



# CRM500-510

REMOTE MAGNETOMETERS

The CRM-Series remote magnetometers are high performance three-axis strapdown magnetic field measurement systems. They are designed as a local magnetic field reference for use with high performance Attitude & Heading Reference Systems. The CRM-Series remote magnetometers are easy to install, and they incorporate MEMS accelerometers to support automated co-alignment with the AHRS500CA, AHRS510CA or third party AHRS.



*Primary Flight Display  
Heading Reference*



*Unmanned Aerial  
Vehicle Control*

The CRM Series remote magnetometers provide an RS-422 serial digital data bus with a Baud rate of 38,400. They are configured to operate in an auto send mode so that data is automatically and continuously transmitted following power up. Output data is transferred in a compact binary format that includes three-axis magnetic field data and built-in-test status.

## Features

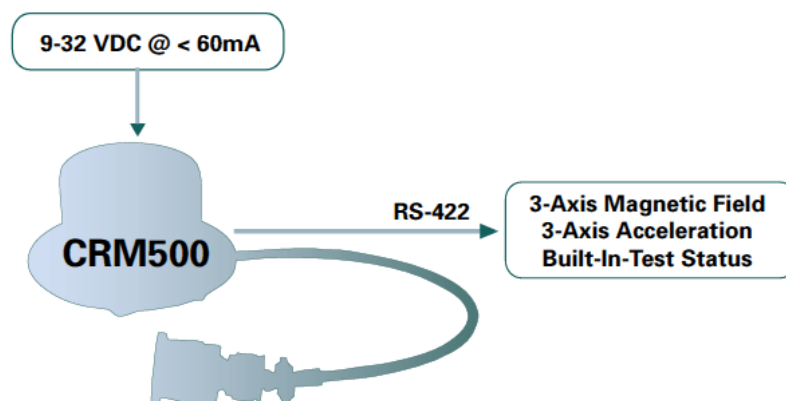
- 3-Axis Magnetic Field Sensor
- High Resolution Flux Gate Sensors
- Compatible with ACEINNA AHRS500CA and AHRS510CA
- For use in DO-160E Wing or Tail Mount Environments

## Certifications

- DO-178B Level B (Level A Pending)

## Applications

- Primary Flight Display Heading Reference
- Unmanned Aerial Vehicle Control



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## Performance

## CRM-Series

Magnetic Field	
Range (Gauss)	± 0.65
Bias (Gauss)	± 0.005
Non-Linearity (% full scale)	± 0.1
Sensor Axis Alignment to Case (°)	± 0.2
Noise (nT/√Hz)	2
Data Output Rate (Hz)	>50

## Specifications

Environment	
Operating Temperature Range (°C)	-55 to +70

Qualification	
CRM500CA (RTCA/DO-160D)	D2XBBD[(TEE1P)(UFF1)]XWXXXXZBABC[WWW]MA3G33XAA
CRM510CA (RTCA/DO-160E)	D2XBBD[(REE1)(HP)]XXXXXXZXXCC[XW]XMZ2J33XXAX

Electrical	
Digital Interface	RS-422
Baud Rate (Bits/s)	38400
Input Voltage (V)	9 to 32
Power Consumption (W)	<1.5

Physical	
<b>CRM500CA</b>	
Size (in)	3.370 OD x 2.03
(cm)	8.56 OD x 5.15
Weight (lbs)	<0.5
Connector	6-pin non-magnetic circular (D38999/26FA35PN)
<b>CRM510CA</b>	
Size (in)	4.37 x 2.62 x 1.65
(cm)	11.10 x 6.70 x 4.20
Weight (lbs)	<0.5
Connector	13-pin non-magnetic circular (D38999/25NB35PN)

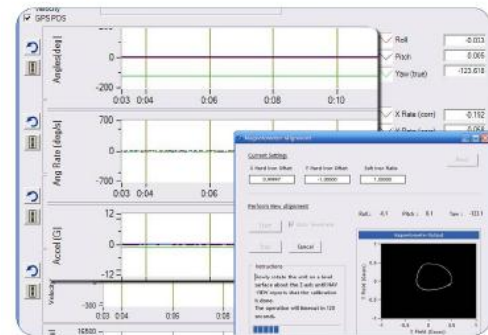
## Ordering Information

Model	Description
CRM500CA-200	Strapdown 3-Axis Fluxgate Magnetometer (Circular Flange)
CRM510CA-200	Strapdown 3-Axis Fluxgate Magnetometer (Rectangular Flange)

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## MAG-ALIGN 2.0

## Configuration & Display Software



ACEINNA's MagAlign software is included to assist users with the Hard and Soft Iron magnetometer alignment

## Other Components

Each CRM-Series remote magnetometer is shipped with an interface cable, ACEINNA's CRM-Series User's Manual and MagAlign configuration and display software.

## Support

For more detailed technical information please refer to the CRM-Series User's Manual available online at:

[www.aceinna.com/support](http://www.aceinna.com/support)