Honeywell has adapted our highly successful angular rate sensor technology for the small satellite market. The demands of this market are low cost, size, weight and power. Using our heritage designs and adapting them for these specific market needs, Honeywell has created a market-leading rate sensor with a volume less than 82 cm³, that weighs less than 145g, and nominally only requires 3 Watts of power. In-run bias stability is better than 1 deg/hr (1σ).

**HONEYWELL RATE SENSOR FOR SMALL SATS: MEMS-BASED 3-AXIS RATE SENSOR**

HG4934SRS 3-Axis Rate Sensor

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**Parameter** | **Unit** | **Capability**
--- | --- | ---
Sample Rate | Hz | 600 Hz
Dynamic Range | deg/s | +/- 200 deg/s
Max Gyro Bias (including repeatability) | deg/hr, 3σ | <225
Scale Factor | ppm, 3σ | <3000
Bias In-Run Stability (Over Temperature, >0.75 °C/min) | deg/hr, 3σ | <3.0
Angular Random Walk (ARW) | deg/rt-hr, 3σ | <0.2
Peak System Power - nominal | Watts | <5.5 W peak, <3 W nominal
Mass | g | <145 g
Envelope, H x D | cm | 3.6 by 6.5
Configuration | - | single string 3-axis
Mission Life | Years | >6.5
Storage | Years | >10
Parts Level | - | Tactical and Space Rated
Operating Temp Range | °C | -41 to +71°C
Power Bus | V | 5 V +/-10%
Interface | - | Async UART (SDLC Option)

**KEY POINTS:**

- Small, low cost space rate sensor based on proven tactical grade IMUs delivered for Military applications
  - Over 500,000 IMU systems delivered

- Space Rated Rate Sensor
  - RadHard controller and electronics
  - Mix of industrial and space qualified parts

- Manufactured and tested at Honeywell – Minneapolis, MN
  - High rate production facility
  - Experience in high volume production for space
  - 50,000 IMUs per year

- 6.5-Year LEO missions

- Planned Qualification Mid 2019