

Datasheet: 3MH4 DIGITAL 3D TESLAMETER

High-quality 3-D Digital Teslameter 3MH4

*** Preliminary Data Sheet ***

DESCRIPTION:

SENIS Digital 3D Teslameter 3MH4 redefines magnetic field measurement with unmatched precision, stability, and adaptability. With its absolute accuracy of below 0.1% (1'000ppm), it sets the wide standards in magnetic field measurement. Stability is key, and this device maintains rock-solid digital readings, ensuring consistent and reliable measurement data.

Unparalleled spatial resolution at $0.10 \times 0.01 \times 0.10 \text{ mm}^3$ of the 3-axis Hall probe empowers detailed exploration of magnetic fields. Probe interchangeability simplifies switching probes without sacrificing accuracy, while $<100\text{ppm}/^\circ\text{C}$ temperature stability guarantees reliable measurements across various conditions.

With very high magnetic DC resolution better than $1\text{ppm} @ \pm 2\text{T}$, up to 4 (four) selectable field ranges (0.1T to 20T), and seamless connectivity through USB2.0 and LAN, it's a versatile tool for diverse applications.

This teslameter is invaluable for mapping magnetic fields, characterizing systems, current sensing, and quality control in laboratories, production lines, and magnet systems. It's the ultimate tool for precision in magnetic field measurement, offering the future of magnetic field analysis.

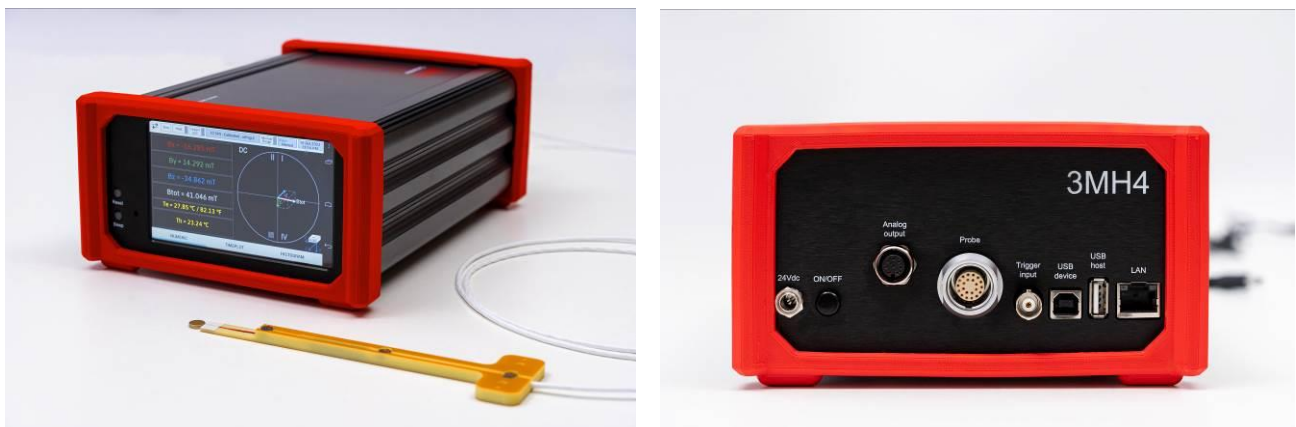


Figure 1: 3-channel digital teslameter 3MH4: front panel (left); rear panel (right)

KEY FEATURES:

- High measurement DC accuracy: $< 0.1\%$ (1'000ppm)
- Very good stability of the digital readings
- Very high spatial resolution: FSV of the applied 3D Hall IC in the C Probe Type is only $0.10 \times 0.01 \times 0.10 \text{ mm}^3$
- Probe interchangeability is ensured: Calibration data of each Hall probe are stored in an integrated EEPROM
- High temperature stability: $< 100\text{ppm}/^\circ\text{C}$
- Very high magnetic DC resolution: better than $1\text{ppm} @ \pm 2\text{T}$ range
- Up to 4 (four) selectable magnetic field ranges: 100mT, 500mT, 2T, 20T (calibrated up to 9T)
- USB2.0 serial communication and LAN
- Triggers Internal and External – Single shot, Manual and Continuous
- TFT LCD module (108 x 65 mm) for Bx, By, Bz, Btot, and the Th (probe) and Te (box) temperatures
- 24-bit A/D Converter
- Uncalibrated analog outputs

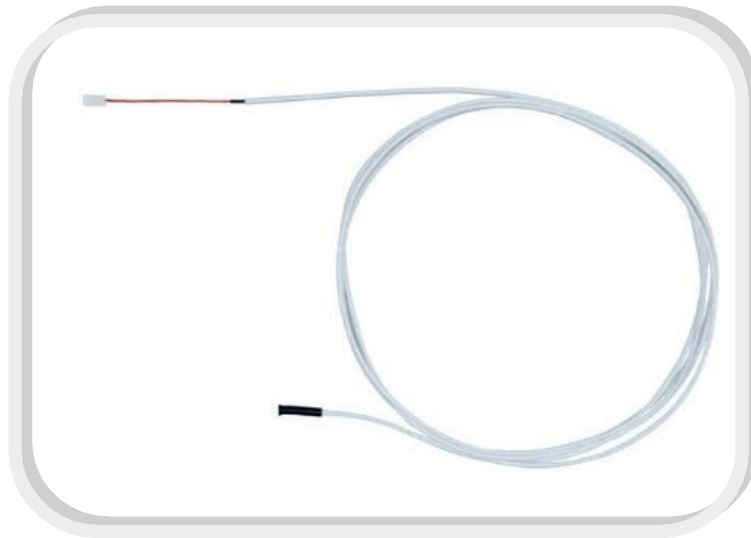


Figure 2: Photo of the integrated 3-axis Hall Probe.

TYPICAL APPLICATIONS

- Mapping magnetic fields
- Characterization of undulator systems
- Current sensing
- Application in laboratories and in production lines
- Quality control and monitoring of magnet systems (generators, motors, etc.).