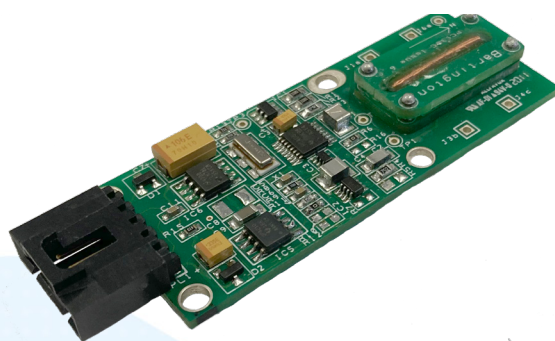


Mag646 & Mag710

Single Axis Unpackaged Magnetic Field
Sensors

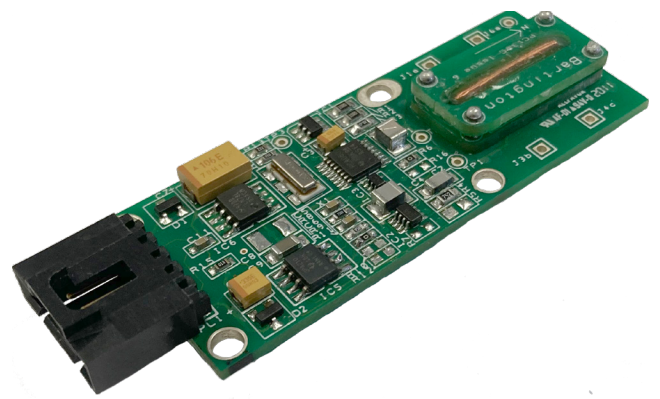




Mag646 & Mag710 Unpackaged Single Axis Magnetic Field Sensors

These compact and versatile fluxgate sensors provide measurements of static and alternating fields up to 1mT. These sensors are specially designed for OEM integration, and have three options for orientation of the fluxgate element.

The Mag710 features a lower bandwidth, which makes it ideal for measuring DC and very low frequency magnetic fields.



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Features

- Frequency response from DC to 1kHz
- Measuring ranges: $\pm 100\mu\text{T}$, $\pm 200\mu\text{T}$, $\pm 500\mu\text{T}$ or $\pm 1000\mu\text{T}$
- Three fluxgate element orientations: In-line, Diagonal or Right-angle

Typical Applications

- Incorporation in multi-sensor systems
- Detection of magnetic materials
- Traffic monitoring



Product Identification

Product name	Orientation	Range in μT
Mag646	I = In-line	± 100
Mag710	R = Right-angle	± 200
	D = Diagonal	± 500
		± 1000

Example: Mag646-I-1000 is a $\pm 1000\mu\text{T}$ sensor with an in-line orientation.

Mag646 & Mag710 Specifications

Performance				
Number of axes	One			
Polarity	+ve 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: Mag646 Mag710	>1kHz >50Hz			
Measurement noise floor	>10 - $\leq 25\text{pT}_{\text{rms}}/\text{Hz}$ @ 1Hz			
Scaling	100mV/ μT	50mV/ μT	20mV/ μT	10mV/ μT
Scaling temperature coefficient	$\pm 200\text{ppm}/^\circ\text{C}$			
Start-up time	15ms			
Warm-up time	15mins			
Offset (in zero field)	$\pm 100\text{nT}$			
Offset temperature coefficient	<1nT/ $^\circ\text{C}$			
Scaling error	$\pm 5\%$			
Alignment error (to reference face)	<2°			
Linearity error	0.01%			
Hysteresis	<100nT at full scale			
Excitation breakthrough	<20mV 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	Conformal coating

Mechanical

Dimensions (W x H x L)	7 x 25 x 76mm
Weight	10g
Connector	Molex 70553-0004
Mounting	4 x 3.3mm holes
Angle between axis and reference	I -0°, D -45° or R -90° (specify on order)

Electrical

Supply voltage	±11V to ±17V DC
Supply current	+18mA, -3mA maximum
Power ON surge current	+88mA, -18mA
Voltage protection	Polarity reversal to 40V
Analogue voltage output	±10V (unbalanced, single ended ref. 0V)
Output impedance	10Ω typical
Output protection	Protected against short circuit to 0V



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

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