PT-35 Asset/Personal/Vehicle Tracker

Features:

- The GPS and GSM modules integrated
- GPRS/ SMS and Voice I/O
- Up to 5.000 location / activation messages can be saved (automatic)
- Built in motion sensor
- Battery charging circuit to charge 3.7 Volt Li-ion battery
- Panic input button (will power up the unit from deep sleep mode)
- Motion Switch
- Super low battery use in deep sleep mode (low power timer on)
- (Up to 3 years (*) with 3.7V/800mA battery)
- Timer circuit for waking up unit by time (hours/minutes/seconds/days/months matched) or any configured time or date.
- Timer backup battery will last up to 5+ years without battery or external power connected.
- 18 Pin mini multi I/O connector
- One digital input (0 to 60VDC)
- One analogue input (3.3VDC Max) or digital output (0-3.3Volt) (configurable)
- External battery backup option (to connect second battery or solar panel option)
- USB to Serial (Serial RS232 port (9600 baud Rate)) for external communication, firmware upgrade or direct access to modern.
- Build in amplified speaker (1.25Watt output power) and microphone
- Build in active high performance GPS antenna
- Unit can be activated from deep sleep mode by using panic input, wire connection (activate the unit when wire is broken or cut) or when closed loop is opened.
- Low battery led indicator
- Status and GPS led indicator
- Build in buzzer for warning and motion alert
- External option to connect speaker and mic
- Operating temperature range -25   to +70   (Battery 0 ±60   .)

*This assumes that the battery has negligible self-discharge

Possible Applications:
- Equipment/goods security/ tracking
- Special vehicle security/ tracking (Jetski, motorcycle, motor boat, snow motorcycle, etc.)
- Container security/ tracking
- Criminal control
- Child care
- Chronically ill safety - dementia sufferer, senior people
- Outdoor recreation - travel, hiking, bike riding
- Rescue operations
- Animal tracking
- Safety of police force or security guard
- Military use - locate soldiers on the battlefields
- Sales/technical force management

Physical Characteristics:
Unit size: LxWxH 90.4x 38.4 x 15.1 mm (18.25 max)
Plastic / Waterproof if required
Case Environmental Characteristics:
Operational Temperature: - 25 ~ + 70 °C (board temperature)
Storage temperature -40°C to +80°C
1 Multi I/O connector (18 pin with locking pins)
1 On/Off switch / 1 Park switch / 1 Panic button

Electrical Characteristics:
Input Voltage: + 5 Volt DC regulated (USB port power)
Power Consumption: Depending on operating mode between 10- hours and 3 years(*) (when using 800mA battery).

GPS Specifications:
Ublox- LEA-4S or Ublox– LEA-5S chipset version

Parameter Specification
Receiver Type: L1_frequency, C/A Code, 16-Channels, 8192_time/frequency_search_windows
Max Navigation Update Rate: 4 Hz

Accuracy Position
Position DGPS / SBAS2
2.5m CEP3 5.0m SEP4
2.0m CEP 3.0m SEP

Acquisition GPS Mode
Cold Start   34 Sec (First time fix can be between 1-3 minutes)
Warm Start   33 Sec
Hot Start   <3.5 Sec
Reacquisition <1 Sec

Sensitivity
Tracking   -158 dBm (Up to –160 dBm for Ublox-5)
Acquisition & Re-acquisition -148 dBm

Cold Starts -142 dBm

GSM Modem Specifications:
Power supply Single supply voltage 3.4V – 4.5V
Power saving Typical power consumption in SLEEP mode to 3mA

Quad-band: 900, DCS 1800, PCS 1900,EGSM 850, DCS 1800, PCS 1900
Compliant to GSM Phase 2/2+
GSM class Small MS

Transmit power Class 4 (2W) at EGSM900
Class 1 (1W) at DCS1800 and PCS 1900
GPRS connectivity
GPRS multi-slot class 10
GPRS mobile station class B

Build in TCP/IP support.

Temperature range
Operation: -25°C to +70°C
Storage temperature -40°C to +80°C

DATA
GPRS:
CSD:

GPRS data downlink transfer: max. 85.6 kbps
GPRS data uplink transfer: max. 42.8 kbps
Coding scheme: CS-1, CS-2, CS-3 and CS-4
Supports the protocols PAP (Password Authentication
Protocol) usually used for PPP connections.
Integrated TCP/IP protocol.
Support Packet Switched Broadcast Control Channel (PBCCH)
CSD transmission rates: 2.4, 4.8, 9.6, 14.4 kbps, non-transparent
Unstructured Supplementary Services Data (USSD) support
SMS, MT, MO, CB, Text and PDU mode
SMS storage: SIM card
Support transmission of SMS alternatively over CSD or GPRS.
User can choose preferred mode.
FAX Group 3 Class 1
SIM interface Supported SIM card: 1.8V ,3V

Audio Features Speech Codec Modes:
Half Rate (ETS 06.20)
Full Rate (ETS 06.10)
Enhanced Full Rate (ETS 06.50 / 06.60 / 06.80)
Echo cancellation
Noise reduction
Phonebook management Supported phonebook types: SM, FD, LD, MC, RC, ON,
ME,BN,VM,LA,DC,SD
Application Toolkit Supports SAT class 3, GSM 11.14 Release 98
Real time clock Implemented

Timer function Programmable via AT command
Firmware upgrade: firmware upgradeable over serial interface
Coding schemes and maximum net data rates over air interface
Coding scheme 1 Timeslot 2 Timeslot 4 Timeslot
CS-1: 9.05kbps 18.1kbps 36.2kbps
CS-2: 13.4kbps 26.8kbps 53.6kbps
CS-3: 15.6kbps 31.2kbps 62.4kbps
CS-4: 21.4kbps 42.8kbps 85.6kbps

GPS/ GSM Antenna Specifications:
Build into the unit.

Power Use :
Using 800mA/ 3.7Volt battery.

The PT-35 has 3 different working modes. Depending on configuration settings power consumption
will be as shown here.

Normal running mode:
GSM on – GPS on –Timer running – Panic – Digital input – ADC input on
Will last 10 Hours.

No movement and inputs activated for 5 minutes then:
GSM on – GPS off –Timer running – Panic – Digital input – ADC input off
(No activation last 4 to 11 Days – Depending on GSM provider refresh rate)

Basic sleep mode:
GSM on – GPS on –Timer running – Panic – Digital input – ADC input on
Will last 10 Hours.

No movement and inputs activated for 5 minutes then:
GSM off – GPS off –Timer running – Panic – Digital input – ADC input off
Will last up to 55+ days (*).

Deep sleep mode:
GSM on – GPS on –Timer running – Panic – Digital input – ADC input on
Will last 10 Hours.

No movement and inputs activated for 5 minutes then:
GSM off – GPS off –Timer running – Panic – or wire loop connected
Will last up to 3-5+ years (*)

*This assumes that the battery has negligible self-discharge

Standard Package:

Dimensions: