

SA-200 PRECISION MINIATURE FOG



SA-200

The SA-200 is a high precision miniature fiber optic gyro (FOG) with high update rate and separable axis installation. It is used for navigation, sensor pointing and beam stabilization of free space optical communications, directed energy, designators, markers, pointers and for advanced seeker applications with size constraints.

SA Photonics

SA-200 PRECISION MINIATURE FOG

SA Photonics has developed the SA-200 for demanding navigation and sensor pointing under conditions where external aiding signals may not be available. The key features of the SA-200 are the miniature size, separate axes packaged for challenging integration, high update rate for closed loop pointing and tracking, low angle random walk (ARW) to mitigate the effect of platform jitter and low bias drift to enable accurate pointing during platform motion.

The SA-200's ability to locate the gyro axis on rigid optical or physical structures and our temperature stabilized laser sensing provide superior response for unaided navigation, spatial imaging, laser designation and for optical seeker targeting. These units use very short fiber optic coils coupled with

advanced analog and digital electronics and signal processing that achieves update rates greater than 5 kHz, angular random walk better than 0.005 °/√hr and bias drift of less than 0.01 °/hr. The SA-200 offers a standalone configuration with one-to-three separate axes (axis-1 includes system electronics and optics) or as an optional integrated single package.

SA Photonics is also offering the SA-200i, which is an integrated 6-axis IMU with an overall package volume of < 25 in.³ and under 15 W power consumption. Additionally, in development is the SA-10 advanced inertial sensor, which will use a breakthrough architecture and manufacturing process to achieve comparable performance in an 8 in.³ package.

SPECIFICATION CHART	
Parameter	SA-200 Value
PERFORMANCE	
Update Rate	5,000 Hz
Angular Random Walk (ARW)	0.005 °/√hr
Bias Drift	0.01 °/hr
Maximum Rate	100 °/sec
PACKAGING	
Size: Primary Axis	Upper: 2.410" × 2.100" × 1.480" Lower: 2.160" Ø × 1.625" Subtotal: 12.35 in. ³
Remote Axis (each)	2.160" Ø × 1.625" (6.13 in. ³)
Total	25 in. ³
Power (for 3-axis)	20 W