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Introduction

The DM384 gives you advanced troubleshooting technology for challenging tasks. It has numerous high-end features like MIN/MAX capture for unattended measurement monitoring, capacitance for checking run/start capacitors, and frequency for quick verification of generators, inverters, and control circuit operation. The large LCD display has an electro luminescent backlight for easy viewing at a distance.

The DM384's combination of durability, visibility, and functionality are specifically tailored to meet the expanding needs of today's HVAC/R technicians, plant maintenance professionals, appliance technicians, and electrician's. The DM384 is handheld, and battery powered. It is designed and tested to IEC 1010-1 (EN61010-1) standards, the EMC directive and other safety standards. It is rated to measure up to 1000 volts in a CAT-II environment and up to 600 volts AC and DC in a CAT-III environment.

Features include

- 750 volts AC and 1000 Volts DC
- 10 Amps AC and DC
- .01 μ A DC resolution for flame safeguard circuit testing
- Frequency to 40 MHz
- Capacitance to 40,000 microfarad
- Resistance to 40 Megohms
- Analog bar graph
- Continuity
- Diode check function
- Autoranging
- Large backlit LCD display
- Low battery indicator

Safety Notes

Before using this meter, read all safety information carefully. In this manual the word "**WARNING**" is used to indicate conditions or actions that may pose physical hazards to the user. The word "**CAUTION**" is used to indicate conditions or actions that may damage this instrument.

- Do not attempt to measure any voltage that exceeds the category-based rating of this meter
- Do not attempt to use this meter if either the meter or the test leads have been damaged. Turn it in for repair at a qualified repair facility
- Ensure meter leads are fully seated by making a quick continuity check of the leads prior to making voltage measurements
- Keep your fingers away from the test lead's metal probe contacts when making measurements. Always grip the leads behind the finger guards molded into the probes
- Use a current clamp adapter when measuring current that may exceed 10 amps. See the accessories in UEi's full-line catalog
- Do not open the meter to replace batteries or fuses while the probes are connected

WARNING!

Exceeding the specified limits of this meter is dangerous and can expose the user to serious or possibly fatal injury.

- Voltages above 60 volts DC or 25 volts AC may constitute a serious shock hazard
- Always turn off power to a circuit (or assembly) under test before cutting, unsoldering, or breaking the current path - Even small amounts of current can be dangerous
- Always disconnect the live test lead before disconnecting the common test lead from a circuit
- In the event of electrical shock, ALWAYS bring the victim to the emergency room for evaluation, regardless of the victim's apparent recovery - Electrical shock can cause an unstable heart rhythm that may need medical attention
- Higher voltages and currents require greater awareness of physical safety hazards - Before connecting the test leads; turn off power to the circuit under test; set the meter to the desired function and range; connect the test leads to the meter first, then to the circuit under test. Reapply power
- If any of the following indications occur during testing, turn off the power source to the circuit under test:
 - Arcing
 - Flame
 - Smoke
 - Extreme Heat
 - Smell of Burning Materials
 - Discoloration or Melting of Components

CAUTION!

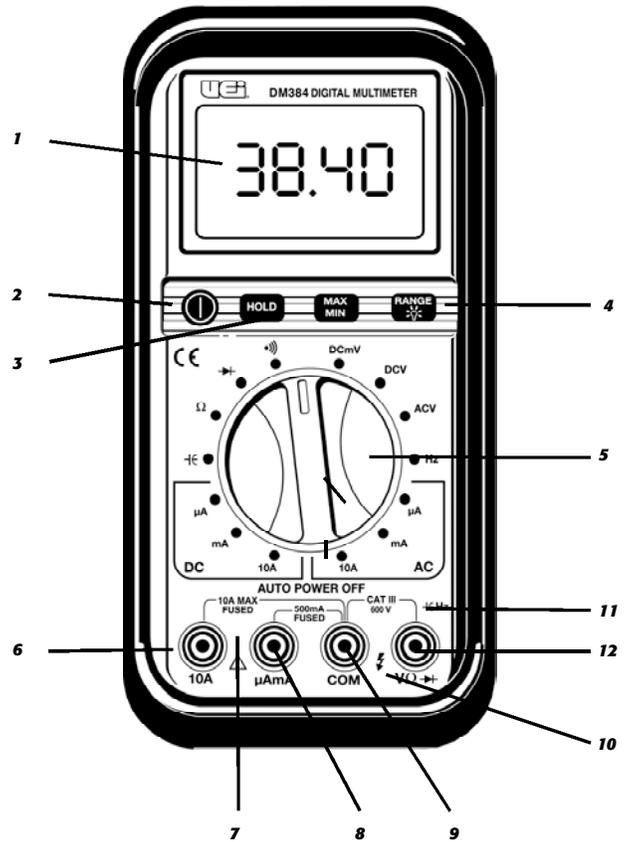
Do not attempt to remove the meter leads from the circuit under test. The leads, the meter, or the circuit under test may have degraded to the point that they no longer provide protection from the voltage and current applied. If any of these erroneous readings are observed, disconnect power immediately and recheck all settings and connections.

International Symbols

	Dangerous Voltage		Ground
	AC Alternating Current		Warning or Caution
	DC Direct Current		Double Insulation (Protection Class II)
	Either AC or DC		Fuse
	Not Applicable to Identified Model		Battery

Controls and Indicators

- Digital Display:** Readings are displayed on a digital, 4000 count display, along with the appropriate polarity indication and range and function enunciators (icons). The decimal point moves automatically in the autoranging mode and remains in place when recording or when the range is manually selected.
- Power Push-button:** Used to turn the power to the meter on or off.
- MIN/MAX Push-button:** Causes the meter to record and display the maximum or minimum value of any function selected. The word "MIN" or "MAX" appears in the upper right of the LCD. This feature resets when the selector is moved or the meter is cycled off.
- Hold Push-button:** Freezes the reading presently on the digital display, and displays the words "DATA HOLD" on the left side of the LCD. To cancel data hold, press the "DATA HOLD" button again. This feature resets only when the push-button is pressed a second time, not when the selector is moved.
- Range and Backlight Push-button:** Press briefly until a single beep is heard (less than one second) to lock the meter in a range or to step through ranges. To turn on or off the backlight, press and hold for two seconds (illuminates shortly after the second beep is heard).
- Rotary Switch:** Allows you to switch between any of the functions or values indicated by the numbers, icons, and group outlines printed around the rotating dial.
- 10 Amp, Fused, Meter Lead Terminal:** Use this input terminal (port) when measuring amps greater than 400 mA, but less than 10 Amps AC or DC. Use caution when selecting amperage measurements on the rotary dial. Remember amperage measurements are made in series with your circuit.
- This Symbol Reminds the User to Follow Provided Instructions:** See "Caution" in the international symbol section of this manual.
- Microamp/Milliamp Input Terminal:** The red test lead is plugged into this terminal when measuring current (AC or DC) in the 400 mA and below range.
- Common Terminal:** The black test lead is plugged into this terminal, and supplies the ground or "low" reference for all measurements.
- "Flash" Symbol:** Warns operators that potentially dangerous voltages may be present. Use caution when making high-voltage measurements.
- Multifunctional (Volts, Ohms, and Diode Test) Input Terminal:** Use the red test lead in this terminal for any of these test functions.
- Multifunctional Terminal Information:** Indicates the maximum input values and category ratings established by IEC 1010-1.



LCD Display Functional Description

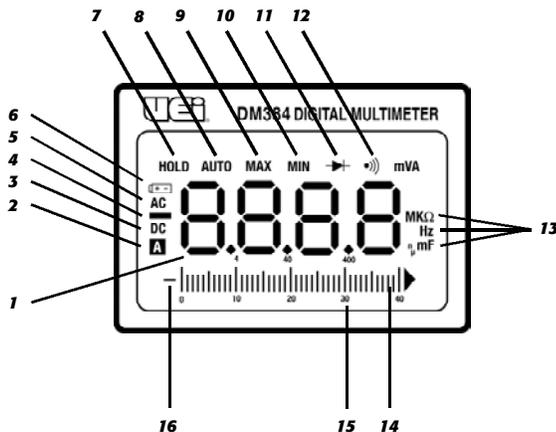
- The main numerical display indicates measured numerical values.
 - The Auto Power Off icon indicates that the sleep mode function is active.
 - The DC icon indicates the meter is reading DC voltage or current.
 - Indicates a negative polarity measurement. (Applicable to DC functions).
 - Indicates the meter is reading AC voltage or current.
 - The Low Battery icon indicates the battery is low and must be changed immediately.
 - The HOLD icon indicates that the "HOLD" button has been pressed and the display is no longer updating numerical data.
 - The Autoranging icon indicates that the meter is in the autoranging mode and will automatically select the range that offers the best resolution for the signal being measured.
 - The MAX icon indicates that the "MIN/MAX" button has been pressed (once) and the meter is displaying the maximum value reached, from the time the record mode was selected.
 - The MIN icon indicates that the "MIN/MAX" button has been pressed (a second time) and the meter is displaying the minimum value reached, from the time the record mode was selected.
- NOTE:** If both MIN and MAX are displayed and flashing, then recording is active while real-time measurements are displayed.

11. The Diode Symbol indicates that diode testing has been selected.
12. The Audible Continuity icon indicates that the continuity mode has been selected.
13. The following symbols represent the type and value of measurement being made:

Symbol	Function or Value
Hz	Hertz (frequency in cycles per second)
ACV	Volts AC
DCV	Volts DC
DCmV	Millivolts DC
•)))	Ohms and Audible Continuity
→	Diode Test Voltage Drop
Ω	Ohms (resistance value)
-(Capacitance (in farads)
DC	Direct Current (or voltage)
AC	Alternating Current (or voltage)
μA	Micro amps
mA	Milliamps
10A	Amps
M	1 Meg = 1,000,000 or (1 x 10 ⁶)
K	1 Kilo = 1,000 or (1 x 10 ³)
m	1 Milli = 0.001 or (1 x 10 ⁻³)
μ	1 Micro = 0.000001 or (1 x 10 ⁻⁶)
n	1 Nano = 0.000000001 or (1 x 10 ⁻⁹)

NOTE: When "OL" is displayed, it indicates the value measured exceeds the limits of the selected range, or exceeds the over-all limits of the meter.

14. The Analog Bar-graph provides a fast responding (updates 20 times per second) volumetric indication of the input value. This feature is designed to react like the analog display of a needle-movement meter.
15. The Range Indicators identify the maximum value that can be displayed, either numerically or by the bar-graph, in the presently selected range.
16. The Negative-polarity indicator for the analog bar-graph appears when the meter is reading a negative DC voltage or current.



Operating Instructions

Functional Description

The DM384 is designed to make basic electrical measurements quickly and easily. Its autoranging functions are augmented by range and function information that appears on the LCD display. Its extra large, backlit numerical display is designed to be monitored from a distance, while its fast responding analog bar-graph allows you to monitor rapidly or constantly changing input signals.

This is a 4000 count, autoranging digital multimeter that employs high input impedance (equal to or greater than 10 MΩ) to ensure accurate measurement readings and circuit isolation for digital and analog devices. The auto ranging feature can be over-riden to allow manual range selection. Minimum and maximum input values can be recorded at the operator's option. The input ports use standard four-millimeter insulated-plug test leads (provided). Maximum measurement values are 1000 Volts (CAT II) or 600 V AC/DC (CAT III) and 10 amps AC or DC.

Meter Power

The DM384 is powered on and off using the push-button on the far left, which is marked with the international on/off symbol (⏻).

This instrument will automatically enter a sleep mode (commonly referred to as "auto power-off") when left on for more than 30 minutes with no activity. To identify that the auto power-off function is active, an icon appears (an "A" within a box) on the left side of the display along with other on-screen information. Immediately prior to automatically shutting off, three sets of two beeps will sound at approximately five-second intervals. After five more seconds, a final long duration tone will sound as the display goes blank. If you do not want the meter to turn off at this time, press the "RANG/BACKLIGHT" push-button before the final tone sounds to reset the 30-minute time-out counter.

When the auto power-off function takes effect the last value measured is stored, allowing you to review that measurement upon reactivating the meter. Press one of the three function buttons (other than power) to reactivate the meter. The "HOLD" icon and the last measurement will be displayed.

To disable the auto power-off function, allowing constant monitoring or recording, press and hold down the "MIN/MAX" or "RANG/BACKLIGHT" button while initially turning on the meter. The auto power-off icon "A" will no longer be visible.

NOTE: The sleep mode only reduces battery drain. Do not store your meter without verifying that power is turned off at the switch.

Selecting the Proper Test Lead Ports

The test leads must be plugged into the proper ports to make electrical measurements. Press the test lead plugs firmly into the meter ports to ensure they are fully seated.

The black test lead will be plugged into:

- COM: For all measurements

The red test lead will be plugged into:

- Ω Hz \rightarrow \leftarrow : For testing volts AC or DC, ohms, continuity, diodes, capacitance and frequency
- μ A mA: For testing amps AC or DC with values below 400 milliamps
- 10A: For testing amps AC or DC with values up to (not exceeding) 10 amps

Hold

The HOLD push-button freezes the numerical data displayed on the LCD at the moment it is pressed. To engage data hold, press the HOLD push-button, located on the right side on the face of the instrument. When this function is active, the word **"HOLD"** appears on the left side of the digital display. To cancel data hold, press the HOLD button again. The numerical value will remain displayed even if the rotary dial is moved from its original position.

MIN/MAX Recording

Recording is initiated when the **"MIN/MAX"** push-button is pressed. This feature allows the meter to display the highest and lowest numerical value obtained in the selected measurement function. You may prefer to manually select your range as the autorange feature is automatically overridden at the moment the button is pressed and the meter locks into whatever range is active.

When this feature is active you can cycle through your display options by briefly pressing the **"MIN/MAX"** push-button. As you cycle through the options, one of the following will appear on the screen:

- MAX: When displaying the maximum recorded value
- MIN: When displaying the minimum recorded value
- MIN - MAX (flashing): When displaying real-time measurements while recording

Cycling through these options will not affect the data stored in memory.

Note: If the auto power-off function activates during recording, the stored **"MIN/MAX"** information is retained when the meter is reactivated, however, recording does not continue while it is in the sleep mode.

To cancel recording, press the **"MIN/MAX"** push-button for approximately one full second, or select another range or function using the range button or rotary dial.

Range Selection

This meter is autoranging by default but can be set to any available range that the user desires. To manually select a range briefly press the **"RANG/BACKLIGHT"** push-button. The autoranging icon **"AUTO"** will disappear from the screen and the range will be locked into that which was last in use. To change ranges, repeatedly press the button to cycle to the desired range (displayed on the small numerical range indicator below the measured value indicators).

To return to autoranging press and hold the **"RANG/BACKLIGHT"** push-button for approximately one full second.

Backlight

This meter uses an electro luminescent (E.L.) backlight to provide easy to read data in low light areas. Although E.L. lighting consumes less energy than incandescent backlighting, it is still one of the major sources of battery drain in your meter. For longer battery life, use it only as necessary.

To turn the backlight on and off, press and hold down the **"RANG/BACKLIGHT"** push-button until its blue glow appears or disappears as desired. Two beeps will be heard (relating to the **"RANGE"** function) prior to the light coming on.

Note: The backlight cycles on or off approximately 1/2 second after the tone sounds its second beep.

Rotary Switch

The rotary switch is used to select the measurement function and in some cases, range. Once a function has been selected, the meter will automatically seek the range (autoranging) that offers the best resolution for the incoming signal. This eliminates the need for numerous switch positions and keeps your measurements fast and easy. However, there are multiple switch positions provided for some functions to separate the ranges into groups that will take advantage of circuit technology that offers superior accuracy.

While this meter is manufactured with a number of built in fail-safes, the potential to damage the meter, blow a fuse, or cause damage to a circuit under test due to improper use does exist. Set the rotary function select switch to the appropriate setting before connecting test leads, or applying power to circuits under test. Also be sure the test leads are in the proper jacks for the function you have selected.

Measuring Capacitance

This meter measures capacitors, such as those used as motor-run-start capacitors, and electronic control card circuitry, ranging in value from .001 nanofarad to 40,000 microfarads (μ f).



Capacitors should be completely discharged prior to testing. Some electronic devices use capacitors in circuits that are designed to increase voltage. Be design, a capacitor stores energy. If a capacitor has been charged at greater than 600 volts, attempting to measure it may damage your meter. Larger capacitors may store enough energy to cause injury if they are discharged through the body. Use a conductive device to dissipate the charge on capacitors. Large capacitors should be "bled" by using a resistive load between terminals to slowly eliminate the charge. Smaller capacitors may be directly shorted using a metallic object.

To make capacitance measurements, plug in the test leads as instructed, then:

1. Discharge the capacitor to be tested as prescribed above.
2. Isolate the capacitor by lifting at least one of its two legs away from the circuit.
3. Select the capacitance position " $\text{--}\text{C}$ " on the rotary function switch.
4. Connect the red test lead to one side of the capacitor, and the black to the other.
5. Read the measured value.

Note: In the autoranging mode, it takes approximately 10 seconds to settle on a value for a capacitor. Larger capacitors require even more time. In the manual ranging mode, measurements are often faster.

Measuring Resistance

Resistance is the measure of a component's or circuit's tendency to oppose current flow. Because of the many factors that affect resistance, the most accurate measurements are made when components under test are isolated from other components or circuits. It is critical to the accuracy of the measurement that you remove all power to the circuit when making resistance measurements. If the component or circuit cannot be isolated, turn off all power sources and discharge all in-circuit capacitors before attempting the measurement. This meter may be damaged if more than 600 volts are present.

Note: When measuring critically low ohm values, touch the tips of the test leads together and record the reading. Subtract this value from the total resistance of the circuit under test to obtain the actual value.

For resistance measurements above one Megohm the display might take a few seconds to stabilize. This is normal for high resistance readings.

The voltage or current applied during resistance measurements could damage some extremely sensitive electronic devices. Typically, the voltages present at the test leads when making resistance measurements range from 3 volts at 1.5 mA (in the lowest range) to .5 volts at $<1\mu\text{A}$ (in the highest range).

To measure the voltage drop on diodes, plug in the test leads as instructed, then:

1. Turn off the meter.
2. Select the diode test function on the rotary function switch.
3. Connect the red test lead to the anode side of the diode, and the black to the cathode.
Note: There is normally a printed black band around the cathode of a standard diode.
4. Note the displayed value.
5. Reverse the red and black test leads. Again, note the displayed value.
6. If the digital reading in the first (forward biased) direction indicates some measurable value and the reading in the reverse biased direction shows an over-range ".OL" the diode is probably good.

7. If the displayed value is low, or all zeros, in both directions, the diode is probably shorted.
8. If the display indicated an overload ".OL" in both directions, the diode is probably open (burned out).

Note: Some diodes, such as those used in microwave ovens, require a higher biasing voltage than this meter supplies. See UEI's catalog for an economical high-power diode test lead adapter set if necessary.

Measuring Continuity

Continuity is the measure of a circuit or component's ability to conduct electricity. Use this mode to make quick checks for continuity (good connections) in electrical circuits, such as wiring, speaker cables, switches, or relays. In the continuity mode an audible tone sounds when the value measured is approximately 30Ω or less. The resistance of the circuit (up to 400 ohms) is displayed regardless of the continuity tone.

To measure continuity plug in the test leads as instructed, then:

1. Turn off the meter.
2. Select the continuity " $\text{--}\text{C}$ " test function on the rotary function switch.
3. Place one probe to each side of the circuit to be tested. If the circuit measures approximately 30Ω or less, the meter will sound a continuous tone.

Measuring DC Voltage



WARNING!

To avoid the risk of electrical shock and instrument damage, input voltages must not exceed the limits specified for the installation category you are working in. **DO NOT** attempt to take any unknown voltage measurements that may exceed these values.

Note: When taking voltage measurements your meter must be connected in parallel to the circuit, or circuit element, under test.

To measure DC volts plug in the test leads as instructed, then:

1. Turn off the meter.
2. Select the "DCV" or "DCmV" function on the rotary function switch.
 - The DCV position can be used for any DC voltage measurement
 - The DCmV position is ideal for DMM accessories that have a DC millivolt output
 - If you do not know the maximum value of the voltage to be measured, use the DCV position and allow the meter to auto-range.
3. Connect the test leads across the test-points of the circuit to be tested.
4. Read the measured voltage on the display.

Note: If the voltage on the red test lead is lower (more negative) than that on the black test lead, the negative polarity symbol (a minus) will appear on the left of the display.

Measuring AC Voltage



WARNING!

To avoid the risk of electrical shock and instrument damage, input voltages must not exceed the limits specified for the installation category you are working in. **DO NOT** attempt to take any unknown voltage measurements that may exceed these values.

Note: When taking voltage measurements your meter must be connected in parallel to the circuit element, under test.

To measure AC volts plug in the test leads as instructed, then:

1. Turn off the meter.
2. Select the AC volt “**ACV**” position on the rotary function switch.
 - If you do not know the maximum value of the voltage to be measured, (within this meter’s category specific rating) allow the meter to auto-range
3. Connect the test leads across the test-points of the circuit to be tested.
4. Read the measured voltage on the display.

Measuring Hertz (Frequency - Hz)

Use the Hertz function to determine the frequency of main power, generators, inverters and electronic circuits. Different terms are used to describe Hertz. Some of these are:

- Frequency of oscillation / Frequency / freq.
- Cycles per second / Cycles / CPS
- Hz

Note: When measuring frequency your meter must be connected in parallel to the circuit, or circuit element, under test.

To measure frequency, plug in the test leads as instructed, then:

1. Turn on the multimeter.
2. Select the “**Hz**” position on the rotary function switch.
3. Connect the test leads across the circuit to be tested.
4. Read the measured frequency on the display.

Measuring Amps

Current flow is measured in amperes or “**amps**”, which indicates the volume of electrons that pass through a given point. When taking current measurements, this meter must be connected in series with the circuit (or circuit element) under test.



CAUTION!

Never connect the test leads across (in parallel with) a voltage source when attempting to measure current. This can cause damage to the circuit under test or this meter.

Note: To measure current, you must create a break in the circuit under test and make the meter part of the circuit. Two connection points are created when a circuit is broken. On one side is the power source and the other is the load.

To measure AC or DC current flow, (in amps), insert the test leads into the meter as instructed, then:

1. Ensure power is off to the circuit to be tested.
2. Turn the meter on.
3. Select the AC or DC amp position on the rotary function switch.
4. Break the circuit as described earlier and connect the meter leads to the points created by the break.
5. Apply power to the circuit.
6. Read your measurement value.

Note: When performing flame safeguard testing (a low DC amperage test) on some gas furnace models, an adapter (sold by UEI) can be placed in-line with the flame sensor to make testing fast and easy.

Note: When measuring DC current, A minus sign will be displayed if the current is flowing opposite to the connection polarity.

Note: As a safety discipline, disconnect power to the circuit under test before removing either test lead.

Maintenance

Periodic Service



WARNING!

Repair and service of this instrument is to be performed by qualified personnel only. Improper repair or service could result in physical degradation of the meter. This could alter the protection from electrical shock and personal injury this meter provides to the operator. Perform only those maintenance tasks that you are qualified to do.

These guidelines will help you attain long and reliable service from your meter:

- Calibrate your meter annually to ensure it meets original performance specifications
- Keep your meter dry. If it gets wet, wipe dry immediately. Liquids can degrade electronic circuits
- Whenever practical, keep the meter away from dust and dirt that can cause premature wear
- Although your meter is built to withstand the rigors of daily use, it can be damaged by severe impacts. Use reasonable caution when using and storing the meter

Cleaning

Periodically clean your meter’s case using a damp cloth. **DO NOT** use abrasive, flammable liquids, cleaning solvents, or strong detergents as they may damage the finish, impair safety, or affect the reliability of the structural components.

Battery Replacement

Always use a fresh replacement battery of the specified size and type. Immediately remove the old or weak battery from the meter and dispose of it in accordance with your local disposal regulations. Batteries can leak chemicals that corrode electronic circuits. If your meter is not going to be used for a month or more, remove and store the battery in a place that will not allow leakage to damage other materials.



WARNING!

Disconnect the test leads from the circuit under test and from the meter prior to removing or installing batteries.

To install a new battery, follow these procedures:

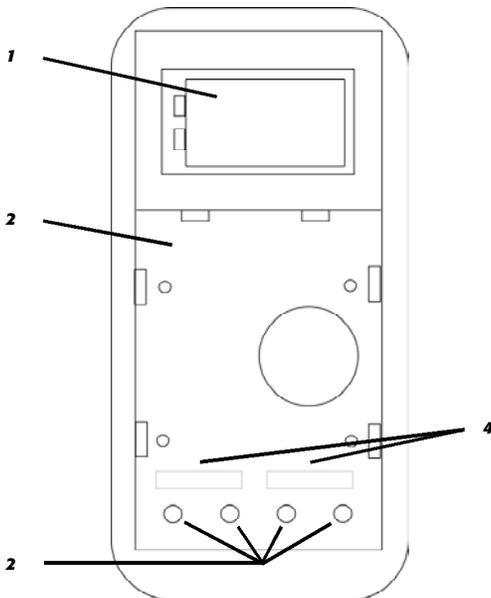
1. Turn off the meter.
2. Remove the rubber boot from the meter, starting at the top.
3. Place meter face down on a clean cloth.
4. Remove the screws from the rear case. Two machined screws fasten the bottom and two self-tapping screws fasten the top.
5. Separate the two halves to expose the battery.
6. Remove and discard the old battery. Always dispose of old batteries promptly in a manner with local disposal regulations.



WARNING!

Under no circumstances should you expose batteries to extreme heat or fire as they may expose and cause injury.

7. Place a fresh 9V battery in the battery clip.
8. Reassemble the meter.



View of meter face down with back cover off.

- | | |
|--------------------|---------------------|
| 1. Battery | 2. PCB |
| 3. Test lead ports | 4. Fuses, under PCB |

Fuse Replacement



WARNING!

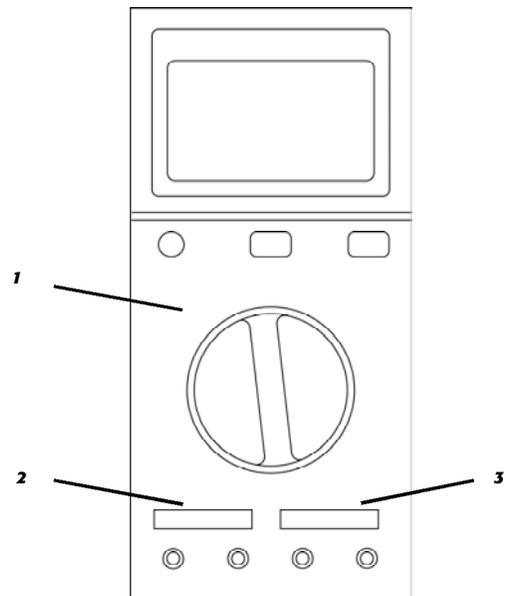
Disconnect the test leads from the circuit under test and from the meter prior to removing or installing fuses! Replace the bottom fuse with the fuse specified for this meter ONLY!

To replace a blown fuse, perform the following procedures:

1. Turn off the meter.
2. Remove the rubber boot from the meter, starting at the top.
3. Place meter face down on a clean cloth.
4. Remove the screws from the rear case. Two machined screws fasten the bottom and two self-tapping screws fasten the top.
5. Separate the two halves.
6. Lift the entire printed circuit board (PCB) housing up and away from the front half of the meter. Lift the PCB housing straight up as there are metal cylinders inside the test lead insulators that must slide out with it.
7. Turn the housing over to expose the fuses.
8. Check to ensure the fuse is bad by confirming that there is no continuity between the metal caps.

Note: If the fuse is good, check for corrosion at the fuse clips and ensure clips are tight around the fuse.

9. Insert a new fuse, or reinsert the good one.
10. Reassemble the meter.



View of PCB housing face-up with cover off.

- | | |
|--------------------|-------------------|
| 1. PCB | 2. 12A, 250V Fuse |
| 3. 0.5A, 660V Fuse | |

Troubleshooting

If I See This Malfunction	I Should Check For	Then Take This Corrective Action
Instrument does not turn on	Battery voltage	Replace low battery
	On/Off switch position	Ensure button moves freely and is in the on position
Instrument turns on but LCD indicates some unreasonable or unchanging value	MAX button pressed	Look for MAX HOLD icons displayed on the LCD -Turn off one or both buttons
	HOLD button pressed	
A value appears on screen with no input applied	Stray voltage	Short test leads together - If a value near 000 appears, instrument is OK
		Move meter and leads away from devices that create electrical fields
A known value is not displayed on the LCD when measured	MAX and HOLD buttons pressed	Turn off one or both buttons (check for icons on LCD)
	Bad test lead connections	Ensure test leads are fully inserted and free of corrosion or dirt
	Defective test leads	Short test leads together in the 400 ohm scale - Expect less than .5Ω
	Battery voltage	Replace low battery
Meter reading is unstable	Offset rotary selector knob	Ensure knob is firmly placed in switch position
	Bad test lead contacts	Ensure there is no insulating material, dirt or debris at contact points
No audible tone with near zero resistance value	Improper selector position	Tone sounds only in continuity mode. Place selector in (•)) position
Amps readings do not work	Proper switch position	Ensure switch is in proper AC or DC amps position (ACA or DCA)
	Proper test lead port position	Ensure the red test lead is plugged into the appropriate amps port
	Blown fuse	Replace blown fuse

This unit contains no user serviceable parts beyond those listed in the table. In the event your instrument is physically damaged or does not function properly after taking the listed action, please return the instrument to UEi following the warranty and service instructions.

Specifications

Measurement limits

Frequency (Hz)	1 Hertz minimum to 400 Megahertz maximum
ACV (at 50 to 500 hertz)	750 V CAT II (600 V CAT III)
DCV	1000 V CAT II (600 V CAT III)
DC mV	400 Millivolts
Continuity (•))	400Ω - Tone sounds at approximately 30Ω or less
Diode Test (→ ←)	3 V DC (voltage drop)
Resistance (Ohms/Ω)	40MΩ
Capacitance	40,000 Microfarads
DC μA	Center left port - 400 Micro amps
DC mA	Center left port - 400 Micro amps
DC 10A	Far left port - 10 Amps
AC μA	Center left port - 400 Micro amps
AC mA	Center left port - 400 Milliamps
AC 10A	Far left port - 10 Amps

Note: When servicing the meter, use only the replaceable parts specified.

Physical Specifications

Maximum voltage on ground terminal	600 V - CAT III 1000 V - CAT II
Numerical digital display	0.8", 3-3/4 digit 4000 count - updates 4 times per second
Analog bar-graph	42 segment - updates 20 times per second
Storage temperature	-4° to 140°F (-20° to 60°C)
Operating temperature	32° to 113°F (0° to 45°C)
Altitude	6560' (2000 M)
Relative humidity	0% to 80% at 32° to 95°F (0° to 35°C) 0% to 70% at 95° to 113°F (35° to 45°C)
Temperature coefficient	0.1 x (specified accuracy)/°C when ambient temperature is <64°F or > 82°F (<18°C or > 28°C)
Battery type	9V, NEDA, 1604 or 6LR 61
Battery life (typical)	80 hours (alkaline)
Size (H x W x L, in.)	7-3/4" x 3-7/8" x 2"
Weight (approximate)	21.1 oz. (600 g)
Drop test	10'
Safety standards	IEC1010-1 (600 Volts overvoltage category III) (1000 Volts overvoltage category II) and the EMC directive

General Specifications

These specifications are based on an instrument operating in an ambient temperature of 5 to 90 degrees Fahrenheit, at a relative humidity of less than 80%, which is within one year of calibration.

The accuracy column indicates the percent of possible error based on the reading displayed, plus an additional allowance for drift based on the value of the least significant digits of the selected range. This is stated as: $\pm(N\% + N \text{ digits})$.

Frequency (Hz)	4kHz, 40kHz, 400kHz, 4MHz, 40MHz, 400mHz	$\pm(0.5\% \text{ reading} + 2 \text{ digits})$
AC Volts	400mV, 4V, 40V, 400V 750V	$\pm(1.5\% \text{ reading} + 5 \text{ digits})$
Dc Volts	400mV, 4V, 40V, 400V, 1000V	$\pm(0.5\% \text{ reading} + 3 \text{ digits})$
DC mV	400mV	$\pm(0.5\% \text{ reading} + 3 \text{ digits})$
Resistance	400, 4k, 40k, 400k, 4M, 40M	$\pm(1.0\% \text{ reading} + 3 \text{ digits})$ $\pm(3.0\% \text{ reading} + 7 \text{ digits})$
Capacitance	4nF, 40nF, 400nF, 4 μ F, 40 μ F, 400 μ F, 4,000 μ F, 40,000 μ F	$\pm(3.0\% \text{ reading} + 4 \text{ digits})$
DC μ A	40 μ A, 400 μ A	$\pm(1.0\% \text{ reading} + 3 \text{ digits})$
DC mA	40mA, 400mA	$\pm(1.0\% \text{ reading} + 3 \text{ digits})$
DC 10A	10A	$\pm(2.5\% \text{ reading} + 3 \text{ digits})$
AC μ A	40 μ A, 400 μ A	$\pm(2.0\% \text{ reading} + 5 \text{ digits})$
AC mA	40mA, 400mA	$\pm(2.0\% \text{ reading} + 5 \text{ digits})$
AC 10A	10A	$\pm(3.0\% \text{ reading} + 5 \text{ digits})$

AC Volts and Current specified for frequency ranges between 50 and 500 Hertz.

Standard and Optional Accessories

Standard

Test LeadsATL55

Optional

AC/DC Clamp Adapter 400 ampCA30
 AC/DC Clamp Adapter 1000 ampCA40
 Soft carrying caseACC315
 Hard carrying caseAC506
 Flame safeguard test kitATLFSG
 Microwave diode booster test leadATL60
 Temperature probe adapterTA2K



DM384

Digital Multimeter

Limited Warranty

The DM384 is warranted to be free from defects in materials and workmanship for a period of five years from the date of purchase. If within the warranty period your instrument should become inoperative from such defects, the unit will be repaired or replaced at UeI's option. This warranty covers normal use and does not cover damage which occurs in shipment or failure which results from alteration, tampering, accident, misuse, abuse, neglect or improper maintenance. Batteries and consequential damage resulting from failed batteries are not covered by warranty.

Any implied warranties, including but not limited to implied warranties of merchantability and fitness for a particular purpose, are limited to the express warranty. UeI shall not be liable for loss of use of the instrument or other incidental or consequential damages, expenses, or economic loss, or for any claim or claims for such damage, expenses or economic loss. A purchase receipt or other proof of original purchase date will be required before warranty repairs will be rendered. Instruments out of warranty will be repaired (when repairable) for a service charge. Return the unit postage paid and insured to:

1-800-547-5740 • FAX: (503) 643-6322
www.ueitest.com • Email: info@ueitest.com

This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

