iX-1B is a high-grade one-component gyroscope with low-noise, great stability, and wide dynamic range, featuring absolute digital rotation rate in mrad/s. A specific benefit of this product is its compactness which allows its integration in complex systems.

iX-1B is a highly versatile sensor thanks to limited power consumption, simple configuration of the factory-calibrated digital output, which make it the perfect ally to develop innovative solutions in many applications: calibration, dynamic motion feedback, close-loop operation actuation...

FEATURES

- Interferometric Fiber Optic Gyroscope
- Absolute rotation rate measurement
- Serial output at user defined frequency
- High dynamic range
- Digital output factory-calibrated (no need for user calibration)
- Flat frequency response on a large frequency band $10^5$ – 50 Hz

BENEFITS

- Low power consumption (USB power driven)
- Best performance per volume ratio
- Must have: TTL mode: integrated angle since last pulse

APPLICATIONS

- Calibration
- Metrology
- Dynamic motion feedback
- Closed-loop operation actuation
# SPECIFICATIONS

## Performances

<table>
<thead>
<tr>
<th></th>
<th>iX-1B</th>
<th>iX-1B+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor self-noise</td>
<td>&lt;= 450 (600) nrad/s/√Hz</td>
<td>&lt;= 290 (370) nrad/s/√Hz</td>
</tr>
<tr>
<td>Typical (maximum)</td>
<td>&lt;= 1.1 (1.5) m°/√h</td>
<td>&lt;= 0.7 (0.9) m°/√h</td>
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<tr>
<td></td>
<td>Flat on frequency band 10-2 Hz to 50 Hz</td>
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<tr>
<td>Passband</td>
<td>DC to 50 Hz</td>
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<tr>
<td>DC rotation rate accuracy at stabilized temperature in operating T°C range</td>
<td>&lt;= 2.4 °rad/s (=0.5 °/h) maximum</td>
<td></td>
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<tr>
<td>Scale factor stability</td>
<td>&lt; 100 ppm</td>
<td></td>
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<tr>
<td>(in full perf T°C range and ON-OFF)</td>
<td></td>
<td></td>
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<tr>
<td>Bias stability</td>
<td>&lt;= 0.002 °/h = 10 nrad/s</td>
<td>&lt;= 0.001 °/h = 5 nrad/s</td>
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<td>(=lowest point reached by Allan variance)</td>
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</tbody>
</table>

## Operating range / environment

- Operating / storage temperature: -20 °C to 60 °C / -40 to 80 °C
- Dynamic range: ± 180 °/s = ± π rad/s
- Vacuum compatible: Yes
- Pressure susceptibility: None
- MTBF: 100,000 hours
- Ingress protection: IP65

## Physical characteristics

- Dimensions: External diameter-φ-150 mm
  Height 75 mm
- Weight: 1.4 kg
- Mounting: holes 4.5° and 3 holes threaded M4

## Interfaces

- Communication: Serial RS232 1 bit start, 8 bits data, parity odd, 1 stopbit, 230.4 kBit/s
- Operating Mode: TTL mode : integrated angle since last pulse
  Continuous mode : at 1/10 /100/ 250 /500 Hz
- Data output rate:  
- Power supply / consumption: 5 V, +/-5%, 3 W, 200 mVp-p ripple and noise
  Can be powered by USB >2.0 connection
- Sensor control loop mode: Closed loop mode
  Open loop mode
- Connectors: Micro D15 Female