

Trifield ® Meter Model 100XE

(AlphaLab, USA)



Trifield ® Meter measures all three types of electromagnetic field: AC magnetic field, AC electric field, and radio (including microwaves). The magnetic and electric detectors are 3-axis, making the meter easier to use than comparable 1-axis meter.

**The Radio/Microwave section of this meter reads most modern radio sources (50 MHz - 3 GHz). For lower radio frequencies and/or stronger radio sources (such as measuring the field near a transmitter), see the [Trifield® BroadBand 100XE Meter](#).*

Frequency Options:

60 Hz: Calibrated for North American power frequency (and certain other regions).

50 Hz: Calibrated for European power frequency (and certain other regions).

Flat: Specialized meter with flat frequency response at 50 and 60 Hz. Not sensitive above 2000 Hz.

ES: Extended Sensitivity to frequencies down to 5 Hz (electric and magnetic). Not recommended for general electromagnetic testing because it takes longer to stabilize after being moved.

Available Options:

AC Power; External Coil 10X Magnification; LED Illuminated Display (for darker environments); Output Jack; Sound; Uni-Directional Switch ; Hard Carrying Case.

Available Data Acquisition Option:

[Data Logging USB Stick](#) Logs data from the meter. The stick must be connected to a computer to operate. If the output jack option is selected, the output of the TriField Meter is proportional to the needle deflection and is not linear. The output jack is included in the price of the option.

Product Description:

The Trifield ® Meter is a gaussmeter, electric field meter, radio field strength meter in a single unit. When measuring electromagnetic fields (EMFs), the primary concern is usually magnetic fields, which can be tricky to measure. If a less sophisticated 1-axis gaussmeter is used, a reading of zero could result even where the field is strong. A 1-axis meter must be oriented correctly to measure the field (which is a vector). The 3-axis Trifield Meter solves that problem by measuring the true strength of the field regardless of which way it is oriented. Therefore, the Trifield Meter can be scanned rapidly across an area without having to stop at each point to search for the orientation that gives a maximum reading. Another section of the meter detects AC electric fields, which can exist independently of AC magnetic field. The third section detects radio/microwave, such as from a leaky microwave oven.

Features:

- Detects the three types of electromagnetic pollution: AC magnetic fields, AC electric fields, and radio/microwaves.
- AC magnetic and electric fields are 3-axis, allowing quick accurate readings regardless of meter orientation.
- Two magnetic ranges cover 0.2-100 milligauss.
- This is sufficiently sensitive to detect the background field almost anywhere (except far from civilization), while measuring up to very strong AC fields.
- Electric range covers 5-1000 V/m (or .5-100 kV/m with original version of the Trifield Meter)
- Radio/microwave covers 10 to 1000 microwatts/square cm which includes the maximum permissible public exposure levels in all countries.
- Operates about 40 hours on replaceable standard 9V battery, has a low battery indicator.
- Analog (needle-type) display has very fast response time compared to digital. (However, AlphaLab also manufactures digital meters.)

Applications:

- Measures AC (artificial) magnetic fields rapidly. (Does not measure DC of static fields, such as the Earth Field. [Click here for other magnetic meters](#)).
- Measures AC electric fields rapidly, such as from overhead power lines or improperly grounded equipment. Can locate wiring in walls (using the 100XE version).
- Measures major RF/microwave sources such as leakage from microwave ovens, or the field near cell towers. (Note that wireless internet transmitters and individual cell phone are designed to emit very little power and usually are well below international RF exposure threshold. Consequently, the Trifield Meter will only detect these if very near the source.)

SPECIFICATIONS: Trifield® Meter Model 100XE	
AC Magnetic Fields:	(3-axis; shows true magnitude)
Frequency Range:	40 Hz – 100 KHz (see frequency weighting)
Accuracy @ 60 Hz (50 Hz):	+/- 20% of reading
Range/Resolution (@ 60 Hz or 50 Hz):	100 milligauss / 0.2 milligauss
Standard Version Frequency Weighting:	
*Sensitivity is proportional to frequency from 40 Hz to 500 Hz; flat from 500 Hz to 2000 Hz	
*Sensitivity is inversely proportional to frequency from 2K Hz to 100K Hz	
Flat Frequency Version:	+/- 20% from 50 Hz to 500 Hz; inverse frequency above 500 Hz
AC Electric Fields:	(3-axis; however, note that E-field is affected by the body position)
Frequency Range:	40 Hz – 100 K Hz (see frequency weighting)
Accuracy @ 60 Hz (50 Hz):	+/- 30% of reading
Range/Resolution:	1000 V/m / 5 V/m (Original Version: 100 KV/m / 0.5 KV/m)
Frequency Weighting:	Same as magnetic (above).
Frequency Range:	50 MHz – 3000 MHz (3 GHz)
Radio Microwave:	1 Axis (detect E field)
Range/Resolution:	1 mW/cm ² / 0.01 mW/cm ²
Accuracy:	½ x to 2 x of reading
Meter Size:	5.0 x 2.6 x 2.4 in (129 x 67 x 62 mm)
Weight:	8 oz
Battery:	9 volt alkaline (~ 40 hour life) / "Low Battery" indicator