
DATASHEET

# RT3000 V3

## High-performance GNSS/INS for ADAS and autonomous vehicle testing

The RT3000 v3 combines the best of GNSS positioning technology with a high-grade IMU to deliver robust performance in all environments.

**Trusted globally for ground truth measurements in:**

+ Vehicle dynamics testing
+ Driving robot path following
+ Euro NCAP ADAS testing
+ NHTSA testing
+ Autonomous vehicle validation

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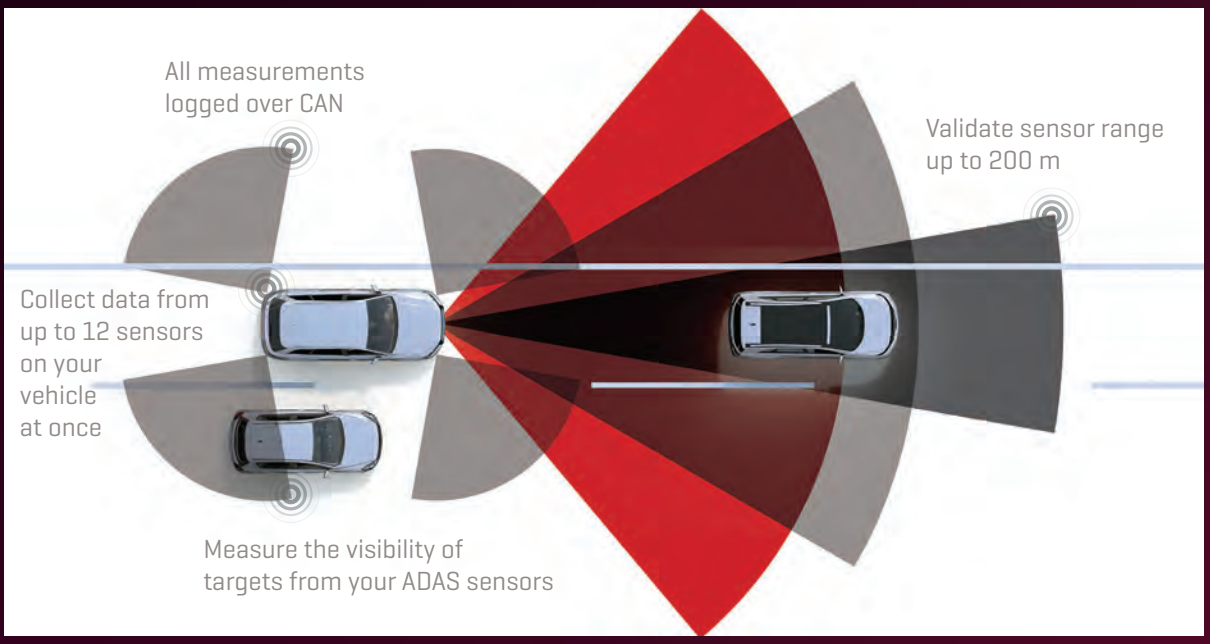
OXTS

## Now with onboard RT-Range S Hunter capabilities

The RT3000 v3 comes with optional RT-Range Hunter capabilities for ADAS testing. Track up to four moving targets, knowing their position, orientation, speed and acceleration relative to the vehicle under test. It all happens on one device meaning reduced setup times and less hassle.




## Same high performance. Improved accessibility.

**New**
CAN-FD interface

**New**
Quad-GNSS support

**New**
Optional onboard RT-Range S Hunter

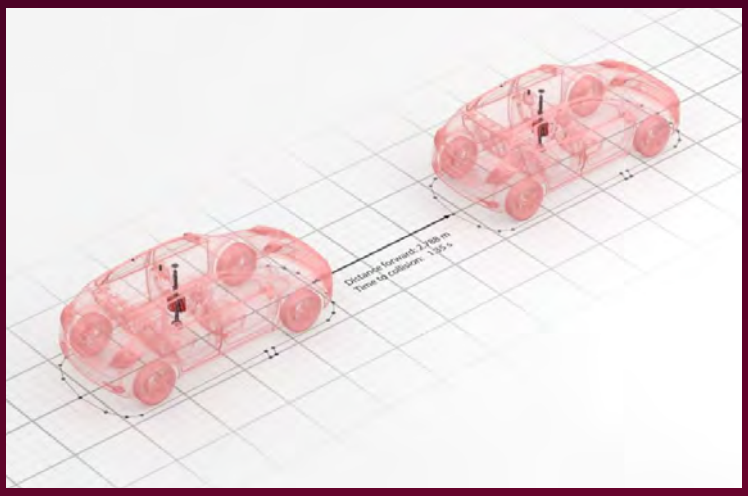
+ RTK 1 cm position accuracy
+ 0.03° pitch/roll accuracy
+ 0.150° slip angle accuracy
+ Driving robot interface
+ Dual-antenna
+ **NEW** GPS, GLONASS, Beidou and Galileo included as standard
+ High-speed GNSS for highly dynamic conditions
+ Integrated NTRIP client to receive corrections on the open road
+ Up to 250 Hz data output rate
+ Wheel speed input

### Options

+ CAN acquisition
+ ISO 17025 calibration
+ Network DGPS
+ **NEW** onboard RT-Range S Hunter processor for ADAS testing
+ **NEW** PTP Precision Time Protocol

# Software features tailored to your application

OxTS hardware comes pre-loaded with several features that tune and enhance the raw data output to meet requirements for specific applications. Over the years we have added to our portfolio of features. These are categorised into three areas: track-testing features, ADAS-testing features and open-road features.



## Test track testing features

+ Multiple Slip Points allows you to measure slip angle from up to eight reference points
+ Angular and linear acceleration filters reduce unwanted noise
+ Surface tilt compares roll and pitch measurements to an incline
+ Robot interface provides a direct navigation interface for path following

## ADAS-testing features

+ V2V testing and V2L testing enable RT-Range functionality on the RT for all types of ADAS-testing
+ Local coordinates sets up X, Y origins for position reference measurements

## Open-road testing features

+ Our GNSS/INS tight-coupling technology, gx/ix™RTK, improves position accuracy in poor GNSS environments such as urban canyons
+ Wheel speed odometer interface reduces position drift by inputting velocity updates in real time into our navigation solution
+ Quad-GNSS improves position data accuracy by providing increased satellite coverage along your test route

## HARDWARE

| GPS+GLONASS+Galileo+BeiDou | RT3000 L1 only | RT3000 |
|---|---|---|

## PERFORMANCE[1]

| Positioning | L1 | L1, L2, B1, B2, E1, E5 |
|---|---|---|
| Position accuracy (CEP) | | |
| SPS | 1.8 m | 1.5 m |
| SBAS | 0.6 m | 0.6 m |
| DGPS | 0.4 m | 0.4 m |
| RTK | | 0.01 m |
| Velocity accuracy (RMS) | 0.1 km/h | 0.05 km/h |
| Roll/pitch accuracy (1σ) | 0.05° | 0.03° |
| Heading accuracy (1σ)[2] | 0.1° | 0.05° |
| Track angle accuracy (1σ)[3] | 0.1° | 0.07° |
| Slip angle accuracy (1σ)[4] | 0.2° | 0.15° |
| Dual-antenna | ✗ | ✓ |

## HARDWARE

| Dimensions | 184 x 120 x 71 mm |
|---|---|
| Mass | 1.4 kg |
| Input voltage | 10-50 V dc |
| Power consumption | 15 W |
| Operating temperature | -40° to +70°C |
| Environmental protection | IP65 |
| Vibration | 0.1 g2/Hz, 5-500 Hz |
| Shock survival | 100 g, 11 ms |
| Internal storage | 32 GB |

## SENSORS

| Type | Accelerometers | Gyros |
|---|---|---|
| Technology | Servo | MEMS |
| Range Optional | 10 g<br>30 g | 100°/s<br>300°/s |
| Bias stability | 2 µg | 2°/hr |
| Linearity | 0.01% | 0.05%[5] |
| Scale factor | 0.1% | 0.1% |
| Random walk | 0.005 m/s/√hr | 0.2°/√hr |
| Axis alignment | <0.05° | <0.05° |

1 Valid for open sky conditions.

2 Dual antenna heading valid for 2 m antenna separation. Wider separation will improve accuracy. Supports up to 5 m separation.

3/4 At 50 km/h.

5 With SuperCAL adjustment.

MAGUS TECHNOLOGY

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