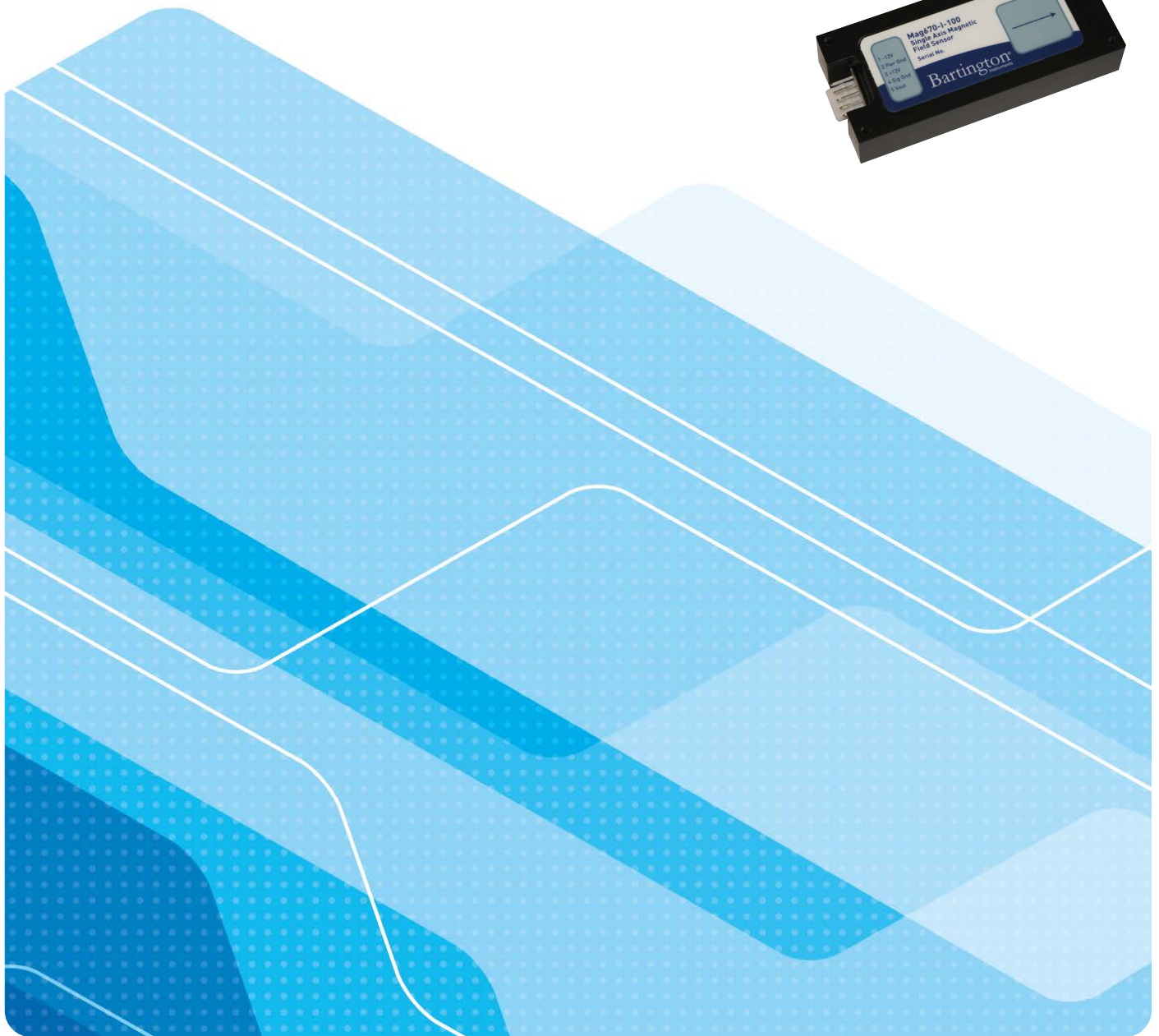
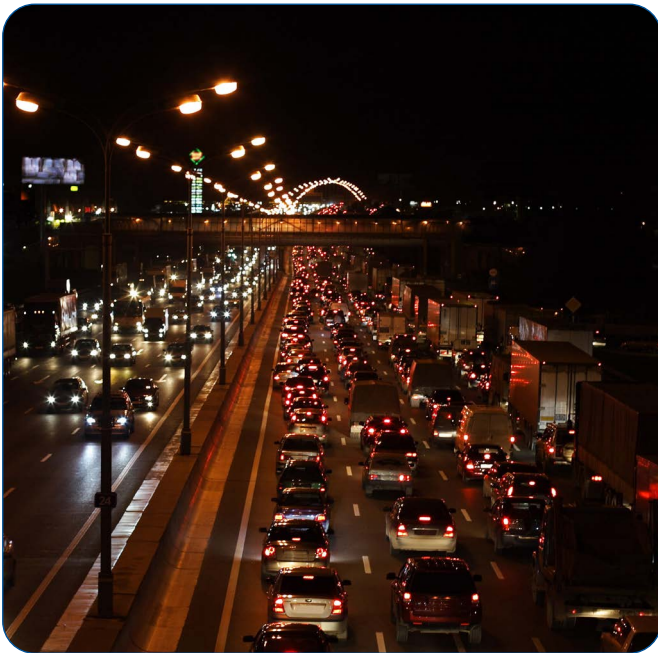


Mag670

Low Cost Single Axis
Magnetic Field Sensor





Mag670

Low Cost Single Axis Magnetic Field Sensor

This compact, versatile, low cost fluxgate sensor provides measurements of static and alternating fields up to 1mT. This is a packaged single axis sensor with three options for orientation of the fluxgate element.



Features

- Frequency response from DC to >1kHz
- Measuring ranges from $\pm 100\mu\text{T}$ to $\pm 1000\mu\text{T}$
- Three fluxgate element orientations

Typical Applications

- Incorporation in security systems
- Detection of magnetic materials
- Traffic monitoring

Product Identification

Product name	Orientation	Range in μT
Mag670	I = In-line 0° D = 135° R = Right-angle 90°	± 100 ± 200 ± 500 ± 1000

Example: Mag670-D-500 = Mag670 with fluxgate position 135° from sensor centre-line and $\pm 500\mu\text{T}$ range.

Mag670 Specifications

Performance				
Number of axes	One			
Polarity	+ve non-inverting output when pointing North			
Measuring range	$\pm 100\mu\text{T}$	$\pm 200\mu\text{T}$	$\pm 500\mu\text{T}$	$\pm 1000\mu\text{T}$
Bandwidth at -3dB	$>1\text{kHz}$			
Measurement noise floor	$>10 - \leq 25\text{pTrms}/\text{Hz}$ @ 1Hz			
Scaling	$100\text{mV}/\mu\text{T}$	$50\text{mV}/\mu\text{T}$	$20\text{mV}/\mu\text{T}$	$10\text{mV}/\mu\text{T}$
Scaling temperature coefficient	$200\text{ppm}/^\circ\text{C}$			
Start-up time	15ms			
Warm-up time	15mins			
Offset (in zero field)	$\pm 100\text{nT}$			
Offset temperature coefficient	$<1\text{nT}/^\circ\text{C}$			
Scaling error	$\pm 5\%$			
Maximum alignment error to reference	$\pm 2^\circ$			
Linearity error	0.01%			
Hysteresis	$<100\text{nT}$ at full scale			
Excitation breakthrough	$<20\text{mV}$ pk-pk at 15.625kHz typical			

Environmental

Operating temperature range	-20°C to +70°C
Storage temperature range	-20°C to +70°C
Environmental protection	N/A
Compliance	EMC BS EN 61326:2013, WEEE & RoHS

Mechanical

Dimensions	80 x 35 x 15mm
Weight	60g
Construction	Polyurethane-potted black Acetal enclosure
Connector	Molex 22-05-7058
Mounting	4 x M2.5 threaded holes

Electrical

Supply voltage	±11V to ±17V DC
Supply current	+18mA, -3mA
Power on surge current	+88mA, -18mA
Overvoltage protection (supply)	40V diode
Analogue voltage output	±10V (unbalanced)
Output impedance	10Ω



Power Supplies

The Mag670 range is compatible with the following data acquisition and power supply units from Bartington Instruments:

- PSU1 Power Supply Unit
- DecaPSU Power Supply Unit (adaptor cable required)
- Magmeter-2 Power Supply and Display Units
- Spectramag-6 Data Acquisition Unit
- SCU1 Signal Conditioning Unit

Accessories

	Mag670
Cables	Optional extra
Mating connectors	Not supplied



The specifications of the products described in this brochure are subject to change without prior notice.

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