

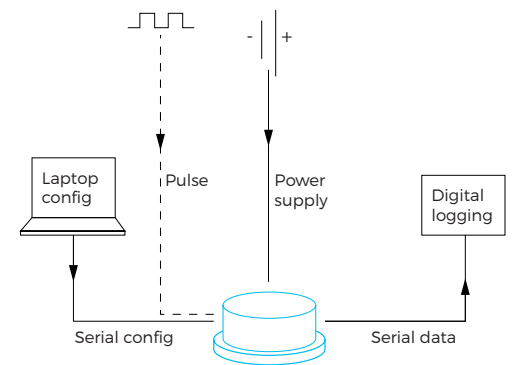
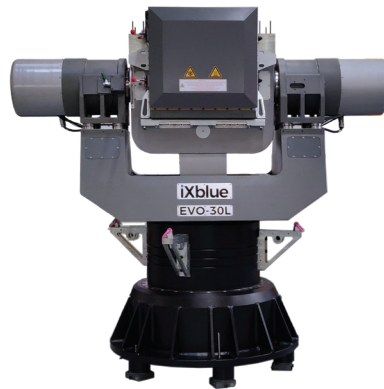
# iX-1B

## High-grade 1-component gyroscope

iX-1B is a high-grade one-component gyroscope with low-noise, great stability, and wide dynamic range, featuring absolute digital rotation rate in  $\text{rad/s}$ .

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 (no need for user calibration)
- Flat frequency response on a large frequency band  $10^{-3}$  - 200 Hz

## BENEFITS

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

## APPLICATIONS

- Calibration
- Metrology
- Dynamic motion feedback
- Close-loop operation actuation

## SPECIFICATIONS

### Performance

Sensor self-noise Typical (maximum)	220 (300) nrad/s/ $\sqrt{\text{Hz}}$ ( = < 1,1 (1,5) $\text{m}^\circ/\sqrt{\text{h}}$ ) Flat on frequency band 10-3 Hz -> 200 Hz
Passband	Flat from DC to 200 Hz
DC rotation rate accuracy at stabilized temperature in operating T°C range	< 2.4 $\mu\text{rad/s}$ (=0.5 $^\circ/\text{h}$ ) ( < 0.24 $\mu\text{rad/s}$ as an option)
Scale factor stability (in operating T°C range and ON-OFF)	< 100 ppm
Bias stability (=lowest point reached by Allan variance)	0.03 $\mu\text{rad/s}$ = < 0.0065 $^\circ/\text{h}$

### Operating range / environment

Operating / storage temperature	-20 °C to 60 °C / -40 to 80 °C
Dynamic range	$\pm \pi \text{ rad/s} = \pm 180 \text{ }^\circ/\text{s}$
Vacuum compatible	Yes
Pressure susceptibility	None
MTBF	100,000 hours
Ingress protection	IP65

### Physical characteristics

Dimensions	External diameter- $\phi$ -150 mm Height 75 mm
Weight	1.4 kg
Mounting	6 holes : 3 holes 4.5 $\phi$ and 3 holes threaded M4

### Interfaces

Communication	1 bit start, 8 bits data, parity odd, 1 stopbit Configuration: 115.2 kBit/s Data output: 230.4 kBit/s
Operating mode	Triggered mode: angle integrated since last pulse, from 1 Hz to 500 Hz Continuous mode: rotation rate at 1 / 10 / 100 / 250 / 500 Hz
Sensor control loop mode	closed-loop mode for measurement accuracy open-loop mode for dynamic feed-back with selectable gain
Power supply / consumption	5 V, +/-5%, 3 W, 200 mVp-p ripple and noise. Can be powered by USB >2 connection
Connector	Micro D 15 Female