

Multifunction Meter With Oscilloscope

multicomp^{PRO}

RoHS
Compliant



Standard conditions: The environment temperature is 18°C to 28°C,the relative humidity is less than 80%.

Note:

When measuring AC voltage, accuracy guarantee range is 10% to 100% of the range.

When measuring DC voltage, AC/DC current or capacitance, accuracy guarantee range is 5% to 100% of the range.

Function		Measurement Range	Resolution/Frequency Range	Accuracy ± (% of reading + LSB)	
DC Voltage (V)	mV	20.000mV	0.001mV	±(0.1%+20°)	
		200.00mV	0.01mV	±(0.1%+6°)	
	V	2.0000V	0.1mV	±(0.1%+5°)	
		20.000V	1mV		
		200.00V	10mV		
		1000.0V	0.1V	±(0.15%+5°)	
AC Voltage (V)	mV	20.000mV	0.001 mV	VRMS Freq range: 40Hz-1000Hz	±(0.6%+10°)
		200.00mV	0.01mV		
	V	2.0000V	0.1mV		
		20.000V	1mV		
		200.00V	10mV		
		750.0V	0.1V		±(0.8%+10°)

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Function		Measurement Range	Resolution/Frequency Range	Accuracy ± (% of reading + LSB)	
DC Current (A)	μA	200.00μA	0.01μA	±(0.6%+10°)	
		2000.0μA	0.1μA	±(0.5%+10°)	
	mA	20.000mA	1μA	±(0.6%+10°)	
		200.00mA	10μA	±(0.5%+10°)	
	A	2.0000A	100μA	±(1.0%+10°)	
		10.000A [1]	1mA	±(2.0%+10°)	
AC Current (A)	μA	200.00μA	0.01μA	VRMS Freq range: 40Hz-1000Hz	±(0.8%+10°)
		2000.0μA	0.1μA		
	mA	20.000mA	1μA		±(1.5%+10°)
		200.00mA	10μA		
	A	2.0000A	100μA		±(2.5%+10°)
		10.000A ^[1]	1mA		
Resistance(Ω)		200.00Ω	0.01Ω	±(0.8%+10°)	
		2.0000kΩ	0.1Ω	±(0.3%+5°)	
		20.000kΩ	1Ω	±(0.3%+5°)	
		200.00kΩ	10Ω		
		2.0000MΩ	100Ω	±(0.5%+5°)	
		20.000MΩ	1kΩ	±(5.0%+10°)	
		100.00MΩ	10kΩ		
Capacitance(F)		2.000nF	1pF	±(5.0%+10°)	
		20.00nF	10pF	±(3.0%+10°)	
		200.0nF	100pF		
		2.000μF	1nF		
		20.00μF	10nF		
		200.0μF	100nF		
		2.000mF	1μF		
		20.00mF ^[2]	10μF		
Frequency ^[3] (Hz)		200.00Hz	0.01Hz	±(0.1%+5°)	
		2.0000kHz	0.1Hz		
		20.000kHz	1Hz		
		200.00kHz	10Hz		
		2.0000MHz	0.1kHz		
		20.000MHz	1kHz		
Duty Cycle ^[4] (%)		0.1% -99.9% (Typical: Vrms=1 V, f=100Hz)	0.1%	±(1.2%+3°)	
		0.1%-99.9%(≥ 1 kHz)		±(2.5%+10°)	
Diode		3.0000V	0.0001V	±(1.0%+10°)	
Continuity		1000.0Ω	0.1Ω		
Maximum Reading		20000			

[1] When measuring current, for 10A the measuring duration should not be over 2 minutes within 10 minutes, and in this 10 minutes, no other current should flow through except within the measuring duration.

[2] When measuring capacitance, for the 20.00mF range, the measuring duration should be over 30 seconds.

[3] When measuring frequency, the typical waveform is Square or Sine. The signal meets the following conditions:

Frequency	Amplitude(rms)
1 Hz – 20 MHz	≥ 1 V

[4] When measuring duty cycle, the typical waveform is Square.

Note: when measuring resistance and capacitance, the influence of the resistance reactance of the pen itself on the measured value should be considered.

Oscilloscope Specification

Characteristics	Instruction
Analog bandwidth	1MHz (only ACV scale)
Maximum sample	5.0MSa/s
Channel	1
Input impedance	approximately 10MΩ
Time base range	2.5us~10s/grid
Time base accuracy	±(0.01% + 0.1div)
Voltage vertical sensitivity range	30mV~500V/grid
Current vertical sensitivity range	100μA~5A/grid
Vertical amplitude accuracy	±(5% + 0.2div)
Maximum voltage limit	1000V DC+AC Peak value
Maximum current limit	15A DC+AC Peak value
Trigger mode	Auto/Normal/Single
Autoset	Time base/Vertical amplitude/Trigger value
Trigger edge	Rise edge/Fall edge
Measurement function	Vmax,Vmin,Vpp,Vavg,Vrms,Freq

Note: The signal is within 5dB attenuation with an analog bandwidth of up to 1MHz.

General Specification

Characteristics	Instruction
Sleep Mode	√
Low battery indication	√
Backlight	√
Input Protection	√
Input Impedance	≥ 10 MΩ
Battery	Single 18650 3.7V
Display	2.8 inch IPS:320 × 240 resolution
Weight (without package)	Approx. 0.33kg(without battery)
Dimension	188mm (Length) × 93mm(Width) × 41.5mm(Depth)
Working temperature	0°C to 40°C

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Interval Period of Adjustment:

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One year is recommended for the calibration interval period.

Characteristics	Instruction
Storage temperature	-10°C to 60°C
Relative Humidity	≤ 80%
Altitude	Operating: 3,000 meters Non-operating: 15,000 meters

Part Number Table

Description	Part Number
Multifunction Multimeter With Oscilloscope, 20000, 4 1/2 Digits, 1MHz	MP120

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