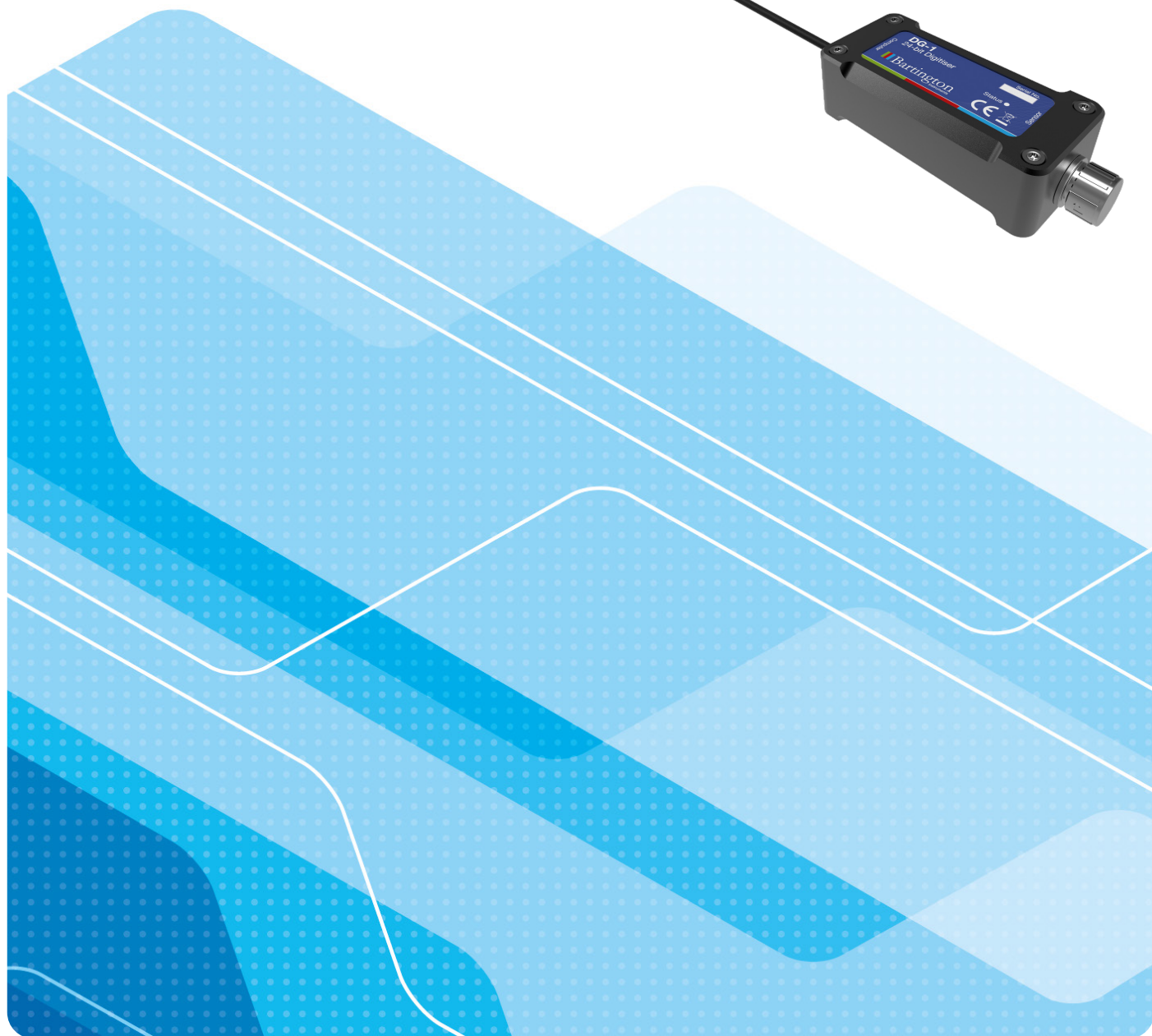


# DG-1

24-bit Digitiser

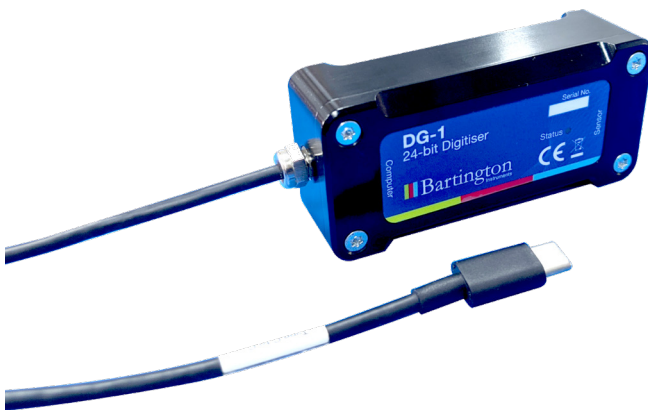




## DG-1 Digitiser

DG-1 is a digitiser designed to convert the output signals from most Bartington analogue magnetometers to digital format.

DG-1 is also small, at just 80mm long and 35mm depth.



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Bartington® is used under licence by Bartington Instruments Limited.

## Features

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- 3 input channels
- 24-bit resolution
- Digital bandwidth of 10Hz, 100Hz, 1kHz, 3kHz, 5kHz (3dB point)
- Compact size



## Product Identification

Product name	Package	Noise
DG-1	TBC	no code = Standard

## DG-1 Specification

Performance	
Number of input channels	Three
Input sensor mode	Differential/single-ended
Sensor input signal ranges	$\pm 3V$ , $\pm 8V$ , $\pm 10V$
Input coupling	DC
Resolution	24bits
Effective resolution	17bits
ADC Sampling Rate	1.024MHz
ADC data transfer rate	32KHz max for all three channels (configurable)
ADC anti-alias filter	4.8kHz $\pm 10\%$ -3dB point
Bandwidth	3 different ranges – need to calculate 3V setting 8V setting 10V setting
Scaling Error	$< \pm 0.2\%$
Bandwidth	Digital – 10Hz, 100Hz, 1kHz, 3kHz, 5kHz -3dB point, selectable + 1 configurable corner frequency Frequency range up to 10kHz Low-Pass Filter: FIR
Spectral Noise	$\leq 175\mu V/\sqrt{Hz}$ @ 1Hz (Sample Sum Count of 8) $\leq 19\mu V/\sqrt{Hz}$ @ 1Hz (Sample Sum Count of 254)
Offset Error	$< 1.5mV$
Temperature coefficient of offset	$< 25\mu V/^{\circ}C$
Temperature coefficient of scaling	$< 80ppm/^{\circ}C$
Phase delay between all digitized inputs	$< 1\mu S$
Time base accuracy	$\pm 50ppm$
Input impedance	40k $\Omega$
Communication Interface	USB 2.0 Hi-Speed, 12MBaud
Functionality	TBC

## Environmental

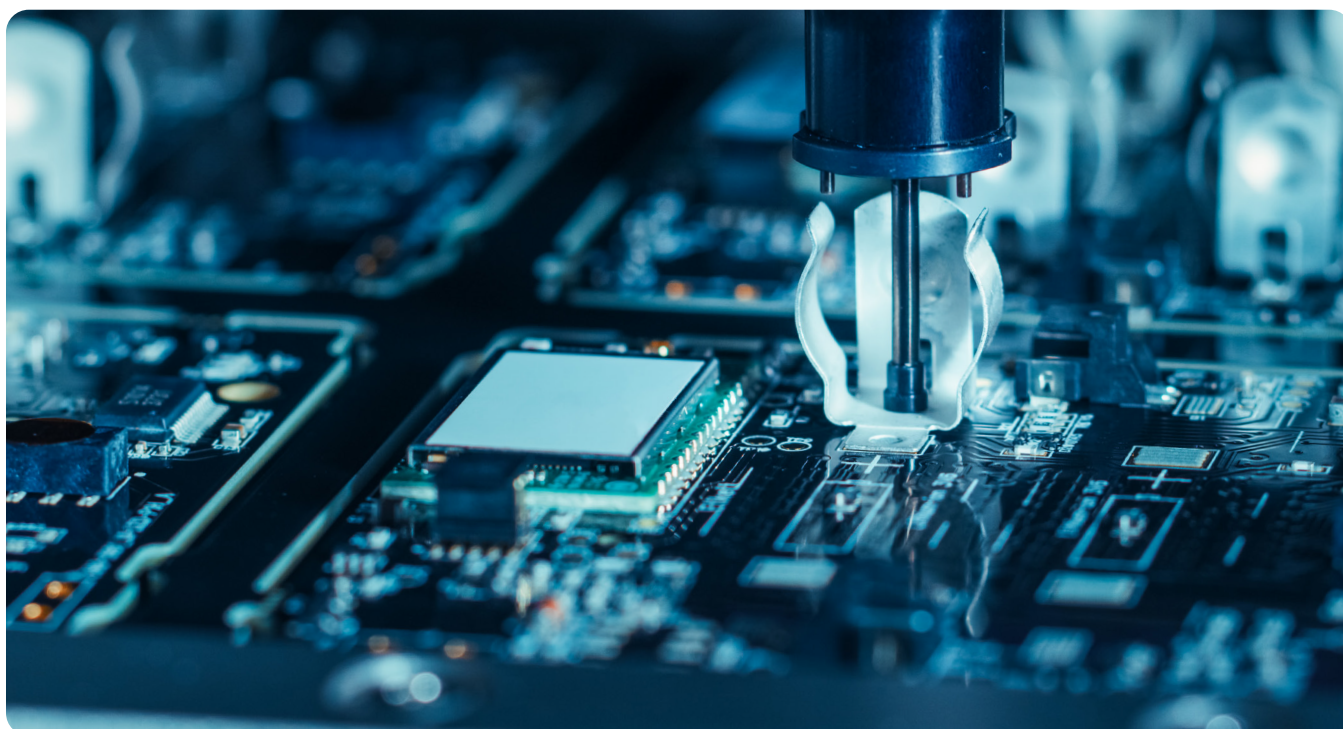
Operating temperature range	0°C to +60°C
Storage temperature range	-10°C to +60°C
Compliance	BS EN 61326-1:2013 & RoHS

## Mechanical

Enclosure Material		Anodised Aluminium
Dimensions		80 x 35 x 24mm
Weight		150g
Connectors	USB	USB Type-C Cable
	Magnetometer	Hirose LF10WBR-12S
Cable length USB		0.5m
Mounting features		4 x M4 holes

## Electrical

Supply Voltage (USB)	5V $\pm$ 12%
Output Voltage (to sensor)	$\pm$ 12V
Absolute max current drive output USB2.0	$\pm$ 45mA @ $\pm$ 12V
Absolute max current drive output USB3.0	$\pm$ 150mA @ $\pm$ 12V
Maximum Cable Length	TBC



# DG-1 Compatibility

Compatible Products	
Mag-03	CryoMag/CryoMag-IE
Mag-13	Mag610/611
Mag612U	Mag614-FL
Mag619U	Mag647/712
Mag646/670/710	Mag648/649
Mag690	Mag900/901





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

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