XDM6000 Series Digital Multimeter Technical Specifications

XDM 6061 Technical Specifications

DC Characteristics

Accuracy ± (% of Reading + % of Range) [1]

Function	Range[2]	Test Current or Load Voltage	24 Hours[3] TCAL℃ ±1℃	90 Days TCAL℃ ±5℃	1 Year TCAL℃±5℃	Temperature Coefficient 0℃~(TCAL℃ -5℃) (TCAL℃ +5℃)~ 50℃
DC Voltage	200.0000 mV	/	0.0020+0.0020	0.0030+ 0.0025	0.0040+0.0025	0.0005+0.0005
	2.000000 V		0.0015+0.0005	0.0020+ 0.0006	0.0035+0.0006	0.0005+0.0001
	20.00000 V		0.0020+0.0004	0.0030+ 0.0005	0.0040+0.0005	0.0005+0.0001
	200.0000 V		0.0020+0.0006	0.0040+ 0.0006	0.0050+0.0006	0.0005+0.0001
	1000.000 V [4]		0.0020+0.0006	0.0040+ 0.0010	0.0055+0.0010	0.0005+0.0001
DC Current	200.0000 µA	< 0.03V	0.010 + 0.012	0.040 + 0.015	0.050 + 0.015	0.0020+0.0030
	2.000000 mA	< 0.25V	0.007 + 0.003	0.030 + 0.003	0.050 + 0.003	0.0020+0.0005
	20.00000 mA	< 0.07 V	0.007 + 0.012	0.030 + 0.015	0.050 + 0.015	0.0040+0.0020
	200.0000 mA	< 0.7V	0.010 + 0.002	0.030 + 0.003	0.050 + 0.003	0.0040+0.0005
	2.000000 A	< 0.12 V	0.050 + 0.020	0.080 + 0.020	0.100 + 0.020	0.0050+0.0010
	10.00000 A[5]	< 0.6 V	0.100 + 0.010	0.120 + 0.010	0.150 + 0.010	0.0050+0.0020
Resistance[6]	200.0000 Ω	1 mA	0.0030+0.0030	0.008 + 0.004	0.010 + 0.004	0.0006+0.0005
	2.000000 kΩ	1 mA	0.0020+0.0005	0.008 + 0.001	0.010 + 0.001	0.0006+0.0001
	20.00000 kΩ	100 µA	0.0020+0.0005	0.008 + 0.001	0.010 + 0.001	0.0006+0.0001
	200.0000 kΩ	10 µA	0.0020+0.0005	0.008 + 0.001	0.010 + 0.001	0.0006+0.0001
	1.000000 MΩ	5 µA	0.002 + 0.001	0.010 + 0.001	0.012 + 0.001	0.0010+0.0002
	10.00000 MΩ	500 nA	0.015 + 0.001	0.030 + 0.001	0.040 + 0.001	0.0030+0.0004
	100.0000 MΩ	500nA|| 10MΩ	0.300 + 0.010	0.800 + 0.010	0.800 + 0.010	0.1500+0.0002
Diode	0 ~ 5 V	1 mA	0.002 + 0.010	0.008 + 0.020	0.010 + 0.020	0.0010+0.0020

Test [7]						
Continuity Test	2000.0 Ω	1 mA	0.002 + 0.010	0.008 + 0.020	0.010 + 0.020	0.0010+0.0020

[1] Specifications are for 90 minutes warm-up, and integration time 100 PLC. For integration time < 100 PLC, add the appropriate “RMS Noise Adder” listed in the following table.
[2] 10% over range on all ranges except for DCV 1000 V and DCI 10 A range.
[3] Relative to the calibration standards.
[4] For each additional volt over ± 500 V, add 0.03 mV error.
[5] 30 seconds OFF after 30 seconds ON is recommend for the continuous current that higher than DC 7 A or AC 7 Arms.
[6] Specifications are for 4-wire resistance measurement or 2-wire resistance measurement using “Ref” operation. Without “Ref” operation, add 0.2 Ω additional error in 2-wire resistance measurement.
[7] Accuracy specifications are only for voltage measuring at input terminal. The typical value of current under measure is 1mA. Voltage drop at diode junction may vary with current supply.

Performance Versus Integration Time

Integration Time	**Resolution** [1]	**NMRR**[2]	**Readings/s**[3]		**RMS Noise Adder**[4] **(% Range)**			
Number of Power Line Cycles[5] (NPLC)	(ppm Range)	(dB)	50Hz	60Hz	DC Voltage 20V	DC Voltage 2V 200V Resistance 2k Ω 20kΩ	DC Voltage 1000V DC Current 2mA 200mA	DC Voltage 200mV Resistance 200Ω DC Current 10A
0.006	2.7	0	8333	10000	0.0006	0.0010	0.0015	0.0080
0.02	1.6	0	2500	3000	0.0004	0.0008	0.0008	0.0080
0.06	1	0	833	1000	0.0004	0.0008	0.0006	0.0075
0.2	0.5	0	250	300	0.0001	0.0005	0.0003	0.0055
1	0.22	60	50	60	0	0.0001	0.0002	0.0004
10	0.08	60	5	6	0	0	0	0.0002
100	0.035	60	0.5	0.6	0	0	0	0

[1] Typical value. Resolution is defined as the typical 20 V range RMS noise.
[2] Normal mode rejection ratio for power-line frequency ± 0.1%. For power-line frequency ± 1%, subtract 20 dB. For ± 3%, subtract 30 dB.
[3] Maximum rate for DCV, DCI, 2-wire resistance and 4-wire resistance functions.
[4] The basic DC accuracy specifications include RMS noise at 100 PLC. For < 100 PLC, add “RMS Noise Adder” to the basic DC accuracy specifications.
[5] The PLC parameters in parentheses represent the integration time at 60 Hz power frequency in the power grid.

SFDR & SINAD[1]

Function	Range	Spurious-Free Dynamic Range (SFDR)	Signal to Noise and Distortion (SINAD)
DCV	200mV	80	76
	2V	78	78
	20V	79	75
	200V	83	80
	1000V	86	82
DCI	200uA	89	69
	2mA	86	81
	20mA	88	69
	200mA	81	79
	2A	69	64

[1] Typical value, -1 dBFS, 1 kHz single tone. 1000 us aperture time and trigger delay time set to 0, autozero off and sample point is 4096.

AC Characteristics

Accuracy ± (% of Reading + % of Range) [1]

Function	Range[2]	Frequency Range	24 Hours[3] TCAL℃±1℃	90 Days TCAL℃±5℃	1 Year TCAL℃±5℃	Temperature Coefficient 0℃ to (TCAL℃ -5℃) (TCAL℃ +5℃) to 50℃
True RMS AC Voltage [4]	200.0000 mV	3Hz- 5Hz	1.00 + 0.03	1.00 + 0.04	1.00 + 0.04	0.100+ 0.004
		5Hz-10Hz	0.35 + 0.03	0.35 + 0.04	0.35 + 0.04	0.035+ 0.004
		10Hz-20kHz	0.04 + 0.03	0.05 + 0.04	0.06 + 0.04	0.005+ 0.004
		20kHz-50kHz	0.10 + 0.05	0.11 + 0.05	0.12 + 0.05	0.011 + 0.005
		50kHz-100kHz	0.55 + 0.08	0.60 + 0.08	0.60 + 0.08	0.060+ 0.008
		100kHz- 300kHz	4.00 + 0.50	4.00 + 0.50	4.00 + 0.50	0.20 + 0.02
	2.000000 V	3Hz- 5Hz	1.00 + 0.02	1.00 + 0.03	1.00 + 0.03	0.100+ 0.003
		5Hz-10Hz	0.35 + 0.02	0.35 + 0.03	0.35 + 0.03	0.035+ 0.003
		10Hz-20kHz	0.04 + 0.02	0.05 + 0.03	0.06 + 0.03	0.005+ 0.003
		20kHz-50kHz	0.10 + 0.04	0.11 + 0.05	0.12 + 0.05	0.011 + 0.005
		50kHz-100kHz	0.55 + 0.08	0.60 + 0.08	0.60 + 0.08	0.060+ 0.008
		100kHz- 300kHz	4.00 + 0.50	4.00 + 0.50	4.00 + 0.50	0.20 + 0.02
	20.00000 V	3Hz- 5Hz	1.00 + 0.03	1.00 + 0.04	1.00 + 0.04	0.100+ 0.004

		5Hz-10Hz	0.35 + 0.03	0.35 + 0.04	0.35 + 0.04	0.035+ 0.004
		10Hz-20kHz	0.04 + 0.04	0.07 + 0.04	0.08 + 0.04	0.008+ 0.004
		20kHz-50kHz	0.10 + 0.05	0.12+ 0.05	0.15 + 0.05	0.012+ 0.005
		50kHz-100kHz	0.55 + 0.08	0.60 + 0.08	0.60 + 0.08	0.060+ 0.008
		100kHz- 300kHz	4.00 + 0.50	4.00 + 0.50	4.00 + 0.50	0.20 + 0.02
	200.0000 V	3Hz- 5Hz	1.00 + 0.02	1.00 + 0.03	1.00 + 0.03	0.100+ 0.003
		5Hz-10Hz	0.35 + 0.02	0.35 + 0.03	0.35 + 0.03	0.035+ 0.003
		10Hz-20kHz	0.04 + 0.02	0.07 + 0.03	0.08 + 0.03	0.008+ 0.003
		20kHz-50kHz	0.10 + 0.04	0.12+ 0.05	0.15 + 0.05	0.012+ 0.005
		50kHz-100kHz	0.55 + 0.08	0.60 + 0.08	0.60 + 0.08	0.060+ 0.008
		100kHz- 300kHz	4.00 + 0.50	4.00 + 0.50	4.00 + 0.50	0.20 + 0.02
	750.0000 V[5]	3Hz- 5Hz	1.00 + 0.02	1.00 + 0.03	1.00 + 0.03	0.100+ 0.003
		5Hz-10Hz	0.35 + 0.02	0.35 + 0.03	0.35 + 0.03	0.035+ 0.003
		10Hz-20kHz	0.04 + 0.02	0.07 + 0.03	0.08 + 0.03	0.008+ 0.003
		20kHz-50kHz	0.10 + 0.04	0.12+ 0.05	0.15 + 0.05	0.012+ 0.005
		50kHz-100kHz	0.55 + 0.08	0.60 + 0.08	0.60 + 0.08	0.060+ 0.008
		100kHz- 300kHz	4.00 + 0.50	4.00 + 0.50	4.00 + 0.50	0.20 + 0.02
True RMS AC Current [7]	200.0000 uA	3Hz- 5Hz	1.10 + 0.06	1.10 + 0.06	1.10 + 0.06	0.200+ 0.006
		5Hz-10Hz	0.35 + 0.06	0.35 + 0.06	0.35 + 0.06	0.100+ 0.006
		10Hz-5kHz	0.15 + 0.06	0.15 + 0.06	0.15 + 0.06	0.015+ 0.006
		5kHz-10kHz	0.35 + 0.70	0.35 + 0.70	0.35 + 0.70	0.030+ 0.006
	2.000000 mA	3Hz- 5Hz	1.00 + 0.04	1.00 + 0.04	1.00 + 0.04	0.100+ 0.006
		5Hz-10Hz	0.30 + 0.04	0.30 + 0.04	0.30 + 0.04	0.035+ 0.006
		10Hz-5kHz	0.12 + 0.04	0.12 + 0.04	0.12 + 0.04	0.015+ 0.006
		5kHz-10kHz	0.20 + 0.25	0.20 + 0.25	0.20 + 0.25	0.030+ 0.006
	20.00000 mA	3Hz- 5Hz	1.10 + 0.06	1.10 + 0.06	1.10 + 0.06	0.200+ 0.006
		5Hz-10Hz	0.35 + 0.06	0.35 + 0.06	0.35 + 0.06	0.100+ 0.006
		10Hz-5kHz	0.15 + 0.06	0.15 + 0.06	0.15 + 0.06	0.015+ 0.006
		5kHz-10kHz	0.35 + 0.70	0.35 + 0.70	0.35 + 0.70	0.030+ 0.006
	200.0000 mA	3Hz- 5Hz	1.00 + 0.04	1.00 + 0.04	1.00 + 0.04	0.100+ 0.006
		5Hz-10Hz	0.30 + 0.04	0.30 + 0.04	0.30 + 0.04	0.035+ 0.006
		10Hz-5kHz	0.10 + 0.04	0.10 + 0.04	0.10 + 0.04	0.015+ 0.006
		5kHz-10kHz	0.20 + 0.25	0.20 + 0.25	0.20 + 0.25	0.030+ 0.006

	2.000000 A	3Hz- 5Hz	1.10 + 0.06	1.10 + 0.06	1.10 + 0.06	0.100+ 0.006
		5Hz-10Hz	0.35 + 0.06	0.35 + 0.06	0.35 + 0.06	0.035+ 0.006
		10Hz-5kHz	0.15 + 0.06	0.15 + 0.06	0.15 + 0.06	0.015+ 0.006
		5kHz-10kHz	0.35 + 0.70	0.35 + 0.70	0.35 + 0.70	0.030+ 0.006
	10.00000 A[6]	3Hz- 5Hz	1.10 + 0.08	1.10 + 0.10	1.10 + 0.10	0.100+ 0.008
		5Hz-10Hz	0.35 + 0.08	0.35 + 0.10	0.35 + 0.10	0.035+ 0.008
		10Hz-5kHz	0.15 + 0.08	0.15 + 0.10	0.15 + 0.10	0.015+ 0.008

Additional Error in AC Measurement

Additional Low Frequency Errors(% of Reading)				**Additional Crest Factor Errors (No-sinewave)[8]**	
Frequency	**AC Filter**			**Wave Crest Coefficient**	**Error (% Range)**
	>3Hz	**>20Hz**	**>200Hz**		
10Hz-20Hz	0	0.74	--	1 - 2	0.05
20Hz-40Hz	0	0.22	--	2 - 3	0.2
40Hz-100Hz	0	0.06	0.73	3 - 4	0.4
100Hz-200Hz	0	0.01	0.22	4 - 5	0.5
200Hz-1kHz	0	0	0.18		
>1kHz	0	0	0		

[1] Specifications are for 90 minutes warm-up, filter set to > 3 Hz and sinewave input.
[2] 10% over range on all ranges except for ACV 750 V and ACI 10 A range.
[3] Relative to calibration standards.
[4] Specifications are for amplitude of sine wave input > 5% of range. For inputs from 1% to 5% of range and < 50 kHz, add 0.1% of range additional error. For 50 kHz to 100 kHz, add 0.13% of range additional error.
[5] ACV750 range limited to 8 x107 Volts·Hz. For input over 300 Vrms, add 0.7mV error for each additional volt.
[6] Specifications are for amplitude of sine wave input > 5% of range. For inputs within 1% to 5% of range, add 0.1% of range additional error. Specifications are typical values for 200uA, 2mA, 2A and 10A ranges when frequency > 1kHz.
[7] 30 seconds OFF after 30 seconds ON is recommend for the continuous current that higher than DC 7 A or AC 7 Arms.
[8] For frequency below 100 Hz, the specifications of slow filter are only for sinewave input.

Frequency and Period Characteristics

Accuracy ± (% of Reading + % of Range) [1]

Function	**Range[2]**	**Frequency Range**	**24 Hours[3] TCAL℃±1℃**	**90 Days TCAL℃±5℃**	**1 Year TCAL℃±5℃**	**Temperature Coefficient 0℃~(TCAL℃ -5℃)**

						(TCAL℃ +5℃)~ 50℃
Frequency, Period	200 mV to 750 V	3 Hz – 5Hz	0.07	0.07	0.07	0.005
		5 Hz – 10 Hz	0.04	0.04	0.04	0.005
		10 Hz – 40 Hz	0.02	0.02	0.02	0.001
		40 Hz–300 kHz	0.005	0.006	0.007	0.001
		300kHz–1 MHz	0.005	0.006	0.007	0.001

Frequency	**Gate Time (Resolution)**		
	1 s (0.1ppm)	**0.1 s (1ppm)**	**0.01 s (10ppm)**
3 Hz – 5Hz	0	0.12	0.12
5 Hz – 10 Hz	0	0.17	0.17
10 Hz –40 Hz	0	0.20	0.20
40 Hz – 100 Hz	0	0.06	0.21
100 Hz –300 Hz	0	0.03	0.21
300Hz – 1 kHz	0	0.01	0.07
> 1 kHz	0	0	0.02

[1] Specifications are for 90 minutes warm-up, using 1s gate time.

[2] For frequency ≤ 300 kHz, the specification is the 10% to 110% of range of the AC input voltage. For frequency > 300kHz, the specification is the 20% to 110% of range of the AC input voltage. The maximum input is limited to 750 Vrms or 8 ×107 Volts·Hz (whichever is less). The accuracy is 10 times of reading accuracy in table when the AC voltage is at 200 mV range.

Capacitance Characteristics

Accuracy ± (% of Reading + % of Range) [1]

Function	**Range[2]**	**Test Current**	**1 Year TCAL℃±5℃**	**Temperature Coefficient 0℃~(TCAL℃ -5℃) (TCAL℃ +5℃)~ 50℃**
Capacitance	2.0000 nF	5 μA	2 + 2.5	0.05 + 0.05
	20.000 nF	5 μA	1 + 0.3	0.05 + 0.01
	200.00 nF	10μA	1 + 0.3	0.01 + 0.01
	2.0000μF	100μA	1 + 0.3	0.01 + 0.01
	20.000μF	1mA	1 + 0.3	0.01 + 0.01
	200.00μF	1mA	1 + 0.3	0.01 + 0.01
	2.0000 mF	1 mA	1 + 0.3	0.01 + 0.01
	20.000 mF	1 mA	1 + 0.3	0.01 + 0.01
	100.00 mF	1 mA	3 + 0.2	0.05 + 0.02

[1] Specifications are for 90 minutes warm-up and “Ref” operation. Using of non-film

capacitor may generate additional errors.
[2] Specifications are for from 1% to 110% on 2 nF range and from 10% to 110% on other ranges.

Temperature Characteristics

Accuracy ± (% of Reading + % of Range) [1]

Function	Probe Type	Probe Model	Working Temperature Range	1 Year TCAL℃±5℃	Temperature Coefficient 0℃~(TCAL℃ -5℃) (TCAL℃ +5℃)~ 50℃
Temperature	RTD[2](R0 within 80Ω~120Ω)	α=0.00385	-200℃~ 660℃	0.16℃	0.01℃
	Thermistor	5 kΩ	-80℃~150℃	0.16℃	0.01℃
	TC[3]	B	350℃~ 1820℃	0.76℃	0.14℃
		E	-200℃~ 1000℃	0.5℃	0.02℃
		J	-200℃~ 1200℃	0.5℃	0.02℃
		K	-200℃~ 1372℃	0.5℃	0.03℃
		N	-200℃~ 1300℃	0.5℃	0.04℃
		R	0℃~ 1768℃	0.5℃	0.09℃
		S	0℃~ 1768℃	0.6℃	0.11℃
		T	-200℃~ 400℃	0.5℃	0.03℃

[1] Specifications are for 90 minutes warm-up, not include probe error.
[2] Specifications are for 4-wire measure or 2-wire measure under “Ref” operation.
[3] Relative to cold junction temperature, accuracy is based on ITS-90. Built-in cold junction temperature refers to the temperature inside the banana jack and its accuracy is ± 2 ℃.

Measurement Rate

Multimeter Measurement Rate[1]

Function	Setting	Integration Time	Readings/s 50Hz(60Hz)
DC Voltage DC Current 2-Wire Resistance 4-Wire Resistance	0.006 NPLC	120(100)us	8333 (10000)
	0.02 NPLC	400(333.3)us	2500 (3000)
	0.06 NPLC	1.2 (1)ms	833 (1000)
	0.2 NPLC	4 (3.33)ms	250 (300)
	1 NPLC	20(16.7)ms	50 (60)
	10 NPLC	200(167)ms	5 (6)
	100 NPLC	2(1.67)s	0.5 (0.6)
AC Voltage AC Current	3Hz AC Filter		0.4
	20Hz		1.6
	200Hz		5

Frequency / Period[2]	1s Gate Time		1
	0.1s		10
	0.01s		100

[1] Auto trigger, zero trigger delay, auto zero off and auto range off.
[2] 20V Range, 1kHz input.

Measuring Method and Other Characteristics

DC Voltage	
Input Resistance	200 mV, 2 V, 20V range: 10 MΩ or >10 GΩ selectable (For these ranges, input beyond ±26V are clamped through inner 106 kΩ resistor)
	200 V and 1000 V Range; 10 MΩ±1%
Input Bias Current	50 pA, 25°C , typical
Input Protections	1000 V on all ranges
CMRR	140dB, for the 1 kΩ unbalanced resistance in LO lead, max ± 500 VDC peak
Resistance	
Testing Method	2-wire resistance or 4-wire resistance
	Current source reference to LO input
Open Circuit Voltage	Limited to <10V
Max. Lead Resistance(4-wire resistance)	10% of range per lead for 200 Ω, 2 kΩ ranges, 1 kΩ per lead on all other ranges
Input Protection	1000 V on all ranges
DC Current	
Shunt Resistor	200uA, 2mA range: 100Ω
	20mA, 200mA range: 1Ω
	2A, 10A range: 0.01Ω
Input Protection	Replaceable 10 A, 250 V fast-acting fuse located on the panel
	Internal 12 A,250 V low-acting fuse
Continuity / Diode Test	
Measurement Method	Measure resistance or voltage using 1 mA ± 5% constant-current source
Response Time	1000 samples/s
Beeper	Yes
Continuity Threshold	Adjustable from 1Ω to 2 kΩ
Diode Threshold	Adjustable from 0V~5V
Input Protection	1000 V on all ranges
Setting Time Considerations	

Reading settling times are affected by source impedance, cable dielectric characteristics and input signal changes. The default measurement delay is selected to give first reading right for most measurements	
Measurement Considerations	
Teflon or other high-impedance, low-dielectric absorption wire insulation is recommended for these measurements	
Auto-Zero Off Error	
Within ±1℃ and ≤10 minutes since last auto-zero: ±(0.0002% of Range + 3 μV) Within ±5℃ and ≤60 minutes since last auto-zero: ±(0.0010% of Range + 10 μV)	
True RMS AC Voltage	
Measurement Method	AC-Coupled True-RMS measurement with up to 400 V DC of bias on any range
Wave Crest Factor	≤ 5 at full scale
Input Impedance	1MΩ±2％ in parallel with <150 pF capacitance on all ranges
Input Protection	750V rms on all ranges
AC Filter Bandwidth	Slow: 3 Hz ～ 300 kHz
	Medium: 20 Hz ～ 300 kHz
	Fast: 200 Hz ～ 300 kHz
CMRR	70dB, Maximum ±500 VDC peak for 1 kΩ imbalance resistance on LO leads and common-mode frequency < 60 Hz
True RMS AC Current	
Measurement Method	DC Coupled to the fuse and shunt; AC Coupled the True-RMS measurement (measure the AC components only)
Wave Crest Factor	≤ 3 at full scale
Max Input	< 10 Arms (RMS current including DC component)
Shunt Resistor	200uA, 2mA: 100Ω
	20mA , 200mA: 1Ω
	2A,10A : 0.01Ω
Input Protection	Replaceable 10 A, 250 V fast-acting fuse located on the panel
	Internal 12 A,250 V low-acting fuse
Setting Time Considerations	
The default measurement delay is selected to give first reading right for most measurements. Make sure the RC circuit of input terminal has been fully settled (about 1s) before accurate measurement. Applying > 300 Vrms (or > 5 Arms) will cause self-heating in signal-conditioning components and these errors are included in the instrument specifications. Internal temperature changes due to self-heating may cause additional error on lower AC voltage ranges. The additional error will be lower than 0.02% of reading and will generally dissipate within a few minutes	
Frequency / Period	
Measurement Method	Reciprocal-counting technique, AC-Coupled input using AC voltage measurement function

Input Impedance	1 MΩ ± 2% in parallel with < 150 pF capacitance on all ranges
Input Protection	750V rms on all ranges
Measurement Considerations	All frequency counters introduce errors when measuring low-voltage, low-frequency signals. Shielding the input is very helpful for reducing measurement errors caused by external noise.
Setting Time Considerations	Errors will occur when attempting to measure the frequency or period of an input following a DC current change. Make sure the RC circuit of input terminal has been fully settled (about 1s) before accurate measurement
Capacitance Measuring	
Measurement Method	Measure the rate of change of voltage generated during the current flowing the capacitance
Connection Type	2-wire
Input Protection	1000 V on all ranges
Measurement Considerations	Since small capacitance measurements are susceptible to the external noise, shielding inputs from external noise pickup is critical for minimizing measurement errors
Temperature Measuring	
Measurement Method	Supports temperature measurement for thermocouples, RTDs, and thermistors
Measurement Considerations	The built-in cold junction temperature tracks the temperature inside the banana jack. The change of the temperature in banana jack may cause additional error. When using the built-in cold junction compensation, connect the sensor terminal of the thermocouple to the banana jack and allow it warm up for more than 3 minutes to minimize the error
Trigger and Memory	
Samples / Trigger	Delay trigger, Internal Trigger or External Trigger, Rising Edge Trigger or Falling Edge Trigger
Time Base Resolution	<40us
Trigger Delay	Adjusting from 0 ~ 3600s
Single Trigger Samples	1 to 1 000 000
External Trigger Input	Input Level: 5V TTL compatible (High level when left input terminal is hanging in the air)
	Trigger Condition: rising and falling selectable
	Input Impedance：≥ 30kΩ//500pF
	Delay: < 50 μs
	Max Rate: 1000 / s
	Min Pulse: 2μs
VMC Output	Level: 5V TTL compatible
	Output Polarity: positive and negative optional

	Output Impedance: 100Ω, typical
	Pulse Width: about 2μs
History Record Function	
Volatile memory	1 000 000
Non-volatile memory	2G NAND Flash total capacity for massive storage of instrument setup files and data files (TBC)
Math Function	
Min / Max / Average / Standard deviation, dBm, dB, Limit, Relative, Bar, Trend, Histogram	

General Specifications

Power Supply	
AC 100 V ～ 120 V	45 Hz ~ 66 Hz
AC 200 V ～ 240 V	45 Hz ~ 66 Hz
Consumption	25VA max
Mechanism	
Dimension(W*H*D) (mm)	109 * 226 * 320
Weight	Approx. 3.5kg
Other Characteristics	
Display Screen	4.3-inch, IPS touch screen with resolution 480x800
Operation Environment	Full accuracy for 0℃~ 50℃; Full accuracy to 40℃, 80%RH (non-condensing)
	Storage temperature: -20℃ ~70℃
	Shock and Vibration: MIL-T-28800E, Class III, Grade 5 (Sine only)
	Altitude: up to 3000 meters
Electromagnetic Compatibility	Complies with EMC Directive (2004/108/EC), compliant to standards EN 61326-1:2013, EN 61010-2-030
Safety	Compliant with the Low Voltage Directive (2006/95/EC) and standard EN61010-1:2010, measurement CAT I 1000V/CAT II 600V，EN61010-2-030
Remote Interface	10 / 100Mbit LAN, USB Device, USB Host, RS232
Programmer Language	SCPI-compliant with the latest widely used multimeter command sets
Warm-up Time	120 minutes

Interval Period of Adjustment:

One year is recommended for the calibration interval period.

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V1.0.1