

The energy efficiency of the Volt Mini Deluxe is determined by the energy consumption in various operating modes. Energy consumption is measured in kilowatt hours (kWh), which reflects the energy consumed by a device over a specific period of time. Calculations and tests performed will help assess the energy efficiency of the device.

The daily electricity consumption for the Volt Mini Deluxe in various operating modes is:

- energy consumption in standby mode (P_o) – 80 W = 0.08 kW
- energy consumption in active mode (P_a) – 2100W = 2.1 kW
- operating time in standby mode (T_o) is 14 hours

$$C_o = P_o * T_o$$

$$C_o = 0.08 \text{ kW} * 14 \text{ h}$$

$$C_o = 1.12 \text{ kWh}$$

- operating time in active mode (T_a) is 10 hours

$$C_a = P_a * T_a$$

$$C_a = 2.1 \text{ kW} * 10 \text{ h}$$

$$C_a = 21 \text{ kWh}$$

Daily electricity consumption of the device.

$$C_T = C_o + C_a$$

$$C_T = 1.12 \text{ kWh} + 21 \text{ kWh}$$

$$C_T = 22.12 \text{ kWh}$$

Device Electrical Test Report

1. Device Data

- Device name: Volt Mini
- Model: Deluxe
- Production date: 2024
- Producer: Fortador

2. Test Specification

- Test Equipment and Infrastructure

1. Grounding: Professional grounding systems are used in the test rooms, ensuring safe working conditions and minimizing the risk of overvoltages.

2. Electrostatic Mats: The test area is equipped with electrostatic mats that eliminate the risk of equipment damage caused by electrostatic discharge (ESD). These mats are regularly checked and maintained in accordance with the manufacturer's recommendations.

3. Test Devices:

- Oscilloscopes: For analyzing electrical signals and detecting possible anomalies.
- Digital Multimeters: For accurate measurements of voltage, current and resistance.
- Insulation Tester: For measuring insulation resistance.
- Ground Tester: To check the effectiveness of ground connections.
- High Voltage Tester: For breakdown voltage testing.

Test Procedure

1. Preparation of the Test Stand:

- Checking the correct operation of test devices.
- Ensuring that the test stand is clean and free from contamination.
- Connecting the device to the grounding system and using electrostatic mats.

2. Conducting Tests:

- Circuit Continuity Test: Verify that all electrical connections are correct and secure.
- Insulation Resistance Test: Measures the insulation resistance of wires to ensure that the insulation meets the required standards.
- Breakdown Voltage Test: A high voltage application to check whether insulation does not break down at a specific voltage level.



- Ground Test: Verify that ground connections are effective and meet required safety standards.
- Functionality Test: Checking the correct operation of the device in accordance with its technical specifications.

3. Documentation and Analysis of Results:

- Saving all test results.
- Analyzing data for compliance with applicable norms and standards.
- Preparation of a final report with test results and recommendations
- Test date: 10/06/2024
- Test location:

Fortador

Ul.Ogrodowa 26 A

05-552 Wola Mrokowska

3. Test Results

- Circuit continuity test: Passed
- Insulation resistance test: Passed
- Breakdown voltage test: Passed
- Ground Test: Passed
- Functionality test: Passed

4. Comments and Conclusions

The test was carried out according to the following standards: EN ISO 17025, U.S. 21 CFR 820, ISO 13485. The product complies with the EN50564:2011 standard.

Conclusions All tests performed on the Volt Mini Deluxe model were Passed. The device meets all required electrical norms and standards. No irregularities or faults were detected. The device is ready for use and can be safely put into operation.

5. Signatures

Tester:

Data:

K. Traczyński
Krzysztof Traczyński
212 12024

Data:

21/12/2024
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