Schneider Electric IMT23103

Schneider Electric Thorsman BS Socket Tester User Manual

Model: IMT23103
Brand: Schneider Electric

Introduction

The Schneider Electric Thorsman BS Socket Tester is a compact and reliable device designed for quick and accurate testing of BS (British Standard) electrical sockets. It provides clear indications of wiring conditions, including correct wiring, missing earth, live/neutral reverse, live/earth reverse, neutral open, and live open. This manual provides essential information for the safe and effective use of your socket tester, including setup, operation, maintenance, and troubleshooting.

Figure 1: The Schneider Electric Thorsman BS Socket Tester in its retail packaging.

Safety Information

Always observe the following safety precautions when using the socket tester:

- This device is intended for use by qualified personnel or under their direct supervision.
- Do not use the tester if it appears damaged or faulty.
- Ensure the socket being tested is within the nominal voltage range of 220 V ±10 % and frequency range of 50...60 Hz.
- The tester is rated for Measurement Category Cat III, 300 V. Do not use it for measurements exceeding these ratings.
- Be aware of the potential for dangerous contact voltage at the protective earth (PE). The tester will indicate a PE-error if dangerous voltage is present.
- Always disconnect power before performing any wiring changes based on test results.
- Keep the device dry and clean. Do not expose it to extreme temperatures or humidity.

Product Overview

The Thorsman BS Socket Tester features three neon indicators and a dedicated RCD test button. The indicators illuminate in various combinations to show the wiring status of the socket.

Figure 2: Front view of the socket tester showing the indicator lights and RCD test button.

Components:

- **Neon Indicators (L, N, PE):** Three lights that illuminate in specific patterns to indicate wiring status.
- **PE-ERROR Indicator:** An LCD display that shows "PE-ERROR" if dangerous contact voltage is present at the protective earth.
- **RCD 30mA Button:** Used to test Residual Current Devices (RCDs) at 30mA.
- **BS Plug:** Integrated plug for direct insertion into British Standard sockets.

Figure 3: Side view of the socket tester, highlighting the integrated BS plug.

Setup

The Schneider Electric Thorsman BS Socket Tester is designed for immediate use. No assembly or battery installation is required as it draws power directly from the socket being tested.

1. Ensure the socket is clean and free from obstructions.
2. Verify that the socket is powered and within the specified voltage range.

Operating Instructions

1. Basic Socket Wiring Test:

1. Insert the Thorsman BS Socket Tester firmly into the socket you wish to test.
2. Observe the illumination pattern of the three neon indicators (L, N, PE).
3. Refer to the "Understanding Indicators" section below to interpret the results.
4. If a "PE-ERROR" is displayed on the LCD, dangerous contact voltage is present at the protective earth. Disconnect immediately and consult a qualified electrician.
5. Remove the tester from the socket once the reading is taken.

2. RCD (Residual Current Device) Test:

This test checks the functionality of a 30mA RCD protecting the circuit.**Ensure that all sensitive electronic equipment**

connected to the circuit is unplugged before performing an RCD test, as it will trip the RCD and cut power to the circuit.

1. Insert the Thorsman BS Socket Tester firmly into the socket.
2. Verify that the socket wiring is correct (all three neon indicators illuminated, no PE-ERROR). Do not proceed with the RCD test if the wiring is faulty.
3. Press and hold the "Test" button (RCD 30mA).
4. The RCD protecting the circuit should trip within 60-300 ms.
5. If the RCD does not trip, it indicates a fault with the RCD or the circuit. Do not use the circuit and consult a qualified electrician.
6. Reset the RCD at your consumer unit/fuse box after the test.

Understanding Indicators

The three neon indicators (L, N, PE) on the tester provide a visual representation of the socket's wiring status. Refer to the table below for interpretation:

L (Live)	N (Neutral)	PE (Earth)	Wiring Condition
● On	● On	● On	**OK (Correct Wiring)**
● On	● On	○ Off	**Missing Earth**
● On	○ Off	● On	**L/N Reverse**
○ Off	● On	● On	**L/PE Reverse**
● On	○ Off	○ Off	**N Open**
○ Off	● On	○ Off	**L Open**

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

If the "PE-ERROR" indicator illuminates, it signifies a dangerous condition where voltage is present on the protective earth. This requires immediate attention from a qualified electrician.

Maintenance

The Thorsman BS Socket Tester requires minimal maintenance to ensure its longevity and accuracy.

- **Cleaning:** Wipe the device with a dry, soft cloth. Do not use abrasive cleaners or solvents.
- **Storage:** Store the tester in a cool, dry place, away from direct sunlight and extreme temperatures.
- **Inspection:** Periodically inspect the tester for any signs of physical damage, such as cracks in the casing or bent pins. Do not use a damaged tester.

Troubleshooting

If you encounter issues with your Thorsman BS Socket Tester, consider the following:

- **Tester does not light up:**
  - Ensure the socket is live and functioning correctly (e.g., by plugging in another known working appliance).
  - Check if the tester's pins are making proper contact with the socket terminals.
  - The socket may have an "L Open" or "N Open" fault, which the tester cannot indicate if it's not receiving power.

- **RCD test does not trip the RCD:**
  - Ensure the socket wiring is correct before attempting the RCD test.
  - Confirm that an RCD is actually protecting the circuit.
  - The RCD itself may be faulty. Consult a qualified electrician.
- **"PE-ERROR" displayed:**
  - This indicates a dangerous condition. Immediately remove the tester and do not use the socket. Contact a qualified electrician for inspection and repair.

For issues not covered here, or if you suspect a malfunction, contact Schneider Electric customer support or a qualified electrician.

Specifications

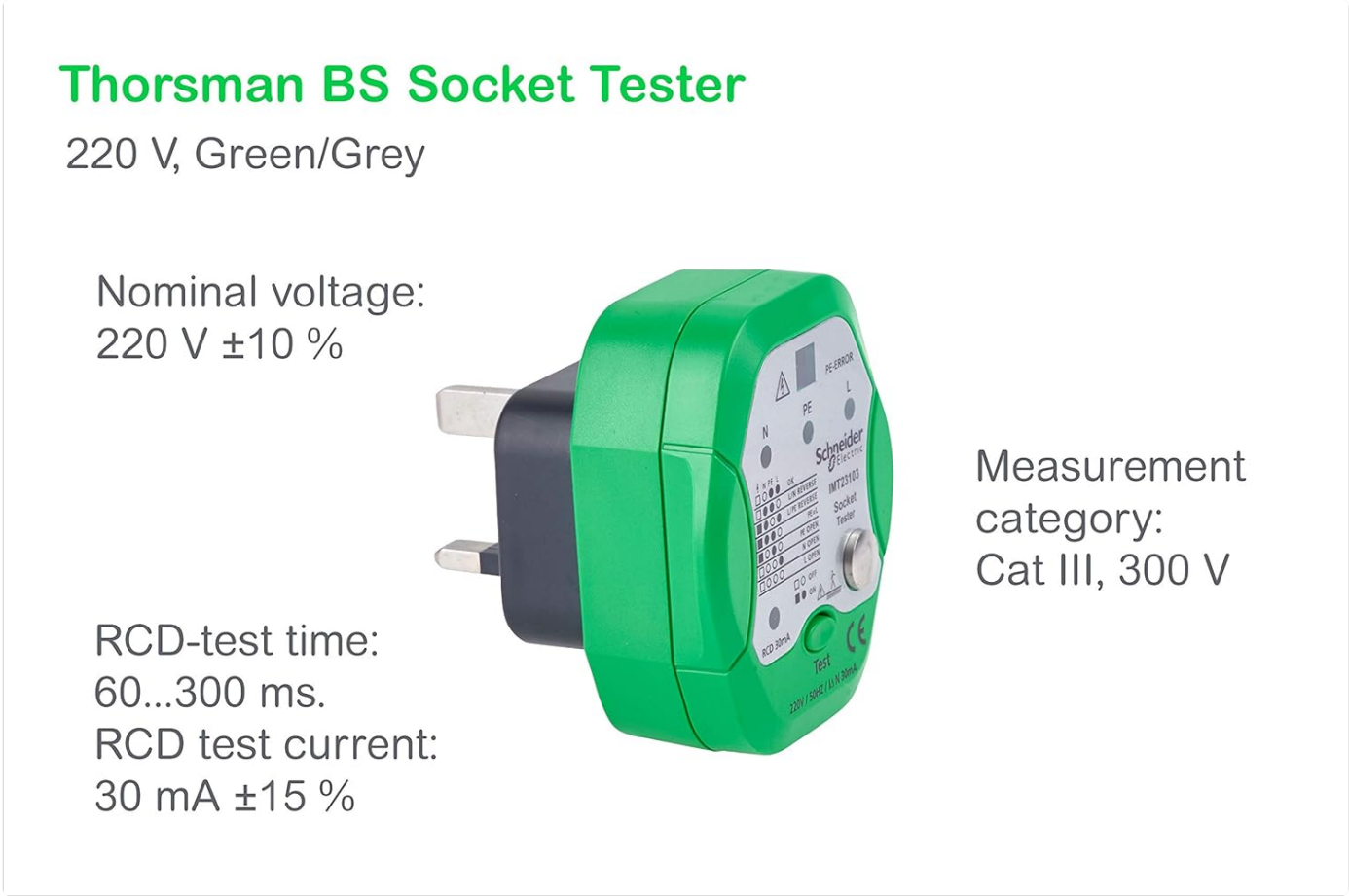

Figure 4: Visual representation of key specifications for the Thorsman BS Socket Tester.

Parameter	Value
Nominal Voltage	220 V ±10 %
Frequency Range	50...60 Hz
Measurement Category	Cat III, 300 V
Contact Voltage Threshold (PE-Error)	< 35 V AC against ground (depending on coupling to earth)
RCD Test Current	30 mA ±15 %
RCD Test Time	60...300 ms

Parameter	Value
Item Weight	Approx. 70 g (Product only), 126 g (Packaged)
Product Dimensions	7.5 x 6.5 x 6.5 cm
Model Number	IMT23103
Colour	Green/Grey
Power Source	Mains Powered (draws power from socket)

Warranty and Support

This product comes with an instruction leaflet. For specific warranty information and customer support, please refer to the documentation included with your purchase or visit the official Schneider Electric website. Always ensure any electrical work is carried out by a qualified professional.