



### The human eye – symbol of our job:

*Guaranteeing quality through surveillance. Perfect in function and technology. Open to everything new, recognizing changes in due time and responding to them shrewdly. Success is visible.*



# MAGNETIC FIELD METERS

Magnetic field meters are used for the precise measurement of all kinds of magnetic field (steady and alternating fields, as well as pulsed fields).

Magnetic field strengths ranging from the Earth's magnetic field to high intensity pulsed fields (4000 kA/m) can be measured.

The handy field meters are very simple to operate and differ in their application:

The **new** *MP-1000* and *MP-2000* Universal Field Meters are the first to make use of measuring probes (tangential and axial field probes) with a dedicated micro-controller digitising and linearising the probe signals directly inside the probe. This new technique is highly immune to interference and permits extremely precise measurements even with high magnetic field strengths, where Hall probes no longer operate linearly. With instruments of this type, the probe cable is pluggable at both ends (display unit and probe) and is thus particularly service-friendly, as the customer can simply replace the cable should it become faulty. The instruments are suitable for measuring magnetic fields of all kinds, and also for determining stray fields when testing for cracks.

The *MP-1* Residual Field Meter and the *M5* Residual Field Detector are used specifically for measuring residual fields.

The residual field strengths in all kinds of ferromagnetic parts can be ascertained with the *MP-1* Residual Field Meter.

The magnetic field meters are delivered from the factory with a **Certificate of Calibration**, which guarantees traceability to national standards, at no extra cost.

All **MP** field meters are distinguished by their outstanding quality **Made in Germany**.

**NEW****MP – 2000 MAGNETIC FIELD METER**

The **MP-2000** Field Meter is the top model with special functions, offering the professional user every possibility:

- Measurement of all kinds of steady and alternating fields (True RMS).
- Very fast, integrated peak value store for measuring pulsed fields  $\geq 0.1$  msec.
- Measuring range up to **4000 kA/m** max., switchable between Tesla – Gauss – A/cm – kA/m.
- Illuminated graphic display with additional analogue measured value indication, automatic range selection.
- Menu navigation in various languages.
- Measurement store (10,000 measurements), divisible into up to 100 applications memories.
- Integrated RS232 and USB - wireless interfaces for documenting the measurement results on a PC or printer.
- Can be used with various tangential, axial and reed probes (see following page).

**Scope of supply:** **MP-2000** without measuring probe, incl. Certificate of Calibration, probe cable, USB radio receiver and carrying case.

**Optional accessories:**

**MEGA-PRINT thermal printer**  
incl. charger and connecting cable

**Precision calibration standard** 180 A/cm

**Software:**

**TRANSFER** data transfer program  
**TRANSFER-EXCEL** analysis program  
**STAT-6** graphic analysis program

**NEW****MP – 1000 MAGNETIC FIELD METER**

The **MP-1000** Magnetic Field Meter is a handy universal instrument for measuring all magnetic fields. Intended for fast, onsite measurements, it comes without a measurement store or interface

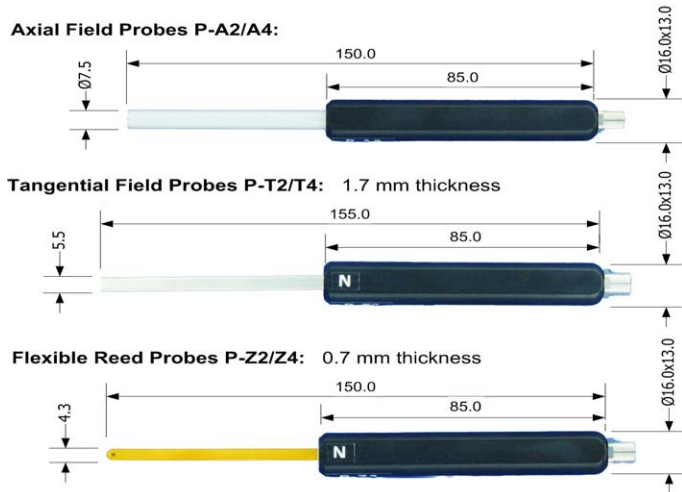
- Measurement of all kinds of steady and alternating fields (True-RMS).
- Very fast, integrated peak value store for measuring-pulsed fields  $\geq 0.1$  msec.
- Measuring range up to **2000 kA/m**, switchable between Gauss(Oe) and A/cm.
- Simple, one-button operation; automatic range selection.
- Can be used with tangential, axial or reed probes (see following page).

**Scope of supply:** **MP-1000** without measuring probe, incl. Certificate of Calibration, probe cable and carrying case.

**Optional accessories:**

**Precision calibration standard** 180 A/cm

## Measuring Probes for *MP – 1000 / MP – 2000* Field Meters:



The following axial field, tangential field and flexible reed probes are available for the *MP-1000* and *MP-2000* Field Meters:

Probe type	MP - 1000	MP - 2000
Axial field probe P-A2 1) (Measuring range 0 – 2000 kA/m)	X	X
Tangential field probe P-T2 1) (Measuring range 0 – 2000 kA/m)	X	X
Flexible reed probe P-Z2 1) (Measuring range 0 – 2000 kA/m)	X	X
Axial field probe P-A4 1) (Measuring range 0 – 4000 kA/m)	no	X
Tangential field probe P-T4 1) (Measuring range 0 – 4000 kA/m)	no	X
Flexible reed probe P-Z4 1) (Measuring range 0 – 4000 kA/m)	no	X

- All probes are of plug-in design!

1) ( 1kA/m = 10 A/cm = 12.56 (Oe)Gauss = 1.256 mT )

## Residual Field Meter *MP – 1:*

The *MP-1* Field Meter has an analogue display with 2 measuring ranges for determining the residual magnetism on ferromagnetic steel parts, particularly on demagnetised parts..

- 2 measuring ranges, 0 - 5 A/cm and 0 - 20 A/cm, corresponding to the industry standard for the ball-bearing industry.
- Axial field probe with defined measuring distance of 2.0 mm to the measuring surface.
- Integrated battery indication.

**Scope of supply:** *MP-1* with axial field probe, incl. Certificate of Calibration and case

**Optional accessories:**

Precision calibration standard 5 A/cm



## Pole Detector

Small, pen-shaped pocket instrument for determining the magnetic polarity of ferromagnetic parts or magnetised magnets and magnetic circuits. A small magnetic disk suspended on 4 points aligns itself to even weak external magnetic fields (including the Earth's magnetic field).

**Scope of supply:** Pole detector without Certificate of Calibration with plastic case

## Residual Field Detector *M5:*

The *M5* residual field detector is a simple, handy instrument for roughly determining the residual magnetism in ferromagnetic steel parts. It consists of a rotating magnet system which is deflected accordingly under the influence of an external field.

- Measuring range 0 - 20 Gauss (0 – 16 A/cm) with centre zero (polarity indication).

**Scope of supply:** *M5* without Certificate of Calibration with case





## Performance Table and Technical Data for the Field Strength Meters:

Model	MP - 2000	MP - 1000	MP - 1	M5
Display:	Illuminated graphic–display:	3-digit	Analogue	Analogue
Measurement Units:	kA/m – A/cm – Gauss(Oe) – Tesla selectable	A/cm – Gauss(Oe) selectable	A/cm	Gauss(Oe)
Measuring Ranges:	DC: 0 – 4000 kA/m DC: 0 – 40.000 A/cm (Gauss/Oe) DC: 0 – 4000 mT AC: 20 – 20.000A/cm (Gauss/Oe) AC: 20 – 2000 kA/m AC: 20 – 2000 mT Automatic Range Selection	DC: 0 – 20.000 A/cm (Gauss/Oe) AC: 20 – 20.000 A/cm (Gauss/Oe) Automatic Range Selection	0 – 5 A/cm 0 – 20 A/cm Manually preselectable	0 – 20 Gauss(Oe)
Resolution:	0 – 200 A/cm (Gauss): 0.1 A/cm (G) > 200 A/cm (Gauss): 1 A/cm (G) > 10.000 A/cm (Gauss): 1 kA/m (G)  0 – 20 kA/m (mT): 0.01 kA/m(mT) > 20 kA/m (mT): 0.1 kA/m (mT) > 1000 kA/m (mT): 1 kA/m (mT)	0 – 100 A/cm (Gauss): 0.1 A/cm (G) > 100 A/cm (Gauss): 1 A/cm (G) > 10.000 A/cm (Gauss):0.1 kA/cm (KG)	-	-
Accuracy (In homogeneous field):	DC/AC-Range - 0-2000 kA/m ± 2% > 2000 KA/m ± 3%	DC/AC-Range - 0-2000 kA/m ± 2%	± 3%	± 15%
AC Frequency Range: (AC = RMS value)	10 Hz – 5 KHz	10 Hz – 5 KHz	-	-
Peak Hold:	Impulse duration > = 0.1 msec.	Impulse duration > = 0.1 msec.	-	-
For use with measuring probes:	Axial and Tangential Field Probes: P-A2 / P-T2 / P-Z2 P-A4 / P-T4 / P-Z4 (see page 3)	Axial and Tangential Field Probes: P-A2 / P-T2 / P-Z2 (see page 3)	Axial Field Probe	-
Power Supply:	3 x 1.5V AA Mignon, alternatively 3 x 1.2V AA rechargeable	2 x 1.5V AA Mignon, alternatively 2 x 1.2V AA rechargeable	1 x 1.5 V baby	-
Operating Time:	Approx. 100 hrs.	Approx. 80 hrs.	Approx. 100 hrs.	-
Automatic Switch-Off:	2min. if no change in measurement	2min. if no change in measurement	-	-
Battery Indication:	X	X	X	-
Mesurement Store:	10.000 measurements	-	-	-
Applications Memory:	max. 100	-	-	-
Multilingual Menu Navigation	X	-	-	-
Statistical Evaluation (MAX. MIN. MEAN. NO. STD.DEV.	X	-	-	-
Display of statistics and stored Measurements:	X	-	-	-
Analogue + digital measured value display with automatic range selec- tion:	X	-	-	-
RS232 Interface:	X	-	-	-
Wireless – USB Interface:	X	-	-	-
Dimensions:	198 x 92 x 35 mm	105 x 65 x 26 mm	83 x 122 x 40 mm	Ø 50 x 22 mm
Weight with Batteries:	265 g	137 g	300 g	60 g



# LIST-MAGNETIK

## Dipl.-Ing. Heinrich List GmbH

D-70771 Leinfelden-Echterdingen - Max-Lang-Str. 56/2  
 Telefon (0711) 90 36 31-0 • Telefax (0711) 90 36 31-10  
 E-Mail: info@list-magnetik.de • Internet: www.list-magnetik.de

