

Gosafe®

G626 Tracking Device

User Manual | Version 2.00

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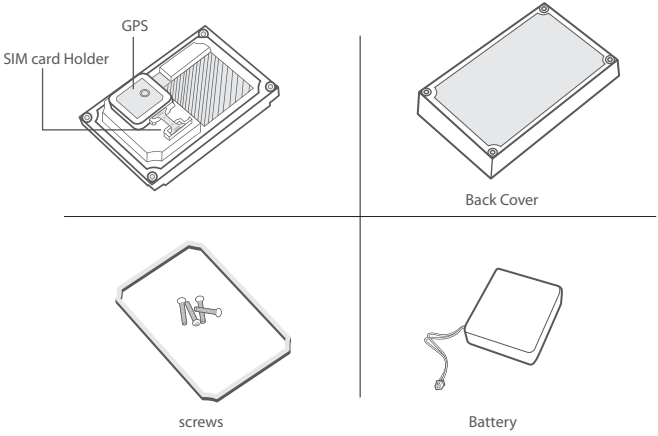
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1.DEVICE INTRODUCTION

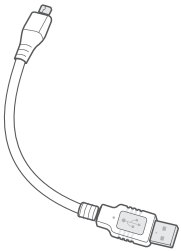
G626 is a great tracking device which is designed by Gosafe Company Limited. It combines GSM and SMS with GPS to locate your belongings .Due to its compact size and long life battery, G626 can be easily installed and concealed somewhere in your vehicle, motorcycle or boat to track and locate them.

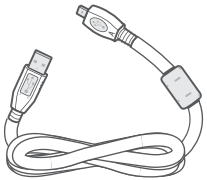


Device and Components



Accsessories





1.2 SPECIFICATION

Physical Specification	
Size	86(L) x 60(W) x 25(H) mm
Weight	160g (Including Battery)
IP Rating	IP65
Power	
Rechargeable Battery	5V DC; Li-Ion 3.7V 2400mAh
Power Consumption	Sleep Mode <700uA, Active Mode <300mA
MCU	
MCU	TI MSP430 12KB RAM, 256KB Flash
GSM	
Antenna	Internal
Modem	uBlox LEON G100
Frequency	Quad band 850/900/1800/1900MHz
GPRS	Class 10 (4 downlink, 2 uplink, max.5) Mobile Station Class B
Approvals	AT&T, R&TTE, CE, GCF, FCC, PTCRB, Anatel, IC, China SRRC, etc
LBS Location Accuracy	100 to 500m (Urban), 0.5 to 30km (Suburb)
GPS	
Antenna	Internal
Receiver	uBlox NEO 6M (GPS, & Sbase) engine

Channels	50 Parallel Channels
Sensitivity	-162dBm
Navigation update	1sec
Acquisition	Cold Starts: 27s Aided Starts: <1s Hot Starts: <1s
Location Accuracy	2.5 to 10m (Strong Signals) 500 m (Weak Signals)
Sensor	
3D G-Force Sensor	Onboard
Memory	
Flash	10,000 Locations
Environmental Conditions	
Operating Temperature	-20°C to +60°C
Storing Temperature	-20°C to +60°C
Humidity	100%

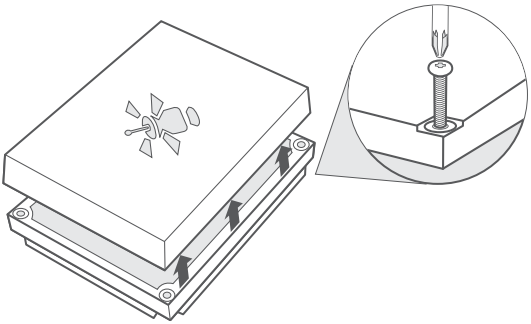
1.3 FEATURES

- Geo-fence
- Real Time Location
- Mobile Map Location
- Latitude and Longitude Location
- GSM Base Station Location (LBS Technology)
- Rechargeable long lasting battery
- Dual Communication Modes (GPRS+SMS)
- Internal Movement Sensor
- Internal voltage detector to offer low voltage alert
- Internal memory for the data buffer

2.QUICK INSTALL INSTRUCTIONS

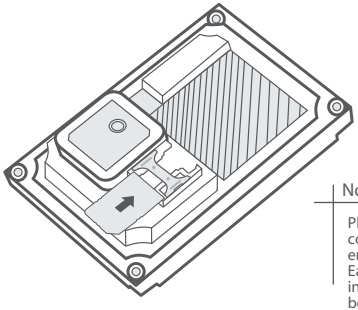
2.1 OPEN DEVICE

Open G626 enclosure carefully by screwing off the four screws.



2.2 INSERT SIM CARD

Insert SIM card into the SIM card jacket correctly according to the below picture.

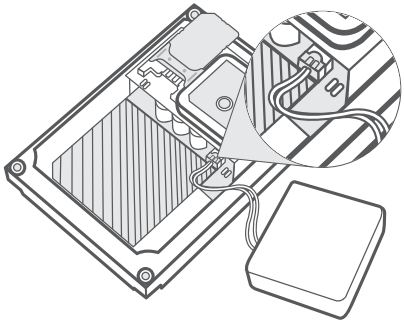


Note

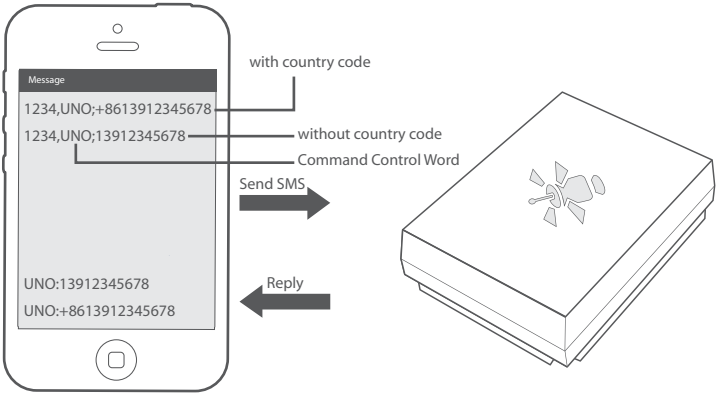
Please do activate the SIM card, disable its PIN code function, and make sure SIM card has enough balance before operating the device. Each time before taking SIM card out of or inserting SIM card into the device, you would better cut the power supply, or it would damage device and/or your SIM card.

2.3 POWER ON

Connect battery to device, like the shown in the picture below;

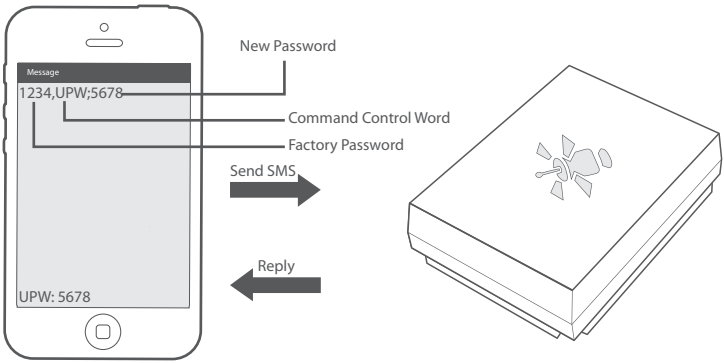


2.4 SET USER NO.



2.5 MODIFY PASSWORD

Connect USB cable to the device and connect it with the computer. For further details, please refer to the documents for configuration.

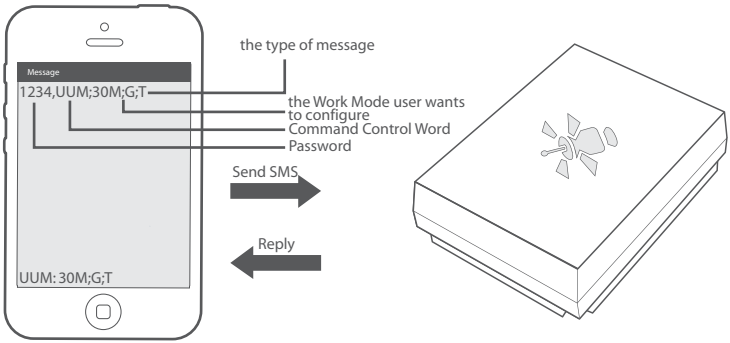


Note

Please memorize your New Password and wait for confirmation SMS for password modification from device.

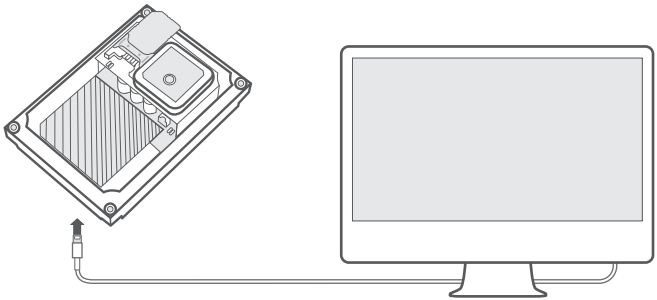
2.6 SET WORK MODE

There are 3 different work modes configurable for device according to user's need: O, S and G. To set device in G Work Mode, you should send the following SMS command to the SIM card No.



2.7 CONFIGURATION

Connect USB cable to the device and connect it with the computer. For further details, please refer to the documents for configuration.



3. COMMANDS FOR DEVICE SETTING

All the commands for device setting in this User Manual are in the same format:

3.1 COMMAND TABLE

The user commands are shown in the below table.The whole command format is "PSW,CMDXX;Para".
Table only show the second part "CMDXX;Para" in the column of command format.

Sr.	Description	Ctrl Word	Command	Reply	Remarks
3.2	Setting user phone number	UNO	1) UNO;13912345678 2) UNO;+8613912345678	1) UNO:13912345678 2) UNO:+8613912345678	0~20 bits, default is empty 1) set national number 2) set international number, "86" is country number
3.3	Setting user password	UPW	UPW;1234	UPW:1234	Four bits,range:0000~9999
3.4	Setting users to upload mode	UUM	UUM;30M;G;T	UUM: 30M;G;T	30M:upload interval, M can be (30~900S),(15~59M), (1~240H) Default:30m;G;W G: upload mode, it can be: "O"/close uploading "G"/upload GPS data by interval set, when there is no GPS, data uploading based on base station information "S"/Always upload with LBS location T: data format, it can be: T = Text Format W = Hyper link Format
3.5	setting the SMS center number	SCN	SCN;+8613800200500	SCN:+8613800200500	Total is 20 bits"86" is national code, must have. Leave factory set: empty Default: usually, no need to set SMS center number, when user use SIM card, device will record SMS center number automatically ,when change SIM card the old number will be delete and record new one

Sr.	Description	Ctrl Word	Command	Reply	Remarks
3.6	set APN	APN	APN; APN; user name; password APN;APN	APN: APN; user name; password APN:APN	Parameter range "APN": 1~30 characters "user name": 0~30 characters "password": 0~30 characters The second command way "APN; APN"Means only set APN. Device comes with of some APN list of some mobile service providers for some country. when the APN information is included for the SIM card used, no need to configure, if APN is wrong, GPRS connection will be wrong
3.7	Power saving mode setting	PSM	PSM;0 or PSM;32	PSM;0 or PSM;32	The bigger Parameter is, the lower power consumption is. 00: most performance mode, GSM and GPS both are available; 32: power save mode, the high 4 bits are GPS mode bits, the low 4 bits are GSM mode bits; 0: Always on GPS (GPS ECO mode); 1: undefined, functions as GPS mode 0; 2:open GPS on demand, in reservation setting of GPS search time after 3D location , delay GPS work time until reservation time is over; 3: open GPS module on demand, closing 3D location in reservation setting of GPS reach time, there is no 3D location when GPS research time is over, closing module. 4: open GPS on demand, in reservation setting of GPS search time after 2D location, delay GPS work time until reservation time is over;

Sr.	Description	Ctrl Word	Command	Reply	Remarks
					5: open GPS module on demand, closing 3D location in reservation setting of GPS reach time, there is no 2D location when GPS research time is over, closing module. GSM mode consists of: 0: always on GSM; 1: open GSM module on-demand. (Open conditions: Getting LBS data, uploading data according to setting and alarm occurred). Then upload all data. When alarm occurred, keep GSM module ON. If there is no alarm, wait until the working time. if device received command during the working time, recount the time. Close module when working time is up. 2: open GSM module on - demand. (Open conditions: Getting LBS data, uploading data according to setting and alarm occurred). Then upload all data. Wait until the working time. If device received command during the working time, recount the time. Close module when working time is up. 3: open GSM module on - demand. (Open conditions: Getting LBS data, uploading data according to setting and alarm occurred). Then upload all data. If there is no alarm, close module immediately. When alarm occurred, wait until the working time. If device received command during the working time, recount the time. Close module when working time is up.

Sr.	Description	Ctrl Word	Command	Reply	Remarks
					4: open GSM module on-demand. (Open conditions: Getting LBS data, uploading data according to setting and alarm occurred). Then upload all data. Then close module. 5: open GSM module on-demand. (Open conditions: Getting LBS data, Uploading SMS data. Uploading saved data according to setting and alarm occurred). Then upload all data. When alarm occurred, keep GSM module ON. If there is no alarm, wait until the working time. if device received command during the working time, recount the time. Close module when working time is up. 6: open GSM module on-demand. (Open conditions: Getting LBS data, Uploading SMS data. Uploading saved data according to setting and alarm occurred). Then upload all data. Wait until the working time. If device received command during the working time, recount the time. Close module when working time is up. 7: open GSM module on-demand. (Open conditions: Getting LBS data, Uploading SMS data. Uploading saved data according to setting and alarm occurred). Then upload all data. If there is no alarm, close module. When alarm occurred, wait until the working time. If device received command during the working time, recount the time. Close module when working time is up.

Sr.	Description	Ctrl Word	Command	Reply	Remarks
					8: open GSM module on-demand. (Open conditions: Getting LBS data, Uploading SMS data. Uploading saved data according to setting and alarm occurred). Then upload all data. Then close module. Default: PSM:00
3.8	Setting uploading TCP server mode	TPM	TPM; 30M;G;T or TPM0; 30M;G;T or TPM1; 30M;G;T	TPM:30M;G;T or TPM1:30M;G;T	One Can set two modes. TPM is the same as TPM0, these two both are mode 0.TMP1 is mode 1. 30M: Data save interval, M is time unit, it can be(5~900S), (15~59M), (1~240H) G: unloading mode, it can be: "O"/close unloading "G"/upload GPS data by internal set, when there is no GPS, data uploading based on base station information "S"/data upload based on base station information T: data format, it can be: B = Binary Format T = Text Format Default: TPM0;60S;G;B TPM1;1H;G;B
3.9	enable/disable over Speed	SPO	SPO;0	SPO:0	0: Disable 1: Enable Default: SPO;1
3.10	Movement sensor setting	MTP	MTP;20;30;40	MTP:20;30;40	The range of three parameters is the same: that is: 1 ~ 255. "20": vibration threshold. "30": vibration time. Unit is second. This parameter is used with parameter 1 to judge whether the vehicle status is shift from stop to move. If the move sensor vibrate over "parameter1" (20 times/second) and last for

Sr.	Description	Ctrl Word	Command	Reply	Remarks
					"parameter2" (30 seconds), the device s will regard the vehicle as in moving status. "40": sustained stop time. Unit is second. This parameter is used to judge whether the vehicle statusis shift from move status to stop status. If the sensor stops vibrating, which is 0 times/second and last for "parameter3" (40 seconds), the device will regard the vehicle as in stop status. Default : 10 ; 10 ; 255
3.11	Speeding alarm parameters	SOP	SOP; 100;120	SOP:100;120	100: Alert 120: Alarm Default: SPO;80;100
3.12	Motion sensor enable and disable	MOT	MOT;0	MOT:0	0: Close: shield the function related to motion sensor. It won't send any message. This can't judge if the vehicle is in motion status or static status. 1: Open; enable related function of motion sensor. Default: MOT;1 Note The device will automatically send location SMS to the user once it will sense any movement. The device will send only one SMS at the start of the movement. Device will wait for the vehicle to stop and will start the counter to 60 min. If the movement is after 60 min. device will again send the SMS to the user mobile.
3.13	Requests location information	PRQ	PRQ	PRQ	Usage: send command to device, the device will send location information, Information format is the same as upload data by interval, and this function can also be done by calling to the device and hang up after first ring.

Sr.	Description	Ctrl Word	Command	Reply	Remarks
3.14	Time zone setting	TZN	TZN;8:00	TZN:8:00	Set local time zone parameter from -12:00 to 12:00, Negative represent western time zone, positive represent east eastern time zone Default : 0 : 00
3.15	User alarm cleared	UAC	UAC	UAC	
3.16	Query SIM card balance (specially used for Russia)	BLC	BLC;*100#	BLC:*100#	*100#: USSD code used to get balance confirmation from GSM network operator. This code maybe different on different GSM network operators.

3.17 COMBINED COMMAND

To save time and SMS resource on configuration, user can apply combine command, in which there is more than one command, to operate configuration. The combine command would begin with user password, which is followed by commands (commands order is flexible). Format is as follow:

Pw	,	Command word	;	Parameter	;	Parameter	,	Command word	;	Parameter
		First command						Second Command		

If there is duplication of the same command in the same combine command, just the last piece of command would be processed; if there is error in the command, the command with error would be discarded, and device would only confirm setting of correct commands with no error warning. If all the commands are error, an alarm will be sent. All setting commands, except user No. setting command under the condition of the user number has never been changed, can be set by combine command.
Example: 1234,UUM;30M;G;T,UPW;1234

3.18 COMMANDS WAIT

In the event of there come commands from user when device is in sleep and couldn't process commands, at each wakeup device will wait one minute to receive those commands and take precedence to process them then response one confirmation message; after 1 min, device would receive and process real-time commands then reply accordingly.

3.19ALARMS

The device sends alarm immediately it triggers. The message receive when device is in alarm as
follows:
G626 V1.05
GPS 6/77
UTC 11-00.5-14 05:33:47
N23.164479
E113.428606
SPD:0km/h 0
Alarm:
Low inter_Batt

LIST OF ALARMS

Description	SMS Received
Low Power	G626 V1.05 GPS 6/77 UTC 11-05-14 05:33:47 N23.164479 E113.428606S PD:0km/h 0 Alarm:Low inter_Batt
Over Speed	G626 V1.05 GPS 6/77 UTC 11-05-14 05:33:47 N23.164479 E113.428606 SPD:0km/h 0 Alarm:Over Speed

Description	SMS Received
Moving (When the vehicle I stopped and the movement sensor is enable the device sends move alarm on the trigger of movement sensor)	G626 V1.05 GPS 6/77 UTC 11-05-14 05:33:47 N23.164479 E113.428606 SPD:0km/h 0 Alarm:Moving
Geo-Fence (Future use the current version firmware don't support it)	G626 V1.05 GPS 6/77 UTC 11-05-14 05:33:47 N23.164479 E113.428606 SPD:0km/h 0 Alarm:Geo-Fence
Anti-Jamming (This alarm appear if the anti-jamming feature is enable and the someone use GSM jammer near the device)	G626 V1.05 GPS 6/77 UTC 11-05-14 05:33:47 N23.164479 E113.428606 SPD:0km/h 0 Alarm:Anti-Jamming

Note

The user can use the UAC command to clear user based alarm.

3.20 DEFAULT PARAMETERS

Description	Parameter
User number	(EMPTY)
SMS center number	(EMPTY)
PIN code of SIM	1234
APN list	APN list of China only
User password	1234
User upload mode	30M;G;W
Manager phone number	(empty)
Manager upload mode	30M ; G ; T
Server IP or domain name	domain name (empty) IP (114.142.154.28)
TCP port	3032
UDP port	3032
TCP channel upload mode (mode 0)	60S ; G ; B
UDP channel upload mode (mode 0)	60S ; G ; B
PSM	00
Package number of per TCP upload	1
Package number of per UDP upload	1
percentage of data buffer per TPC upload	50
percentage of data buffer per UDP upload	50
Over speed	80 ; 100
Enable/ disable over speed alarm	Disable
Enable/disable vibration sensor	Disable
Enable/disable phone roaming status test	Enable
Enable/disable anti-jamming	Disable
Time zone	0:00
Vibration sensor parameter	10 ; 10 ; 255
Anti-jamming parameter	30 ; 20
Baud rate of extend serial port	9600
Transmit mode of extend serial port	Common mode
USB port mode	Common mode
Supper link (0) GPS Link	http://maps.google.com/staticmap?zoom=14&size=300x300&markers=%n,%e&sensor=false
Supper link (1) (LBS Link)	(empty)

4. STRUCTURES OF SMS FROM DEVICE

4.1NORMAL LOCATION SMS FORMAT (G MODE)

(Located Successful)

Gosafe G626 V1.05	Device Name and Version
GPS 3/56	Satellites Connected &Time used for Location (secs)
LTM08:00 11-24-0 02:54	Specific time zone and Location time based on specific time zone
N23 9.8329	Latitude in degree-minute format
E113 25.7149	Longitude in degree-minute format
Speed: 1km/h 39	Device speed and Move Direction
TMP=25.6C	Temperature
PWR=12.5V	Power
Gosafe G626 V1.05	Device Name and Version
MCC=460	Mobile Country Code
MNC=1	Mobile Network Code
LAC=517A	Location Area Code
CID=1FB1	Cell Identity
TMP=25.6C	Temperature
PWR=12.5V	Power

(Located Unsuccessful)

Gosafe G626 V1.05	Device Name and Version
MCC=460	Mobile Country Code
MNC=1	Mobile Network Code
LAC=517A	Location Area Code
CID=1FB1	Cell Identity
TMP=25.6C	Temperature
PWR=12.5V	Power

4.2 HYPERLINK SMS FORMAT (W MODE)

(Located Successful) Google link

Gosafe G626 V1.05	Device Name and Version
http://maps.google.com/staticmap?zoom=14&size=150x150&markers=39.9493,116.3875&sensor=false	Google Map Link
TMP=25.6C	Temperature
PWR=12.5V	Power

(Located Successful) Yandex link

Gosafe G626 V1.05	Device Name and Version
http://m.maps.yandex.ru/?ll=116.3875,39.949328&pt=116.3875,39.949328&z=12	Yandex Link
TMP=25.6C	Temperature
PWR=12.5V	Power

(Located Unsuccessful

Gosafe G626 V1.05	Device Name and Version
MCC=460	Mobile Country Code
MNC=1	Mobile Network Code
LAC=517A	Location Area Code
CID=1FB1	Cell Identity
TMP=25.6C	Temperature
PWR=12.5V	Power

4.3 ERROR COMMAND ALERT

Gosafe G626 V1.05
Error command!

4.4 PASSWORD MODIFICATION SUCCESSFUL

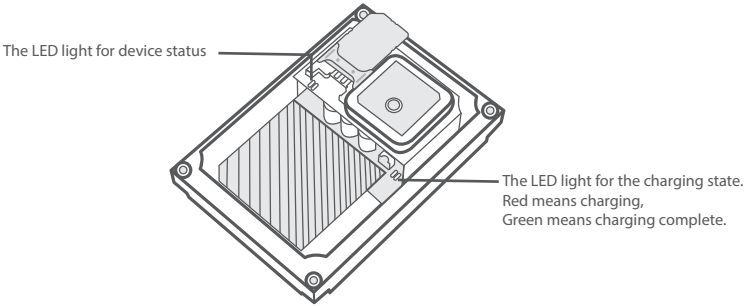
Confirmation
Gosafe G626 V1.05
UPW:5678

4.5 USER NO. SETTING SUCCESSFUL CONFIRMATION

Gosafe G626 V1.05
UNO:+8613912345678

5. LED FLASHES & RELEVANT DEVICE STATUS

There are some internal LED lights to reflect device status and the charging state in G626. Generally, only we have some problems about the G626, we will disassemble it and check the LED lights for status.



When device is at work, LED status light will flash at 8-sec cycle constantly to show related GSM and GPS status in each cycle. In each flash cycle when device is at work, LED will flash to indicate GSM status first then GPS status (there is an interval between them). To check the statuses, please count the LED light flashes then compare it to the chart below:

Status	LED Flashes
Device Power on	LED ON <1sec
GSM module ON but unregistered	1 flash at the beginning of each flash cycle
GSM module ON and registered	2 flashed at the beginning of each flash cycle
GSM module OFF	No flash at the beginning of each flash cycle
GSM module on and registered	3 flash then GPRS connection
GSM module on and registered	4 flash then TCP connection
GPS module ON but haven't located	1 flash after interval (behind GSM status flash) in each flash cycle
GPS module ON and located	2 flashes after interval (behind GSM status flash) in each flash cycle
GPS module OFF	No flash after interval (behind GSM status flash) in each flash cycle

Device also uses LED flashes to indicate relevant error if any of the following situations happens: Device Error, SIM card no balance, GSM network cannot register. When there is any error above, LED light will ON for 1sec then flash quickly, which helps to trouble shoot the errors; user can count LED quick flashes then compare it to below chart:

Error Details	LED Flashes	Solutions
GSM module Communication Error	1 flash	Power OFF then check GSM module power supply and communication
SIM card Error	2 flashes	Power OFF then check whether SIM installation is good and PIN is disabled
Cannot register at GSM network	3 flashes	To check whether SIM card is overdue and/ or device in an area there is no GSM signal
GPS module Error	4 flashes	Power OFF then check GPS module power supply and communication To check whether there is SIM card SMS
SMS Sending Error	5 flashes	center set-ting error and/or SIM card is overdue
Can't use GPRS	6 flashes	To check whether the APN is correct and SIM has GPRS function or not
TCP connection Error	7 flashes	To check if the server is normal
Unknown Error	8 flashes	Power OFF then Power ON, if there is still the error, please contacts us.

6. APPENDIX

6.1 CHARACTERS FOR COMMANDS

0	1	2	3	4	5	6	7	8	9
A	b	c	d	e	f	g	h	i	j
K	l	m	n	o	p	q	r	s	t
U	v	w	x	y	z	A	B	C	D
E	F	G	H	I	J	K	L	M	N
O	P	Q	R	S	T	U	V	W	X
Y	Z	!	"	#	%	&	'	(	)
*	+	,	-	.	/	:	;	<	=
>	?	@	$	Sp	_	^	{	}	\
[	~	]	|						

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