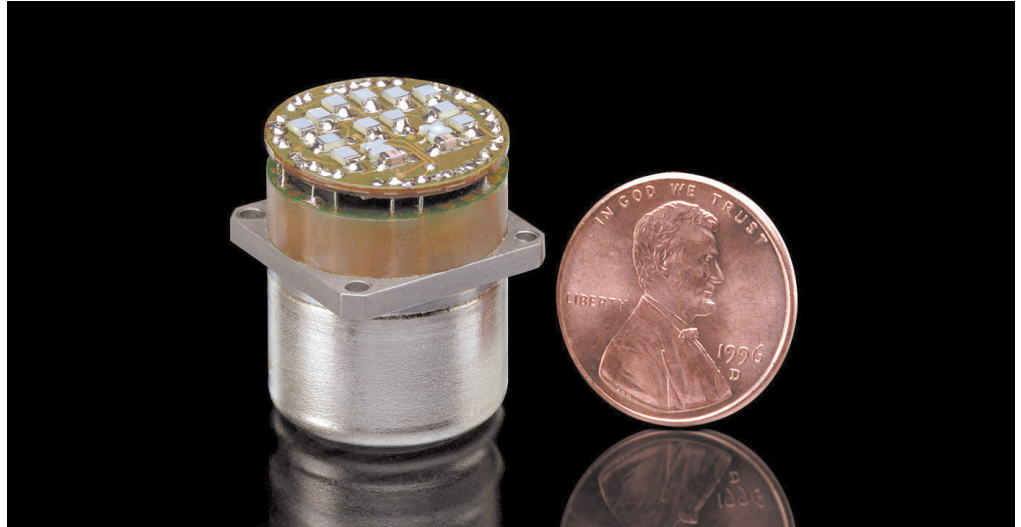


## G-2000 Gyroscope Product Suite

*The G-2000 Gyroscope Product Suite offers the best value at <1 deg/hr random drift*



### Overview

The G-2000 Dynamically Tuned Gyro (DTG) has been in production since 1992. More than 30,000 of these highly reliable gyros have been delivered and are used in a wide variety of military and commercial applications. The two-axis G-2000 gyro is currently being used for: two and three-axis rate sensors; inertial measurement units (IMU); line-of-sight (LOS) applications; gimbal and platform stabilization; tactical missile guidance; targeting gyro compassing; camera, antenna and radar stabilization; and downhole mapping where 1 deg/hr performance, small size, and low cost are required. The G-2000 DTG was designed for strapdown use in tactical situations.

- Smallest gyro (DTG) in production
- In full production, 350 per month
- Best value to performance
- <1 deg/hr random drift
- High shock capability (>750g)
- High MTBF (>100,000 hours)
- Qualified for military programs
- A commercial item per FAR 2.101

### G-2000 Gyro Parameters: Performance

Random Drift	<1 deg/hr 1-sigma
Non-G-Sensitive (Fixed)	300 deg/hr (compensatable)
Continuous Rate	200 deg/sec (temp dependent)
Transient Rate	1000 deg/sec (0.1 sec)
Temp Sensitivity	0.1 deg/hr/deg C
G-Sensitive Drift	25 deg/hr/g
G2-Sensitive Drift	0.3 deg/hr/g <sup>2</sup>
Magnetic Sensitivity	0.5 deg/hr/gauss
Output Scale Factor (SF)	1445 +/-5% deg/hr/mA
SF Linearity	<1%
SF Temp Sensitivity	<100 ppm/deg C
Axis Alignment	2 degrees

### Power Requirements

Start Voltage	32 Vrms nominal
Start Current	0.5 amps
Start Time	<1.4 sec
Run Voltage	12 Vrms nominal
Run Current	0.15 amps

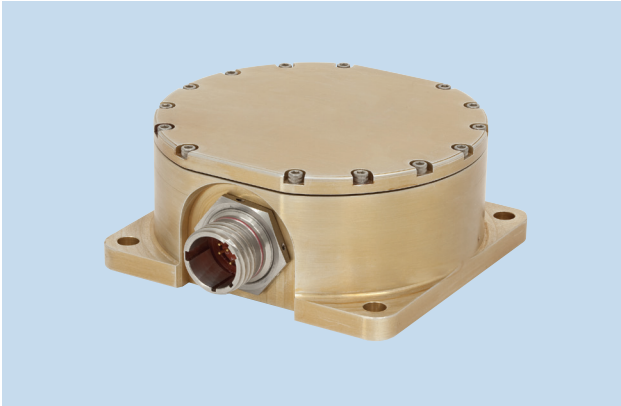
### Environment

Operating Temp	-54 deg C to +100 deg C
Shock Loading	750g (2 msec, 10 to 10,000 Hz)
Sine Vibration	20 Grms (20 to 2000 Hz)
Random Vibration	50 Grms (20 to 2000 Hz)
MTBF	>100,000 hours

### Operational Parameters

Spin Frequency	800 Hz (16,000 RPM)
Pickoff Scale Factor	7.0 +/-5% Vrms/deg
Pickoff Excitation	43.2 KHz
Excitation Voltage	6.5 Vrms
Phase Shift	47 +/-5 deg
Output Impedance	<10 ohms

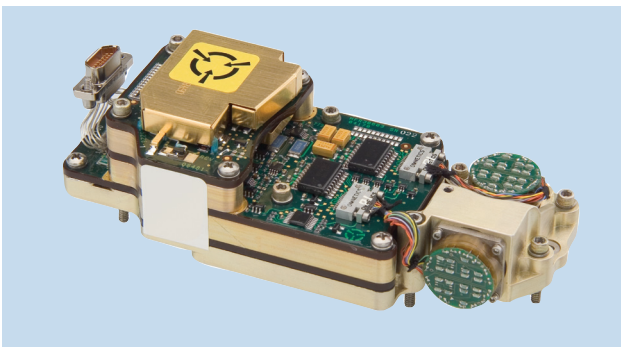
## G-2000 Gyroscope Product Suite



### Two-axis rate sensor assembly (RSA): The LRS-2000™

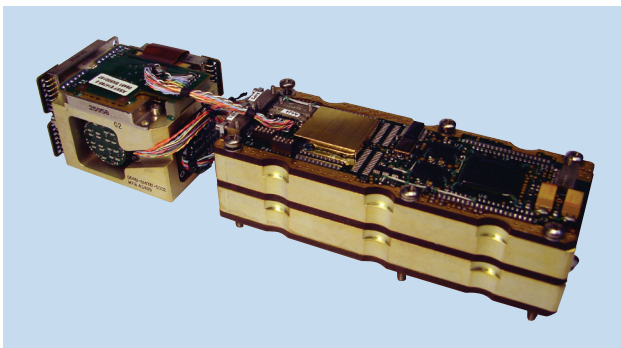
- Sensor: one G-2000 gyro, one servo card
- Provides two-axis of angular rate data
- Input voltage: +18 VDC to +30 VDC
- Input rate: 60 deg/sec (selectable to 200 deg/sec)
- Output scale factor: 166.9 mVDC/deg/sec (selectable)
- Bandwidth: 100 Hz
- Random drift <1 deg/hr 1 sigma
- Temperature: -40 deg C to +71 deg C
- Weight: < 2 lb (.91 kg)
- Size: 4.24 x 2.15 in. (10.77 x 5.46 cm)
- Shock: 750g (Optional: 6,000g, with shock mounts)

Note: Gyro and servo electronics are available separately.



### Three-axis RSA: The LRS-2001™

- Sensor: two G-2000 gyros and three electronics card packages
- Provides three-axis of angular rate data
- Full duplex RS-485 interface
- Input voltage: ±15 VDC and +5 VDC
- Bandwidth: 100 Hz
- Input rate: 280 deg/sec
- Random walk < 0.05 deg/root Hr
- Temperature: -25 deg C to +71 deg C
- Size: 5 x 2 x 1 in. (12.70 x 5.08 x 2.54 cm)
- Weight: <0.65 lb (.29 kg)



### Inertial measurement unit (IMU): The LR-2000™

- Sensor: two G-2000 gyros, three silicon accelerometers and an electronics card assembly
- Provides incremental velocities and angles ( $\Delta V$ 's and  $\Delta \Theta$ 's)
- Full duplex RS-485
- Power: ±15 VDC and +5 VDC
- Bandwidth: 100 Hz
- Input rate: 280 deg/sec
- Random walk < 0.05 deg/root Hr
- Temperature: -40 deg C to +71 deg C
- Size of sensor block: 2 x 1.5 x 1.5 in. (5.08 x 3.81 x 3.81 cm)
- Size of electronics package: 4 x 1.5 x 1 in. (10.16 x 3.81 x 2.54 cm)
- Electronics package may be remotely located with extender cables
- Total weight: <1.0 lb (.45 kg)

For more information, please contact:

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