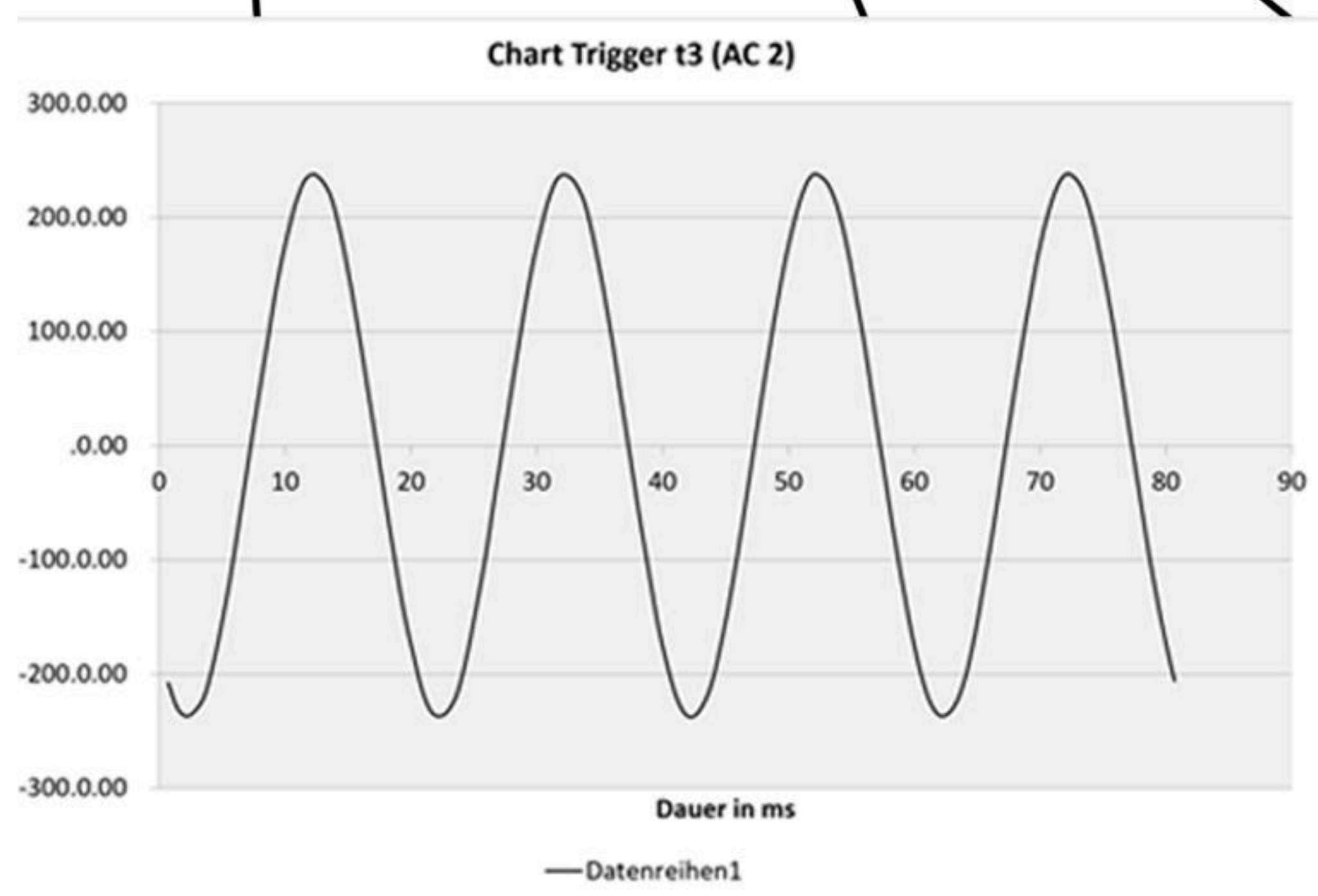
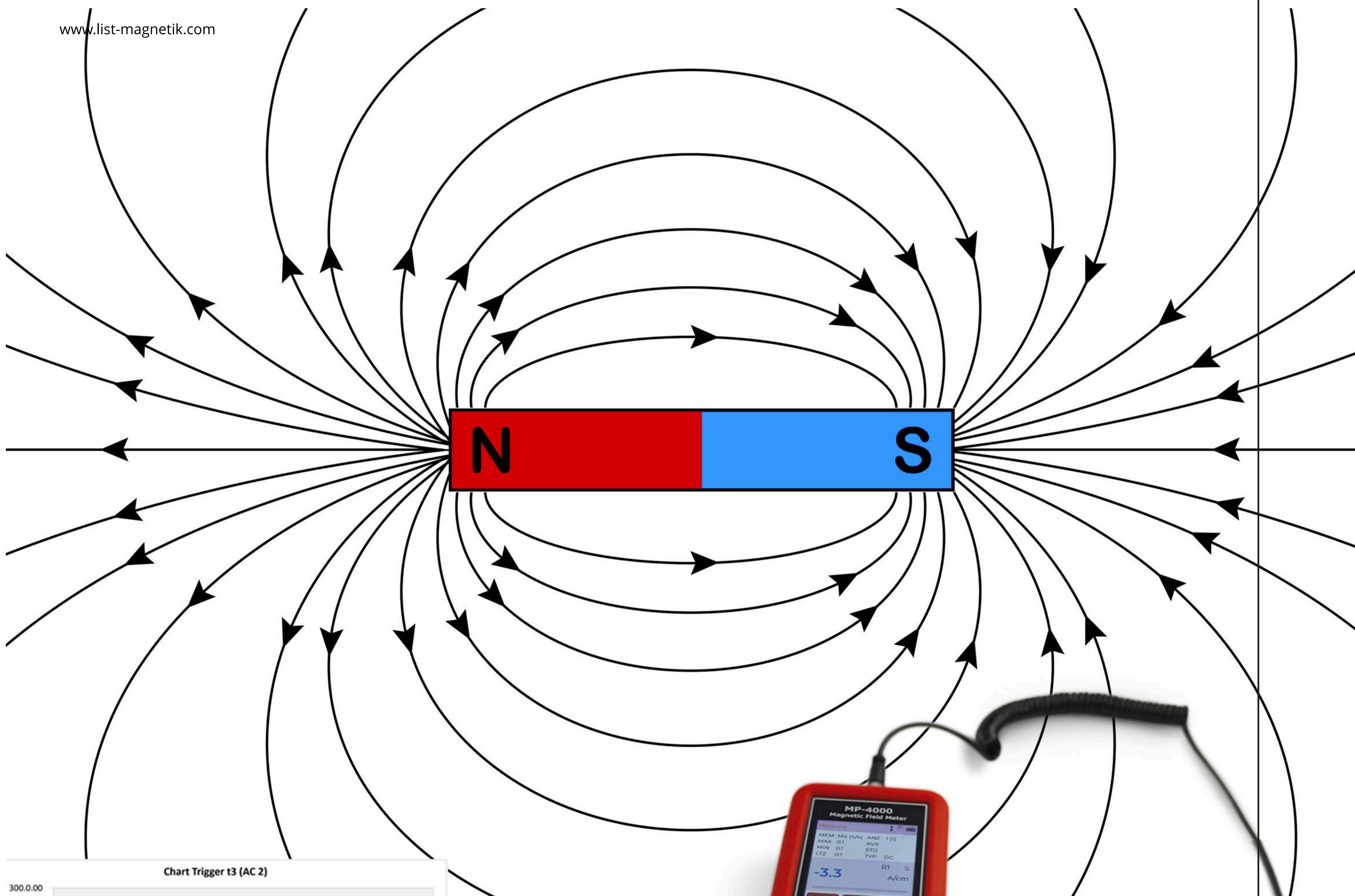


www.list-magnetik.com



Magnetic Field Meters  
by List-Magnetik  
[www.list-magnetik.com](http://www.list-magnetik.com)

In connection with magnets, various measurement quantities can be determined. List-Magnetik offers convenient test technology and consulting for many facets.

## Magnetic field strength (H)

The unit of measurement for the magnetic field strength is A/m (A/cm or kA/m are more commonly used because of the given values) or, older, Oersted (Oe). Since the magnetic flux density B, measured in Gauss (Gs) or Tesla (T), can be converted using a constant factor, magnetic field strength and flux density (and therefore the units A/cm, kA/m, Oe, Gs, T) can be used interchangeably in practice.

Devices for measuring magnetic field strength are called magnetometers, magnetic field meters, Gaussmeters, or Teslameters.

Depending on your application, a peak or pulse measurement may be required.

## Magnetic flux

Magnetic flux ( $\Phi$ ) describes the total power of a magnet and can be measured with a fluxmeter in a coil. The unit of measurement is the volt-second (Vs), also known as Weber (Wb) or formerly Maxwell (Mx).

A fluxmeter is required to measure magnetic flux or flux measurement. Compared to the handheld instruments for measuring magnetic fields or permeability, these instruments are more complex; they are laboratory instruments with a connected Helmholtz torque coil.

## Remanence / Residual Magnetism

Remanence or residual magnetism is a special consideration of magnetic field strength, the remaining magnetic field strength after the influence of a magnet or after a demagnetization process. Remanence can also be measured by magnetic field meters, Gaussmeters and Teslameters.

## Too much residual magnetism: Demagnetize!

If you need to reduce remanence, you can use a demagnetizer to bring your steel parts back below the required limits. This does not work with permanent magnets.

## List-Magnetik - Magnetic field meters for every application

List-Magnetik  
Dipl.-Ing. Heinrich List GmbH

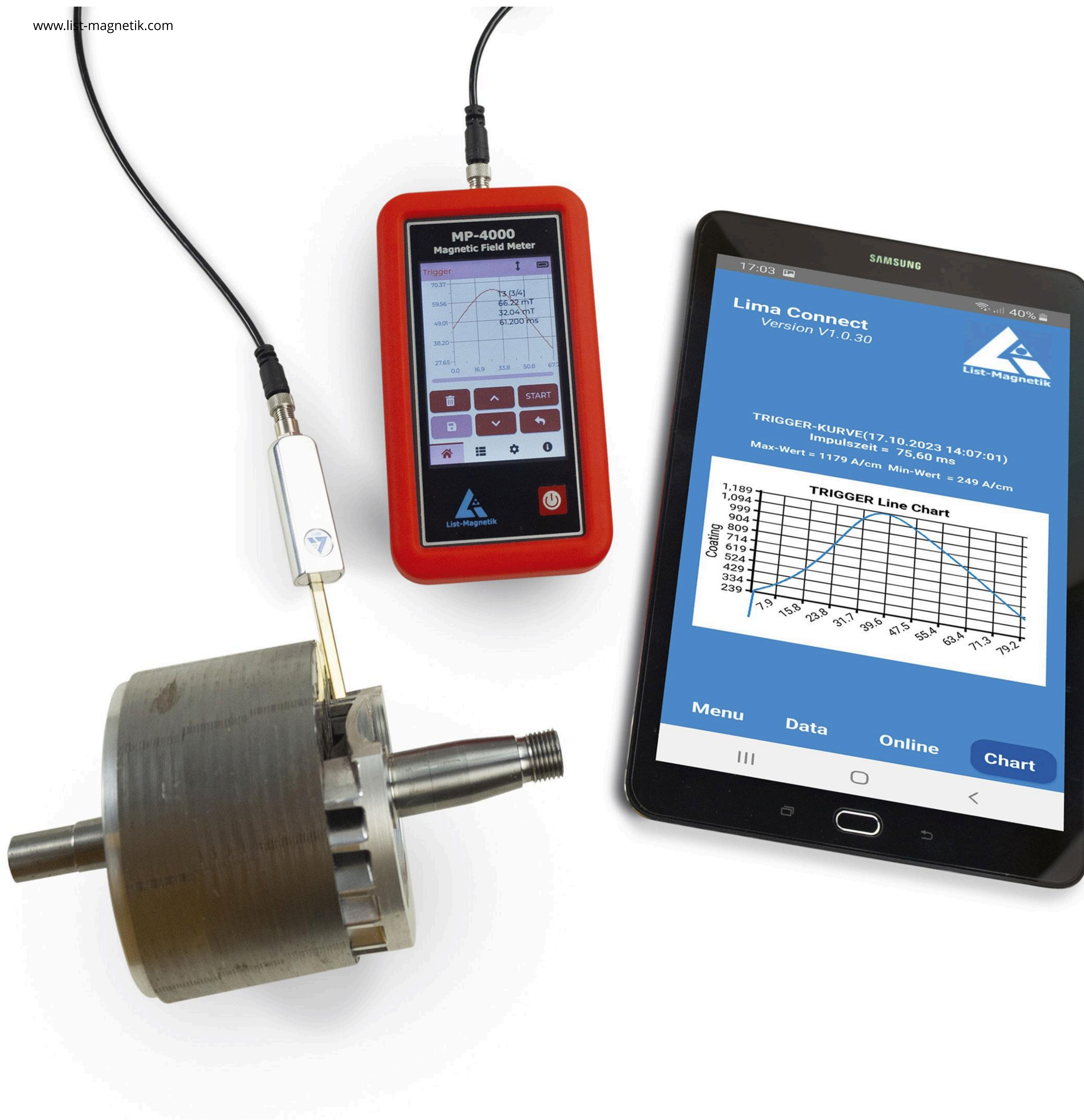
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# Magnetic Field Meter / Gaussmeter MP-4000

[www.list-magnetik.com](http://www.list-magnetik.com)



Experience a revolution in measurement technology with the MP-4000 professional magnetic field meter from List-Magnetik. This instrument uses external digital axial and transverse field probes to make precise measurements of DC and AC magnetic fields, as well as pulsed fields of all types. Applications range from geomagnetic fields to field strengths of 40,000 A/cm.

The MP-4000 gaussmeter features a graphic LCD touch panel with an innovative user interface and a resolution of 320x480 pixels. An outstanding feature of the new probe electronics is the fast digitization of the measured values with a frequency of up to 200 kHz. This makes it possible to display waveforms with a duration of only 0.1 milliseconds. This gives you a precise picture of the course of a magnetic field pulse. Peak values and pulse durations are accurately displayed. In addition, alternating field waveforms can be recorded and stored at frequencies up to 20 kHz.

Especially at very low magnetic field strengths, absolutely interference-free and precise measurement is crucial. The measurement electronics work directly in the probe and digitize the signals from the Hall sensor.

In the area of stable DC fields, the scan function makes it possible to detect a magnetic field over a large area, which can then be statistically evaluated. Pulse fields can be perfectly displayed graphically in the MP-4000, providing an accurate picture of the course of a magnetic field pulse.

The device supports a variety of magnetic field measurement applications with flexible data storage, a combined digital and analog display, and peak value measurement. The wireless interface allows data transfer to a Windows PC and apps for Android and iOS. The USB interface allows permanent connection to an external power source.

An SCPI interface is implemented on the device, which allows the device to perform remote measurements in line operation and provide measured values. The connection is made via USB, which also ensures power supply and continuous operation.



## Technical Data Magnetic Field Meter / Gaussmeter MP-4000

- Measuring units: A/cm - kA/m - Gauss / Oersted - Tesla switchable
- Applicable probes: Axial probe PM4-A, transversal probes PM4-T, PM4-TR, and PM4-TF
- Measuring range direct and alternating field / DC+AC: 0-40,000 A/cm
- Accuracy: in homogeneous field  $\pm 1$  A/cm to 50 A/cm,  $\pm 2\%$  of measured value from 50 A/cm,  $\pm 3\%$  of measured value from 20,000 A/cm
- Resolution: 0-1000 A/cm: 0.1 A/cm, > 1000 A/cm: 1 A/cm
- Frequency range AC: 2 Hz - 20 kHz
- Peak value memory: at pulse time  $\geq 0.1$  msec
- Display: LCD touch panel color 320x480 pixel
- Multilingual menu navigation: German, English, Italian, French, Spanish
- Data logger: 10,000 measurements, flexibly divisible
- Statistics: Count / Maximum / Minimum / Average / Standard deviation
- Interface: wireless interface for communication with Android, iOS and Windows
- App for Android, iOS, Windows: free of charge via Google Play Store, Apple App Store, List-Magnetik website
- External control: via USB and SCPI communication interface
- Power supply: 3x 1.5 V AA Mignon. External power supply can be connected via USB
- Operating time: approx. 25 hours with battery, unlimited with external power supply
- Dimensions: 150 x 85 x 35 mm, Weight: 320 g with batteries





## Technical Data Measuring Probes for Magnetic Field Meter / Gaussmeter MP-4000

### Axial Field Probe PM4-A

Hall Sensor distance: 2.0 mm  
 Total length of the probe: 125 mm  
 Length of the probe handle: 65 mm  
 Diameter of the probe tube: 8.6 mm

### Transversal Field Probe PM4-T

Hall Sensor distance: 0.9 mm  
 Probe thickness: 1.8 mm  
 Total length of the probe: 127 mm  
 Length of the probe handle: 65 mm  
 Width of the probe tube: 5.6 mm

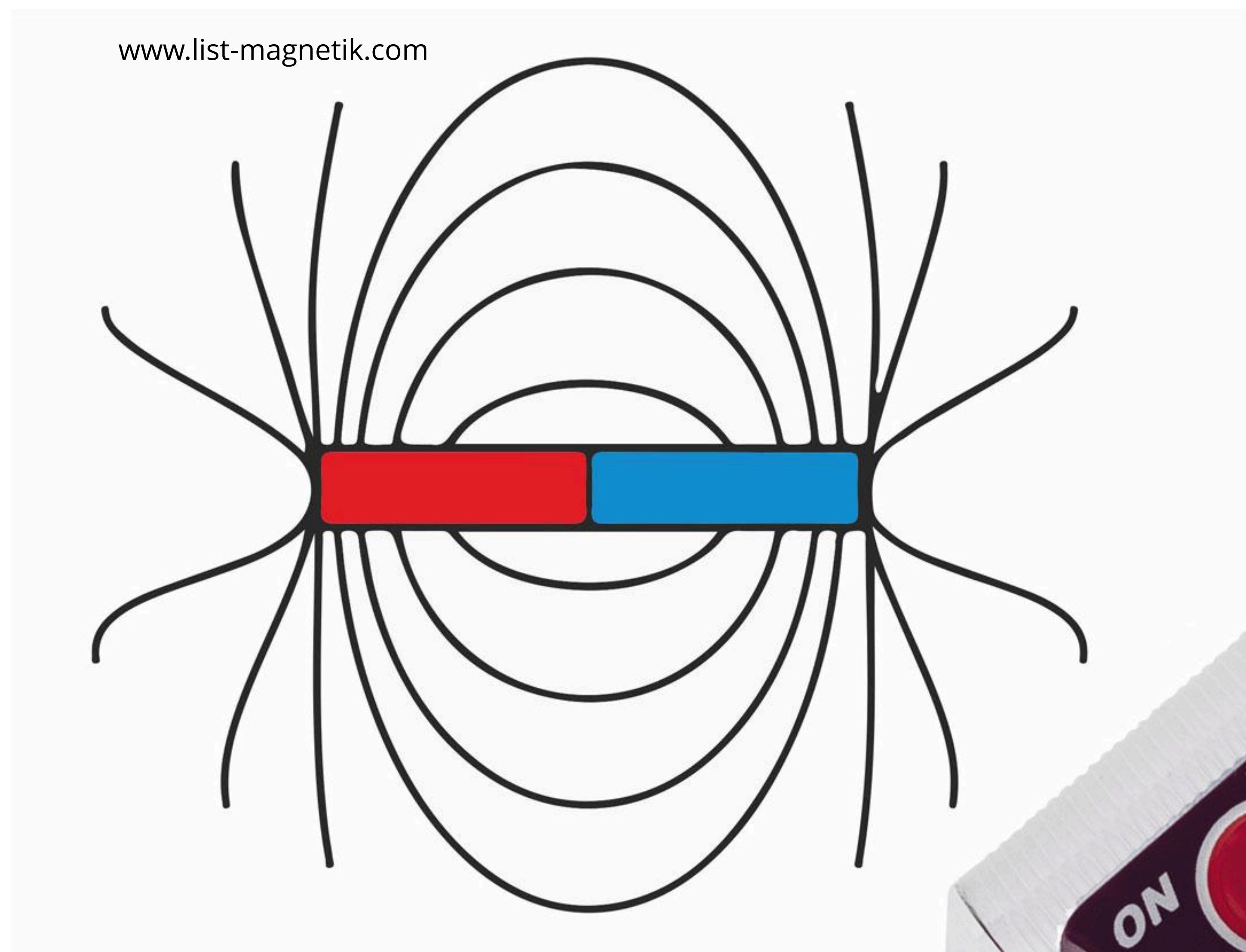
### Transversal Flexible Reed Probe PM4-TR

Hall Sensor distance: 0.3 mm  
 Probe thickness: 0.6 mm  
 Width of the probe reed: 3.5 mm  
 Length of the probe reed: 63 mm  
 Total length of the probe: 127 mm

### Transversal Fully Flexible Probe PM4-TF

Hall Sensor distance: 0.5 mm  
 Probe thickness: 1.2 mm  
 Total length of the probe: 127 mm  
 Length of the probe handle: 65 mm  
 Length of the probe reed: 62 mm  
 (in 90° direction when using the angle piece 56 mm)  
 Width of the probe reed: 4.3 mm





# Magnetic Field Meter / Gaussmeter MP-810

[www.list-magnetik.com](http://www.list-magnetik.com)

The small, compact **List-Magnetik MP-810** is as accurate as the larger magnetic field meters. It is easy to use and measures accurate DC and AC fields as well as peak values for pulsed fields. To meet any measurement task, the instrument has different measuring ranges and measuring units such as A/cm, Gauss/Oersted and (milli-)Tesla.

We offer the convenient magnetic field tester as a handheld instrument with either an axial (**MP-810A**) or transversal (**MP-810T**) probe. The axial probe measures the field in the direction of the probe axis at a precise distance of 2.0 mm. It is suitable for measurements on surfaces or in bores.

The transversal field probe measures the field transverse to the probe axis. Optimal applications include air gaps, cavities, and workpiece surfaces for crack detection.

From low field values just above the earth's magnetic field, to residual magnetism / remanence with low A / cm or Gauss / Oersted residual magnetic field values, to peak fields, the magnetic field meters from List-Magnetik are durable and you will get reproducible field strength values during the magnetic field test. In addition, we offer a calibration standard (reference magnet) so that you can always check the accuracy of your magnetic field meter.

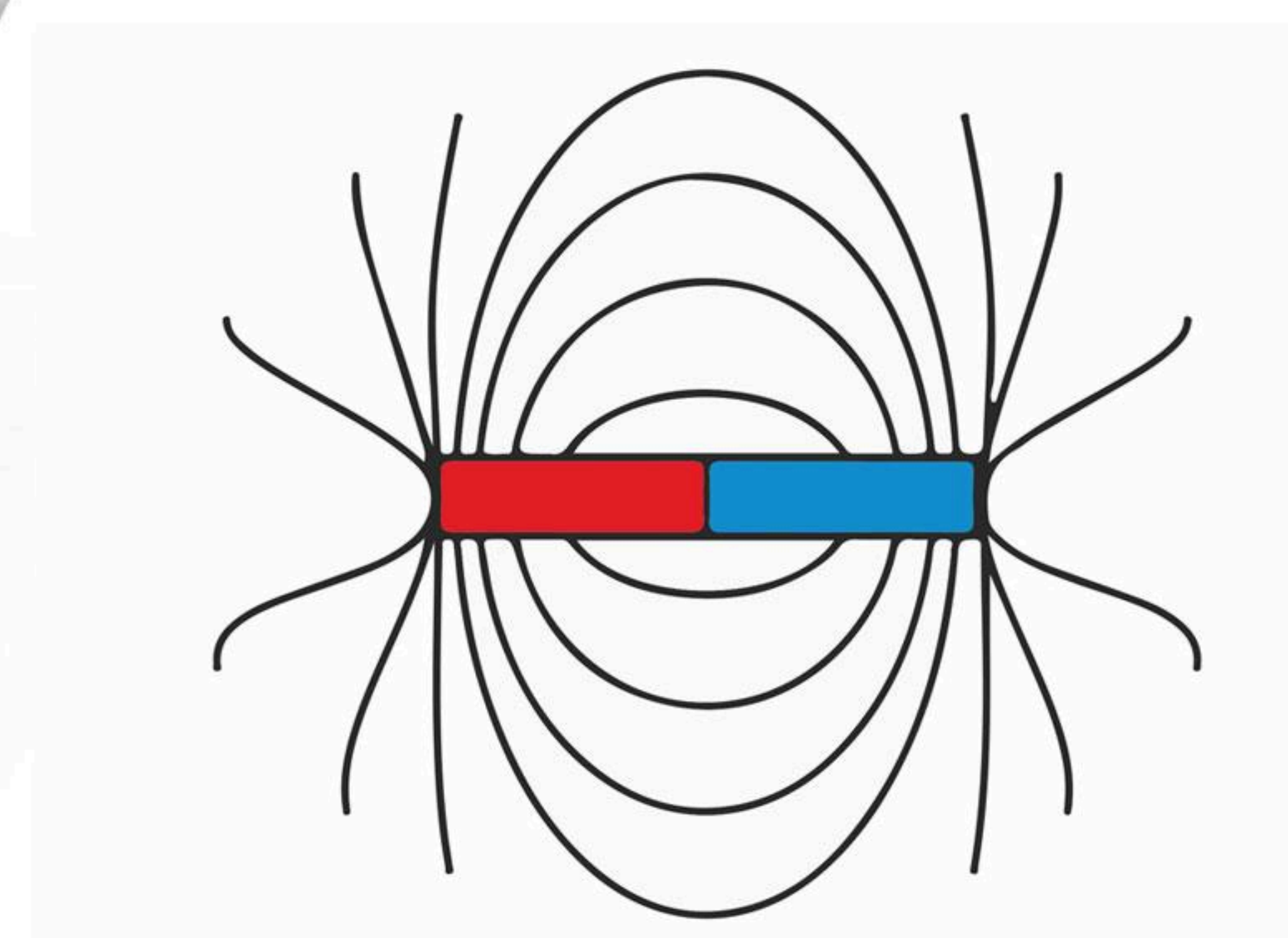
### Technical Data Magnetic Field Meter / Gaussmeter MP-810

- Measuring units: A/cm – kA/m – Gauss – Oersted – Tesla switchable
- Measuring probe MP-810A: Axial field probe  $\varnothing$  8mm with defined measuring distance of 2.0 mm
- Measuring probe MP-810T: Transversal field probe of 1.7 mm thickness with Hall Sensor distance of 0.9 mm
- Measuring range DC: 0-20,000 A/cm, AC: 2-20,000 A/cm
- Accuracy: in the homogeneous field  $\pm 1$  A/cm up to 50 A/cm,  $\pm 2$  % of measured value from 50 A/cm
- Resolution: 0–100 A/cm: 0.1 A/cm, 100–10,000 A/cm: 1 A/cm, > 10,000 A/cm: 10 A/cm
- Frequency range AC: 20 Hz – 100 Hz
- Peak Hold: with impulse duration  $\geq 0.25$  sec
- Display: OLED Graphic Display illuminated
- Menu navigation: English, German, French, Italian, Spanish, Hungarian, Polish, Dutch
- Data logger: 4000 measured values flexibly divisible
- Statistics: count / maximum / minimum / average / standard deviation
- Interface: wireless interface for communication with Android, iOS and Windows
- App for Android, iOS, Windows: free of charge via Google Play Store, Apple App Store, List-Magnetik website
- Power supply: 1x 1.5 V AA Mignon
- Operating time: approx. 50 hours
- Dimensions:  $\varnothing$  28 x 140 mm, Weight: 73 g with battery





www.list-magnetik.com



# Residual Magnetic Field Meter MP-80

[www.list-magnetik.com](http://www.list-magnetik.com)

## RESIDUAL MAGNETIC FIELD METER MP-80

With the handy, battery-operated **List-Magnetik MP-80 V2** residual magnetic field meter, you can quickly and reliably determine the residual magnetism, also known as remanence, on ferromagnetic iron and steel parts. The measuring device can also be used to check demagnetized parts. The Hall sensor in the axial field probe is located at a defined measuring distance of 2.0 mm from the measuring surface.

The "little brother" of the MP-810 has its particular strength in the area of weak magnetic fields. With its compact design and metal housing, the device is robust and insensitive to harsh environments such as oily vapors or moisture. The supplied calibration standard of 5 A/cm always gives you the certainty that your device is working correctly. The MP-80 and the calibration standard are supplied together in a compact case with optimal protection.

To further process your measurement data, you can couple your MP-80 with mobile Android and iOS devices. Or you can communicate with a Windows PC. Wireless technology makes this possible. With the Lima Connect App, you can manage projects and assign measurement points on a photo. The measurement results can be statistically evaluated and graphically displayed. The app for Android, iOS and Windows is free.

### Technical Data Residual Magnetic Field Meter MP-80 (V2 - since 2024)

- Measuring units: A/cm – kA/m – Gauss – Oersted – Tesla switchable
- Measuring probe: integrated axial field probe,  $\varnothing$  8mm with defined measuring distance of 2.0 mm
- Measuring range DC: 0-100 A/cm
- Accuracy: in the homogeneous field  $\pm 0.3$  A/cm up to 10 A/cm,  $\pm 3\%$  of measured value from 10 A/cm
- Resolution: 0.1 A/cm or 0.01 mT
- Peak Hold: Recording rate approx. 10 readings / second
- Display: OLED Graphic Display illuminated
- Analog display: bar graph
- Menu navigation: English, German, French, Italian, Spanish, Hungarian, Polish, Dutch
- Data logger: 4000 measured values flexibly divisible
- Statistics: count / maximum / minimum / average / standard deviation
- Interface: wireless interface for communication with Android, iOS and Windows
- App for Android, iOS, Windows: free of charge via Google Play Store, Apple App Store, List-Magnetik website
- Power supply: 1x 1.5 V AA Mignon
- Operating time: approx. 40 hours
- Dimensions:  $\varnothing$  28 x 103 mm
- Weight: 70 g with battery



[www.list-magnetik.com](http://www.list-magnetik.com)



# Magnetic Field Meter MP-1000

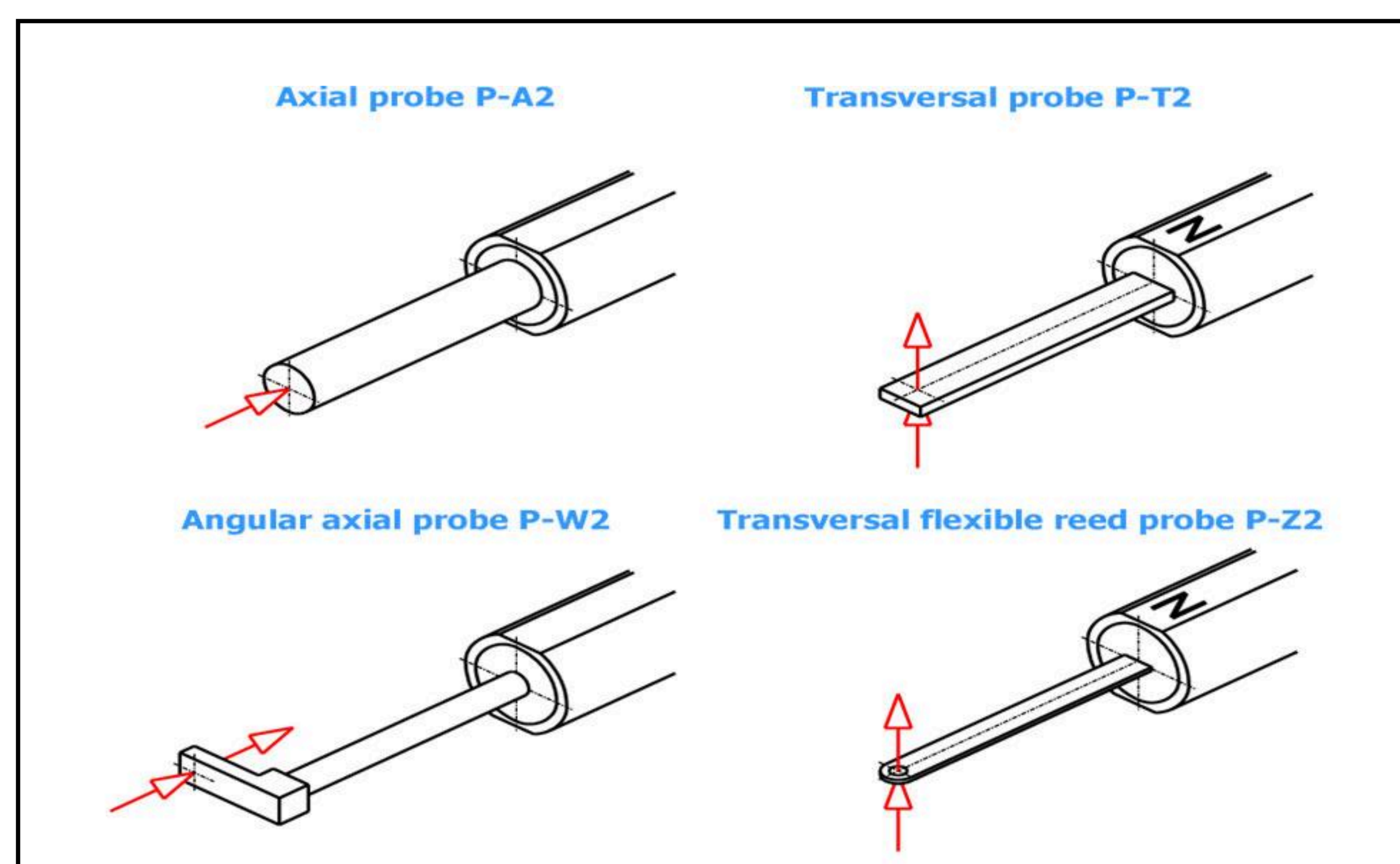
[www.list-magnetik.com](http://www.list-magnetik.com)

# MAGNETIC FIELD METER MP-1000

The handy Magnetic Field Meter MP-1000 from List-Magnetik with externally connectable transverse and axial field probes accurately measures magnetic fields of all types, such as direct, alternating and pulsed fields. It is also ideal for measuring residual magnetism.

The MP-1000 is easy to use: A single push of a button is all it takes to accurately measure magnetic field strengths. Applications range from weak geomagnetic fields to 20,000 A/cm fields.

The optional calibration standard gives you the assurance that your instrument is always working correctly.



The MP-1000 has 4 probes for different measurement directions: axial, transversal, angular axial, and a transversal flexible reed probe.

Axial probes measure in the direction of the probe. Transversal probes measure at a 90° angle to the probe. The difference is in the mounting of the Hall sensor.

Transverse probes are more suitable for measurements in cavities or narrow tubes.

## Technical Data Magnetic Field Meter MP-1000

- Measuring units: A/cm - Gauss (Oe) switchable (1 A/cm = 1.256 Gauss = 1.256 Oersted)
- Applicable measuring probes: Axial probes P-A2 and P-W2, Transversal probes P-T2 and P-Z2
- Measuring range DC: 0-20,000 A/cm, AC: 20-20,000 A/cm
- Accuracy: in the homogeneous field  $\pm 1$  A/cm up to 50 A/cm,  $\pm 2$  % of measured value from 50 A/cm
- Resolution: 0-100 A/cm: 0.1 A/cm,  $\geq 100$  A/cm: 1 A/cm,  $\geq 1,000$  A/cm: 10 A/cm,  $\geq 10,000$  A/cm: 100 A/cm
- Frequency range AC: 10 Hz - 5 kHz
- Peak Hold: with impulse duration  $\geq 0.1$  msec
- Display: LCD display 3 digit
- Power supply: 2x 1.5 V AA Mignon
- Operating time: approx. 35 h
- Dimensions: 105 x 65 x 26 mm
- Weight: 137 g with batteries

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**Fluxmeter**  
**FLUX-CHECK 250**  
[www.list-magnetik.com](http://www.list-magnetik.com)

The compact List-Magnetik FLUX-CHECK 250 fluxmeter is a new handheld instrument of this size for determining the magnetic flux  $\Phi$  (Phi) of a magnet system or a single magnet. When testing, it is important to know the strength of the magnet's magnetization. Measuring the magnetic field strength with a magnetic field meter is only possible at specific points and does not take into account the volume of the magnet. This task is performed by a fluxmeter with a Helmholtz coil.

The recording of the recorded pulse curve of the flow measurement results in an area which, as an integral, gives the flow value. This area is displayed graphically on the LCD touch panel with a resolution of 320x480 pixels and the correct flux value is calculated from it. The drift that many fluxmeter show after switching on, which leads to a longer waiting time until the first measurement or which has to be compensated again and again, does not occur with the FLUX-CHECK 250. The instrument is ready for measurement immediately after switching on.

In addition to the magnetic flux  $\Phi$ , other information about the coil and the measured magnet can be stored in the instrument and used to calculate additional information:

- \* The number of turns of the coil (n) - this is used to calculate the "real flux".
- \* The coil constant of the Helmholtz coil - this is used to calculate the "magnetic moment".
- \* The volume of the magnet - this is used to calculate the flux density B

### Technical Data Fluxmeter FLUX-CHECK 250

- Measuring units:  
magnetic flux mVs (milli-Volt-second, corresponds to the SI unit mWb / milli-Weber)  
Measuring ranges: 0-10 mVs and 0-250 mVs, automatic or manual range switching  
Real flux: mVs / n  
Magnetic moment: mVs \* cm  
Flux density: A/cm or mT
- Accuracy: 2%, Repeatability: 1%
- Resolution: 0.001 mVs
- Ambient temperature range: 0 - 50° C
- Display: LCD touch panel color 320x480 pixel
- Multilingual menu navigation: German, English, Italian, French, Spanish
- Data logger: 10,000 measurements, flexibly divisible
- Statistics: Count / Maximum / Minimum / Average / Standard deviation
- Interface: wireless interface for communication with Android, iOS and Windows
- App for Android, iOS, Windows: free of charge via Google Play Store, Apple App Store, List-Magnetik website
- External control: via USB and SCPI communication interface
- Power supply: 3x 1.5 V AA Mignon. External power supply can be connected via USB
- Operating time: approx. 25 hours with battery, unlimited with external power supply
- Dimensions: 150 x 85 x 35 mm, Weight: 320 g with batteries

