

CG-5100 IMU

KVH的商业惯性测量单元解决方案



Key Features

- KVH的专利数字信号处理（DSP）FOG具有高可靠性和稳定的性能
- 高精度的速度和加速度数据
- 设计满足COTS要求
- 测量滚动，俯仰和偏航角速度和加速度
- 光纤陀螺仪的稳定性
- 价格合理，紧凑的设计
- 出色的冲击和振动性能

Applications

- 天线，光学和相机稳定
- GPS增强
- 自动驾驶汽车
- 钻孔
- 导航
- 运动感应

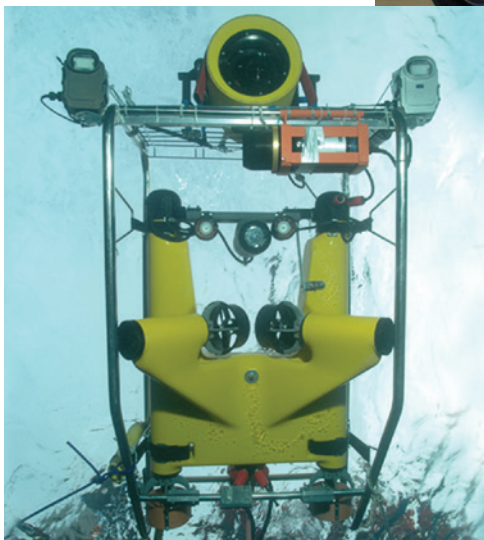
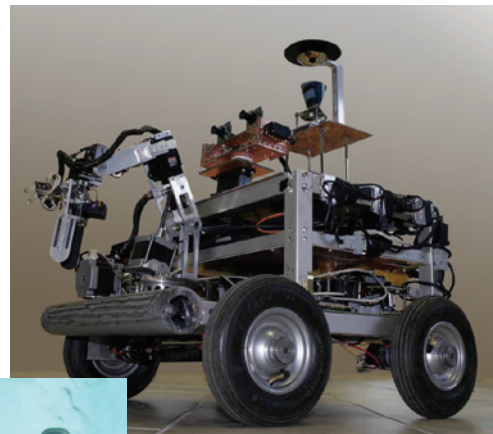
CG-5100 –完整的位置，速度和姿态解决方案

多功能的KVH CG-5100惯性测量单元（IMU）将专有技术-高精度基于光纤陀螺（FOG）的传感器与经过行业验证的MEMS加速度计相结合-全部都在紧凑的单个外壳内，为客户提供可靠性和长期合规性规格。通过将这两个高度可靠的导航组件无缝集成，CG-5100为惯性测量提供了突破性的低成本，小尺寸解决方案。

FOG和加速度计的KVH传感器引擎可创建灵活高效的IMU，这是一种高性能运动传感套件，非常适合关键传感应用和GPS集成导航程序。这种捷联惯性子系统具有出色的可靠性和准确性

6自由度测量。CG-5100通过将专有算法应用于全数字陀螺仪来实现其卓越的性能

传感器输出，使系统能够表征和校正影响温度和不对中。CG-5100还为最终用户提供了全数字RS-232 / RS-422格式的便捷，易于调整的输出。



The CG-5100 technology is ideal for precise positioning, even in challenging environments.

KVH CG-5100 Fiber Optic Gyro IMU

Performance Specifications

Input Rate (max)	±375°/sec
Bias Instability (25°C)	≤1°/hr, 1σ
Bias vs. Temperature (≤1°C/min)	≤6°/hr, 1σ
Bias Offset (25°C)	±20°/hr
Scale Factor Non-linearity (max rate, 25°C)	≤1000 ppm, 1σ
Scale Factor vs. Temperature (≤1°C/min)	≤500 ppm, 1σ
Angle Random Walk (25°C)	≤0.067°/√hr (≤4°/hr/√Hz)
Bandwidth (-3 dB)	≥100 Hz

Electrical/Mechanical

Initialization Time (valid data)	≤5 secs
Data Interface	Asynchronous RS-422 or RS-232
Baud Rate	115.2 Kbps
Data Rate	100 Hz
Dimensions (max)	169.4 mm L x 152.4 mm W x 88.9 mm H (6.67" x 6" x 3.5")
Weight (max)	2.27 kg (5 lbs)
Power Consumption	15 W
Input Voltage	+9 to +18 VDC

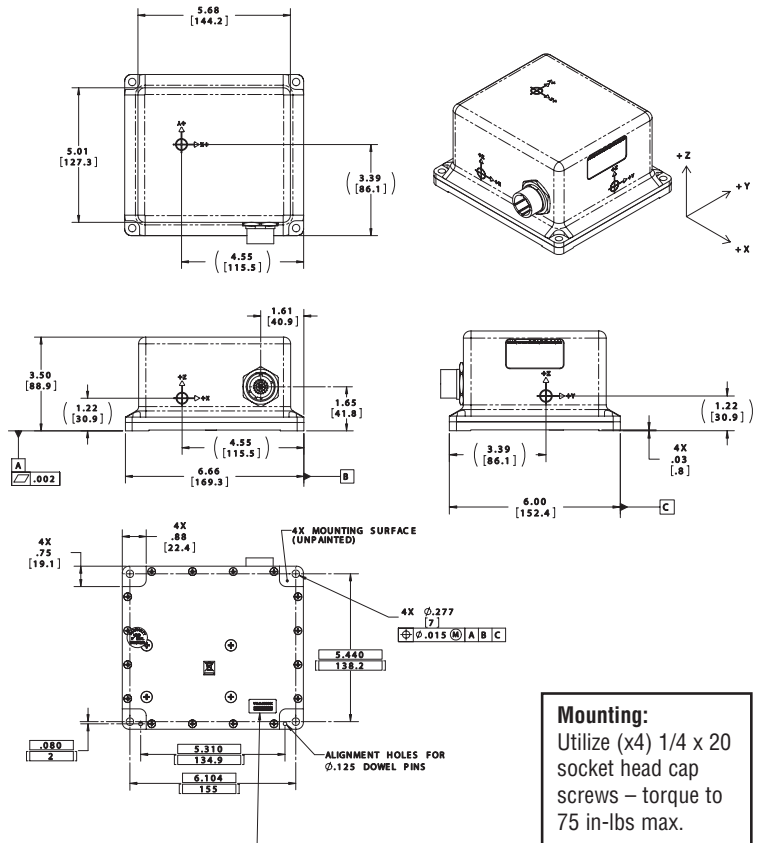
Environment

Temperature (operating)	-40°C to +65°C (-40°F to +149°F)
Shock (operating)	7 g, 11 msec, half-sine
Vibration (operating)	8 g rms, 20-2000 Hz, random

Accelerometers

Input Limit (max)	±10 g
Bias Instability (constant temp)	<0.25 mg, 1σ
Scale Factor Temperature Sensitivity	1000 ppm/°C, 1σ
Velocity Random Walk (25°C)	≤0.12 mg/√Hz (0.23 ft/sec/√hr)
Bandwidth (-3 dB)	50 Hz ±5%

For detailed interface control drawings (ICD) and technical manuals on this product, please visit



KVH's CG-5100 is ideal for autonomous vehicle applications

