

AFG 100

AXIAL FLUXGATE PROBE

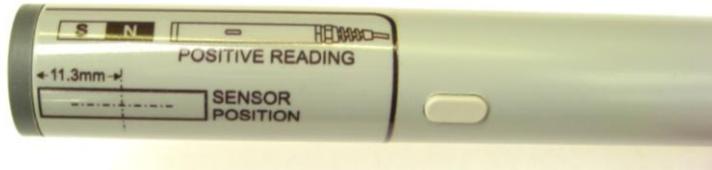
DATA SHEET

VERSION 1.0 - 2012



The Hirst Magnetic Instruments Ltd AFG100 is a probe for use with Hirst Magnetic Instruments Ltd. GM07 and GM08 Gaussmeters. It is both versatile and simple to use.

The AFG100 is an export safe fluxgate magnetometer probe for use with the GM07 and GM08 Gaussmeter for the measurement of weak magnetic field with a range of $100\mu\text{T}$. The probe can be used in any application where the sensitivity and stability of conventional magnetic field sensors is too low.



If at any time during operation or storage, the probe is exposed to high magnetic fields, greatly in excess of the operating range of the probe, a hysteresis error may occur, creating an offset of reading, normally not greater than $\pm 100\mu\text{T}$.

In the event of this happening the Null function (Utilities menu) can be used to remove the offset. Alternatively, demagnetise the Hall probe can help. This procedure is normally unnecessary.

AFG100 compatibility with existing GM07 and GM08 models



The AFG100 can be used immediately with Hirst Magnetic Instruments Ltd GM07 and GM08 Gaussmeters with serial numbers: GM07-0924 and GM08-0691, and above.

If you wish to use a GM07 or GM08 with an earlier serial number, your Gaussmeter will need to be returned to Hirst Magnetics for a free compatibility upgrade. Please contact Hirst Magnetics at sales@hirst-magnetics.com to book your Gaussmeter in. Please use AFG100 compatibility as reference and include your GM07 or GM08 serial number.

Calibration

Due to the construction of the Hall element in the AFG100, it is not suitable for calibration nor calibration checks in conventional reference magnets.

The AFG100 must be calibrated in a uniform magnetic field, not in a reference magnet. Therefore can only be calibrated by Hirst Magnetics.

It is recommended that the AFG100 and GM07 or GM08 Gaussmeters are returned annually for calibration. Please contact our sales office on sales@hirst-magnetics.com

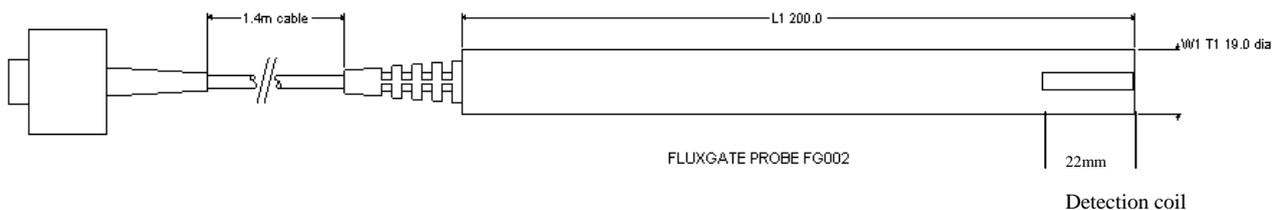
Operating ranges

When operating with the GM07 and GM08, the AFG100 automatically enables 4 ranges of operation.

Ranges	Digits displayed	Repeatability
100 μ T	-99.99 μ T to +99.99 μ T	0.25% +/- 5 nT
10 μ T	-9.999 μ T to +9.999 μ T	0.25% +/- 5 nT
1 μ T	-999.9 nT to +999.9 nT	0.25% +/- 5 nT
100 nT	-99.99 nT to +99.99 nT	0.25% +/- 5 nT

Accuracy	\pm 0.5%
Bandwidth	0 to 1 KHz (-3dB)
Operating Temperature	-40 to +85 DegC
Length of detection coil	22mm
Analogue output	+/- 3 V full scale
Zero drift	<2 nT/K
Noise	<0.5 nT _{RMS} or 3nT _{PP} (0.1 to 10 Hz) ~150 pT/ $\sqrt{\text{Hz}}$ @ 1Hz – EXPORT SAFE

This product complies with the Low Voltage Directive (LVD) and Electromagnetic Compatibility (EMC) directive.



Please note that in the interests of continual improvement, specifications may be changed without notice. Please see website for current information.