

# MICROMECHANICAL GYROSCOPE

## MMG-2

The gyro is built on the principle of a vibrating RR-type gyro with internal torsion suspension, electrostatic excitation of primary oscillations, and capacitive pick-off; and manufactured using SOI technology.

### INTENDED APPLICATIONS:

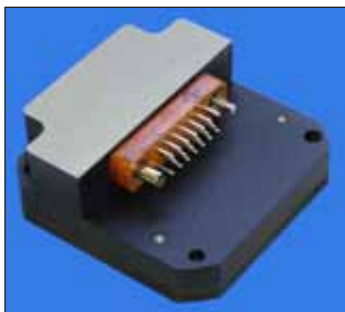
- automotive industry: to increase traffic safety
- robotics: to advance the manipulators performance
- medicine: to position the medical instruments
- navigation and control systems of different mobile objects

### SPECIFICATIONS

■ range*	$\pm 300$ °/s
■ scale factor*	$3.3 \pm 0.3$ mV/°/s
■ scale factor nonlinearity (of full scale)	<1 %
■ scale factor nonstability (of full scale)	<0.5 %
■ bias*	$1.25 \pm 0.12$ V
■ bias instability ( $3\sigma$ )	<150 °/H
■ noise power density (for digital data transfer)	<0.05 °/s/ $\sqrt{\text{Hz}}$
■ bandwidth*	40 Hz
■ operating temperature	-40...60 °C
■ unipolar voltage	+5 V
■ power consumption	<1 W
■ start-up time	<5 s
■ weight	<50 g
■ overall dimensions	50x18x50 mm
■ Data interfaces:	
analog	0...2.5 V
digital	RS-232, CAN

\* - parameter can be programmatically tuned according to the customer requirements

The gyro can be implemented in two versions:



**CONCERN CSRI ELEKTROPRIBOR JSC**  
**STATE RESEARCH CENTER OF RUSSIA**



30, Malaya Posadskaya St., Saint Petersburg, 197046, Russia. Tel. 7(812) 499 81 99, 499 81 81. Fax 7(812) 232 33 76.  
e-mail: office@eprib.ru <http://www.elektroprigor.spb.ru>  
© CSRI Elektroprigor, 2008