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GPS-GLONASS-BEIDOU-GALILEO-NAVIC-SBAS MODULE

Navika-1400S

GPS-GLONASS-BEIDOU-GALILEO-NavIC-SBAS Module for Spacecraft Applications

< 10m 3D POSITION ACCURACY	**< 20 cm/s** 3D VELOCITY ACCURACY	**< 100ns** 1PPS ACCURACY	**10 km/s** 3D VELOCITY LIMIT
2,000 kms ALTITUDE LIMIT	**2g** ACCELERATION LIMIT	**20k rad** RADIATION TOLERANCE	**< 0.5 W** POWER CONSUMPTION

PRODUCT OVERVIEW

Navika-1400S is a GPS-GLONASS-BEIDOU-GALILEO-NavIC-SBAS receiver module designed for high dynamics applications. With a form-factor of 19mm x 19mm, Navika-1400S lends itself for integration into applications with severe space constraints. Navika-1400S is tuned to perform at velocities and accelerations endured in Spacecraft Applications. It provides a fast fix in cold start under stated dynamics.



KEY PERFORMANCE FEATURES

- 19mm x 19mm module form-factor
- GPS-GLONASS-BEIDOU-GALILEO-NavIC-SBAS positioning module
- Fast Time-To-First-Fix in Cold start
- Precise 1PPS output with configurable pulse characteristics
- Supports higher dynamics
- Single 3.3V input supply
- Edge half-PTH connection points for easy assembly
- NMEA0183 compatible message format
- Works with active / passive (with external LNA) antenna

PHYSICAL & ELECTRICAL

Dimensions	**19mm x 19mm**
Weight	**2 gms (Approx.)**
Supply Voltage	**3.3V DC**
Board-to-Board Interface	**Edge half-PTH connection points**

Specifications of Navika 1400S Module

Performance Characteristics	
Number of Channels	64 channels (GPS-GLONASS-BEIDOU-GALILEO-NavIC-SBAS)
Sensitivity	
Acquisition	-136 dBm (Cold start) -142 dBm (Reacquisition)
Tracking	-150 dBm
Time to First Fix	
Cold Start (without almanac, time, or position)	120 sec
Accuracy	
Position (Horizontal)	10m (1σ)
Velocity	0.2 m/sec (RMS)
Reacquisition	
Signal	<5 sec
Position	<10 sec
Blockage Time	30 seconds
Navigation Solution	
PVT	3D position, velocity, and time (WGS84)
Position Update Rate	1 Hz
Navigation Solution	
1PPS	<+/-100ns, 1σ without errors
Pulse Width	5ms
Pulse Edge	Rising
Pulse Delay	0ns
Dynamics	
Velocity	10,000 m/s
Acceleration	2g
PC/Host Communication	
Interface	UART
Baud Rate	115200
Message Formats	NMEA0183 Ver. 4.11 ASCII, as well as proprietary messages (Optional)
Environmental Characteristics	
Operational Temperature Range (Ambient)	-40°C to +85°C
Storage Temperature Range	-40°C to +85°C
Vibration	10gRMS
Electrical Characteristics	
Current Consumption	<150mA @ 3.3V
Output Messages	
NMEA	GNS, GGA, GSA, RMC, GLL, GSV, VTG, ZDA
ASCII	Version, Receiver Configuration, Antenna Status, PPS mode
Input Messages	
ASCII	NMEA message control and configuration, Factory reset, Restart
Mechanical	
Dimensions (without consideration of connector lengths)	19mm x 19mm
Weight	2 gms (Approx.)

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