INFURIDER YF-7200B

INFURIDER YF-7200B Digital Clamp Meter Instruction Manual

Model: YF-7200B | Brand: INFURIDER

1. Introduction

The INFURIDER YF-7200B is a True RMS auto-ranging digital clamp meter designed for accurate measurement of AC/DC voltage, AC/DC current, resistance, capacitance, diode, continuity, temperature, frequency, and duty cycle. It features a non-contact voltage (NCV) detection function, backlight display, and LED flashlight for enhanced usability in various environments. This manual provides essential information for the safe and effective operation of your device.

2. Safety Information

Always adhere to safety precautions when using electrical testing equipment. Failure to do so may result in electric shock, injury, or damage to the meter or equipment under test.

- Do not apply voltage or current that exceeds the maximum specified limits for the meter.
- Ensure the test leads are properly connected and in good condition before use.
- Do not use the meter if it appears damaged or if the battery cover is not securely closed.
- Exercise caution when working with voltages above 30V AC RMS, 42V peak, or 60V DC, as these pose a shock hazard.
- The meter is rated CAT II 600V or CAT III 300V. Do not use it for measurements exceeding these categories.
- When measuring current with the clamp, ensure to separate the zero line from the live line for accurate readings.

3. Package Contents

Verify that all items listed below are included in your package:

- 1 x INFURIDER YF-7200B Digital Clamp Meter
- 1 x Carrying Bag
- 1 x K-Type Thermocouple
- 1 x Pair of Test Leads (Red and Black)
- 2 x 1.5V AAA Batteries
- 1 x User Manual

Figure 3.1: Included accessories with the INFURIDER YF-7200B Digital Clamp Meter.

4. Product Overview

Familiarize yourself with the components of the INFURIDER YF-7200B Digital Clamp Meter.

Figure 4.1: Front view of the INFURIDER YF-7200B Digital Clamp Meter with labels for controls.

Key Components:

- **Clamp Jaw:** Used for non-contact AC/DC current measurement.

- **Function Rotary Dial:** Selects the desired measurement mode.
- **LCD Display:** Shows measurement readings, units, and indicators.
- **Function Buttons:** Include HOLD, SEL, MAX/MIN, REL, Hz/%.
- **Input Jacks:** For connecting test leads and the K-Type thermocouple.
- **NCV Sensor:** For non-contact AC voltage detection.
- **LED Flashlight:** Illuminates the work area.

5. Setup

5.1. Battery Installation

The meter requires two 1.5V AAA batteries. To install or replace batteries:

1. Ensure the meter is turned OFF.
2. Locate the battery compartment on the back of the meter.
3. Use a screwdriver to open the battery compartment cover.
4. Insert the two 1.5V AAA batteries, observing the correct polarity (+/-).
5. Replace the battery cover and secure it with the screw.

Figure 5.1: Rear view of the meter, indicating the battery compartment.

5.2. Connecting Test Leads

For voltage, resistance, capacitance, diode, continuity, frequency, and duty cycle measurements, connect the test leads:

1. Insert the red test lead into the **VΩHz** input jack.
2. Insert the black test lead into the **COM** input jack.

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Video 5.1: Demonstration of connecting test leads to the INFURIDER YF-7200B Digital Clamp Meter for various measurements.

6. Operating Instructions

6.1. Power On/Off

Rotate the function dial from the "OFF" position to any desired measurement function to power on the meter. To power off, rotate the dial back to the "OFF" position.

6.2. Function Selection (Rotary Dial)

The rotary dial allows selection of different measurement modes:

- **V~:** AC Voltage measurement.
- **V-:** DC Voltage measurement.
- **Ω→|))|:** Automatic mode for Resistance, Diode, Continuity, and Capacitance. Press the "SEL" button to cycle through these functions.
- **Hz:** Frequency and Duty Cycle measurement.
- **°C/°F:** Temperature measurement.
- **NCV:** Non-Contact Voltage detection.
- **60A~:** AC Current measurement up to 60A.
- **400A~:** AC Current measurement up to 400A.
- **True RMS:** Indicates True RMS measurement capability for AC functions.

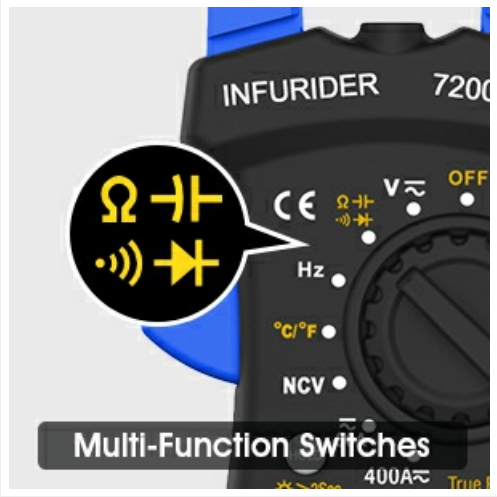

Figure 6.1: Multi-function rotary dial and buttons for selecting measurement modes.

6.3. AC/DC Voltage Measurement

To measure AC or DC voltage:

1. Connect the test leads as described in Section 5.2.
2. Rotate the dial to the **V~** for AC voltage or **V-** for DC voltage.
3. Touch the test probes to the circuit points where voltage is to be measured.
4. Read the voltage value on the LCD display.

Figure 6.2: Measuring AC/DC voltage with the clamp meter and test leads.

6.4. AC/DC Current Measurement (Clamp)

To measure AC or DC current using the clamp:

1. Rotate the dial to **60A~** or **400A~** for AC current. For DC current, ensure the meter is in the appropriate DC current mode (if available, or use the REL function for zeroing).
2. Open the clamp jaw and enclose only one conductor (e.g., the live wire or neutral wire, but not both).
3. Ensure the conductor is centered within the clamp jaw for accurate readings.
4. Read the current value on the LCD display.

Figure 6.3: Correct current measurement technique using the clamp jaw.

6.5. Resistance, Diode, Continuity, Capacitance Measurement

To measure these functions:

1. Connect the test leads as described in Section 5.2.
2. Rotate the dial to the **Ω→|))|** position. This is an automatic mode.
3. Press the **SEL** button to cycle through Resistance (Ω), Diode (→|), Continuity (|))), and Capacitance (⊣) modes.
4. Connect the test probes to the component or circuit under test.
5. Read the measurement on the display. For continuity, an audible buzzer will sound if a continuous path is detected.

6.6. Temperature Measurement

To measure temperature:

1. Insert the K-Type thermocouple into the input jacks, observing polarity.
2. Rotate the dial to the **°C/°F** position.
3. Press the **SEL** button to switch between Celsius (°C) and Fahrenheit (°F).
4. Place the thermocouple probe at the point where temperature is to be measured.
5. Read the temperature on the display.

Figure 6.4: Temperature measurement using the K-Type thermocouple.

6.7. Frequency and Duty Cycle Measurement

To measure frequency (Hz) or duty cycle (%):

1. Connect the test leads as described in Section 5.2.
2. Rotate the dial to the **Hz** position.
3. Press the **Hz/%** button to toggle between frequency and duty cycle.
4. Connect the test probes to the signal source.
5. Read the frequency or duty cycle on the display.

6.8. Non-Contact Voltage (NCV) Detection

The NCV function allows detection of AC voltage without direct contact:

1. Rotate the dial to the **NCV** position.
2. Move the NCV sensor (located at the top of the clamp jaw) close to the conductor or outlet.
3. If AC voltage is detected, the meter will emit an audible alarm and the LED flashlight will flash. The display will show "EF".

Figure 6.5: Non-Contact Voltage (NCV) detection in progress.

6.9. Special Functions

- **Data Hold (HOLD):** Press the "HOLD" button to freeze the current reading on the display. Press again to release.
- **Maximum/Minimum Reading (MAX/MIN):** Press "MAX/MIN" to record the maximum or minimum value during a measurement. Cycle through MAX, MIN, and current reading by pressing the button.
- **Relative Measurement (REL):** Press "REL" to store the current reading as a reference value. Subsequent measurements will be displayed as a deviation from this reference. Useful for zeroing the meter for current measurements.
- **Backlight & Flashlight:** The meter features a backlight for the display and an LED flashlight. These typically activate automatically or can be toggled with a dedicated button (often combined with HOLD or SEL, refer to specific button markings).
- **Auto Power Off:** To conserve battery life, the meter automatically enters sleep mode after approximately 15 minutes of inactivity.

7. Maintenance

7.1. General Care

- Keep the meter dry. If it gets wet, wipe it dry immediately.
- Use and store the meter in normal temperature environments. Extreme temperatures can shorten the life of electronic devices.
- Handle the meter gently and carefully. Dropping it can damage internal components.
- Keep the meter away from dust and dirt, which can cause wear to parts.
- Wipe the meter with a damp cloth occasionally to keep it looking new. Do not use harsh chemicals, cleaning solvents, or strong detergents.

7.2. Battery Replacement

When the low battery indicator appears on the display, replace the batteries as described in Section 5.1 to ensure accurate measurements.

8. Troubleshooting

If you encounter issues with your INFURIDER YF-7200B, refer to the following common problems and solutions:

- **Meter does not power on:** Check if the batteries are correctly installed and have sufficient charge. Replace if necessary.
- **Inaccurate current readings:** Ensure only one conductor is enclosed within the clamp jaw. If measuring DC current, use the "REL" function to zero the meter before measurement.
- **No continuity beep:** Verify that the meter is in continuity mode (indicated by the buzzer symbol) and that the circuit is complete.
- **Display shows "OL" (Overload):** The measured value exceeds the meter's range for the selected function. Select a higher range if available, or ensure the input is within the meter's capabilities.
- **NCV not detecting voltage:** Ensure the meter is in NCV mode and the sensor is close enough to the AC voltage source.

9. Specifications

Feature	Specification
Brand	INFURIDER
Model Number	YF-7200B
Measurement Type	Multimeter (Clamp Meter)
AC/DC Voltage	Up to 600V
AC/DC Amperage	60A / 400A (0.01A resolution)
Counts	6000 Counts
True RMS	Yes
Resistance	Yes
Capacitance	Yes
Diode Test	Yes
Continuity Test	Yes
Temperature Range	-20 to 1000°C / -4 to 1832°F

Feature	Specification
Frequency (Hz)	Yes
Duty Cycle	Yes
NCV Detection	Yes
Auto-Ranging	Yes
Data Hold	Yes
Max/Min Function	Yes
Relative Measurement (REL)	Yes
Backlight & Flashlight	Yes
Auto Power Off	After 15 minutes of inactivity
Safety Standard	CATII 600V, CAT III 300V
Power Source	2 x 1.5V AAA Batteries
Item Weight	16 ounces (approx. 453g)
Dimensions	Approx. 8.14 x 2.95 x 1.45 inches (207 x 75 x 37 mm)

10. Warranty and Support

INFURIDER provides a 12-month quality guarantee for the YF-7200B Digital Clamp Meter. If you encounter any issues or have questions regarding your product, please contact INFURIDER customer service for assistance. Refer to the product packaging or the official INFURIDER website for contact details.