

MM-200 MULTIMETER

TESTING | TROUBLESHOOTING | ACCURACY

Product Features:

Equipped with all the measurement features you're likely to need, the MM-200 from Tempo Communications is a workhorse multimeter for most technicians.

Built to international safety standards, the MM-200 performs all the tests any electrician would want from a multimeter. Features like "BeepJack" help prevent damage when leads are attached to the wrong terminals for the type of test selected. Fully auto-ranging or manual—the choice is yours. The backlit LCD helps when testing in those awkward cupboards.

Supplied with a zipper case and high-quality safety test leads:

1. Fast response 24 segment "bar-graph"
2. 6000 Count large digit LCD
3. Core accuracy better than 0.5%
4. Average responding AC measurements
5. Measurements
 - Voltage (ac or dc)
 - Current (ac or dc)
 - Continuity
 - Resistance
 - Diode
 - Frequency
 - Electric Field (EF) voltage detector



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Specifications:

Display:	LCD (6000) and 24-segment bar graph
Polarity:	Automatic
Sampling Rate:	Numeric Display: 5 per second Bar Graph Display: 40 per second
Temperature Coefficient:	Nominal 0.15 x (specified accuracy) per °C below 18 °C or above 28 °C
Automatic Power Off:	After 34 minutes of inactivity
Noise Rejection*:	Normal Mode Rejection Ratio > 60 dB at 50 Hz and 60 Hz when measuring DCV Common Mode Rejection Ratio > 60 dB from 0 Hz to 60 Hz when measuring ACV Common Mode Rejection Ratio > 100 dB at 0 Hz, 50 Hz and 60 Hz when measuring DCV
Operation Conditions	0 °C to 40 °C (32 °F to 104 °F)
Relative Humidity (non-condensing):	80% maximum for temperatures up to 31 °C (88 °F), decreasing linearly to 50% maximum at 40 °C (104 °F)
Altitude:	2000 m (6500') maximum
Pollution Degree:	2
Storage Conditions:	-20 °C to 60 °C (-4 °F to 140 °F)
Battery:	Two 1.5 V batteries (AAA, NEDA 24A or IEC LR03)
Volts & AutoCheck:	1100 V DC/AC rms
mV, Ω, and Others:	1000 V DC/AC rms
µA and mA:	0.4A/1000V DC/AC rms, IR 30kA @ 1000V DC/AC rms; Dimension: 6 x 32 mm
A:	11A/1000V DC/AC rms, IR 20kA @ 1000V DC/AC rms; Dimension: 10 x 38 mm
V/ohms/mA/A to COM:	Category II 1000V, CAT III 600V and CAT IV 300V AC & DC.
E.M.C:	Meets EN61326-1:2013

*Noise rejection is the ability to reject unwanted signals, or noise.

- Normal mode voltages are AC signals that can cause inaccurate DC measurements
- NMRR (Normal Mode Rejection Ratio) is a measure of the ability to filter out these signals.
- Common mode voltages are signals present at the COM and + input terminals, with respect to ground, that can cause digit rattle or offset in voltage measurements.
- CMRR (Common Mode Rejection Ratio) is a measure of the ability to filter out these signals.

Accuracy:

AC VOLTAGE		
Range (50 Hz to 400 Hz)	Accuracy	
60.00 mV	± (0.12% + 0.02 mV)	
600.0 mV	± (0.06% + 0.2 mV)	
6.000 V	± (0.08% + 0.002 V)	
60.00 V	± (0.08% + 0.02 V)	
600.0 V	± (0.08% + 0.2 V)	
1000 V	± (1.0% + 5 V)	
DC VOLTAGE		
Range	Accuracy	
60.00 mV	± (0.4% + 0.05 mV)	
600.0 mV	± (0.2% + 0.3 mV)	
6.000 V	± (0.2% + 0.003 V)	
60.00 V	± (0.2% + 0.03 V)	
600.0 V	± (0.2% + 0.3 V)	
1000 V	± (0.2% + 3 V)	
AC CURRENT		
Range (50 Hz to 400 Hz)	Accuracy	Burden Voltage (typical)
600.0 µA	± (1.0% + 0.3 µA)	0.1 mV/µA
6000 µA	± (1.0% + 3 µA)	
60.00 mA	± (1.0% + 0.03 mA)	1.7 mV/mA
600.0 mA	± (1.0% + 0.3 mA)	
6.000 A	± (1.2% + 0.006 A)	0.03 V/A
10.00 A*	± (1.8% + 0.006 A)	
DC CURRENT		
Range	Accuracy	Burden Voltage (typical)
600.0 µA	± (0.5% + 0.5 µA)	0.1 mV/µA
6000 µA	± (0.5% + 3 µA)	
60.00 mA	± (0.5% + 0.05 mA)	1.7 mV/mA
600.0 mA	± (0.5% + 0.3 mA)	
6.000 A	± (1.2% + 0.006 A)	0.03 V/A
10.00 A*	± (1.8% + 0.006 A)	

* 10 A continuous, > 10 A to 20 A for 30 second max with 5 minutes cool down interval

Frequency —Hz (Line) at ACV, DCV, Current, AutoCheck™ Mode

Function	Sensitivity (Sine RMS)	Range
6 V	0.4 V	10 Hz to 10 kHz
60 V	4 V	10 Hz to 50 kHz
600 V	40 V	10 Hz to 50 kHz
1000 V	400 V	45 Hz to 1 kHz
600 µA	40 µA	10 Hz to 10 kHz
6000 µA	400 µA	10 Hz to 10 kHz
60 mA	4 mA	10 Hz to 10 kHz
600 mA	40 mA	10 Hz to 10 kHz
6 A	1 A	10 Hz to 1 kHz
10 A	6 A	10 Hz to 1 kHz

RESISTANCE	
Range	Accuracy
600.0 Ω	± (0.5% + 0.4 Ω)
6.000 kΩ	± (0.5% + 0.004 kΩ)
60.00 kΩ	± (0.5% + 0.04 kΩ)
600.0 kΩ	± (0.5% + 0.4 kΩ)
6.000 MΩ	± (0.7% + 0.004 MΩ)
60.00 MΩ	± (1.2% + 0.04 MΩ)
ACCURACY OF FREQUENCY RANGES	
Display Range	Accuracy
10.00 Hz to 65.53 Hz	± (0.03% + 0.03 Hz)
65.5 Hz to 655.3 Hz	± (0.03% + 0.3 Hz)
0.655 kHz to 6.553 kHz	± (0.03% + 0.003 kHz)
6.55 kHz to 50.00 kHz	± (0.03% + 0.03 kHz)
6.000 A	± (1.2% + 0.006 A)
8.00 A*	± (1.8% + 0.006 A)

FREQUENCY — LOGIC LEVEL Hz (mV FUNCTION)		
Range	Accuracy	Sensitivity (square wave)
5.0 Hz to 6.553 Hz	± (0.03% + 0.002 Hz)	3 V peak
6.55 Hz to 65.53 Hz	± (0.03% + 0.02 Hz)	
65.5 Hz to 655.3 Hz	± (0.03% + 0.2 Hz)	
0.655 kHz to 6.553 kHz	± (0.03% + 0.002 kHz)	
6.55 kHz to 65.53 kHz	± (0.03% + 0.02 kHz)	
65.5 kHz to 500.0 kHz	± (0.03% + 0.2 kHz)	5 V peak
500.0 kHz to 655.3 kHz	± (0.03% + 0.2 kHz)	
0.655 MHz to 1.000 MHz	± (0.03% + 0.002 MHz)	
NON-CONTACT ELECTRIC FIELD DETECTION (EF)		
Typical Voltage	Bar Graph Indication	Frequency Range
10 V to 36 V	-	50 Hz to 60 Hz
23 V to 83 V	--	
59 V to 165 V	---	
124 V to 330 V	----	
250 V to 1000 V	-----	

* Bar graph indication and tone are proportional to signal strength



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