

# DSP-3400 光纤陀螺仪

高性能单轴光纤陀螺仪

KVH®



## Key Features

- 坚固的模块化设计
- 获得专利的数字信号处理 (DSP)
- 出色的偏置稳定性和线性度
- 单轴模块化设计, 适用于多轴配置
- 商业现货 (COTS) 产品

## Applications

- 自动库存跟踪
- 天线/雷达/光学稳定
- 炮/炮塔稳定
- IMU, GPS / INS集成
- AHRS集成



*KVH's DSP-3400 helps to stabilize gimballed cameras on law enforcement helicopters, aiding in aerial surveillance and emergency response*

## 高速点对点数据通信

KVH DSP-3400提供了所有成员中的可靠性和鲁棒性设计 DSP-3000系列, 但增加了真正的RS-422接口和耐用的屏蔽封装中的1000 Hz同步输出的优势。结果, DSP-3400与其坚固的模块化设计是需要将FOG输出传输到更长距离的应用的强大选择。

整个DSP-3000系列均使用KVH的专利数字信号处理 (DSP) 电子产品。KVH突破性的DSP设计克服了模拟信号处理的局限性, 实际上消除了对温度敏感的漂移和旋转误差。此外, KVH的DSP技术在诸如比例因子和偏置稳定性, 比例因子线性度, 开启等关键领域中提供了显著的性能改进。开启重复性和最大输入速率。出色的低噪声 (ARW), 对跨轴误差不敏感以及抗震和抗振性能, 使DSP-3000系列非常适合要求苛刻的工业应用。这种性能, 加上我们成熟的全光纤光学电路固有的简单性和可靠性, 使DSP-3000系列成为适用于运动传感, 稳定, 导航和精确指向应用的价格合理的出色解决方案。



*KVH FOGs are used in automated inventory tracking systems to ensure that products are transported quickly and safely inside warehouses.*

## Precision, Performance, and Price

Fabricated from KVH's proprietary E•Core® polarization maintaining fiber, the KVH DSP-3400 delivers superior precision and reliable performance at a lower cost than other comparable fiber optic and mechanical gyroscopes. Its temperature stability and repeatability make it particularly well-suited for precision stabilization, GPS integration, and multi-axis tactical-grade inertial measurement

systems. The noise spectrum of the DSP-3400 is exceptionally flat, lacking the discrete noise components of mechanical gyros. With no moving parts to maintain or replace, the DSP-3400 lasts longer, functions better, and yields significant product life cycle savings.

Specifications	KVH DSP-3400 Single-axis Fiber Optic Gyro
	<b>Digital</b>
<b>Input Rate</b> ( <i>max</i> )	±375°/sec
<b>Bias Instability</b> (25°C)	≤1°/hr, 1σ
<b>Bias vs. Temperature</b> (≤1°C/min)	≤6°/hr, 1σ
<b>Bias Offset</b> (25°C)	±20°/hr
<b>Scale Factor Non-linearity</b> ( <i>max rate, 25°C</i> )	≤500 ppm, 1σ
<b>Scale Factor vs. Temperature</b> (≤1°C/min)	≤500 ppm, 1σ
<b>Angle Random Walk</b> (25°C)	≤0.067°/√hr (≤4°/hr/√Hz)
<b>Electrical/Mechanical Interface</b>	<b>Digital</b>
<b>Bandwidth</b> (-3 dB)	440 Hz
<b>Initialization Time</b> ( <i>valid data</i> )	≤5 secs
<b>Data Interface</b>	Synchronous RS-422
<b>Baud Rate</b>	115.2 Kbps
<b>Data Rate</b>	1000 Hz Synchronous
<b>Physical Specifications</b>	<b>Digital</b>
<b>Dimensions</b> ( <i>max</i> )	88.9 mm L x 58.4 mm W x 43.5 mm H (3.5" x 2.3" x 1.7")
<b>Weight</b> ( <i>max</i> )	0.3 kg (0.66 lbs)
<b>Power Consumption</b>	3 W (max), 1.25 W (typical)
<b>Input Voltage</b>	+5, ±10% VDC
<b>Environmental Specifications</b>	<b>Digital</b>
<b>Temperature</b> ( <i>operating</i> )	-40°C to +75°C (-40°F to +167°F)
<b>Shock</b> ( <i>operating</i> )	40 g, 10 msec, half-sine
<b>Vibration</b> ( <i>operating</i> )	8 g rms, 20-2000 Hz
<b>MTBF</b>	≥55,000 hours

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



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