Ideal for direct georeferencing

Survey+ v3

GNSS/INS for land and airborne survey applications

Survey+ inertial navigation systems from Oxford Technical Solutions combine the best of GNSS positioning technology with high-grade gyros and accelerometers to deliver superior performance in a single enclosure.

>> Key features

- 1 cm positioning
- 0.03° roll and pitch
- gx/ix™ tightly coupled GNSS/INS
- Real-time output
- Up to 250 Hz output
- Dual antenna as standard
- GPS and GLONASS as standard
- Low latency outputs
- Onboard Wi-Fi
- Odometer input
- ITAR free
- Software suite included
- PPK post-processing engine

>> Applications

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

>> 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 base-line surveys.

>> Performance[1]

Model	Survey+
Positioning	GPS L1, L2 & GLONASS L1, L2 BeiDou L1, L2 [2]
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) [5]	0.05°
Dual antenna	✓ (standard)
Heave accuracy (1σ) [6]	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/ix™
Option: gxRTK (PPK)

GeoCloud 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	0.1 g^2/Hz, 5–500 Hz
Shock survival	100 *g*, 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

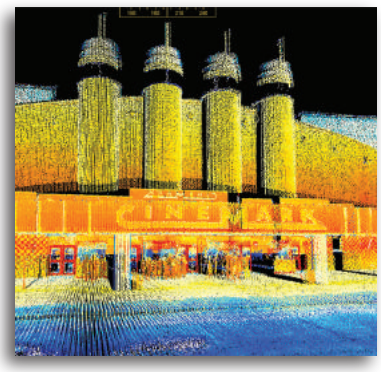
>> Wireless LAN

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 [7]

>> Sensors

Type	Accelerometers	Gyros
Technology	Servo	MEMS
Range	10 *g*	100°/s
Optional	30 *g*	300°/s
Bias stability	5 μ*g*	3°/hr
Linearity	0.01%	0.05% [8]
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 and GLONASS option.
[5] Dual antenna accuracy with 4 m antenna separation.
[6] Heave output not available on 250 Hz systems.
[7] Operating channels/frequencies and bandwidths depend on regulatory rules.
[8] With SuperCAL adjustment.



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OXTS Inertial+GNSS

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