OEM3000 v3

High performance GNSS/INS for integrated solutions

When your system demands precision, confidence, and reliability, the OEM3000 provides a complete position and motion reference to support your application.

Trusted globally for ground truth measurements in:

/ Robot control systems

/ Vehicle dynamics testing

/ Autonomous vehicle validation

/ Global NCAP ADAS testing

OXTS Integrated

Precision reference you can trust

Record a complete 3D motion and dynamics profile with GNSS + inertial sensor fusion. The fully integrated high-grade MEMS IMU and RTK GNSS receivers in the OEM3000 combine to provide a comprehensive list of measurements including position, velocity, acceleration, heading, and orientation.
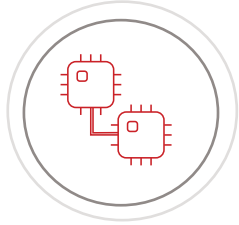
Ideal for system integration

Low latency high speed outputs enable smooth continuous data that is essential for safety critical systems and real time control like robotic systems and guided platforms.

Provide accurate ground truth reference for autonomous systems and sensor packages. Reliable localisation with the high performance IMU and additional aiding technologies like tight-coupling and "No-slip" land vehicle profile help maintain centimetre-level positioning in adverse conditions.

Customise to suit your needs

Starting with the leading INS technology that gives accurate and robust position, choose from a range of options to tailor your system to fit your application without paying for features you don't need.

/ CAN output (including CAN-FD support)

/ GX/IX™ RTK tight-coupling technology

/ Wheel speed odometer input support

/ Increased output rate up to 250 Hz

/ Network differential

/ ISO 17025 calibration

/ Generic aiding input

/ And others

Well-known quality, new connectivity

The technology and performance you can expect is backed by 20 years of history and experience. Our in-house calibration facilities, custom built IMUs, and advanced navigation algorithms are proven and trusted by customers around the world. The new OEM3000 includes the same high performance and functionality along with some new accessibility features.

NEW Integrated Wi-Fi for wireless device monitoring and communication

NEW NTRIP client onboard to receive corrections on the open road

NEW CAN-FD interface

/ Multi-frequency multi-constellation dual antenna RTK GNSS

/ High-grade MEMS IMU provides precision dynamics measurement and reduces errors in bad GNSS

/ Tight-coupling further improves performance in difficult environments like urban canyons

/ Non-ITAR, commercially exportable

/ Low latency 100 Hz output over Ethernet and serial

OXTS *Integrated*

Technology to support you

OxTS systems are more than just GNSS + IMU hardware. The advanced navigation algorithms and supporting technologues help ensure you get the best out of your system and your integration is robust, reliable, and the best performance you can get.

Dual antenna GNSS

/ Integrated dual antenna receiver enables true heading calculation

/ Accurate and stable heading performance even during low dynamics or stationary periods

/ Start logging and outputting full navigation data before the vehicle starts moving with static initialisation

/ Increased accuracy with wider antenna baselines

/ GLONASS support on secondary receiver enhances robustness and speeds up static initialisation

/ Tight-coupling implementation in heading algorithms improves reliability in difficult environments

GX/IX™ RTK

/ With the tightly-coupled GNSS + IMU, raw satellite data is used directly in the navigation algorithms to improve performance in limited GNSS conditions

/ Custom RTK processing engine tailored to the OEM3000 sensors helps reliability and allows RTK quality in post-processing with RINEX corrections

/ Faster RTK relock after obstructions and position updates even with fewer than 4 satellites in view maximises time spent with optimal accuracy

Land vehicle dynamic profile

/ Typical land vehicle motion allows navigation constraints that improve performance with no external equipment required

/ Lateral No-slip feature enhances lateral velocity, heading, and slip angle and reduces drift when GNSS is unavailable

/ Vertical No-slip feature enhances vertical velocity and pitch to reduce drift

/ An external wheel speed odometer can further enhance velocity measurements and reduce drift

Performance[1]		OEM3000
Positioning		GPS L1, L2 GLONASS L1, L2 Beidou[3] B1, B2 L-Band[4]
Position accuracy (CEP)	SPS	1.5 m
	SBAS	0.6 m
	DGPS	0.4 m
	RTK	0.01 m
10 s outage	RTK	0.16 m
	PP	0.02 m
60 s outage	RTK	1.5 m
	PP	0.30 m
Velocity accuracy (RMS)		0.05 km/h
Roll/pitch accuracy (1σ)		0.03°
Heading accuracy (1σ)[2]		0.1°
Dual antenna		✔
Max update rate		100 Hz, 250 Hz[3]

Hardware

Dimensions	184 x 120 x 71 mm
Mass	1.4 kg
Input voltage	10-50 V dc
Power consumption	15 W
Operating temperature	-40° to +70°C
Environmental protection	IP65
Vibration	0.1 g^2/Hz, 5-500 Hz
Shock survival	100 g, 11 ms
Internal storage	32 GB
I/O connector	22 pin Deutsch AS
GNSS antenna connector	TNC
Interfaces	Ethernet, RS-232, CAN[3], RS-422[3]

Sensors

Type	Accelerometers	Gyros
Technology	Servo	MEMS
Range	±10 g	±100°/s
Bias stability	2 µg	2°/hr
Linearity	0.01%	0.05%[5]
Scale factor	0.1%	0.1%
Random walk	0.005 m/s/√hr	0.2°/√hr
Axis alignment	<0.05°	<0.05°

[1] Valid for open sky conditions.

[2] Dual antenna heading valid for 2 m antenna separation. Wider separation will improve accuracy. Supports up to 5 m separation.

[3] Optional upgrade.

[4] Requires subscription to 3rd party service.

[5] With SuperCAL adjustment.

OXTS *Integrated*

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Improve your product
positioning with OxTS Integrated
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