

Precision Navigation and Pointing Gyroscope

CRM100/102



Actual size

CRM200/202



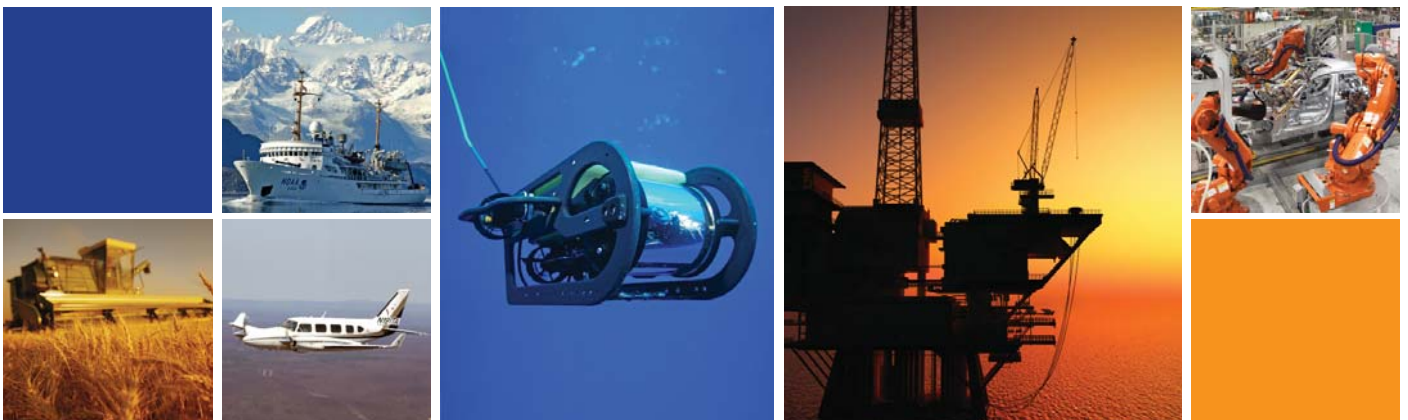
Actual size

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

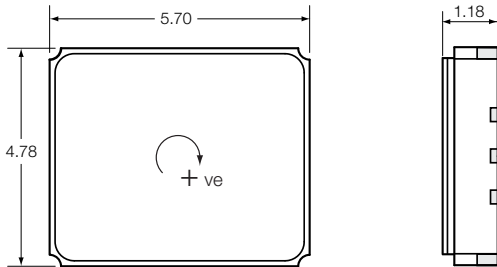
- Automotive in-car navigation
- GPS vehicle and personal navigation aiding
- Vehicle yaw, pitch and roll rate sensing
- Motion control
- Pointing devices
- Precision agriculture
- Antenna stabilisation
- Industrial and robotics



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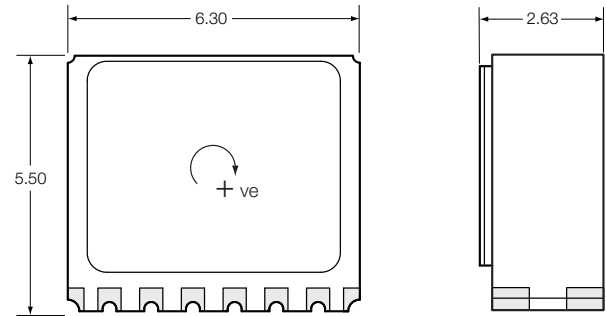
For full technical datasheets please go to our website where the documents can be downloaded

CRM100/102



All dimensions in millimetres

CRM200/202

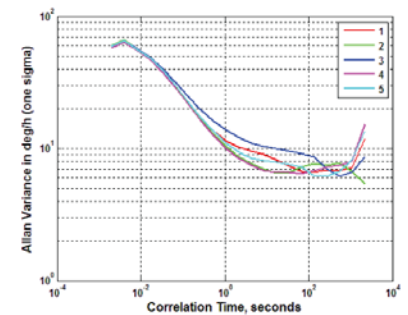


All dimensions in millimetres

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	

Allan Variance



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