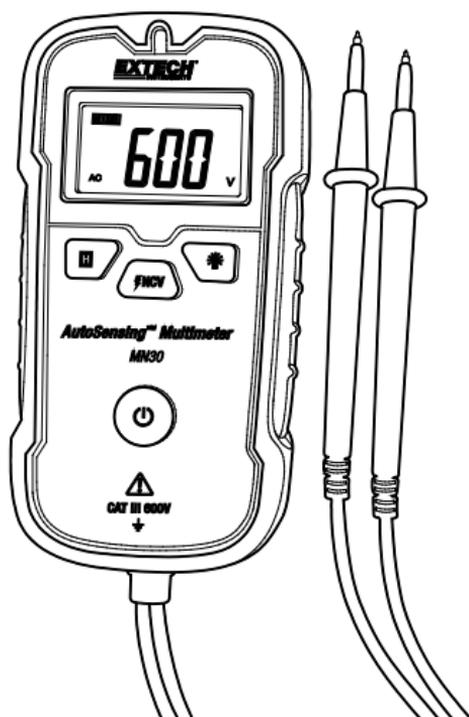


True RMS AutoSensing™ Multimeter + NCV

Model MN30



Please visit www.extech.com for user manual translations

Introduction

Thank you for selecting the Model MN30 True RMS AutoSensing™ Multimeter with Non-contact Voltage Detector (NCV). The MN30 automatically senses AC Voltage, DC Voltage or Resistance/Continuity measurement types. This device is shipped fully tested and calibrated and, with proper use, will provide years of reliable service. Please visit our website (www.extech.com) to check for the latest version of this User Manual, Translations, Product Updates, Product Registration, and Customer Support.

Features

- Unique smart AutoSensing™ feature
- Non-contact Voltage Detector
- Automatic Power OFF (APO)
- Low battery indicator
- Rugged, battery operated, and portable

PER IEC1010 OVERVOLTAGE INSTALLATION CATEGORY

OVERVOLTAGE CATEGORY I

Equipment of OVERVOLTAGE CATEGORY I is equipment for connection to circuits in which measures are taken to limit the transient over-voltages to an appropriate low level.

Note – Examples include protected electronic circuits.

OVERVOLTAGE CATEGORY II

Equipment of OVERVOLTAGE CATEGORY II is energy-consuming equipment to be supplied from the fixed installation.

Note – Examples include household, office, and laboratory appliances.

OVERVOLTAGE CATEGORY III

Equipment of OVERVOLTAGE CATEGORY III is equipment in fixed installations.

Note – Examples include switches in the fixed installation and some equipment for industrial use with permanent connection to the fixed installation.

OVERVOLTAGE CATEGORY IV

Equipment of OVERVOLTAGE CATEGORY IV is for use at the origin of the installation.

Note – Examples include electricity meters and primary over-current protection equipment.

Safety Information

To ensure the safe operation and service of the meter, follow these instructions closely. Failure to observe warnings can result in severe injury.



WARNINGS

WARNINGS identify hazardous conditions that could cause BODILY HARM or DEATH.

- Keep hands and fingers behind the finger guards at all times.
- Remove test leads before opening the meter.
- Use the meter only as specified in this User Manual.
- Use the proper terminals when taking measurements.
- Verify the meter's operation by measuring a known voltage.
- Do not apply more than the rated voltage between terminals or between any terminal and earth ground.
- Use caution with voltages above 30 VAC RMS, 42 VAC peak, or 60 VDC. These voltages pose a shock hazard.
- To avoid electric shock, replace batteries when low battery indicator is displayed.
- Disconnect power to the circuit under test and discharge all capacitors before testing resistance.
- Do not use the meter in the presence of explosive gas or vapor.
- To reduce risk of fire or electric shock, do not use the meter if it is wet.
- Individual protective equipment should be used if HAZARDOUS LIVE parts in the installation where measurements are to be carried out could be accessible.



CAUTIONS

CAUTIONS identify conditions and actions that could cause DAMAGE to the meter or equipment under test.

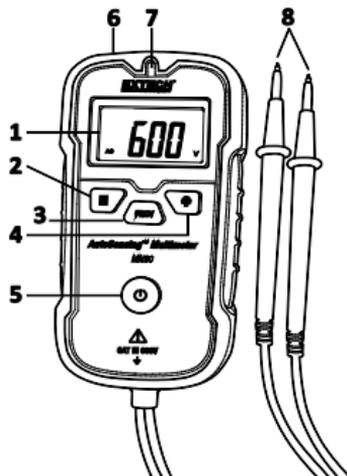
- Do not expose the meter to extremes in temperature or humidity.

Safety Symbols

	This symbol, adjacent to another symbol, indicates user must refer to manual or user guide for further information.
	Risk of electrical shock
	Equipment protected by double or reinforced insulation

Meter Description

1. LCD Display
2. Hold (H) button
3. NCV Non-Contact Voltage button
4. Flashlight button
5. Power button
6. Flashlight
7. NCV LED Lamp
8. Test leads



Note: Test lead holders, battery compartment are on rear of unit.

Push-Button Descriptions

Power button

Press for at least 3 seconds to power on the meter. Press again for 3 seconds to power off.

(HOLD) button

Short press to freeze displayed reading (H icon is visible). Press again to release the reading.

NCV (non-contact voltage) button

Press and hold the button and the meter display shows dashes (---). Continue to hold the button to remain in the NCV mode. Release the button to exit the NCV mode.

Flashlight button

Short press to power the flashlight. Press again to power off. This feature allows for testing in dark areas.

Operating Instructions

WARNING: Risk of electrocution. High-voltage circuits are very dangerous and should be measured with care.

Meter Power

Press and hold the power button for approximately 3 seconds to power on the meter. The LCD will display 'ALL'.

Auto Power OFF (APO)

APO turns the meter off after 15 minutes of inactivity.

Flashlight

The MN30 has an flashlight to make working in dark areas easier. Press the  button to power ON the flashlight. Press  again to power OFF the flashlight.

Data Hold

The Data Hold function freezes the reading in the display. Press the **H** button to switch Data Hold ON/OFF. When the Data Hold mode is active the display will show the **H** icon.

AC/DC Voltage Measurements

CAUTION: Do not measure voltages higher than 600V. Damage may occur to the meter.

1. Press the power button for 3 seconds to power the meter.
2. For DC, touch the black test lead to the negative side of the circuit under test and touch the red test lead to the positive side. For AC, the test lead polarity is not a factor.
3. If the voltage is $> 1V$ the meter will measure and display voltage. If the measured voltage is $< 1V$ the meter will automatically change to the resistance function.
4. For DC only, if the test leads are reversed, a minus sign will be displayed.
5. If the voltage is overrange, **OL** will display.

Resistance Measurements

WARNING: To avoid electric shock, disconnect power to the unit under test and discharge all capacitors before taking resistance measurements.

1. Press the power button for 3 seconds to power the meter.
2. Touch the test probe tips across the circuit. Disconnect one side of the part under test so the rest of the circuit will not interfere with the resistance reading.
3. Read the measured resistance on the display.
4. When the resistance value is overrange, 'ALL' will be indicated on the display.
5. If voltage is detected ($> 1V$) the meter will switch to the voltage mode.

Continuity Measurements

WARNING: To avoid electric shock, never measure continuity on circuits or wires that have voltage on them.

1. Press the power button for 3 seconds to power the meter.
2. Touch the probes to the circuit or component to be tested.
3. The buzzer will sound if the resistance is $< 30\Omega$. If the circuit is open, the display will indicate "ALL". If voltage is detected ($> 1V$) the meter will switch to the voltage mode.

Non-Contact Voltage Detector (NCV)

WARNING: To avoid electric shock, always check a known circuit to determine if the meter is operating properly.

WARNING: Voltage may still be present even with no indicator light. Do not rely solely on NCV detection to determine if voltage exists.

1. Press and hold the NCV button. Do not release the button while testing. To exit this measurement mode, release the button.

2. The LCD screen will display '---' in the NCV mode.
3. Hold the meter top near a source of AC voltage. The test leads are not necessary in NCV mode.
4. The front LED lamp will flash and the meter will beep when an AC voltage is sensed.
5. The meter's voltage detection ability is affected by varying electrical outlet designs and insulation thicknesses/types. Always check the NCV function on a known live circuit before testing.

Maintenance



WARNING: To avoid electrical shock, remove the test leads, disconnect the meter from any circuit and turn OFF the meter before opening the case. Do not operate with an open case.

Battery Replacement

1. Turn power off and disconnect the test leads from the circuit under test and from the meter.
2. Remove the (1) Phillips head screw that secures the battery compartment on the back of the meter.
3. Open the battery compartment and replace the two (2) 1.5V 'AAA' batteries observing correct polarity.
4. Re-assemble the meter before use.

Safety: Please dispose of batteries responsibly; never dispose of batteries in a fire, batteries may explode or leak. If the meter is not to be used for 60 days or more, remove the battery and store separately.



Never dispose of used batteries or rechargeable batteries in household waste. As consumers, users are legally required to take used batteries to appropriate collection sites, the retail store where the batteries were purchased, or wherever batteries are sold.

Disposal: Do not dispose of this instrument in household waste. The user is obligated to take end-of-life devices to a designated collection point for the disposal of electrical and electronic equipment.

Specifications

Specifications stated for ambient conditions 23°C ±5°C (73.4°F ±9°F);
Relative Humidity < 75%

Function	Range	Resolution	Accuracy
DC Voltage	1 to 600 V	0.01V	±(1.5% of rdg + 3 dgts)
	Max input voltage ±600V		
AC Voltage (50-60Hz)	1 to 600 V	0.01V	±(1.8% rdg + 3 dgts)
	Max input voltage ±600V		
Resistance	1Ω to 200Ω	1Ω	±(2.5% rdg + 4 dgts)
	200Ω to 10MΩ	1Ω	±(2% rdg + 3 dgts)
	Resistance notes: Open circuit voltage 1V approx. Overload protection: 600V		
Continuity	Beeper sounds when resistance is ≤ 30Ω. Display resolution: 1Ω; Overload protection: 600V		

General Specifications

Display	3 ¾ digit LCD Display
Auto Power OFF	After approx. 15 minutes of inactivity
Battery Status	Battery icon displays when battery is low
Battery Type	2 x 1.5V AAA batteries
Operating Temp/Humidity	0°C to 40°C (32°F to 104°F); ≤ 75% RH
Storage Temp/Humidity	-10°C to 50°C (14°F to 122°F); ≤ 80% RH
Operating Altitude	2000m (7000') maximum
Weight	140g (4.9oz.) includes batteries
Dimensions	122.5 x 65 x 34.5mm (4.8 x 2.6 x 1.4")
Safety	EN61010-1: CATIII 600V; Pollution Degree 2
Ingress Protection Rating	IP20
Approvals	CE and ETL

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