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
Now with onboard RT-Range S Hunter capabilities

The RT3000 v3 comes with optional RT-Range Hunter capabilities for ADAS testing. Track up to 4 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.

Collect data from up to 12 sensors on your vehicle at once

Measure the visibility of targets from your ADAS sensors

Validate sensor range up to 200 m

All measurements logged over CAN

Same high performance. Improved accessibility.

NEW integrated Wi-Fi for wireless device monitoring and communication

NEW integrated NTRIP client to receive corrections on the open road

NEW CAN-FD interface

NEW indoor positioning interface for testing with Locata technology indoors

NEW high speed GNSS for high dynamic conditions

NEW RTK 1 cm position accuracy

0.150° slip angle accuracy

0.03° Pitch/roll for high accuracy ride and handling tests

Driving robot interface

200 Hz & 250 Hz data output rate

Dual antenna

GPS & GLONASS

Wheel speed input (quadrature)

Options

NEW onboard RT-Range S Hunter processor for ADAS testing

CAN acquisition

Network DGPS

ISO 17025 calibration

BeiDou
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’ve 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* - where roll and pitch measurements are compared to an incline
- *Analogue output* enables measurement on 16 analogue channels
- *Robot interface* provides a direct navigation interface for path following

**ADAS testing features**

- *V2V testing and V2L testing* enables 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 poor GNSS environments such as urban canyons. Really popular with autonomous vehicle test engineers.
- *Wheel Speed Odometer* interface reduces position drift by inputting velocity updates in real-time into our navigation solution.
- *Onboard NTRIP* client means you can receive RTK corrections during field projects on the open road.
## Hardware

<table>
<thead>
<tr>
<th></th>
<th>GPS+GLONASS</th>
<th>RT3000 L1 only</th>
<th>RT3000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>184 x 120 x 71 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mass</td>
<td>1.4 kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input voltage</td>
<td>10-50 V dc</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power consumption</td>
<td>15 W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-40º to +70ºC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental protection</td>
<td>IP65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vibration</td>
<td>0.1 g²/Hz, 5-500 Hz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shock survival</td>
<td>100 g, 11 ms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal storage</td>
<td>32 GB</td>
<td></td>
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</tbody>
</table>

## Sensors

<table>
<thead>
<tr>
<th></th>
<th>Accelerometers</th>
<th>Gyros</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Servo</td>
<td>MEMS</td>
</tr>
<tr>
<td>Technology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range Optional</td>
<td>10 g</td>
<td>100º/s</td>
</tr>
<tr>
<td></td>
<td>30 g</td>
<td>300º/s</td>
</tr>
<tr>
<td>Bias stability</td>
<td>2 µg</td>
<td>2º/hr</td>
</tr>
<tr>
<td>Linearity</td>
<td>0.01%</td>
<td>0.05%</td>
</tr>
<tr>
<td>Scale factor</td>
<td>0.1%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Random walk</td>
<td>0.005 m/s/√hr</td>
<td>0.2º/√hr</td>
</tr>
<tr>
<td>Axis alignment</td>
<td>&lt;0.05º</td>
<td>&lt;0.05º</td>
</tr>
</tbody>
</table>

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 50km/h.
5 With SuperCAL adjustment.
6 Operating channels/frequencies and bandwidths depend on regulatory rules.