Pro'sKit®

CE

MT-1710N
3 3/4 True-RMS Auto Range Multimeter

User's Manual
1st Edition, 2023

Range	Accuracy	Resolution	Input impedance	Overload protection
4V	±(0.5%+4d)	1mV	About 10MΩ	1000V DC / AC RMS
40V		10mV		
400V		100mV		
1000V	±(1.0%+6d)	1V		

10-2. DC mV

Range	Accuracy	Resolution	Input impedance	Overload protection
40mV	±(0.5%+5d)	0.01mV	>40MΩ	250VDC / AC RMS
400mV		0.1mV		

10-3. AC mV (True RMS)

Range	Accuracy	Resolution	Input impedance	Overload protection
40mV	±(1.0%+6d)	0.01mV	About 10MΩ	250V DC/AC RMS
400mV		0.1mV		

10-4. ACV (True RMS)

Range	Accuracy	Resolution	Input impedance	Overload protection
4V	± (0.8%+10d)	1mV	About 10MΩ	1000V DC / 750AC RMS
40V		10mV		
400V		100mV		
750V	± (1.2%+10d)	1V		

Accuracy measurement range: 10%-100% of the range.

Frequency response: 40Hz-1 kHz.

Measurement mode (sine wave): true RMS.

Crest factor: CF≦3, adding an additional error of 1% to the reading at CF≧2.

AC frequency measurement error: 0.2%+0.02Hz.

AC frequency measurement range: 40Hz~1k Hz.

AC frequency input sensitivity: 80V~600V

10-5. DCA

Range	Accuracy	Resolution	Load voltage	Overload protection
400uA	±(1.0%+10d)	0.1uA	0.1mV/ mA	FUSE 400mA/250V
4000uA		1uA	0.1mV/ mA	
40mA	±(1.2%+8d)	10uA	1.552mV/ mA	
400mA		100uA	1.637mV / mA	
4A	±(1.2%+10d)	1mA	31.789mV/ A	FUSE 10A/250V
10A		10mA	31.789mV/ A	

10A (test within 10 seconds); Recovery time is 15 minutes.

10-6. ACA (True RMS)

Range	Accuracy	Resolution	Load voltage	Overload protection
400uA	±(1.5%+10d)	0.1uA	0.1mV/ mA	FUSE 400mA/250V
4000uA		1uA	0.1mV/ mA	
40mA		10uA	1.552mV/ mA	
400mA		100uA	1.637mV / mA	
4A	±(2.0%+5d)	1mA	31.789mV/ A	FUSE 10A/250V
10A		10mA	31.789mV/ A	

⚠Measuring range of accuracy value: 10% - 100% of the range.

Frequency response: 40Hz - 1k Hz

Measuring way (sine wave): True RMS

Crest factor: CF≤3, when CF≥2, add an additional error of 1% of the

reading.
10A (The measurement should not be more than 10 seconds);
Recovery time is 15 minutes.

10-7. Resistance

Range	Accuracy	Resolution	Short-circuit current	Open-circuit voltage
400Ω	± (0.8%+5d)	0.1Ω	About 0.4mA	About 1V
4kΩ	± (0.8%+4d)	1Ω	About 100uA	
40kΩ		10Ω	About 10uA	
400kΩ		100Ω	About 1uA	
4MΩ		1kΩ	About 0.2uA	
40MΩ	± (1.2%+10d)	10kΩ	About 0.2uA	About 0.5V

Measuring error does not include lead resistance.
Overload protection: 250VDC/AC RMS

10-8. Capacitance

Range	Accuracy	Resolution	Overload protection
6nF	±(5.0%+40d)	0.001nF	250VDC/AC RMS
60nF	±(3.5%+20d)	0.01nF	
600nF		0.1nF	
6uF		0.001uF	
60uF		0.01uF	
600uF		0.1uF	
6mF	±(5.0%+10d)	0.001mF	
60mF	±10%	0.01mF	
100mF		0.1mF	

⚠Measuring range of accuracy: 10% - 100% of the range
Large capacitance response time: ≥1uF about 8s
Measurement error does not include lead distribution capacitance.

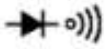
10-9. Frequency

Range	Accuracy	Resolution	Overload protection
10Hz	±(0.5%+10d)	0.01Hz	250VDC/AC RMS
100Hz		0.1Hz	
1kHz		1Hz	
10kHz		10Hz	
100kHz		100Hz	
1MHz		1kHz	
20MHz		10kHz	

⚠Note: The reading will be zero if the signal is below 3Hz.

Input sensitivity: 1V

10-10. Diode and continuity Test

Range	Displaying value	Test Condition	Error
	Positive voltage drops of diode	The positive DC Current is approx. 1.5mA. Negative voltage is approx. 3.2V.	5%
	Buzzer sounds, the resistance is less than 50±20Ω	The test current is approx. 0.4 mA	

Warning: Do not input voltage at this range.

Overload protection: 250V DC/AC RMS

10-11. Temperature

Range	Accuracy	Resolution	Overload protection
(-20-1000)℃	<400℃ ± (1.0%+5d) ≥400℃ ± (1.5%+15d)	1℃	250V DC/AC RMS
(-4~1832)℉	<752℉ ± (1.0%+5d) ≥752℉ ± (1.5%+15d)	1℉	

⚠Sensor: Type-K thermocouple (Ni-Cr – Ni-Si) banana probe