

AP002 HS
HIGH SENSITIVITY AXIAL HALL PROBE
DATA SHEET



VERSION 2.0 - 2012

The Hirst Magnetic Instruments Ltd AP002-HS is a high sensitivity Hall probe for use with Hirst Magnetic Instruments Ltd. GM07 and GM08 Gaussmeters.

The AP002-HS is an active semiconductor Hall element which incorporates a focusing magnetic circuit.



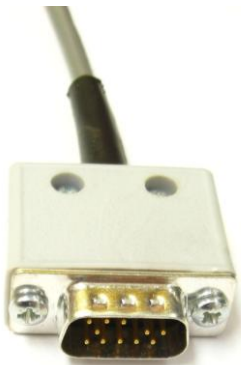
This magnetic circuit focuses the magnetic flux experienced by the probe in the Hall element to offer a significant boost in sensitivity.

Although the internal magnetic circuit does exhibit some hysteresis over the operating range, this effect is quite small, less than typically $\pm 0.2\%$.

If at anytime 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 $\pm 100 \mu\text{T}$ (micro tesla) / ± 1 gauss.

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.

AP002-HS compatibility with GM07 and GM08 models



The AP002-HS 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, please contact Hirst Magnetics at sales@hirst-magnetics.com to check on compatibility. Please use AP002-HS compatibility as a reference and include your GM07 or GM08 serial number.

Calibration

Due to the construction of the Hall element in the AP002-HS, it is not suitable for calibration nor calibration checks in conventional reference magnets.

The AP002-HS must be calibrated in a uniform magnetic field, not in a reference magnet. Therefore can only be calibrated by Hirst Magnetic Instruments.

It is recommended that the AP002-HS and GM07 or GM08 Gaussmeters are returned annually for calibration. Please contact our sales office on sales@hirst-magnetics.com.

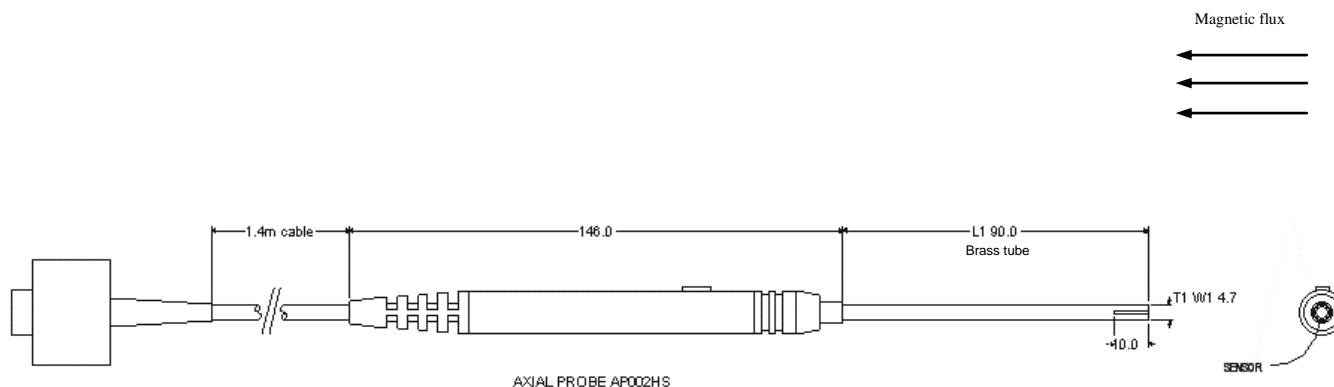
Operating ranges

When operating with the GM07 and GM08, the AP002-HS automatically enables 3 ranges of operation.

0 - ± 29.99 mT (milli Tesla)
0 - ± 2.999 mT (milli Tesla)
0 - ± 299.9 μ T (micro Tesla)

0 - ± 299.9 Gauss
0 - ± 29.99 Gauss
0 - ± 2.999 Gauss

0 - ± 299.9 Oersted
0 - ± 29.99 Oersted
0 - ± 2.999 Oersted



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