



Versatile Magnetic Sensor VMAG

High Performance, 3-Axis, Digital Magnetometer for Surveillance and Measurement Applications

The Ultra Electronics VMAG sensor is the latest development in a series of versatile high performance magnetometers. Specifically designed for a wide range of surveillance and measurement applications.

A number of VMAG sensors can be configured within an underwater array on the sea bed to allow surveillance of a considerable area. Interface is via a RS422/485 serial digital data link.



This high reliability sensor is a two-part design with two cylindrical titanium pressure housings intended for immersion in non conducting fluid to 100m depth (10 bar). Alternatively, Ultra is able to offer a range of pressure vessel enclosures into which the VMAG sensor can be easily incorporated.

- High Accuracy and Resolution
- Very Low Noise
- Low Power Consumption
- RS 422/485 Serial Digital Output and Control
- Selectable Range Mode
- Auto Range Mode
- Earths field 'Back off' facility

VMAG Typical Product Specification

Measuring Axes	3 (orthogonal)
Range	± 64,000nT, ± 8,000nT, ± 2,000nT, ± 500nT
Measurement	Ranges are 'User selectable' or can be programmed to be in 'Auto Range Mode'
Power Supply	+12V <110mA (1.3W)
Digital Output	RS 422 or RS 485
Zero Field Offset	< 5nT
Noise	0.1nT pp 0 to 1Hz
Frequency Response	DC to 10Hz (-3dB)
Accuracy	0.5%
Linearity	< 0.05% FS
Alignment	± 0.5 deg
Offset Temp Co-efficient	± 0.1nT / °C
Drift	< 0.4nT / 10hr
Temp Range	-10 to 50 °C
Earth's Field Back-off facility	User selectable
Data Resolution	0.015nT LSB
Data Interface	RS422 or RS485
Data Rate	38,400 baud
Sampling	50 or 100 samples per second/axis - user selectable
Physical	Two housings each dia 50mm x length 150mm
Pressure/Depth	10 bar / 100m
Perm	< 5nT in 500mT field
Customer Connection	Via 9 way micro D type connector
Cable/Digital Interface	100m (typical)

This data sheet details typical performance of the VMAG sensors currently in production. However, the versatile modular design allows for changes to specification and packaging. The sensor can readily be tailored to meet customer specific requirements.



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