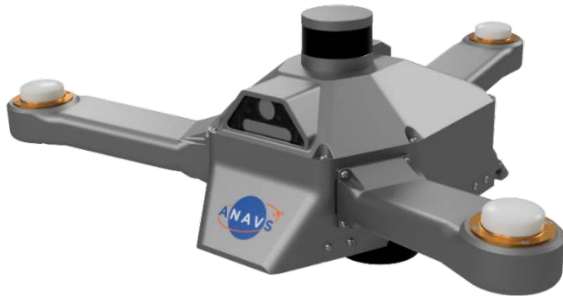


Product line: Integrated Sensor Platform (ISP)

Additional features to the MSRTK module:



ISP casing with LiDAR and Camera sensor setup



Link: [Product Summary](#)



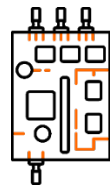
- The ISP Hardware-platform with included Software-framework is used for the combination of **classical sensor fusion with artificial intelligence algorithms** for autonomous driving, map creation and object detection/classification



- Computer Vision (stereo and mono cameras)



- 3D-Lidar



- Integrated powerful NVIDIA GPU (NVIDIA Volta™ architecture with 384 NVIDIA® CUDA® cores and 48 Tensor cores) with 2 TB SSD memory included



- Various interfaces: Ethernet, Wi-Fi, CAN, LTE

Product line: Integrated Sensor Platform (ISP)

Order Information:

Integrated Sensor Platform (ISP) including the **tightly coupled sensor fusion engine** with **GNSS, IMU** and **Odometry** data and **artificial intelligence algorithms** with **Camera and/or LiDAR** for map creation and object detection/classification

P/N	Description
50.30.1.43.2.1	All-Constellation, Triple-Frequency GNSS-Receiver, 3-Antenna-Setup (including Survey-Grade Antennas), industrial-grade MEMS-IMU, ISP casing with fixed lever arms for GNSS and IMU sensors, suction cups and touchscreen
50.31.1.43.2.1	All-Constellation, Triple-Frequency GNSS-Receiver, 3-Antenna-Setup (including Survey-Grade Antennas), industrial-grade MEMS-IMU, ISP casing with fixed lever arms for GNSS and IMU sensors, suction cups and touchscreen, Cameras
50.32.1.43.2.1	All-Constellation, Triple-Frequency GNSS-Receiver, 3-Antenna-Setup (including Survey-Grade Antennas), industrial-grade MEMS-IMU, ISP casing with fixed lever arms for GNSS and IMU sensors, suction cups and touchscreen, 3D-LiDAR
50.33.1.43.2.1	All-Constellation, Triple-Frequency GNSS-Receiver, 3-Antenna-Setup (including Survey-Grade Antennas), industrial-grade MEMS-IMU, ISP casing with fixed lever arms for GNSS and IMU sensors, suction cups and touchscreen, Cameras, 3D-LiDAR

Product line: GNSS Antennas

Order Information:

Configurable for Multi-Sensor RTK/PPP-Module (MSRTK) and RTK Reference Stations. Depends on used GNSS-Receiver Type (Dual or Triple Frequency).



P/N	Description
30.00.0.51.0.0	Full-Constellation and Dual-Frequency GNSS Patch-Antenna
30.00.0.52.0.0	High-Class, Full-Constellation and Dual-Frequency GNSS Antenna
30.00.0.53.0.0	Survey-Grade, Full-Constellation and All-Frequency GNSS Antenna



Product line: Inertial Measurement Units

Order Information:

Configurable for Multi-Sensor RTK/PPP-Modules (MSRTK). The industrial-grade MEMS IMU is part of the standard system configuration.



P/N	Description
30.00.0.00.2.0	Industrial-grade MEMS IMU (ASM330LHH): Bias-Stability: 3°/hr, ARW*:0.21 deg/√Hz
30.00.0.00.3.0	Mid-grade MEMS IMU (Epson-MG365): Gyro-Performance: Bias-Stability 1.2°/hr, ARW*: 0.1 deg/√Hz Accelerometer-Performance: Bias-Stability: 0.1mg, VRW*: 0.05m/s/√Hz
30.00.0.00.4.0	High-grade MEMS IMU (Epson-MG370): Gyro-Performance: Bias-Stability 0.8°/hr, ARW*: 0.06 deg/√Hz Accelerometer-Performance: Bias-Stability: 0.01mg, VRW*: 0.025m/s/√Hz

ARW: Angular Random Walk, VRW: Velocity Random Walk

Product line: Inertial Measurement Units

Performance during GNSS-Outages:

Mid-grade MEMS IMU (Epson-MG365):



Outage Duration	Positioning Mode	POSITION ACCURACY (M) RMS		VELOCITY ACCURACY (M/S) RMS	
		Horizontal	Vertical	Horizontal	Vertical
0 s	RTK ¹⁴	0.02	0.03	0.020	0.015
	SP	1.00	0.60	0.020	0.015
	PP ¹⁵	0.01	0.02	0.015	0.010
10 s	RTK ¹⁴	0.25	0.15	0.065	0.025
	SP	1.25	0.70	0.065	0.025
	PP ¹⁵	0.01	0.02	0.015	0.010

High-grade MEMS IMU (Epson-MG370):



Outage Duration	Positioning Mode	POSITION ACCURACY (M) RMS		VELOCITY ACCURACY (M/S) RMS	
		Horizontal	Vertical	Horizontal	Vertical
0 s	RTK ¹⁵	0.02	0.03	0.015	0.010
	SP	1.00	0.60	0.015	0.010
	PP ¹⁶	0.01	0.02	0.010	0.010
10 s	RTK ¹⁵	0.15	0.10	0.040	0.020
	SP	1.15	0.70	0.040	0.020
	PP ¹⁶	0.02	0.02	0.010	0.014
60 s	RTK ¹⁵	5.00	1.00	0.220	0.035
	SP	6.00	1.60	0.220	0.035
	PP ¹⁶	0.17	0.06	0.013	0.015