ANENG AC27

ANENG AC27 Socket Detector User Manual

Model: AC27

1. Introduction

The ANENG AC27 Socket Detector is a compact and essential electrical tool designed for rapidly detecting whether a socket's wire connection is correct and for testing leakage protection. It helps ensure household electrical safety by identifying common wiring faults and verifying the functionality of residual current devices (RCDs).

Figure 1: ANENG AC27 Socket Detector in use.

This image shows the ANENG AC27 Socket Detector, a black square device with red indicator lights and a 'LEAKAGE TEST' button, plugged into a standard wall outlet. A finger is shown pressing the leakage test button. The device's display indicates various wiring statuses like 'CORRECT', 'OPEN GROUND', 'OPEN NEUTRAL', 'LIVE/NEU REV', 'LIVE/GRD REV', and 'LIVE/GRD REV MISSING GRD'.

2. Safety Information

WARNING: Always exercise caution when working with electricity. This device is a testing tool and does not replace proper electrical safety procedures or professional electrician services.

- Do not use the device if it appears damaged.
- Do not attempt to open or modify the device.
- Ensure your hands are dry before handling the device or electrical outlets.
- The leakage test function may trip the circuit breaker. Be aware of this before performing the test, especially on circuits supplying critical equipment.
- This device is designed for standard household electrical outlets. Do not use it for industrial or high-voltage applications.
- Keep out of reach of children.

3. Product Features

- **One-Click Leakage Testing:** Quickly verifies the functionality of RCDs/GFCI outlets.
- **Wiring Status Indicators:** Clearly displays common wiring faults.
- **Compact and Portable:** Easily fits in a pocket or tool bag.
- **Durable Construction:** Designed for frequent use.
- **No Batteries Required:** Powered directly by the outlet.

Figure 2: Portability of the ANENG AC27 Socket Detector.

This image illustrates the compact size of the ANENG AC27 Socket Detector, showing it being easily slipped into the pocket of a pair of jeans, highlighting its portability.

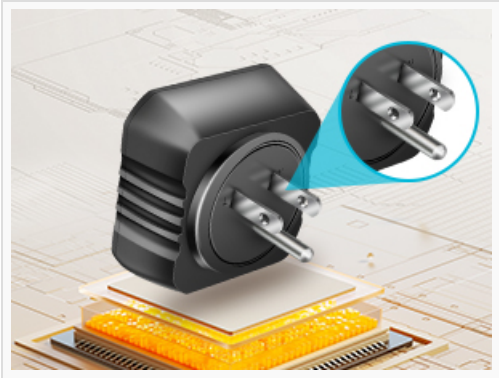

Figure 3: High-quality copper sheet contacts.

This image provides a close-up view of the internal high-quality copper sheet contacts within the ANENG AC27 Socket Detector, emphasizing the robust construction of the device's electrical components.

4. Setup

The ANENG AC27 Socket Detector requires no complex setup. Simply plug it into the standard electrical outlet you wish to test.

5. Operating Instructions

To operate the ANENG AC27 Socket Detector:

1. Ensure the socket detector is clean and free from damage.
2. Insert the detector firmly into the electrical outlet.
3. Observe the indicator lights on the front panel. The combination of lit lights will indicate the wiring status of the outlet. Refer to Section 6 for detailed interpretations.
4. For leakage testing, proceed to Section 7.
5. Once testing is complete, carefully remove the detector from the outlet.

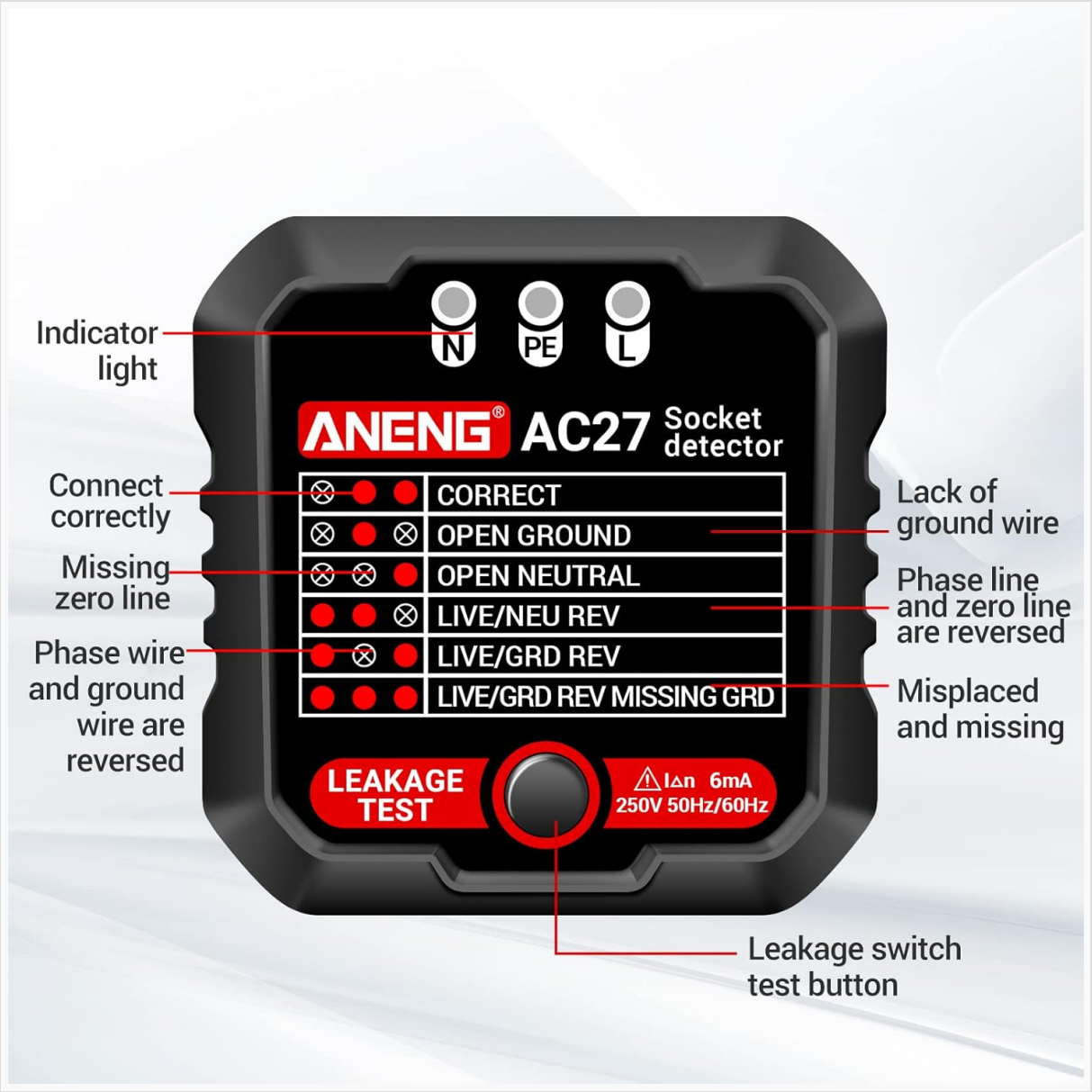

Figure 4: ANENG AC27 Socket Detector labeled diagram.

This image displays a detailed diagram of the ANENG AC27 Socket Detector, with labels pointing to its key components: indicator lights (N, PE, L), the main display area showing wiring statuses, and the 'LEAKAGE TEST' button. It also highlights the meaning of each wiring status indicated by the lights.

6. Understanding Indicator Lights

The ANENG AC27 Socket Detector uses a combination of three indicator lights (N, PE, L) to show the wiring status. Refer to the legend on the device or the table below for interpretation:

Indicator Lights (N, PE, L)	Wiring Status	Description
● ● ● (All three lights on)	**CORRECT**	The wiring is correct: Live, Neutral, and Ground are properly connected.
○ ● ● (N off, PE & L on)	**OPEN GROUND**	The ground wire is missing or disconnected. This is a serious safety hazard.
● ○ ● (PE off, N & L on)	**OPEN NEUTRAL**	The neutral wire is missing or disconnected. Appliances may not function or could be damaged.

Indicator Lights (N, PE, L)	Wiring Status	Description
● ● ○ (L off, N & PE on)	**LIVE/NEU REV**	The live and neutral wires are reversed. This is a shock hazard.
○ ● ○ (N off, PE on, L off)	**LIVE/GRD REV**	The live and ground wires are reversed. This is a severe shock hazard.
○ ○ ● (N & PE off, L on)	**LIVE/GRD REV MISSING GRD**	The live and ground wires are reversed, and the ground wire is also missing. Extremely dangerous.

Note: ● indicates light is ON, ○ indicates light is OFF.

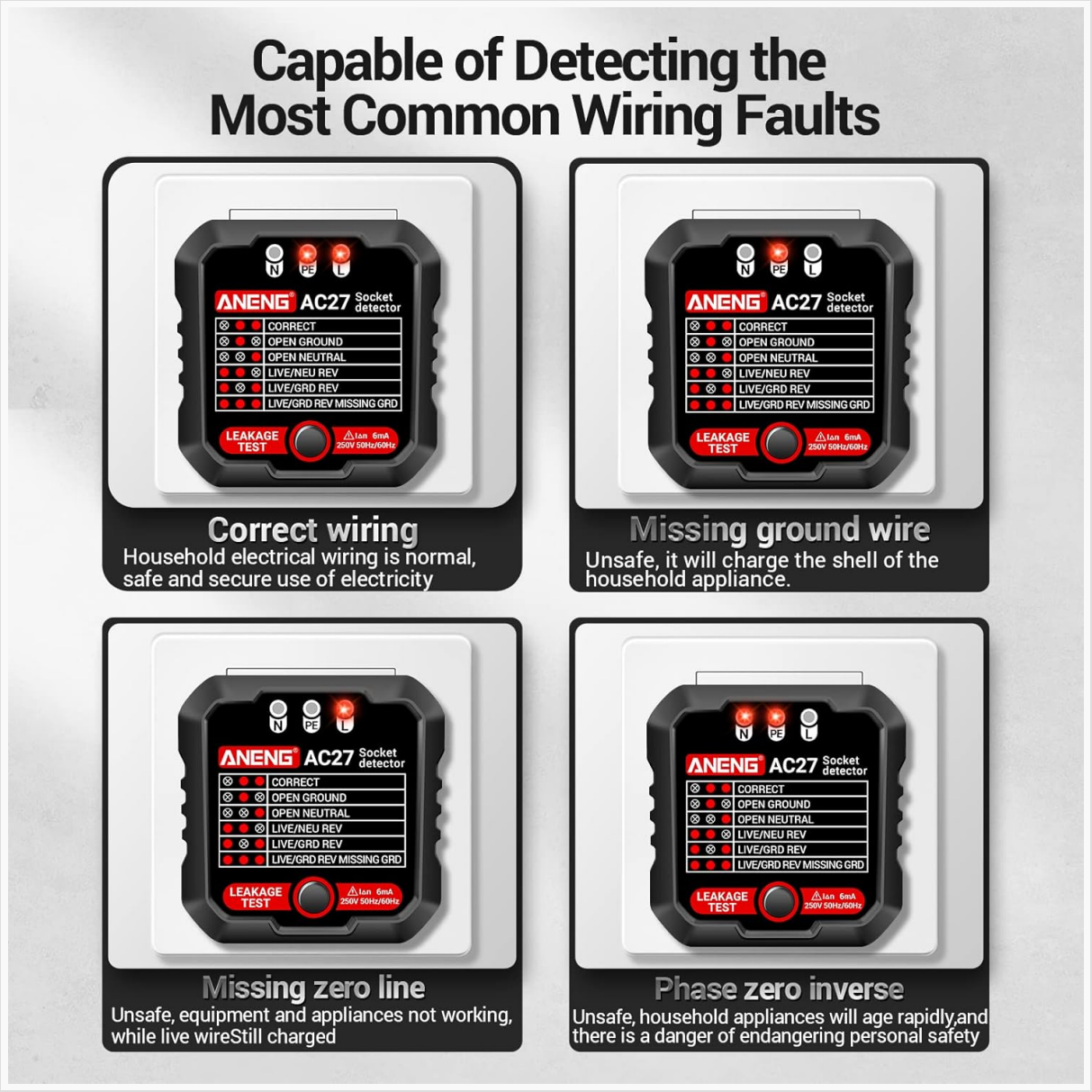

Figure 5: Common Wiring Faults Detection.

This image displays four examples of the ANENG AC27 Socket Detector indicating different wiring statuses: 'Correct wiring', 'Missing ground wire', 'Missing zero line', and 'Phase zero inverse', each with a brief explanation of the condition.

7. Leakage Test Function

The leakage test function is used to verify if the Residual Current Device (RCD) or Ground Fault Circuit Interrupter (GFCI) protecting the circuit is functioning correctly. This is a critical safety feature.

1. Plug the ANENG AC27 Socket Detector into the outlet.
2. Ensure the wiring status is **CORRECT** before proceeding with the leakage test.
3. Press the **LEAKAGE TEST** button on the front of the device.
4. If the RCD/GFCI is working correctly, the circuit breaker should trip, cutting power to the outlet.
5. If the circuit breaker does not trip, it indicates a potential fault with the RCD/GFCI, and the circuit should be inspected by a qualified electrician.
6. Reset the circuit breaker after the test.

IMPORTANT: Be aware that pressing the leakage test button will intentionally create a fault condition to test the RCD/GFCI. This will temporarily cut power to the circuit. Save any unsaved work on connected devices before performing this test.

Figure 6: One-Click Leakage Detection.

This image visually explains the one-click leakage detection feature. It shows the ANENG AC27 Socket Detector plugged into an outlet, with an arrow pointing to the 'LEAKAGE TEST' button. It illustrates two scenarios: 'Trip/leakage protection normal' with a checkmark, and 'No trip/no leakage protection' with an 'X', indicating the outcome of the test.

Video 1: ANENG AC27 Socket Detector Demonstration.

This video demonstrates the ANENG AC27 Socket Detector in action, showcasing its features including the different plug types it supports (US standard, European pins) and how to use it to test an electrical outlet for correct wiring and leakage protection. It visually confirms the indicator light responses for various wiring conditions and the tripping of a circuit during

a leakage test.

8. Maintenance

- Keep the device clean and dry. Wipe with a soft, damp cloth if necessary. Do not use abrasive cleaners or solvents.
- Store the device in a cool, dry place away from direct sunlight and extreme temperatures.
- Inspect the device for any signs of damage before each use.

9. Troubleshooting

Problem	Possible Cause	Solution
No lights illuminate when plugged in.	No power to the outlet, or device is faulty.	Check the circuit breaker. Test the outlet with a known working device. If still no lights, the detector may be faulty.
Leakage test button does not trip the breaker.	RCD/GFCI is faulty or not present on the circuit.	Consult a qualified electrician to inspect the circuit and RCD/GFCI.
Indicator lights show an incorrect wiring status.	Actual wiring fault in the outlet.	Do not use the outlet. Contact a qualified electrician to correct the wiring.

10. Specifications

- **Model:** AC27 Socket Detector
- **Brand:** ANENG
- **Power Source:** Corded Electric (No batteries required)
- **Measurement Type:** Ohmmeter (for continuity/wiring checks)
- **Dimensions:** Approximately 2.52 x 2.36 x 1.97 inches
- **Weight:** Approximately 1.76 ounces
- **Leakage Test Current:** 6mA (typical for RCD/GFCI testing)
- **Operating Voltage:** 250V 50Hz/60Hz (as indicated on device)

11. Warranty and Support

For warranty information, technical support, or service inquiries, please contact ANENG customer service directly. Refer to the product packaging or the official ANENG website for contact details.