OXTS

RT3000 v4

The benchmark GNSS/INS

The RT3000 v4 delivers precision positioning with survey-grade accuracy, fast startup, and robust GNSS performance. Its rugged, compact design and advanced sensor fusion make it ideal for ADAS testing, mobile mapping, and autonomy in challenging environments.

Key Features

+ 1 cm position accuracy
+ 0.04° heading and 0.01° roll & pitch
+ ITAR-free; no export licence required
+ ISO17025-accredited calibration
+ IP65 enclosure
+ End-to-end software toolchain included
+ Volume pricing for large-scale operations

Technical specification

Model	RT3000 v4
Positioning	GPS L1, L2 GLONASS L1, L2 BeiDou B1, B2 Galileo E1, E5 L-Band
Single/dual antenna?	Both
ITAR-free?	Yes

Performance specification with GNSS [1]

	Value
X,Y Position (CEP)	1.5 m SPS 0.4 m DGPS 0.03 m PPP [2] 0.01 m RTK
Altitude	0.012 m
Velocity (RMS)	0.025 km/h
Roll & pitch (1σ)	0.01°
True heading (1σ) [3]	0.04°
Slip angle (1σ) [4]	0.05°

Performance specification without GNSS (RMS)

	Real-time [1]			**Post-process [1]**			**Post-process with OXTS LiDAR Boost Odometry [5]**		
GNSS outage duration	10 s	30 s	60 s	10 s	30 s	60 s	10 s	30 s	60 s
X,Y Position (m)	0.20	0.55	1.10	0.07	0.25	0.50	0.050	0.088	0.149
Altitude (m)	0.10	0.30	0.50	0.04	0.12	0.25	0.056	0.075	0.118
Velocity (m/s)	0.04	0.05	0.07	0.02	0.04	0.05	0.010	0.014	0.017
Roll & pitch (°)	0.02	0.025	0.03	0.01	0.01	0.02	0.012	0.015	0.017
True heading (°)	0.05	0.09	0.12	0.04	0.05	0.07	0.027	0.036	0.046

Physical characteristics

Dimensions	120 x 120 x 71 mm
Mass	690 g
Input voltage	10 - 48 V dc
Power consumption	6 W
Internal storage	32 GB
Onboard data-logging rate	3 MB/s

OXTS IMU10 Sensors

Type	Accelerometers	Gyros
Technology	MEMS	MEMS
Range	8 g	490 °/s
Bias stability	0.005 mg	0.8 °/hr
Scale factor (1σ)	0.02 %	0.08 %
Random walk	0.012 m/s/√hr	0.12 °/√hr
Axis alignment	< 0.01 °	< 0.05 °

Interfaces

Ethernet	10/100 Base-T [x3]
Serial/CAN Serial	Configurable RS232 or CAN-FD RS232 + power for serial radio
Digital I/O	Quadrature wheelspeed input PPS input/output Trigger input/output [x2]

Environmental characteristics

Operating temperature	-40° to 70° C
Vibration	0.1g/Hz 5-500 Hz
Shock survival	100 g, 11 ms
Environmental protection	IP65

[1] With differential corrections and DMI input
[2] RT3000 v4 'T' variant only. Requires TerraStar-C PRO subscription
[3] With two-meter antenna separation
[4] At 50 km/h
[5] With Hesai XT32M1X LiDAR

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