

SDG1000

MEMS Quartz Angular Rate Sensor

Ideal for AHRS and High Performance Commercial Applications:

- Primary AHRS
- Secondary Standby Attitude Indicator Systems
- Short-Term Navigation
- Aircraft Flight Control
- Platform Stabilization & Pointing
- Instrumentation
- Robotics



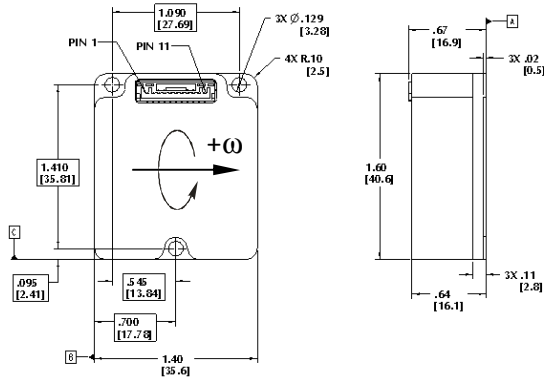
Key Performance Features:

- **Exceptional Bias Stability**
- **DC Voltage Input/High-Level Analog DC Voltage Output**
- **Rugged Construction in a Very Small Form Factor**
- **High Reliability & Long Life**
- **Internal Temperature Sensors**
- **Adaptable – No Software Required**



The SDG1000 is a single-axis angular rate sensor that provides exceptional performance with Systron Donner Inertial's proven Quartz MEMS sensing element and fully self-contained electronics.

By applying design techniques found only in more expensive rate sensors, excellent Bias Stability, Temperature Performance, Noise, and Vibration performance levels have been achieved. The availability of the internal temperature sensors enable bias modeling.

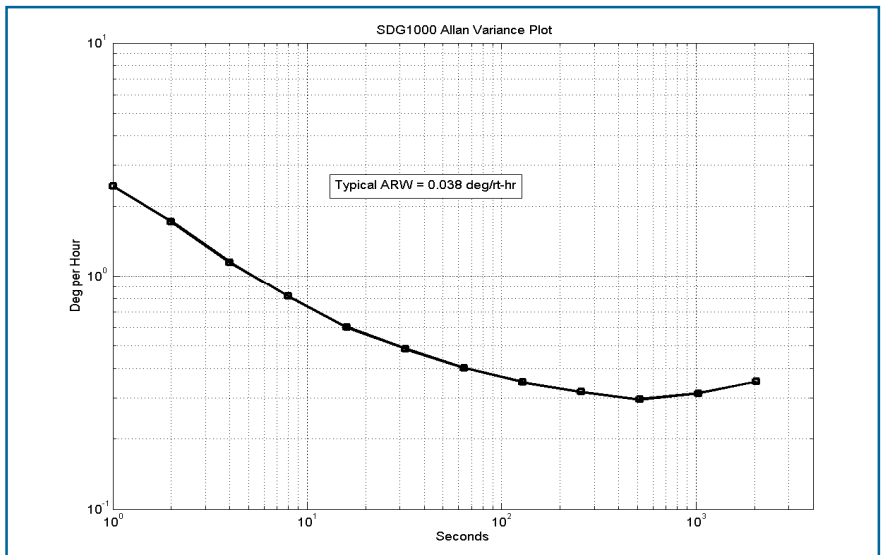


SDG1000-200-100	
Power Requirements	
Input Voltage	+ and - 10 to 16 Vdc
Input Current	< 15 mA (each supply, typical)
Performance	
Standard Range Full Scale	$\pm 200^\circ/\text{sec}$.
Full Scale Output (Nominal)	± 5.0 Vdc
Scale Factor (at 25°C)	0.025 ± 0.004 Vdc/ $^\circ/\text{sec}$
Scale Factor Over Temperature (Dev. from 25°C)	$\leq 0.03\%/^\circ\text{C}$
Bias Calibration (at 25°C)	≤ 1 deg/sec.
Bias Variation over Temperature (Dev. from 25°C)	≤ 1 deg/sec.
Bias Stability (In-Run at Constant Temp., Std. Dev.)	< 6 $^\circ$ /hr. typical
G Sensitivity	< 36 $^\circ$ /hr/g
Start-Up Time	≤ 1.0 sec
Bandwidth (-90 $^\circ$, incl. temp. effect)	> 100 Hz
Damping Ratio	0.7 ± 0.2
Non-Linearity, (% Full Range)	$\leq 0.03\%$
Output Noise (DC to 100 Hz)	$\leq 0.1^\circ/\sqrt{\text{hr}}$ (< 0.0017 $^\circ/\text{sec}/\sqrt{\text{Hz}}$)
Environments	
Operating Temperature	-55 $^\circ\text{C}$ to +85 $^\circ\text{C}$
Storage Temperature	-55 $^\circ\text{C}$ to +95 $^\circ\text{C}$
Vibration Operating* (20 – 2000 Hz, Flat Profile)	5 g _{rms}
Vibration Rectification*	< 3.6 $^\circ$ /hr/g _{rms}
Vibration Survival*	20 g _{rms}
Shock Survival	200 g, 2 ms, 1/2 sine pulse
Weight	< 60 grams

SDG1000 PIN ASSIGNMENT

1	-	-	Power Ground
2	-	-	+Vdc Input
3	-	-	-Vdc Input
4	-	-	Temp 1 Output
5	-	-	Signal Return
6	-	-	Rate Output
7	-	-	Built-In Test
8	-	-	Temp 2 Output
9	-	-	No Connection
10	-	-	Leave Open
11	-	-	Case Ground

* Please see user's guide for more information regarding vibration tolerance and sensitivity.



For more information, contact:

Systron Donner Inertial
 2700 Systron Drive
 Concord, CA 94518 USA
 +1.866.234.4976 | sales@systron.com

www.systron.com