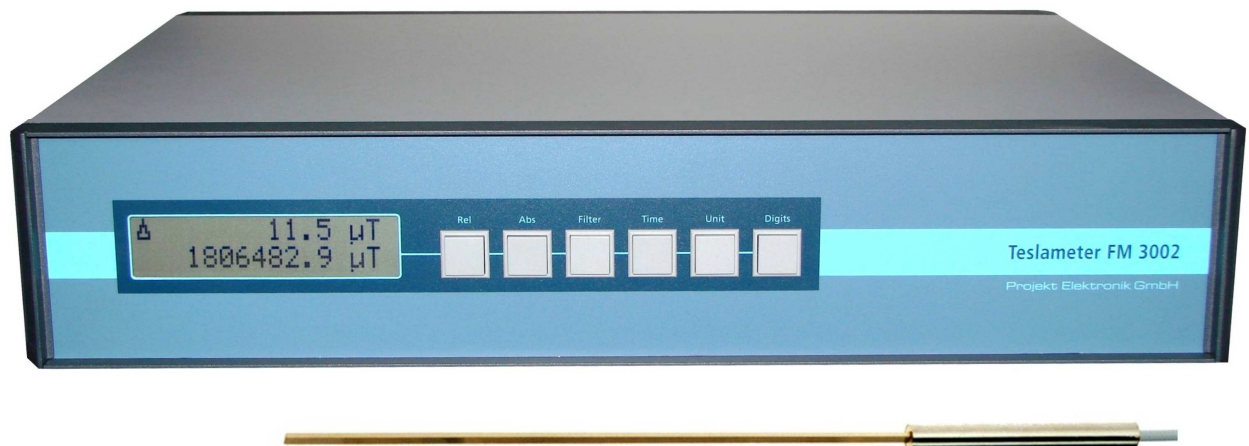


Teslameter FM 3002

High-precision Magnetic Field Measuring Instrument: 0.01 % of reading

High-temperature-stable: Probe < 5 ppm/K, Instrument < 3 ppm/K



- 7 ½ digit LCD display
- Measuring range 1 800 000,0 µT
- Resolution 0.1 µT (1/18 000 000)
- Probes 0.0005 %/K = 5 ppm/K
- Instrument 0.0003 %/K = 3 ppm/K
- Analog output
- RS 232 interface
 - all key function are PC-controlled
 - Data read-out
- relative- and absolute-measurement
- filter- and integration-time displaceable
- selectable indicator extent 3 ½ - 7 ½ digits
- Option: Probe extension cable (without additional temperature influence)

Instrument

- FM 3002-T = desk top set
- FM 3002 -19" = rack version

Measuring probe

- Transverse probe
- Axial probe
- Factory calibration certificate with tracability

Teslameter FM 3002

The FM 3002 Digital Teslameter magnetic field measuring instrument is a high-precision and highly temperature independent instrument for the precise determination of magnetic induction.

The precision of the instrument is exceeded only by magnetic field measurements using nuclear magnetic resonance (NMR). The FM 3002 Teslameter has a modern 7½ digit LCD display with measuring time selectable from 0,1 s to 5 s. Further, the instrument is programmable to execute a variety of average or moving average functions. Measurements can be displayed in μT , mT, T, G and kG. Differences (rel) from measured values (ref) can be displayed in the second line of the display.

The FM 3002 uses several methods of correction to eliminate the non-linearities and, particularly, the temperature dependence of each individual sensor. In addition to its high-resolution display, another special feature of the FM 3002 is its high precision, high stable analog output.

Each instrument can be factory-programmed with the individual correction data of two probes (transverse or axial) so that each set will accommodate two different probes by simple re-plugging.

Both probes have the same non-linearity of max. 0.01 % of the reading at a temperature coefficient of $\leq 0.0005\%/\text{K}$ (5 ppm/K) for the transverse and axial probe.

The FM 3002 has a max. temperature coefficient of 3 ppm/K.

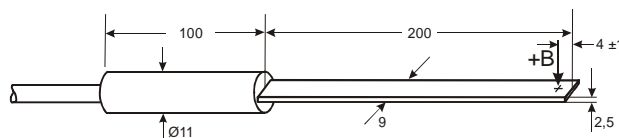
All values are given with nuclear magnetic resonance (NMR) measurements as reference.

By default, the FM 3002 has a serial RS 232 interface for measured data read-out and for the clear-text control of the following instrument functions: relative and absolute measurement, filter functions, sampling rate, display units, and status output.

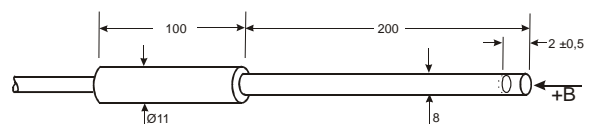
The FM 3002 Teslameter is offered as a 2 HE 19" desk top set and as a 2 HE 19" rack unit.

Both versions come with a 7 ½ digit LCD display, an analog output and a RS 232 interface.

With these specifications, the FM 3002 is a new top performer.



Transverse probe



Axial probe

Probe cable length: 2.80 m

Effective area:

Transverse probe \varnothing 1.0 mm

Axial probe \varnothing 0.8 mm

Teslameter FM 3002

Technical Data

Range: ± 1.8 T	analog output: $\pm 1,8$ V 7 ½ digit display: $\pm 1\ 800\ 000,0$ μ T
Non-linearity (incl. probe) (at 23 °C; 50 mT – 1.8 T)	≤ 0.01 % of reading, ± 0.005 % of range
Resolution (display)	0.1 μ T (1/18 000 000)
Temperature coefficient instrument	≤ 3 ppm/K (0.0003 %/K)
Temperature coefficient probe at 25 °C Probe T; A	≤ 5 ppm/K (0.0005 %/K)
Zero drift	≤ 2 μ T /K
Long-time stability	≤ 0.1 % / year (typ. 0.05 %/year)
Frequency range	Analog output 0 - 100 Hz (– 3 dB) Display DC
Noise (analog output)	≤ 0.5 μ T _{eff} (0 - 1 Hz)
Display units	μ T, mT, T, G, kG
Measuring time	0,1 s to 5 s
Operation temperature	+10 °C to +40 °C
Size (W x H x D)	449 x 104 x 320 mm desk top 483 x 89 x 320 mm 19" rack
Power	115 V~, 230 V~ ± 10 % / 50 Hz - 60 Hz / 20 VA
Weight	4.50 kg

Technical data are subject to change without prior notice!