MESTEK EMF02R

MESTEK EMF02R 5-in-1 EMF Radiation Detector User Manual

Model: EMF02R | Brand: MESTEK

1. Introduction

The MESTEK EMF02R is a versatile digital high-frequency electromagnetic radiation detector designed for precise measurement of various electromagnetic fields. It integrates capabilities to measure Magnetic Field (MF), Electric Field (EF), and Radio Frequency (RF) radiation. Additionally, it provides ambient temperature and humidity readings. This device is equipped with a built-in electromagnetic radiation sensor and a large color LCD screen for clear display of radiation values, making it suitable for both experts and beginners in EMF detection.



Figure 1: MESTEK EMF02R EMF Detector, showing the device, its USB-C charging cable, and a protective storage bag.

2. Safety Information

- Read this manual thoroughly before operation to ensure safe and effective use.
- Do not attempt to disassemble or modify the device. This may void the warranty and pose safety risks.
- Keep the device away from water and high humidity environments to prevent electrical shock or damage.
- Avoid exposing the device to extreme temperatures, direct sunlight, or corrosive substances.
- Use only the provided Type-C charging cable for recharging the device.
- If the device malfunctions or shows signs of damage, discontinue use immediately and contact customer support.

3. Product Overview

3.1 Components

The MESTEK EMF02R package includes the following items:

- 1 x MESTEK EMF02R EMF Meter
- 1 x Type-C Charging Cable
- 1 x Storage Bag
- 1 x User Manual

3.2 Device Layout and Display

The EMF02R features a clear VA reverse display color screen and intuitive button layout for easy operation and data interpretation.



Figure 2: Detailed diagram of the MESTEK EMF02R, highlighting the induction probe, display screen, and various control buttons including Power On/Off, Function Selection, Data Hold, Average/Maximum value, Alarm On/Off, High-frequency signal selection, Charging indicator light, and Type-C charging port. Dimensions are also shown as 8.0 inches (204mm) in height, 2.4 inches (63mm) in width, and 1.2 inches (32mm) in thickness.

3.3 Key Features

- **5-in-1 Measurement:** Measures Magnetic Field (MF), Electric Field (EF), Radio Frequency (RF) radiation, ambient

temperature, and humidity.

- **High Sensitivity Triaxial Probe:** Ensures accurate and stable measurements with anti-interference capabilities and a fast response time of 0.4 seconds.
- **Dual Display & Intelligent Alarm:** Features a three-color backlit analog display bar (green, yellow, red) and audible alarms to indicate radiation levels.
- **Multi-functional:** Includes Average/Maximum reading, data hold, low battery indication, 15-minute auto power-off, and °C/°F unit switch.
- **Rechargeable Battery:** Built-in 2000mAh/3.7V Lithium Battery with USB-C charging for continuous power supply.

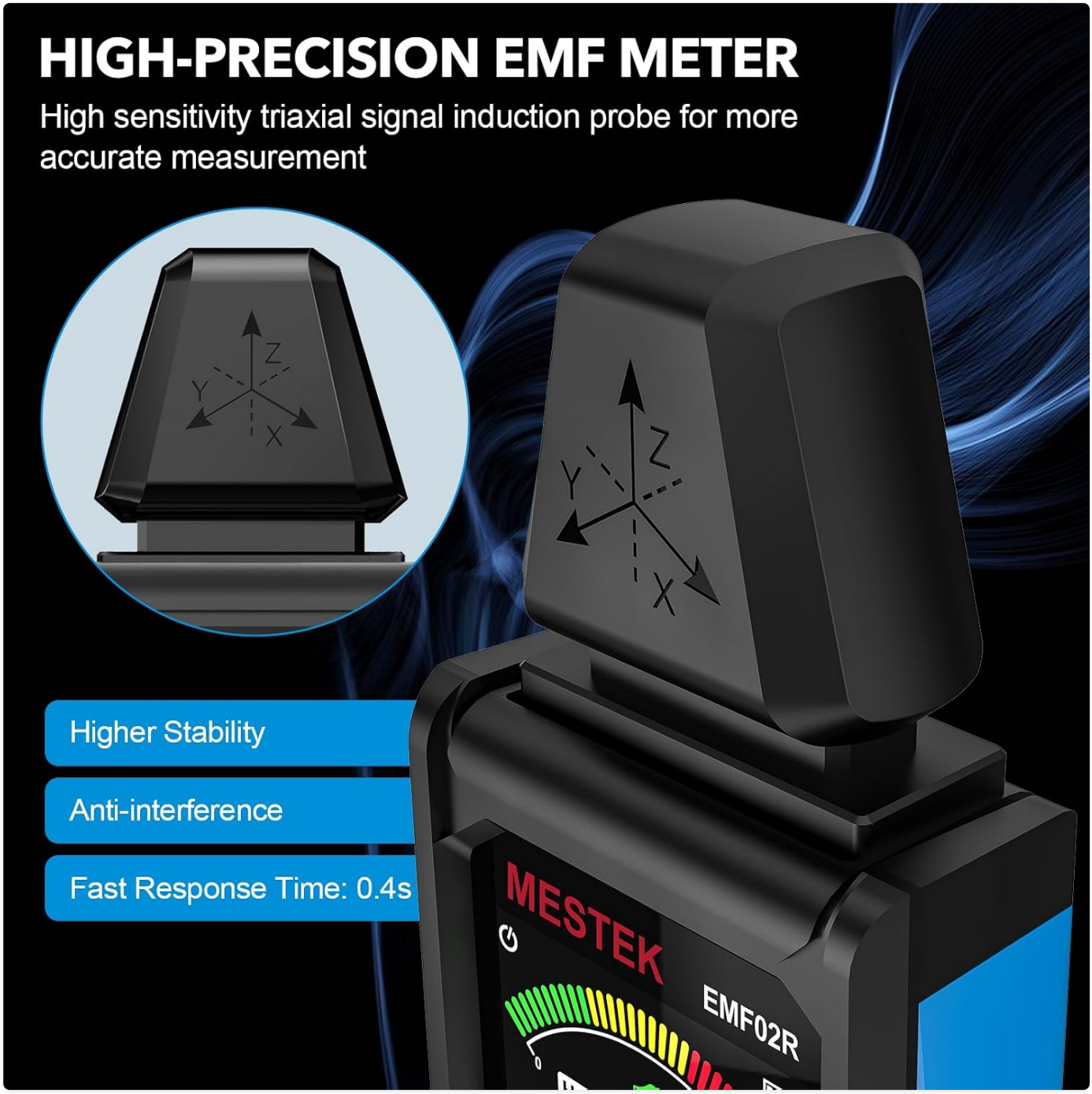


Figure 3: High-precision EMF meter with a high sensitivity triaxial signal induction probe for accurate measurements, offering higher stability, anti-interference, and a fast response time of 0.4 seconds.

4. Setup

4.1 Initial Charging

Before first use, ensure the MESTEK EMF02R is fully charged. Connect the provided Type-C charging cable to the device's charging port and plug the other end into a suitable USB power adapter (not included).



Figure 4: The MESTEK EMF02R being charged via its USB-C port. A red light indicates charging, and a green light indicates a full charge. The device is powered by a 2000mAh/3.7V Lithium Battery.

The charging indicator light will be red while charging and turn green when fully charged. A full charge ensures optimal performance and battery life.

5. Operating Instructions

5.1 Power On/Off

To power on the device, press the **Power** button. The display will illuminate, and the device will enter measurement mode. To power off, press and hold the **Power** button until the display turns off. The device also features an automatic shutdown after 15 minutes of inactivity to conserve battery life.

5.2 Mode Selection (RF, E-field, H-field)

The MESTEK EMF02R can measure three primary types of radiation: Radio Frequency (RF), Electric Field (E-field), and Magnetic

Field (H-field). Use the **RF** and **SEL** buttons to switch between modes.

- **Radio Frequency (RF) Mode:** Press the **RF** button to enter RF measurement mode. This mode measures high-frequency signals from 30 MHz to 8 GHz, including 5G signals, Wi-Fi signals, and radio frequencies.
- **Electric Field (E-field) Mode:** Short press the **SEL** button to enter E-field radiation measurement mode. This measures electric field radiation in V/m.
- **Magnetic Field (H-field) Mode:** Short press the **SEL** button again to switch to H-field radiation measurement mode. This measures magnetic field radiation in mG or µT.



Figure 5: The MESTEK EMF02R's VA Reverse Display Color Screen, showing digital readings for EMF, temperature in °C/°F, and humidity percentage. Features like low battery indication, 15-minute auto shutdown, and °C/°F unit switch are also highlighted. The display also shows HOLD, MAX, and AVG indicators for data functions.

5.3 Data Hold, Average/Maximum Value

- **Data Hold:** Press the **HOLD** button to lock the current reading on the screen. Press again to release.
- **Average/Maximum Value:** Press the **AVG/MAX** button to switch between displaying the average and maximum measured values.

5.4 Alarm Function

The device features both visual and audible alarms. When the measured radiation level exceeds a preset threshold, the analog bar on the display will enter the yellow or red area, and an audible alarm will sound. You can toggle the audible alarm on or off by pressing the **Alarm** button.



Unit analog display	Green	Yellow	Red
Beep alarm	slow	compact	rapid
uW/c㎡	0.0~9.9	10~39.9	40~9999
V/m	0~9	10~399	400~999
mG	0.0~1.1	1.2~39.9	40.0~199.9
uT	0.00~0.11	0.12~3.99	4.00~19.99

Figure 6: The EMF02R demonstrating its visual and audible alarm features. The analog display bar changes color (green, yellow, red) and an audible "di di" sound indicates high radiation levels. The table below the image shows the unit analog display ranges for uW/cm², V/m, mG, and uT, corresponding to slow, compact, and rapid beep alarms.

5.5 Temperature and Humidity Display

The EMF02R continuously displays ambient temperature and humidity. The temperature can be switched between Celsius (°C) and Fahrenheit (°F) using the dedicated unit switch button. The 12 air vents on the device ensure precise measurement of these environmental factors.

6. Applications and Use Cases

The MESTEK EMF02R is a versatile tool for detecting electromagnetic radiation in various environments, helping to identify

potential sources of EMF exposure.

- **Home Environment:** Detect radiation from household appliances such as TVs, induction cookers, rice cookers, refrigerators, computers, printers, and wiring.
- **Office Spaces:** Monitor EMF levels from office equipment, Wi-Fi routers, and electrical installations.
- **Outdoor Detection:** Identify high-frequency signals from 5G cell towers and other radio frequency sources.
- **Industrial Settings:** Assess electromagnetic environments around industrial machinery and equipment.
- **Ghost Hunting:** Used by enthusiasts to detect unexplained electromagnetic fluctuations.

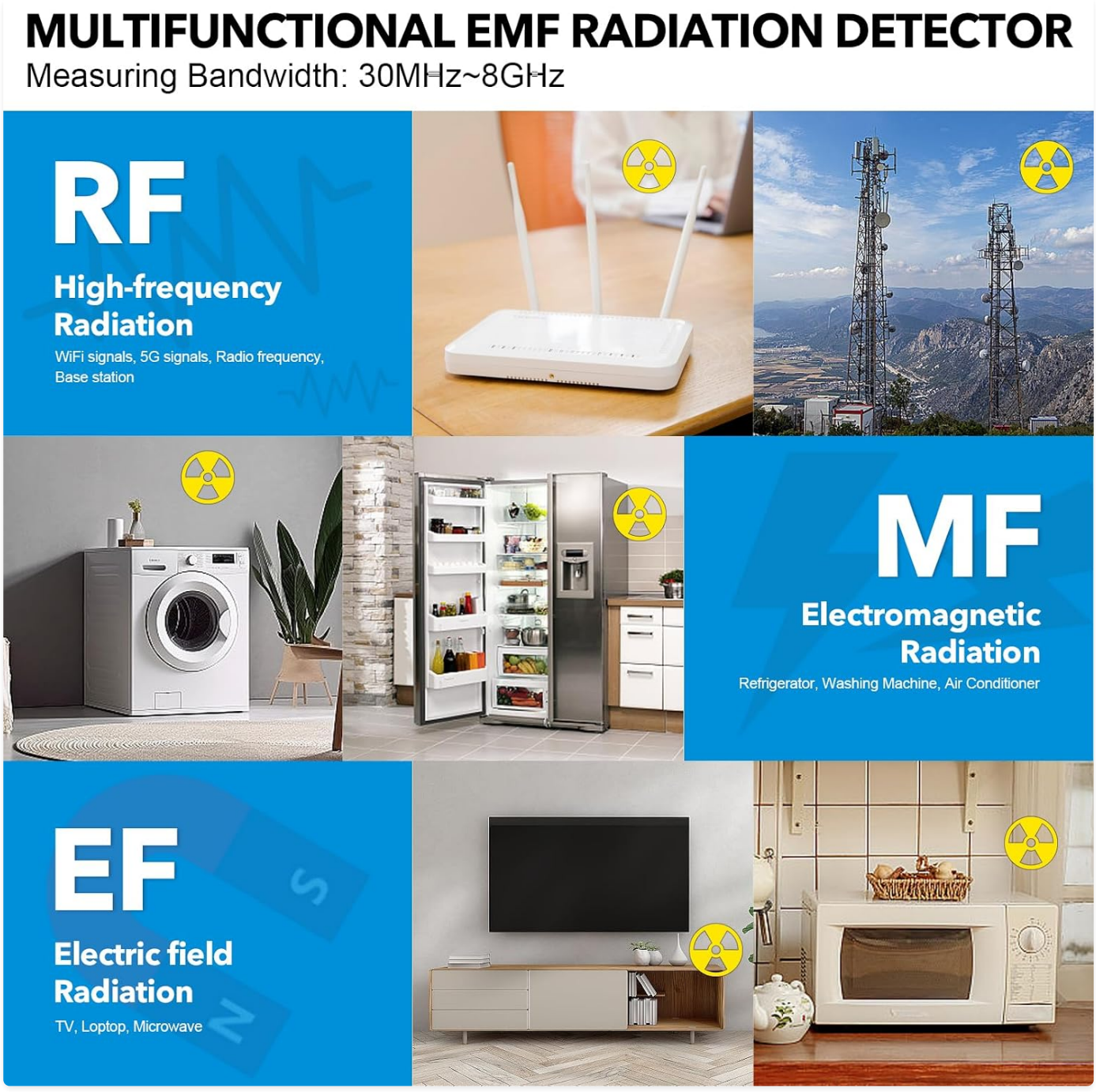


Figure 7: Examples of common household and office items that emit various types of EMF radiation, including RF from routers, EF from laptops and TVs, and MF from microwaves, refrigerators, and washing machines. The MESTEK EMF02R can detect these emissions.

7. Specifications

Specification	Value

Product Dimensions	8 x 1.2 x 2.4 inches; 10.86 ounces
Item Model Number	EMF02R
Batteries	1 Lithium Ion battery required (included)
Manufacturer	MESTEK
Country of Origin	China
Magnetic Field (MF) Range	0.01 - 19.99 µT / 0.1 - 199.9 mG
Electric Field (EF) Range	1 - 999 V/m
Radio Frequency (RF) Range	30 MHz - 8 GHz (0.01 - 9999 µW/cm²)
Temperature Range	-10°C to 60°C (14°F to 140°F)
Humidity Range	0% to 99% RH
Display	VA Reverse Display Color Screen
Power Supply	2000mAh/3.7V Rechargeable Lithium Battery

8. Troubleshooting

If you encounter issues with your MESTEK EMF02R, please refer to the following common troubleshooting tips:

- **Device not powering on:** Ensure the battery is fully charged. Connect the device to the Type-C charging cable and allow it to charge for at least 30 minutes before attempting to power on again.
- **Inaccurate readings:**
  - Ensure the device is held steadily and not near strong magnetic or electric fields that could interfere with readings (unless those are what you are trying to measure).
  - Verify that the correct measurement mode (RF, E-field, H-field) is selected for the type of radiation you are trying to detect.
  - Environmental factors like extreme temperature or humidity can affect sensor performance. Ensure the device is used within its specified operating conditions.
- **No audible alarm:** Check if the audible alarm function is enabled. Press the**Alarm** button to toggle it on.
- **Screen not responding:** Try restarting the device by powering it off and then on again. If the issue persists, contact customer support.

For further assistance, please refer to the contact information in the "Warranty and Support" section.

9. Maintenance

- **Cleaning:** Use a soft, dry cloth to clean the device. Do not use abrasive cleaners or solvents.
- **Storage:** When not in use, store the device in its protective storage bag in a cool, dry place, away from direct sunlight and extreme temperatures.
- **Battery Care:** For optimal battery longevity, avoid fully discharging the battery frequently. Recharge the device regularly, even if not in active use, to maintain battery health.

10. Warranty and Support

MESTEK provides a **36-month after-sale service** and **lifetime technical support** for the EMF02R EMF Detector.

If you have any questions, require technical assistance, or need to claim warranty service, please contact MESTEK customer support through the official channels provided at the point of purchase or on the MESTEK website.

11. Product Video Guide

Watch the official product video for a visual guide on the MESTEK EMF02R's features and operation.

Your browser does not support the video tag.

Video 1: Official MESTEK EMF Meter Detector EMF02R Product Overview and Functionality. This video demonstrates the device's features, including power on, mode selection (RF, E-field, H-field), charging indication, alarm function, and practical applications in detecting radiation from various electronic devices like microwaves, air conditioners, computers, Wi-Fi routers, and electric boxes.

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question