

MAGNETIC FIELD STRENGTH METER GAUSS-/TESLAMETER FH 54

• Description

The FH 54 is a handheld measuring instrument for measuring the magnetic field strength H in Ampere per Meter (A/m) and the magnetic flux density or induction B in Tesla (T) or Gauss (G). Particular features of the FH 54 are high accuracy, easy handling and a multitude of functions.

Apart from the possibility of measuring static (DC) or alternating (AC) fields, the FH 54 offers many functions, e.g. manual or automatic range selection, maximum and minimum value storage and adjustable limit values. The relative function can be used to show the difference to a set value or to measure small changes in a large magnetic field.

A special feature of the FH 54 is the Peak Hold function. This enables the maximum values of even very short magnetizing impulses to be recorded.

The FH 54 has an analog output and a computer interface that allows data transfer and remote operation. The handy, well-designed foil keyboard protects the inside of the instrument from dirt. All important functions are available at the touch of a key. Relative and limit values can be easily entered via the numerical keypad. The remaining battery power is shown in the display. Instrument and accessories are packed in a hard case for transport and storage.

Many different Hall probes are available, for example probes with especially small active areas for measurements at the size of a dot, or probes with a high sensitivity or with a built-in sensor for correction of temperature dependency. The latter also allow a display of the temperature. More details can be found in the probe data sheet.



FH 54

• Applications

- Quality control of permanent magnets
- Quality control of magnet systems (motors, loudspeakers, magnetic clamps, couplings etc.)
- Quality control of soft magnetic components
- Residual field measurement
- Materials research
- Development of magnet systems
- Magnet testing
- Magnet sorting
- Material analysis
- Automated testing
- Testing of coils

• Features

Model	FH 54
Automatic or manual ranging	✓
Relative-measurement	✓
Filter	✓
Battery status indicator	✓
Max/Min hold	Max, Min
Limit	2, ± or absolute
Peak hold	✓
Probe temperature correction	✓
Probe temperature display	✓
Probe linearity correction	✓
Automatic zeroing	✓
Analog output	✓
Computer interface	RS232

• Technical Data

Model	FH 54		
Display	3¾ digit (0...±2999)		
Units	Tesla, Gauss, Ampere/Meter		
Ranges	30 µT*	300 mG*	24 A/m*
	300 µT*	3 G*	240 A/m*
	3 mT	30 G	2.4 kA/m
	30 mT	300 G	24 kA/m
	300 mT	3 kG	240 kA/m
	3 T	30 kG	2.4 MA/m
	30 T*	300 kG*	24 MA/m*
	*Special probes required		
Resolution (in most sensitive range)	Depending on probe type		
Frequency range	DC (with polarity display) AC approx. 20 Hz - 20 kHz (true rms, limits depend on excitation and on probe type)		
Basic accuracy	DC: 0.3 %, AC: 2 % (without probe)		
Precision (reproducibility)	DC: 0.2 %, AC: 1 % (without probe)		
Peak Hold	Impulse rise time > 150 µs		
Analog output	± 3 V, BNC connector		
Computer interface	RS 232, DB-9 connector		
Temperature range			
- Operation	+10 °C to +40 °C		
- Storage	-40 °C to +60 °C		
Power source	Batteries, 5 x 1.5 V size AA (LR6) or AC adapter		
- Battery lifetime	Depending on probe type		
Accessories/Options:			
- Hall probes	Multiple, see probe data sheet		
- Probe connection cable	Fixed to probes, different lengths available		
- Magnetic shielding chamber	Included		
- Hard case	Included		
- AC adapter	Optional, recommended for continuous operation, different AC plug styles available		
- Protector with shoulder strap	Optional, cover to protect the device from shocks, made of rubber-like material		
- Relay outputs for limits	Optional, 2 form-C relays		
Outer dimensions	266 mm x 90 / 144 mm x 60 mm		
Weight	Approx. 0.5 kg		

Due to continuous product improvements, specifications are subject to change without notice.

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