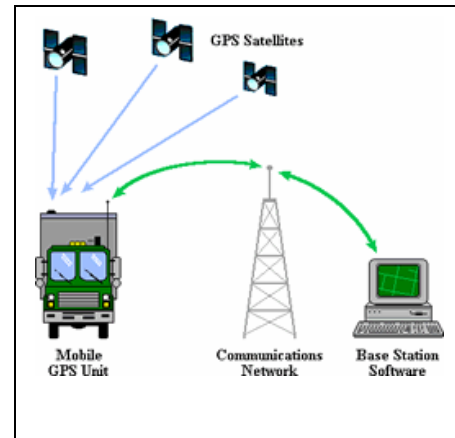


OVERVIEW

The GPS based vehicle tracking system uses the satellite signals to track the position of the vehicle. The position of the vehicle is grasped by the longitude and latitude values. These values are then transmitted to the server through GPRS protocol as shown graphically.



The **inVTrack QB238** is a complete vehicle tracking, security and fleet management solution in one unit. It is the most feature-rich unit in the market today, with over 20 features. The unit and its components when installed are most reliable and tamper proof. A two way communication modem, based on existing wireless infrastructure, makes it possible to deploy the system with immediate functionality all around the world. The unit has a built-in alarm system, that monitors the vehicle at all times, and alerts the Control Center in case of theft or distress.



The unit includes GSM/GPRS modem with SIM and a GPS based ultra tiny low power GPS smart antenna module with patch internal antenna. This unit is designed to work at 12V-40V dc supply. Supply is given through a three core wire, which includes positive, ground and an ignition. These are taken from the ignition switch of the vehicle, ignition wire is connected to the ignition point of the switch .The

device will switch on when connected to the battery and will notify the ignition is on also transmit the data continuously.

General Features

Complete Security System	Online operational security system with seven different logic to detect over speed, geo special violations and report to the data center.
Passive Alarming	Optional automatic system alarming when the vehicle has been off for a period of time.
Offline Data Storage	Onboard memory to store data while communication to the host is broken.
Trigger-before-transmit	Option to start the alarm before sending a transmission, to avoid false alarms from owner.
Panic Button	On board panic button to alert break down or unexpected event to the control Centre.
Backup Battery	Backup battery is included on board to detect and keep transmitting information in case of main power failure, usually due to break-in and tempering the unit.
Low Power Warning	Warning transmission whenever the main power goes below a predefined threshold.
Ignition Disarming	Option for disarming from the vehicle's ignition, in case of alarm.
Lock Pulse	Option for providing doors' locking pulse to drive the external Lock.
Unauthorized Code Alert	Alert when unauthorized code has been used by the keypad or remote control with keypad on-board.
Gradual Stop:	Option to gradually stop the vehicle by using an external relay over the fuel pump. The parameters to set the gradual delay and pulses speed are all programmable.
Geo Fencing	Lane switching and route diversion can be notified.
Trip Reporting	Capable to generate report at adjustable intervals.
Engine Performance	Distance traveled and fuel consumptions data can be utilized for Fleet performance evaluation and maintenance planning.
Data Security	Data encryption while communicating to avoid data tampering.
Times Programming	Complete control over the alarm system timing (the intervals at which the unit stays at each of the alarm system logic modes).

GENERAL SPECIFICATION

Cellular Modem GSM	800/1900 MHz
Cellular Antenna	Nano Kernel Special design (Inbuilt)
GPS Antenna	Nano Kernel Special design (Inbuilt)
Network	GSM/GPRS Network
Messages	SMS GPRS/1x Encrypted Protocol TCP/IP over PPP
GPS Satellite Tracking Protocol Positioning accuracy Navigation Update Rate Navigation method Time to First Fix (TTFF)	20 Channel L1 NMEA (Binary format) Position: 2m CEP (50%) Velocity: 0.1m/s (50%) 1 second (Default) All-In-View solution / 2-Satelite solution Hot Start: 1 sec' Warm Start: 35 sec' Cold Start: 42 sec'
CPU Capacity	ARM7, 32 bit, 52 MHz running Open AT [®] RTOS as standard Internal, 32Mb Flash and up to 16Mb SRAM or PSRAM
I/O Digital Inputs Digital Outputs Analog Inputs	12 12 5
Alarm System Immobilizers Disarming Options	Built in Internal - 30 Amp relays External usage as Gradual Stop Key Pad, Remote Control, Remote Control with Pad
Backup Battery Type Backup Time	On Board, TH-Axial 1.2v 400mAh Up to 255 Messages and 3 days
Serial Port RS232 Transfer rate (Baud)	External Interface / Serial communication 115,000 or 19,200 or 57,600 (default) bps

GPS Technical Specifications

Receiver Type	20-channel, L1 frequency, C/A code
Horizontal Position	< 2.5m (Autonomous)
Accuracy	< 2.0m (WAAS) (50% 24hr static, -130dBm)
Velocity Accuracy	<0.1 m/s (speed) <0.01° (heading) (50% @ 30m/s)
Time To First Fix	Autonomous
Hot start	<1sec
Warm start	<35sec
Cold start	<42sec (50% -130dBm)
Sensitivity (Autonomous)	-142dBm (acquisition) -159dBm (tracking) (-142dBm 28dB-Hz with 4dB noise figure)
Max. Update Rate	1Hz
Max. Altitude	<18,000 m
Max. Velocity	<1,852 km/hr
Protocol Support	NMEA v3.00, SiRF Binary 4800bps N,8,1; GGA, GSA, GSV, RMC, VTG
SBAS Support	WAAS, EGNOS
Dynamics	<4g

ELECTRICAL & ENVIRONMENTAL SPECIFICATION

Power Supply	12 V / 24 V DC
Power Consumption	40mA/average tracking
Internal Backup Battery Nominal voltage:	3.0 V
Interface	RS 232 C
Protocols	NMEA, SiRF Binary
Operating temperature	-40 ~ 85 ⁰ C except battery: -20~60 ⁰ C
Storage temperature	-40 ~ 85 ⁰ C except battery: -40~60 ⁰ C
Vibration	5Hz to 500Hz, 5g
Shock	Half sine 30g/11ms