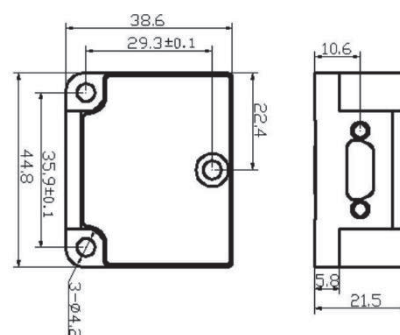# U7000: HIGH PRECISION MEMS IMU SENSOR

■ PRODUCT DESCRIPTION

U7000 series high-precision MEMS-IMU is a highly reliable and cost-effective six axis MEMS inertial sensor combination, which can be widely used in navigation, control, and measurement fields represented by inertial navigation and attitude stability. This series of MEMS inertial measurement units can be configured with different software and hardware according to user needs. For some inertial navigation applications, gyroscopes can be replaced with high-precision or high dynamic MEMS gyroscopes to meet the needs of different users to the greatest extent possible

■ PRODUCT MAIN SPECIFICATION

Parameter	U7000	Unit
Gyroscope		
Measurement range	±400	°/s
Full temperature zero bias stability (10s, 1σ)	≤10	°/h
Zero bias stability (10s, 1σ)	≤3	°/h
Zero bias stability (Allan)	≤0.1	°/h
Zero bias repeatability (1σ)	≤1	°/h
Angle random walk	≤0.05	°/√h
Scale factor nonlinearity	≤100	ppm
Bandwidth (adjustable)	100	Hz
Accelerometer		
Measurement range	±30	g
Full temperature zero bias stability (10s, 1σ)	≤1	mg
Zero bias stability (10s, 1σ)	≤100	µg
Zero bias stability (Allan)	≤15	µg
Zero bias repeatability (1σ)	≤100	µg
Angle random walk	≤10	mm/s/√h
Scale factor nonlinearity	≤500	ppm
Bandwidth (adjustable)	100	Hz
Electrical/Mechanical Interface		
Power supply	5 ~ 12	V
Power consumption	1.5	W
Starting time	2	s
Communication interface	RS422/RS232	
Data update rate	200 (configurable, up to 1kHz)	Hz
Dimension	44.8 x 38.6 x 21.5	mm
Weight	55±5	g
Environment		
Working temperature	-40 ~ +80	℃
Storage temperature	-55 ~ +85	℃
Vibration	6.06	g, Rms
Shock	1000g/1ms (on power)	g

■ PRODUCT DIMENSION

■ PRODUCT FEATURES

- Resistance to harsh mechanical environments
- High performance replacement with STIM300
- Equipped with software online upgrade function
- Full temperature calibration compensation from 40℃−80℃
- 1KHz high-speed sampling
- Can replace medium and low precision fiber optic inertial navigation

■ PRODUCT APPLICATION

- UAV/Drone attitude reference/trajectory control
- Guidance and control system
- Radar/infrared antenna stabilization platform
- Inertial/Satellite Integrated Navigation System
- Missile borne navigation and control
- Stable guidance head