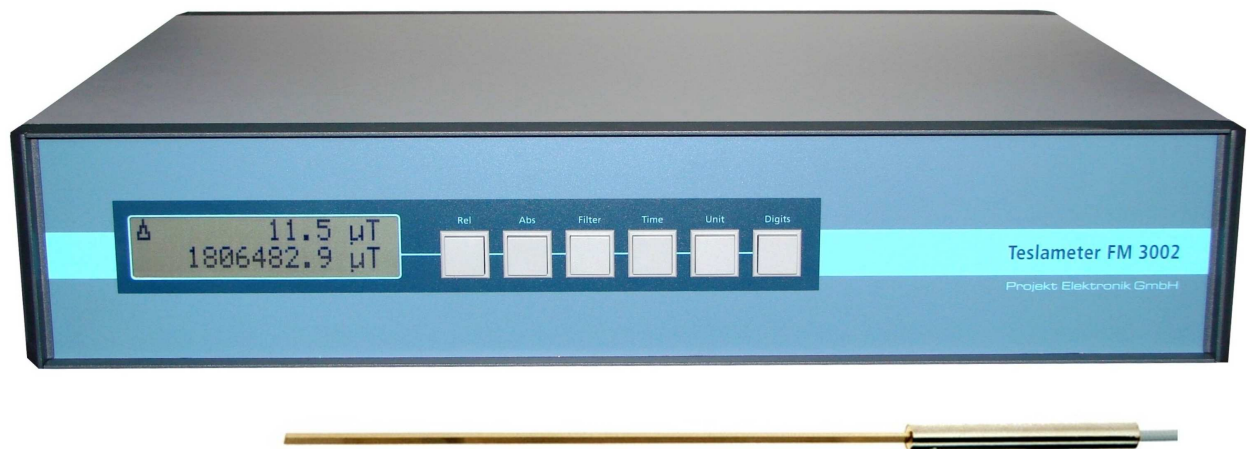


Teslameter FM 3002-0,1T (low noise)

High-precision Magnetic Field Measuring Instrument: 0.05 % of reading

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

Very low noise: $\leq 0.15 \mu T_{\text{eff}}$ (0.1 – 1 Hz)



- 7 ½ digit LCD display
- Measuring range 100 000.00 μT
- Resolution 0.01 μT (1/10 000 000)
- Probes 0.0005 %/K = 5 ppm/K
- Instrument 0.0005 %/K = 5 ppm/K
- Analog output
 - noise $0.15 \mu T_{\text{eff}}$ (0.1 – 1 Hz)
- RS 232 interface
 - all key functions are PC-controlled
 - Data read-out
- relative- and absolute-measurement
- filter- and integration-time displaceable
- selectable indicator extent 3 ½ - 7 ½ digits

Instrument

- FM 3002-0.1T-T = desk top set
- FM 3002-0.1T-19" = rack version

Measuring probe

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

Teslameter FM 3002-0.1T

The FM 3002-0.1T Digital Teslameter magnetic field measuring instrument is a high-precision and highly temperature independent instrument for the precise determination of magnetic induction in the range of 0 up to 100 mT with a resolution of 0.01 μ T.

The precision of the instrument is exceeded only by magnetic field measurements using nuclear magnetic resonance (NMR). The FM 3002-0.1T Teslameter has a modern 7 ½ digit LCD display with measuring time selectable from 0.1 s to 5 s. Further, the instrument is programmable to execute a variety of averaging functions. Measurements can be displayed in μ T, mT, T, G and kG. It is possible to display the difference (Rel) to any measuring value (Abs)

The FM 3002-0.1T 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 3002-0.1T is its high precision, high stable analog output.

The noise is only 0.15 μ T_{eff} (1.5 mG_{eff}) in the range of 0.1 – 1 Hz.

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. 0.05 % of the reading \pm 0.05 % of range at a temperature coefficient of \leq 0.0005 %/K (5 ppm/K) for the transverse and axial probe.

The FM 3002-0.1T has a max. temperature coefficient of 5 ppm/K.

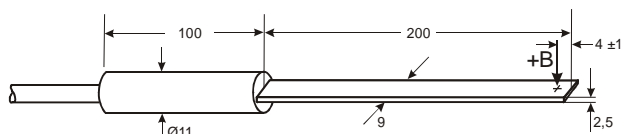
All values are given with nuclear magnetic resonance (NMR) measurements as reference.

By default, the FM 3002-0.1T 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.

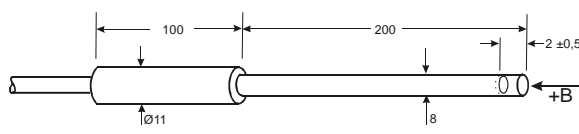
The FM 3002-0.1T Teslameter is offered as a 2 HE 19" desk top set and as a 2 HE 19" rack unit.

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

With these specifications, the FM 3002-0.1T is a new top performer.



Transverse probe



Axial probe

Probe cable length: 2.80 m

Effective area:

Transverse probe	Ø 1.0 mm
Axial probe	Ø 0.8 mm

Teslameter FM 3002-0.1T

Technical Data

Range: 0 to ± 100 mT	analog output: ± 1 V 7 $\frac{1}{2}$ digit display: $\pm 100\,000.00$ μ T
Non-linearity (incl. probe) (at 23 °C; 20 mT – 100 mT)	≤ 0.05 % of reading, ± 0.05 % of range
Resolution (Display)	0.01 μ T (1/10 000 000)
Temperature coefficient instrument	≤ 5 ppm/K (0.0005 %/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 - 30 Hz (– 3 dB) display: DC
Noise (analog output)	≤ 0.15 μ T _{eff} (1.5mG _{eff}) (0.1 – 1 Hz) (50 s)
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!