Navi-3

Ultra-compact MEMS/GNSS system

Navi-3 is a miniature INS/GNSS(GPD+GLONASS) navigation system based on MEMS inertial sensors. System incorporates 3 rate sensors, 3 accelerometers and barometric altimeter located in the same enclosure with GNSS receiver and data processing unit.

Navi-3 guarantees uninterrupted navigation solution with 50Hz rate even when satellite data is not available.

- ✓ light and compact - ideal for weight-sensitive applications
- ✓ navigation, orientation and positioning
- ✓ no maintenance required
- ✓ reliable navigation solution during GNSS outages
- ✓ dynamic navigation without

Navi-3 is compatible with any type of GNSS receiver, which outputs navigation data in NMEA format.

The heart of Navi-3 system firmware is a patented navigation algorithm where carrier dynamics and MEMS sensor peculiarities are considered. The firmware can be adopted to any carrier, thus Navi-3 is applicable to any type of aerial or terrestrial vehicle, especially where system size and weight is critical.

Each unit goes through advanced sensor calibration procedure, thus system performance is guaranteed within the whole range of operating temperatures.

Technical specification

Accuracy (1σ)	**INS/GNSS**	**Pure INS**	**INS/Odometer**
Attitude (roll, pitch)			
straight motion	0.1~0.15°	0.2~0.4°	0.2~0.25°
maneuver	0.15~0.2°	0.7°	0.25~0.3°
Heading (tracking angle)	0.3°	1~2°*	1~2°*
Ground speed	0.2 m/s	3* m/s	1.8* m/s
Coordinates	6 m	500* m	70* m
Altitude	2~4 m	6 m	6 m
Operating ranges			
Angular rate	±300º/s		
Acceleration	±6g		
Heading	0~360°		
Pitch / Roll	± 90° / ± 180°		
Electrical			
Input voltage	12~30 VDC		
Power	2 W		
Performance			
Output data rate	50 Hz		
Interface	RS232, RS422		
Cold start	30 s		
Environment			
Operation Temperature	-50ºC~+75 ºC		
Storage Temperature	-60ºC~+85 ºC		
Speed	up to 1,500 km/h		
Altitude	6,000 m		
Physical			
Weight	0.25 kg (0.55 lbs)		
Size	65 x 67 x 50 mm (2.56 x 2.64 x 1.97 in)		

* 5 min GNSS gap

Specification subject to change without notice.