

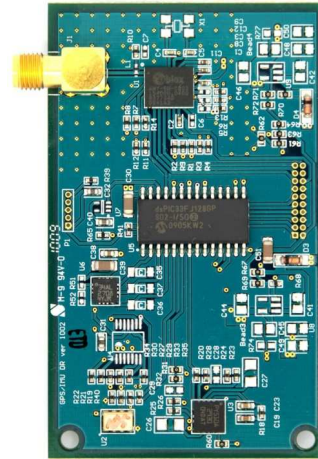
Galaxy Navigation Corp.

LNS-200A[®] GPS/DR Module

The newest GPS + DR (Dead Reckoning) On A Single Board

Feature :

- Time synchronization between GPS and DR
- Total solution for Car Navigation and Automatic Vehicle Location (AVL)
- Small size and low power consumption
- Next-generation RF technology
- Full temperature compensation and performance calibration
- Odometer signal input
- Typical DR accuracy $\leq 0.5\%$ of 2 Km distance traveled
- **Lead free/ROHS compliant**



The **LNS-200A[®]** Land Navigation System combines dead reckoning with GPS on a single, compact board. When GPS signals are limited or not available, such as in urban canyons and tunnels, the **LNS-200A[®]** module provides reliable and accurate positioning information. It is an ideal solution for system integrators or OEMs who are adding location capabilities to vehicle navigation, fleet management and asset tracking systems.

LNS-200A[®] is integrated with 3-axis gyro, 3-axis accelerometer and odometer pulse input. Its sophisticated GPS/DR algorithm auto calibrates these sensors and optimally blends the sensor inputs and GPS to produce accurate position and velocity outputs in the most hostile GPS environments. DR estimates position based on heading and distance traveled since the last known position. It uses kalman filter to compensate the error of the DR sensors.

Application :

- The field which wants knowing the more accurate location of the vehicle in telematics.
- Navigation function improvement in personal vehicle navigational system.
- Vehicle location tracking which is accurate in vehicle control system such as the taxi, the bus, fleet management and freight transportation.
- Improvement of vehicle location tracking function in insurance company, commercial bank when it occurs vehicle breakdown or vehicle robbery.
- Portable navigation device (PND).



Specification

Performance

Angular rate:	100 deg/s
Acceleration:	2g
Update rate :	GPS 1 Hz
	DR 10 Hz
Receive type :	50 channels, L1 frequency, C/A code
Accuracy :	
Horizontal	< 2.5 m (CEP) < 2.0 m (SBAS)
Altitude	< 3.5 m (CEP)
Velocity	< 0.1 m/s
Heading	0.5 degree
1 PPS	± 30 ns (RMS)
Time-to-first-fix (TTFF) :	
Hot start	< 3 sec
Cold start	32 sec
Warm start	32 sec
Reacquisition	< 1 sec

Dynamics

Velocity limit	515 m/s
Altitude limit	18,000 m

Protocols

Configurable	NMEA or UBX
NMEA Messages	GSV, RMC, GSA, GGA, GLL, VTG, and TXT

Power

Prime Power	5V DC
Antenna Power	3~3.3V DC
Power consumption	< 0.5 W

Interface and Connector

Interface	UART / RS232
Antenna Connector	SMB
Power Connector	20 pin male(10x2; 2.0mm)

Environmental

Operating Temperature	- 40°C to +85°C
Storage Temperature	- 40°C to +85°C

Others

Dimensions	75 mm x 45 mm x 11.5 mm (without RF connector)
Weight	< 25 g