MANTRA

MORBIT 10

Trusted Dual-Band GNSS Receiver with NavIC Support for Aadhaar and Banking Applications



Operating Systems | USB 2.0 | IP65 | GPS & NavIC | Aadhaar Kit Compliant | Banking Compliance

The MORBIT10 (Dual-Band GPS & NavIC USB Receiver) is designed to support Aadhaar Enrollment and banking applications requiring accurate and reliable location verification. Supporting GPS L1 and NavIC L5 dual-frequency reception, the device delivers enhanced positioning accuracy and robust performance across varied environments. It offers plug-and-play USB connectivity for Windows and Android platforms and outputs standard NMEA 0183 protocol data, ensuring easy integration with UIDAI-compliant applications and backend systems. With fast position fix times, high sensitivity tracking, and a compact IP65-rated enclosure, the device is suitable for continuous kiosk and field operation. The solution is aligned with Digital India and UIDAI ecosystem requirements.

Main Features

- Supports NMEA Protocol.
- Dual frequency (GPS + NavIC) enhances accuracy and signal robustness.
- Designed to deliver high accuracy GNSS location data suitable for verification, geotagging, asset tracking, and navigation workflows.
- USB interface for plug-and-play operation.
- Compact, portable, rugged form factor designed for the outdoor deployment.
- Efficient power usage supporting extended operation without high current draw.
- In-built Dual Antenna
- Ingress water and dust protection Aadhaar Kit compliant.

Application

- Aadhaar Enrolment centers
- Banking CSP and Micro ATM Ecosystem
- Business Correspondent and Doorstep Banking
- Compact, high sensitivity USB Dual Band GPS receiver Filed Survey & Location Verification

RoHS IP65

Technical Specification

GNSS & NavIC Sensor

Frequency/Band
GPS : L1, 1575.4200 MHz NavIC : L5, 1176.45 MHz

Position Accuracy
<5m 3 drms

Channels
>= 34 Channels

Acquisition Sensitivity
-142 dBm or better

Tracking Sensitivity
-156 dBm or better

Position Fix Time
Hot Start : 1-2 sec
Warm Start : < 30 sec
Cold Start : < 60 sec

Position update Rate
1 Hz or Higher

Protocol
NMEA 0183

Antenna
Internal

Mechanical

Approx. Dimension (L x W x H)
74 x 50 x 16 mm

Approx. Weight
100 gram

USB Cable Length
Option 1 - 1.5 Mtr,
Option 2 - 3 Mtr
Option 3 - 6 Mtr

Anti-Slip Base
Integrated non-slip pad at the bottom to prevent sliding and improve stability during operation.

Magnet Mount
Integrated high-strength magnet securely holds the device on metal surfaces for convenient placement and operation.

Interface

USB 2.0
Virtual Com Port/USBCDC
Connector : USB 2.0 Type A Male Connector
Baud Rate : 9600

Electrical

Operating Voltage
USB 5V

Operating Current
Max 100mA

Led Indication
Green Led for the GPS Satellite sync indication

Environmental

Operating Temperature
-10 to 85°C

Storage Temperature
-40 to 85°C

Humidity (Operating / Storage)
5% to 95 % - non condensing

Compliant to Following Standard

Environmental, Health and Safety
RoHS

IP Rating
IP65

Aadhaar Kit Compliance
Designed for Aadhaar Enrolment Kit applications

Operating System
Windows x86 & x64, Android