Multi-Sensor RTK/PPP Module

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

ALL-IN-VIEW GNSS Satellite tracking: multi-constellation, multi-frequency for fast convergence time

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

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: 0.15 m + 1 ppm
- Vertical accuracy: 0.20 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: < 15 min

* Depends on Environment and used GNSS-Antenna

GNSS FEATURES

GNSS Constellations:
- Galileo, GPS, Glonass,
- Beidou, SBAS (Egnos, WAAS, GAGAN)

GNSS Const. concurrent:
- All

GNSS-Bands:
- GPS: L1C/A, L1C, L1PY, L2C, L2P, L5
- GLO: L1CA, L2CA, L2P, L3
- GAL: E1, E5a, E5b, E5 AltBoc, E6
- BDS: B1I, B1C, B2a, B2i, B3
- QZSS: L1C/A, L1C, L2C, L5, L6

Channels: 448
GNSS data rate: max 100 Hz
Jamming detection: Yes
Timepulse-Output: Yes

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.

PROCESSOR PERFORMANCE

CPU: ARM 64Bit Quad-Core with 1.2 GHz
RAM: 1 Gbyte LPDDR2 RAM
Flash: 16 Gbyte
OS: Linux

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

ELECTRICAL & INTERFACES

Power Connector:
- USB-C 5V or Terminal connector up to 24V

Power Consumption:
- Peak: 15 W (3A)
- Average: 6.5 W (1.3 A)

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

Output format:
- Standardized: NMEA format
- Proprietary: ANavS binary format

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- CAN, Ethernet, USB
**INDUSTRIAL CASING**

- **Dimension:** 227 x 169 x 56 mm
- **Weight:** 1200 g
- **Operating Temperature:** -25°C to +75°C
- **Display:** Yes

**PRINTED CASING**

- **Dimension:** 118 x 119 x 55 mm
- **Weight:** 250 g
- **Operating Temperature:** -25°C to +75°C
- **Display:** No