ensure that your SIM card in tracker supports GPRS connection prior to setting.

6.1 Set sim card phone number for TLT-2S

Command: W*****,010,tracker sim phone number

Example: W000000,010,123456789 (123456789 is the tracker sim phone number)

TLT-2S will then reply with an SMS ('Set SIM Ok/123456789') to confirm this setting.

6.2 Set APN for simcard

Command: W*****,011,APN,APN Name,APN Password

Note: If no APN name and password required, input APN only.

Example: W000000,011,CMNET (CMNET is APN name of China mobile)

TLT-2S will reply with an SMS (like 'Set APN Ok/CMNET') to confirm this setting.

6.3 Set IP Address and Port

Command: W*****,012,IP,PORT

Example: W000000,012,115.126.3.15,10094

TLT-2S will then reply an SMS ('Set IP Ok /115.126.3.15,10094') to confirm this setting.

6.4 Set Time Interval for Sending GPRS Packet

Command: W*****,014,time interval(in unit of 10 seconds)

Example: W000000,014,00003

TLT-2S will send GPRS packet every 30 seconds

6.5 Enable GPRS Tracking Function

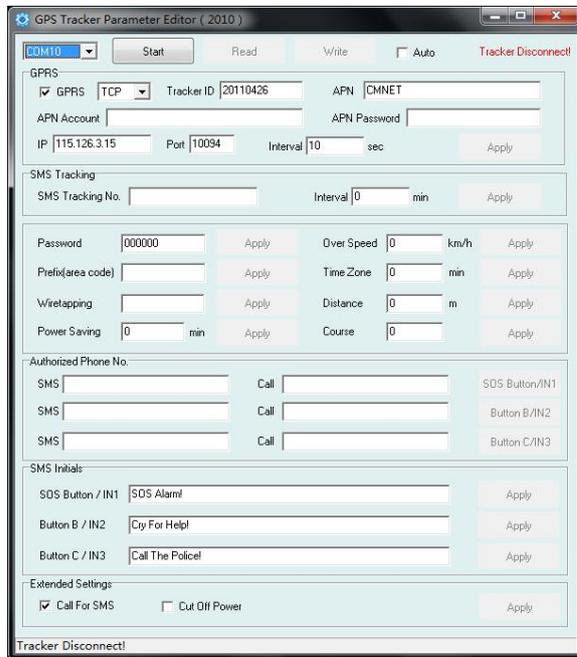
Command: W*****,013,1

Example: W000000,013,1

Tracker will reply with an SMS to confirm this setting.

7 Mini USB Port

Connect the tracker with computer by USB cable for configuration .You need to install the driver - *Serial USB Driver-* for using the USB cable.*Refer to <GPS Tracker Parameter Editor> for configuration.*



8 SMS Command List

(Remarks: ***** is user’s password, and the default password is 000000)

Description	Command	Remarks
Get current location (coordinates)	W*****,000	Get current location of TLT-2S
Get current location (Google-Link)	W*****,100	Get a Google link of tracker current location
Get current real address location	W*****,111	Get current location of TLT-2S, (street name,city name)
Change user’s password	W*****,001,#####	***** is old password #####is new password
Set interval for automatic timed report	W*****,002,XXX	XXX is the interval in minute. If XXX=000 it will stop tracking
Set Mobile phone number for SOS alarm	W*****,003,F,1,T	F=0, to turn off this function (default) F=1, to send SMS; F=2, to call phone number; F=3, to send message and call T: Preset phone number. Max 16 digits For example: Send

		W000000,003,1,1,+8615220051108 Reply: SetTel Ok/1,1, +8615220051108
Set low power alarm When TLT-2S voltage is lower than the preset value, it will send one low power alert to the SOS preset number.	W*****,004,X	X (voltage preset value) =0 , to turn off this function =1 , <3.3V send SMS alert =2 , <3.4V send SMS alert =3 , <3.5V send SMS alert (default) =4 , <3.6V send SMS alert =5 , <3.7V send SMS alert
Set over speed alarm When TLT-2S speeds higher than the preset value, it will send an SMS to the SOS preset number.	W*****,005,XX	XX (the preset value of speed) =00 , to turn off this function =[01, 20] (unit: 10Km/h) For example, W000000,005,08, it will sent alert when it is over 80Km/h
Set Geo-fence alert When the TLT-2S moves out of preset scope, it will send one Geo-fence SMS to the SOS preset number.	W*****,006,XX	XX (preset distance to original place) =00, close =01, 30m =02, 50m =03, 100m =04, 200m =05, 300m =06, 500m =07, 1000m =08, 2000m
Presetting by SMS for GPRS tracking (Ensure that your SIM card supports GPRS connection prior to setting)		
Set Simcard phone number	W*****,010,sim card phone number	Tracker sim phone number. Eg. If tracker sim phone NO. is 123456 Then,W000000,010,123456
Set APN for GSM simcard	W*****,011,APN,APNName,APN Password	If no APN name and password required, just insert APN only; APN defaulted as 'CMNET'; APN + APN name + password not over 39 characters.
Set IP Address and Port	W*****,012,IP, Port	IP: xxx.xxx.xxx.xxx Port: [1,65534]
Open TCP function	W*****,013,1	Open GPRS TCP function
Set Time Interval for Sending GPRS Packet	W*****,014,XXXXX	XXXXX should be in five digitals and in unit of 10 seconds. XXXXX=00000, to close this function;
For more information regarding GPRS settings please refer to <GPRS Communication Protocol>		
Output Control	W*****,020,1,F	F =0, to close the output =1, to open the output

Set time zone	W*****,032,FTT	F: '+' or '-' TT: time zone difference (unit: hour) E.g. CHINA, W000000,040,+08
Return to factory settings	W888888,999,666	All parameters will be initialized include password.

9 Troubleshooting

Problem: Unit will not turn on	
Possible Cause:	Resolution:
Wiring was not connected properly	Check and make sure wiring connection is in order.
Battery needs charging	Recharge battery
Problem: Unit will not respond to SMS	
Possible Cause:	Resolution:
GSM antenna was not installed properly	Make TLT-2S connected to GSM network.
GSM Network is slow	Wait for SMS. Some GSM networks slow down during peak time or when they have equipment problems.
Unit is sleeping	Cancel sleeping mode
Wrong password in your SMS or wrong SMS format	Write correct password or SMS format
The SIM in TLT-2S has run out of credit	Replace or top up 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 that the SIM can send SMS message. Replace SIM card if needed.
SIM has PIN code set	Remove PIN code by inserting SIM in you phone and deleting the code.
SIM is warped or damaged	Inspect SIM, clean the contacts. If re-inserting does not help try another to see if it will work.
Roaming not enabled	If you are in a different country your SIM account must have roaming enabled.
Problem: SMS received starts with 'Last...'	
Possible Cause:	Resolution:
Unit does not have clear view of the sky	Move the antenna of the unit to a location where the sky is visible.
TLT-2S is in an inner place	Wait for the target to come out
Battery is low	Recharge the unit and the GPS will start working.

10 Technic support

If any questions,contact us freely by email.