



List-Magnetik

Manual

MP-100

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MP - 100

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DESCRIPTION

The Magnetic Field Meter MP-100 measures all magnetic fields, both DC and AC fields.

Measuring Ranges DC fields: 0.0 - 20.000 A/cm (Oersted)

AC fields: 10.0 - 2.000 A/cm (Oersted)

The measuring ranges are switched over automatically.

The instrument indicates DC and AC fields or peak hold.

The Field Meter MP-100 is supplied either with a tangential field probe (1.6 mm thick) or with an axial field probe (\varnothing 6 mm). Both probes are pluggable.

Furthermore the MP-100 has a built-in microprocessor for storing 100 readings and a serial interface RS 232 C for statistical evaluation on a printer or computer. Software is available on request.

II. TECHNICAL DATA

Measuring Technique:	Hall probe
Measuring Unit:	A/cm (switchable to Oe-Gauss)
Measuring Ranges:	DC 0.0 - 20.000 A/cm (Oe) AC 10.0 - 2.000 A/cm (Oe)
Indication:	LCD 3 digits with floating decimal point and guides for operation
Resolution:	0.1 A/cm (0 – 99.9 A/cm) 1.0 A/cm (100 - 999 A/cm) 0.1 kA/cm (1.00 – 9.99 kA/cm) 1.0 kA/cm (10.0 – 19.9 kA/cm)
Accuracy:	± 2%
Memory:	max. 100 readings
Power Supply:	Hybrid battery 6.2 V rechargeable
Battery Capacity:	approx. 8 hours per charge
Peak Hold:	response approx. 100 ms
Measuring Probes:	axial or tangential (pluggable)
Dimensions:	108 x 48 x 38 mm
Weight:	approx. 120 g
Interface:	serial RS 232 C (5 V TTL level)
Baudrate:	Printer + PC: 1200 baud
Data/Stop bits:	Printer + PC: 7/2
Data Transfer:	by serial Interface RS 232 C to Data-Printer MEGA-PRINT or with Software STAT-6 or TRANSFER to Computer
Warranty:	Indication Unit: 12 months Measuring Probe: 3 months

III GENERAL REMARKS

1. Socket for interface and battery charger

The socket on the left side of the device serves for connecting the battery charger and simultaneously the interface cable.


2. Keeping readings and calibration stored

Readings and calibration remain stored after switching off the instrument and even when the battery is empty.

3. Switch over the unit of measurement

In its basic setting the instrument measures in A/cm. To switch over to Gauss (Oe) see Item 11.

4. Battery control

As soon as the symbol  + appears on the display there is still time for about 10 min. to continue measuring. After this period the battery must be charged.

If the battery discharge period becomes shorter it should be replaced. In this case please send MP-100 to the manufacturer

5. Automatic switch-off

The instrument switches itself off automatically three minutes after the last measurement. The instrument can also be switched off with key **ON**.

6. Error Indication

When „---„ appears on the display instead of a reading,

Reason: The measuring range has been exceeded.

IV. OPERATING INSTRUCTIONS

A) Charging the built-in hybrid battery

The hybrid battery is charged with the charger supplied. The cable of the charger is inserted in the socket at the left side of the device and connected to 230 V/50 Hz.

When the battery is empty the charging time should be at least 7 hours.

Battery capacity is sufficient for approx. 8 hours continuous operation.

The advantage of the hybrid battery is that no memory effect appears. Even when the device has been stored for several months it is always ready for operation.

Important

When MP-100 is used for the first time the hybrid battery must be charged.

B) Operation

1. **Plug-in the measuring probe.**

2. **Switch on the instrument with key ON-OFF**

When switching on zero is set automatically (Indication *FO*) and calibration is checked (Indication *CAL*).

The measuring probe must be far from any magnetic field !

3. **Manual zero setting** (display $\rightarrow FO$)

Press the key until the symbol *FO + CALIBRATE* appears. Release the key and zero is set automatically. Then a reading of $\pm 0,2$ is displayed (influence of the magnetic earth field when moving the probe) and a beep sounds.

4. **Calibration**

MP-100 needs no calibration. The measuring probes are precalibrated and interchangeable.

5. **Statistics Memory** (display $\rightarrow Sto$)

MP-100 has a statistics memory for storing and evaluating 100 readings. When the memory has reached its capacity the display $\rightarrow FUL$ appears (memory full).

To store a reading press the key until $\rightarrow Sto$ is displayed. As soon as the key is released the reading is stored.

6. Operation with Peak Hold (display → *PEA*)

Press the key until → *PEA* is displayed. Then release the key and press again within 5 sec to switch ON/OFF the peak hold.

After switching on the symbol → *Max* is indicated to make sure that peak hold is switched on.

If there is already a reading stored in the Peak Hold and a higher reading is recorded the new reading will cancel the old one. An acoustic signal is emitted when the value is overwritten.

When using the Peak Hold in the AC range and in the case of sinusoidal AC fields the peak value is indicated.

7. AC / DC Ranges (display → *AC-DC*)

To switch over to AC or DC range press the key until → *AC (DC)* is displayed. Then release the key and press again within 5 sec to switch over to the range required.

In the case of sinusoidal AC fields the relevant r.m.s. is indicated. The conversion factors for full wave and half wave rectification are fixed in the DIN Norm 54 131 section 1.

In the case of DC fields north polarity is displayed by the symbol +, south polarity by the s – .

8. Clearing one reading in the Statistics Memory (display → *1CL*)

If a wrong measurement has been stored by mistake, the last reading can be cleared as follows:

Press the key until → *1CL* is displayed. Then release the key and press again within 5 sec to clear the last reading.

9. Clearing the whole Statistics Memory (display → *CLR*)

Press the key until → *CLR* is displayed. Release the key and press again within 5 sec to clear the memory.

10. Send Data stored (display → *Prn*)

To send the data stored in the statistics memory by means of the serial interface proceed as follows:

Press the key until → *Prn* is displayed. Then release the key and press again within 5 sec to send the data.

11. Switch-over the measuring unit A/cm – Gauss (display → *Un*)

Press the key until → *Un* is displayed. Then release the key and press again within 5 sec to switch-over to A/cm or G (Gauss).

C) Operation with Printer MEGA-PRINT

The Printer MEGA-PRINT must be charged when using it for the first time.

When MEGA-PRINT is connected the individual readings and statistics MINIMUM, MAXIMUM, MEAN and STANDARD DEVIATION are printed out.

- Connect the printer cable to the instrument socket RS 232 and printer MEGA-PRINT.
- Switch on MP-100, the printer switches itself on automatically.
- Press the key until → *Prn* is displayed. Then release the key, and press again.

During the printing procedure → *Prn* is displayed.

D) Operation with Computer

In order to connect MP-100 to a Computer an interface cable and the Statistics Software STAT-6 or the Data TRANSFER / TRANSFER EXCEL software are required.

With the software STAT-6 the readings are recorded under WIN 98 / 2000 / XP and evaluated with a graphic representation.

The Software TRANSFER transfers readings to the computer under WIN 98 / 2000 / XP and stores them under an ASCII file.

The Software TRANSFER-EXCEL transfers the data directly in an existing Excel file.

Further instructions are supplied with the softwares STAT-6 and TRANSFER/ TRANSFER-EXCEL.

V. DATA PRINTER MEGA-PRINT

Technical Data:

Type of Printer:	Thermo printer
Characters/Line:	20
Data Transfer Rate:	1200 baud
Printing Velocity:	max. 20 lines/sec.
Interface:	serial
Paper:Thermo paper -	57 mm wide, max. 10 m long
Power Supply:	Rechargeable NiCad battery (approx. 60 hours operation/charge)
Size:	110 x 80 x 45 mm
Weight:	approx. 240 g
Charging Unit:	230 V/50 Hz / 6.0 V – 0.5 A

Charging the built-in NiCad Battery

Before using MEGA-PRINT for the first time the built-in NiCad battery must be charged.

The built-in NiCad battery is charged with the charging unit supplied with the printer. The cable of the charging unit is connected at the right-hand socket of MEGA-PRINT.

The charging time should be at least 4 hours.

Operating Instructions

1. The operation of MEGA-PRINT together with the Magnetic Field Meter MP-100 is explained in the operating instructions of MP-100 (Page 8).
2. When the printer MEGA-PRINT is connected to the Magnetic Field Meter MP-100, MEGA-PRINT switches on automatically (the green LED flashes every 2 sec). When switching off MP-100, the printer is switched off automatically (the green LED remains switched off).
3. The manual paper feed is performed with the key „Paperfeed“. When the printout is finished the paper stripe is transported out of the casing by pressing this key and can be neatly turned off.
4. Faulty print out
Incorrect printed lines mean that the printer should be recharged.

Insert a new paper roll

- Open the lid
- Insert the paper roll
- Pull out the end of the paper
- Close the lid



INTERNET INQUIRY CUSTOMER'S SATISFACTION

We would like to point out to the form in our homepage www.list-magnetik.de. We would be grateful if you take a little time and fill it out. You can help us to reach our quality target regarding ISO 9001-2000.

THANK YOU !