

1. SPECIFICATIONS

◆ Main Unit

Item Parameter

Operating Voltage 3.7VDC, Built-In 2200mAh Lithium cell

Charging Voltage 4.5VDC to 5.5VDC, 800mA

Power Consumption Maximum 60mA, Minimum 60uA

Working Temperature -20 to 60 degree Celsius

GPS Module AMX-6G

GSM Module BGS2-W

3 Axis Sensor LIS3DH

MCU EFM32GG330FX

Vibrator Yes

2.4G RF nRF24L01+

SPI Flash W25Q64CV, 64Mbits

◆ Tag

Item Parameter

Operating Voltage 3.0VDC, Removable, EL123 battery*3

Power Consumption Maximum 25mA, Minimum 5uA

Working Temperature -40 to 60 degree Celsius

Wireless Valid radius 60 meters in plain area

LED Indicator Red, transmission indicator

Motion Sensor Yes

MCU PIC18F24K20

Flash 16KB

2.4G RF nRF24L01+

◆ Charger

Item Parameter

Input Voltage 100VAC to 240VAC

Output Voltage 5VDC, 1000mA

Working Temperature 0 to 40 degree Celsius

◆ USB receiver

Item Parameter

Connectivity USB 2.0

Wireless valid radius 3 to 5 meters

2. PACKING

Item Remark

Main Unit*1 With built-in rechargeable battery
Home Tag*1 With battery*3
Prison Tag*1 With battery*3
USB stick*1 To support wireless configuration for Main Unit and Tag
Optical fiber strap*1 40cm length
Strap locker*2 To lock strap with Main Unit

3. FEATURE

- ◆ IP67, MILSTD810/SAE J1455
- ◆ Configure Main Unit, Home Tag and Prison Tag wirelessly
- ◆ Shift between Duo SIM cards automatically when preset conditions being met
- ◆ Shift among 5 user profiles when preset conditions being met
- ◆ Up to 156 Geo-fences
- ◆ Up to pair 125 Home Tags and 125 Prison Tags with Main Unit
- ◆ Firmware OTA via GPRS channel
- ◆ GSM Jamming detection
- ◆ Body gesture detection and motion detection based on 3 axis acceleration sensor
- ◆ Fiber strap status detection and voltage monitoring
- ◆ Notification via built-in motor
- ◆ Various event report via SMS/GPRS/Motor vibration mode

Event Name

- ✓ Rest
- ✓ GSM Jamming
- ✓ Geo-Fence ✓
- ✓ GPS TFTF ✓
- ✓ Fiber strap disconnected ✓
- ✓ SOS ✓
- ✓ Tag moving ✓
- ✓ Tag low voltage ✓
- ✓ Device low voltage ✓
- ✓ Device under voltage ✓
- ✓ Tag zone entering ✓
- ✓ Tag zone leaving ✓
- ✓ SIM card balance notification ✓

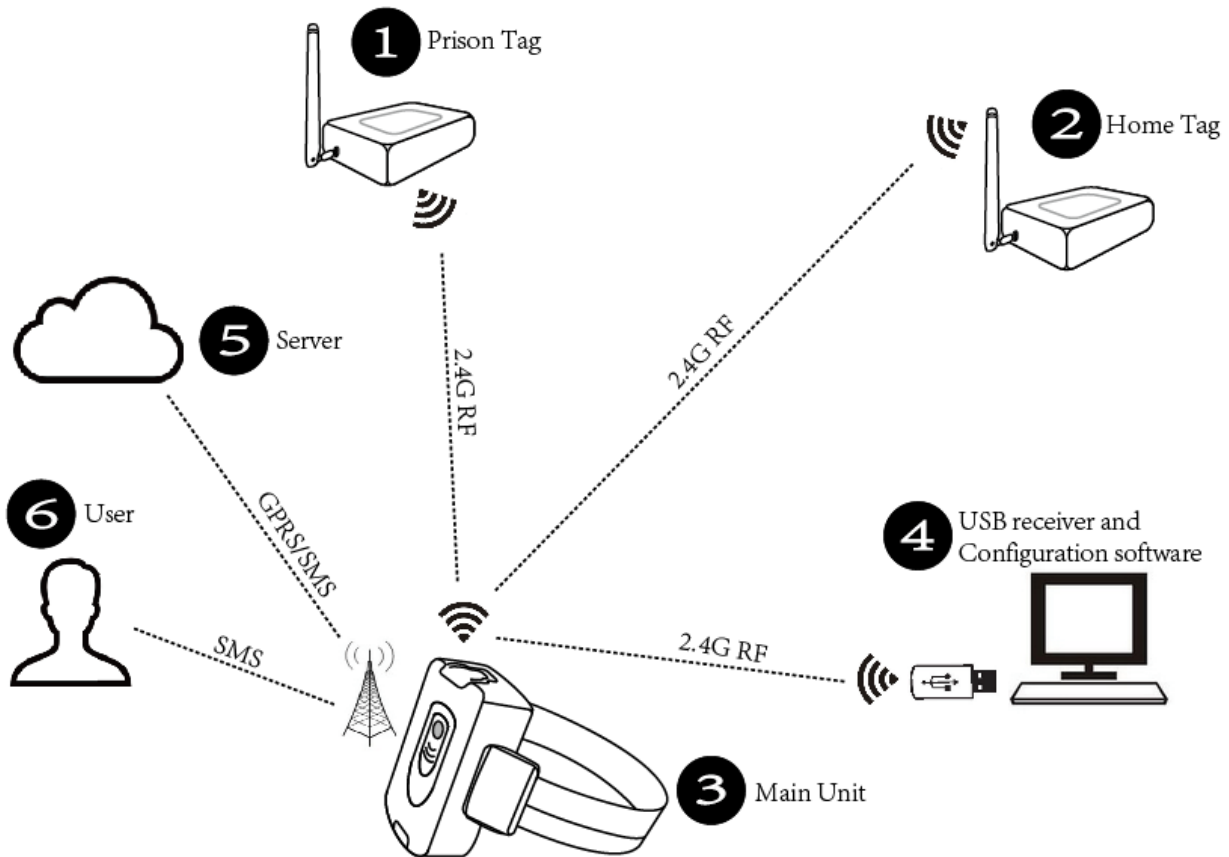
Status0

Rest To Moving
Jamming To Normal

Status1

Moving To rest
Normal To jamming

4. OVERVIEW



① Prison Tag

- ◆ It is supposed to be fixed and it will broadcasting its ID and status periodically to Main Unit
- ◆ It has built-in motion sensor to trigger moving event broadcasting to Main Unit
- ◆ Its RSSI/broadcasting interval/motion sensitivity are definable

② Home Tag

- ◆ It is supposed to be fixed and it will broadcasting its ID and status periodically to Main Unit
- ◆ It has built-in motion sensor to trigger moving event broadcasting to Main Unit
- ◆ Its RSSI/broadcasting interval/motion sensitivity are definable

③ Main Unit

- ◆ It is sensitive with broadcasting message from Tag to monitor "Tag zone entering" and "Tag zone leaving" events
- ◆ It is able to report its position periodically and various events via SMS channel and GPRS channel

④ **USB receiver and configuration software**

◆ By using USB receiver and G737IC configuration software, it is able to set up and control Main Unit and Tag wirelessly

⑤ **Server**

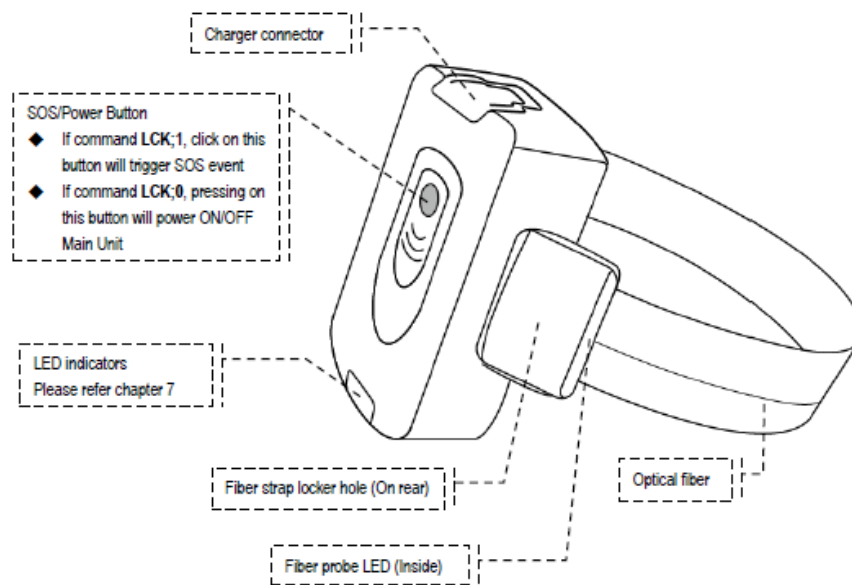
◆ GPRS and SMS server

⑥ **User**

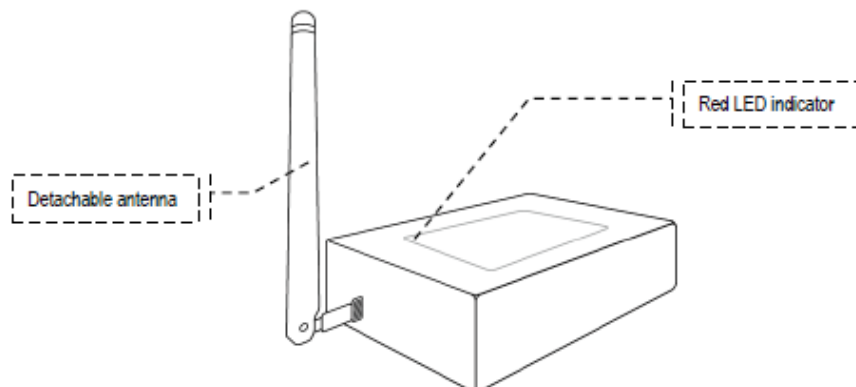
◆ 2 User phone numbers are available to receive position report and event report from Main Unit

5. INTRODUCTION

◆ Main Unit

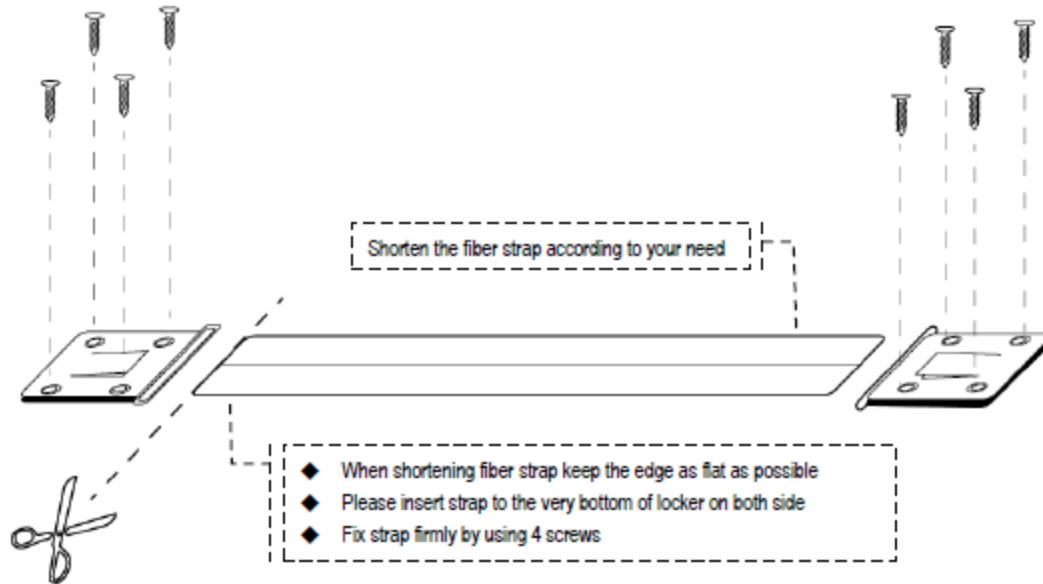


◆ Home/Prison Tag

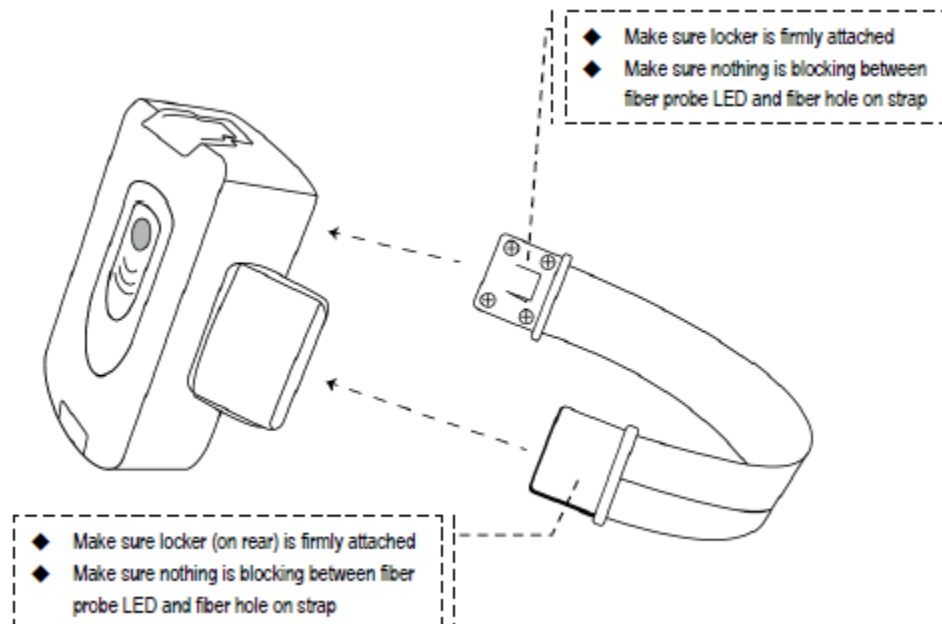


6. INSTALLATION

◆ Assemble strap



◆ Attach to Main Unit



7. LED INDICATOR

◆ GSM LED: GREEN

Server socket connected: Flash once quickly every 5 seconds
GSM network registered: Flash twice quickly in a row every 5 seconds
GSM network unregistered: Flash 3 times quickly in a row every 5 seconds
SIM card error: Flash 4 times quickly in a row every 5 seconds
Serial link communication error: Flash 5 times quickly in a row every 5 seconds
GSM module OFF: Never flash

◆ GPS LED: YELLOW

GPS fixed: Flash once quickly every 5 seconds
GPS unfixed: Flash twice quickly in a row every 5 seconds
GPS communication error: Flash 3 times quickly in a row every 5 seconds
GSM module OFF: Never flash

◆ Power LED: RED

Under "Lock" status
Battery normal: Flash once quickly every 5 seconds
Battery under voltage: Flash twice quickly in a row every 5 seconds
Battery low voltage: Flash 3 times quickly in a row every 5 seconds
Charging battery: Glowing constantly
Under "Unlock" status
Flash once quickly every 1 second

8. USER COMMAND

◆ Set User Phone Number

There are 2 users phone supported by G6S, they have the same authorization.

User1's command words are **UNO0**, **UPW0**, **USP0**.

User2's command words are **UNO1**, **UPW1**, **USP1**.

Below will take user1 as example:

To set your cell phone number as User1 to control and receive messages from device, please send **UNO** command to the device, e.g.:

1234,UNO0;+8613912345678

Or

1234,UNO0;13912345678

Explanations:

1234: Default password.

UNO0: Command control word for setting user number.

+8613912345678: Phone number with country code.

13912345678: Phone number without country code.

Device is supposed to reply a confirmation SMS to you, if the device does not accept the command, it also reply

Command err.

◆ Modify User Password

Factory default password **1234**

Changing the factory password at the first usage is highly suggested.

New password should be 4 digits that from number "0-9".

To modify password, send **UPW** command from your USER phone number, e.g.:

1234,UPW0;5678

Explanations:

1234: Factory Password

UPW0: Command control word for setting new password

5678: New Password

◆ Set position report interval to user phone

Device is able to report its current position periodically according to the setting, default is every 30 minutes. To change it please send

USP command, e.g.:

1234,USP0;0;30S;G;W

Explanations:

1234: User password

USP0: Command control word

0: Interval Mode, related with dynamic report condition

0: Mode0

1: Mode1

30S: Report interval

S: Second, range from 30 to 900.

M: Minute, range from 15 to 59.

H: Hour, range from 1 to 240.

G: Working mode

O: Disable periodically report to USER.

G: GPS location information as first priority, if it is invalid, will be replaced by LBS information.

S: Using LBS information only.

L: Device will voice call USER periodically for voice monitoring purpose.

W: Location information type

T: Text for current location, showing GPS coordinate.

W: Google map hyper link for current location.

9. EVENT SMS SAMPLE

- ◆ This table shows some events report sample via SMS
- ◆ Please note event name in SMS is definable by command **RNM**

Event	Name Contents	Remark
	Rest event G737IC V0.48 LTM 2014-03-26 13:28:14 MCC/MNC/LAC/CID/RSSI 460/0/2503/962C/-70dBm 460/0/2731/40F3/-75dBm ETD:0/rest GSM -67dBm BAT=3.94V #11	
SOS Event	G737IC V0.48 LTM 2014-03-26 13:45:20 GPS 1.25/53/6/182 N23.164842 E113.428752 SPD:0km/h 0 ETD:5/sos GSM -67dBm BAT=3.93V #19	
Fiber strap event	G737IC V0.48 LTM 2014-03-26 13:34:49 GPS 1.86/57/5/182 N23.164730 E113.428768 SPD:0km/h 0 ETD:4/FO_CUT GSM -52dBm BAT=3.94V #14	

Tag zone entering
G737IC V0.48
LTM 2014-03-26 14:25:23
MCC/MNC/LAC/CID/RSSI
460/0/2503/962C/-73dBm
460/0/2731/40F4/-74dBm
ETD:10/TAG in/H;10.11.12.13.14
GSM -67dBm
BAT=3.91V
#32

Tag zone leaving
G737IC V0.48
LTM 2014-03-26 14:25:23
MCC/MNC/LAC/CID/RSSI
460/0/2503/962C/-73dBm
460/0/2731/40F4/-74dBm
ETD:10/TAG out/H;10.11.12.13.14
GSM -67dBm
BAT=3.91V
#32

Main Unit battery low
G737IC V0.48
LTM 2014-03-26 14:31:09
MCC/MNC/LAC/CID/RSSI
460/0/2503/962C/-71dBm
460/0/2731/40F3/-78dBm
460/0/2731/40F4/-78dBm
ETD:8/bat low/3.80V
GSM -67dBm
BAT=3.80V
#34

Tag battery low
G737IC V0.48
LTM 2014-03-26 14:03:43
GPS 1.34/56/5/78
N23.163938
E113.428334
SPD:0km/h 0
ETD:7/TAG Plow/H;10.11.12.13.14;30
GSM -52dBm
BAT=3.93V
#26
#END