Survey+ v3

Our flagship, high accuracy INS for land-based and manned aircraft mapping

The Survey+ v3 combines the best of GNSS positioning technology with high-grade gyros and accelerometers to deliver superior performance in a single enclosure.

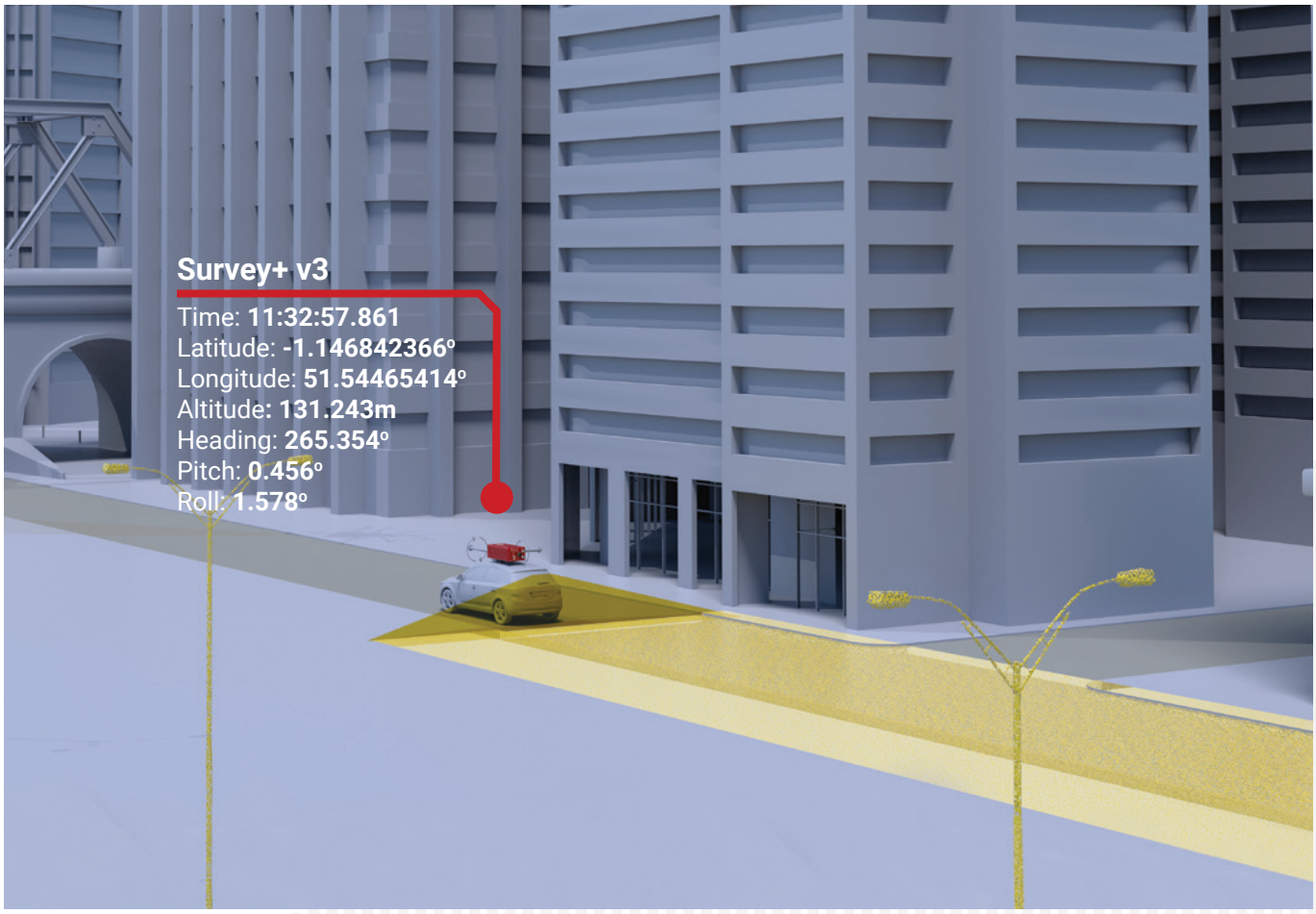
Capturing precision measurements for a range of applications including:

- / Mobile mapping
- / LiDAR survey
- / Aerial photogrammetry
- / Coastal surveys
- / Topographic mapping
- / Asset management
- / GIS data acquisition
- / Land survey
- / Road monitoring
- / Road profiling

OXTS Inertial+GNSS

Our premier INS for surveying and mapping is better than ever before

With the Survey+ v3, users enjoy the same trusted, robust performance that the Survey+ has long been appreciated for, but with next generation architecture to support both your existing and future mapping needs.



Incredible accuracy. Flexible connectivity.

Precision positioning

The best centimetre level position accuracy of any of our surveying and mapping solutions to date.

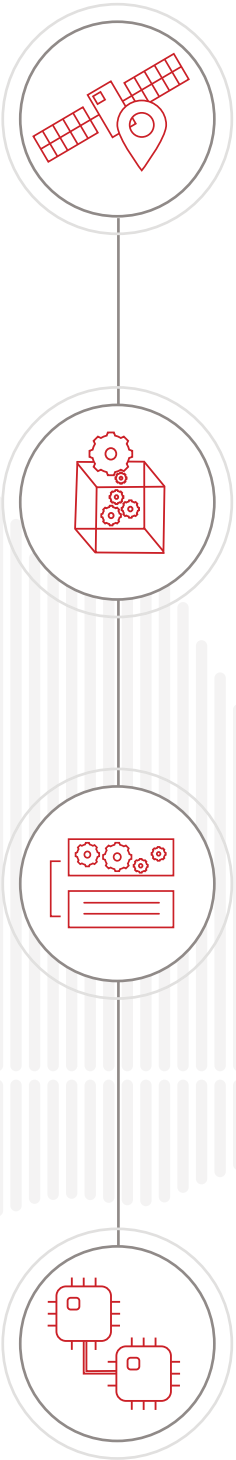
0.03° pitch and roll performance

The Survey+ v3 delivers the highest roll and pitch accuracy of any of our INS solutions, achieving measurements of 0.03°.

On-board Wi-Fi connectivity

The Survey+ v3 features integrated Wi-Fi connectivity for wireless device monitoring and communication.

Why choose the Survey+ V3?



Experts in GNSS and inertial technology

/ Advanced algorithms (gx/ix™) in the Survey+ seamlessly blend the inertial and GNSS data to provide a smooth, real-time 3D navigation solution, even when satellite signals are blocked or disturbed.

/ For ground-based applications, a wheel speed odometer can be used to reduce the drift even further.

One box, turnkey solution

/ Combining GNSS receivers, an inertial measurement unit, internal storage and a real-time processor all in one box, the Survey+ delivers everything you need for a complete navigation solution.

/ The Survey+ also comes with an extensive software suite to configure, monitor, post-process and plot your data.

Simple, adaptable, manageable

/ The Survey+ is easy to install and configure, with simple wizards to speed up the process.

/ It can seamlessly integrate with external sensors such as LiDAR scanners and hyperspectral cameras to provide accurate time, position and orientation data for direct georeferencing.

/ All of the components are ITAR free for maximum flexibility when operating in multiple countries.

Improved accuracy with advanced processing

/ A high raw GNSS data rate, coupled with forwards and backwards processing, means post-processed Survey+ data can achieve highest level accuracy.

/ Our custom gx/ix™ processing engine can further improve performance with single satellite aiding algorithms for position updates even with less than 4 satellites in view. Survey+ devices also use our inertial relock feature to regain RTK/PPK lock quicker after an outage.

/ Up to 255 RINEX files per data run can also be used, to ensure the highest accuracy during long baselines.

Features

/ 1 cm positioning

/ New dynamic CPU

/ gx/ix™ tightly coupled GNSS/INS

/ High-performance MEMS IMU sensors and GNSS receivers

/ ITAR free

/ GPS and GLONASS as standard

/ Real-time output

/ Odometer input

/ Dual antenna as standard

/ Up to 250 Hz output

/ PPK post-processing engine

/ Add-on georeferencing software available

OXTS Inertial+GNSS

Performance[1]

Model	Survey+
Positioning	GPS L1, L2 & GLONASS L1, L2 BeiDou L1, L2[2] SBAS PPP
Position accuracy (CEP[3])	
SPS	1.5 m
SBAS	0.6 m
DGPS	0.4 m
PPP[4]	0.1 m
RTK	0.01 m
Roll/pitch accuracy (1σ)	0.03°
Heading accuracy (1σ)	0.05°
Dual antenna	✔ (standard)
Heave accuracy (1σ)	10 cm or 10%

Options

Output rate Default: 100 Hz Option: 200/250 Hz	Constellation Default: GPS + GLONASS Option: BeiDou
Post-process Engine Default: gx/ixTM Option: gxRTK (PPK)	Georeferencing Software Option: Georeferencing Option: Boresight calibration

Hardware

Dimensions	184 x 120 x 71 mm
Mass	1.5 kg
Input voltage	10–48 V dc
Power consumption	14 W
Operating temperature	-10° to 50° C
Environmental protection	IP65
Vibration	0.1g²/Hz, 5–500 Hz
Shock survival	100g, 11 ms
Internal storage	32 GB

Interfaces

Ethernet (x3)	10/100 Base-T
Serial (x2)	Configurable RS232
Radio	Configurable RS232
Digital I/O	Odometer input Event trigger input 1PPS output Camera trigger IMU sync output
Wireless LAN	
Radio	IEEE 802.11 ab/g/n/ac/d/h/j
Data Rates	5GHz: 802.11a/n/ac - Up to 433 Mbps 2.4GHz: 802.11b/g/n - Up to 150 Mbps
Operating Channels	Channel 1-14 (2412 - 2484 MHz) Channel 36-165 (4900 - 5845 MHz) Channel Bandwidth: 20, 40, 80 MHz

Sensors

Type	Accelerometers	Gyros
Technology	Servo	MEMS
Range Optional	10g 30g	100° /s 300° /s
Bias stability	5 μ g	3° /hr
Linearity	0.01%	0.05%
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] Optional upgrade.
[3] Horizontal position accuracy. Vertical accuracy approx. 1.5x horizontal.
[4] PPP requires TerraStar-C license.
[5] Dual antenna accuracy with 4 m antenna separation.
[6] Heave output not available on 250 Hz systems.
[7] 7 Operating channels/frequencies and bandwidths depend on regulatory rules.
[8] With SuperCAL adjustment.

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