Kingwo

MT36
User manual

Declaration

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Contents

PART 01 Product Overview

- MT36 is a special positioning product
- Can switch between wired and wireless
- Built-in 5200mAh polymer lithium battery, real-time positioning is used when wiring.
- Support satellite positioning, AGPS positioning, base station positioning, etc.
- Communication support: GSM and GPRS.
- Expansion interface, can access tire pressure sensor,temperature sensor, load sensor, door sensor, pressure switch, etc.
- Support remote firmware upgrade.
- Support multiple protocols, compatible with multiple standard platforms.
- IP68 highest waterproof.

PART 02 Technical Specification

2.1 Main parameter

Product features	Description
Working voltage	DC 9V~36V， Suitable for 12V/24V vehicles
Working current	Average current<100mA@12V
Main power sleep current	<15mA@12V
Battery sleep current	<300uA@3.7V(Long sleep mode)
Inside battery	Polymer lithium,3.7V/5200mAH
Charge	Inside battery support fast charge
Communication Type	2G:GSM/GPRS 850/900/1800/1900MHz
Location type	Support Beidou/GPS dual-mode positioning, AGPS assisted positioning and LBS positioning
Built-in antenna	Built-in GSM antenna and positioning antenna
Data storage	4MB FLASH（Optional）
I/O interface	2 input， 1output
AD interface	2 ADC input， input voltage 0~5V
UART interface	2 RS232&1 RS485
Remote upgrade	Support remote FOTA upgrade firmware
Wake up	Timed wake up, open box alarm wake up
Open box alarm	Support unpacking wake-up alarm
Dual link	Support multi-IP multi-link simultaneous connection
Size	120mm*70mm*50mm
Temperature range	Working temperature：-25℃~70℃； Storage temperature：-40℃～+85℃；
Protection level	IP68

2.2 Product configuration

Basic configuration	
Item	**Description**
Main device	1pcs
3P cable	1pcs
Users manual	1pcs
Warranty card	1pcs
Qualified card	1pcs
Optional accessories	
Door sensor	
Tire pressure sensor	
Temperature sensor	
Humidity sensor	

PART 03 Functions

3.1 Basic Functions

3.1.1 Location monitoring

Including timing return, blind zone compensation, speed and mileage statistics, area monitoring and other functions,The system issues positioning instructions, and the terminal returns data including longitude, latitude, speed, direction, and status information.

3.1.2 Time monitoring

The vehicle GPS terminal can be set to upload the position and status information of the vehicle to the backend at a certain time or a certain period or at a certain time interval.

3.1.3 Blind spot compensation

When the terminal enters the GPRS blind zone, the track data will be saved at the shortest 15S interval, and the blind zone data will be uploaded to the backend when the GPRS is back online. The blind zone compensation data can be saved up to 4000.

3.1.4 Cornering Compensation

When the vehicle enters the curve lane, the terminal detects that the driving direction has a certain angular deviation (default 20 degrees), and a timing feedback message is added to ensure that the driving track is more accurate.

3.1.5 LBS

The terminal uses GPS positioning by default. When the GPS enters the blind zone and cannot be accurately located, the terminal automatically switches to the base station location. The terminal acquires the base station information every 30S and uploads the base station information, the server interprets the specific location.

3.1.6 Main power detection

The terminal detects the main power voltage in real time. When the battery voltage on the vehicle is too low, the vehicle terminal reports a low voltage alarm to the monitoring center.

3.1.7 Over speed alarm

When the vehicle speed is higher than the over speed alarm value, the vehicle-mounted terminal will notify the monitoring center.

3.1.8 Main power failure alarm

When the main battery of the vehicle is damaged or cannot supply power, the built-in backup power supply can keep the system working and send a power failure alarm to the monitoring center.

3.1.9 Built-in battery

The terminal has a built-in large-capacity high-temperature lithium battery, which can detect the battery power in real time and report the battery power in real time. When the built-in battery is working, the terminal has a variety of working states, which can support the terminal to work continuously for no less than 7 days.

3.1.10 Fast charge

The terminal has a fast charging function. When the main power has power, the built-in battery can be quickly charged through the fast charging module.

3.1.11 Power saving function

The terminal has a built-in G-Sensor, which can automatically detect the current state of the device and distinguish between sports mode and static mode; when the terminal is in static mode for a period of time, the terminal can automatically enter the power saving mode, and the uploaded data will be converted to heartbeat feedback; After the G-Sensor detects that it enters the sports mode in real time, the terminal immediately exits the power saving mode and enters the normal working state.

3.1.12 Intelligent self-check

The vehicle-mounted terminal can perform self-diagnosis. Once a fault occurs, it will send a fault notification to the center, such as GPS, GSM, etc., and can automatically take relevant measures. The monitoring center can also query the terminal's current model, version, configuration, operating status, and equipment functions.

3.1.13 Remote setting

Remotely set various parameters of the terminal through the central system, including IP, central number, various monitoring parameters, etc.

3.1.14 Remote Upgrade (FOTA)

As long as the GPRS status of the terminal is available, it can use remote wireless mode to complete the terminal firmware upgrade.

3.1.15 Multi-link

The terminal supports dual IP dual link connection of the main server and the backup server. The main server and backup server can be set in two ways: IP or domain name.

3.2 Extended Functions

3.2.1 Tire pressure test

The terminal can be connected with a tire pressure detector to detect tire pressure information in real time and send it to the background. The terminal can judge the

tire pressure status in real time, and once an abnormal tire pressure is found, it can notify the tire pressure alarm in real time.

3.2.2 Status detection

The terminal supports 2 I/O detections, one high-level input and one low-level input, which can be used to detect vehicle status. Such as opening the door, loading the container, and hooking the front of the car.

3.2.3 Output control

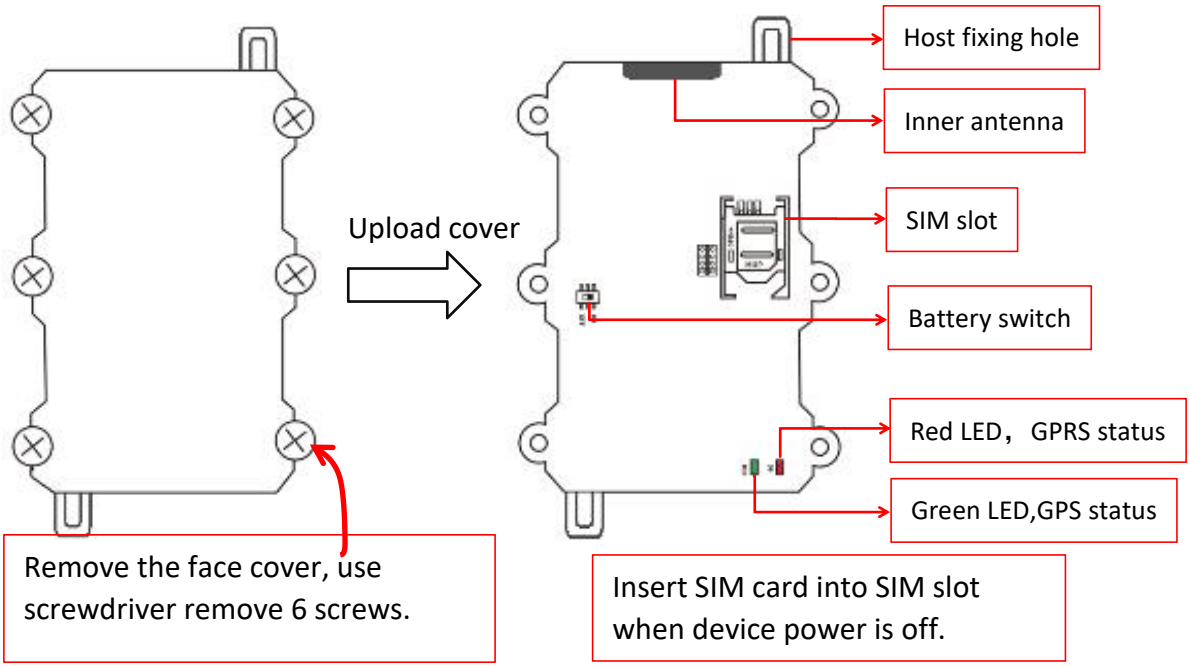
The terminal supports 1 I/O output, low-level output, which can be used to connect a controller.

3.2.4 AD detection

The terminal supports 2 channels of AD signal input, the voltage range is 0~5V, and can be used for 2 channels of analog detection.

PART 04 Installation guide

4.1 Wiring diagram



4.1.1 Open the cover and install the SIM card

Indication of LED lights:

Red GPRS LED light: Fast flashing, GPRS network connecting.

Flashes slowly every 5 seconds,GPRS connected.

Green GPS LED light: Fast flashing, GPS positioning.

Flash solid,GPS located.

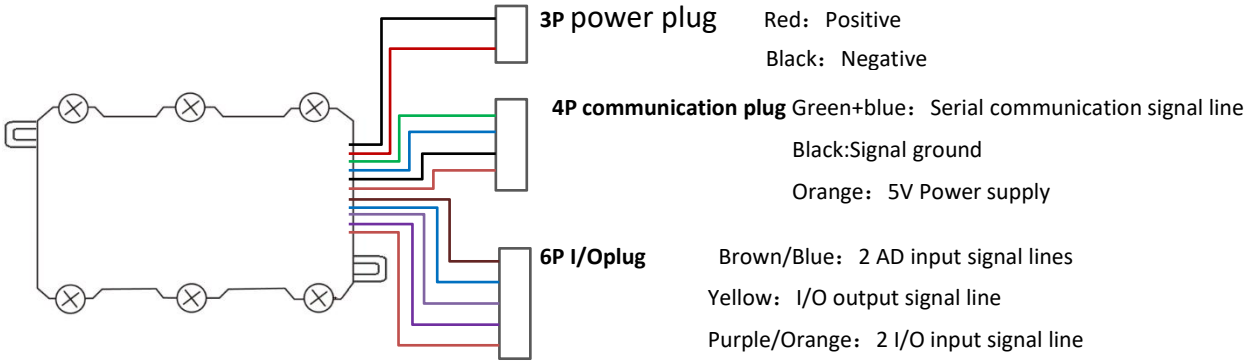
No flashing,no GPS positioning.

4.1.2 Wire harness definition and wiring

The device uses car-grade waterproof connector (DJ70xxY) and corrugated pipe protective sleeve as defaulted. Effectively protect the wiring harness and ensure the stability of the link.

Equipment wiring instructions:
3P power plug: including power supply positive and negative wiring harness, when installing the wiring, butt with the trailer power line.
4P communication plug: The default is RS232 serial communication interface, providing 5V power output, which can supply power for external sensors. It can be used to connect peripherals such as tire pressure sensors, humidity sensors, and temperature sensors.
Note: This interface is a multiplexed communication port, which can extend up to 2 RS232/1 485 communications.

6P I/O port plug: Provides 2 AD input signal lines, 2 I/O input signal lines and 1 I/O output signal line. It can be used to collect analog signals, connect to external controllers and collect switch signals.



4.2 Parameter setting

4.2.1 Set IP port

Note: The terminal has a built-in ID number, and the client's IP port can be preset before delivery. Generally, no parameter setting is required. If you need to modify the IP, follow the instructions below. The following two methods require the SIM card to activate the SMS function.

For example, the client's server IP is: 119.23.233.52, and the port number: 6000.

① For TCP connection, use SMS to write: *88*1119023233052*6000*1#, send it to the local phone number, the terminal will reply: set ok, then the setting is successful.

② For UDP connection, write: *88*1119023233052*6000*0#, send it to the local phone number, the terminal will reply: set ok, then the setting is successful.

After completing the above settings, the terminal can be connected to the server. Indicator light is always on or flashing in green, and the red light is flashing slowly,means terminal has been online and located normally. At this time, close the top cover and tighten the screws,then fix the equipment on the trailer for use.

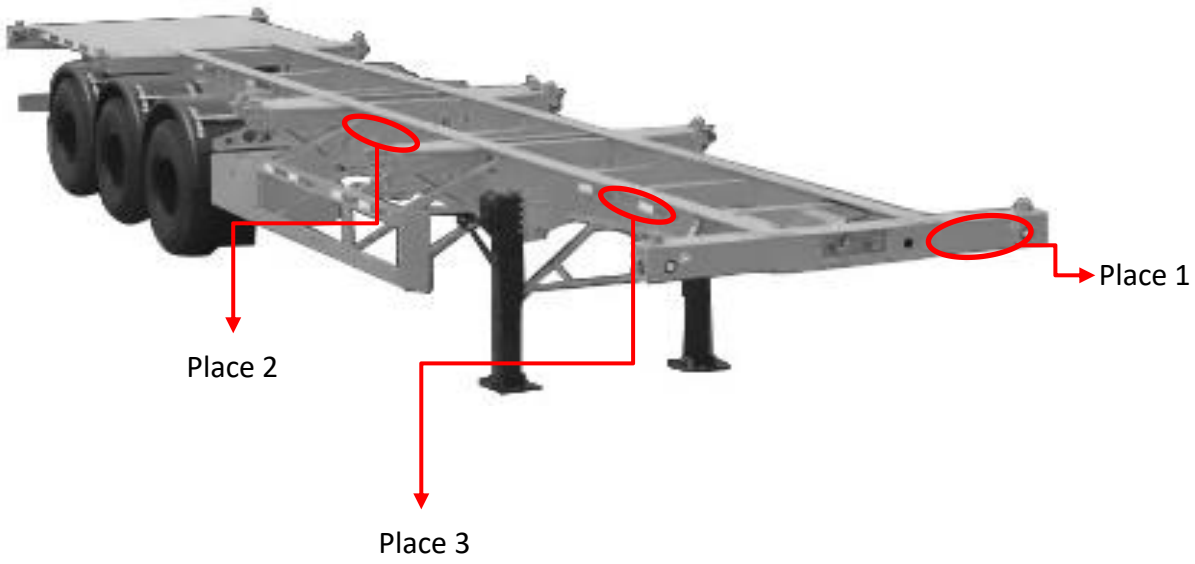
4.2.2 Set the return interval

Instruction format: HC, T1, T2, T3#
Instructions:
T1: Start the return interval, the value range is 5-1800 seconds, the default is 30 seconds
T2: Turn off the return interval, the value range is 5-1800 seconds, the default is 120 seconds
T3: Sleep return interval, the value range is 15-21600 seconds, the default is 180 seconds
Example: HC,60,180,300# Set T1/T2/T3 to 60 seconds, 180 seconds, 300 seconds respectively

Use note:
It is strictly forbidden to use the equipment in violation of the operating instructions, disassemble it without permission, collide, charge, soak in water, exceed 80°C, man-made failure, force majeure damage, etc., otherwise it may cause short circuit, insufficient working time, battery deformation, leakage, explosion, etc. No warranty or compensation will be made for joint losses.

4.3 Installation location

MT36 is designed to meet the IP68 protection standard and can be installed and fixed in exposed environments. Normally, it can be fixed at the position identified in the figure below, and the equipment line is routed along the original car harness.



HC,<T1>,<T2>,<T3>#	Set the upload interval in real time tracking mode: T1: upload interval in ignition on status, range,5-30s ,default 90s T2: Upload interval in ignition off status ,range 5-600 s, default 120 s T3：Sleep return interval, range 10-1800 s, default 180 For example: HC,30,90# Set the upload interval as 30s and 90s in ignition on HC,30,90,300# Set the upload interval as 30s, 90 s in ignition off and 300s while in sleep mode
UTC,TTTT#	Set time zone， unit minutes, default UTC+8:00 For example: UTC,480# Time zone UTC+8:00 UTC,330# Time zone UTC+5:30 UTC,-480# Time zone UTC-8:00 UTC,-210# Time zone UTC-3:30

WY,<A>[,R,M]#	Set towing alarm: A: On and off，1:On 0:Off Default is off R: Towing radius，Default 500 meters，Range：100-2000 meters M: Alarm mode，Optional M=0:GPRS,M=1:SMS+GPRS Eg：WY,1,100,1# towing alarm on，radius 100 meters notification mode:GPRS+SMS
LOCKACCOFF,A#	Set vehicle lock A=0 Receive lock command, execute immediately A=1 Receive lock command, if ACC is off, execute immediately, if ACC is on, store this command until ACC off A=2 Store the command, lock vehicle from ACC Off to On, if the communication is well, lock vehicle, otherwise wait for next turn For example：LOCKACCOFF,0# means execute the lock command immediately after receiving it
APN,apn,user,pswd#	Set APN, User name and password For example：APN,CMNET,internet,internet# APN:CMNET Username: internet Password: internet
*22*1#	Restore to factory setting
*22*2#	Lock vehicle
*22*3#	Unlock vehicle
*22*4#	Reboot device
IP,ip or dns,port,type#	IP,119.23.233.52,6000,1# Set the primary server IP:119.23.233.52，port 6000，communication type:TCP IP,www.365qczx.com,6000,0# Set the primary server domain:www.365qczx.com，Port 6000，communication type UDP

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