Multi-Sensor RTK/PPP Module

Multi-Sensor fusion on a single board for Autonomous Vehicles, Robots, UAVs and Vessels

Dual-Frequency & Multi-Constellation GNSS for fast convergence time

Interfaces to GNSS, INS, Odometry, Camera, Lidar, LPS and Barometer data

High rate solution output

Accurate position and attitude

Overcomes signal outages

Breakthrough price

Easy System Integration
**SENSOR FUSION PERFORMANCE**

Accurate RTK Positioning * (1σ):
- Horizontal accuracy: 0.010 m + 1 ppm
- Vertical accuracy: 0.020 m + 1 ppm

Accurate PPP Positioning * (1σ):
- Horizontal accuracy: 0.20 m + 1 ppm
- Vertical accuracy: 0.40 m + 1 ppm

Accurate Attitude * (1σ):
- Accuracy: 0.25° (1m antenna spacing)

Velocity Accuracy: 0.03 m/s RMS
Time-Stamp Accuracy: 1 μs RMS
Solution Output-Rate: up to 120 Hz

RTK Initialization *:
- Initialization Time: < 10 sec
PPP Initialization *:
- Initialization Time: < 5 min

* Depends on Environment and used GNSS-Antenna

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**GNSS FEATURES**

**GNSS Constellations:**
- Galileo, GPS, Glonass,
- Beidou, SBAS

**GNSS Const. concurrent:**
- All

**GNSS-Bands:**
- GPS L1C/A L2C, GLO L1OF L2OF,
- GAL E1B/C E5b, BDS B1I B2I,
- QZSS L1C/A L2C

**Channels:** 184
**GNSS data rate:** 20 Hz
**Jamming detection:** Yes
**Timepulse-Output:** Yes

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**ELECTRICAL & INTERFACES**

**Power Connector:**
- USB-PD: with min. 18 W
- Terminal connector:
  - Absolute max. voltage range: 9 – 36 V
  - Nominal voltage range: 12 – 24 V

**Power Consumption:**
- Peak: 17.5 W (3.5A @ 5V)
- Average: 10.5 W (2.1 A @ 5V)

**Communication Interfaces:**
- Ethernet, WLAN, CAN, USB, LTE

**Output format:**
- Standardized: NMEA format,
  ROS (as ROS- Ethernet Adapter),
  ACOM
- Proprietary: ANavS binary format

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**PROCESSOR PERFORMANCE**

**CPU:** ARM 64Bit Quad-Core with 1.5 GHz
**RAM:** 1 to 4 Gbyte LPDDR2 RAM
**Flash:** 16 to 64 Gbyte
**OS:** Linux

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**ODOMETRY FEATURES**

**Performance:**
- Depends on resolution and quality of user-based wheel/steering measurements

**Input/Output:**
- Configurable with DBC-files or according to customer specification

**Communication Interfaces:**
- CAN, Ethernet, USB

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**STANDARD* IMU FEATURES**

**Linear acceleration meas. range:** +/-16 g (configurable)
**Angular rate meas. range:** +/- 4000 dps (configurable)
**Linear acceleration sensitivity:** 0.061 mg/LSB with +/- 2 g range
**Angular rate sensitivity:** 4.37 mdps/LSB bei +/- 125 dps range Angular random walk (T=25°C):
- 0.21 deg/√h
**Bias stability:** 3 degree/ hour (typical)

* more powerful IMUs can be chosen.
INDUSTRIAL CASING

Dimension: 294 x 195 x 95 mm
Weight: 1200 g
Operating Temperature: -25°C to +75°C
Display: Yes

PRINTED CASING

Dimension: 128 x 119 x 55 mm
Weight: 250 g
Operating Temperature: -25°C to +75°C
Display: No