

# Calibration Certificate

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The following measurements were carried out using working standards which are periodically verified, and are traceable to National Physical Laboratory Standards.

### Calibration References

Bartington Mag-01 Magnetometer	TE112	Serial No 0288
Bartington Mag Probe B	TE113	Serial No 501
Bartington Solenoid with Current Source	TE18	Serial No 001

### Three axis magnetic field sensor under test

Mag-03 MSES ..... Range 70 ..... Serial No 769 .....

### Test Results

PARAMETER	SPECIFIED		RESULTS		
			X	Y	Z
Orthogonality Error (°)	MS and MSES versions $\pm 0.1^\circ$ All other versions $\pm 0.5^\circ$		<0.1	<0.1	<0.1
Offset Error in Zero Field (nT)	<b>Range</b> ( $\mu$ T)	<b>Offset</b> (nT)	+4	-1 1/2	+2
	70	$\pm 5$			
	100	$\pm 5$			
	250	$\pm 12$			
	500	$\pm 25$			
	1000	$\pm 50$			
Scaling Error* (@35Hz) (%)	$\pm 0.5\%$		<0.3	<0.3	<0.3
Frequency Response** (%)	$\pm 5\%$		48	42	49
Noise at 1 Hz (pTrms/ $\sqrt$ Hz)	Standard - <12 pTrms/ $\sqrt$ Hz Low noise - <6 pTrms/ $\sqrt$ Hz		68	54	61

\* Measured at 35 Hz using a field of 100  $\mu$ T pk-pk.

\*\* The response at 1 kHz referred to that at 35 Hz.

The measurement uncertainty for the above values is  $\pm 1$  LSD

The calibration was measured at 20 ( $\pm 2$ ) °C

Certified that the above instrument has been fully tested and calibrated to the manufacturers published specifications, due allowance having been made for the uncertainty of the measurements.

NAME Mark Godden .....

Date 04/06/04 .....

Signature Mark Godden .....