# MAGNETIC FIELD STRENGTH METER GAUSS-/TESLAMETER FH 55


**FH 55**

## • Description

The magnetic field strength meter FH 55 is a compact benchtop 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 55 are high accuracy, easy handling and a multitude of functions.

Apart from the possibility of measuring static (DC) or alternating (AC) fields, the FH 55 offers many functions, e.g. manual or automatic range selection, maximum and minimum value storage and adjustable limit values with relay output. 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 55 is the Peak Hold function. This enables the maximum values of even very short magnetizing impulses to be recorded.

The FH 55 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.

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.

## • 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 55 |
|---|---|
| Automatic or manual ranging | ✓ |
| Relative-measurement | ✓ |
| Filter | ✓ |
| 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 55 | | |
|---|---|---|---|
| Display | | | Lit-up LCD, 60 mm x 32 mm |
| Reading | | | 3¾ digits (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)<br>AC approx. 20 Hz - 20 kHz (true rms, limits depend on excitation and on probe type) |
| Basic accuracy<br>Precision (reproducibility) | | | DC: 0.3 %, AC: 2 % (without probe)<br>DC: 0.2 %, AC: 1 % (without probe) |
| Peak Hold | | | Impulse rise time > 150 µs |
| Relay output for limits | | | 2 form-C relays |
| Analog output | | | ± 3 V, BNC connector |
| Computer interface | | | RS 232, DB-9 connector |
| Temperature range<br>- Operation<br>- Storage | | | <br>+10 ºC to +40 ºC<br>-40 ºC to +60 ºC |
| Power supply | | | 90-250 V, 50-60 Hz, 5 W max. |
| Accessories/Options:<br>- Hall probes<br>- Probe connection cable<br>- Magnetic shielding chamber | | | <br>Multiple models available, see probe data sheet<br>Fixed to probes, different lengths available<br>Included |
| Width / Depth / Height | | | 248 mm / 180 mm / 100 mm |
| Weight | | | Approx. 2 kg |
| Due to continuous product improvements, specifications are subject to change without notice. | | | |

## • Accessories / Options (not included with instrument)

- Rack adapter for installation of a FH 55 to 19” racks (fitted height 2 U)
- RS232 connection cable (null-modem cable, length 3 m, 10 ft)
- USB adapter (the RS232 cable is additionally required)
- Data acquisition software (for operation with RS232 interface or USB via adapter)

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