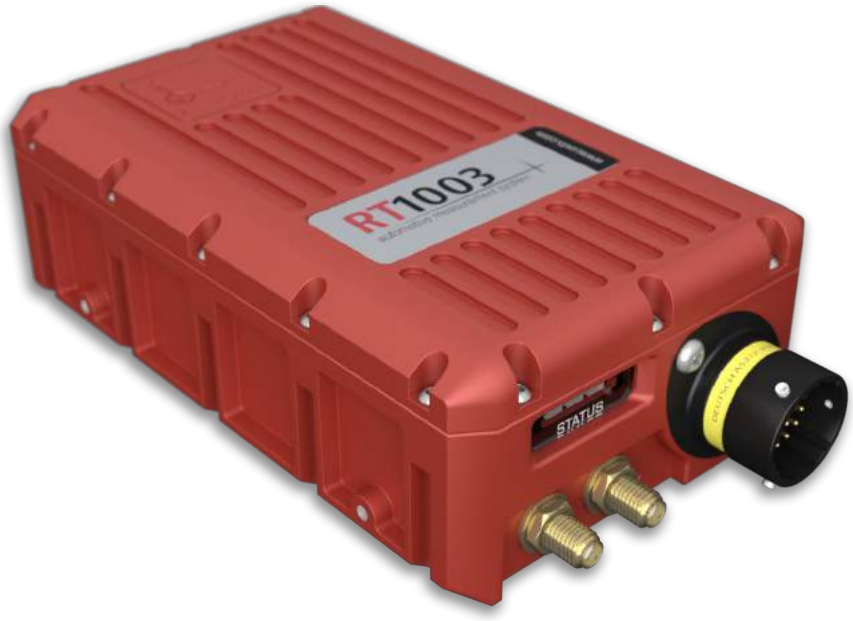
Setting the standard in automotive testing

OXTS Inertial+GNSS

# RT1003

## Compact ADAS test and validation system

**The RT1003 is a compact dual antenna INS for space constrained ADAS applications such as VRU tests and low-profile robotic vehicles.**




### » Key features

- Ideal for Euro NCAP VRU tests where size and weight of INS are critical
- No hidden costs– software included free
- One box solution with real-time CAN, Ethernet and serial output
- Dual antenna GPS/GLONASS for accurate heading in all conditions
- No export control—ship and operate worldwide without hassle
- RTK 2 cm position accuracy and 0.25° slip angle accuracy

### » Applications

- Autonomous vehicle testing
- Motorcycle dynamics testing
- AB Dynamics recommended for steering robot guidance
- VRU pedestrian/cyclist tests

### » No compromises

Despite its small size, the RT1003 integrates high-grade MEMS inertial sensors and RTK capable GNSS receivers. This allows it to be economical on price and power but still deliver centimetre-level positioning and accurate velocity, acceleration, and orientation. Thanks to advanced temperature calibration, the system is fully optimal after just a few minutes warm-up.

### » Compatible with RT-Range S Target

The RT1003 is the ideal choice if you're looking for an INS for a moving ADAS target, including in EURO NCAP AEB C2C and VRU tests. Using the RT-Range S Target, you can connect the device to an RT-XLAN Wi-Fi antenna and transmit data from the RT1003 in your target vehicle/platform to the RT in the Hunter vehicle.

### » Small and lightweight

The small size and low weight of the RT1003 make it ideal for pedestrian and VRU testing where space restrictions are important considerations. With a mass of just 0.435 kg and a height of 77m, this is our lightest fully-featured automotive system.

### » No restrictions

There is no need to worry about export licenses and paperwork when working across borders. The RT1003 systems are ITAR free and have no export restrictions.

## » Performance

| | |
|---|---|
| Positioning | GPS L1, L2 (GLONASS L1, L2 optional) |
| Position accuracy (CEP) | 1.6 m SPS<br>0.6 m SBAS<br>0.4 m DGPS<br>0.02 m RTK |
| Position drift after 60 s GNSS outage* (RMS) | 0.95 m |
| Velocity accuracy (RMS) | 0.1 km/h |
| Roll/pitch | 0.05° 1σ |
| Heading (2 m antenna baseline) | 0.1° 1σ |
| Accelerometers | |
| – Bias stability | 0.02 m*g* |
| – Linearity (±1 *g* range) | 0.05 % |
| – Scale factor | 0.01 % |
| – Range | 30 *g* |
| Gyros | |
| – Bias stability | 3 °/hr |
| – Linearity (±200° range) | 0.05 % |
| – Scale factor | 0.05 % |
| – Range | 300 °/s |
| Slip angle (at 50 km/h) | 0.25° 1σ |
| Update rate | 100 Hz<br>(200/250 Hz optional) |
| Calculation latency | 215 µs with 250 µs jitter |
| Power | 10–31 V dc, 9 W |
| Dimensions | 142 × 77 × 41 mm |
| Mass | 0.435 kg |
| Operating temperature | -40–70 °C |
| Specification temperature | -10–70 °C |
| Vibration | 10–2000 Hz 4.12 *g* RMS |
| Shock survival | 60 *g* |
| Environmental protection | IP65 |
| Internal storage | 32 GB |

Valid for open-sky.

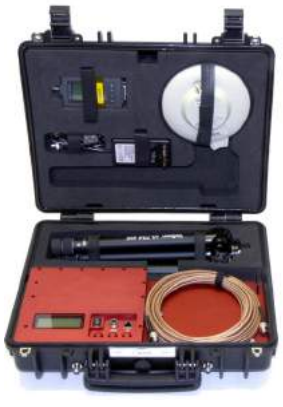
* Post-process figures.

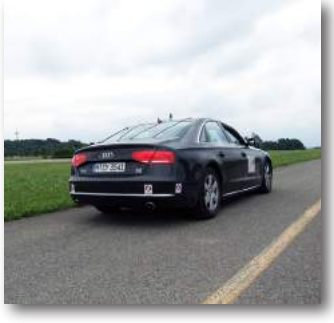
## » Interfaces

| | |
|---|---|
| Ethernet | 10/100 Base-T |
| CAN | Up to 1 Mbit/s |
| Serial | Configurable RS232 |
| Digital I/O | Wheel speed input (quadrature), two configurable I/O triggers |

## » Optional accessories

- The RT-Strut (left) is a quick and easy to use vehicle mounting system. Brackets for mounting the RT1003 on the RT-Strut are available.
- Using the RT-Range S Target (top right), you can connect the RT1003 to an RT-XLAN Wi-Fi antenna and transmit data from the Rt1003 in your target vehicle/platform to the RT3000 in your Hunter vehicle
- The RT Base S (bottom right) is a self-contained, weatherproof and portable GNSS base station. Quick and easy to set-up, it transmits corrections to local receivers via radio modem or (optionally) via Wi-Fi.





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Oxford Technical Solutions Ltd, United Kingdom
Email: sales@oxts.com
Web: www.oxts.com