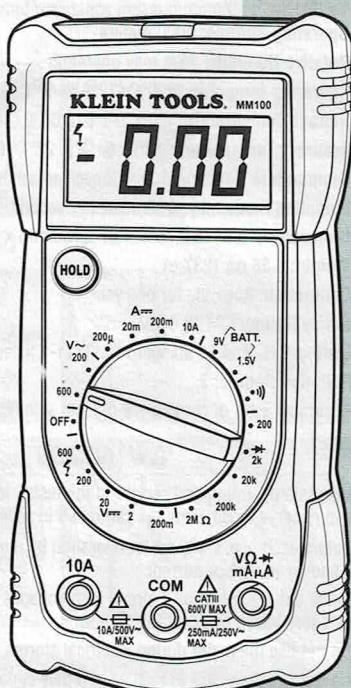


MM100

Instruction Manual

ENGLISH

- 3-1/2 DIGIT
1999 COUNT
LCD
- DATA HOLD
- BATTERY TEST
- KICKSTAND
- LEAD HOLDER



600V ~
10A ---



**KLEIN
TOOLS®**

For Professionals... Since 1857® USA



CAT III
600V

CE

ETL
LISTED
Intertek
3194551

ENGLISH

MM100 Instruction Manual

GENERAL SPECIFICATIONS

The Klein Tools MM100 is a manual ranging multimeter. It measures AC/DC voltage, DC current, and resistance. It can also test batteries, diodes, and continuity.

- **Operating Altitude:** 2000 meters
- **Relative Humidity:** 75% max operating
- **Operating Temperature:** 0°C / 32°F to 40°C / 104°F < 75% R.H.
- **Storage Temperature:** -20°C / -4°F to 60°C / 140°F < 80% R.H.
- **Accuracy Temperature:** 18°C / 64°F to 28°C / 82°F < 75% R.H.
- **Temperature Coefficient:** 0.1*(specified accuracy) / °C
- **Sampling Frequency:** 3 samples per second
- **Dimensions:** 5.91" x 2.76" x 1.97" (150 mm x 70 mm x 50 mm)
- **Weight:** 8.36 oz. (237 g)
- **Calibration:** Accurate for one year
- **Safety Rating:** CAT III 600V
- **Listing:** ETL & cETL standard UL 3111-1 listed
- **Pollution Degree:** 2
- **Accuracy:** ± (% of reading + # of least significant digits)

WARNINGS

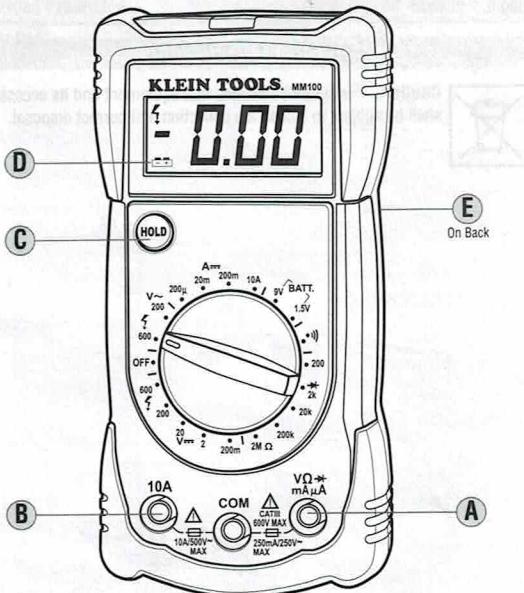
To ensure safe operation and service of the tester, follow these instructions. Failure to observe these warnings can result in severe injury or death.

- Before each use, verify meter operation by measuring a known voltage or current.
- Never use the meter on a circuit with voltages that exceed the category based rating of this meter.
- Do not use the meter during electrical storms, or in wet weather.
- Do not use the meter or test leads if they appear to be damaged.
- Ensure meter leads are fully seated, and keep fingers away from the metal probe contacts when making measurements.
- Do not open the meter to replace batteries while the probes are connected.
- Use caution when working with voltages above 60V DC, or 25V AC RMS. Such voltages pose a shock hazard.
- To avoid false readings that can lead to electrical shock, replace batteries if a low battery indicator appears.
- Unless measuring voltage or current, shut off and lock out power before measuring resistance or capacitance.
- Always adhere to local and national safety codes. Use individual protective equipment to prevent shock and arc blast injury where hazardous live conductors are exposed.

SYMBOLS

| | | | |
|---|--------------------------|---|---------------------------|
| ~ | AC Alternating Current | ⚠ | Warning or Caution |
| — | DC Direct Current | ⚡ | Dangerous Levels |
| ≈ | DC/AC Voltage or Current | □ | Double Insulated Class II |
| ⏚ | Ground | ♾ | AC Source |

FEATURE DETAILS



A.B. Use properly safety rated leads.

- A. Do not attempt to measure more than 600V or 200mA.
- B. Do not attempt to measure more than 10A.

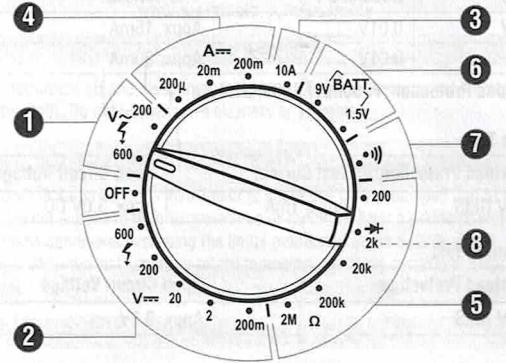
C. Data Hold

- Press to hold the current input on the display.
- Press again to return to live reading.

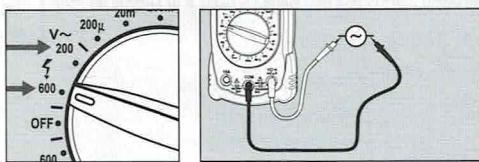
D.E. Battery / Fuse Replacement

- When **±** indicator is displayed on the LCD, batteries must be replaced.
- Remove rubber boot, back screw, and replace 9V battery.
- If more than 200mA is applied to (A), replace with 250mA/250V fast-blow fuse.
- If more than 10A is applied to (B), replace with respective 10A / 500V fast-blow fuse.

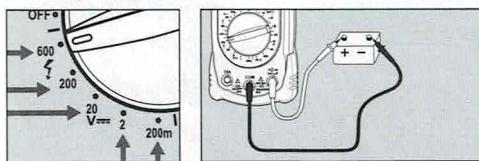
FUNCTION INSTRUCTIONS



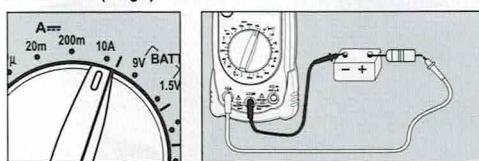
1. AC Voltage: < 600V



2. DC Voltage: < 600V

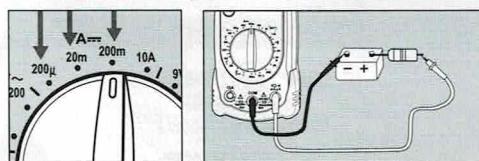


3. DC Current (large): < 10A



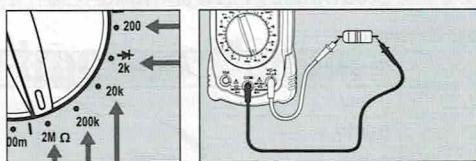
- Start with this setting if current level is unknown.
- Attach red lead to "10A" input.
- Current above 10A will require fuse replacement.

4. DC Current (small): < 200mA



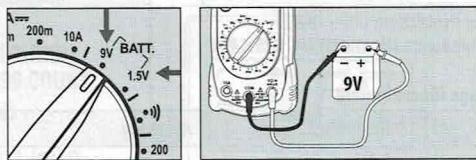
- Attach red lead to "mA" input.
- Current above 200mA will require fuse replacement.

5. Resistance < 2MΩ

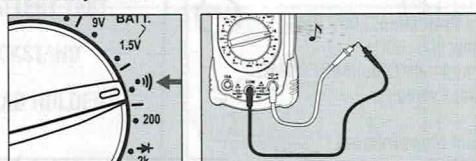


- Do not attempt resistance measurement on a live circuit.

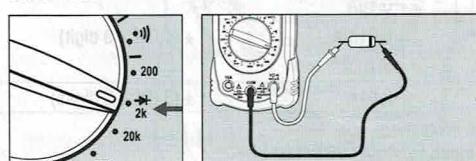
6. Battery Test



7. Continuity < 100Ω



8. Diode Test



SYMBOLS USED ON LCD

| | | | |
|------------|--------------------------|------------|------------------|
| I | Overload: Range Exceeded | A | Current in Amps |
| - | Negative DC Value | ► | Diode Test |
| - + | Low Battery | | Continuity Test |
| H | Hold Active | M | Mega 10^6 |
| V | Voltage Measurement | k | Kilo 10^3 |
| Ω | Resistance in Ohms | μ | Micro 10^{-6} |
| m | Milli 10^{-3} | ⚡ | Dangerous Levels |

ENGLISH

ELECTRICAL SPECIFICATIONS

DC Voltage Measurement

| Range | Resolution | Accuracy |
|-------|------------|----------------------------------|
| 200mV | 0.1mV | $\pm (0.5\% + 3 \text{ digits})$ |
| 2V | 0.001V | |
| 20V | 0.01V | |
| 200V | 0.1V | |
| 600V | 1V | |

Overload Protection: 600V RMS

Input Impedance (Nominal): $> 1\text{M}\Omega$.

AC Voltage Measurement

| Range | Resolution | Accuracy |
|-------|------------|----------------------------------|
| 200V | 0.1V | $\pm (1.2\% + 5 \text{ digits})$ |
| 600V | 1V | |

Overload Protection: 600V RMS

Frequency: 50 ~ 60Hz

Input Impedance (Nominal): $> 1\text{M}\Omega$.

Response: Averaging

DC Current Measurement

| Range | Resolution | Accuracy |
|-------------|-------------|----------------------------------|
| 200 μ A | 0.1 μ A | $\pm (1.0\% + 3 \text{ digit})$ |
| 20mA | 0.01mA | |
| 200mA | 0.1mA | |
| 10A | 0.01A | $\pm (3.0\% + 5 \text{ digits})$ |

Overload Protection:

- mA Input: F250mA / 250V fast fuse
- 10A Input: F10A / 500V fast fuse

Max Input Current:

- mA Input: 200mA DC / AC RMS
- 10A Input: 10A DC / AC RMS

Resistance Measurement

| Range | Resolution | Accuracy |
|---------------|-----------------|---------------------------------|
| 200 Ω | 0.1 Ω | $\pm (0.8\% + 4 \text{ digit})$ |
| 2k Ω | 0.001k Ω | |
| 20k Ω | 0.01k Ω | |
| 200k Ω | 0.1k Ω | |
| 2M Ω | 0.001M Ω | |

Overload Protection: 600V RMS

Battery Test

| Type | Resolution | Test Current |
|------|------------|--------------|
| 1.5V | 0.01V | Appx. 15mA |
| 9V | 0.01V | Appx. 30mA |

Overload Protection: F250mA / 250V fast fuse

Diode Test

| Overload Protection | Test Current | Open Circuit Voltage |
|---------------------|--------------|----------------------|
| 600V RMS | Appx. 1mA | Appx. 3.0V DC |

Continuity Test

| Overload Protection | Open Circuit Voltage |
|---------------------|----------------------|
| 600V RMS | Appx. 3.0V |

WARRANTY

www.kleintools.com/warranty

CLEANING

Turn instrument off and disconnect test leads. Clean the instrument by using a damp cloth. Do not use abrasive cleaners or solvents.

STORAGE

Remove the batteries when instrument is not in use for a prolonged period of time. Do not expose to high temperatures or humidity. After a period of storage in extreme conditions exceeding the limits mentioned in the Specifications section, allow the instrument to return to normal operating conditions before using it.

DISPOSAL/RECYCLE



Caution: This symbol indicates that equipment and its accessories shall be subject to a separate collection and correct disposal.

CUSTOMER SERVICE

KLEIN TOOLS, INC.

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Lincolnshire, IL 60069
www.kleintools.com