

NAVI-TRACK 256

Advanced Vehicle Tracking Device



Features

- GPS-SBAS position engine with application processor
- Quad band GSM / GPRS modem:850 MHz / 900 MHz / 1800 MHz / 1900 MHz)
- 4 Digital inputs, 2 Digital outputs and 1 analog input
- RS 232 interface for sensor and accessory integration
- Power supply range of 7V to 32V
- Sleep mode current $\leq 6\text{mA}$
- Internal GPS and GSM antenna
- Location transmission over SMS and GPRS
- Unit configuration through Serial RS 232 / SMS using software tools
- Supports HTTP, TCP / IP and UDP / IP protocols
- Data transmission to 2 IP addresses
- Memory logs: 16,000 Data records (128 byte per record)
- Supports Embedded SIM/eUICC
- Battery backup of 15 Hrs with 10 sec update interval
- Li-ion Battery, 3.7 V, 2000mAh
- Firmware upgrade over the air (FOTA) using software tools
- Password protection and Authentication
- Device tampering alerts
- IP67 enclosure
- In-Built 3-Axis Accelerometer and temperature sensor
- Compliant to ARAI, C-DAC and DIMTS standards

Vehicle Tracking Device



Navi-Track 256

Product Description

Navi-Track is an indigenously developed GPS-SBAS based Vehicle Tracking Device (VTD) product that provides precise location, time, speed, distance etc and aimed at tracking applications.

Navi-Track 256 is a VTD with built-in GPS-SBAS receiver which provides unmatched performance in terms of sensitivity and TTFF. The GPS and GSM antennas are embedded within the enclosure thereby ensuring tamper-proof operation.

Navi-Track 256 consists of a multi-band GSM / GPRS modem for data communication. The general purpose I/O's of the Navi-Track 256 are conditioned and brought out to serve as digital I/O and analog input.

The Navi-Track 256's power supply design is robust

enough to handle the vehicle supply variations. It can operate from 7V upto 32V and provide protection against surges, short circuit and reverse battery connection.

Navi-Track 256 consists of Li-Ion backup battery for operations when the mains intentionally/ unintentionally disconnected.

Navi-Track 256 supports HTTP, TCP/IP and UDP/IP protocols for the communication with the server.

Over the air firmware upgrade feature helps in upgrading the firmware of the device when the device is live on the field. Navi-Track 256 can be integrated with many accessories such as SOS button, temperature sensor, fuel sensor, RS-232 based active/passive RFID's etc.

Technical Specifications of Navi-Track 256

| GPS | |
|---|---|
| GPS Receiver | 32 physical channels with more than 8k time & frequency search channels GPS-GAGAN; L1 band (1575.42 MHz) |
| Sensitivity (with respect to antenna) | -148 dBm acquisition -160 dBm reacquisition -165 dBm tracking |
| TTFB | 2 sec (typical) Hot start 36 sec (typical) Cold start |
| PVT accuracy (Under open sky condition) | Position (horizontal): 2.5 m (CEP) using WGS84 Datum Speed: 0.1 m/s Heading: 0.1 deg |
| Aiding | AGPS compatible (GPS data from server can be accepted) |

| GSM/GPRS | |
|--------------|--|
| General | Quad Band (850 MHz / 900 MHz / 1800 MHz / 1900 MHz) |
| Class | GPRS Multi slot Class 12/10 |
| Output power | Class 4(2W) at 850/900MHz Class 2(1W) at 1800/1900MHz |

| IO's | |
|---------------------------|--|
| Digital inputs | 4 (0V-24V) |
| Digital outputs | 2 (1 High Side & 1 Low Side) |
| Analog inputs | 1 (0V-30V) |
| Analog inputs Expandable | 2(0V-30V)* (Part No NAVI-TRACK-257) |
| MIC and Speaker Interface | 2 Way voice communication* (Part NoNAVI-TRACK-257) |

| SIM Card | |
|----------|--------------------------------|
| SIM Type | Normal SIM/ Embedded SIM/eUICC |

| Antenna | |
|---------|------------------------|
| GPS | Internal patch antenna |
| GSM | Internal PCB antenna |

| Power | |
|--------------|---|
| Mains supply | 7V to 32V through cable harness, Surge protector, Fuse(3.5A) in cable harness |

| Battery | |
|------------------|---|
| Internal battery | 3.7V Li-Ion battery (2000mAH) |
| Backup | 15 hours with 10 sec data update interval |

| In Built Sensor | |
|-----------------|--|
| Accelerometer | 3-Axis Accelerometer with inbuilt Temperature Sensor |
| Gyroscope | 3-Axis Gyroscope* (Part No NAVI-TRACK-257) |

| Protocol | |
|-------------------|---------------------------------|
| IP Protocol | HTTP, TCP / IP and UDP / IP |
| Output | NMEA 0183 custom message format |
| Data transmission | 2 IP addresses |

| Memory | |
|-----------------------|---|
| Data storage capacity | 16000 data records (assuming 128 byte/record) – 16 Mbits |
| Extendable | 50000* data records (assuming 256byte/record) – 128Mbits (Part No NAVI-TRACK-257) |

Technical Specifications of Navi-Track 256

Current Consumption

| | |
|---|----------------------|
| Active Mode- Battery not charging | 60mA @ 12V (average) |
| Active Mode- Battery charging | 240 mA @12V(average) |
| Sleep Mode | 6mA @12 V |

Device Configuration

| | |
|---|--|
| Rs232 | Serial Configuration |
| FOTA (Firmware over the air) | Supports firmware upgrade over the air using software tools |
| COTA (Configuration over the air) | Supports over the air configuration of various parameters such as APN, server IP, port, update interval and many more using software tools |

Alert

| |
|--------------------|
| Emergency(SOS) |
| Low Battery |
| Mains connect |
| Mains disconnect |
| Harsh acceleration |
| Harsh braking |
| Tamper |
| Health Packet |

Protection

| |
|---|
| Surge Protection, upto pulse 4 as per ISO7637-2 (200A) |
| Short Circuit |
| Reverse Battery |
| Tamper Protection (Tamper Switch) |
| Password Protection (Device configuration) |

Environmental

| | |
|---|-------------------------------------|
| Operational Temperature Range (Ambient) | -40°C to +70°C |
| Storage Temperature Range | -40°C to +85°C |
| Humidity | 95% non-condensing +30°C to 60°C |

Mechanical

| | |
|----------------------|-----------------|
| Dimension (L*W*H) | 120mm*86mm*46mm |
| Weight | 225 gms |

Enclosure

| | |
|---------------------|------|
| Enclosure Rating | Ip67 |
|---------------------|------|

LED Indication

| | |
|------------|----------|
| Red LED | Power |
| Orange LED | GSM/GPRS |
| Green LED | GPS |

Certification

| |
|---------------------------------------|
| EMI/EMC – AIS 004:Part 3 |
| Enclosure – IP67 |
| Shock – Clause No. 4.12 – IS:10250 |
| Vibration – Clause No. 4.1 – IS:10250 |
| Humidity – Clause No. 4.3 – IS:10250 |
| Dry Heat – Clause No. 4.2 – IS:10250 |
| Cold – Clause No. 4.4 – IS:10250 |

