MULTI-FIELD
EMF-54 Multi
Field EMF Meter

MULTI-FIELD EMF-54 Multi Field EMF Meter User Manual

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OVERVIEW

EMF detector is a portable health and safety field detector, which can detect AC magnetic field, electric field, and high-frequency (RF) radiation. It is mainly used to detect and evaluate the impact human body on non-lomzIng electromagnetic fields, magnetic fields,s and high-frequency radiation in living and working environments.

Features

- Detect AC magnetic field, electric field and high frequency/ microwave radiation intensity.
- AC magnetic field measurement is in 3-axis mode, which can be measured in any direction.
- **Magnetic field measurement range:** 0.01~200.OuT/0.1~2000mG
- **Electric field measurement range:** 1~2000V/m
- **RF measurement range:** 0.001~100.0 mW/m2
- Peak measurement
- Data hold
- Max Hold
- Audible and light alarm
- The measured value, peak value and trend graph are displayed at the same time

Applications

- Radiation detection of mobile phone and signal transmission tower.
- RF radiation detection of intelligent electrical equipment.
- Wi-Fi router and Bluetooth RF radiation detection.

- EMF radiation detection of overhead transmission high voltage lines and transformers.
- EMF radiation detection of computers, air conditioners, refrigerators, televisions, microwave ovens copiers, monitors and other electrical equipment.
- Wireless pinhole camera, wireless wiretap detection.
- EMF radiation detection in motor vehicles.
- Used for the detection of electromagnetic wave radiation protection equipment, such as shielding electromagnetic radiation verification of electromagnetic protective clothing, computer radiation screen/protective materials, etc.

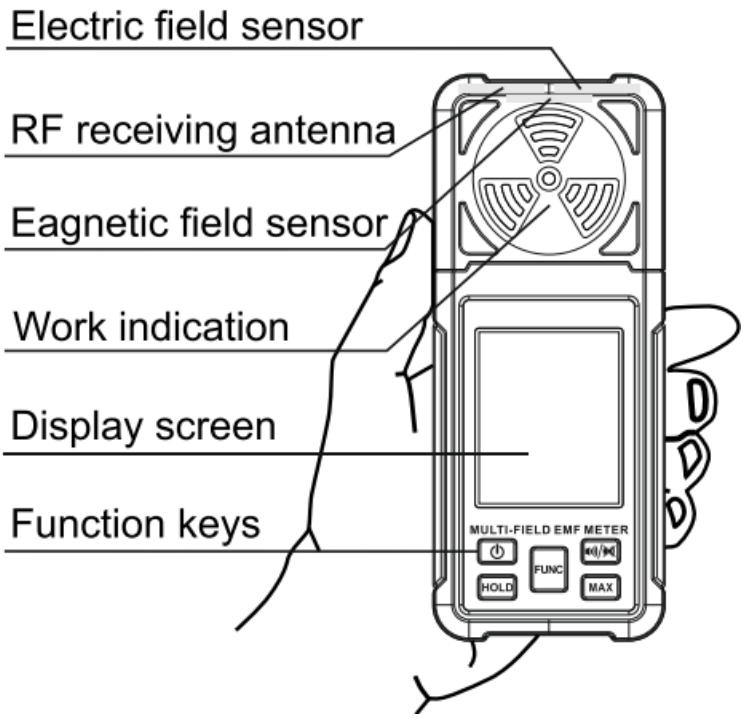
SPECIFICATIONS

<table>
<tr><th>Function</th><th colspan="2">Specifications</th></tr>
<tr><td rowspan="4">Magnetic</td><td colspan="2">3-axis</td></tr>
<tr><td>Measuring range：</td><td>0.01~200.0uT /0.1~2000mG</td></tr>
<tr><td>Range：</td><td>20uT/200uT；200mG/ 2000mG</td></tr>
<tr><td>Resolution:</td><td>0.01/0.1uT；0.1/1mG</td></tr>
</table>

	Frequency range：	30~1000Hz
Electric	1-axis	
	Measuring range：	1~2000V/m
	Range：	2000V/m
	Resolution：	1V/m
	Frequency range：	30~1000Hz
RF	1-axis	

	Measuring range:	0.001~ 100.0 mW/m^2
	Range:	2/20/100mW/m^2
	Resolution:	0.001/0.01/ 0.1mW/m^2
	Frequency range:	50MHz~3.5GHz
Alarm	Sound and light (green, orange and red) alarm exceeding the built-in threshold	
Auto power off	Approx. 15 minutes	
Use Environment	0~40°C/40~80%RH	
Power	3x1.5V AAA batteries	

USE THE METER



- **Power On/Off**

  Press the “⏻” key to turn on the power; Press and hold for about 1 second to turn off the power.
- **Auto power off**

  When the power is turned on, the display shows “⏻” symbol. Without any key operation, the meter will auto-power off after about 15 minutes.
- **Cancel auto power off**

  Press and hold the “HOLD” key, then press the “⏻” key to turn on the power, then release the “HOLD” key, and the “⏻” symbol on the display disappears. The auto power-off function is canceled. Turn on the power again, and the auto power off function will resume.
- **Alarm tone on or off**

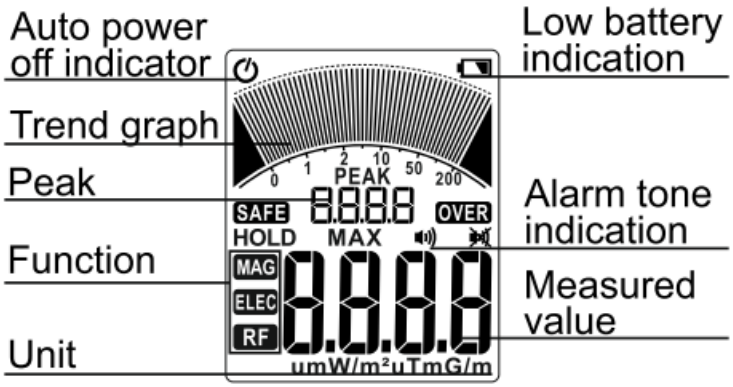
  Press “🔊/🔇” key to tum on or off the alarm tone
- **Max measurement**

  Press the “MAX” key to start the maximum memory, Press the “MAX” key again to return to normal measurement.
- **Data Hold**

  Press the “HOLD” key to turn on or off the display lock.

Measurement function selection

Press the “FUNC” key to select the magnetic field (uT), magnetic field (mG), electric field (V/m), and RF (mW/m2) functions.



LCD

The measured value is the average of the field measurements to obtain the most stable and accurate reading possible. The trend graph is a rapid response to the changing trend of field measurement.
The peak value is the maximum peak value measured and maintained for about 3 seconds or until a larger peak value is measured.

Measurement operation

Note: Do not cover the sensor on the top of the meter with hands or other objects during measurement.

AC Magnetic Field Detection

1. Press the “ ⏻ ” key to turn on the meter power.
2. Press the “FUNC” key to select the “ MAG ” magnetic field uT or mG measurement function.
3. Hold the meter (as shown above) and keep the top of the meter at the position to be measured.
4. When the measured value is<0.12uT (1.2mG), the display will light green.
5. When the measured value is<0.40uT (4.0mG), the display will light orange.
6. When the measured value is.::0.40uT (4.0mG), the display will light red.
7. Read the measurement results from the display.

In the magnetic field mode, it can be measured in any direction, because the magnetic field is measured in the 3-axis mode, pointing to the X, Y, and Z directions, and is located near the top of the instrument. The X, Y, and Z signals are combined into an actual field strength.
Most homes or offices have several areas with high magnetic field readings. These magnetic fields mainly come from unmatched internal wiring, displays, fluorescent lamps, dimmers, transformers, electric blankets, heaters, or other equipment with motors in electrical equipment.

AC Electric Field Detection

1. Press the “ ⏻ ” key to turn on the meter power.
2. Press the “FUNC” key to select the “ ELEC ” electric field measurement function.
3. Hold the meter (as shown above) and keep the top of the meter at the position to be measured.
4. When the measured value is<40V/m, the display will light green.
5. When the measured value is<400V/m. the display will be light orange.
6. When the measured value is.::400V/m, the display will light red.

7. Read the measurement results from the display.

   Note: Do not cover the sensor on the top of the meter with hands or other objects during measurement.

Your body is easy to shields the electric field; If you cover the surface of the meter with your hand, the measured value will be lower. The presence of your hand at the bottom of the meter will compress the electric field, making its reading slightly higher than when the meter is hanging away from you. In either case, the real electric field near the meter will be displayed. Most households or offices have several areas with high electric field readings. These electric fields mainly come from the area of incorrectly grounded equipment, the front of video displays fluorescent lamps, etc.

RF and Microwave Field Detection

1. Press the “ ⏻ ” key to turn on the meter power.
2. Press the “FUNC” key to select the “ RF ” RF field measurement function.
3. Hold the meter (as shown above) and keep the top of the meter at the position to be measured.
4. When the measured value is<10mW/m2 the display will light, green.
5. When the measured value is<50mW/m2, the display will light orange.
6. When the measured value is.:: 50mW/m2, the display will light red.
7. Read the measurement results from the display.

   Note: Do not cover the sensor on the top of the meter with hands or other objects during measurement.

Your body can easily block RF signals; If you cover the surface of the meter with your hand, the reading will be lower.
RF and microwave are made up of a special combination of electric and magnetic fields. For frequencies below about 100MHz, the main impact on the conductor is only from the magnetic field. This is because the electric field component of the radio wave generates a much weaker current in the body than the magnetic field unless the wavelength of the radio wave is less than the height of the body.

When reading the RF emitted by digital devices (such as mobile phones and smart meters), PEAK peak measurement (the number in the middle of the display) is more concerned. Because signals from digital RF equipment are irregularly short sent in packets.

Peak measurement PEAK detects these signals and displays the strongest signal for about 3 seconds.

Replace the batteries

When the “ ▭ ” symbol is displayed on the display screen, it means that the battery is low. Please replace the battery in time.

Typical home and office EMF level
Generally, when measuring the home or office, only the actual area where people spend their time (or the area where EMF-sensitive equipment is located) is important. In a typical home or office, the magnetic field is usually less than 0.50uT (5.0 mG), the electric field is usually less than 20 V/m, and the radio frequency is usually less than 5.000 mW/m2.

Disclaimers

The use of the meter is entirely up to the user to decide whether to be exposed to non-ionizing electromagnetism. The user needs to use it to measure the known reference value to determine whether the meter works normally.

The test data of this meter is for reference only, and the manufacturer or dealer will not bear the damage caused by inaccurate existing knowledge of the meter or electromagnetic potential health hazards. A meter should be used to take simple steps (such as moving furniture or radiation source equipment) to reduce relative exposure in the home or office. If more accurate testing is required, it is recommended to consult experts or use another type of meter for accurate testing.

Documents / Resources

	**MULTI-FIELD EMF-54 Multi Field EMF Meter** [pdf] User Manual EMF-54 Multi Field EMF Meter, EMF-54, Multi Field EMF Meter, Field EMF Meter, EMF Meter, Meter

References

- **User Manual**