

Digital Multimeter

MDM-8145A/8146A/8155A



- Double - parameter display can display two parameters of one input signal
- Has duty ratio measurement function /capacitance measurement
- With manual/automatic range setting function
- Supports SCPI protocol and provides programming documentation
- Periodic and frequency measurements frequency can reach up to 20MHz
- With keyboard lock function, and provide system settings, customized setting of language, buzzer, screen brightness
- Maximum 10A current and 1000V DC voltage measurement capability
- Use 3.5-inch screen with clear reading
- Speed of measurement: FAST (6 times/second), MID (4 times/second), SLOW (1 time/second)
- Square wave output function (MDM-8145A and MDM-8146A are optional)
- Communication interface: USB Device, RS232(MDM-8145A and MDM-8146A are optional)
- AC DC voltage,AC DC current, two wire/ four-wire resistance measurement
- Provide automatic trigger, external trigger and single trigger
- It has simple external calibration function

Technical indicators

DC voltage measurement

Range	Measuring range	Resolution	Error limit		
			MDM-8145A (4 ½)	MDM-8146A (4 ½)	MDM-8155A (5 ½)
200mV	1uV~220.000mV	1uV	± (0.05%+4)	±(0.03% +10)	± (0.015%+4)
2V	10uV~2.20000V	10uV	± (0.05%+3)	±(0.03% +6)	± (0.015%+3)
20V	100uV~22.0000V	100uV	± (0.05%+4)	±(0.03% +6)	± (0.015%+4)
200V	1mV~220.000V	1mV	± (0.05%+3)	±(0.03% +6)	± (0.015%+3)
1000V	10mV~1000V	10mV	± (0.1%+3)	±(0.03% +6)	± (0.015%+3)

AC voltage measurement (true value of validity)

Range	Resolution	Error limit (MDM-8155A)			
		40Hz~5kHz	5~30kHz	30~50kHz	50~100kHz
200mV	1uV	±(0.2%+100)	±(0.2%+100)	±(0.5%+200)	±(0.8%+200)
2V	10uV	±(0.2%+100)	±(0.2%+100)	±(0.5%+200)	±(0.8%+200)
20V	100uV	±(0.2%+100)	±(0.8%+300)	±(2.5%+500)	±(5%+500)
200V	1mV	±(0.2%+200)	±(0.8%+450)		
750V	10mV	±(0.3%+200)	±(0.4%+200)		
Range	Resolution	Error limit (MDM-8145A frequency range : 50Hz~1kHz)			
200mV	10uV	± (0.8%+80)			
2V	100uV	± (0.8%+80)			
20V	1000uV	± (0.8%+80)			
200V	10mV	± (0.8%+80)			
750V	100mV	± (1%+50)			
Range	Resolution	Error limit (MDM-8146A)			
		40Hz~1KHz	1KHz~10KHz	10KHz~20KHz	
200mV	10uV	±(0.5%+40)	±(1%+40)	±(2.5%+40)	
2V	100uV	±(0.5%+40)	±(1%+40)	±(2.5%+40)	
20V	1000uV	±(0.5%+40)	±(1%+40)	±(2.5%+40)	
200V	10mV	±(0.5%+40)	±(1%+40)	Unspecified	
750V	100mV	±(0.5%+40)	Unspecified	Unspecified	

Technical indicators

DC current measurement

Range	Measuring range	Resolution	Error limit		
			MDM-8145A (4 ½)	MDM-8146A (4 ½)	MDM-8155A (5 ½)
200uA	0.001uA~220.000uA	0.001uA	± (0.35%+10)	±(0.15% +15)	± (0.05%+10)
2mA	0.01uA~2.20000mA	0.01uA	± (0.35%+10)	±(0.15% +10)	± (0.05%+10)
20mA	0.1uA~22.0000mA	0.1uA	± (0.35%+10)	±(0.15% +10)	± (0.05%+10)
200mA	1uA~220.000mA	1uA	± (0.35%+10)	±(0.15% +10)	± (0.05%+10)
2A	0.01mA~2.20000A	10uA	± (0.3 5%+10)	± (0.35%+10)	± (0.05%+10)
10A	0.1mA~10A	100uA	± (0.8%+60)	±(0.5% +10)	± (0.2%+60)

AC current measurement (MDM8155A frequency range 40~5kHz, the rest is 40~1kHz)

Range	Measuring range	Resolution	Error limit		
			MDM-8145A (4 ½)	MDM-8146A (4 ½)	MDM-8155A (5 ½)
200uA	0.001uA~220.000uA	0.001uA	± (0.8%+80)	±(0.75% +20)	± (0.3%+400)
2mA	0.01uA~2.20000mA	0.01uA	± (0.8%+80)	±(0.75% +10)	± (0.3%+400)
20mA	0.1uA~22.0000mA	0.1uA	± (0.8%+80)	±(0.75% +20)	± (0.3%+400)
200mA	1uA~220.000mA	1uA	± (0.8%+80)	±(0.75% +10)	± (0.3%+400)
2A	0.01mA~2.20000A	10uA	± (0.8%+80)	±(0.75% +20)	± (0.3%+400)
10A	0.1mA~10A	100uA	± (1%+50)	±(1.0% +10)	± (1%+20)

Resistance measurement

Range	Measuring range	Resolution	Error limit		
			MDM-8145A	MDM-8146A	MDM-8155A
200Ω	0.001Ω~220.000Ω	0.001Ω	± (0.1%+20)	±(0.08% +10)	± (0.08%+50)
2kΩ	0.01Ω~2.20000kΩ	0.01Ω	± (0.1%+20)	±(0.08% +5)	± (0.02%+6)
20kΩ	0.1Ω~22.0000kΩ	0.1Ω	± (0.1%+6)	±(0.08% +5)	± (0.02%+6)
200kΩ	1Ω~220.000kΩ	1Ω	± (0.1%+6)	±(0.08% +5)	± (0.02%+6)
2MΩ	10Ω~2.20000MΩ	10Ω	± (0.4%+10)	±(0.2% +10)	± (0.04%+8)
20MΩ	100Ω~22.0000MΩ	100Ω	± (0.4%+15)	±(0.35% +10)	± (0.25%+6)

Capacitance measurement

Range	Measuring range	Resolution	Error limit		
			MDM-8145A (4 ½)	MDM-8146A (4 ½)	MDM-8155A (5 ½)
2nF	0.001nF~2.200nF	0.001nF	± (3.5%+30)	± (2%+5)	± (2%+5)
20nF	0.01nF~22.00nF	0.01nF	± (3.5%+30)	± (2%+5)	± (2%+5)
200nF	0.1nF~220.0nF	0.1nF	± (3.5%+30)	± (2%+5)	± (2%+5)
2uF	1nF~2.200uF	1nF	± (3.5%+30)	± (2%+5)	± (2%+5)
20uF	0.01uF~22.00uF	0.01uF	± (3.5%+30)	± (3%+5)	± (3%+5)
200uF	0.1uF~220.0uF	0.1uF	± (3.5%+30)	± (3%+5)	± (3%+5)
2mF	1uF~2.200mF	1uF	± (4%+10)	± (3%+5)	± (3%+5)

Frequency measurement

Range	Measuring range	Resolution	Error limit		
			MDM-8145A (4 ½)	MDM-8146A (4 ½)	MDM-8155A (5 ½)
200Hz	0.001Hz~220.000Hz	0.001Hz	± (0.2%+10)	± (0.2%+10)	± (0.1%+3)
2kHz	0.01Hz~2.20000kHz	0.01Hz	± (0.2%+10)	± (0.2%+10)	± (0.1%+3)
20kHz	0.1Hz~22.0000kHz	0.1Hz	± (0.2%+10)	± (0.2%+10)	± (0.1%+3)
200kHz	1Hz~220.000kHz	1Hz	± (0.2%+10)	± (0.2%+10)	± (0.1%+3)
2MHz	10Hz~2.20000MHz	10Hz	± (0.2%+10)	± (0.2%+10)	± (0.1%+3)
20MHz	100Hz~22.0000MHz	100Hz	± (0.2%+10)	± (0.2%+10)	± (0.1%+3)

Duty cycle 5.0%~95.0% (error is within 10 words)

Diode measurement

Range	Measuring range	Input protection	Remarks
200Ω	0~2V	250Vp	input current is about 0.75mA

Open and off measurement

Range	Measuring range	输入保护 Input protection	Remarks
200Ω	0~30Ω	250Vp	The input current is about 0.75mA, when the resistance is lower than 30Ω The input current is about 0.75mA, When the resistance is below 30 Omega, the buzzer is sound

Square wave output

Output	Output frequency	Output amplitude
Square wave	1Hz~100kHz	3V

Net weight	kg	2.6
Gross weight	kg	3.15
Instrument size (W*H*D)	mm	265*105*305
Packing size (W*H*D)	mm	335*210*435