



Smart Fall Detector with GPS Tracker and Man Down Alarm

User Guide

Model#: PT04E



Dear Users:

Thank you for using PT04E Fall Warner. This user manual has a detailed instruction on how to use the device, please read carefully before using it.

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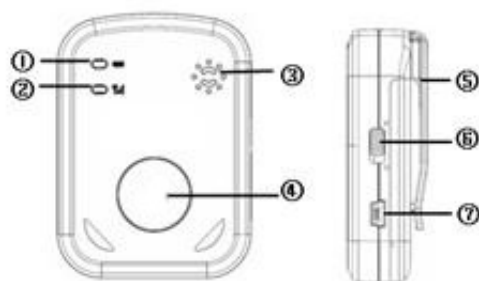
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1. General introduction

With the number of aged people increasing, the caring for aged people becomes an important issue. Fall Warner can real-timely monitor the status of the aged people. When aged people fall down, Fall Warner can automatically send SMS to another person's mobile phone, so that an aid can be provided immediately. If aged people feel unwell, he/she can press the Control Button for three seconds to make a calling to the related phone. Fall Warner transmits SMS by GSM wireless network (now cannot use with the SIM card of China Telecom). Fall Warner is small, elegant and portable. It is an intimate partner for aged people.

2. Appearance and wearing explanation

2.1. Appearance and keypad explanation



- ① power indicator
- ② signal light
- ③ speaker
- ④ [control] key
- ⑤ buckle
- ⑥ power switch
- ⑦ charging slot

2.2. Wearing explanation

As shown in Figure, the device can be fixed on the Waist Position and parallel to the body by the buckle. Make Sure the device is reliably and stably fixed.



3. Insert SIM card

3.1 Lift the buckle as the hollow arrow indicates, then remove the buckle as the black arrow indicates.	3.2 Open the back cover
	
3.3 Remove the battery	3.4 Put SIM card in the card slot, and then tighten the card with slot cover.

	
3.5 Put the battery into the battery slot.	3.6 Fasten the back cover and buckle.

4. Basic functions

4.1. Switch on and switch off

Switch on and off the device according to Switch Mark.

4.2. Warning function

4.2.1. Automatic warning after falling down

► When the device detects falling down; it will speak "**Attention please, Falling has been detected, message will be sent immediately**". After the voice continues for 20 seconds, the device will send warning message "**Automatic warning. The device carrier may fall down. Please contact. Owner's position.**" every 20 seconds. Meantime, it will speak "**It is an emergency I need help**".

► When the device detects that the device owner is standing, it will automatically stop speaking and sending warning message. Meantime, the device will send message "**The device carrier is on normal condition**".

► When the device detects that the Control Button is pressed, it will automatically stop speaking and sending warning message. Meantime, it will send the message that shows "**Alarm was canceled by pressing the button**".

Notice

Before using this function, user should set the IP address and port number, referring to 《The Communication Protocol of PT04E》.

Cancel error warning

► During the device speaks: "**Attention please, Falling has been detected, message will be sent immediately.**", if the owner press the Control Button, the device will cancel sending warning message. Meantime, it will speak "**Message has been cancelled**".

4.3. Call function

The call function includes two modes, active call and passive call. Active call: the device can call the binding number; Passive call: every phone can call the device.

► Active call

Press the Control key for 5 seconds, the device will automatically dial the binding number.

► Passive call

When the device is called, it will ring. Press Control Key to answer the call.

► Press Control key to end the call during phone call.

4.4. Positioning and tracking

The positioning includes LBS and GPS mode. The final position information bases on those two modes. Generally, after switching on the product, it will send a position message to server every eight minutes, including those two modes of information. You can view the user's real-time tracking from the server.

4.5. GPS work mode and control

As the GPS consumes high power, the PT04E has GPS setting function for longer using. It includes "continuous" and "trigger" mode. User can send related setting command to make the GPS operate in appropriate mode. Please read "The Communication Protocol of PT04E " for more mode control methods.

4.5.1. GPS continuous mode

In this mode, the GPS always operates and can tests the user's real-time position, the server can receives the real-time position information , but it can be used for 16 hours because of the high power cost.

4.5.2. GPS trigger mode

In this mode, the GPS is in sleep, while it receives the "CX" or "test falling "messages, the GPS will be woken up and turn into operation mode for 10 minutes, and then it turns back to sleep mode. As the GPS costs less power in sleep mode, so in this mode the device battery power can be used for longer time.

Attention:

Although the product can work for a longer battery time in the GPS trigger mode, user is recommended to charge the product every 3~4 days in order to assure the product having enough power to switch the GPS ON to locate the position when in emergency.

4.6. Check device status

Send the specified message to the device via the binding phone. The device will reply with message including battery volume, temperature information, and device position.

4.7. Low power reminding

When the power of battery is full, the power light is off.

When the power of battery is low, the power light flashes.

When the power of battery is low, the device will speak "**Power is low, please charge the battery**" every 30 minutes.

When the power of battery is being exhausted, the device will speak "**Power runs down, please charge the battery.**" And then, the battery and network light will be off, the device turns into sleep mode.

4.8. Battery charge

- ▶ This Li battery is rechargeable. Using original battery charger can ensure battery life longer.
- ▶ Take care to insert the charger into the USB port of the device.
- ▶ For first time using, original charger shall be used to charge the battery for 8 to 10 hours. New battery can reach maximum capacity after 2 to 3 rounds of full charge and discharge.
- ▶ When the battery is fully charged, the battery light will be off as the original status.
- ▶ Disconnect the charger from the device when fully charged.

5. Communication Protocol

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5.1. Summarize

The device will send data to server by GPRS while the user falls down. So the server must provide fixed IP or Domain name, the network connection is used with TCP for timely and steady data.

After the device is on, and will send a batch of data as heartbeat, it can test the network on or off. While it tests the network off, and will connect with the server, it lasts no more than 10 minutes.

The switch makes the power of the product on or off, so when it is off, and cannot send those messages to server such as “the power off information”, “shutdown the connection of GPRS”.

User can configure the address and the port of server with SMS.

5.2. Command message

User can connect the product with SMS, after the device receives the relation command and will send relation SMS, for example, while the product receives the “binding on” SMS, after successfully setting, the device will send back the message” Your setting is successful.

If incorrectly set or sending wrong message, the device will send back the message.” Your setting is incorrect, please check carefully.

Attention

1. Before using the command message, user should make the binding successfully;
2. Other commands expect the binding message are only sent by the binding phone;
3. The command messages can be distinguished by majuscule or minuscule and every input method.

Command message

Setting	Command
Bind on	Send the message “KBD“ to the product.
Bind off	Send the message “KBD“ to the product, the binding number will be erased.
Modify the address of server	IP mode: The binding number send the message “SERVER, 124.115.xxx.98,1234 “for modifying the address and port of server. (“124.115.xxx.98” means the address of server, “1234” means the port of server.) Domain name mode: The binding number send the message “SERVER, bloong.eicp.net,1234 “for modifying the address and port of server. (“bloong.eicp.net” means the domain name of server, “1234” means the port of server.)

5.3.GPRS Protocol

After the device switches on, it will request the TCP connection with server according to the address and port of

server. If they connect successfully, the device will send the test data to server, if not, the device will send the connecting request every 5 minutes, until this connection is successful.

The server will receive 3 forms of data, one is testing information, including user's state, power, temperature and position information. The product sends this message to server spontaneously. The other one is configuration message, including all function states and parameter. This message will send to server after the request. The last one is the response message from server.

5.3.1 The form of data

5.3.1.1 Form 1:

KEY	ID	WAR	BAT	TEMP	GTIME	GLAT	GLONG
6	15	2	1~2	1~3	8	10	11

LTIME	LLAT	LLONG	END
8	10	11	2

Example:

+STAR:012896006527201,00,84,26,16:32:25,N34.213245,E108.542152, 08:48:46,N34.213239,E108.542211\r\n

Example explanation:

KEY	ID	WAR	BAT	TEMP	GTIME
+STAR:	012896006527201	00	84	26	16:32:25

GLAT	GLONG	LTIME	LLAT	LLONG	END
N34.213245	E108.542152	08:48:46	N34.213239	E108.542211	\r\n

5.3.1.1.1. Parameter Separator

Comma “,” means parameter separator.

5.3.1.1.2. Key words

The form is “+STAR:”

5.3.1.1.3. ID No.

Every ID includes 15 characters and is unique, is used for distinguishing .

5.3.1.1.4. Warn states

Warn states includes 2 characters as following:

NO	CODE	CODE MEANING
1	00	NORMAL STATE
2	01	FALLING STATE

5.3.1.1.5. BAT battery

BAT means battery, including 1~2 characters. Its range is 0~99, showing the percent of remanent battery.

5.3.1.1.6. The temperature of TEMP

While the temperature is subzero, the symbol is in the front of the temperature, while the temperature is above freezing, this symbol is elided. Its range is -99~999 °F, for example, “3” means 3°F, “-4” means subzero 4°F; “-15” means subzero 15°F;

5.3.1.1.7. GTIME GPS positioning time

GTIME means the time of GPS, the form is “hour: minute: second”, including 8 characters and using 24hours format.

5.3.1.1.8. The latitude of GLAT GPS

GLAT means latitude of GPS, the first character is symbol, “N” is north, “S” is south. The number is latitude, its range is “00.000000~90.000000”, integer occupies 2 bits, decimal occupies 6 bits. the unit is “°”.

5.3.1.1.9. The longitude of GLONG GPS

GLONG means longitude of GPS, the first character is symbol, “E” is east, “W” is west. The number is longitude, its range is “00.000000~180.000000”, integer occupies 3 bits, decimal occupies 6 bits. the unit is “°”.

5.3.1.1.10. LTIME

LTIME means the time of LBS, its form is “hour: minute: second”, including 8 characters and using 24hours format.

5.3.1.1.11. LLAT

LLAT means latitude of LBS, the first character is symbol, N is north, S is south. The number is latitude, its range is “00.000000~90.000000”, integer occupies 2 bits, decimal occupies 6 bits. the unit is “°”.

5.3.1.1.12. LLONG

longitude, its range is “00.000000~180.000000”, integer occupies 3 bits, decimal occupies 6 bits. the unit is “°”.

5.3.1.1.13. END mark

END means entering or newline, the HEX is 0x0d、0x0a;

5.3.1.2、Form 2:

KEY	ID	BDHM	GPS	END
8	15	11	2	2

Example:

+CONFIG: 012896006527201, 1382132xx25,00\r\n

Example explanation:

KEY	ID	BDHM	GPS	END
+CONFIG:	012896006527201	1382132xx25	00	\r\n

Form 2:

KEY	ID	BDHM	GPS	END
8	15	11	2	2

For example:

+CONFIG:012896006527201,1382132xx25,00\r\n

Explain:

KEY	ID	BDHM	GPS	END
+CONFIG:	012896006527201	1382132xx25	00	\r\n

5.3.1.2.1、Parameter Separator

Comma “,” means parameter separator.

5.3.1.2.2、Key words

The form is “+CONFIG:”

5.3.1.2.3、ID

Every ID includes 15 characters and is unique, is used for distinguishing .

5.3.1.2.4、BDHM

BDHM means the binding number, including 11 characters, while the binding number has been erased, the binding number becomes “00000000000”.

5.3.1.2.5、GPS work mode

GPS mode includes 2 characters as following:

NO	CODE	CODE MEANING
1	00	GPS OFF,TRIGGER MODE
2	01	GPS ON, CONCATENATION MODE

5.3.1.2.6. End Mark

END means entering or newline, the HEX is 0x0d、0x0a;

5.3.1.3、Form 3:

+COMMAND: command, parameter, parameter \r\n

While the server sends the command to the product and the product has received the message, it will give the server a response message to tell the server it has been received the command. You can view“3.2.the form of data from server”.

5.3.2、The form of data from server

The data from server is named command, while the product receive the command and then return the command to server to tell the server it has been received the command , if the server does not need the response, please throw off “+COMMAND: ”. The command includes two forms, one has parameter, another does not. 3.2.

5.3.2.1、The form of data with parameter:

KEY	CMD	PARA1	PARA2	END
9	3~6	N	N	2

For example:

+COMMAND:SERVER, 124.115.xxx.98,1234\r\n

Explain: please view “3.3 the explaining of sever command”

The form of data with parameter :

KEY	CMD	PARA1	PARA2	END
9	3~6	N	N	2

5.3.2.2.The form of data without parameter:

KEY	CMD	END
9	3~6	2

For example:

+COMMAND:GBD\r\n

The form of data without parameter

KEY	CMD	END
9	3~6	2

Explain: please view “3.3 the explaining of sever command”

5.3.2.3

Server command:

No	Name	Command	Parameter	Parameter explain
1	Binding on	KBD	Phone number	The phone number include China Mobile, China Unicom, China Telecom, as 1382132xx25
2	Binding off	GBD	/	/
3	GPS ON	KGPS	/	/
4	GPS OFF	GGPS	/	/
5	Configuration	CONFIG	/	/
6	Modifying the address and port of server	SERVER	IP/realn name +port No	As“124.115.xxx.98,1234”or“blo ong.eicp.net,1234”.
7	State	CX	/	/

5.3.3、The explaining of sever command**5.3.3.1、Binding on with parameter**

the server sends the string “+COMMAND:KBD,1382132xx25\r\n”to the product for modifying the binding number, the product will receive the command message with the new binding number. “1382132xx25”represents the binding number, 11 bits length.

5.3.3.2、Binding off without parameter

The server sends the string “+COMMAND: GBD\r\n” to the product for erasing the binding number, since then the product only distinguishes “KBD” command for new connection, and other commands cannot be distinguished.

5.3.3.3、GPS on with parameter

The server sends the string “+COMMAND: KGPS\r\n” to the product for making the GPS on, in this concatenation mode the GPS operates all the time, it will cost more power.

5.3.3.4、GPS off without parameter

The server sends the string “+COMMAND: GGPS\r\n” to the product for making the GPS into the trigger mode, in this mode, the GPS is off, while detect the falling; the GPS will be woken up and in operation.

After the GPS is woken up, the GPS will switch off if it hasn't located, if it locates successfully, it will save the position information and then switch off.

5.3.3.5、

Configuration without parameter

The server sends the string "+COMMAND: CONFIG\r\n" to the product for checking the information of the configuration. After the product receives the checking command, it will return the data as "**3.1.2 form 2**" to server.

5.3.3.6 Modifying the address and port of server with parameter

This setting just like as "3. Modifying the address and port of server" in the Command message. User can set with IP mode or Domain name mode.

IP mode:

The server sends the string "+COMMAND:SERVER, 124.115.xxx.98,1234\r\n" to the product for modifying the address and port of the server, the string "124.115.xxx.98" represents the IP of server, it must be permanent IP address, having no more than 30 characters; "1234" represents port number, its range is 1~99999.

Example:

User can make the connection between product and server as following:

- 1) Please fix the SIM card into the product and wait for 1 minute, normally the green LED flashes every 3 seconds;
- 2) Please send the message "KBD" to product, and then user will receive the message "bind successfully";
- 3) Open the soft of data supervision, and configure it as "TCP server", setting the current port number, then it can receive the data;
- 4) Send the message "SERVER, 124.115.xxx.98,1234" to product, then user can receive the message "set the address of server successfully", please switch off the product, then switch on.
- 5) View the soft of the data supervision for 1 minute, if it shows that a new IP connects with the server, and receives the string "+STAR:", this means a successful connecting.
- 6) The server must remain the ID of the string "+STAR:" for distinguishing this product.

7. Precautions

-  **While on the flight:** Please switch off the device while on the flight.
-  **In combustible or explosive environment:** In combustible or explosive environment, switch off the device. 
- In place that has dangerous items such as gas station, explosive materials, and mining field:** Switch off the device in the above dangerous places.
-  **In hospital:** Switch off the device in hospital to comply with the hospital regulations.
-  **Electromagnetic interference:** All wireless transmission equipment may interfere the performance of the device.
-  **Reparation:** Only specialized person can repair the device. Reparation without special instruction will cause damage to the device and personal health, and infringe Warranty guarantee.
-  **Spare parts and battery:** Only authorized spare parts and battery can be used. To protect the environment, please dispose the used battery properly.
-  **Proper use:** The device shall not be used at temperature over 60°C, or exposed to sunlight for a long time. Use wet cloth or static electricity proof cloth to wipe the device.

8. Special Explanations

8.1. Error warning

Any of following actions may cause error warning:

- 1) While in sleep, the device is not switched off.
- 2) Press the Control Button carelessly.
- 3) Other special condition.

In any situation, press the Control Button to cancel warning.

8.2. Missing warning

Any of following situations may cause missing warning:

- 1) SIM card is damaged, or SIM card is not properly installed.
- 2) The device is switched off or its power is exhausted.
- 3) The GSM wireless network signal is weak or blocked.
- 4) The device owner falls down on the stair.
- 5) Other special situations.

8.3. Reparation

When the device is not in proper function or damaged, please contact us and our special expert will provide reparation. Without our authorized reparation, any damage to device or person will not be our responsibility.

Notice: In some special conditions which affect the device performance, we will not bear the responsibility for slight error or missing warning.

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