KKnoon FY128

KKnoon Digital Multimeter (Model FY128) User Manual

Intelligent Electrical Tester with Backlit LCD

1. Introduction

This manual provides detailed instructions for the safe and effective use of your KKnoon Digital Multimeter, specifically focusing on the FY128 model. This compact and intelligent electrical tester is designed for accurate measurements of various electrical parameters, making it suitable for professionals, educational institutions, and home users. It adheres to the safety requirements of the International Electrotechnical Safety Standard (IEC-61010) for electronic measuring instruments.
The multimeter features a 5999-count backlit LCD for clear readings, along with functions for AC/DC voltage, resistance, frequency, continuity, live wire checking, and Non-Contact Voltage (NCV) detection.

Figure 1: Front view of the KKnoon Digital Multimeter (Model FY128) showing the display and control buttons.

2. Safety Information

To ensure safe operation and prevent damage to the meter, please read and follow all safety instructions carefully. Improper use can result in electric shock or damage to the instrument.

- Always verify the meter's functionality before use by testing a known voltage or current source.
- Do not exceed the maximum input values specified for each measurement range.
- Ensure test leads are in good condition, free from cracks or damaged insulation, before connecting them to any circuit.
- Never use the meter if it appears damaged or if the casing is open.
- Exercise extreme caution when working with voltages above 30V AC RMS, 42V peak, or 60V DC. These voltages pose a shock hazard.
- Remove test leads from the circuit before changing functions or ranges.
- Replace batteries immediately when the low battery indicator appears to ensure accurate readings.
- Do not operate the meter in explosive gas, vapor, or dusty environments.

3. Product Features

The KKnoon Digital Multimeter offers a range of features designed for convenience and accuracy:

- **Multi-Functionality:** Measures AC/DC Voltage, Resistance, Frequency, Continuity, Live Wire Checking, and NCV (Non-Contact Voltage).
- **Two Measurement Modes:**
  - **Auto Identification:** Automatically detects and measures AC/DC voltage, frequency, resistance, and continuity.
  - **Manual Switching:** Allows selection of specific functions including AC/DC voltage, frequency, resistance, continuity, diode, capacitance (FY129C only), and LIVE NCV.
- **Data Hold:** Lock the current measurement reading on the display with a single button press.
- **Large LCD Display:** Provides clear and easy-to-read values with a 5999-count resolution.
- **Flashlight & Screen Backlight:** Enhances visibility in low-light conditions.
- **Compact Design with Bracket:** Portable and includes a built-in support bracket for hands-free operation.
- **Safety Compliance:** Designed and produced according to IEC-61010 safety standards.

Figure 2: The multimeter's large LCD display clearly shows various measurement functions.

Figure 3: The integrated support bracket allows for convenient hands-free use.

4. Package Contents

Upon opening your package, please verify that all items listed below are present and in good condition:

- 1 x KKnoon Digital Multimeter (Model FY128)
- 1 x Pair of Test Leads (Red and Black)
- 1 x User Manual (English)

5. Setup

5.1 Battery Installation

The multimeter requires 2 x 1.5V AAA batteries (not included). To install or replace batteries:

1. Ensure the multimeter is powered off and test leads are disconnected.

2. Locate the battery compartment cover on the back of the device.
3. Use a screwdriver to open the battery compartment.
4. Insert two 1.5V AAA batteries, observing the correct polarity (+/-) as indicated inside the compartment.
5. Replace the battery compartment cover and secure it with the screw.

5.2 Connecting Test Leads

The multimeter comes with a pair of test leads (red and black). Connect them as follows:

- Insert the black test lead into the 'COM' (Common) input jack.
- Insert the red test lead into the 'INPUT' jack for most measurements (Voltage, Resistance, Frequency, Continuity, Diode, Capacitance).

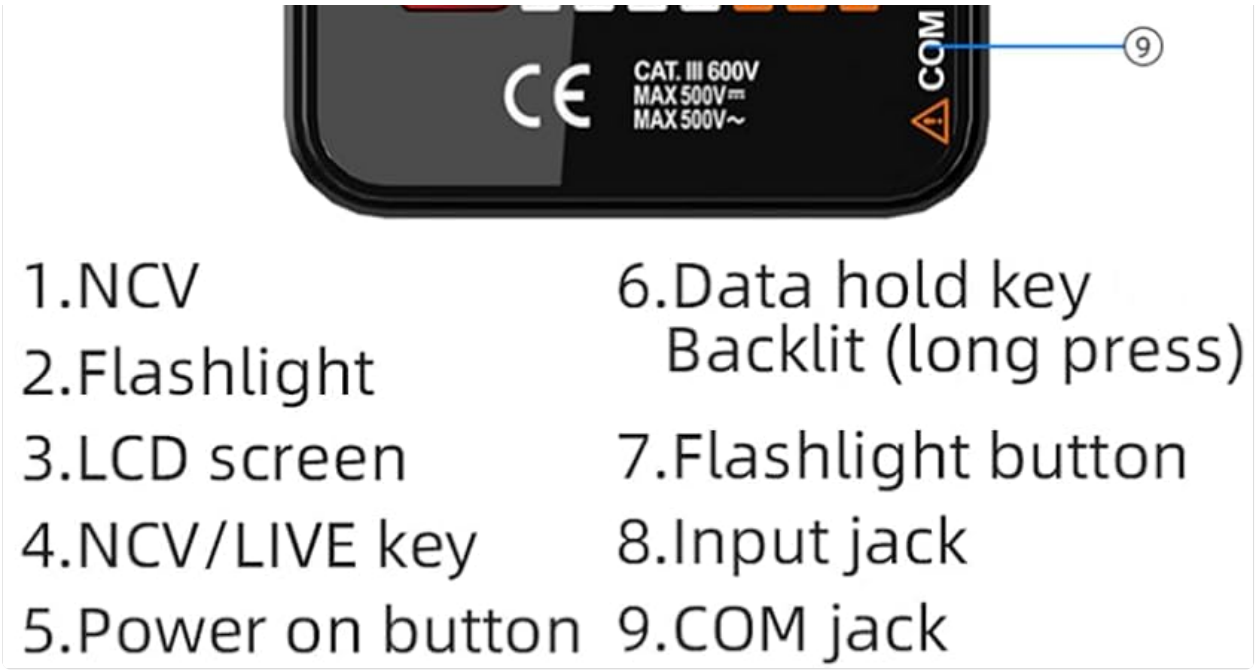

Figure 4: Labeled diagram of the multimeter's functions and input jacks.

6. Operating Instructions

6.1 Power On/Off

Press the red power button (**Power On button**) to turn the multimeter on or off. The device features an auto-shutdown function to conserve battery life after a period of inactivity.

6.2 Measurement Modes

The multimeter offers two primary measurement modes:

Figure 5: The multimeter supports both auto identification and manual switching modes.

- **Auto Identification Mode:** When powered on, the meter defaults to auto identification. In this mode, it automatically detects and measures AC/DC voltage, frequency, resistance, and continuity. Simply connect the test leads to the circuit, and the meter will display the relevant measurement.
- **Manual Switching Mode:** To access specific functions not covered by auto identification or to manually select a range, press the 'NCV/LIVE' button (or other function buttons if available on your specific model, e.g., FY129C for Diode/Capacitance). This allows you to cycle through AC/DC voltage, frequency, resistance, continuity, LIVE, and NCV.

6.3 Measuring AC/DC Voltage

1. Connect the black test lead to the 'COM' jack and the red test lead to the 'INPUT' jack.
2. If in auto identification mode, the meter will automatically detect voltage. If in manual mode, select the appropriate AC or DC voltage function.
3. Connect the test leads in parallel across the component or circuit to be measured.
4. Read the voltage value on the LCD display.

6.4 Measuring Resistance

1. Ensure the circuit is de-energized before measuring resistance.
2. Connect the black test lead to 'COM' and the red test lead to 'INPUT'.
3. If in auto identification mode, the meter will automatically detect resistance. If in manual mode, select the resistance function (Ω).
4. Connect the test leads across the component whose resistance you wish to measure.
5. Read the resistance value on the LCD display.

6.5 Measuring Frequency

1. Connect the black test lead to 'COM' and the red test lead to 'INPUT'.
2. If in auto identification mode, the meter will automatically detect frequency. If in manual mode, select the frequency function (Hz).
3. Connect the test leads to the circuit where frequency is to be measured.
4. Read the frequency value on the LCD display.

6.6 Continuity Test

1. Ensure the circuit is de-energized.
2. Connect the black test lead to 'COM' and the red test lead to 'INPUT'.
3. If in auto identification mode, the meter will automatically detect continuity. If in manual mode, select the continuity function (★)).
4. Touch the test leads to the two points of the circuit or component you want to test.
5. A continuous beep indicates a low resistance path (continuity). The display will show the resistance value.

6.7 Live Wire Checking

This function helps identify live AC wires.

1. Connect the black test lead to 'COM' and the red test lead to 'INPUT'.
2. Press the 'NCV/LIVE' button until 'LIVE' is indicated on the display.
3. Insert the red test lead into the socket or touch it to the wire you suspect is live.
4. The meter will beep and the display will indicate 'LIVE' if a live wire is detected.

Figure 6: Using the multimeter for live wire detection.

6.8 NCV (Non-Contact Voltage) Test

The NCV function allows for detection of AC voltage without direct contact.

1. Press the 'NCV/LIVE' button until 'NCV' is indicated on the display.
2. Bring the top front part of the multimeter close to the wire or electrical outlet.
3. The meter will beep and the NCV indicator on the display will illuminate or increase in intensity as it detects AC voltage.

Figure 7: Non-Contact Voltage (NCV) detection in progress.

6.9 Data Hold Function

To freeze the current reading on the display, press the 'HOLD' button. Press it again to release the hold and resume live measurements.

6.10 Flashlight & Backlight

Press the flashlight button ( ) to turn on the built-in flashlight. Long press the 'HOLD' button to activate the screen backlight for improved visibility in dark environments.

7. Maintenance

7.1 Battery Replacement

When the low battery indicator appears on the display, replace the batteries as described in Section 5.1. Always use new 1.5V AAA batteries.

7.2 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.

7.3 Storage

If the multimeter is not used for an extended period, remove the batteries to prevent leakage and corrosion. Store the device in a cool, dry place, away from direct sunlight and extreme temperatures.

8. Troubleshooting

If you encounter issues with your multimeter, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
No display or dim display	Low or dead batteries; Incorrect battery installation	Replace batteries; Check battery polarity
Inaccurate readings	Low batteries; Damaged test leads; Incorrect function selected	Replace batteries; Inspect/replace test leads; Select correct measurement function
Continuity test does not beep	Open circuit; High resistance; Incorrect function	Ensure circuit is closed; Check for breaks; Select continuity function
Meter does not respond	Frozen display (Data Hold); Internal fault	Press 'HOLD' button to release; Contact customer support if issue persists

9. Specifications

The following specifications apply to the KKnoon Digital Multimeter Model FY128 (and FY128C, unless specified for FY129C):

Figure 8: Physical dimensions of the KKnoon Digital Multimeter.

Parameter	Specification (FY128/FY128C)	Specification (FY129C - if different)
AC Voltage	1V~500V, ±(1.5%+3)	0.8V~500V, ±(1.5%+5)
DC Voltage	0.5V~500V, ±(1.2%+5)	0.8V~500V, ±(1.2%+5)
Resistance	30Ω~10000KΩ, ±(2%+5)	30Ω~60000KΩ, ±(2%+5)
Frequency	40Hz~1000Hz, ±(2.5%+5)	10Hz~6000Hz, ±(2.5%+5)
Capacitance	N/A	6nf~60000μf, ±(2.5%+5)
Temperature	N/A	-20℃~1000℃, ±(5%+4)
Ambient Temperature	N/A	0℃~70℃

Parameter	Specification (FY128/FY128C)	Specification (FY129C - if different)
Diode	No	Yes
Continuity	Yes	Yes
NCV	Yes	Yes
Live Wire Checking	Yes	Yes
Auto Shutdown	Yes	Yes
Power Supply	2 * 1.5V AAA batteries (Not included)	2 * 1.5V AAA batteries (Not included)
Item Size	123 * 61 * 24mm / 4.84 * 2.40 * 0.94in	123 * 61 * 24mm / 4.84 * 2.40 * 0.94in
Item Weight	113g / 3.98oz	113g / 3.98oz

10. Warranty and Support

For warranty information or technical support, please refer to the product packaging or contact your retailer. Keep your purchase receipt as proof of purchase. For general inquiries, you may visit the KKnoon brand page on Amazon.

Related Documents - FY128

	Mastfuyi FY128/FY128C/FY129C Smart Digital Multimeter User Manual User manual for the Mastfuyi FY128, FY128C, and FY129C handheld digital multimeters. Features include 5999 counts, large LCD, NCV, Live wire detection, capacitance, frequency, temperature measurement, and overload protection. Compliant with IEC-61010 standards.