

GPS GLONASS NavIC SBAS Receiver for Avionics Applications



Features

- High performance GPS-GLONASS-NavIC-SBAS Receiver
- Features 77 channels (24 GPS, 28 GLONASS, 22 NavIC, 3 SBAS)
- Supports L1 and L2 bands for GPS, GLONASS; L5 and S bands for NavIC
- Active antenna port for interface with GNSS antenna
- Provides combined navigation solution at 10Hz
- Outputs 1PPS signal
- Supports a wide input supply range of 9V – 36V
- 2 UARTS to interface with the outside world
- Supports NMEA-0183 / proprietary message protocol

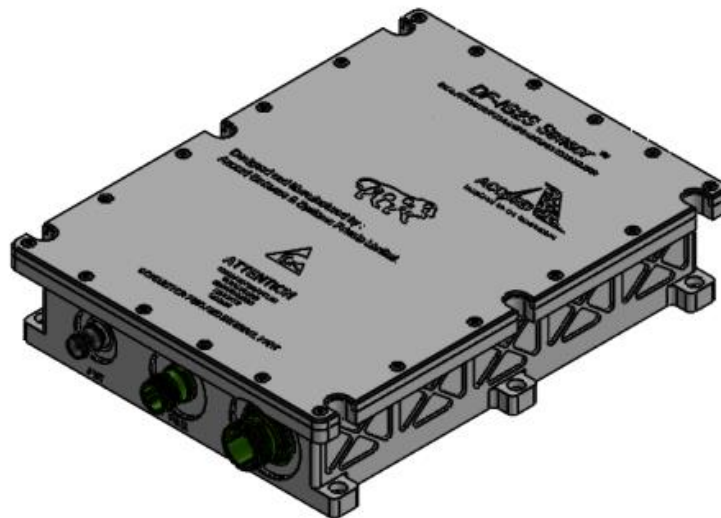


Figure 1: GPS GLONASS NavIC SBAS Receiver

Specifications of GPS GLONASS NavIC SBAS Receiver

System Specifications

Channels	77 Channels (GPS L1, GPS L2, GLONASS L1, GLONASS L2, NavIC L5, NavIC S, GAGAN)
Cold Start TTFF (without almanac, time, or position)	< 90 s (typical), open sky ^{*Combined TTFF}
Hot Start TTFF (with ephemeris, almanac, time and position)	< 20 s (typical), open sky ^{*Combined TTFF}
Combined Position Accuracy (Horizontal)	5m (1-sigma)
Combined Velocity Accuracy	0.2 m/s (RMS)
Update rate	10 Hz
Dynamics	Velocity: 515 m/s Acceleration: 4g Jerk: 10 m/s ³
Combined 1PPS	+/- 100 ns (RMS)
1PPS pulse characteristics	5ms ON (RS-422)

Host Communication

Configuration	TX, RX (2 Ports, RS-422)
Baud Rate	115200 bps
Message Formats	8 data bits, no parity, 1 start, 1 stop

Messages

Proprietary	Navigation data such as position, velocity, time, satellite constellation, DOP, FOM etc. Input commands for reset, restart, message configuration, constellation selection etc.
DGPS	Types 1, 2, 3 and 9

Electrical

Supply Voltage	9V to 36V DC
Supply Current (@ 28 V)	< 6W
Antenna Current (@ 5.0 V)	200mA

Mechanical

Dimensions	250mm x 180mm x 45mm
Weight	< 2.5Kg
RF connector	TNC
Power connector	Circular MIL connector
Data, 1PPS	Circular MIL connector

Environmental Specifications

Power supply	MIL-STD-704D
High and Low Temperature Storage and Operational Test, Low Pressure (altitude), Humidity, Mechanical Shock, Vibration, Acceleration, Thermal Shock	MIL-STD-810F
EMI/EMC	MIL-STD-461E

Antenna (not a standard accessory)

General	Airworthy Active Antenna supporting L1, L2, L5 and S bands
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Table 1: Specifications of Dual Frequency GPS GLONASS NavIC SBAS Receiver

