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› AOPUTTRIVER AP-7200APP Digital Bluetooth Clamp Meter User Manual

AOPUTTRIVER AP-7200APP

AOPUTTRIVER AP-7200APP Digital Bluetooth Clamp Meter

USER MANUAL

1. Introduction

This manual provides detailed instructions for the safe and effective operation of the AOPUTTRIVER AP-7200APP Digital Bluetooth Clamp Meter. This auto-ranging multimeter is designed for measuring AC/DC voltage, AC/DC current, resistance, capacitance, continuity, diode, frequency, and temperature. It features Bluetooth connectivity for mobile app integration and non-contact voltage (NCV) detection.



Figure 1: AOPUTTRIVER AP-7200APP Digital Bluetooth Clamp Meter with its mobile application interface.

2. Safety Information

To ensure safe operation, please read and understand all safety warnings and operating instructions before using this device. Failure to observe these warnings can result in serious injury or death.

- This device complies with safety standard IEC 61010-1, CAT III 600V.
- The meter features double insulation for enhanced safety.
- Do not use the meter if it appears damaged or if the test leads are damaged.
- Do not apply more than the rated voltage, as marked on the meter, between the terminals or between any terminal and ground.
- Exercise extreme caution when working with voltages above 60V DC or 30V AC RMS. Such voltages pose a shock hazard.
- Always disconnect power to the circuit under test before making connections or breaking connections.
- Ensure the rotary switch is in the correct position for the desired measurement before connecting to the circuit.

3. Product Overview

Familiarize yourself with the components of your AP-7200APP clamp meter.



Figure 2: Front view of the clamp meter with key components labeled.

1. **Clamp Jaws:** Opens 26mm to enclose a conductor for current measurement.
2. **Jaw-opening Handle:** Used to open and close the clamp jaws.
3. **NCV Detection Area:** Located at the bottom of the clamp jaws for non-contact voltage detection.
4. **Rotary Switch:** Selects measurement functions and ranges.
5. **LCD Display:** Shows measurement readings, units, and function symbols.
6. **HOLD Key:** Freezes the current display reading. Press and hold for 2 seconds to activate backlight.
7. **SEL Key:** Selects between different measurement types within a rotary switch position (e.g., AC/DC, capacitance, continuity, diode).
8. **MAX/MIN Key:** Locks the maximum or minimum measured value.
9. **REL Key:** Activates relative measurement mode.
10. **Hz/Duty Key:** Selects frequency or duty cycle measurement.
11. **COM Input Jack:** Common (negative) input for test leads.
12. **VΩHz°C/°F Input Jack:** Positive input for voltage, resistance, frequency, temperature, capacitance, continuity, and diode measurements.

13. **Lamp Light:** Illuminates when NCV detects voltage or when backlight is activated.



Figure 3: Close-up of the clamp meter highlighting the rotary switch, clamp jaws, and LCD display.

4. Setup

4.1 Battery Installation

The AP-7200APP requires batteries for operation. When the low battery indicator appears on the LCD, replace the batteries promptly to ensure accurate readings.

1. Ensure the meter is turned OFF.
2. Locate the battery compartment cover on the back of the meter.
3. Use a screwdriver to open the battery compartment.
4. Insert new batteries, observing correct polarity.
5. Securely close the battery compartment cover.

4.2 Connecting Test Leads

For most measurements (excluding clamp current), test leads are required.

- Insert the **black** test lead into the **COM** input jack.
- Insert the **red** test lead into the **VΩHz°C/°F** input jack.

4.3 Bluetooth Connection

The AP-7200APP can connect to a mobile device via Bluetooth for remote monitoring and data analysis using the "AiLink" app.

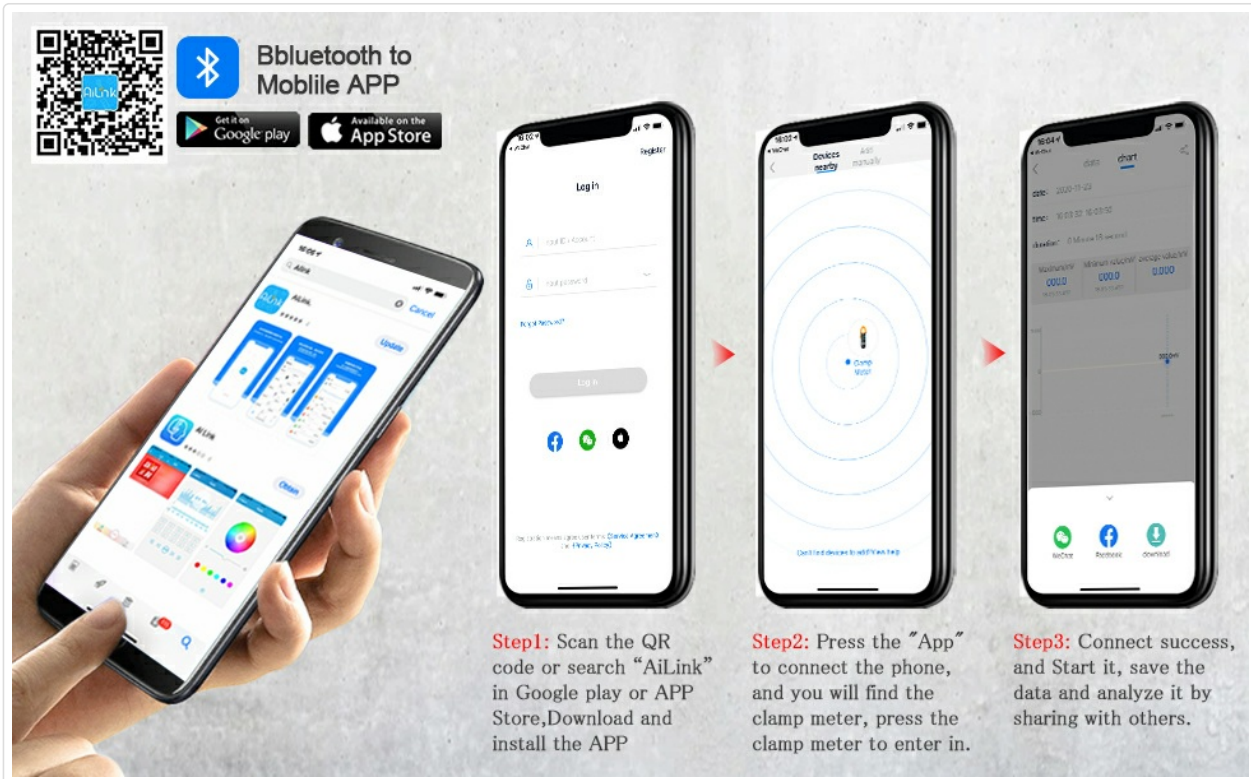


Figure 4: Step-by-step guide for Bluetooth connection with the AiLink mobile application.

1. **Download the App:** Scan the QR code provided in the product packaging or search for "AiLink" in the Google Play Store (for Android) or Apple App Store (for iOS). Install the application. [Download AiLink App](#)
2. **Open the App:** Launch the AiLink application on your mobile phone.
3. **Connect the Meter:** Turn on the clamp meter. In the app, press the "Add" button or navigate to the device connection screen. The app will search for nearby Bluetooth devices.
4. **Pair Device:** Select the AP-7200APP from the list of available devices. The meter will automatically pair with your phone.
5. **Monitor Data:** Once connected, you can view real-time measurement data, analyze trends, and save information directly from your mobile device. The maximum effective Bluetooth distance is 10-15 meters.

5. Operating Instructions

5.1 General Measurement Procedure

1. Turn the rotary switch to the desired measurement function.
2. Connect the test leads or clamp the conductor as appropriate for the measurement.
3. Read the measurement value on the LCD display.
4. When finished, turn the rotary switch to the "OFF" position.

5.2 AC/DC Current Measurement (Clamp)

This function measures current without breaking the circuit.

1. Turn the rotary switch to the **60A** or **400A** AC/DC current range.
2. Press the jaw-opening handle to open the clamp jaws.
3. Enclose a single conductor (not a bundle of wires) within the clamp jaws. Ensure the jaws are fully closed.
4. Read the current value on the LCD.



Figure 5: Measuring AC/DC current using the clamp function.

5.3 AC/DC Voltage Measurement

1. Turn the rotary switch to the **V~** (AC Voltage) or **V-** (DC Voltage) position.
2. If necessary, press the **SEL** button to switch between AC and DC voltage.
3. Connect the test leads in parallel to the circuit or component under test.
4. Read the voltage value on the LCD.

5.4 Resistance, Capacitance, Continuity, Diode Measurement

1. Turn the rotary switch to the **Ω** position.
2. Press the **SEL** button to cycle through Resistance (Ω), Capacitance (F), Continuity (buzzer icon), and

Diode (diode icon) functions.

3. Connect the test leads to the component under test. For continuity, a beep indicates a continuous circuit. For diode, the forward voltage drop will be displayed.

5.5 Frequency/Duty Cycle Measurement

1. Turn the rotary switch to the **Hz** position.
2. Connect the test leads to the circuit where frequency or duty cycle is to be measured.
3. Press the **Hz/Duty** button to toggle between frequency (Hz) and duty cycle (%).

5.6 Temperature Measurement

Use the included K-type thermocouple for temperature measurements.

1. Turn the rotary switch to the **°C/°F** position.
2. Insert the temperature probe into the **COM** and **VΩHz°C/°F** input jacks, observing polarity.
3. Place the tip of the temperature probe on or in the object whose temperature is to be measured.
4. Press the **SEL** button to switch between Celsius (°C) and Fahrenheit (°F).



Figure 6: Temperature measurement and conversion between Celsius and Fahrenheit.

5.7 NCV (Non-Contact Voltage) Detection

Detects AC voltage without physical contact.

1. Turn the rotary switch to the **NCV** position.
2. Move the NCV detection area (bottom of the clamp jaws) close to the conductor or outlet.
3. If AC voltage $\geq 90V$ RMS is detected, the lamp light will illuminate, and an audible alarm will sound.

5.8 Special Functions

- **Data HOLD:** Press the **HOLD** button to freeze the current reading on the display. Press again to release.
- **Backlighting:** Press and hold the **HOLD** button for more than 2 seconds to turn on the backlight. Repeat to turn off. This improves visibility in dark environments.
- **MAX/MIN:** Press the **MAX/MIN** button to display the maximum or minimum value recorded during a measurement session.
- **Relative Value (REL):** Press the **REL** button to store the current reading as a reference and display subsequent measurements as a deviation from this reference.
- **Auto Power Off:** The meter will automatically power off after a period of inactivity to conserve battery life.



Figure 7: The backlight feature enhances readability in low-light conditions.

6. Maintenance

6.1 Cleaning

Wipe the meter with a damp cloth and mild detergent. Do not use abrasives or solvents. Ensure the meter is dry before use.

6.2 Battery Replacement

Replace batteries when the low battery indicator appears on the display. Refer to Section 4.1 for instructions.

6.3 Storage

If the meter is not used for an extended period, remove the batteries to prevent leakage. Store the meter in a cool, dry place away from direct sunlight.

7. Troubleshooting

If you encounter issues with your AP-7200APP, refer to the following common problems and solutions:

- **Meter does not power on:** Check battery installation and ensure batteries are not depleted.
- **No reading or incorrect reading:** Ensure test leads are correctly connected and the rotary switch is set to the appropriate function and range. Verify the circuit under test is live (if applicable).
- **Bluetooth connection issues:** Ensure the meter is on and within the 10-15m range of your mobile device. Restart both the meter and the mobile app. Check your phone's Bluetooth settings.
- **"OL" displayed:** This indicates an overload or out-of-range measurement. Select a higher range or verify the input is within the meter's specifications.

8. Specifications

Key technical specifications for the AOPUTTRIVER AP-7200APP:

Measurement Type	Range	Accuracy
DC Voltage	600mV - 600V	Specified
AC Voltage	6V - 600V	Specified
AC/DC Current	60A - 400A	Specified
Resistance	600Ω - 60MΩ	Specified
Capacitance	Specified	Specified
Frequency/Duty Cycle	Specified	Specified
Temperature	-20°C to 1000°C	Specified

- **Display:** 6000 Counts, Auto-ranging
- **Safety Standard:** IEC 61010-1, CAT III 600V
- **Dimensions:** 207 x 75 x 37mm (approx. 8.15 x 2.95 x 1.46 inches)
- **Item Weight:** 11.7 ounces
- **Power Source:** Battery Powered (Batteries not included)

- Bluetooth Range: 10-15m



Figure 8: Summary of key features and measurement capabilities.

9. Package Contents

The standard package for the AOPUTTRIVER AP-7200APP includes:

- AOPUTTRIVER AP-7200APP Digital Bluetooth Clamp Meter
- Test Leads (Red and Black)
- K-Type Temperature Probe
- User Manual
- Storage Pouch/Box



Figure 9: Contents included in the product package.

10. Support

For any questions, technical assistance, or issues with your AOPUTTRIVER AP-7200APP Digital Bluetooth Clamp Meter, please contact AOPUTTRIVER customer support. We are committed to resolving any problems you may encounter with our product.