

# PINPOINT®

## SILICON SENSING®

### Precision Navigation and Pointing Gyroscope

#### CRM100/102



Actual size

#### CRM200/202



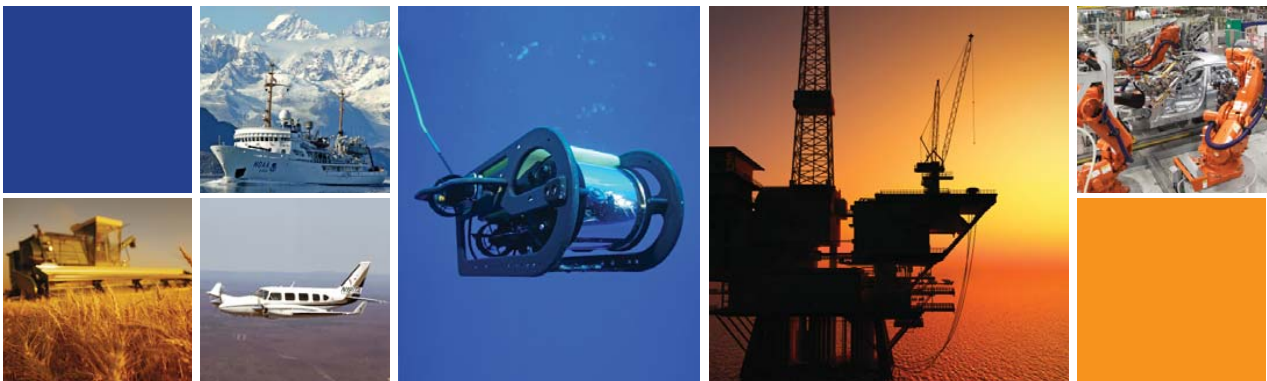
Actual size

#### Key features

- Small (5.7 x 4.8 x 1.2 - CRM100/102  
6.3 x 5.5 x 2.7 - CRM200/202)
- Proven and robust silicon MEMS vibrating ring gyro
- Class-leading bias and noise over temperature for precision navigation and pointing
- In-plane and orthogonal sensing options (part numbers CRM100 and CRM200)
- User selectable dynamic ranges
- Higher rate variants available (CRM102/202)
- User adjustable bandwidth (to 160Hz)
- Analogue and digital (SPI®) outputs
- 3V nominal supply (2.7 - 3.6V range)
- Low power consumption (4mA)
- High shock and vibration rejection
- Hermetically sealed ceramic LCC surface mount package for temperature and humidity resistance
- Integral temperature sensor
- Low integration cost
- Evaluation boards available
- RoHS compliant
- AEC Q100/200 tested

#### Typical applications

- Automotive in-car navigation
- GPS vehicle and personal navigation aiding
- Vehicle yaw, pitch and roll rate sensing
- Motion control
- Pointing devices
- Precision agriculture
- Antenna stabilisation
- Industrial and robotics



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

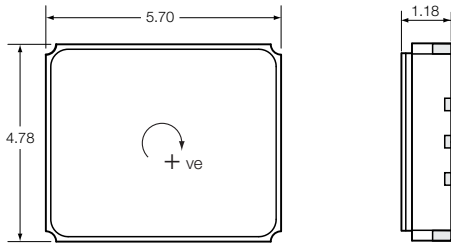


## Precision Navigation and Pointing Gyroscope

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

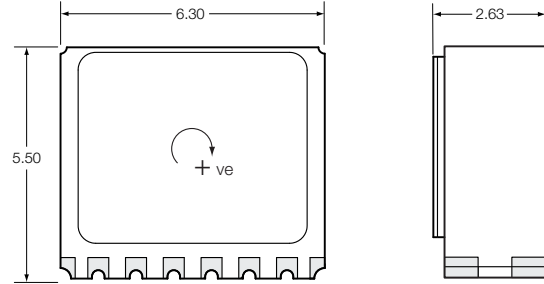


### CRM100/102



All dimensions in millimetres

### CRM200/202



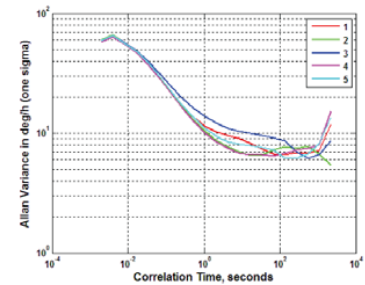
All dimensions in millimetres

### Typical Data

Part Number	CRM100	CRM102
	CRM200	CRM202
Supply voltage (Vdd)	2.7V ~ 3.6V	
Dynamic range	75°/s, 150°/s, 300°/s, 900°/s (set by using PCBA connection)	225°/s, 450°/s, 900°/s, 2,700°/s (set by using PCBA connection)
Scale factor (analogue output - ratiometric)	12mV/°/s, 6.0mV/°/s, 3.0mV/°/s, 1.0mV/°/s	1mV/°/s (Vdd = 3V, 900°/s range)
SF over temperature	±0.5%	±1%
Null	½ xVdd	
Bias over temperature	±1.0°/s	±12°/s
Bias instability	12°/hr	20°/hr
Bandwidth (-3dB)	Up to 160Hz (set by customer using an external capacitor)	
Noise spectral density	0.018°/s/rt Hz	0.05°/s/rt Hz
Angular Random Walk	0.2°/rt hr	0.8°/rt hr
Temperature (full performance)	-40°C to +85°C	-20°C to +85°C
Temperature (reduced performance)	-40°C to +105°C	N/A
Temperature (storage)	-60°C to +125°C	-20°C to +125°C
Shock	3,500g 500µs (unpowered) 500g 1ms ½ sine (powered) 100g 6ms (powered)	
Vibration	12g rms 10 - 5kHz (powered)	
Start-up-time	<0.3s	
Mass	0.1 gram	
Current consumption	4mA	

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

### Allan Variance



Specification subject to change without notice.

© Copyright 2015  
Silicon Sensing Systems Limited  
All rights reserved. Printed in England 07/15

CRM100-00-0100-131 Rev 10  
DCR No. 710009295

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 0  
sensorsandpower.de@angst-pfister.com



## We are here for you. Addresses and Contacts.

### Sales Germany & Austria

Geometrical sensors  
Other products

Kurt Stritzelberger  
Phone +49 89 374 288 87 22  
kurt.stritzelberger@angst-pfister.com

Pressure sensors  
Other products

Gerhard Vetter  
Phone +49 89 374 288 87 26  
gerhard.vetter@angst-pfister.com

Gas sensors and modules

Peter Felder  
Phone +41 44 877 35 05  
peter.felder@angst-pfister.com

### Sales Switzerland & Liechtenstein

Postcode 3000 – 9999

Basil Frei  
Phone +41 44 877 35 18  
basil.frei@angst-pfister.com

Postcode 1000 – 2999

Christian Mohrenstecher  
Phone +41 76 444 57 93  
christian.mohrenstecher@angst-pfister.com

### Sales International Key Accounts

Peter Felder  
Phone +41 44 877 35 05  
peter.felder@angst-pfister.com

### Sales Other Countries / Product Management

Pressure Sensors  
Load Cells

Philipp Kistler  
Phone +41 44 877 35 03  
philipp.kistler@angst-pfister.com

Gas sensors  
Gas sensor modules

Dr. Thomas Clausen  
Phone +49 89 374 288 87 24  
thomas.clausen@angst-pfister.com

Flow / Level / Medical products

Dr. Adriano Pittarelli  
Phone +49 89 374 288 87 67  
adriano.pittarelli@angst-pfister.com

Power supplies

Sebastiano Leggio  
Phone +41 44 877 35 06  
sebastiano.leggio@angst-pfister.com

Linear position sensors  
Angle sensors

Eric Letsch  
Phone +41 44 877 35 14  
eric.letsch@angst-pfister.com

Accelerometers  
Sensor elements

Christoph Kleye  
Phone +49 89 374 288 87 61  
christoph.kleye@angst-pfister.com

Drive technology  
CH Postcode 5000 – 9999 / DE

Roman Homa  
Phone +41 76 444 00 86  
roman.homa@angst-pfister.com

Drive technology  
CH Postcode 1000 – 4999 / AT / IT / FR

Christian Mohrenstecher  
Phone +41 76 444 57 93  
christian.mohrenstecher@angst-pfister.com

Harald Thomas  
Phone +49 89 374 288 87 23  
harald.thomas@angst-pfister.com