

MAGNETIC FIELD STRENGTH METER GAUSS-/TESLAMETER FH 51 AND FH 54

• Description

A particular feature of both the FH 51 and the FH 54 is the easy handling and the multitude of functions. They enable measurement of the magnetic flux density B or field strength H in Tesla (T), Gauss (G) or Ampere per meter (A/m).

The FH 51 is the favourably-priced introductory model to the Magnet-Physik Gaussmeter range. Apart from the possibility of measuring direct and alternating fields, the FH 51 offers the following functions: maximum value storage (max. hold), adjustable limit values (limit) and a filter for noise-laden signals. The relative function allows the difference to a set value to be displayed. The probes can be attached to the device either with the appropriate connecting cable or plugged in directly. The FH 51 is equipped with a transverse probe. Other probes are also available.



FH 51



FH 54

The FH 54, although a hand held device, displays an extremely high degree of measuring accuracy. It has all the functions of the FH 51 and additionally, among others, a peak value function (peak hold). 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. Many different Hall probes are available, for example probes with especially small active areas for measurements of the size of a dot, or probes with a high degree of sensitivity or with a built-in sensor for correction of temperature dependency. The latter also allows display of the temperature.

Both have a handy, well-designed foil keyboard protecting the inside from dirt. All important functions are available at the touch of a key. The devices have modern, attractive casings. The large LC display allows easy reading. The remaining battery power is shown in the display. The Gaussmeters are packed in robust hard cases for transport and storage.

• Features

Model	FH 51	FH 54
Auto zero	✓	✓
Auto range	✓	✓
Relative-measurement	✓	✓
Filter	✓	✓
Battery status indicator	✓	✓
Max/Min hold	Max	Max, Min
Limit	1	2, ± or absolute
Peak hold		✓
Probe temperature correction		✓
Probe temperature display		✓
Probe linearity correction		✓
Analog output		✓
Computer interface		✓

• Technical Data:

Model	FH 51	FH 54																														
Display	3½ digit (0...±1999)	3¾ digit (0...±2999)																														
Units	Tesla, Gauss, Ampere/Meter	Tesla, Gauss, Ampere/Meter																														
Ranges	<table> <tr> <td>20 mT</td><td>200 G</td><td>16 kA/m</td></tr> <tr> <td>200 mT</td><td>2 kG</td><td>160 kA/m</td></tr> <tr> <td>2 T</td><td>20 kG</td><td>1600 kA/m</td></tr> </table>	20 mT	200 G	16 kA/m	200 mT	2 kG	160 kA/m	2 T	20 kG	1600 kA/m	<table> <tr> <td>30 µT*</td><td>300 mG*</td><td>24 A/m*</td></tr> <tr> <td>300 µT*</td><td>3 G*</td><td>240 A/m*</td></tr> <tr> <td>3 mT</td><td>30 G</td><td>2.4 kA/m</td></tr> <tr> <td>30 mT</td><td>300 G</td><td>24 kA/m</td></tr> <tr> <td>300 mT</td><td>3 kG</td><td>240 kA/m</td></tr> <tr> <td>3 T</td><td>30 kG</td><td>2.4 MA/m</td></tr> <tr> <td>30 T*</td><td>300 kG*</td><td>24 MA/m*</td></tr> </table>	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*
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Resolution (in most sensitive range)	0.01 mT, 0.1 G, 0.01 kA/m	depending on probe type																														
Basic accuracy	DC: ±2 % (with standard probe) AC: ± 5%	DC: ±0.3 % (without probe) AC: ± 2%																														
Frequency range	DC (with polarity display) AC approx. 20 Hz - 10 kHz (true rms)	DC (with polarity display) AC approx. 20 Hz - 20 kHz (true rms)																														
	limits depend on excitation and probe type																															
Peak Hold	—	> 150 µs																														
Analog output	—	± 3 V, BNC connector																														
Interface	—	RS 232, DB-9 connector																														
Temperature range																																
- Operation	+10 °C to +40 °C	+10 °C to +40 °C																														
- Storage	-40 °C to +60 °C	-40 °C to +60 °C																														
Power source	Batteries, 4 x 1.5 V size AA	Batteries, 5 x 1.5 V size AA																														
- Operating time	approx. 40 hours	depending on probe type																														
Accessories/Options:																																
- Hall probes	Transverse probe (standard with meter), Axial probe, Surface field probe	Multiple, see probe data sheet																														
- Probe connection cable	1 m (standard with meter), 3 m (optional)	Fixed to probes, different lengths available																														
- Zero field chamber	optional	standard with meter																														
- Hard case	standard with meter	standard with meter																														
- AC adapter	—	optional, with Euro- or US-connector																														
- Relay output for limit	—	recommended for continuous operation																														
		optional, 2 c-form relays																														
Outer dimensions	228 mm x 70 / 117 mm x 47 mm	266 mm x 90 / 144 mm x 60 mm																														
Weight	approx. 0.4 kg	approx. 0.5 kg																														

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

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