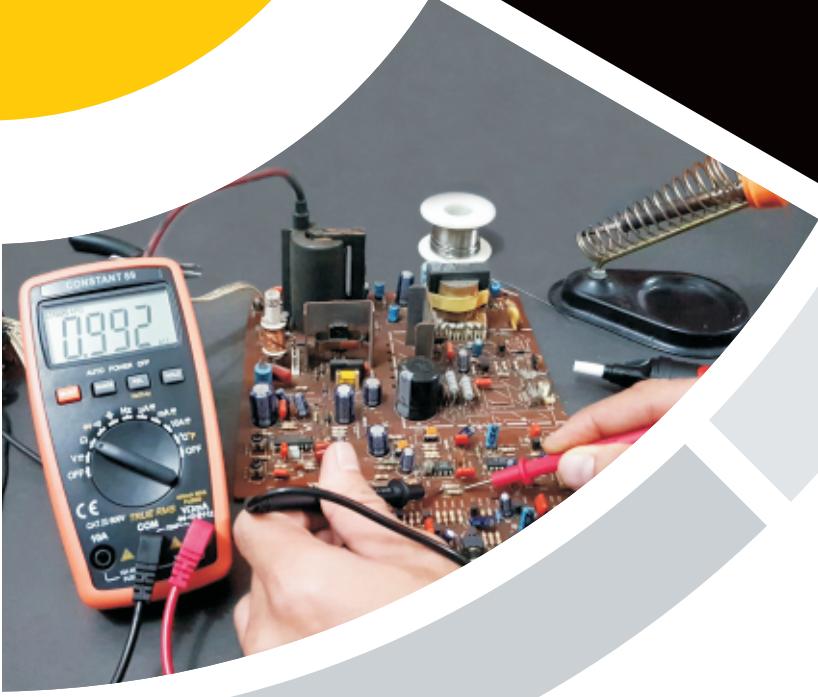




constantinstruments.com



GENERAL CATALOG

AC600 Auto Range Digital AC Clamp Meter 600A

Function	Range	Accuracy
AC voltage	200mV	±(1.5% of rdg + 5dgts)
	2 / 20 / 200 / 600V	±(1.2% of rdg + 3dgts)
DC voltage	200mV	±(1.2% of rdg + 5dgts)
	2 / 20 / 200 / 600V	±(1.0% of rdg + 2dgts)
Resistance	200 / 2k / 20k / 200k / 2M / 20MΩ	±(1.5% of rdg + 3dgts)
	2 / 20A	±(3.0% of rdg + 5dgts)
AC current	200 / 600A	±(2.5% of rdg + 3dgts)
	>100V (non-contact AC voltage detection)	
Display	2000 counts	
Indication	polarity, over range, low battery	
Operation	0 ~ 40°C	
Storage	-10 ~ 50°C	
Power supply	2 x 1.5V (AAA battery)	
Size	186 x 75 x 28mm	
Weight	±170g	
Accessories	test leads, batteries, instruction manual, warranty card, certificate of product conformance	

AC/A, DCV/ACV, Ω, →, (•), NCV, AUTO POL, DATA HOLD

ADC600 True RMS Digital AC/DC Clamp Meter 600A

Function	Range	Accuracy
AC voltage	400mV	±(1.5% of rdg + 5dgts)
	4 / 40 / 400 / 600V	±(1.2% of rdg + 3dgts)
DC voltage	400mV	±(1.2% of rdg + 5dgts)
	4 / 40 / 400 / 600V	±(1.0% of rdg + 2dgts)
Resistance	400 / 4k / 40k / 400k / 4MΩ	±(1.2% of rdg + 3dgts)
	40MΩ	±(2.5% of rdg + 3dgts)
AC current	4 / 40A	±(2.5% of rdg + 15dgts)
	400 / 600A	±(2.5% of rdg + 5dgts)
DC current	4 / 40A	±(3.0% of rdg + 5dgts)
	400 / 600A	±(2.5% of rdg + 7dgts)
Frequency	10 ~ 50kHz	±(1.0% of rdg + 2dgts)
	10 ~ 500kHz	±(1.5% of rdg + 4dgts)
Capacitance	5n ~ 5μF	±(2.5% of rdg + 10dgts)
	5μ ~ 200μF	±(4.0% of rdg + 20dgts)
Temperature	0 ~ 400°C / 32 ~ 752°F	±(1.0% of rdg + 3dgts)
	400 ~ 750°C / 752 ~ 1382°F	±(2.0% of rdg + 1dgts)
NCV	>100V (non-contact AC voltage detector)	
Display	4000 counts	
Indication	polarity, over range, low battery	
Operation	0 ~ 40°C	
Storage	-10 ~ 50°C	
Power supply	2 x 1.5V (AAA battery)	
Size	186 x 75 x 28mm	
Weight	±190g	
Accessories	test leads, batteries, instruction manual, warranty card, certificate of product conformance	

DCA/ACA, DDCV/ACV, Ω, Hz, →, (•), NCV, AUTO POL, REL, DATA HOLD, RMS

1KV Digital Insulation Tester

Insulation			INS Ω
50V (0 ~ 20%)	0 ~ 20MΩ / 20M ~ 50MΩ	±(3% of rdg + 5dgts)	
100V (0 ~ 20%)	0 ~ 20MΩ / 20M ~ 100MΩ	±(3% of rdg + 5dgts)	
250V (0 ~ 20%)	0 ~ 20MΩ / 20M ~ 200MΩ / 200M ~ 250MΩ	±(3% of rdg + 5dgts)	
500V (0 ~ 20%)	0 ~ 20MΩ / 20M ~ 200MΩ / 200M ~ 500MΩ	±(3% of rdg + 5dgts)	
1000V (0 ~ 20%)	0 ~ 200MΩ / 200M ~ 1000MΩ	±(3% of rdg + 5dgts)	
	1.00G ~ 5.00GΩ	±(5% of rdg + 0.1GΩ)	
DC Voltage	5.00G ~ 10.00GΩ	±(10% of rdg + 0.2GΩ)	
	200 / 1000V	±(0.5% of rdg + 5dgts)	
AC Voltage	200 / 750V	±(1.5% of rdg + 5dgts)	
Resistance	20 / 200Ω	±(1% of rdg + 5dgts)	
Insulation test voltages	50, 100, 250, 500, 1000V		
Insulation source voltage	+20%, -0%		
Insulation short circuit test current	1.8mA nominal		
Insulation auto discharge	discharge time < 2 second for C = 1μF or less		
Insulation live circuit detection	inhibit test if terminal voltage > 20V prior to initialization of test		
Insulation maximum capacitive load	up to 1μF load		
Storage temperature	-40 ~ 60°C		
Operating temperature	0 ~ 40°C		
Relative humidity	40 ~ 75% (40 ~ 60% when insulation test > 1GΩ)		
Power supply	6 x 1.5V (AA battery)		
Size	180 x 140 x 65mm		
Weight	±900g		
Accessories	test leads, clips, batteries, instruction manual, warranty card, certificate of product conformance		

AC1000 Digital AC Clamp Meter 1000A

Function	Range	Accuracy
DC voltage	1000V	±1.0% of rdg ± 2dgts
	750V	±1.0% of rdg ± 5dgts
AC voltage	20A	±2.0% of rdg ± 5dgts
	200A	±2.0% of rdg ± 5dgts
AC current	1000A	±2.0% of rdg ± 7dgts
	2000Ω	±1.0% of rdg ± 3dgts
Resistance	2000Ω	±1.0% of rdg ± 3dgts
	20000Ω	±1.0% of rdg ± 3dgts
Continuity	if continuity exists (±<30Ω), built-in buzzer will sound	
Temperature	400 ~ 750°C	±1.0% of rdg ± 5dgts
	0 ~ 400°C	±1.0% of rdg ± 3dgts
	-40 ~ 0°C	±1.0% of rdg ± 6dgts
Display	1999 counts	
Sampling rate	2~3times/sec	
Clamp	ø42mm max	
Power supply	9V battery	
Size	250 x 99x 43mm	
Weight	±460g	
Accessories	test leads, K type thermocouple, battery, instruction manual, warranty card, certificate of product conformance	

AC/A, DCV/ACV, Ω, →, (•), °C, AUTO POL, DATA HOLD

ADC1000 Digital AC/DC Clamp Meter 1000A

Function	Range	Accuracy
DC voltage	0.4 / 4 / 40 / 400V	±0.7% of rdg ± 1dgts
	1000V	±0.8% of rdg ± 3dgts
AC voltage	4 / 40 / 400V	±0.8% of rdg ± 5dgts
	700V	±1.0% of rdg ± 10dgts
DC current	400 / 1000A	±3.0% of rdg ± 3dgts
	AC current	±3.0% of rdg ± 3dgts
Resistance	400 / 4k / 40k / 400k / 4MΩ	±1.2% of rdg ± 1dgts
	40MΩ	±2.0% of rdg ± 3dgts
Capacitance	4n / 40n / 400n / 4μF	±4.0% of rdg ± 10dgts
Frequency	40 / 400 / 4k / 40k / 100kHz	±2.0% of rdg ± 1dgts
Temperature	400 ~ 750°C	±1.0% of rdg ± 5dgts
	0 ~ 400°C	±1.0% of rdg ± 3dgts
	-40 ~ 0°C	±1.0% of rdg ± 6dgts
Continuity	if continuity exists (±<30Ω), built-in buzzer will sound	
Diode	display approx. forward voltage drop of the diode	
Duty cycle	0.1 ~ 99.9%	
Display	3999 counts	
Sampling rate	2~3times/sec	
Clamp	ø42mm max	
Power supply	9V battery	
Size	250 x 99x 43mm	
Weight	±480g	
Accessories	test leads, K type thermocouple, battery, instruction manual, warranty card, certificate of product conformance	

DCA/ACA, DDCV/ACV, Ω, Hz, Duty, →, (•), °C, AUTO POL, REL, DATA HOLD

5KV Insulation Tester

Function	Insulation resistance				Voltage	Resistance
Range	500V	1000V	2500V	5000V	AC/DCV	
Measuring range (auto range)	0~6.000MΩ	0~6.000MΩ	0~60.00MΩ	60~60.00MΩ	0~600.0V (50~1kHz)	0~600.0Ω 600~6000Ω
	6~60.00MΩ	6~60.00MΩ	60~600.0MΩ	60~600.0MΩ		
	60~600.0MΩ	60~600.0MΩ	0.6~6.000GΩ	0.6~6.000GΩ		
	600~6000MΩ	600~6000MΩ	6~60.00GΩ	6~60.00GΩ		
Accuracy	±5%rdg±3dgts; ±20% (>6GΩ or more)				±1.5%rdg±5dgts	±1.5%rdg±10dgts
Short circuit current	±1.3mA				-	
Rated test current (at load resistance)	1m~1.2mA 0.5MΩ	1m~1.2mA 1MΩ	1m~1.2mA 2.5MΩ	1m~1.2mA 5MΩ	-	
Open circuit voltage	500VDC	1000VDC	2500VDC	5000VDC	-	
Continuity check	buzzer sound at 50Ω					
Display	6000 counts					
Current consumption	±1000mA (during measurement)				±25mA	
Withstand voltage	5320V AC for 5 seconds					
Safety standard	IEC 61010-1 CAT IV 600V Pollution Degree 2					
Power supply	8 x 1.5V (C battery)					
Dimensions	198 x 148 x 86mm					
Weight	±1438g					
Accessories	test leads, AC adaptor, instruction manual, warranty card, certificate of product conformance					

INS
Ω
DCV
ACV
AUTO
CATIV
600V

260W Three Phase Digital Power Clamp Meter with Harmonic Test

Function	Range	Accuracy
AC voltage	80 / 180 / 400 / 600V	±(1% of rdg + 5dgts)
AC current	20 / 40 / 100 / 200 / 450 / 1000A	±(2% of rdg + 5dgts)
Power factor	0.3 ~ 1 (capacitive / inductive)	±(0.02% of rdg + 2dgts)
Single phase AP	30k/ 60k/ 120k/ 150k/ 300k/ 600kW	±(3% of rdg + 5dgts)
Three phase AP	3k/ 12k/ 30k/ 120k/ 150k/ 600kVA	±(3% of rdg + 5dgts)
Frequency	30 ~ 1kHz	±(0.5% + 1) graduation
Passive power	3k/ 12k/ 30k/ 120k/ 150k/ 600kVAr	±(3% of rdg + 5dgts)
Harmonic test	1 2 ~ 6 7 ~ 8 9 ~ 10 11 ~ 15 16 ~ 20	±(3% of rdg + 10dgts) ±(3.5% of rdg + 10dgts) ±(4.5% of rdg + 10dgts) ±(5% of rdg + 10dgts) ±(7% of rdg + 10dgts) ±(10% of rdg + 10dgts)

RMS ACV ACA Hz 232c AUTO POE DATA HOLD

Check Pen PLUS Non-Contact AC Voltage Detector 1000V CAT III with Electric Torch

AC voltage range	12 ~ 1000V
Frequency	50/60Hz
Alarm mode	sound and light alarm
Electric torch	white illumination lamp
Auto power off	5 minutes
Power source	2 x 1.5V (AAA battery)
Over voltage	EN61010-1 1000V CAT III
Service temperature	0 ~ 40°C
Storage temperature	-10 ~ 50°C
Power supply	2 x 1.5V (AAA battery)
Size	156 x 20 x 20mm
Weight	45g
Accessories	batteries, instruction manual, warranty card, certificate of product conformance

Max. common V	600 V AC RMS
Display	LCD
Max. reading	6000
Range selection	Automatic
Frequency detection	Automatic
Power consumption	250mW
Temp. coefficient	0.05x (specified accuracy) per °C
Electromagnetic compatibility	In a RF field of 3V/m, accuracy = specified accuracy. Otherwise accuracy is unspecified.
Operating altitude	2000m CAT III 600V, 3000m CAT II 600V
Store altitude	12000m
Ambient temperature	18 ~ 28°C
Humidity	80%
I & V frequency	45 ~ 65Hz
Power supply	4 x 1.5V (AA size)
Size	300 x 103 x 51mm
Weight	500g (including batteries)
Accessories	batteries, instruction manual, warranty card, certificate of product conformance

25ER Analog Earth Resistance Tester

Function	Range	Accuracy
Earth resistance	10 / 100 / 1000Ω	±5% of full scale rdg
Earth voltage	30V AC (5kΩ/V)	±5% of full scale rdg
Power supply	8 x 1.5V (AA battery)	
Size	140 x 140 x 90mm	
Weight	±800g	
Accessories	batteries, test lead (5m, 10m, 15m), auxiliary earth bars, water resistant hard case, instruction manual, warranty card, certificate of product conformance	



Multimeter Comparative Chart

Function	AM47i	Auto DMM800	50	600IV	89	90F	LCR95
AC current		•		•	•	•	•
DC current	•	•	•	•	•	•	•
AC voltage	•	•	•	•	•	•	•
DC voltage	•	•	•	•	•	•	•
Resistance	•	•	•	•	•	•	•
Capacitance	•	•		•	•	•	•
Inductance							•
Frequency		•		•	•	•	•
Duty cycle		•		•	•		
Diode	•	•	•	•	•	•	•
Continuity	•	•	•	•	•	•	•
Temperature				•	•	•	•
Transistor	•		•				•
Intelligent protection	•						
NCV detection				•			
CAT IV 600V				•			
True RMS				•	•		

Auto DMM800 Digital Multimeter

Function	Range	Accuracy
AC current	40.00m / 400.0mA	±(2.8% rdg + 5dgts)
DC current	40.00m / 400.0mA	±(2.2% rdg + 5dgts)
AC voltage	4.000V	±(1.6% rdg + 9dgts)
	40.0 / 400.0 / 600V	±(1.6% rdg + 5dgts)
DC voltage	400.0mV	±(0.8% rdg + 3dgts)
	4.000 / 40.00 / 400.0 / 600V	±(1.1% rdg + 3dgts)
Resistance	400.0Ω	±(1.5% rdg + 5dgts)
	4.000k / 40.00k / 400.0kΩ	±(1.2% rdg + 5dgts)
	4.000MΩ	±(2.0% rdg + 3dgts)
	40.00MΩ	±(4.0% rdg + 3dgts)
Capacitance	50.00n / 500.0n / 5.000μ /	±(5.0% rdg + 10dgts)
	50.00μ / 100.0μF	
Frequency	5.000 / 50.00 / 500.0 /	±(3.0% rdg + 5dgts)
	5.000k / 50.00k / 100.0kHz	
Duty cycle	10 ~ 90%	±(3.0% rdg + 5dgts)
Diode	open voltage : ±1.5V DC	
Continuity	buzzer sounds at less than 10 ~ 70Ω; open voltage : ±0.4V DC	
Display	3½ digits, 4000 counts	
Sampling rate	±2 times/sec	
Power supply	2 x 1.5V (AA battery)	
Size	176 x 104 x 46mm	
Weight	±340g	
Accessories	batteries, instruction manual, warranty card, certificate of product conformance	



600IV True RMS DMM CAT IV with Bar Graph

Function	Range	Accuracy
AC current	600.0μ / 6000μ / 60.00mA	±(1.0% rdg + 3dgts)
	600.0mA	±(1.2% rdg + 3dgts)
	10A	±(2.0% rdg + 3dgts)
DC current	600.0μ / 6000μ / 60.00mA	±(0.8% rdg + 3dgts)
	600.0mA	±(1.2% rdg + 3dgts)
	10A	±(1.8% rdg + 3dgts)
AC voltage	6.000 / 60.00 / 600.0V	±(0.8% rdg + 4dgts)
	1000V	±(1.2% rdg + 4dgts)
DC voltage	600.0m / 6.000 / 60.00 / 600.0V	±(0.1% rdg + 2dgts)
	1000V	±(0.3% rdg + 2dgts)
Resistance	600.0 / 6.000kΩ	±(0.5% rdg + 4dgts)
	60.00k / 600.0kΩ	±(0.5% rdg + 2dgts)
	6.000M / 60.00MΩ	±(1.5% rdg + 8dgts)
Capacitance	40.00nF	±(5.0% rdg + 20dgts)
	400.0n / 4.000μ /	±(3.0% rdg + 5dgts)
	40.00μ / 400.0μF	±(5.0% rdg + 10dgts)
Frequency	9.999 / 99.99 / 999.9 / 9.999k / 99.99k / 999.9kHz	±(1.2% rdg + 3dgts)
	9.999MHz	±(1.5% rdg + 4dgts)
Duty cycle	0.1 ~ 99.9%	±(1.2% rdg + 2dgts)
Temperature	-20 ~ 400 / 400 ~ 1000°C	±(3% rdg + 5°C)
	-4 ~ 752 / 752 ~ 1832°F	±(3% rdg + 8°F)
Diode	display approx. forward voltage drop of the diode	
Continuity	if continuity exist (<30Ω), built-in buzzer will sound	
NCV alert	110 ~ 240V AC	
Display	6000 counts backlit liquid crystal with bar graph	
Power supply	9V battery	
Size	187 x 81 x 50mm	
Weight	±342g	
Accessories	test leads, K-type thermocouple, battery, carrying case, instruction manual, warranty card, certificate of product conformance	

50 Digital Multimeter

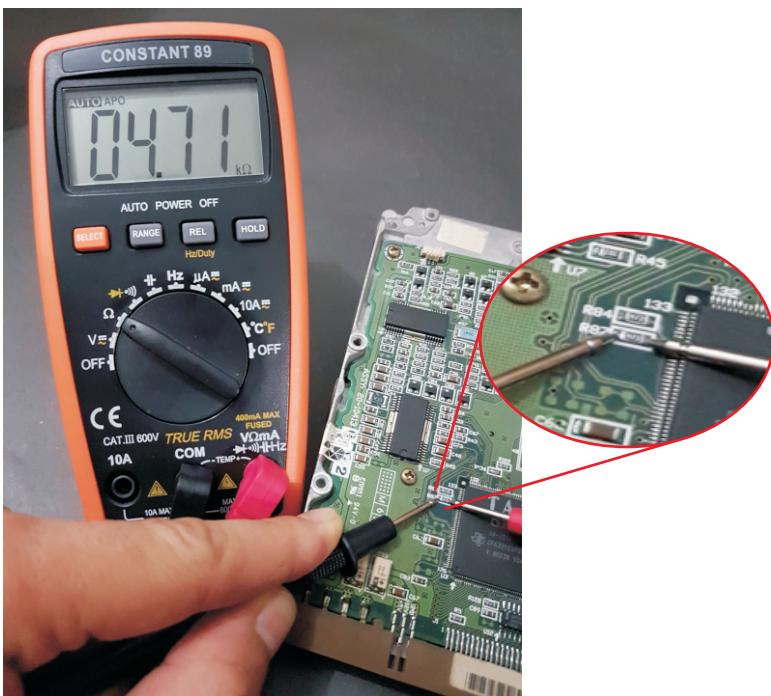
Function	Range	Accuracy
DC current	20μ / 200μ / 2m	±(1.0% rdg + 3dgts)
	20mA	±(1.0% rdg + 5dgts)
	200mA	±(1.5% rdg + 5dgts)
	10A	±(3.0% rdg + 10dgts)
AC voltage	200 / 600V	±(1.2% rdg + 10dgts)
DC voltage	200m / 2 / 20 / 200V	±(0.5% rdg + 3dgts)
	600V	±(0.8% rdg + 5dgts)
Resistance	200Ω	±(0.8% rdg + 5dgts)
	2k / 20k / 200kΩ	±(0.8% rdg + 2dgts)
	2MΩ	±(1.0% rdg + 5dgts)
hFE	display approx. hFE value of PNP/NPN transistor	
Diode	display approx. forward voltage drop of the diode	
Continuity	If continuity <(70±30)kΩ, built-in buzzer will sound	
Display	3½ digits, 1999 counts	
Power supply	9V battery	
Size	144 x 74 x 40mm	
Weight	±160g	
Accessories	test leads, battery, instruction manual, warranty card, certificate of product conformance	

89 True RMS Auto Range DMM with 3999 Counts

Function	Range	Accuracy
AC current	400 μ / 4m / 40m / 400mA	$\pm(1.5\% \text{ rdg} + 10\text{dgts})$
	10A	$\pm(2.5\% \text{ rdg} + 15\text{dgts})$
DC current	400 μ / 4m / 40m / 400mA	$\pm(1.0\% \text{ rdg} + 10\text{dgts})$
	10A	$\pm(1.2\% \text{ rdg} + 10\text{dgts})$
AC voltage	4 / 40 / 400V	$\pm(0.8\% \text{ rdg} + 6\text{dgts})$
	600V	$\pm(1.0\% \text{ rdg} + 6\text{dgts})$
DC voltage	400m / 4 / 40 / 400V	$\pm(0.5\% \text{ rdg} + 4\text{dgts})$
	600V	$\pm(1.0\% \text{ rdg} + 4\text{dgts})$
Resistance	400 Ω	$\pm(0.8\% \text{ rdg} + 5\text{dgts})$
	4k / 40k / 400k / 4M Ω	$\pm(0.8\% \text{ rdg} + 4\text{dgts})$
	40M Ω	$\pm(1.2\% \text{ rdg} + 10\text{dgts})$
Capacitance	4nF	$\pm(5.0\% \text{ rdg} + 90\text{dgts})$
	40n / 400n / 4 μ / 40 μ F	$\pm(3.5\% \text{ rdg} + 8\text{dgts})$
	100 μ F	$\pm(5.0\% \text{ rdg} + 8\text{dgts})$
Frequency	1 / 10 / 100 / 1k / 10k / 100k / 1M / 30MHz	$\pm(0.5\% \text{ rdg} + 10\text{dgts})$
Temperature	-20 ~ 1000°C (<400°C)	$\pm(1.0\% \text{ rdg} + 5\text{dgts})$
	-20 ~ 1000°C (=400°C)	$\pm(1.5\% \text{ rdg} + 15\text{dgts})$
Diode	display approx. forward voltage drop of the diode	
Continuity	if continuity exist (<50 Ω), built-in buzzer will sound	
Duty cycle	0.1 ~ 99.9%	
Display	3 $\frac{1}{2}$ digits, 3999 counts	
Power supply	2 x 1.5V (AAA battery)	
Size	145 x 74 x 36mm	
Weight	$\pm 190\text{g}$	
Accessories	test leads, batteries, K-type thermocouple, soft case, instruction manual, warranty card, certificate of product conformance	

RMS DCA ACA DCV ACV Ω Hz $^{\circ}\text{C}$ AP OFF RMS



Features

- New type holster, streamline design
- Large LCD makes clearly reading
- Strong antimagnetic and anti jamming performance
 - Auto power off within 30 minutes
- Full function protection, anti high voltage circuit design (voltage dependent resistor : 1300V)
 - Unit symbol display, very easy to reading
 - Self discharge when capacitance measuring
 - Max. capacitance measurement range of 2000 μ F



LCR95 LCR Multimeter

Function	Range	Accuracy
DC voltage	20m / 2 / 20 / 200 / 1000V	$\pm(0.5\% \text{ rdg} + 3\text{dgts})$
AC voltage	200m / 2 / 20 / 200 / 750V	$\pm(0.8\% \text{ rdg} + 5\text{dgts})$
DC current	200 μ / 2m / 20m / 200m / 20A	$\pm(0.8\% \text{ rdg} + 3\text{dgts})$
AC current	200 μ / 2m / 20m / 200m / 20A	$\pm(1.0\% \text{ rdg} + 5\text{dgts})$
Resistance	200 / 2k / 20k / 200k / 2M / 20M Ω	$\pm(0.8\% \text{ rdg} + 5\text{dgts})$
Inductance	2m / 20m / 200m / 2 / 20H	$\pm(3.0\% \text{ rdg} + 10\text{dgts})$
Capacitance	20n / 200n / 2 μ / 20 μ / 2000 μ F	$\pm(2.5\% \text{ rdg} + 20\text{dgts})$
Frequency	200kHz	$\pm(3.0\% \text{ rdg} + 15\text{dgts})$
Temperature	-40 ~ 1000°C	$\pm(0.8\% \text{ rdg} + 4\text{dgts})$
Other function	diode test, hFE test, continuity $\pm(30\Omega \pm 10\Omega)$	
Protection	function, anti-shock	
Sampling rate	3times/s	
Response	40 ~ 400Hz (AC frequency response)	
Max. display	3 $\frac{1}{2}$ digits, 1999 counts	
LCD size	65 x 41mm	
Power supply	9V battery	
Size	185 x 93 x 35mm	
Weight	290g (including battery)	
Accessories	test leads, battery, temperature probe, instruction manual, warranty card, certificate of product conformance	

DCA ACA DCV ACV Ω Hz $^{\circ}\text{C}$ hFE AP OFF DATA HOLD



90F

Digital Multimeter

DCA ACA DCV ACV Ω Hz $^{\circ}\text{C}$ AP OFF DATA HOLD



An improved version of AM47

AM47i is an improved version of popular Intelligent Protection Safety feature of AM47 analog multimeter | extend x1 resistance and up to 20MΩ | optional capacitance test (with additional toolkit CEX01) up to 2000μF

Intelligent protection of electrical hazard

against your safety and your analog multimeter

Surface-mount technology replaced the through-hole technology

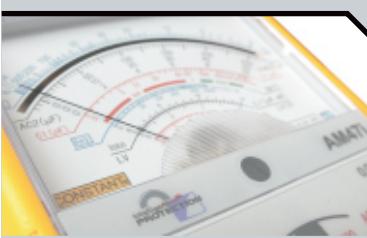
better mechanical performance | lower resistance and inductance at the connection| more stable and accurate measurement

DC20kΩ/V and 9kΩ/V

high sensitivity analog multimeter | suitable for electronic measurement

Use primary batteries (alkaline)

more resistant to heavy loads | longer lasting



A mirror on the meter scale

improve reading precision | eliminate the error from looking at an angle

Stable needle pointer

accurate measurement

Protective soft rubber holster

more durable

CAT III test leads

safer and better quality test leads for category III measurement : fixed installation, distribution board, and circuit breaker

Local warranty

customer satisfaction is our priority



AM47i FEATURES

10

REASONS TO CHOOSE CONSTANT AM47i COMPARED TO OTHER BRAND SIMILAR ITEM

AM47i Analog Multimeter

Function	Range	Accuracy
DC voltage	0 / 0.1 / 2.5 / 10 / 50 / 250V 1000V	± 3% FSD ± 4% FSD
AC voltage	0 / 10 / 50 / 250V 1000V	± 4% FSD ± 5% FSD
DC current	0 / 0.05 / 2.5 / 25 / 250mA 10A	± 3% FSD ± 4% FSD
Resistance	x1 : 0.2 ~ 2kΩ, midscale at 20Ω x10 : 2 ~ 20kΩ, midscale at 200Ω x100 : 20 ~ 200kΩ, midscale at 2000Ω x1k : 200 ~ 2MΩ, midscale at 20kΩ x10k : 2k ~ 20MΩ, midscale at 200kΩ	± 3% of ARC of scale length
Capacitance (μF)	0.025 / 0.25 / 25μF (C2 50μA)* 2000μF (C1)	± 3% FSD Approximate value
Battery check	0 ~ 1.5V : GOOD - Ω - BAD 0 ~ 9V : GOOD - Ω - BAD	± 5% of ARC of scale length
Transistor check	hFE : 0 ~ 1000 via special hFE socket	Approximate value
LED, diode	via special hFE socket	Approximate value
Decibel	-22 ~ 62dB (0dB=1mW at 600Ω)	Approximate value
Continuity	built-in buzzer sounding under 200Ω	



Power supply	2 x 1.5V (AA battery) and 1 x 9V battery
Size	160 x 105 x 40mm
Weight	±380g (including batteries)
Accessories	one set test leads, two spare fuses (0.5A/250V & 10A/250V), batteries, instruction manual, warranty card, certificate of product conformance
Option	*CEX01, special for capacitance measurements 1 set





RPM78 Contact/Non-Contact Laser Tachometer

Measurement range	Non-contact tachometer : 5 ~ 99999RPM Contact tachometer : 0.5 ~ 19999RPM Surface speed : 0.05 ~ 1999.9m/min. 0.2 ~ 6560ft/min.
Resolution	RPM : 0.1 RPM (< 1000RPM) 1 RPM (= 1000RPM) Surface speed : 0.01m/min. (< 100m/min.) 0.1m/min. (= 100m/min.) 0.1ft/min. (< 1000ft/min.) 1ft/min. (= 1000ft/min.)
Display	LCD, size 60 x 30mm 5 digits with display unit
Accuracy	$\pm (0.05\% + 1 \text{ digit})$
Distance	5 ~ 100cm typically
Laser	less than 1mW, class 2 laser diode, red wave length is 645nm approximately
Operating	0 ~ 50°C (32 ~ 122°F), < 80% RH
Memory	last/maximum/minimum value
Power supply	4 x 1.5V (AA battery)
Size	215 x 75 x 38mm
Accessories	batteries, reflecting tape marks (600mm), RPM adapter (cone, funnel, surface speed test wheel), instruction manual, warranty card, certificate of product conformance

CT40 Coating Thickness Gauge

Meas. range	0 ~ 1000μm (0 ~ 40mils)
Accuracy	$\pm(2\mu\text{m}+3\%) / \pm(0.1\text{mils}+3\%)$
Resolution	1μm (0.1mils)
Data storage	up to 10 memories
Calibration	automatic zero adjust, using standard films or manufacturer default
Power supply	1.5V (AAA battery)
Size	105 x 45 x 25mm
Weight	95g
Accessories	battery, instruction manual, warranty card, certificate of product conformance



TT220 Ultrasonic Thickness Gauge

Display	4 digital LCD display
Resolution	0.1mm
Frequency	5MHz
Meas. range	1.2 to 225.0mm (steel)
Min. tube	ø20 x 3mm (steel)
Accuracy	$\pm(1\%H+0.1)\text{mm}$ H denotes the measured thickness
Sound velocity	1000 ~ 9999m/s (range) $\pm 1\%$ (accuracy when the given thickness >20mm) $\pm 5\%$ (accuracy when the given thickness <20mm)
Operating	0 ~ 40°C
Power supply	3 x 1.5V (AAA battery)
Size	72 x 146 x 29mm
Weight	202g
Accessories	transducer ø10mm 5MHz, coupling agent, 4mm sample block, batteries, instruction manual, warranty card, certificate of product conformance

VC70 Vibration Meter

Vibration pickup	Piezoelectric ceramic accelerometer (shear-type)
Measurement range	0.1 ~ 199.9m/s ² peak (acceleration) 0.1 ~ 199.9mm/s rms (velocity) 0.001 ~ 1.999mm p-p (displacement) Velocity and displacement range are limited by acceleration 199.9m/s ²
Accuracy	$\pm 5\% \pm 2\text{ digits}$
Frequency range	10Hz ~ 1kHz (LO); 1kHz ~ 15kHz (HI) (acceleration) 10Hz ~ 1kHz (LO) (velocity) 10Hz ~ 1kHz (LO) (displacement)
Displays cycle	1 second
LCD display	3½ digits
Single output	AC output 2V peak (display full scale) Load impedance 10kΩ or more Earphone can be connected
Power supply	9V Alkaline battery
Static current	$\le 20\mu\text{A}$
Operating current	25mA
Battery life	20 hours continuous use
Auto power off	60 seconds
LCD backlight	7 seconds
Operating temp.	0 ~ 40°C
Operating humidity	30 ~ 90% RH
Low batt. indication	$6.9\text{V} \pm 0.2\text{V}$
Size	67 x 30 x 183mm
Weight	182g (battery included)
Accessories	battery, probe (short & long), instruction manual, warranty card, certificate of product conformance

Laser40 Laser Distance Meter

Meas. range	0.05 ~ 40m
Accuracy	±1.5mm
Unit	m / inch / ft / ft+in
Laser locator	Class II, 675nm, <1mW
Env. protection	IP54
Meas. history	20 records
Operating temp.	-10 ~ 50°C (14 ~ 122°F)
Storage temp.	-25 ~ 70°C (-13 ~ 158°F)
Battery life	up to 5000 measurements
Power supply	2 x 1.5V (AA battery)
Auto power off	±10minutes
Auto laser off	±70seconds
Size	116 x 56 x 32mm
Weight	100g
Accessories	batteries, instruction manual, holding strap, portable pouch, warranty card, certificate of product conformance

Laser80 Pro Protractor Laser Distance Meter

Meas. range	0.05 ~ 80m (length); 0 ~ 60° (angle)
Basic accuracy	±2mm (length); ±1° (angle)
Measuring unit	m / in / ft
Laser locator	Class 2, <1mW/620 ~ 690nm
Meas. mode	area & volume calculation, indirect measurement using pythagorean, addition & subtraction, single/continuous measurement, max/min tracking, multi line display, display illumination, digital protractor level measuring
Meas. history	99 groups
Power supply	2 x 1.5V (AAA battery)
Size	115 x 50 x 23mm
Weight	82g
Accessories	batteries, instruction manual, warranty card, certificate of product conformance

Laser60 Laser Distance Meter

Meas. range	0.2 ~ 60m
Basic accuracy	±1.5mm
Measuring unit	m / in / ft / ft+in
Laser locator	Class 2, <1mW/635nm
Meas. mode	area & volume calculation, indirect measurement using pythagorean, addition & subtraction, single/continuous measurement, max/min tracking, multi line display, display illumination, buzzer
Meas. history	20 records
Operating temp.	0 ~ 40°C
Storage temp.	-10 ~ 60°C
Auto laser off	30seconds
Auto power off	180seconds
Battery life	up to 5000 measurements
Power supply	2 x 1.5V (AAA battery)
Size	120 x 48 x 27mm
Weight	120g
Accessories	batteries, removable pocket clip, instruction manual, warranty card, certificate of product conformance

Solar Power 10**DMM with Solar Power Measurement Function**

Function	Range	Accuracy
DC voltage	200mV	±(0.5% rdg + 3d)
	2 / 20 / 200 / 600V	±(1.0% rdg + 3d)
AC voltage	2 / 20V	±(1.0% rdg + 5d)
	200 / 600V	±(1.5% rdg + 10d)
DC current	200μ / 2mA	±(1.5% rdg + 3d)
	20m / 200mA	±(2.0% rdg + 3d)
AC current	200μ / 2mA	±(1.8% rdg + 8d)
	20m / 200mA	±(2.5% rdg + 8d)
Resistance	200Ω	±(0.8% rdg + 5d)
	2k / 20k / 200kΩ	±(1.2% rdg + 3d)
	2MΩ	±(2.0% rdg + 5d)
	20MΩ	±(5.0% rdg + 8d)
Diode test	1mA max / 1.5V	
Continuity	buzzer will sound if the resistance <150Ω	
Operating	0 ~ 40°C (32 ~ 104°F), <80% RH	
Storage	10 ~ 50°C (14 ~ 122°F), <70%RH	
Display	3 1/2 digits LCD with maximum reading 1999	
Sampling time	0.25 second	
Resolution	1W/m ² ; 1BTU(ft ² *h)	
Accuracy	±10W/m ² [±3BTU(ft ² *h)] or ±5% whichever is greater in sunlight. Additional temperature induced error ±0.38W/m ² /°C	
Indication	over range (OL), low battery (BAT)	
Range	1999W/m ² ; 634BTU(ft ² *h)	
Power off	±15minutes (auto power off)	
Fuse	0.2A/250V	
Battery	9V battery and 2 x 1.5V (AAA battery)	
Size	162 x 74 x 43mm	
Weight	±280g (including battery)	
Accessories	batteries, instruction manual, warranty card, certificate of product conformance	





MC100



MC401

MC100 Concrete Moisture Meter

Sensor type	metal spheroid
Measuring range	0 ~ 100
Resolution	1
Depth of penetration	20 ~ 40mm from wall surface
Power supply	9V battery
Size	180 x 45 x 35mm
Weight	180g
Accessories	battery, instruction manual, warranty card, certificate of product conformance

MC401 Inductive Moisture Meter

Measurement range	0 ~ 53% (softwood) 0 ~ 35% (hardwood) moisture reading of drywall and masonry are relative values
Accuracy	±4% (softwood, hardwood)
Max. sense depth	¾inch (20mm)
Working temperature	0 ~ 40°C
Storage temperature	-10 ~ 50°C
Storage humidity	5 ~ 95% RH
Power supply	9V battery
Size	170 x 75 x 30mm
Weight	±152g (without battery)
Accessories	battery, instruction manual, warranty card, certificate of product conformance

Check the underlying reason for your damp wall

Tips to detect damp wall :

- Look at the wall surface carefully. Check for surface discoloration, such as yellowing material, rounded brown spots or black, often fuzzy-looking discolorations that indicate mould and mildew growths. Pay close attention to the wall texture. Peeling paint is a prime indicator of moisture problems, along with warping or buckling surface.
- Push on the wall slightly to see how it feels. Moisture-damaged drywall will feel soft and spongy, while wood-sheathed walls may feel slightly solid even with a moisture problem. A butter knife, screwdriver or similar tool scraped across the surface or poked into it slightly will often reveal damaged wood.
- Turn unit on, select 'WALL' and start scanning MC401 inductive moisture meter looking for the lowest possible reading to set as a reference for dry wall. Then place the meter at the area where you suspect and compare. The penetration depth of the MC401 is 20mm from the sensor pad therefore will measure into the brick wall where moisture is trapped.

before you start painting



Solar Power 10



CCTV20 CCTV Tester

Signal mode	NTSC/PAL (auto adapt)
Display	3.5" digital TFT LCD, 960x240 resolution
LCD adjustment	brightness, contrast, saturation
Video in/out	1 channel BNC input & 1 channel output
Video out mode	1.0 Vp-p
Video level test	video signals measured in IRE or mV
Communication	RS232, RS422 simplex, and RS485
PTZ protocol	compatible with more than 20 protocols, such as PELECO-D/P, Samsung, Panasonic, etc.
Baud rate	150, 300, 600, 1200, 2400, 4800, 9600, 19200bps
Signal generation	output one channel PAL/NTSC color bar video signal for testing monitor or video cable
UTP cable test	test UTP cable connection status and display in the screen. Read the number of the test box.
Power output	DC 12V 1A power output for camera
Audio input test	test the pickup and other audio equipments on the front-end
RS485 data monitor	captures and analyzes the command data from controlling device
Power adapter	DC 5V, 2A
Battery	built-in 3.7V Lithium polymer battery, 1000mAh
Accessories	instruction manual, warranty card, certificate of product conformance

Wood Pro 100

Meas. principle	electrical resistance
Electrode length	8mm
Electrodes	integrated, replaceable
Measuring range	6 ~ 99.9%
Resolution	0.1%
Ambient temp	0 ~ 40°C
Ambient moisture	0 ~ 85%
Housing	impact-proof plastic housing
Power supply	2 x 1.5V (AAA battery)
Size	180 x 50 x 31mm
Weight	175g
Accessories	batteries, soft pouch, temperature probe, instruction manual, warranty card, certificate of product conformance





D300 Dry Block

Range	33 ~ 300°C (at 20°C ambient)
Accuracy	±0.8°C at T = 100°C (±1.6°F at T = 212°F) ±1.6°C at 100°C < T = 200°C (±3.2°F at 212°F < T = 392°F) ±2.8°C at 200°C < T = 300°C (±5.6°F at 392°F < T = 572°F)
Stability	±0.1°C at T = 100°C (±0.2°F at T = 212°F) ±0.2°C at 100°C < T = 200°C (±0.4°F at 212°F < T = 392°F) ±0.4°C at 200°C < T = 300°C (±0.8°F at 392°F < T = 572°F)
Resolution	0.1°C/0.1°F
Heating time	30 minutes to max
Cooling time	30 minutes to 100°C (212°F)
Aperture diameter	ø4.2mm ø6.8mm ø5mm ø3.5mm
Power supply	220VAC (±10%), 1.25A
Size	180 x 114 x 233mm
Weight	3kg
Accessories	power cord, instruction manual, warranty card, certificate of product conformance



SNAKE88e Video Recording Inspection Camera

Monitor	
Screen type	3.5" (88.9mm) color LCD
Resolution	320 x 240pixels (QVGA)
Rotation	360°
Resolution	320 x 240, 640 x 480, 1280 x 720pixels (video) 640 x 480, 1600 x 1200, 2048 x 1536pixels (image)
Languages	English, Germany, Chinese, Spanish, French, Russian, Japanese
Port	remote link port, AV out, USB, Micro SD card slot
Camera	
Diameter	8.5mm
Shaft diameter	7.0mm
Shaft length	100cm (optional : 3m)
Resolution	2000k pixels VGA
Viewing angle	60°
Depth of Field	80mm - infinity
Light source	6 adjustable high intensity LEDs
Other	
LED flash light	1W CREE LED
Operating temp.	0 ~ 45°C (32 ~ 113°F)
Power supply	4 x 1.5V (AA battery)
Battery life	up to 5 hours
Size	225 x 110 x 95mm
Weight	435g
Certifications	CE, C-tick, FCC, RoHS
Accessories	batteries, gooseneck, pick up hook and magnet, remote link cable, video cable, instruction manual, warranty card, hardcase

LOOP20 Loop Calibrator



Output	Meas range	Output range (mA)	Resolution	Accuracy
Current	20mA	0.000 ~ 22.000	0.001mA	±0.05% of set value or ±4µA
Transmitter	-20mA	0.000 ~ 22.000	0.001mA	±0.05% of set value or ±4µA
Loop power	24V	-	-	±10%

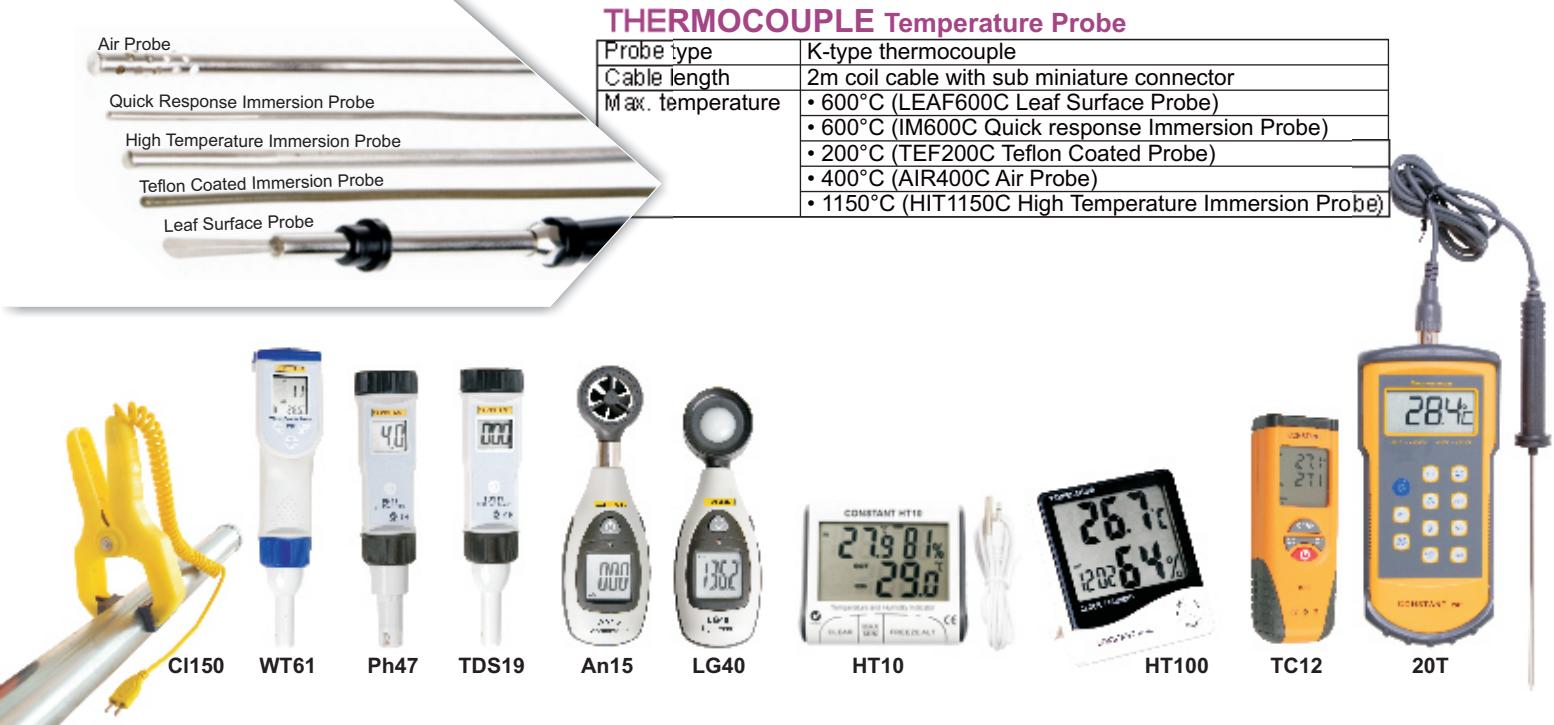
Input	Range	Input range	Resolution	Accuracy
Voltage	28V	-0.200 ~ 28.000V	1mV	±0.02% rdg or ±2mV
Current	20mA	-1.000 ~ 22.000mA	0.001mA	±0.02% rdg ± 4µA
Loop current	20mA	0.000 ~ 22.000mA	0.001mA	±0.02 rdg ± 4µA

Operating	0 ~ 50°C; <80%RH
Storage	-10 ~ 50°C; <90%RH
Power supply	2 x 1.5V (AA battery)
Size	180 x 90 x 47mm (with holster)
Weight	500g (with holster)
Accessories	batteries, instruction manual, industrial test lead (alligator clips attached to probes)
Option	AC power supply adapter

THERMOCOUPLE Temperature Probe



Probe type	K-type thermocouple
Cable length	2m coil cable with sub miniature connector
Max. temperature	<ul style="list-style-type: none"> • 600°C (LEAF600C Leaf Surface Probe) • 600°C (IM600C Quick response Immersion Probe) • 200°C (TEF200C Teflon Coated Probe) • 400°C (AIR400C Air Probe) • 1150°C (HIT1150C High Temperature Immersion Probe)



HT10 Temperature & Humidity Indicator

Range	-10 ~ 50°C (indoor temperature) -50 ~ 70°C (outdoor temperature) 20 ~ 99%RH (humidity)
Resolution	0.1°C (0.1°F) (temperature) 1% RH (humidity)
Accuracy	±1°C (1.8°F) (temperature) ±5%RH (humidity)
Storage	-20 ~ 60°C
Humidity	20 ~ 80%RH
Power supply	1.5V (AAA battery)
Size	82 x 70 x 20mm
Weight	±66g
Accessories	battery, instruction manual, warranty card, certificate of product conformance

HT100 Temperature & Humidity Meter with Clock

Range	-10 ~ 50°C (temperature) 20 ~ 99%RH (humidity)
Resolution	0.1°C (0.1°F) (temperature) 1% RH (humidity)
Accuracy	±1°C (1.8°F) (temperature) ±5%RH (humidity)
Storage	-20 ~ 60°C; 20 ~ 80%RH
Power supply	1.5V (AAA battery)
Size	100 x 108 x 20mm
Weight	±160g
Accessories	battery, instruction manual, warranty card, certificate of product conformance

20T Splash Proof Digital Thermometer

Probe length	213mm (stainless steel probe)
Plastic wire	1 meter
Sensing time	1 second
Meas. range	-50 ~ 300°C (-58 ~ 572°F)
Resolution	± 0.1° for -19.9 ~ 199.9°, otherwise 1°
Accuracy	± 1°C (-30 ~ 150°C) ± 1.8°F (-22 ~ 302°F) ± 1°C (151 ~ 250°C), otherwise more than ± 2°C ± 1.8°F (303.8 ~ 482°F), otherwise more than ± 4°F
Ambient temp	-10 ~ 50°C (14 ~ 122°F) for plastic casing
Power supply	3 x 1.5V (AAA battery) or equivalent
Accessories	batteries, penetration probe (thermistor), instruction manual, warranty card, certificate of product conformance

TC12

Dual Input (K-Type Thermocouple) Thermometer

Temp. range	-200 ~ 1372°C / -328 ~ 2501°F / 73 ~ 1645K
Accuracy	±[0.15%rdg+1.8°F (1°C)]
Resolution	0.1°
Power supply	9V battery
Size	149 x 55 x 33mm
Weight	±95g
Accessories	2 bead wire thermocouples (K-type), battery, case, instruction manual, warranty card, certificate of product conformance

CL150 Type K Thermocouple Clamp Probe

Type	K
Temp. range	-20 ~ 150°C
Clamp	ø55mm (max. opening)

AN15 Anemometer

Air Velocity	Range	Accuracy
m/s	1.1 ~ 30.0 m/s	± (3% + 0.30 m/s)
kph	0.8 ~ 108.0 km/h	± (3% + 1.0 km/h)
fpm	80 ~ 5900 ft/min	± (3% + 40 ft/m)
mph	0.9 ~ 67.0 mph	± (3% + 0.4 mph)
knt	0.8 ~ 58.0 knots	± (3% + 0.4 knots)
Sampling rate	1 reading per second	
Sensor	fan	
Automatic power off	15 minutes	
Operating temp.	0 ~ 50°C (32 ~ 122°F)	
Storage temp.	-10 ~ 60°C (14 ~ 140°F)	
Operating humidity	<80% RH	
Storage humidity	<80% RH	
Operating altitude	2000 meters (7000ft) maximum	
Power supply	9V battery	
Size	165 x 54 x 34mm	
Weight	±139g	
Accessories	battery, instruction manual, warranty card, certificate of product conformance	

LG40 Light Meter

Measurement range	200, 2000, 20000, 40000 lux/fc (1fc=10.76lux)
Accuracy	±5% rdg ± 10 dcts (<10000 lux/fc) ±10% rdg ± 10 dcts (>10000 lux/fc)
Repeatability	±2%
Measurement rate	2.5 times per second, nominal
Temp. characteristic	±0.1%/°C
Photo detector	one silicon photo diode with filter
Display	1999 counts
Indication	polarity, over range, low battery
Storage temp	-10 ~ 60°C (14 ~ 140°F) at 80% RH
Operating temp	0 ~ 40°C (32 ~ 104°F)
Operating humidity	0 ~ 80% RH
Auto power off	±17 minutes
Power supply	9V battery
Size	157 x 54 x 34mm
Weight	±170g
Accessories	battery, instruction manual, warranty card, certificate of product conformance

PH47 pH Pen Tester

Range	0 ~ 14.0 pH
Accuracy	±0.1 + 1 digit
Resolution	0.1pH
Power supply	2 x 3V (CR2032 lithium battery)
Size	33.5 x 170mm
Weight	±85g (including batteries)
Accessories	buffer pH 4 & pH 7, soaking solution, batteries, instruction manual, warranty card, certificate of product conformance

WT61 6 in 1 Water Quality Tester

Function	Range	Accuracy	Resolution
pH	-2 ~ 16.00	±0.01 + 1d	0.01pH
ORP	-1000 ~ 1000	±2 + 1d	1mW
Temp	0 ~ 90.0°C	±0.2°C + 1d	0.1°C
Conductivity	0 ~ 2000µS 2.00 ~ 20.00mS	±2% FS	1µS / 0.01mS
TDS	0 ~ 1300ppm 1.0 ~ 13.00ppt		1ppm / 0.01ppt
Salinity	0 ~ 1000ppm 1.00 ~ 12.00ppt		
ATC	0 ~ 90°C (pH, ORP, temperature) 0 ~ 50°C (conductivity, TDS, salinity)		
Calibration	4.00, 7.00, 10.01 (pH, ORP, temperature) 0µS, 1413µS, 12.88mS (conductivity, TDS, salinity)		
Power supply	4 x 1.5V (AAA battery)		
Size	195 x 40 x 36mm (meter), 230 x 205 x 50mm (kits)		
Weight	±135g (meter, including batteries), ±780g (kits)		
Accessories	conductivity cell, buffer pH 4 & pH 7, standard solution, lanyard, carrying case, batteries, instruction manual, warranty card, certificate of product conformance		

TDS19 TDS Pen Tester

Range	0 ~ 19990ppm
Accuracy	±1%FS
Resolution	10ppm
Power supply	2 x 3V (CR2032 lithium battery)
Size	33.5 x 170mm
Weight	±85g (including batteries)
Accessories	standard solution 940ppm, batteries, instruction manual, warranty card, certificate of product conformance

Function Marks

RMS	True RMS value
DCA	DC current measurement
ACA	AC current measurement
DCA ACA	DC & AC current measurement
Hz	Frequency measurement
Duty	Duty cycle function
BATT CHECK	Battery check function
°C	Temperature measurement
hFE	hFE measurement
NCV	Non contact AC voltage detection
IP	Intelligent protection
AUTO POL	Auto polarity
AP OFF	Auto power off
DATA HOLD	Data hold function
REL	Measurement of relative value
232c	RS232 connection
0Ω ADJ	Zero-ohm adjuster
Ω	Resistance measurement
INS Ω	Insulating resistance measurement
DCV	DC voltage measurement
ACV	AC voltage measurement
DCV ACV	AC voltage measurement
C	Capacitance measurement
►	Diode check
•	Continuity
H	Inductivity
CATIV 600V	CAT IV 600V



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