

MAGNETIC FIELD STRENGTH METER GAUSS-/TESLAMETER FH 52

• Description

The FH 52 is a handheld measuring instrument for measuring the magnetic field strength H and the magnetic flux density or induction B . It is used together with exchangeable transverse or axial Hall probes.

Apart from the possibility of measuring static (DC) or alternating (AC) fields, the FH 52 offers many functions, e.g. selectable units, manual or automatic range selection, maximum and minimum value storage and adjustable limit values. The relative function allows the difference to a set value to be displayed.

The FH 52 has a USB computer interface that allows data transfer and remote operation. The FH 52 is powered either from exchangeable batteries or via USB from a computer or an optional micro USB AC-adapter.



FH 52

The most important functions are available at the touch of a key; further functions can be accessed from a menu. The FH 52 offers selectable menu languages (English, German, French and Spanish).

Up to 120 readings can be stored in the memory of the FH 52. Stored values and instrument settings are also kept when the FH 52 is switched off.

The large liquid crystal display allows easy reading. The remaining battery power is shown in the display. The FH 52 is optimized for low power consumption. Additionally an automatic power off function helps saving battery power.

The FH 52 has a stable foil keyboard that protects the inside of the meter from dirt. Instrument and accessories are delivered in a hard case for transport and storage.

Either a transverse or an axial probe is included at customer's choice. Transverse probes measure the field in a direction perpendicular to the probe stem. Axial probes measure the field parallel to the probe axis.

• 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 52
Automatic or manual ranging	✓
Limit classifiers	2, ± or absolute
Filter	✓
Max/Min hold	Absolute Max, Max, Min, Max - Min
Relative measurement	✓
Internal memory	120 readings
Analog bargraph	✓
Battery state indicator	✓
Display contrast adjustment	✓
Automatic probe recognition	✓
Probe linearity correction	✓
Automatic zeroing	✓
Computer interface	USB
Menu languages	English, German, French, Spanish

• Technical Data

Model	FH 52				
Display	3½ digits (0...±1999), backlight if powered from USB				
Units	Tesla, Gauss, Ampere per Meter, Ampere per Centimeter, Oersted				
Ranges	20 mT	200 G	16 kA/m	160 A/cm	200 Oe
	200 mT	2 kG	160 kA/m	1600 A/cm	2 kOe
	2 T	20 kG	1600 kA/m	16 kA/cm	20 kOe
Resolution (in most sensitive range)	0.01 mT, 0.1 G, 0.01 kA/m, 0.1 A/cm, 0.1 Oe				
Frequency range	DC (with polarity display +/- or N/S) AC approx. 20 Hz - 10 kHz (true rms)				
Basic accuracy	DC: 1 %, AC ≤ 5 kHz: 3 %, > 5 kHz: 5 % (with standard probe, at 23 °C)				
Precision (reproducibility)	DC: 0.5 %, AC: 2 % (with standard probe, at 23 °C)				
Temperature coefficient of sensitivity	Approx. -0.05 %/K				
Temperature range					
- Operation	0 °C to +40 °C				
- Storage	-25 °C to +50 °C				
Power source	Exchangeable batteries, 4 pcs. 1.2 V to 1.5 V, size AA (LR6) or power supply from USB				
- Battery life time	Approx. 300 hours with high quality alkaline batteries				
Hall probes (1 probe included):	HS-TB52-194307		HS-AB52-264507		
- Orientation	Transverse		Axial		
- Thickness	1.9 mm max.		2.6 mm max.		
- Width	4.3 mm max.		4.5 mm max.		
- Length	75 mm		75 mm		
- Connection cable	Fixed to the probe, length 1.5 m (5 ft)				
Accessories/Options:					
- Hard case	Included				
- USB cable	Included, USB type A to micro USB type B, length approx. 1.8 m (6 ft)				
- Protector	Optional, cover to protect the device from shocks, made of rubber-like material				
- Magnetic shielding chamber	Optional, see data sheet "NK Shielding Chambers"				
- AC adapter	Optional, different AC line plug styles available				
Outer dimensions	228 mm x 70 / 117 mm x 47 mm				
Weight	Approx. 0.4 kg				

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

A data acquisition software package is available for download at www.magnet-physik.de. It contains the data acquisition program *FH 52 Teslameter*, help files, programming examples in Microsoft Visual C# and Visual Basic.NET and a description for using the FH 52 with National Instruments LabVIEW. Supported operating systems: Microsoft Windows® Vista, 7, 8, 10.

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