Xsens Vision Navigator

- **Accurate positioning during GNSS outages**
- **Full ROS compatibility**
- **Ethernet, WIFI, USB-C, UART and odometry in (CAN) connections**

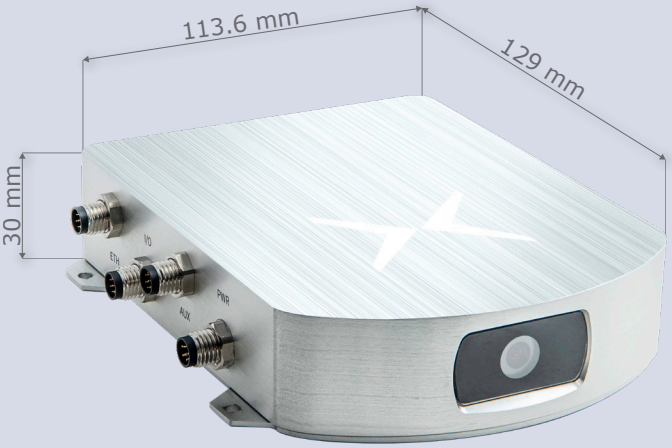
The Vision Navigator is a dual RTK GNSS/INS and vision- enabled navigation unit, for tracking accurate 3D position, velocity and orientation, in challenging outdoor- and GNSS-denied environments, supported by Visual Inertial Odometry technology.

With the Vision Navigator, position drift is distance-dependent as opposed to time-dependent as commonly found in traditional GNSS/INS devices.

The dual-antenna and built-in IMU provide reliable heading information even at low velocities or when standing still.

Additionally, it can accept wheel odometry data and has internal recording memory.

Vision Navigator has a browser-based GUI and is supported by ROS with resources in Github.



Starter Kit p/n: XVN-090D-1A-SK
Single Unit p/n: XVN-090D-1A

To order, please contact **sales@movella.com**

Complete and detailed specifications are available at **mtidocs.xsens.com**

Sensor Fusion Performance

Roll, Pitch	<0.4 deg
Yaw/Heading	0.4 deg (1m antenna baseline)
Position accuracy with RTK	1cm + 1ppm
Position accuracy during GNSS outages	0.75% of distance travelled[1]
Velocity	0.1 m/s

Gyroscope

Standard full range	2000 deg/s
Noise Density	0.003 º/s/√Hz

Accelerometer

Standard full range	16 g
Noise Density	65 µg/√Hz

GNSS Receiver

Brand	u-blox
Model	ZED-F9P (2x, internal)
RTK correction input	RTCM 3.3
RTCM input port	Ethernet, Wifi or serial

Barometer

Standard full range	260-1250 hPa
Total RMS noise	0.75 Pa

1 With wheel odometry.

Mechanical

IP-rating	IP67
Operating Temperature	-30 to 85 ºC
Casing material	Aluminum
Mounting orientation	With view of surroundings
Dimensions	129x113.6x30 mm
Connector	M8 8-pins x3, M8 4-pins x1, SMA x3, USB-C x1
Weight	420 g
Certifications	CE

Electrical

Input voltage	4.5 to 36V
Power consumption (typ)	7.5 W

Interfaces / IO

Interfaces	UART, Ethernet, Wifi, USB-C
Sync Options	SyncIn, SyncOut (PPS)
Protocols	ASCII, NMEA and ROS
Output Frequency	Up to 200 Hz

Software Suite

GUI	Browser-based GUI
SDK (Example code)	Github C++ library
Drivers	ROS
Support	BASE by XSENS: online manuals, community and knowledge base

www.xsens.com

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