

## The Wearable Panic Alarm and Personal Locator



### Description

iLocate is a personal locator that is designed to be worn comfortably. The iLocate hardware format is flexible so that it can be worn visibly or discreetly around the arm, shoulders or waist. Uniquely iLocate is fully integrated – GSM, GPS, SIM, antennae and battery – which are all contained within a waterproof envelope. An outer washable fabric sleeve ensures the wearers comfort.

The nature of the environment means that iLocate will usually operate over benign temperature ranges -  $10^{\circ}\text{C} < T < 55^{\circ}\text{C}$  – but it will tolerate physical abuse including short term immersion.

Typical duty cycle; >12 hours operating.

### Principle of operation

iLocate is designed to be used in conjunction with a Call Centre and/or Supervisory mobile phone. A contact number can be programmed to which a voice call can be made. Usually a Host Server will be used to produce location maps and reports and forward e mails and text messages.



### In Use - Start up

When taken from the charging station the internal buzzer operates for three seconds to let the user know that iLocate is >50% charged. Additionally a GPRS message is sent to the Call Centre.

### In Use - First Fix

As soon as iLocate gets its 'first fix' a packet of position data is sent to the designated Call Centre

### In Use - Find mode

iLocate will store new location information continuously and store one per minute and download the stored data every time 5 new position updates are recorded.

### In Use - Find now

To find the iLocate between scheduled reports iLocate can be polled – a Call Centre or supervisor rings iLocate and iLocate responds by sending the latest stored data. This is sent to the Host Server and can be passed on to a designated mobile number.

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### *In Use - Help mode*

ILocate has an alarm button that is wearer initiated to send an alarm message to a pre programmed number via the Host Server. The button must be held down for 3 seconds to trigger the alarm. When successfully activated the integral buzzer/vibrator activates for 5 seconds to let the wearer know that the message has been sent. When the Call Centre acknowledges receipt of the data the buzzer activates again for 2 seconds. In the case where the iLocate fails to send data over GPRS the position data will be sent by SMS after attempting GPRS for 1 minute.

The Call Centre may then initiate a voice call, reactivating the buzzer for 3 seconds to alert the wearer and activating the microphone to listen to the wearers situation. Position information is updated every minute during the voice call by SMS. When the voice call is terminated the buzzer activates for two short bursts. The panic button is automatically reset after each push, allowing for multiple incidents or attempts in case of poor GSM coverage.



### *In Use - Low battery*

When the battery voltage drops below a predetermined level a message is sent to the Call Centre with a 'battery low' message. A second repeat message is sent 30 minutes later.

### *In Use - Battery Charging*

ILocate contains an inductive charging coil that hooks onto the spigot of the wall mounted charge unit. Simply slip iLocate on to the hook to activate the charger. The LED is green when not charging, red when charging. A full recharge takes approximately 6-8 hours.



### *In Use - Mapping*

Location mapping can be provided as a web based solution via our mapping partner to street level for all of Western Europe.



### *Mechanical Details*

Outline dimensions = 180x95x13mm(max)

Weight = 100g

### *Electrical*

The product is hermetically sealed and uses inductive charging. The mains operated charge station is also supplied.

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### Technical Details:

#### GSM modem

- EGSM Quad band Wavecom Q24+ GSM Module.
- Supports voice / data / fax / SMS (text and PDU mode) / GPRS Class 10.
- OpenAT capable for embedded applications
- TCP/IP stack permitting direct UDP/TCP connectivity and POP3/SMTP/FTP services
- 60-pin board-to-board connector for power supply, serial communications, 3V SIM interface, audio, GPIOs, analogue-digital convertor and 5x5 keypad interface.

#### GPS Module

uBlox TIM4P16 channel low power consumption GPS receiver

- 8192 simultaneous time-frequency search bins
- ANTARIS Positioning Engine
  - ATR0600 RF front-end IC
  - ATR0620 Baseband IC with ARM7TDMI inside
- ATR0610 Low noise amplifier IC
- FLASH memory
- DGPS and SBAS (WAAS, EGNOS) support
- Operating voltage 2.7 to 3.3V
- Industrial operating temperature range -40 to 85°C
- Small size

#### Battery

System – lithiumcobaltoxide graphite – lithium polymer electrolyte

Nominal voltage – 3.7V

Capacity – 1100mAh

Charging method – constant current + constant voltage

Charge voltage – 4.2V

Life expectancy - >500 recharges

#### Environmental

Temperature (operating); -10°C - +55°C

Vibration; IEC 68 (20g rms random 20-10000Hz)

Shock; drop on to corners from 1m – 3 drops per corner

Humidity; <90% RH

Water resistance; IP67

#### Reference standards

R&TTE Directive 1999/5/EC

EN 301489

EN 60950