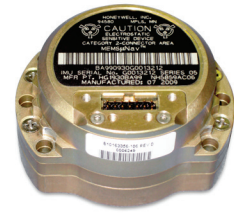


SPAN® OEM-IMU-HG4930P



SMALL, AFFORDABLE MEMS IMU
COMBINES WITH SPAN TECHNOLOGY
PROVIDING 3D POSITION, VELOCITY
AND ATTITUDE



ABOUT SPAN: WORLD-LEADING GNSS+INS TECHNOLOGY

Synchronous Position, Attitude and Navigation (SPAN) technology brings together two different but complementary technologies: Global Navigation Satellite System (GNSS) positioning and Inertial Navigation Systems (INS). The absolute accuracy of GNSS positioning and the stability of Inertial Measurement Unit (IMU) gyro and accelerometer measurements combine to provide an exceptional 3D navigation solution that is stable and continuously available, even through periods when satellite signals are blocked.

SOPHISTICATED, TACTICAL GRADE MEMS PERFORMANCE

The OEM-IMU-HG4930P is a high performing Micro Electromechanical Systems (MEMS) IMU. Economical, robust and small, the low power OEM-IMU-HG4930P provides tactical grade performance for unmanned vehicles and commercial and/or military guidance applications. When integrated with NovAtel's SPAN technology, this IMU is ideal for airborne, marine and ground applications that require accurate 3D position, velocity and attitude data in a compact package.

OEM-IMU-HG4930P ADVANTAGES

The OEM-IMU-HG4930P is comprised entirely of commercial components, simplifying export processes for this IMU.

IMPROVED ACCURACY

Take advantage of NovAtel CORRECT® to receive your choice of accuracy and performance, from decimetre to RTK-level positioning. For the most demanding applications, Inertial Explorer® post-processing software from our Waypoint® Products Group offers the highest level of accuracy.

BENEFITS

- + Ideal for size and weight constrained applications
- + Easy to integrate with SPAN enabled OEM7 GNSS receivers
- + Commercially exportable

FEATURES

- + MEMS gyros and accelerometers
- + Small size, rugged and light weight tactical grade IMU
- + 5 VDC power input
- + SPAN GNSS+INS functionality
- + SPAN Land Vehicle technology

If you require more information about our SPAN products, visit www.novatel.com/span

OEM-IMU-HG4930P



SPAN SYSTEM PERFORMANCE¹

Horizontal Position Accuracy (RMS)

Single point L1/L2	1.2 m
NovAtel CORRECT	
» SBAS ²	60 cm
» DGPS	40 cm
» PPP ³	
TerraStar-L	40 cm
TerraStar-C	4 cm
» RTK	1 cm + 1 ppm

Data Rate

IMU Raw Data Rate	100 Hz
INS Position/Attitude	200 Hz

Time Accuracy⁴

20 ns RMS

Max Velocity⁵

515 m/s

IMU PERFORMANCE⁶

Gyroscope Performance

Technology	MEMS
Input rate	±200°/sec

Accelerometer Performance

Technology	MEMS
Range	±20 g

PHYSICAL AND ELECTRICAL⁶

Dimensions 64.8 mm dia max
× 35.7 mm h max

Weight 200 g

Power

Power consumption	<3 W (typical)
Input voltage	+5 VDC

ENVIRONMENTAL⁶

Temperature

Operating	-40°C to +71°C
Storage	-40°C to +80°C

Random Vibe

MIL-STD-810G(Ch1),
Method 514.7 (2.0g)

For the most recent details of this product:

www.novatel.com/products/span-gnss-inertial-systems/span-imus/span-mems-imus/imu-hg4930P

novatel.com

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Europe 44-1993-848-736

SE Asia and Australia

61-400-883-601

Version 2 Specifications subject to change without notice.

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PERFORMANCE DURING GNSS OUTAGES⁷

Outage Duration	Positioning Mode	POSITION ACCURACY (M) RMS		VELOCITY ACCURACY (M/S) RMS		ATTITUDE ACCURACY (DEGREES) RMS		
		Horizontal	Vertical	Horizontal	Vertical	Roll	Pitch	Heading
0 s	RTK ⁸	0.02	0.05	0.015	0.010	0.010	0.010	0.030
	SP	1.20	0.60	0.015	0.010	0.010	0.010	0.030
	PP ⁹	0.01	0.02	0.015	0.010	0.005	0.005	0.010
10 s	RTK ⁸	0.12	0.10	0.040	0.020	0.020	0.020	0.040
	SP	1.30	0.65	0.040	0.020	0.020	0.020	0.040
	PP ⁹	0.01	0.02	0.020	0.010	0.005	0.005	0.010
60 s	RTK ⁸	3.82	0.75	0.165	0.035	0.030	0.030	0.055
	SP	5.10	1.30	0.165	0.035	0.030	0.030	0.055
	PP ⁹	0.15	0.05	0.020	0.010	0.007	0.007	0.012

¹ Typical values. Performance specifications subject to GNSS system characteristics, Signal-In-Space (SIS) operational degradation, ionospheric and tropospheric conditions, satellite geometry, baseline length, multipath effects and the presence of intentional or unintentional interference sources.

² GPS-only.

³ Requires subscription to TerraStar data service. Subscriptions available from NovAtel.

⁴ Time accuracy does not include biases due to RF or antenna delay.

⁵ Export licensing restricts operation to a maximum of 515 metres/second.

⁶ Supplied by IMU manufacturer.

⁷ Outage statistics were calculated by taking the RMS of the maximum errors over a minimum of 30 complete GNSS outages. Each outage was followed by 120 seconds of full GNSS availability before the next outage was applied. High accuracy GPS updates (fixed ambiguities) were available immediately before and after each outage. The survey data used to generate these statistics is ground vehicle data collected with frequent changes in azimuth (i.e., as normally observed in ground vehicle environments).

⁸ 1 ppm should be added to all values to account for additional error due to baseline length.

⁹ Post-processing results using Inertial Explorer. The survey data used to generate these statistics is ground vehicle data collected with frequent changes in azimuth (i.e., as normally observed in ground vehicle environments).