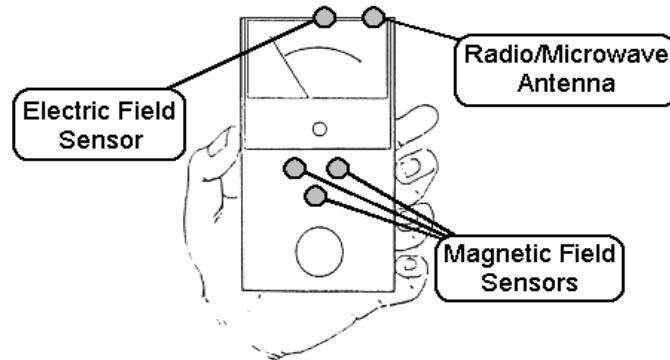


## Trifield 100XE Meter Model TF100XE Instructions



### Taking Readings:

Hold the meter as shown. Do not cover the top of the meter. This prevents your hand from shielding electric fields or microwaves. (Your hand does not shield magnetic fields.) Read the *top* scale when the knob is set on "MAGNETIC (0-100 range)". This top scale reads in milligauss. If this reads less than 3 milligauss, switch the knob to "MAGNETIC (0-3 range)", and read the *center* black scale. This expands the view of the numbers if the field is low. When the knob is set on "ELECTRIC", read the *top* scale, and multiply by 10 to get volts/meter. Point the top of the meter toward the electric field source being measured. When the knob is turned to "RADIO/MICROWAVE", use the bottom scale (.01-1 milliwatt per square centimeter) and point the meter toward the radio/microwave source. Normally, the indoor RADIO/MICROWAVE reading should be near zero in most parts of homes or offices, and will almost certainly be zero if you cup your hand in front of the meter or place the meter in a metal box. In rural areas, far from power lines, the meter should read less than 1 milligauss on both magnetic settings, and less than "1" on electric.

### High Magnetic Field Sources

Hold the meter near these sources, and set the knob on "MAGNETIC (0-100 range)". Some of these should read greater than 10 milligauss on the top scale. Your body or hand does not shield these.

- Vacuum cleaner, refrigerator (when compressor is running) or motorized equipment
- Plug in clock/radio
- Fluorescent lights
- Inside of commercial jets
- Running cars, especially near front floorboard

If you can't get a reading greater than 10, test the battery (if the battery is weak, the meter needle cannot go up to full scale).

### High Electric Field Sources

Switch the knob to ELECTRIC. If you point the electric sensor (see diagram) toward these sources, some should read greater than 500 volts per meter, which is "50" on the top scale. (Notice that your body can easily shield electric fields; the reading is lower if you cover the top surface of the meter with your hand.) Also, the presence of your hand at the back of the meter *compresses* the electric field, making it read somewhat higher than if the meter were suspended from a string or a board far away from you.

- Some types of TV/computer monitors
- Improperly grounded electrical equipment
- Single "hot" wire, even if insulated
- Fluorescent lights
- Electric Blankets, when plugged in, but "off", especially if the AC plug polarity is reversed

## High Radio/Microwave Power Sources

Switch to RADIO/MICROWAVE and point the radio/microwave sensor toward the following sources. Read the bottom scale. Your hand can shield the higher frequencies (microwave) but not lower frequencies. Strong sources include:

- Cordless phones, CB, or amateur radio transmitter\*
- Microwave ovens near door seal. A reading of more than  $.2 \text{ mW} / \text{cm}^2$  (needle just to the right of halfway up) at a distance of six feet suggests a leaking microwave door seal, which should be repaired.

\*Will also produce electric and magnetic field readings.

### Battery Test:

Switch the knob to "Battery Test". If the battery needs replacement, the needle will be to the left of the line that is itself left of the words "Batt. Test".

### Changing the Battery:

The battery is a 9-volt rectangular type. The alkaline type will last about 80 hours of continuous use, while the transistor type will last about 40 hours. Turn the meter OFF, unscrew the back (four screws) and slowly separate the back cover. DO NOT PULL APART RAPIDLY - it may break the wires. Disconnect the battery and slide it out by pushing it out from the back. Then replace it. Reconnect the new battery and reassemble. Leave the meter OFF when not in use; even "Battery Test" will draw some power.

SPECIFICATIONS: Trifield® 100XE Meter	
AC Magnetic Fields:	(3-axis; shows true magnitude)
Frequency Range:	40 Hz – 100 KHz
Accuracy @ 60 Hz (50 Hz):	+/- 20% of reading
Range/Resolution (@ 60 Hz or 50 Hz):	100 milligauss / 0.2 milligauss
Standard Version Frequency Weighting:	The back label says, "frequency weighted"
Sensitivity is proportional to frequency from 40 Hz to 500 Hz; flat from 500 Hz to 2000 Hz	
Above 2000 Hz, sensitivity is inversely proportional to frequency from 2K Hz to 100K Hz	
Flat Frequency Version:	+/- 20% from 50 Hz to 500 Hz; fall off at inverse frequency above 500 Hz
AC Electric Fields:	
Frequency Range:	40 Hz – 100 K Hz
Accuracy @ 60 Hz (50 Hz):	+/- 30% of reading
Range/Resolution:	1000 V/m / 5 V/m (Original Version was: 100 KV/m / 0.5 KV/m)
Frequency Weighting:	Same as magnetic (above).
Radio Microwave:	
Frequency Range:	50 MHz – 3000 MHz (3 GHz)
Range/Resolution:	1 mW/cm <sup>2</sup> / 0.01 mW/cm <sup>2</sup>
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 battery (~ 40 hour life) / "Low Battery" indicator

### Disclaimer:

Use of the meter is solely at the user's discretion to identify exposure to nonionizing electromagnetism. Because a meter of this type may malfunction, the user's responsibility is to determine if the meter is working properly by using it to measure a known reference. Manufacturer or dealer cannot assume responsibility for damages resulting either from a defective meter (except to replace or repair said meter within the warranty period) or from inaccuracies in the present body of knowledge concerning potential health hazards of electromagnetism.

The meter should be used so that simple steps (such as moving furniture) can be taken to reduce relative exposure within a home or office. If more drastic actions are contemplated, consult expert advice, *and perform independent tests with another type of meter*. Remember that the TriField® meter is frequency-weighted (except Flat Version), so in most environments, it will read higher in the magnetic field setting than a more traditional meter of the type often used in epidemiological studies to set possible hazard thresholds.

TriField® is a registered trademark of W.B. Lee.

The warranty period for this meter is one year from the date of delivery.

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