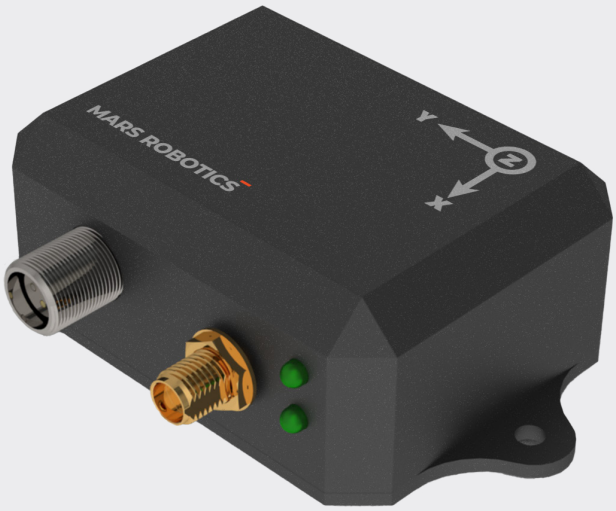
MARS ROBOTICS
مارس روبوتكس

PRODUCT DATA SHEET

MARSNAV GNSS/INS 100



OVERVIEW:

MARSNAV-GNSS/INS 100 is a cutting-edge navigation system that combines GNSS and INS data at 200 Hz, using an Adaptive Linear Kalman Filter delivering real-time 3D position, velocity, and orientation. Featuring a multi-band, multi-constellation GNSS receiver, it achieves tilt accuracy of 0.5° RMS for pitch and roll, and 1° (static), and 2° (dynamic) for yaw. Designed for precision and reliability, it excels in land, marine, and aerospace applications.

Navigate with Confidence	**Low-Power Operation**	**Multi-Band GNSS Constellation Versatility**
Spoofing and Jamming Detection	**Dead Reckoning**	**Intuitive Interface**
Superior Velocity Accuracy	**Easy Installation**	**Cost-Effective Precision**

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SPECIFICATIONS:

Orientation Performance

Pitch/Roll (Static)	0.5 deg RMS
Pitch/Roll (Dynamic)	0.5 deg RMS
Yaw (Static)	1 deg RMS
Yaw (Dynamic)	2 deg RMS

Position & Velocity Accuracy

Horizontal Position accuracy	1 m RMS
Vertical Position accuracy	2 m RMS
Velocity	0.06 m/s RMS

Accelerometer Specifications

Measurement Range	User selectable ±2.5g & ±10g
Resolution	0.079mg (2.5g) / 0.313mg (10g
Linearity	0.1%
Operating Temperature	-40 to +125 °C
Noise	1mg

Gyroscope Specifications

Measurement Range	User selectable ±150°/s & ±300°/s
Resolution	0.005°/s (±150°/s) / 0.01°/s (±300°/s)
Linearity	0.1%
Operating Temperature	-40 to +125 °C
Noise	0.06°/s

Magnetometer Specifications

Measurement Range	-800 to +800 µT
Resolution	13 nT
Linearity	0.5% over 200 µT
Operating Temperature	-40 to +85 °C
Noise	20 nT

GNSS Receiver Specifications

Time to First Fix (Cold / Hot)	< 30s / < 2s
Sensitivity	-167 dBm
Max Navigation Update Rate	25Hz
Antenna Type, Connector Power Supply	Active, 3.3 V
Multi-Constellation GNSS Capability	GPS L1 C/A, QZSS L1 C/A L1S, GLONASS L1OF BeiDou B1I/B1C, Galileo E1B/C SBAS L1 C/A: WAAS, EGNOS, MSAS, GAGAN

Board Specifications

Input Voltage	3.3 – 20 V
Dimensions (mm, H x W x L)	OEM: 1.63 x 40 x 50 Boxed: 25 x 45 x 68
Weight	50 g
Hardware Interface	RS232 (up to 250kbps)
GNSS Antenna Connector	50 Ohm SMA Female
Operating Temperature	-40 to +85 °C
Output Data Rate	Up to 200Hz

Software Suite

MARS Navigator v1.0

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