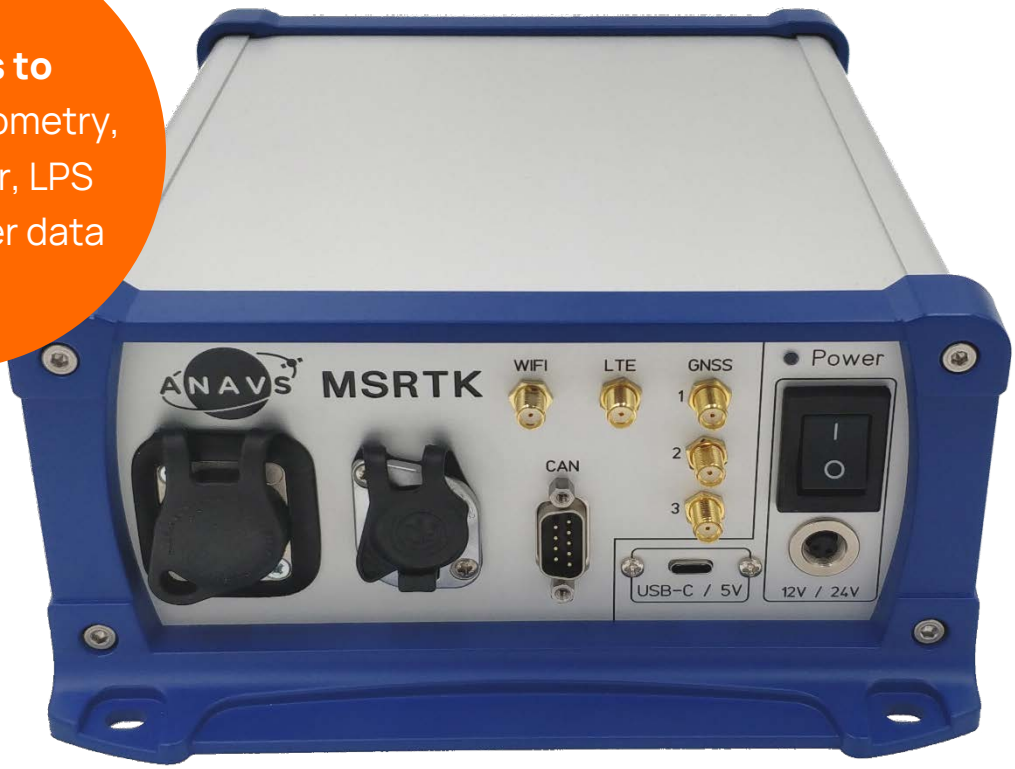
Multi-Sensor RTK/PPP Module

WITH ANAVS SENSOR FUSION FRAMEWORK

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

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 1.2 GHz
RAM: 1 to 4 Gbyte LPDDR2 RAM
Flash: 16 to 64 Gbyte
OS: Linux

ELECTRICAL & INTERFACES

Power Connector:
USB-C 5V or
Terminal connector up to 24V
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
Proprietary: ANavS binary format

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.

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

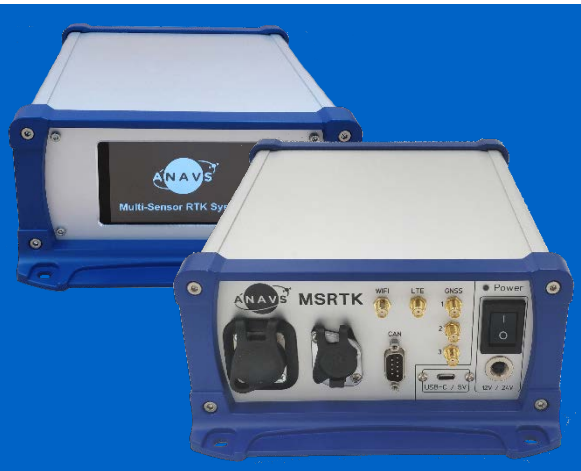
Communication Interfaces:
CAN, Ethernet, USB

PRINTED CASING

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

INDUSTRIAL CASING

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



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