H HOLDPEAK 770N

HoldPeak 770N Digital Multimeter User Manual

Model: 770N | Brand: H HOLDPEAK

1. Introduction

The HoldPeak 770N is a 6000-count auto-ranging digital multimeter designed for precise electrical measurements. It offers a wide range of functions including AC/DC voltage, AC/DC current, resistance, capacitance, temperature, non-contact voltage (NCV) detection, diode test, and continuity test. This device features mechanical protection, an automatic backlight, and a built-in stand for ease of use. This manual provides essential information for safe and effective operation of your multimeter.

2. Product Overview

Familiarize yourself with the components and display of your HoldPeak 770N Digital Multimeter.

Figure 2.1: Front view of the HoldPeak 770N Digital Multimeter, showing the LCD display, rotary dial, and function buttons.

Figure 2.2: Detailed diagram illustrating the various components and functions of the multimeter, including the LCD display, SELECT button, RANGE button, REL button, Hz/Duty button, HOLD button, MAX/MIN button, rotary function switch, and input jacks.

Key Components:

- **LCD Display:** Shows measurement readings, units, and function indicators.
- **Rotary Function Switch:** Used to select the desired measurement function.
- **SELECT Button:** Toggles between different measurement modes within a function (e.g., AC/DC, Diode/Continuity).
- **RANGE Button:** Manually selects the measurement range (when not in auto-ranging mode).
- **REL (Relative Value) Button:** Measures the difference between a stored value and the current reading.
- **Hz/Duty Button:** Selects frequency or duty cycle measurement.
- **HOLD Button:** Freezes the current display reading.
- **MAX/MIN Button:** Displays the maximum or minimum measured value.
- **Input Jacks:** Terminals for connecting test leads (VΩHz, mAμA, 20A, COM).
- **NCV Sensor:** Located at the top of the device for non-contact voltage detection.
- **Backlight:** Automatic backlight for improved visibility in low-light conditions.

3. Setup

3.1 Battery Installation

The HoldPeak 770N Digital Multimeter requires batteries for operation. To install or replace batteries:

1. Ensure the multimeter is turned OFF and test leads are disconnected.
2. Locate the battery compartment on the back of the device.
3. Loosen the screw securing the battery cover.
4. Remove the battery cover.
5. Insert new batteries, observing correct polarity (+ and -). Typically, this device uses 9V batteries or AA/AAA batteries (refer to the battery compartment for specific type).
6. Replace the battery cover and tighten the screw.

Figure 3.1: Image showing the dimensions of the multimeter and the battery compartment location on the back, indicating where to loosen the screw for battery access.

3.2 Initial Power-On

After battery installation, turn the rotary function switch from the OFF position to any desired measurement function to power on the device. The display will illuminate, and the automatic backlight will activate in low-light conditions.

4. Operating Instructions

Always ensure the correct function is selected and test leads are connected to the appropriate input jacks before taking any measurements.

4.1 AC/DC Voltage Measurement

1. Turn the rotary switch to the V~ (AC Voltage) or V— (DC Voltage) position. The multimeter supports up to 1000V DC and 750V AC.
2. Connect the red test lead to the VΩHz input jack and the black test lead to the COM input jack.
3. Touch the test probes to the circuit points where you want to measure voltage.
4. Read the voltage value on the LCD display.

4.2 AC/DC Current Measurement

1. Turn the rotary switch to the µA, mA, or 20A position, depending on the expected current range. The multimeter supports up to 20A DC/AC.
2. Connect the red test lead to the mAµA or 20A input jack (depending on range) and the black test lead to the COM input jack.
3. **Important:** Disconnect power to the circuit. Open the circuit and connect the multimeter in series with the load.
4. Apply power to the circuit.
5. Read the current value on the LCD display.

4.3 Resistance Measurement

1. Turn the rotary switch to the Ω position. The multimeter measures up to 60MΩ.
2. Connect the red test lead to the VΩHz input jack and the black test lead to the COM input jack.
3. Ensure the circuit or component under test is de-energized.
4. Touch the test probes across the component to measure its resistance.
5. Read the resistance value on the LCD display.

Figure 4.1: Illustration of the NCV function in use and a table detailing resistance measurement ranges and accuracy.

4.4 Capacitance Measurement

1. Turn the rotary switch to the capacitance (※) position. The multimeter measures up to 99.99mF.
2. Connect the red test lead to the VΩHz input jack and the black test lead to the COM input jack.
3. Ensure the capacitor is fully discharged before testing.
4. Touch the test probes across the capacitor terminals.
5. Read the capacitance value on the LCD display.

4.5 Temperature Measurement

1. Turn the rotary switch to the °C/°F position.
2. Connect the included K-type thermocouple to the VΩHz and COM input jacks, observing polarity.
3. Place the thermocouple tip on or near the object whose temperature you wish to measure.
4. Read the temperature value on the LCD display. You can switch between Celsius (°C) and Fahrenheit (°F) using the SELECT button.

4.6 Non-Contact Voltage (NCV) Detection

1. Turn the rotary switch to the NCV position.
2. Move the top part of the multimeter (where the NCV sensor is located) close to a conductor.
3. If AC voltage above 90V AC rms is detected, the NCV red and green LEDs will flash alternately, and a buzzer will sound.

4.7 Diode Test and Continuity Test

1. Turn the rotary switch to the Diode/Continuity position.
2. Connect the red test lead to the VΩHz input jack and the black test lead to the COM input jack.
3. Press the SELECT button to toggle between Diode Test and Continuity Test.
4. For Diode Test: Place probes across the diode. The forward voltage drop will be displayed.
5. For Continuity Test: Place probes across the circuit. If resistance is below 50Ω, the buzzer will sound, indicating continuity.

4.8 Other Functions

- **Data Hold:** Press the HOLD button to freeze the current reading on the display. Press again to release.
- **Relative Value:** Press the REL button to store the current reading as a reference. Subsequent measurements will show the difference from this reference.
- **MAX/MIN:** Press the MAX/MIN button to cycle through maximum and minimum recorded values during a measurement session.
- **Automatic Power Off:** The multimeter will automatically power off after a period of inactivity to conserve battery life.
- **Backlight:** The display backlight automatically activates in dim environments.

Figure 4.2: The 180-degree rotating stand for adjustable viewing angle. A warning is also shown: **Caution:** Do not switch the rotary knob to an incorrect range while test leads are inserted into the circuit. Always remove the plugs first, then switch the mode.

5. Maintenance

5.1 Cleaning

To clean the multimeter, wipe the case with a damp cloth and a mild detergent. Do not use abrasives or solvents. Ensure the device is completely dry before use.

5.2 Battery Replacement

When the battery indicator appears on the display, replace the batteries as described in Section 3.1. Prompt battery replacement ensures accurate readings and proper device function.

5.3 Test Lead Care

Inspect test leads for any damage (cuts, cracks, exposed wiring) before each use. Replace damaged leads immediately to

prevent electrical shock or inaccurate measurements.

6. Troubleshooting

If you encounter issues with your HoldPeak 770N Digital Multimeter, refer to the following common problems and solutions:

- **No Display/Power:** Check battery installation and ensure batteries are not depleted. Replace if necessary.
- **Incorrect Readings:**
  - Ensure the correct function is selected for the measurement.
  - Verify test leads are securely connected to the correct input jacks.
  - Check if the circuit is properly connected (series for current, parallel for voltage).
  - For resistance/capacitance, ensure the component is isolated and de-energized.
- **"OL" (Overload) Display:** The measured value exceeds the selected range. Switch to a higher range or ensure the input is within the device's maximum specifications.
- **NCV Not Responding:** Ensure the NCV function is selected and the sensor is close enough to the AC voltage source. The voltage must be above 90V AC rms for detection.

If problems persist, contact customer support for assistance.

7. Specifications

Technical specifications for the HoldPeak 770N Digital Multimeter:

Parameter	Value
Display	6000 Counts
DC Voltage	Max 1000V
AC Voltage	Max 750V
DC/AC Current	Max 20A
Resistance	Max 60MΩ
Capacitance	Max 99.99mF
Temperature	-20°C to 1000°C (-4°F to 1832°F)
NCV Detection	90V AC rms and above
Continuity Buzzer	Sounds below 50Ω
Overload Protection	Active on all ranges
Power Source	AC (Battery powered, specific type not detailed, typically 9V or AA/AAA)
Product Weight	640 g
Package Dimensions	23.2 x 13.2 x 6.8 cm

8. Warranty and Support

The HoldPeak 770N Digital Multimeter comes with a **1-year warranty**. For any questions or technical assistance, please feel free to contact our professional support team. We are committed to responding to your inquiries within 24 hours. Please refer to the official HoldPeak website or your purchase documentation for specific contact details.