

MT80-BLE Smart Health positioning watch

User manual



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1. Product description

Welcome to buy our products!

Smart health positioning watch has the advantages of IP67-IP68 waterproof, low power consumption, small size, easy to use, and supports two-way communication, body temperature detection, heart rate detection, blood oxygen content detection, step-counting function ,especially suitable for elderly and children



Can shower



Can't take a bath



Can't be submerged

The tracker has a built-in GPS (Global Positioning System) module and a GSM communication module terminal, which is used to obtain location data and send it to an authorized phone number through SMS, and through the free map Google Earth (Google Earth) or Google map (Google Maps) Map) for tracking; If your mobile phone is a smart phone and the GPRS service is turned on, set the text message (SMS) location format as a Google link, which will make it easier to view the location of the tracker on the smart phone. At the same time, GPRS data can be sent to the Internet server, so that the tracker can be checked, monitored and managed on the computer.

The product supports the following functions:

Basic function of watch	Wrist strap disconnection/connection alarm
Main display: display time and date, GSM/GPS signal value, power, Bluetooth connection status	Fall alarm
Waterproof rating support IP67-IP68	Low battery alarm(when the power is less than 15%)
Supports two-way calls and listening	SOS Emergency alarm
Support Beidou/GPS/AGPS/LBS/mobile phone Bluetooth precise positioning	Enter and exit electronic fence alarm
Mobile phone APP Bluetooth transmission	GPRS(TCP/UDP) timing tracking/real-time monitoring
Heart rate detection	Historical track query
temperature detection	Built-in 16M Flash
Blood oxygen test	6-axis sensor (gyro + acceleration sensor)
Step counting function	

2. Safety Tips

Please read the following terms carefully, incorrect use will damage the machine, cause danger or even violate the law.

Safe boot	Do not turn on the device in places where the use of wireless phones is prohibited or may cause interference and danger
Hospital shutdown	Follow the relevant regulations of medical places and turn off the equipment when approaching medical equipment
Shut down on the plane	Follow the relevant regulations of the airport, please turn off the device on the plane
Shut down when refueling	Do not use this equipment at gas stations
Shut down at the blasting site	Follow the special site regulations and turn off this positioning when working at the blasting site
Machine repair	Non-professionals should not disassemble the equipment and related components without authorization
waterproof	This product's waterproof grade is IP66

3. Specifications

Project	specification
Charging voltage	DC 5V
Built-in battery	400mAh 3.8V
weight	75g
Operating temperature	-20 ~ +55 °C
GSM module	SIM7500
GPS chip	U-blox M10
GPS sensitivity	Tracking: - 167dBm Capture: - 160dBm Cold start - 148dBm
GPS frequency	L1, 1575.42 MHz
C/A code	1.023 MHz chip rate
Channel	50 channels
Position accuracy	<10 M, 2D RMS
Speed accuracy	0.1 M/S
Time accuracy	Satellite time 1 microsecond synchronization
Update time	0.1 second on average
cold start	27 second on average
Warm start	10 second on average
Hot start	1 second on average

maximum height	50000 meters
Maximum speed	515 m/s
Maximum acceleration	Less than or equal to 4g
Working standby time	30s Bluetooth connection for about 3 days

4. Precautions for use

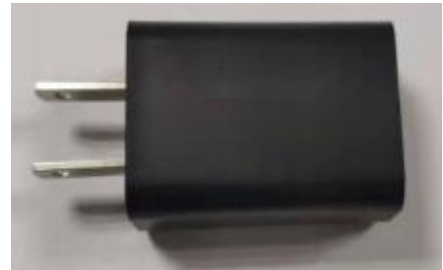
4.1. Parts List



device



Data line



charger



Lock



Hex screwdriver



Phillips screwdriver

4.2. Install SIM card

The device only supports nano SIM card



SIMCARD



microSIM



nanoSIM



Description:

- ◆ The device only supports nano SIM card
- ◆ Confirm that the SIM card lock code has been turned off
- ◆ Confirm that the SIM has enough balance (use your mobile phone to test whether it can call and send text messages).
- ◆ If you need the function of real-time location query, please make sure that the SIM card supports caller ID

4.3. Recharge

Use a special charger to charge, and the charging time is 1.5~2 hours.

4.4. On/off

Press and hold the setting button for 5 seconds to turn on/off the device. Note that when the wristband is connected, the machine will disable the shutdown function of the setting button. After disconnecting the wristband for 10 seconds, long press the setting button to turn off the device.

5. Reset Password

This instruction only describes how to use SMS to set the parameters. The initial password of the device is: 000000.

SMS command: \$SMS,*****,W001,#####;!

Description: Change user password

Description:

*****: User password, range: 6 characters, uppercase and lowercase numbers are supported (not supported.?!@|;%), the default is 000000.

(Note: Please switch to the English input method when inputting commands on the mobile phone; the device only accepts SMS commands with the correct password, and commands with an incorrect password will be ignored)

For example:

\$SMS,000000;W001,123456;!

Example of reading password:

\$SMS,000000;R001;!

Example of clearing password:

\$SMS,000000;C001;!

6. Precautions for use

6.1. SMS set authorization number

SMS command : \$SMS,000000;W010,NO.,Phone Number,ABC;!

For example: \$SMS,000000;W010,1,13800000000,010;!

Description:

NO	Authorization number serial number	range	1-3
Phone Number	Authorization number	range	0-19 string
A	Electronic fence function switch	range	0 or 1 (0 means to turn off the function, when 1 means to turn on the function), the default is: 0 to turn off the function
B	Keep this option	range	Leave that option
C	SOS Emergency	range	SOS for emergency help

Read the first authorization number example:

\$SMS,000000;R010,1;!

Clear the first authorization number example:

\$SMS,000000;C010,1;!

Example of reading all authorization numbers:

\$SMS,000000;R010;!

Clear all examples of authorization numbers:

\$SMS,000000;C010;!

6.2. Phone set authorization number

The device can set up to three authorization numbers, and the authorization number can be set quickly by calling the phone (without opening the corresponding function).

How to set up an authorization number by calling:

1. When an unauthorized number calls the device for more than 10 seconds, the device will automatically hang up and flash the yellow light for 30 seconds.
2. Press the SOS button (less than 3 seconds) within 30 seconds to set the number as the authorization number.
3. After the setup is completed, the device will reply the successful setup information to the number.

6.3. Monitor function

When setting the authorized number, turn on the corresponding monitoring function. When the authorized number calls the device, the device will automatically answer the call to realize the monitoring function.

Note: To use this function, please make sure that the SIM card has enabled caller ID

SMS Command : `$SMS,000000;W035,X;!`

Example : `$SMS,000000;W035,1;!`

X: Monitoring function switch, range: 0~1 (0 means disable this function, 1 means enable this function), the default is 0.

6.4. Real-time tracking

Call tracking:

If there is an authorized number to make a call, the tracker will reply to the location SMS.

Tracking via SMS:

If there is an authorized number to send real-time tracking commands, the device will send location information to the number via SMS. If a server is set, the tracker will also send an alert to the server.

SMS command:

`$SMS,000000;W052;!`

Example:

`$SMS,000000;W052;!`

7. SOS emergency call

Press the SOS button for 3 seconds or more, the device will send SOS alarms to all authorization numbers and servers. If authorized numbers are set using the SOS emergency call function, the device will dial the authorized numbers one by one, and if the call is answered, it will stop making calls.

8. GPRS Timing tracking

SMS Command:

`$SMS,000000;W002,APN,Username,Password;W003,IP,Port;W004,ID;W005,X;W009,Y;!`

Example:

`$SMS,000000;W002, cmnet,,;W003,192.168.1.1,8088;W005,1;W009,1;!`

Explanation:

APN	Network access name	range	0~29 character
Username	User name	range	0~29 character
Password	User password	range	0~29 character
IP	IP address of the server	range	0~29 character
Port	Server port	range	0~65535 character
ID	ID number of the tracker	range	0~15 character
X	GPRS upload interval	range	0~65535, the default is 0, and the unit is 30 seconds. (For example: if X is 2 means 2 * 30, the interval is 60 seconds)
Y	GPRS upload mode	range	0~2, the default is 0. (0 means GPRS function is disabled, 1 means TCP connection, 2 means UDP connection)

Read GPRS messages regularly:

`$SMS,000000;R002;R003;R005;R009;!`

Clear GPRS information regularly:

`$SMS,000000;C002;C003;C005;C009;!`

9. GPRS data logging

The tracker has built-in 16M bytes of memory to save GPRS data. When the GPRS interval tracking cannot be uploaded to the server, the data will be automatically stored in the memory. After that, once the GPRS is connected, the tracker will send the data to the server again.

(Note: Real-time data will be sent first, and the priority of stored data is lower.)

10.APN settings

The APN list can be configured before delivery (the default is China APN). After inserting the SIM card, Tracker will automatically obtain the APN in the APN list. If the user has set the APN, the tracker will not automatically obtain the APN.

11.Switch function

The user can open or close the corresponding function by sending a command .

SMS command: `$SMS,000000;W031,ABCDEF;!`

Example:

`$SMS,000000;W031,011100;!`

Description:

A	(Reserved)	range	0~1 (0 means off, 1 means on), the default is 0 (reserved)
B	Pedometer switch	range	0~1 (0 means off, 1 means on), the default is 1
C	Drop switch	range	0~1 (0 means off, 1 means on), the default is 1
D	Wristband function switch	range	0~1 (0 means off, 1 means on), the default is 1
E	(Reserved)	range	0~1 (0 means off, 1 means on), the default is 0 (reserved)
F	(Reserved)	range	0~1 (0 means off, 1 means on), the default is 0 (Reserved)

Read function switch:

`$SMS,000000;R031;!`

Clear function switch:

`$SMS,000000;C031;!`

12.Body temperature detection

From the main interface, press the M key twice to enter the body temperature detection interface, wait for 3S to start the body detection temperature, after the detection is completed ,the current body temperature will be displayed and recorded on the transfer to the platform server.

Note: In the default working mode of the device, the body temperature is automatically detected every 30 minutes

Users can also send commands to set the interval between temperature checks.

SMS command: `$SMS,000000; W038,X; !`

Example: `$SMS,000000; W038, 60; !`

Note: X, temperature detection interval, range: 0 to 65535 (0 indicates off), default: 60, unit: 30 seconds.(For example, if the value is set to 60, the temperature detection interval is 30 minutes (60 x 30 seconds = 1800 seconds).



Temperature interface

13. Photoelectric heart rate detection

From the main interface, press the M button 3 times to enter the heart rate detection interface. After waiting for 3S, the bottom of the heart rate will flash green light. At this time, the heart rate detection will start. After the monitoring , the heart rate value will be displayed. It will be recorded and uploaded to the platform server.

Note: In the default working mode of the device, the heart rate detection is automatically detected every hour.

Users can also send commands to set the interval between temperature checks.

SMS command: `$SMS,000000; W037,X; !`

Example: `$SMS,000000; W037, 120; !`

Note: X, heart rate detection interval, range: 0~65535 (0 indicates off), default: 120, unit: 30 seconds.(For example, if set to 120, the heart rate detection interval is 1 hour (120 * 30 seconds = 3600 seconds).)



Heart rate interface

14. Blood oxygen test

Press the M key 4 times from the interface to enter the blood oxygen detection interface, wait for 3S to start the detection of blood oxygen saturation . After the detection ,the current blood oxygen saturation will be displayed and upload to the platform server.

Note: Users must switch to the oximetry interface to start the oximetry.



15. Step counting function

Record the number of steps you take each day to calculate how many kilometers you walk each day. The number of steps per day is calculated from 00:00 of the day, and the recording is stopped until 23:59 and cleared.



Pedometer interface

16. Falling alarm function

When the device senses that the user falls or crashes, it will enter the fall interface after the user is stationary for one minute to trigger the fall alarm. When a user falls or crashes and moves within one minute, the device may detect an error without thinking that the user falls or crashes; If the user does not move after one minute, it will be considered that the user is in a falling state, and the device will send an alarm and send the alarm to the authorized mobile phone number and server.



Fall interface

17. Call function

- Long press the SOS button (more than 3 seconds), the device will automatically dial the authorized number, and then enter the emergency call interface, the user can press the set button to hang up.
- When the device enters the called interface to make a call, if the number is an authorized number, you can short press the SOS button (about 0.1 second, less than 3 seconds) to answer the call, and press the set button to hang up(not authorized by the dial interface). Numbers without functions)



Emergency call interface



Call interface

18. Three tracking modes

SMS command: `$SMS,000000;W016,X;!`

Description: There are three modes: personal mode, smart mode, and vehicle mode.

Notes:

X: The working mode of the tracker. Range: 0~2 (0 means personal mode, 1 means smart mode, 2 means vehicle mode). Default: 1

- Personal mode: When there is new data or alarm, GPS will automatically turn on the positioning function. Regardless of whether the positioning is successful or unsuccessful, GPS will automatically turn off the positioning function and upload new data or send out an alarm message.
- Smart mode: GPS is always turned on when moving the device; otherwise, GPS will automatically turn on the positioning function only when there is new data or an alarm. Regardless of whether the positioning is successful or unsuccessful, GPS will automatically turn off the positioning function and upload new data or send out an alarm message.
- Vehicle mode: The GPS is always on regardless of whether the tracker is moving or not.

Example:

`$SMS,000000;W016,1;!`

Read device mode:

`$SMS,000000;R016;!`

Clear device mode:

```
$SMS,000000;C016;!
```

19. Electronic fence

SMS command: `$SMS,000000;W018,NO.,name,lat,lng,radius;!`

Example:

```
$SMS,000000;W018,1,school,22.12345,114.12345,100;!
```

```
$SMS,000000;W018,1,home,,,100;!
```

Example:

NO: The serial number of the geofence must be 1 to 5. name: The name of the geofence, ranging from 0 to 9 characters.

lat: Center latitude, range: -90.00000000~90.00000000, unit: degree.

lng: center longitude, range: - 180.00000000~180.00000000, unit: degree.

Radius: the radius of the fence, range: 0.0~1.79E + 308, unit: meter.

(Note: Use the preset longitude and latitude as the center of the circle, and a preset radius can be used to define a circle.)

If there is no tracker available, it will automatically get the latest location and become the GPS location of the fence center. Turn on the geofence alarm. When the tracker moves in/out of the preset geofence, it will send an SMS alert to the authorized phone number (enable the geofencing function when setting the authorized number), and if GPRS is connected, the tracker The alarm data will be sent to the server via GPRS.

Example:

Read an electronic fence:

```
$SMS,000000;R018,1;!
```

Clear an electronic fence:

```
$SMS,000000;C018,1;!
```

Clear all the electronic fence:

```
$SMS,000000;C018;!
```

20. Time zone setting

SMS command: `$SMS,000000;W020,X;!`

Example:

```
$SMS,000000;W020,480;!
```

Note:

X: time zone value, The value ranges from -720~780.Default value:0,unit:minute.

Note: 1 hour = 60 minutes, if the time is hours,it must be converted to minutes. For example, if the Beijing time zone is +8, $60 * 8 = 480$ indicates Beijing time.

Read time zone setting:

```
$SMS,000000;R020;!
```

Clear time zone setting:

```
$SMS,000000;C020;!
```

21. Low battery alarm

When the battery power is less than 15%, the device will send alarm data to all authorized numbers or servers via SMS or GPRS;

22. Auto power on/off

When the battery level is 0%, the device will automatically turn off the power. After the power is turned off, the charging device will automatically turn on when connected to the power supply. After the power is turned on, it will send text messages to all authorized numbers. After connecting to GPRS, the device will also send the alarm data to the server.

23. Belt alarm

--After connecting with the belt, the tracker will send the belt to all authorized phone numbers when alarming, and

send the alarm data to the service center;

--After disconnecting from the belt or cutting off the belt, the tracker will send a belt off alarm to all authorized phone numbers and send the alarm data to the maintenance department.

Note: After the belt is connected, the tracker can only be turned on, not off; when using the belt fall off alarm, screws must be installed on the belt, otherwise false alarms will occur.

24. Possible failures and corresponding operations

1. Can't boot?

-Please confirm whether the battery is sufficient, if the battery is insufficient, please charge the device

-Please confirm whether the power button of the device has been pressed for 5 seconds; if there is no 5 seconds, please press and hold the button and wait for 5 seconds. After the device vibrates, it means it has been turned on

2. The buttons fail after the device is shut down under low power?

-After the device is turned off, the screen will be displayed when the power is turned on. At this time, the device is turned off and the buttons cannot be operated. Please do not think that it is a crash of the device. After powering on, press and hold the power button for 5 seconds to start normally

-Note: (The screen will be on when the device is turned off and charging, but the button cannot be used when the device is turned off, please use it after turning it on)

3. The device does not respond to text messages?

-Please double check the password or SMS format, the password and format must be correct;

-Please check whether the battery of the tracker is insufficient and charge it in time;

-Ensure that the tracker can receive strong GSM signals;

-When the GSM network is busy, wait for the SMS; sometimes, the GSM network is very slow during peak hours or when there is a problem with the equipment;

-Please check the SIM card balance and recharge in time;

-Check the installation of the SIM card, if necessary, please re-insert or replace with a new SIM card.

4. The device cannot connect to the server via GPRS?

-The SIM card does not support the GPRS function, please enable the GPRS function of the SIM;

-Disable GPRS function, enable GPRS function;

-The IP or port is incorrect, please check the IP and port carefully, and restart tracker after confirming that it is correct;

-Move the tracker to a place with strong GSM signal.

25. GPS tracking monitoring platform

URL: <http://hk.gpstotrack.com:81/gps/>

