CRS39

Analogue Angular Rate Sensor
High Performance MEMS Gyroscope

CRS39-03

Key features

- Proven and Robust silicon MEMS vibrating ring structure
- FOG-like performance
- DTG-like size and performance
- Low Bias Instability (0.1°/h)
- Excellent Angle Random Walk (0.015°/√h)
- Ultra-low noise (<0.006°/s rms,)
- Optimised for low rate range environments (e.g. North Finding)
- Precision analogue output
- Temperature range from -10°C to +110°C
- High shock and vibration rejection
- Three temperature sensors and MEMS frequency output for precision thermal compensation
- RoHS Compliant

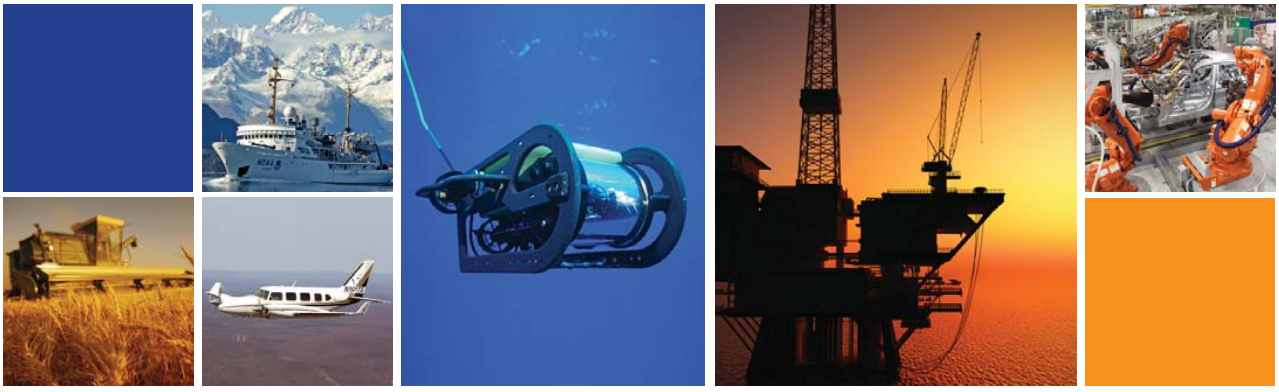
CRS39 provides the optimum solution for low angular rate range applications where bias instability, angle random walk and low noise are of critical importance.

The outstanding stability, low noise and size of the CRS39 makes this a viable alternative to fibre-optic and dynamically tuned gyros.

Applications

- Platform Stabilization
- Precision, Downhole Surveying, North Finding
- Maritime Guidance and Control
- Gyro-compassing and Heading Control
- Autonomous Vehicles and ROVs
- Rail Track monitoring
- Robotics

Preliminary



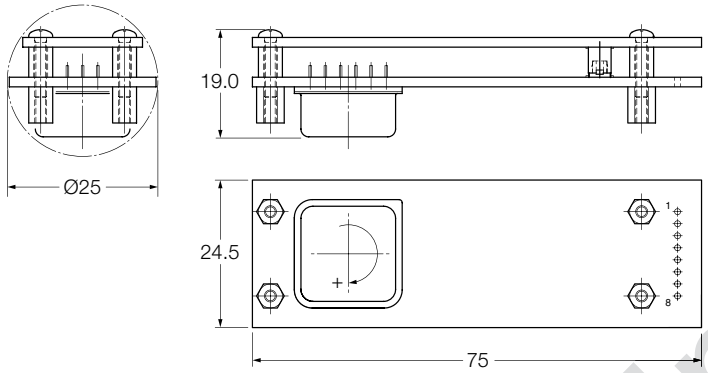
© Silicon Sensing is an Atlantic Inertial Systems, Sumitomo Precision Products joint venture company

CRS39

Analogue Angular Rate Sensor
High Performance MEMS Gyroscope

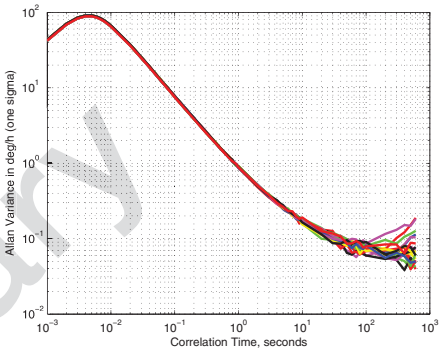
For full technical datasheets please go to our website where the documents can be downloaded

CRS39-03



All dimensions in millimetres

Allan Variance



Typical Data

Angular Rate Range	±25°/s
Output	Analogue (non-ratiometric)
Scale Factor	
Nominal	80mV/°/s
Setting tolerance (+45°C)	±0.4mV/°/s
Variation over temperature	±0.35%
Non-linearity	±0.02% of full scale
Bias	
Setting error (+45°C)	±0.1V
Variation over temperature	±500°/h
Angular Random Walk	0.015°/√h
Bias instability	0.1°/h
Bandwidth (normal)	25Hz ±10Hz
Noise to 10Hz	0.006°/s rms
Wideband Noise	0.03°/s rms
Environment	
Temperature	-10°C to +110°C
Operational shock	250g
Non-operational shock	1,000g
RoHS Compliant	Yes

Pin Connections

1	+5V (4.9 to 5.25)	**5**	TMP1
2	GND	**6**	TMP2
3	Rate Output	**7**	TMP3
4	Reference	**8**	FREQ

Silicon Sensing Systems Limited
Clittaford Road, Southway,
Plymouth, Devon
PL6 6DE United Kingdom

T +44 (0)1752 723330
F +44 (0)1752 723331
E sales@siliconsensing.com
W siliconsensing.com

Silicon Sensing Systems Japan Limited
1-10 Fuso-Cho,
Amagasaki,
Hyogo 6600891, Japan

T +81 (0)6 6489 5868
F +81 (0)6 6489 5919
E sssj@spp.co.jp
W siliconsensing.com

Specification subject to change without notice.

© Copyright 2015
Silicon Sensing Systems Limited
All rights reserved. Printed in England 05/15

CRS39-03-0100-131 Rev 1
DCR No. 710009064

Silicon Sensing Systems Limited Registered in England & Wales No. 3635234 Clittaford Road, Southway, Plymouth, Devon PL6 6DE
The device mark Silicon Sensing is a registered trade mark of Silicon Sensing Systems Community Trade Mark 003587664

Preliminary

Angst+Pfister
Sensors and Power

We are here for you. Addresses and Contacts.

Headquarter Switzerland:

Angst+Pfister Sensors and Power AG
Thurgauerstrasse 66
CH-8050 Zurich
Phone +41 44 877 35 00
sensorsandpower@angst-pfister.com

Office Germany:

Angst+Pfister Sensors and Power Deutschland GmbH
Edisonstraße 16
D-85716 Unterschleißheim
Phone +49 89 374 288 87 00
sensorsandpower.de@angst-pfister.com

Scan here and get an overview of personal contacts!

sensorsandpower.angst-pfister.com