User Manual

Model MM200

Compact Digital MultiMeter

Introduction

Congratulations on your purchase of the Triplett MM200 Compact Digital Multimeter. The MM200 is a compact multimeter specially designed for home and light electrical use. The compact structure makes it easy to hold in one hand, and the EBTN screen allows users to obtain clear readings at maximum angle. The multimeter meets the EN61010-1:2010, EN61010-2-030:2010, and EN61326-1:2013 safety standards and is able to safely operate within the CAT III 600V environment.

Features

- Battery Power Indication on Power Up via LED
  - Green (Normal State) Yellow (Low Battery) and Red (Very Low)
- Automatic AC/DC Voltage Measurement Detection
- Non Contact ACV Detection with LED indicating electric field strength.
- Full Feature Protection

Safety

This symbol, adjacent to another symbol or terminal, indicates the user must refer to the manual for further information.

This symbol, adjacent to a terminal, indicates that, under normal use, hazardous voltages may be present

Double insulation

- Improper use of this meter can cause damage, shock, injury or death. Read and understand this user manual before operating the meter.
- Make sure any covers or battery doors are properly closed and secured.
- Always remove the test leads before replacing the battery or fuses.
- Inspect the condition of the test leads and the meter itself for any damage before operating the meter. Repair any damage before use.
- Do not exceed the maximum rated input limits.
- Use great care when making measurements if the voltages are greater than 25VAC rms or 35VDC. These voltages are considered a shock hazard.
- Always discharge capacitors and remove power from the device under test before performing Diode, Resistance or Continuity tests.
- Remove the battery from the meter if the meter is to be stored for long periods.
- To avoid electric shock, do not measure AC current on any circuit whose voltage exceeds 250V AC.

Safety standards	
Design standards	EN61010-1: 2010; EN61010-2-030:2010; EN 61326-1:2013 EN61010-2-033:2012,EN61326-2-2:2013
EMC	RF field (1V/m): Overall accuracy = specified accuracy ± 5% of range RF field (>1V/m): No specified calculation
Measurement standards	CAT III 600V, double insulation and material pollution degree II
Dimensions	130mm×65mm×28mm
Weight	About 130g (including batteries)

	Low battery		Caution, possibility of electric shock
	Earth(ground) TERMINAL		Alternating current
	Caution		Direct current
	Comply with European Union standards		
	Equipment protected throughout by DOUBLE INSULATION or REINFORCED INSULATIOIN		
	Conforms to UL STD. 61010-1, 61010-2-030, 61010-2-033. Certified to CSA STD. C22.2 NO. 61010-1, 61010-2-030, 61010-2-033		
CAT III	It is applicable to test and measuring circuits connected to the distribution part of the building's low-voltage MAINS installation.		

Operating Instructions

AC/DC Voltage Measurements

1. Insert the black test lead banana plug into the negative **COM** jack and the red test lead banana plug into the positive **V** jack.
2. Turn the rotary switch to the **V** position.
3. Press the SELECT button to select either AC or DC.
4. Touch the test probes to the circuit under test and read the voltage on the display.

*****NOTE: The meter has the function of ACV/DCV automatic identification (voltage ≥ 0.5V). If you want to measure voltage less than 0.5V, press the SELECT button to toggle the AC and DC voltage to lock the measurement mode; After pressing the SELECT button, the meter no longer has the function of ACV /DCV automatic identification, unless you turn the range switch or restart the meter!*****

Resistance Measurements

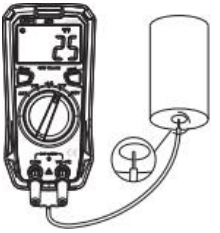
1. Insert the black test lead banana plug into the negative **COM** jack and the red test lead banana plug into the positive **Ω** jack.
2. Set the function switch to the **Ω** position.
3. Touch the test probe tips across the circuit or part under test. It is best to disconnect one side of the part under test so the rest of the circuit will not interfere with the resistance reading.
4. Read the resistance in the display.

Continuity Measurements

1. Insert the black test lead banana plug into the negative **COM** jack and the red test lead banana plug into the positive **V/Ω/mA** jack. Observe polarity.
2. Turn the rotary switch to the **))))** position.
3. Touch the test probes to the circuit or device under test. If the resistance is less than approximately 30Ω the buzzer will sound.

*****NOTE: Before making Continuity Measurements make sure circuit power is OFF and fully discharge any Capacitors to avoid damage to the meter.***

Temperature Measurements



WARNING: To avoid electric shock, disconnect test leads from any source of voltage before making a temperature measurement. Be sure that the thermocouple has been removed before changing to any other measurement function.

1. Insert the type K thermocouple probe into the **Temp** and **COM** jacks.
2. Turn the rotary switch to the **°C / °F** position. Default is **°C, Press Select to change to °F if desired.**
3. Read the temperature on the display.

Non-Contact Voltage and AC Field Sensing

1) Turn the rotary switch to the NCV position.

2) Bring the front end of the meter close to the object to be measured.

*****Note: The intensity of the electric field sensing is indicated by the***

LED indicator and the segment "-" on the LCD. The more segments (up to four segments)are displayed, the higher the electric field intensity is and the faster it beeps. **

Data Hold

Press the **Hold** button to freeze the reading in the display. "**H**" will appear in the LCD. Press the key again to release the display.

Low Battery

If the low battery icon appears in the display, replace the batteries to maintain proper operation.

Auto-Ranging

The meter will auto range to the optimum range to provide the best resolution and accuracy for the input signal.

Auto Power Off

1. This meter will automatically shut off after approximately 15 minutes of operation. If the meter shuts off, rotate the function switch to OFF and on again (or press the HOLD button) to resume operation.
2. To disable the auto power off, hold the SELECT button while turning power on or press the SELECT button after auto power off has turned the meter off.

Specifications

Function	Range	Resolution	Accuracy	Max measured value	Bandwidth	Overload protection	Input impedance
DC voltage	4.000V	0.001V	±(0.5%+2)	±600V		600Vrms	10MΩ
	40.00V	0.01V					
	400.0V	0.1V					
	600V	1V	±(0.7%+3)				
AC voltage	4.000V	0.001V	±(1.0%+3)	600V	40Hz—400Hz	600Vrms	10MΩ
	40.00V	0.01V					
	400.0V	0.1V					
	600V	1V					
Resistance	400.0Ω	0.1Ω	±(1.0%+2)	21MΩ		600Vrms	
	4.000kΩ	0.001kΩ	±(0.8%+2)				
	40.00kΩ	0.01kΩ					
	400.0kΩ	0.1kΩ					
	4.000MΩ	0.001MΩ	±(1.2%+3)				
	20.00MΩ	0.01MΩ	±(1.2%+3)				
Centigrade	-40～40℃	1℃	±4℃	350℃		600Vrms	
	40～300℃	1℃	±(1.0%+5)				
Fahrenheit	-40～104℉	1℉	±6℉	662℉			
	104～572℉	1℉	±(2.0%+6)				

When switching to the NCV function, the LCD displays "EF"		
NCV (non-contact voltage detection)	Electric field sensing	When the front end of the meter is close to the power socket or power cord with about 200V mains supply, the meter indicator will distinguish the intensity of the electric field sensing by "green", "yellow" and "red" light respectively (from weak to strong), and the LCD will synchronously display "—", "— —", "— — —" or "— — — —" accompanied by beeps.
	Neutral and live wire identification	When the front end of the meter is close to the mains socket at the same distance, the live wire will have a stronger electric field signal than the neutral wire. You can distinguish them according to the number of the "—" displayed and the indication status of the light.
•)) Continuity	Resistance ≤30Ω, continuous beeps; Resistance >31Ω, no beep	

General specifications	
SELECT button	Switch the scale of the test function cyclically (only applicable to V, ·ıı)Ω and °C°F)
HOLD button	Turn on/off the lock screen function cyclically, and the bottom left corner of the LCD displays " H " (only applicable to V, ·ıı)Ω and °C°F).
Max display	4099
Overload display	OL
Sampling frequency	3 times/second
Polarity display	If negative polarity is input, the "—" symbol will be displayed; No display for positive polarity
Low battery indication	The bottom left corner of the LCD displays " ▭ ", and at the moment of booting, the indicator on the top of the meter lights up yellow.

Operating conditions	
Operating temperature	0°C~40°C (32°F~104°F)
Storage temperature	-10°C~50°C (14°F~122°F)
Relative humidity	0 °C~ below 30 °C: ≤75% 30 °C~40 °C: ≤50%
Altitude	0~2000m
Battery	AAA battery 1.5V×2

Standard accessories

Test leads ---------- 1 pair
User manual ---------- 1 pc
Thermocouple ---------- 1 pc

Maintenance

Warning: To avoid electric shock, do not operate your meter until the battery cover is in place and fastened securely.

1. Keep the meter dry.
2. Use and store the meter in mild ambient conditions. Temperature extremes can shorten the life of the electronic parts and distort or melt plastic parts.
3. Handle the meter gently. Dropping it can damage the electronic parts or the case.
4. Keep the meter clean. Wipe the case occasionally with a damp cloth. DO NOT use chemicals, cleaning solvents or detergents.
5. Use only fresh batteries of the recommended size and type. Remove old or weak batteries so they do not leak and damage the unit.
6. If the meter is to be stored for a long period of time, the batteries should be removed to prevent damage to the unit.

Battery Replacement

1. Replace the batteries immediately when the low battery symbol " "appears on the LCD, otherwise the measurement accuracy might be affected. Battery specification: AAA battery 1.5V×2

2. Battery replacement: Use a screwdriver to unscrew the screw on the battery cover (top), and remove the cover to replace the batteries. Pay attention to the positive and negative polarity when installing the new batteries.

Warranty Information

Triplett / Jewell Instruments extends the following warranty to the original purchaser of these goods for use. Triplett warrants to the original purchaser for use that the products sold by it will be free from defects in workmanship and material for a period of (1) one year from the date of purchase. This warranty does not apply to any of our products which have been repaired or altered by unauthorized persons in any way or purchased from unauthorized distributors so as, in our sole judgment, to injure their stability or reliability, or which have been subject to misuse, abuse, misapplication, negligence, accident or which have had the serial numbers altered, defaced, or removed. Accessories, including batteries are not covered by this warranty