



## Feldmeter FM10

### Technical Data

<b>Measurement range</b>	0..20000 nT 0..2000 V/m
<b>Resolution</b>	1 nT / 0,1 V/m
<b>Frequency range</b>	10 Hz...400 kHz
<b>Frequency filter</b>	Bandpass 16,6 Hz Highpass 50 Hz Lowpass 2 kHz
<b>Display</b>	illuminated LCD
<b>Display functions</b>	X-,Y-,Z-component, Peak-Hold
<b>Interface (FM10L)</b>	USB 2.0
<b>Voltage output (FM10LS)</b>	quadruple 0..2000 mV <sub>ac</sub> (E, B <sub>x</sub> , B <sub>y</sub> , B <sub>z</sub> )
<b>Power supply</b>	2 x Mignon AA
<b>Dimensions</b>	120 x 79 x 28 mm
<b>Ambient temperature</b>	0...+40 °C

### Multi-purpose probe FM10

Frequency range	10 Hz...400 kHz
Measurement accuracy	<5% [50Hz] magnetic <10% [50Hz] elektrik

Subject to alterations.

### Scope of delivery

**Feldmeter FM10** Art.-Nr. 200  
Field meter FM 10, measurement probe for electromagnetic fields, grounding cable, handbook, batteries, transport bag

**Feldmeter FM10L** Art.-Nr. 201  
Field meter FM 10L with data logger (1GByte storage), measurement probe for electromagnetic fields, grounding cable, USB-cable, software-CD FM-Data, handbook, batteries, transport bag

**Feldmeter FM10LS** Art.-Nr. 202  
Field meter FM 10LS with quadruple alternating voltage output, data logger (1GByte storage), measurement probe for electromagnetic fields, grounding cable, USB-cable, software-CD FM-Data, handbook, batteries, transport bag

### Accessories

**Voltage measurement cable** Art.-Nr. 111  
Voltage measurement cable with hand electrode for FM10

**Measurement probe BS10** Art.-Nr. 160  
Probe for static magnetic fields

**Measurement probe ES10** Art.-Nr. 165  
Probefor static electric fields

**Measurement probe EFS6** Art.-Nr. 170  
Electric probe according to TCO-standard

**Measurement probe EPL** Art.-Nr. 180  
Potential-free electric field probe with fibre optic cable

**Measurement probe EPL3** Art.-Nr. 185  
Isotropic and potential-free electric field probe with fibre optic cable

**Big transportcase** Art.-Nr. 192  
Big transport case with raster foam

**Battery set** Art.-Nr. 510  
Set with four NIMH batteries and charger



## Feldmeter FM10



**The field strength measurement device with innovative technique and revolutionary design in shirt-pocket format**

### Feldmeter FM10

- Simultaneous display of the electric and the magnetic field strength
- Isotropic measurement of alternating fields
- Potential-free and potential-related measurement of electric fields
- Frequency range from 10 Hz up to 400 kHz
- Resolution from 1 nT and 0,1 V/m without switching the measurement range
- Peak-Hold-Display and limit value alarm
- Data logger for long-term and single point measurement with large 1 GByte storage capacity including the software FM-Data

### Innovative and multi-functional

The Feldmeter FM 10 is an innovative new development that combines wide function diversity with an easy and intuitive operation on the basis of a powerful microcontroller technique. Product highlights are the isotropic magnetic field strength measurement and the frequency range up to 400 kHz with a resolution of 1 nT and 0,1 V/m without the need of switching the measurement range. Moreover, the field meter FM10L supplies an

integrated data logger with 1 GByte data storage and different storage modes.

### Diverse measurement functions

Due to different measurement probes, the Feldmeter FM 10 is highly talented for electromagnetic fields. The FM 10 multi-purpose measurement probe supports a fast omni directional measurement of the magnetic field. In addition, sensors for static electric and magnetic fields can be delivered. For electric fields, different measurement methods are available:



- Potential-related with the FM 10 multi-purpose probe
- Potential-free with the electrical field probe EPL
- Potential-free and isotropic with the probe EPL3
- According to TCO-standard with electrical field probe EFS6
- Measurement of the capacitive coupling



## Wide frequency range

In dependence of the measurement probe a frequency range from 10 Hz up to 400 kHz is available.

With the integrated filter functions band pass 16,6 Hz, high pass 50 Hz and 2 kHz single frequency ranges can be selectively measured.

## High resolution without switching

The FM 10 provides a measurement dynamic of 20000 nT and/or 2000 V/m with a resolution of 1 nT and/or 0,1 V/m in merely one measurement range each. Annoying switching between ranges or auto-ranging functions are a thing of the past..

## Multi-functional display

On the rich in contrast and illuminated display the electric and magnetic field strength are indicated parallel, using a fast sample rate of 0,25 seconds.

Moreover, the X-,Y- and Z-parts of the magnetic field strength are displayable as separated single values.

B 115 nT PM12  
E 18.4 V/m B16

Display of measurement value plus filter- and logger functions

Bx 148 nT  
E 18.4 V/m

Single vectors of the magnetic field are displayable

B̂ 3109 nT  
Ê 14.3 V/m

Peak-Hold function

U 2.591 V

Capacitive coupling

All device controls and the configuration of the data logger can be adjusted in the comfortable selection menu.

Display DS:14  
PM08 15:08 17.09

Display of recorded data sets

Limit value B  
▶ 20 nT

Comfortable selection menu

Function display during PC-connection.

USB status:  
Read data

Transferring data sets

As an acoustic display the sound generator produces a signal proportional to the field strength.

## Diverse functions

The Feldmeter FM 10 delivers some extra functions:

An acoustic alarm is activated as soon as the adjustable limit values are exceeded. The Peak-Hold function displays even shortest peak values of the field strength.

Auto-power-off prevents the battery from discharging. Optionally, four alternating voltage outputs are available.

## Powerful data logger

The data logger FM 10L has a 1 GByte storage capacity and a real-time clock for an accurate time and date assignment to each measured value. The sample rate is adjustable between 0,25 seconds and 1 minute.

The logger provides two operation modes: For long-term measurement the continuous mode, for spatial recording the single spot mode. In addition, a parallel recording of the frequency ranges band pass 16,6 Hz and high pass 50 Hz is possible.

The transfer of the measured values and a clear setting of the FM 10 functions are done via PC using a fast USB-interface. The functional software FM-Data serves to edit and document the measured values.



Scope of delivery Field meter FM10L

## Managing measured data with FM-Data

The scope of delivery of the field meter with data logger FM 10L contains the program FM-Data. This program is constantly developed to adapt to the needs of our customers. This service is available to you in the form of free of charge updates at any time!

The screenshot shows the FM-Data software interface. On the left, the 'FM10 Geräteinst.' (Device Settings) window is open, showing options for 'Datenlogger' (Data Logger) with a clock and date, and 'Einstellungen' (Settings) for magnetic field limits and auto-power-off. In the center, a 'Kommentar' (Comment) window is open, allowing for text input. On the right, a graph displays measured data over time, with a legend for B, Bx, By, Bz, and E. Below the graph, a table shows summary statistics for the data set.

Data sets showing permanent record and single point measurement, device settings

Dialogue windows enable the user to make own comments on the respective data set and to each measured point regarding a single point record.

The edited data sets can be printed as a measurement protocol or as a diagram. Moreover, an export function to include the readings in other applications such as chart and data bank programmes is supported. Additionally, the storage of the measurement diagrams as an graphic data is possible.

The FM-Data enables the user to display the device settings of the Feldmeter FM 10L, adjust settings like measurement interval or limits and transfer the new setup to the FM 10L.

FM-Data provides a clear management of the data storage of the Feldmeter FM 10L. The stored data sets are displayed and can be loaded or deleted.

The data set window shows some information like the start and the end of the record, the sample interval and filter functions, as well as the minimum and maximum values plus the 95th percentile. With the help of the mouse the measurement value and the timestamp of each sample can be called up in the diagram. Important occurrences in the record can be displayed enhanced in the diagram by performing a zoom.

The screenshot shows the 'Messprotokoll' (Measurement Protocol) window, which lists recording data such as date, time, location, and measurement parameters. Below this, a 'Kommentar zur Messung' (Comment on Measurement) window is open. To the right, a zoomed-in graph shows a specific data point with its value and timestamp highlighted.

Protocol and measurement diagram as print versions