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

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: 0.006 m + 1 ppm
- Vertical accuracy: 0.010 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: < 7 sec
PPP Initialization *:
- Initialization Time: < 4 min

* Depends on Environment and used GNSS-Antenna

**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

**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

**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.

**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

**ODOMETRY FEATURES**

Performance:
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Communication Interfaces:
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**PRINTED CASING**

<table>
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<tr>
<th>Dimension</th>
<th>128 x 119 x 55 mm</th>
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<tbody>
<tr>
<td>Weight</td>
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<tr>
<td>Operating Temp</td>
<td>-25°C to +75°C</td>
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<tr>
<td>Display</td>
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**INDUSTRIAL CASING**

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<td>Display</td>
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</tr>
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