



CRS03

Angular rate sensor

A robust and affordable mass-produced gyroscope for automotive and commercial customers.

Angular rate sensors are used wherever rate of turn sensing is required without a fixed point of reference. The sensor will output a DC voltage proportional to the rate of turn and input voltage.

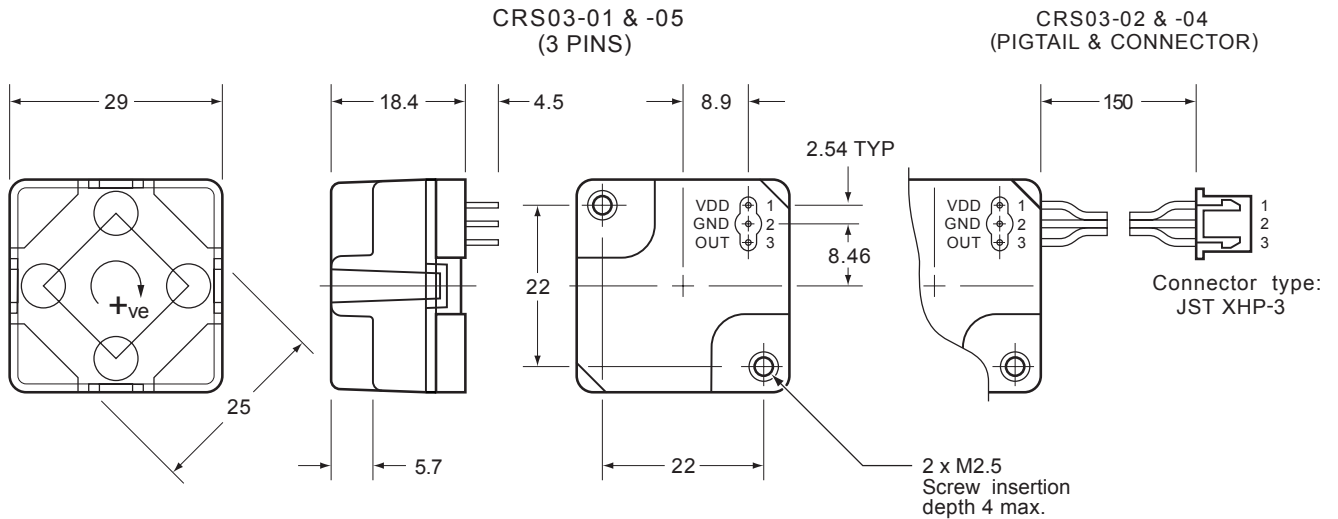
High performance motion sensing even under severe shock and vibration.

Whatever your application, the unique silicon ring technology, coupled with closed loop electronics, gives advanced and stable performance over time and temperature, overcoming the mount sensitivity problems experienced with simple beam or tuning fork based sensors.



Key features

- Four model types available
- Excellent performance over temperature
- Repeatable drift characteristic
- High shock and vibration operation
- High reliability
- Metalised housing



All measurements in millimetres.

■ Typical data

| | -01S & -02S | -04S | -05S |
|---|--|----------|-----------|
| Angular Rate Range | ±100°/s | ±200°/s | ±80°/s |
| Output | Analogue voltage (ratiometric) | | |
| Scale Factor | | | |
| Nominal | 20mV/°/s | 10mV/°/s | 25mV/°/s |
| Variation over temperature range | < ±3% | | |
| Nonlinearity | < ±0.5% of full scale | | |
| Bias | | | |
| Setting tolerance | < ±3°/s | < ±6°/s | < ±4°/s |
| Variation over temperature range | < ±3°/s | < ±6°/s | < ±4°/s |
| Ratiometric error | < ±1°/s | < ±2°/s | < ±0.8°/s |
| Drift vs. time | < ±0.55°/s in any 30s period (after start-up time) | | |
| g sensitivity | < ±0.1°/s/g on any axis | | |
| Bandwidth | 10Hz (-3dB) | | |
| Quiescent Noise | < 1mV rms (3Hz to 10Hz) | | |
| Environment | | | |
| Temperature | -40°C to +85°C | | |
| Linear acceleration | < 100g | | |
| Shock | 200g (1ms, ½ sine) | | |
| Vibration | 2g rms (20Hz to 2kHz, random) | | |
| Cross-axis sensitivity | < 5% | | |
| Mass | < 18 gram | | |
| Electrical | | | |
| Supply voltage | +4.75V to +5.25V | | |
| Supply current | < 35mA (steady state) | | |
| Noise and ripple | < 15mV rms (DC to 100Hz) | | |
| Start-up time | < 0.2s | | |
| RoHS Compliant | Yes (R & S suffix) | | |

■ Pin connections

| | |
|---|-------------|
| 1 | +5V |
| 2 | 0V |
| 3 | Rate Output |

ALTHERIS bv

Scheveningseweg 15
2517 KS DEN HAAG
The Netherlands

+31 (0)70 3924421

+31 (0)70 3644249

Offices in : Benelux | Germany | France | UK | Italy | USA

www.altheris.com

sales@altheris.nl

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