



3.1 General Features

3.1.1 take the CMOS big scale integrated circuit as the core, in AC / DC voltage, the AC/DC electric current, the resistance, the frequency and the electric capacity measure it can automatically transform the measuring range, making it more convenient.

3.1.2 greatest display: 6000 Counts (3 6/7)

3.1.3 has the function of back light, data hold, the maximum/ minimum value hold measure.

3.1.4 automatic cathode display: Displays " - "

3.1.5 batteries insufficient display: Displays " + ".

3.1.6 Auto power OFF

After turning on the instrument and without turning the function switch or pressing any button, the instrument will automatically enter into sleep mode after 10 minutes, to save battery power. when it is in the sleep mode you can press the SELECT key to wake up the instrument. If you don't need the automatic sleep mode, you should hold down the SELECT key to turn on the instrument, and then the symbol "⏻" will not be display on the LCD.

3.1.7 working condition: 0°C~40°C, 75%RH (max)

3.1.8 storage environment: -10°C~60°C, 80%RH (max)

3.1.9 battery: 9V(6F22 or equivalent)

3.1.10 external dimensions : 191 (length) 94 (width) 49 (height) mm

3.1.11 weight: approximately 400g (contain battery)

3. 2 technical index

3. 2. 1 DCV

Range	Accuracy	Resolution
600mV	$\pm(0.5\%+5d)$	0.1mV
6V		1mV
60V		10mV
600V		100mV
1000V	$\pm(0.8\%+5d)$	1V

Input resistance: 10MΩ.

Overload protection :DC/AC peak value1000V.

3. 2. 2 ACV

Range	Accuracy	Resolution
600mV	$\pm(1.2\%+5d)$	0.1mV
6V		1mV
60V		10mV
600V		100mV
700V	$\pm(1.5\%+5d)$	1V

Input resistance : 10MΩ.

Frequency: 10Hz~1kHz (Warning: Frequency for square wave accuracy is specified from 10Hz to 400Hz).

display: TRUE RMS(sinusoidal waveform RMS calibration).

Overload protection:250V at mV range,DC1000V or peak value AC1000V at V range.

3.2.3 DCA

range	Accuracy	Resolution
600μA	$\pm(1\%+5d)$	0.1μA
6000μA		1μA
60mA	$\pm(1.5\%+5d)$	0.01mA
600mA		0.1mA
6A	$\pm(2\%+5d)$	1mA
10A		10mA

Overload protection : μA/mA:F1 A/250V with fuse ,

10A: F10 A/250V with fuse.

greatest input electric current: 10A (less than 10 seconds).

voltage drop measure: full measure range is 600mV.

3.2.4 ACA

range	Accuracy	Resolution
600μA	$\pm(1\%+5d)$	0.1μA
6000μA		1μA
60mA	$\pm(1.8\%+5d)$	0.01mA
600mA		0.1mA
6A	$\pm(3\%+5d)$	1mA
10A		10mA

Overload protection: μA/mA:F1 A/250V with fuse, 10A F1 0A/250V fuse.

Voltage drop measure: full measure range is 600mV(10A is 100mV).

Frequency: 10Hz~1kHz (Warning: Frequency for square wave accuracy is specified from 10Hz to 400Hz).

display: TRUE RMS(sinusoidal waveform RMS calibration).

greatest input electric current: 10A (less than 10 seconds).

3.2.5 resistance Ω

range	Accuracy	Resolution
600 Ω	$\pm(0.8\%+5d)$	0.1 Ω
6K Ω		1 Ω
60K Ω		10 Ω
600K Ω		100 Ω
6M Ω		1K Ω
60M Ω	$\pm(2\%+5d)$	10K Ω

Overload protection : 250Vvirtual value.

Plough voltage approximately 0.5V

3.2.6 CAP

Range	Accuracy	Resolution
10nF	$\pm (3\%+5d)$	0.001nF
100nF		0.01nF
1uF		0.1nF
10uF		1 nF
100uF		10nF
1000uF		100nF
10mF	$\pm (5\%+5d)$	1uF

Overload protection : 250Vvirtual value.

3.2.7 FREQ

Range	Accuracy	Resolution
10Hz	$\pm(0.5\%+3d)$	0.01Hz
100Hz		0.1 Hz
1kHz		1 Hz
10kHz		10 Hz
100kHz		100 Hz
1MHz		1k Hz
10MHz		10k Hz

Overload protection : 250Vvirtual value, input delicacy:1V。

Caution: if the measured frequency is above 30V, please press

“Hz/DUTY” key at AC electric voltage measuring range to get to the frequency function, then carry on measure。

3.2.8 occupancy and vacancy ratio

Measure range	Accuracy	Resolution
1%~99%	$\pm(0.5\%+3d)$	0.1%

Overload protection: 250Vvirtual value。

3.2.9temperature (general type)

Function	range	Resolution	Accuracy
TEMP	-30~400 $^{\circ}\text{C}$	1 $^{\circ}\text{C}$	$\pm 1.2\%\pm 4d$
	400~1000 $^{\circ}\text{C}$	1 $^{\circ}\text{C}$	$\pm 1.9\%\pm 15d$
	-40~400 $^{\circ}\text{F}$	1 $^{\circ}\text{F}$	$\pm 1.2\%\pm 6$
	400~1832 $^{\circ}\text{F}$	1 $^{\circ}\text{F}$	$\pm 1.9\%\pm 25$

Overload protection 250V

3. 2. 10 Diode positive voltage

Display of similar diode positive voltage. Measuring condition: positive DC electric current 2mA, reverse DC voltage approximate 3.2V。

3. 2. 11 Connection & disconnection measure

When the transited resistance is smaller than about 50 Ω ,the buzzer beeps.Measuring condition: plough voltage is about 0.5V。



Features

Model	31	31C
DC Voltage	✓	✓
AC Voltage	✓	✓
DC Current	✓	✓
Resistance	✓	✓
Temperature	-	✓
Diode	✓	✓
Continuity	✓	✓
Battery Test	✓	-
Backlight	✓	✓

Technic specification

DC Voltage

range	Accuracy	resolution
200mV	$\pm (0.5\%+2)$	100 μ V
2V		1mV
20V		10mV
200V		100mV
600V	$\pm (0.8\%+2)$	1V

Input impedance: 1M Ω

AC Voltage

range	Accuracy	resolution
200V	$\pm (1.5\%+10)$	100mV
600V	$\pm (1.5\%+10)$	1V

Frequency range: 40Hz-400Hz.

Overload protection: peak value 600V for AC virtual value

Reveal: Average (the average of the virtual value of sine).

Input impedance: 450k Ω

DC Current

range	Accuracy	resolution	input impedance
200uA	$\pm (1.0\%+2)$	100nA	1k Ω
2mA		10nA	100 Ω
20mA		10uA	11 Ω
200mA	$\pm (1.2\%+2)$	100uA	2 Ω
10A	$\pm (2\%+5)$	10mA	0.01 Ω

Overload protection: 0.2A/250V fuse

10A range not fuse protect, 10s at most

Resistance

range	accuracy	resolution
200W	$\pm (0.8\%+5)$	0.1W
2kW		1W
20kW		10W
200kW		100W
2MW	$\pm (1\%+2)$	1kW
20MW	$\pm (1\%+5)$	10kW
200MW	$\pm (2\%+15)$	100kW

In position 200MW, test lead short circuit and reveal number 10(more or less) after point.

Subtract the number 10(more or less) from reading, you get the final result.

Input protection: max 220V

Temperature for (only for 31C)

range	resolution	accuracy
-40 $^{\circ}$ C~ +1000 $^{\circ}$ C	1 $^{\circ}$ C	<150 $^{\circ}$ C $\pm(3\%+2)$ >150 $^{\circ}$ C $\pm 3\%$

Diode test

Test voltage is approx. 2.8V, current is 1.5mA

Indicate forward voltage drop of diode unit: kW

Continuity test

Test voltage is approx. 2.8V, current is 1.5mA

The buzzer will beep when conductance resistance approx. <30

Battery test (Only for 31)

Load resistance is about 1 kW in the Measurement

Indicate measured battery output voltage values when 1 kW overloading

Multi Meter HC-260TR



SPECIFICATIONS

DC VOLTS

Ranges	Sensitivity	Accuracy
2.5, 10, 50, 250, 1000V	20,000 ohms / volt	±3% DC of full scale

AC VOLTS

Ranges	Sensitivity	Accuracy
10, 50, 250, 1000V	8,000 ohms per volt	within ±4% AC of full scale
Frequency Response	Rated accuracy to 50,000 Hz on all ranges through 10V, to 1KHz on 50V range	

DC CURRENT

Ranges	Potential Drop	Accuracy
2.5, 25, 250mA, 10A (10A on separate jack)	0.25V on all ranges	Within ±3% full scale on all ranges

RESISTANCE

Ranges	Accuracy
R X 1 0-2000 ohm (20 ohm center)	±3° arc
R X 10 0-20000 ohm (200 ohm center)	
R X 1K 0-2M ohm (20k ohm center)	
R X 10K 0-20M ohm (200K ohm center)	

DB RANGES

-10DB to +22DB	on 10VAC range
+4DB to +36DB	on 50VAC range
+18DB to +50DB	on 250VAC range
+30DB to +62DB	on 1000VAC range
Zero DB referenced to 1 milliwatt at 600 ohms	



Features

- It is applied with CMOS double-bevel A/D converter that is automatic zeroing and polar selection and makes instruction for beyond measuring range.
- Wide measuring range; 0.1pF ~ 20,000 µF
- Low battery indication
- Operating Temperature: 0 °C ~ 40 °C Humidity <80%
- Storage Temperature: -10 °C ~ 50 °C
- Power: 9V x 1 or 6F 22
- Size & Weight: 186X86X41mm 330g.

Technical Specification

Environment Temperature: 25°C ± 5°C Humidity: <80%

Model	Metrix⁺ DCM 1501 Digital Capacitance Meter, 3 ½ Digit With Adjustable Large LCD panel Max. Display 1999		
Range	Accuracy	Definition	Test Frequency
200pF	± 0.5% Reading ± 1digit	0.1pF	800Hz
2000pF	± 0.5% Reading ± 1digit	1 pF	800Hz
20nF	± 0.5% Reading ± 1digit	10 pF	800Hz
200nF	± 0.5% Reading ± 1digit	0.1 µF	800Hz
2µF	± 0.5% Reading ± 1digit	1 nF	800Hz
20µF	± 0.5% Reading ± 1digit	10nF	80Hz
200µF	± 0.5% Reading ± 1digit	0.1 µF	8Hz
2000µF	± 1% Reading ± 1digit	1 µF	8Hz
20mF	± 2% Reading ± 2digit	10 µF	8Hz

Digital Clamp Meter

Metrix+TM
Innovative Excellence

- New Clamp Meters
- Maximum Features
- Economical prices
- True RMS
- INRUSH Current
- Non Contact Voltage
- AC/DC V, AC/DC A
- Resistance, Frequency
- Duty, Temperature
- Diode, Continuity
- Auto power off



Model	Metrix+ 1250A	Metrix+ 2250T True RMS	Metrix+ 4250T True RMS
LCD Display	3 1/2 Digit 1999 count	3 3/4 Digit 3999 count	3 3/4 Digit 3999 count
Safety Standard	IEC 61010-1	IEC 61010-1	IEC 61010-1
Double Insulation protection class II			
Auto negative Polarity Indication “-”			
Low battery indication			
Overload Protection			
Range	Manual	Auto Range	Auto range
Overload Protection	✓	✓	✓
AC Volt	700V	400mV/4/40/400/700V	400mV/4/40/400/700V
Accuracy	+1.2% +5d	+1.5% +5d	+1.5% +5d
DC Volt	1000V	400mV/4/40/400/1000V	400mV/4/40/400/1000V
Accuracy	+0.8% +2d	+1% +3d	+1% +3d
AC Current	2A/20/200/1000	4A/40/400/1000A	400/1000A
Accuracy	+2% +10d	+2% +10d	+2% +5d
DC Current	-	-	400/1000A
Accuracy	-	-	+2% +5d
Resistance	2kΩ	400/4k/40k/400k/4mΩ +1% +3d	400/4k/40k/400k/4mΩ +1% +3d
Accuracy	+1% +5d	40mΩ +1.5% +5d	40mΩ +1.5% +5d
Capacitance	-	10nF/100nF/1μF/10μF/100μF/1000μF	10nF/100nF/1μF/10μF/100μF/1000μF
Accuracy	-	10mF +3% +5d	10mF +3% +5d
Frequency	-	100Hz/1kHz/10kHz/100kHz/1MHz	100Hz/1kHz/10kHz/100kHz/1MHz
Accuracy	-	10MHz/40MHz +0.5% +3d	10MHz/40MHz +0.5% +3d
Duty	-	1% ~ 99%	1% ~ 99%
Accuracy	-	+0.5% +3d	+0.5% +3d
Temperature C/F	-	-50°C~300°C, 301~1000°C	-50°C~300°C, 301~1000°C
Accuracy	-	+1% +5d +1.9% +5d	+1% +5d +1.9% +5d
Continuity	✓	✓	✓
Diode	✓	✓	✓
Data Hold	✓	✓	✓
Jaw Diameter	Φ 52mm	Φ 52mm	Φ 52mm
Storage Temperature & Humidity: -20°C~60°C ≤ 80%RH.			
Operating Temperature & Humidity: 0°C~40°C ≤ 70%RH.			
Power	9V	1.5V x 2 AA	9V
Auto Power Off	✓	✓	✓
Weight	360g(include battery)	360g(Include battery)	360g(Include battery)
Size	248 x 88 x 45mm	249 x 89 x 38mm	249 x 89 x 38mm
Accessories Included	Instruction Manual, Test Lead, carry case, Battery & “K” Thermocouple for Mod: 2250T/4250T		



Model	Metrix+ 125A	Metrix+ 225A (Peak Hold)	Metrix+ 725A
LCD Display	3 ½ Digit 1999 count	3 ½ Digit 3999 count	3 ½ Digit 3999 count
Safety Standard	IEC 1010-1	IEC 1010-1	IEC 1010-1
Double Insulation protection class II			
Auto negative Polarity Indication ^{11,12}			
Low battery indication			
Overload Protection			
Range	Manual	Auto Range	Auto range
Overload Protection	✓	✓	✓
AC Volt	600V	4/40/400/600	4/40/400/600
Accuracy	±1.2% ±5d	±1.5% ±5d	±1.5% ±5d
DC Volt	600V	400m/4/40/400/600	400m/4/40/400/600
Accuracy	±0.8% ±5d	±1% ±3d	±1% ±3d
AC Current	2000mA/20/200/600	4A/40/400A	400/600A
Accuracy	±2% ±10d	±2% ±10d	±2% ±10d
DC Current	-	-	400/600A
Accuracy	-	-	±2% ±10d
Resistance	2000Ω	400/4k/40k/400k4mΩ ±1% ±3d	400/4k/40k/400k4mΩ ±1% ±3d
Accuracy	±1% ±5d	40mΩ ±1.2% ±5d	40mΩ ±1.2% ±5d
Capacitance	-	4nF/400nF/4μF/40μF/100μF	4nF/400nF/4μF/40μF/100μF
Accuracy	-	±3% ±10d	±3% ±10d
Frequency	-	40Hz/400Hz/4kHz/40kHz -	40Hz/400Hz/4kHz/40kHz -
Accuracy	-	-400kHz/4MHz ±0.5% ±3d	-400kHz/4MHz ±0.5% ±3d
Temperature	-	-20°C~400°C, 400~1000°C	-20°C~400°C, 400~1000°C
Accuracy	-	±1% ±5d ±1.9% ±15d	±1% ±5d ±1.9% ±15d
Continuity	✓	✓	✓
Diode	✓	✓	✓
Data Hold	✓	✓	✓
Peak Hold	-	✓	-
Jaw Diameter	Φ 30mm	Φ 30mm	Φ 30mm
Storage Temperature & Humidity: -20°C~60°C ≤ 80%RH.			
Operating Temperature & Humidity: 0°C~40°C ≤ 70%RH.			
Power	1.5V x 2 AAA	1.5V x 2 AAA	1.5V x 2 AAA
Auto Power Off	✓	✓	✓
Weight	180g(include battery)	180g(include battery)	180g(include battery)
Size	165mmx68mmx28mm	165mm x 68mm x 28mm	165mm x 68mm x 28mm
Accessories Included: 1 pair Test lead, Operation Manual, Battery, Carry case, Temperature probe "K" for Mod: 225A & 725A			

Features: It can be used both in the laboratory and in harsh field conditions.

- Performs two different method of calculating coating measurement by utilizing characteristic of both eddy current and magnetic induction both non-destructive and accurate.
- Can measure the thickness of non-magnetic materials (e.g. paint, plastic, porcelain enamel, copper, zinc, aluminium, chrome etc.) on magnetic materials (e.g. iron, nickel etc.) . Often used to measure the thickness of galvanizing layer, lacquer layer, porcelain enamel layer, phosphide layer, copper tile, aluminium tile, some alloy tile, paper etc.
- * Can measure the thickness of non-magnetic Coatings on non-magnetic metals. It is used on anodizing, varnish, paint, enamel, plastic coatings, powder, etc. applied to aluminium, brass, non-magnetic stainless steel, etc.
- * Unique Single probe Used to Measure "Fe" (ferrous) "nFe" (non-ferrous) substrates.
- Automatic substrate recognition. * Manual or automatic shut down. * Two measurement mode: Single and Continuous * Wide measuring range and high resolution. * Metric/Imperial conversion. * Digital backlit display gives exact reading with no guessing or errors. *Max/Min/Ave reading *99 Measurement memory can be stored/Recall *PC Interface with optional RS 232C cable Software.



Model	Metrix+ Coat Measurer F (Ferrous)	Metrix+ Coat Measurer F+N (Combine)
International Standard	It meets the standards of both ISO2178 and ISO 2361 as well as DIN, ASTM and BS.	
Display	4 digits LCD, backlit	
Measuring range	0-1250µm/0-50mil	
Resolution	0.1 µm (0~99.9µm); 1 µm (over 100µm)	
Accuracy	±1-3% or ±2.5µm	
Min. radius work piece	F: Convex 1.5mm / Concave 25mm	
	NF: Convex 3mm / Concave 50mm	
Min. measuring area	6mm	
Min. sample thickness	0.3mm	
Metric/Imperial	Selectable	
Operating condition	Temp. 0~50°C ; Humidity <95%	
Battery indicator	low battery indicator	
Auto Power off	√	
Power supply	4x1.5V AAA(UM-4)battery	
Dimensions & weight	145x65x25 mm	145g(not including battery)
Standard Accessories	Probe (F/nF combine)'0' Calibration Blocks, Calibration Foils, Operation Manual & Hard Carry case	
Optional accessories	RS-232C Cable, USB Cable & software for PC data..	



Features: It can be used both in the laboratory and in harsh field conditions.

- Performs two different method of calculating coating measurement by utilizing characteristic of both eddy current and magnetic induction both non-destructive and accurate.
- Can measure the thickness of non-magnetic materials (e.g. paint, plastic, porcelain enamel, copper, zinc, aluminium, chrome etc.) on magnetic materials (e.g. iron, nickel etc.) . Often used to measure the thickness of galvanizing layer, lacquer layer, porcelain enamel layer, phosphide layer, copper tile, aluminium tile, some alloy tile, paper etc.
- * Can measure the thickness of non-magnetic Coatings on non-magnetic metals. It is used on anodizing, varnish, paint, enamel, plastic coatings, powder, etc. applied to aluminium, brass, non-magnetic stainless steel, etc.
- * Unique Single probe Used to Measure "Fe" (ferrous) "nFe" (non-ferrous) substrates.
- Automatic substrate recognition. * Manual or automatic shut down. * Two measurement mode: Single and Continuous * Wide measuring range and high resolution. * Metric/Imperial conversion. * Digital backlit display gives exact reading with no guessing or errors.
- *Max/Min/Ave reading *99 Measurement memory can be stored/Recall
- *PC Interface with optional RS 232C cable Software.

Model	Metrix+ Coat Scope 27- 4K	Metrix+ Coat Scope 27 – 5K
International Standard	It meets the standards of both ISO2178 and ISO 2361 as well as DIN, ASTM and BS.	
Display	4 digits LCD, backlit	
Measuring range	0-4000µm/0-160mil	0-5000µm/0-200mil
Resolution	0.1 µm (0~99.9µm); 1 µm (over 100µm)	
Accuracy	±1-3%n or ±2.5µm	
Memory Store/Recall	Min/Max/Ave.	99 Group Measurements
Min. radius work piece	F: Convex 1.5mm / Concave 25mm	
	NF: Convex 3mm / Concave 50mm	
Min. measuring area	6mm	
Min. sample thickness	0.3mm	
Metric/Imperial	Selectable	
Operating condition	Temp. 0~50°C ; Humidity <95%	
Battery indicator	low battery indicator	
Auto Power off	√	
Power supply	2x1.5V AAA(UM-4) battery	
Dimensions & weight	130x65x35 mm	90g(not including battery)
Standard Accessories	Probe (F/nF combine)'0' Calibration Blocks, Calibration Foils, Operation Manual & Hard Carry case	
Optional accessories	RS-232C Cable & software, USB Cable & software, Bluetooth data output. Other	

Features: It can be used both in the laboratory and in harsh field conditions.

- Performs two different method of calculating coating measurement by utilizing characteristic of both eddy current and magnetic induction both non-destructive and accurate.
- Can measure the thickness of non-magnetic materials (e.g. paint, plastic, porcelain enamel, copper, zinc, aluminium, chrome etc.) on magnetic materials (e.g. iron, nickel etc.) . Often used to measure the thickness of galvanizing layer, lacquer layer, porcelain enamel layer, phosphide layer, copper tile, aluminium tile, some alloy tile, paper etc.
- * Can measure the thickness of non-magnetic Coatings on non-magnetic metals. It is used on anodizing, varnish, paint, enamel, plastic coatings, powder, etc. applied to aluminium, brass, non-magnetic stainless steel, etc.
- * Unique Single probe Used to Measure "Fe" (ferrous) "nFe" (non-ferrous) substrates.
- Automatic substrate recognition. * Manual or automatic shut down. * Two measurement mode: Single and Continuous * Wide measuring range and high resolution. * Metric/Imperial conversion. * Digital backlit display gives exact reading with no guessing or errors. *Max/Min/Ave reading *99 Measurement memory can be stored/Recall *PC Interface with optional RS 232C cable Software.



Model	Metrix+ Coat Scope – i (Integrated Probe)	Metrix+ Coat Scope 27
International Standard	It meets the standards of both ISO2178 and ISO 2361 as well as DIN, ASTM and BS.	
Display	4 digits LCD, backlit	
Measuring range	0-2000µm/0-80mil	
Resolution	0.1 µm (0~99.9µm); 1 µm (over 100µm)	
Accuracy	±1-3%n or ±2.5µm	
Memory Store/Recall	Min/Max/Ave.	99 Group Measurements
Min. radius work piece	F: Convex 1.5mm / Concave 25mm	
	NF: Convex 3mm / Concave 50mm	
Min. measuring area	6mm	
Min. sample thickness	0.3mm	
Metric/Imperial	Selectable	
Operating condition	Temp. 0~50°C ; Humidity <95%	
Battery indicator	low battery indicator	
Auto Power off	√	
Power supply	2x1.5V AAA(UM-4)battery	
Dimensions & weight	130x65x35 mm	90g(not including battery)
Standard Accessories	Probe (F/nF combine)'0' Calibration Blocks, Calibration Foils, Operation Manual & Hard Carry case	
Optional accessories	RS-232C Cable & software, USB Cable & software, Bluetooth data output. Other	

DET 1503

Earth Resistance Tester is designed for testing Ground wire of electric power net, as well as Earth Voltage test in the fields Of Household electric wire System and electric appliances. Tester complies with international Safety standard Ip 54 dust proof And waterproof can be used under Very bad weather.



Model Description	Digital Jumbo backlit LCD Display Metrix+ DET 1503
Safety Standard	IEC 61010-1 Over Voltage CAT III 300V Pollution Degree 2 IEC 61010-2-031 IEC 61557-1,5 IEC 60529(Ip 54) Dust proof & waterproof structure of the DET 1503 can be used under very bad weather.
Measuring Range	0.00~20Ω / 0.0~200Ω / 0~2000Ω
Earth Resistance	0-200V ±2%rdg + 5 digit
Accuracy	±2%rdg±0.1Ω (20Ω) ±2%rdg±3dgt (200Ω/2000Ω)
Resolution	0.1V, 0.01Ω(20Ω), 0.1Ω(200Ω), 1Ω(2000Ω)
Response time	Earth Resistance approx 5 seconds/ Earth Voltage approx 2 seconds
Resistance Voltage	(Wire to the housing) 1500V AC 1minute without jump spark
Overload Protection	Earth Resistance Range: 200V AC(10 seconds) Earth Voltage Range: 300V AC(30 seconds)
Earth Resistance measuring time range	10 second~10 minute
Auto Power off	10 minutes no operation Auto turn off
Back Light	√
Timer set	√
Power supply	9V DC R6P (SUM-3) *AA*x 6
Operating Environment	0~40°C RH ≥ 85% (no fog)
Storage Temperature	- 20~60°C RH ≥ 75% (no fog)
Product net weight	675g.
Product Size	170*120*79mm
Accessories Included	Battery, Green test wire, Yellow test wire, Red test wire, 2 Grounding earth Spikes, Clipped wire, Manual & nylon carry case.



Model	Metrix+ 603A	Metrix+ 603
LCD Display	3 ½ Digit 1999 count	
Safety Standard	IEC 1010-1 CAT II 1000V	
	Double Insulation Protection Class II	
	Overload Protection	
	Low battery indication	
Range	Manual	Manual
Overload Protection	✓	✓
AC Volt/Accuracy	20V/200V ± 0.8% +5d, 700V ± 1.2% +5d	200mV/2V/20V/200V ± 0.8% +5d, 700V ± 1.2% +7d
DC Volt/Accuracy	200mV/2/20/200V ± 0.5% +5d, 1000V ± 0.8% +5d	
AC Current/Accuracy	200mA ± 1.8% +5d, 10A ± 3% +7d	20mA ± 1.2% +5d / 200mA ± 1.8% +5d, 10A ± 3% +7d
DC Current/Accuracy	20µA ± 1.2% +5d / 20mA ± 0.8% +5d 200mA ± 1.2% +5d / 10A ± 2% +5d	
Resistance/Accuracy	200Ω/2k/20k/200k/2MΩ ± 0.8% +5d, 20mΩ ± 1% +5d / 200mΩ ± 5% +10d	
Capacitance/Accuracy	20nF/200nF/2µF ± 2.5% +20d, 200µF ± 5% +10d	
Frequency/Accuracy	2kHz/20kHz ± 1.5% +5d	-
Temperature/Accuracy	20°C~400°C ± 0.75% +4d, 401~1000°C ± 1.5% 15	-
Continuity	✓	✓
Diode	✓	✓
hFE Transistor	✓	✓
Data Hold	✓	✓
Phase wire test	✓	✓
Infrared Remote Test	✓	✓
Auto Power Off	✓	✓
Working temperature	0°C~40°C RH <75%	
Storage temperature	-10°C~50°C RH <85%	
Power	9V or 6F22 or equivalent	
Weight	350g(include battery)	350g(include battery)
Size	192mmx92mmx39mm	192mm x 92mm x 39mm
Accessories Included	Instruction Manual, 1 pair Test Lead, "K" Temperature Probe(603A)	



• Features DM 60 & 881 Laser Range Finder

Laser range finder is a instrument to measure the accurate distance to the goal by utilizing laser. While working, laser range finder projects bunch of very thin lasers to the goal, the photoelectric element receive goal reflection's laser beam, the timer determination laser beam receive time from the launch, calculates the distance from the observer to the goal. Laser finder weight is light, the volume is small, simply operation, quickly and accurate, its error is only other range finder's 1/5 to 1%. Thus it is widely used in the topographic measure,

Features DM 20 Ultrasonic Range Finder

Ultrasonic distance measuring principle is the use of ultrasonic wave propagation in air speed is known, measuring sound waves encounter obstacles reflects back time after the launch, according to the time difference to calculate the launch point of transmitting and receiving an obstruction of the actual distance.

SPECIFICATIONS	881	DM 60
Measuring Range	0.3~100m	0.3~60m
Accuracy	±2mm	±2mm
Imperial/Metric Selection	✓	✓
Resolution	1mm	1mm
Laser Class	2 class	2 class
Laser Power and Wavelength	P≤1mW λ=635nm	P≤1mW λ=635nm
Triangulation Measurement	✓	✓
Low Power Indication	✓	✓
Backlight	✓	✓
Continuous Measurement	✓	✓
Measuring Benchmark Setup	✓	✓
Length Summation	✓	✓
Area/ Volume Measurement Function	✓	✓
Data Store	30groups	30groups
PACKING INFORMATION		
Power	AA*2 battery	AA*2 battery
Product Net Weight	230g	217g
Product Size	132*63*34.5mm	129*69*40mm
Packing	Gift box	

SPECIFICATIONS	DM 20
Measuring Range	0.3~20m
Accuracy	±1%
Measure In Imperial/Metric	✓
Resolution	1cm
Laser Class	2 class
Laser Power & Wavelength	P≤1mW λ=635nm
Auto Power off	✓
Low Battery Indication	✓
Backlight	✓
Continuous Measurement	✓
Measuring Benchmark Setup	✓
Length Summation	✓
Area/ Volume Measurement Function	✓
Data Store	5 group
PACKING INFORMATION	
Power	9V DC battery
Product Net Weight	205g
Product Size	150*75*46mm
Packing	Gift box

Description:

- > It meets standards: DIN 53505, ISO 868, ISO 7619, ASTM D 2240, JIS K7215
- > Integrated design, small volume, light weight, simple structure, easy to use.
- > LCD display, intuitive readings.
- > Automatic shutdown function
- > With low battery alarm indicator
- > Average value calculation function
- > With metric and imperial conversion
- > Auto switch off and manual shutdown
- > Use RS 232/USB data output with connection PC
- > Provide Bluetooth data output choice

Applications:

Model	Indenter	Typical Examples Of Materials Tested	Hardness Values
RHT-A (SHORE "A")	0.79 Truncated (frustum) cone	Soft vulcanized rubber, natural rubber, nitriles, thermoplastic elastomers, flexible polyacrylics and thermosets, wax, felt, and leathers	20~90A
RHT-D (SHORE "D")	R0.1Cone	Hard Rubber, thermoplastic elastomers, harder plastics, and rigid thermoplastics	Above 90 A



Model	Metrix+ RHT - A	Metrix+ RHT - D
Circuit	Used the exclusive Micro-computer LSI circuit and crystal time base to offer high accuracy measurement.	
Measuring Range	0~100/ 10~90H	0~100/ 10~90H
Resolution	0.1H	0.1H
Accuracy	±1H	±1H
Hold	Max Hold	Max Hold
Calibration	Possible	possible
Case	High impact ABS	High impact ABS
Operating temperature	0~50°C	0~50°C
Power Supply	2x1.5vAAA Um-4 Battery	2x1.5vAAA Um-4 Battery
Size	170x63x24 mm	170x63x24 mm
Weight	310 g (Not including batteries)	310 g (Not including batteries)

Accessories

Standard Accessories	Main Unit
	Pin Length Test Block
	NOTE: this test block is not the real hardness test sample. It is only an imitation. Just place the block onto a flat glass, then place the Point of indenter into the hole of the block when take measurement
	Carrying Case
	Operation Manual
Optional Accessories	USB data output
	Bluetooth data output
	Shore Hardness Tester Measurement Stand
	Rubber Hardness Test Block (A / D Type)

Features

Laser Range Finder Laser range finder is a instrument to measure the accurate distance to the goal by utilizing laser. While working, laser range finder projects bunch of very thin lasers to the goal, the photoelectric element receive goal reflection's laser beam, the timer determination laser beam receive time from the launch, calculates the distance from the observer to the goal. Laser finder weight is light, the volume is small, simply operation, quickly and accurate, its error is only other range finder's 1/5 to 1%. Thus it is widely used in the topographic measure, battlefield measure, tank, airplane, naval vessel and artillery to goal range, and measure the height of cloud layer, airplane, missile as well as satellite and so on. It is important technical equip to enhance the tank, the airplane, the naval vessel and the artillery precision.



DM 80

DM 100

Technical Parameters

Specifications	Metrix+ DM 80	Metrix+ DM 100
Measuring Range	0.3~80m	0.3~100m
Accuracy	±2mm	±2mm
Imperial/Metric Selection	√	√
Resolution	1mm	1mm
Laser Class	2 class	2 class
Laser Power and Wavelength	P≤1mW λ=635nm	P≤1mW λ=635nm
Triangulation Measurement	√	√
Low Power Indication	√	√
Backlight	√	√
Continuous Measurement	√	√
Measuring Benchmark Setup	√	√
Length Summation	√	√
Area/ Volume Measurement Function	√	√
Data Store	30groups	30groups
PACKING INFORMATION		
Power	AAA*3 battery	AA*2 battery
Product Net Weight	230g	230g
Product Size	132*63*34.5mm	132*63*34.5mm
Packing	Gift box	Gift box



Characteristics

- 2.1 DIT 954 is a electron controlled mini type instrument, there into, the high voltage insulation resistance tester has three insulation resistance for voltage test. **safety standard IEC61010**
- 2.2 The design is up to the following safety standard: IEC 1010 89/336/EEC(electromagnetism compatibility, Nov, 1992, EMC) P73/23/EEC(product safety regulation: Nov, 6th, 1979, low-voltage regulation: Feb,19th, 1973)
- 2.3 Automatically release voltage function:
- 2.4 Be used for the insulation resistance of all kinds of electron equipment and insulation material, such as transformer、generator、cable、switch、electric equipment and so on. Be used for the maintenance、test and check of all the series of electric equipment.
- 2.5 Rated voltage variable
DIT 954-- Rated voltage can be switched among 1000V, 2500V,5000V by knob switch.
- 2.6 High voltage indication
There is the LED in the instrument(HV ON) indicating the high voltage work state.
- 2.7 Low battery indication.
- 2.8 Battery drive, removing the operation of hand-cranked generator.
- 2.9 3 1/2 digital display, reading clearly.
- 2.10 The measurement range for DIT 954 is 10MΩ~199.9GΩ.
- 2.11 Convenient operating and taking.
- 2.12 Strong carrying capability, output short circuit current is <2.0 mA.
- 2.13 Complete protecting circuitry, in case of voltage counterattack and output short circuit protection.
- 2.14 Can test AC Voltage 1V-750V, the frequency of AC Voltage is 40Hz-70Hz.
- 2.15 International fashion design, dustproof and damp proof, can be applied to outside operation.
- 2.16 Meter size : 170*114*64mm
- 2.17 Weight : 500g (Include battery)

Technical specifications

Test condition: test temperature/humidity
23 ± 5°C/45~75 %RH;
Low battery voltage indication;
Insulation resistance:≥500MΩ(1000V);
Voltage with stand :AC 2KV 50Hz 1minute;
Operation temperature and humidity:
0°C~40°C /Relative humidity 85% or less;
This manual is just applied to this instrument,
our company is entitled to modify it.

Basic Function	Range	Accuracy
Output Voltage	1000V/2500V/5000V	± 10%
Output Current	≥100MΩ	
Short circuit current	<2.0mA	
Accuracy of Measurement	10MΩ—200MΩ	± (3% +5)
	200MΩ—10GΩ	± (5% +5)
	10GΩ—200GΩ	± (10% +5)
Measure Range	1000V:10MΩ—20GΩ	
	2500V: 10MΩ—20GΩ	
	5000V: 10MΩ—200GΩ	
ACV	700V	± (0.1% +6)

Features

Metrix+ DM620 50000 Count Programmable Data Logger DMM



- International Safety Standard IEC 1010-1(EN 61010-1:1993 Over Voltage Category II & III)
- 0.05% of basic accuracy
- DM620: 50,000 count of high resolution
- Isolated USB Interface & Isolated USB Battery Charger
- Data Logger Memory: 18,000 Points
- Function and ranges may be controlled from PC via USB.
- True RMS measurements for AC
- Full Auto Range
- Auto Calibration
- Auto power off
- Data holds and run mode
- Low battery indication
- Overload protection for all functions (Including 10A)
- Record (MIN, MAX, AVG), Relative (REF, DEF,ERR) mode
- Compare (GO-NOGO) Mode and Trend Plot
- Real Time Clock and Date
- Multi display & analog bar graph
- Back light display
- AC, DC Voltage measurement
- 10 MHz frequency counter
- Period, Duty cycle measurement
- 20M resistance and Capacitance measurement
- Continuity and Diode test
- Temperature (°C/°F) using "K" type thermocouple
- Room temperature without any temperature probe
- AC, DC Amperes measurement



Product Feature

- * High accuracy inductance sensor.
- * Multiple parameter measurement: Ra, Rz.
- * With low power consumption indication.
- * Can be measured in several parts of the surface roughness: Planar, curved surface, small hole, slot of the irregular surface.
- * Design of electromechanical integration, small volume, light weight, convenient with measuring value storage function and data storage query.
- * Use DSP chip control and data processing, high speed, low power consumption LCD digital display with backlight function.
- * Use "USB data output" and "RS-232 data output" with connection PC.
- * Provide "Bluetooth data output" choice.

Product Description

Amittari Surface Roughness Tester adopt Computer technology, compatible with four standards of ISO, DIN, ANSI and JIS. Widely used in production site to measure surface roughness of various machinery-processed parts. Can communicate with PC computer for statistics, printing and analysing by the optional cable and the software for RS232C interface.

Product Parameter

Measuring Range		Ra: 0.05-10.00um/1.000-400.0uinch
		Rz: 0.020-100.0um/0.780-4000uinch
Accuracy		Not more than $\pm 10\%$
Fluctuation of display value		Not more than 6%
Resolution		0.001 μ m
		0.01 μ m
		0.1 μ m
Probe	Radius	10 μ m
	Material	Diamond
	Measurement Force	16mN(1.6gf)
	Angle	90°
	Vertical Radius	48mm
	Maximum Driving Stroke	12.5mm/0.5inch
	Cutoff Length	0.25mm, 0.8mm, 2.5mm
Driving Speed	Measuring	Sampling Length = 0.25mm Vt=0.135mm/s
		Sampling Length = 0.8mm Vt=0.5mm/s
		Sampling Length = 2.5mm Vt=1mm/s
	Returning	Vt=1mm/s
Evaluation length		1~2L cut off optional (0.25mm sampling length = 1L)

Product Accessories

Standard Accessories	Host, Small Screwdriver, Standard Boilerplate, Standard Sensors, Carrying Case, Instruction Manual.
Optional Accessories	USB Data Outout. RS-232 Data Outout. Bluetooth™ Data Outout

Typical Applications

- * Die cavity of molds
- * Inspection of bearing and other mass produced parts on a production line
- * Failure analysis of pressure vessel, steam generator and other equipment
- * Inspection of installed machinery, permanent parts of assembled systems and heavy work pieces.
- * Testing surface of a small hollow space
- * Material identification in the warehouse of metallic materials
- * Rapid testing in large range and multi-measuring areas for large-scale work piece

Testing Features

- * Small in size for narrow space.
- * Test at any angle, even upside down.
- * Direct display of hardness scales HRB, HRC, HV, HB, HSD, HL.
- * Memory could store 50 groups including single measured value, impact direction, material and hardness scale etc.
- * User recalibration function allowed.
- * Can communicate with PC computer for statistics and printing by the optional cable.
- * Manual or automatic shut down.
- * Low battery indication.

Technical Specifications

- * Display: Large LCD with back light
- * Accuracy: Display error $\pm 0.8\%$ at LD=970
- * Measuring range: 170-970L
- * Conversion: HL-HRC-HRB-HB-HV-HSD
- * Materials: 9 different common materials
- * Memory: 50 Groups Including Single
- * Impact device: D Will handle the majority of hardness testing applications.
- * Power supply: 2x1.5V AA size battery
- * Dimension: 146x65x36mm
- * Weight: 130g (not including batteries)
- * Working temperature : - 10°C ~ + 50°C
- * Storage temperature : - 30°C ~ + 50
- * Standard Accessories: Impact Device D, Test Block, Small Ring, Cleaning Brush, Manual & Carry Case.
- * Optional Accessories: RS 232C+ Software, Support Ring Set, Irregular Impact Device, B Nylon Brush,



Metrix+™

Innovative Excellence

The underlying technology for Infrared Radiation Pyrometer is Based on the principle that all Objects emit radiation at wave lengths in the infrared region of the electromagnetic radiation spectrum.

Infrared is that portion of the electromagnetic spectrum that lies beyond the visible (blue to red, 0.4~0.75um)

Response of the human eye. Infrared thermometer measure this radiation and provide an output signal calibrated in a variety of ranges according to customer requirement.

Non-Contact Infrared Thermometer



Specifications	Metrix+ MT 11	Metrix+ MT 14
Temperature range	-50°C~1100°C (-58 TO 2012°F)	-50°C~1350°C (-58°F~2462°F)
Accuracy	±1.5% or ±1.5°C	
Distance to Spot	20:1	50:1
Emissivity	0.10 ~1.00 continuous adjustable	
Resolution	0.1°C or 0.1°F(<1000°C)	
Repeatability	1% of reading or 1°C	
Response time	500 mSec, 95% response	
Spectral response	8-14 um	
MAX & MIN Function	√	
Average & Difference	√	
High Low Alarm Set	√	
Data store/Recall	√	
°C/°F Selection	√	
Laser Target Pointer	√	
Back light display	√	
Auto Power Off	√	
Low Battery Indication	V	
Ambient operating range	0 to 40°C (32 to 104°F)	
Relative humidity	10-95% RH noncondensing, @ upto 30°C(86°F)	
Storage temperature	-20 to 60°C, ≤85%RH, without battery	
Weight/Dimensions	276 g, 205 x 143 x 58mm	
Power	9V Battery	
Battery life (Alkaline)	Laser Models:12 hrs	
Standard Accessories	Battery, Operation Manual, Hard Carry case & Gift box	

Metrix+™

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Response of the human eye. Infrared thermometer measure this radiation and provide an output signal calibrated in a variety of ranges according to customer requirement.



Specifications	Metrix+ MT 16	Metrix+ MT 18
Temperature range	-50°C ~ 1650°C (-58 TO 3002°F)	-30°C ~ 1850°C (-22°F ~ 3362°F)
Accuracy	±2% or ±2°C	
Distance to Spot	50:1	50:1
Emissivity	0.10 ~ 1.00 continuous adjustable	
Resolution	0.1°C or 0.1°F (<1000°C)	
Repeatability	1% of reading or 1°C	
Response time	500 mSec, 95% response	
Spectral response	8-14 um	
MAX & MIN Function	✓	
Average & Difference	✓	
High Low Alarm Set	✓	
Data store/Recall	✓	
°C/°F Selection	✓	
Laser Target Pointer	✓	
Back light display	✓	
Auto Power Off	✓	
Low Battery Indication	V	
Ambient operating range	0 to 40°C (32 to 104°F)	
Relative humidity	10-95% RH noncondensing, @ upto 30°C(86°F)	
Storage temperature	-20 to 60°C, ≤85%RH, without battery	
Weight/Dimensions	500 g, 200 x 120 x 55mm	
Power	9V Battery	
Battery life (Alkaline)	Laser Models: 12 hrs	
Standard Accessories	Battery, Operation Manual, Hard Carry case & Gift box	

Features

The underlying technology for Infrared Radiation Pyrometers is based on the principle that all objects emit radiation at wavelengths in the infrared region of the electromagnetic radiation spectrum. Infrared is that portion of the electromagnetic spectrum that lies beyond the visible (blue to red, 0.4-0.75 μm) response of the human eye.

Infrared thermometers measure this radiation and provide an output signal calibrated in a variety of ranges.



MT 10A



MT 22

Technical Parameters

SPECIFICATIONS	Metrix+ MT 10A	Metrix+ MT 22 (High Temperature)
Temperature Range	-50°C~1000°C(-58°F~1832°F)	200°C~2500°C(392°F~4532°F)
Accuracy	±2% or ±2°C	±2% or ±2°C
Distance Spot Ratio	20:1	80:1
Emissivity	0.10~1.00 adjustable	0.10~1.00 adjustable
Resolution	0.1°C0.1°F (< 1000°C)	0.1°C 0.1°F(<1000°C); 1°C 1°F(>1000°C)
Wavelength & Response Time	(8-14) μm &500ms	(900-1700)nm & 500ms
Repeatability	±1%or±1°C	±1%or±1°C
°C/°F Selection	√	√
Data Hold and Store Function	N A	(RS232 input interface, 4000 groups data store)
Laser Target Pointer and Backlight Selection	√	√
Max/Min/Avg/Difference Function	√	√
High&Low Temperature Alarm Setup	√	√
PACKING INFORMATION		
Power	9V DC battery	9V DC battery(with external power)
Product Net Weight	480g	480g
Product Size	200*155*59mm	200*155*59mm
Packing Style	Gift box	Gift box



Specifications	LX 1330A	LX 101
Display	Large 48*31.8mm LCD display	3 1/2 digit 18mm (0.7") LCD
Measuring range	1~100,000 Lux	1 to 50,000 LUX 3 Ranges
3 Measuring Ranges	0-2000/ 2000-19990/ 20000-100000	0-2000/ 2000-19990/ 20000-50000
Accuracy (23°C ±5°C)	≤4%rgd±0.5%f.s	±5%2d
Resolution	0-2000 1Lux/ 2000-19990 10Lux 20000-100000 100Lux	0-2000 1Lux/ 2000-19990 10Lux 20000-50000 100Lux
Response Time	1 second	1 second
Data Hold	√	√
Low Power Indication	√	√
Over Level Indication	√	√
Repeatability	±2%	±2%
Operating Temperature & Humidity	0°C to 50°C (32°F - 122°F) less than 80%R.H.	0°C to 50°C (32°F - 122°F) less than 80%R.H.
Sampling Frequency	1.5 times Second	0.4 seconds
Light Sensor	Built in Rotating Head Movable Clockwise 80° anti clockwise 180° easy to measure	Separate Light Sensor
Power	9v Battery (006 P 9V)	9V Battery (006 P 9V)
Size & Weight	166.2*64.0*30.5mm 116g.	118mmx70mmx29mm 200g.
Accessories Included	Hard Carrying Case and Instruction manual	Carry Case, Light Sensor and Instruction Manual



MODELS NOS. SPECIFICATIONS	Metrix+ DT 2234B Photo Tachometer	Metrix+ DT 2235B Contact Tachometer	Metrix+ TM 4005 Photo-Contact Tachometer
Measuring Range-Photo Contact Linear Rolling Speed (Surface Speed)	2.5~99999RPM	0.5~19,999RPM 0.05~1999.9m/min 0.2~6560Ft/min	2.5~99999RPM Photo 2.5~19,999RPM Contact 0.05~1999.9m/min 0.2~6560Ft/min
Resolution	0.1RPM、1RPM	0.1RPM、1RPM 0.01m/min、0.1m/min 1Ft/min	0.1RPM、1RPM 0.1RPM、1RPM 0.01m/min、0.1m/min 1Ft/min
Accuracy	±(0.05%+1 word)	±(0.05%+1 word)	±(0.05%+1 word)
Sampling Frequency	0.8Sec	0.8Sec	0.8Sec
Max & Min Data Function	√	√	√
Provide Probe	---	√	√
Low Battery Indication	√	√	√
Measuring Mode	photoelectric type	Contact Type	Photoelectric + Contact type
Data Hold	√	√	---
LCD Backlight	√	√	---
Operating Temperature	0~50°C	0~50°C	0~50°C
Storing Temperature	-20~60°C	-20~60°C	-20~60°C
PACKING INFORMATION			
Power	AAA*3 battery	AAA*3 battery	AA*4 battery
Product Net Weight	120g	150g	280g
Product Size	150*56*31mm	155*55*35mm	215*74*32mm
Packing	Gift box	Gift box	Gift box



FEATURES

This instrument is compatible with four standards of ISO, DIN, ANSI and JIS and is widely used in production site to measure surface roughness of various machinery-processed parts, calculate corresponding parameters according to selected measuring conditions and clearly display all measurement parameters.

When measuring the roughness of a surface, the sensor is placed on the surface and then uniformly slides along the surface by driving the mechanism inside the tester. The sensor gets the surface roughness by the sharp built-in probe. This roughness causes displacement of the probe which results in change of inductive amount of induction coils so as to generate analogue signal, which is in proportion to the surface roughness at output end of phase-sensitive rectifier.

The exclusive DSP processes and calculates and then outputs the measurement results on LCD.

- * Very easy to operate
- * Multiple parameter measurement: Ra, Rz
- * Highly sophisticated inductance sensor
- * Built-in lithium ion rechargeable battery and control circuit with high capacity
- * Small in size, light in weight and easy to use
- * Can communicate with PC computer for statistics, printing and analysing by the optional cable and the software for RS232C interface.
- * Manual or automatic shut down. The tester can be switched off by pressing the Power key at any time. On the other hand, the tester will power itself off about 5 minutes after the last key operation.

SPECIFICATIONS

Display : 4 digits, 10 mm LCD, with backlight

Display Range Ra: 0.05-10.00 μ m/1.000-400.0 μ inch
Rz: 0.020-100.0 μ m/0.780-4000 μ inch

Sensor : Test Principle: Inductance type

Radius of Probe Pin: 10 μ m

Material of Probe Pin: Diamond

Measurement Force of Probe: 16mN(1.6gf)

Probe Angle: 90°

Vertical Radius of Guiding Head: 48mm

Maximum driving stroke: 17.5mm/0.7inch

Cutoff length (l): 0.25mm / 0.8mm / 2.5mm optional

Evaluation length: 1~5 cut off optional

Driving speed:

sampling length = 0.25mm Vt=0.135mm/s

sampling length = 0.8mm Vt=0.5mm/s

sampling length = 2.5mm Vt=1mm/s

returning Vt=1mm/s

Resolution : 0.001 μ m if reading < 10 μ m
0.01 μ m if 10 μ m≤reading < 100 μ m
0.1 μ m if reading ≥100 μ m

Parameters: Ra, Rz

Accuracy: Not more than 10%

Fluctuation of display value: Not more than 6%

Power: Li-ion Battery Rechargeable

Operating Condition: Temp. 0-50°C Humidity <80%

Size: 140x57x48 mm (5.5x2.2x1.9 inch)

Weight: About 450 g

Metrix+™
Innovative Excellence

Digital Moisture Meter

Arzu

Multi purpose Moisture Meter suitable to measure Moisture content in Various types of Wood,Pulp, Building Materials,Card Board, Unani medicine With ease Digital readout gives exact reading without error no guessing Compact in size pocket type.



Model Description	Metrix+ MM 2A Multi Purpose Moisture Meter
Display	Large LCD display with function annunciation
Measuring Range	2%~70% 4 range (1)2%~40% (2) 2%~50% (3) 2%~60% (4) 2%~70%
Resolution	0.5%
Accuracy	0.5%
Data Hold	Yes
Low Battery Indication	Yes
APO	Yes
Power Supply	1 X 9V Alkaline Battery
Size & Weight	150 x 54 x 27mm 126g.
Operating Temperature	0°C ~40°C 0~70% RH
Accessories Included	Soft carry case and manual



Application: applicable of Wood, wood fibre materials, wooden articles, Ayurvedic traditional medicine, tobacco, cotton paper, building, soil and other fibre materials.

Model: MS 7000

Measurement range: moisture content 0-50%

Temperature -10-60°C

Resolution: 0.1

Accuracy:

Moisture: $\pm(0.5\%n+0.1)$

TEMP: $\pm 0.8^{\circ}\text{C}$

Calibration: automatic

Power supply: 4x1.5V AA (UM-3) battery

Dimensions: 182x68x38mm

Probe dimension: 170x44x25mm

Weight (not including probe): 334g



MT 4A



MT 4



MT 2A

SPECIFICATIONS	MT 4A	MT 4	MT 2A
Temperature Range	-50°C~600°C (-58°F~1112°F)	-32°C~550°C (-26°F~1022°F)	-50°C~280°C (-58°F~536°F)
Accuracy	±1.5% or ±1.5°C	±2% or 2°C	±1.5% or 1.5°C
Distance Spot Ratio	12:1	12:1	12:1
Emissivity	0.10~1.00 adjustable	0.95 pre-set	0.95 pre-set
Resolution	0.1C/0.1F	0.1C/0.1F	0.1C/0.1F
Wavelength & Response Time	(8-14)um&500ms	(8-14)um&500ms	(8-14)um&500ms
Repeatability	±1% or ±1C	±1% or ±1C	±1% or ±1C
C/F Selection	✓	✓	✓
Data Hold Function	✓	✓	✓
Memory Max/Min/Diff. Function	✓		
High & low Temp. Alarm Setup	✓		
Laser Target Pointer Selection	✓	✓	✓
Backlight Display Selection	✓	✓	✓
Auto Power Off	✓	✓	✓
PACKING INFORMATION			
Power	9V DC battery	AAA*2 battery	AAA*2 battery
Product Net Weight	210g	150g	130g
Product Size	175*100*49mm	143*93*38mm	146*80*38mm
Packing Style	Gift box	Blister	Blister

Metrix+TM
Innovative Excellence

**AC Voltage Detector
(Line Tester)**



Metrix+ CD 2

Measurement Method: Non-contact detection

Voltage Sensitivity: 24 ~240V

AC voltage Range : 24VAC ~600VAC

For use on 50/60Hz circuits

CATIII 600V

SIZE : 159×22mm

POWER SUPPLY:AAA 1.5V×2

WEIGHT: About 30g(Not Include battery)

Packing: Blister Card



Metrix+ 3510PW

Basic function

AC Voltage 15V~600V
AC Current 40A~1000A
Frequency 20Hz~500Hz

Express function

Display 9999
Range Select Auto
Active Power 0.01kW~600kW
Apparent Power 0.01kVA~600kVA
Reactive Power 0.01kVar~600kVar

Power Factor 0.3~1.0
Phase Angle 0°~360°
Active Energy 1~9999kWh
Phase Rotation Test √
AC True RMS √
Data memory 99 Groups
MAX/MIN √
USB √

" Single-phase 2-wire.

3-phase 3-wire. √

3-phase 4-wire."

Data Hold √

Back Light √

Auto Power Off √

Jaw Caliber 55mm

General Features

Battery Type 9V(6F22)x1
Dimension 275x120x33mm
Weight 540g

Specifications **Metrix+ 3510PW POWER CLAMP METER**

AC Voltage (True RMS)	Range	Resolution	Accuracy		Allowable Maximum overload protection voltage		Input Impedance	Remark
	15V	0.1V	±(1.2%)		600 RMS		10 MΩ	
	100V							
	300V							
	600V							
Min Input Voltage : 10V	Range		Resolution		Accuracy		Remark	
	20Hz~100Hz		1Hz		±(0.5%)		Min Input Voltage : 10V	
AC Current (True RMS)	Range		Resolution	Accuracy	Allowable Maximum overload protection current			Remark
	40A		0.1A	±(2.5%)	1000A RMS			Allowable maximum overload protection current:1000A RMS
	400A							
	1000A	400-800	1A)	±(2.5%)				
		800-1000		±(3.5%)				
Active Power ($w=V \times A \times \cos \Phi$)	Current/Voltage		Voltages Range				Remark	
			15V	100V	300V	600V	Min Input Voltage : 10V ·Allowable maximum overload protection voltage:600V RMS ·Allowable maximum overload protection current:1000A RMS	
	Current Range	40A	0.60kW	4.00kW	12.00kW	24.00kW		
		100A	1.50kW	10.00kW	30.00kW	60.00kW		
		400A	6.00kW	40.00kW	120.0kW	240.0kW		
		1000A	15.00kW	100.0kW	300.0kW	600.0kW		
	Accuracy		±(3%)					
	Resolution		< 1000KW:0.01KW ≥ 100KW:0.1KW					
	Apparent Power (VA = V × A)	Current/Voltage		Voltages Range				Remark
15V				100V	300V	600V	Min Input Voltage : 10V ·Allowable maximum overload protection voltage:600V RMS ·Allowable maximum overload protection current:1000A RMS	
Current Range		40A	0.60kVA	4.00kVA	12.00kVA	24.00kVA		
		100A	1.50kVA	10.00kVA	30.00kVA	60.00kVA		
		400A	6.00kVA	40.00kVA	120.0kVA	240.0kVA		
		1000A	15.00kVA	100.0kVA	300.0kVA	600.0kVA		
Accuracy		±(3%)						
Resolution		< 1000KVA :0.01KVA ≥ 100KVA :0.1KVA						
Reactive Power (Var =V×A×SINΦ)	Current/Voltage		Voltages Range				Remark	
			15V	100V	300V	600V	Min Input Current/Voltage : 10A/10V ·Allowable maximum overload protection voltage:600V RMS ·Allowable maximum overload protection current:1000A RMS	
	Current Range	40A	0.60kVar	4.00kVar	12.00kVar	24.00kVar		
		100A	1.50kVar	10.00kVar	30.00kVar	60.00kVar		
		400A	6.00kVar	40.00kVar	120.0kVar	240.0kVar		
		1000A	15.00kVar	100.0kVar	300.0kVar	600.0kVar		
	Accuracy		15V/1000A Range :±(4%) Other Range :±(4%)					
	Resolution		< 1000kVar:0.01kVar ≥ 100kVar:0.1kVar					
Power Factor (PF = W/VA)	Range		Accuracy	Resolution	Measuring Condition			Remark
	0.3~1 (capacitive or inductive)		±0.022	0.001	The minimum measuring current 10A The minimum measuring voltage 45V			Min Input Voltage : 10V ·Allowable maximum overload protection voltage:600V RMS ·Allowable maximum overload protection current:1000A RMS
	0.3~1 (capacitive or inductive)		For reference only		Measuring current less than 10A OR Measuring voltage less than 45V			
Phase Angle (PG =acos (PF))	Range		Accuracy	Resolution	Measuring Condition			Remark
	0°~360°		±1°	1°	The minimum measuring current 10A The minimum measuring voltage 45V			Min Input Current/Voltage : 10A/10V
	0°~360°		For reference only		Measuring current less than 10A OR Measuring voltage less than 45V			
Active Energy (kWh)	Range		Accuracy		Resolution			Remark
	1~9999kWh		±(3%)		0.001kWh			Allowable maximum overload protection voltage:600V RMS ·Allowable maximum overload protection current:1000A RMS



Model Description	Metrix+ DIT 918 Digital Insulation Tester	Metrix+ DIT 3125 Digital Insulation Hi-Tester
Safety Standard	IEC 61010-1 CAT III 600V IEC 61010-031 (Test Wire) Pollution level 2	IEC 61010-1 CAT III 600V CAT I 5000V IEC 60529 (Ip 40) IEC 61010-031 (Test Wire) IEC 61326-1(EMC) Pollution level 2
Test Range	100V:0.0~199.9MΩ 250V:0.0~499.9MΩ 500V:0.0~999.9MΩ 1000V:0.0~19.9GΩ 2500V:0.0~49.9GΩ	500V:0.0~999MΩ 1000V:0.0~1.99GΩ 2500V:0.0~99.9GΩ 5000V:0.0~1000GΩ
Accuracy	±5%rdg±5dgt	±5%rdg±5dgt
DC/AC Voltage	30~600V	30~600V
Resolution	1.0V	1.0V
Overload Protect	AC 1200V/10sec	AC 1200V/10sec
With Stand V	AC 8320V/5 sec	AC 8320V/5 sec
Insulated Impedance	1000MΩ	1000MΩ
Max. Short Circuit Current	1.3mA	1.4mA
LCD Backlight	√	√
Timer	-----	√
Polarization Index	-----	√
Bargraph display	-----	√
DC Adaptor	-----	√
DAR	-----	√
USB	-----	√
Operating Temperature	0~50°C	0~50°C
Storage Temperature	-20~70°C	-20~70°C
APO	Auto Power Off	
Warning	Live wire warning system with audio sound	
Low Voltage Indication	√	√
Auto Discharge	√	√
Power	AA* 6 Battery	C* 8 Battery Alkaline
Size & Weight	125.4*174.6*69mm 550g.	153*213*95mm 1027g
Accessories	Instrument, Test wire, Alligator clip, AA* 6 Batteries, Manual and carry case.	Instrument, Test wire, Alligator clip, C* 8 Alkaline batteries, USB Data Interface cable + Software, Manual and carry case.



Typical Applications & Testing Features:

- * Die cavity of molds.
- * Inspection of bearing and other mass produced parts on a production line.
- * Failure analysis of pressure vessel, steam generator and other equipment.
- * Inspection of installed machinery, permanent parts of assembled systems and heavy work pieces.
- * Testing surface of a small hollow space.
- * Material identification in the warehouse of metallic materials.
- * Rapid testing in large range and multi-measuring areas for large-scale work piece.
- * Palm size for narrow space.
- * Test at any angle, even upside down.
- * Direct display of hardness scales HRB, HRC, HV, HB, HSD, HL.
- * Large memory could store 250 groups including single measured value, impact direction, material and hardness scale etc.
- * User recalibration function allowed.
- * Can communicate with PC computer for statistics and printing by the optional cable.
- * Manual or automatic shut down.
- * Low battery indication.

Model Specification	Metrix+ "HARD MASTER"	Metrix+ 130
Display	14mm LCD with back light	Matrix LCD 128*64dot Back light
Measuring Range	200~900L	170-960HLD
Accuracy	Display error $\pm 0.8\%$ at LD=900	± 10 HLD
Test Direction	360°(plumb down,down,horizontal,indined up, plumb up)	
Conversion	HL-HRC-HRB-HRA-HB-HV-HS	
Materials	9 different common materials	
Impact Device	D Will handle the majority of hardness testing	
Memory	250 data can be stored	500 data can be stored
PC Connectivity	RS 232C	USB
Re-Calibration	Allowed	Allowed
Power	2 X 1.5V "AAA" Battery	4 X 1.5 "AA" Alkaline Battery
APO	√	√
Low Battery Indication	√	√
Weight & Dimension	146*65*36mm 130g.	150*80*38mm 360g.
Operating Temperature	0°C ~ + 50°C	0°C ~ + 50°C
Storage Temperature	-20°C ~ + 60°C	-20°C ~ + 70°C
Accessories Include	D type Impact Device,Standard Leeb Hardness Block,A nylon Brush,Support ring,PC Interface Data cable,software CD,Manual & Aluminum Carry case	
Optional Accessories	B Nylon Brush, Irregular Type Impact Device and Support ring	

FEATURES

- * Used the exclusive Micro-computer LSI circuit and crystal time base to offer high accuracy measurement.
- * With high power of emission and broad band of receiving sensitivity, the gauge can match probes of different frequencies. That makes it easy to measure the rough surface, even cast iron. It is widely used in almost all kinds of industries.
- * Applicable to measure the thickness of many materials, e. g. Steel, Cast iron, Aluminum, Red copper, Brass, Zinc, Quartz glass, Polyethylene, PVC, Gray cast iron, Nodular cast iron.
- * Automatic power off to conserve power.
- * Can communicate with PC computer for statistics and printing by the optional cable and the software for RS232C interface .



Model	UTG 27
Display	4 Digit Backlit LCD
Range	1-400mm(45# Steel) inch/mm switchable
Resolution	0.1mm/ 0.01mm switchable
Accuracy	± 0.5%n + 0.1mm
Sound Velocity	500~9000 m/s
Operating Condition	0-40°C / Humidity <80%
Power	1.5V X 4 (UM 4 Battery)
Size & Weight	130 x 76 x32mm 340gm without battery
Standard Accessories	Ultrasonic Sensor, Oil, User Manual & Hard Carry Case
Optional Accessories	(1)RS 232C PC Interface Cable/USB Adaptor & Software (2)Blue Tooth
Optional Probes & Calibration Block	(1)PT-06mm For Small & Curve Surfaces/Pipes (2)PT-08mm Standard Probe (3)PT HT Ceramic Probe for High Temperature Surfaces (4)Calibration Step Block

FEATURES

- * Used the exclusive Micro-computer LSI circuit and crystal time base to offer high accuracy measurement.
- With high power of emission and broad band of receiving sensitivity, the gauge can match probes of different frequencies. That makes it easy to measure the rough surface, even cast iron. It is widely used in almost all kinds of industries.
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- * Automatic power off to conserve power.
- * Can communicate with PC computer for statistics and printing by the optional cable and the software for RS232C interface .



Model	UTM 5	UTM 9
Display	4 Digit Backlit LCD	
Range	1-200mm(45# Steel)	0.9-350mm (45# Steel)
Resolution	0.1mm	0.01mm
Accuracy	$\pm 0.5\%n + 0.1\text{mm}$	$\pm 0.5\%n + 0.01\text{mm}$
Sound Velocity	500~9000 m/s	500~9000 m/s
Operating Condition	0-40°C / Humidity <80%	0-40°C / Humidity <80%
Power	1.5V X 4 (UM 4 Battery)	1.5V X 4 (UM 4 Battery)
Size & Weight	145 x 65 x 25mm 145gm without battery	145 x 65 x 25mm 145gm without battery
Standard Accessories	Ultrasonic Sensor, Oil, User Manual & Hard Carry Case	Ultrasonic Sensor, Oil, User Manual & Hard Carry Case
Optional Accessories	(1)RS 232C PC Interface Cable/USB Adaptor & Software (2)Blue Tooth	(1)RS 232C PC Interface Cable/USB Adaptor Software (2)Blue Tooth
Optional Probes & Calibration Block	(1)PT-06mm For Small & Curve Surfaces/Pipes (2)PT-08mm Standard Probe (3)PT HT Ceramic Probe for High Temperature Surfaces (4)Calibration Step Block	



Main Functions Mod: UTM 18CT

- 1) Multi-mode: Pulse-Echo mode and Echo-Echo mode.
- 2) Capable of performing measurements on a wide range of material, including metals, plastic, ceramics, composites, epoxies, glass and other ultrasonic wave well-conductive materials.
- 3) Transducer models are available for special application, including for coarse grain material and high temperature.
- 4) Probe-Zero function, Sound-Velocity-Calibration function
- 5) Two-Point Calibration function.
- 6) Single point mode and Scan mode. Seven measurements readings per second in single point mode, and sixteen per second in Scan Mode.
- 7) Coupling status indicator showing the coupling status.
- 8) Units: Metric/Imperial unit selectable.
- 9) Battery information indicates the rest capacity of the battery.
- 10) Auto sleep and auto power off function to conserve battery life.
- 11) Optional software to process the memory data on the PC.

The model **UTM 18CT** ultrasonic thickness gauge. Based on the same operating principles as SONAR, the instrument is capable of measuring the thickness of various materials with accuracy as high as 0.1/0.01 millimeters. The multi-mode feature of the gauge allows the user to toggle between pulse-echo mode (flaw and pit detection), and echo-echo mode (eliminate paint or coating thickness).

Product Specifications

- 1) Display : 4.5 digits LCD with EL backlight.
- 2) Range : Pulse-Echo mode: (0.65~600)mm (in Steel). Echo-Echo mode: (3~30)mm.
- 3) Sound Velocity Range: (1000~9999) m/s.
- 4) Resolution : 0.1mm/0.01mm
- 5) Accuracy : $\pm (0.5\% \text{ Thickness} + 0.01)$ mm, depends on materials and conditions
- 6) Memory for up to 20 files (up to 99 values for each file) of stored values.
- 7) Power Source: Two "AA" size, 1.5 Volt alkaline batteries. 100 hours operating time (backlight off).
- 8) Communication : USB1.1.
- 9) Outline dimensions : 150mm×74mm×32 mm.
- 10) Weight : 245g
- 11) Operating Temperature: $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$;
- 12) Storage Temperature : $-30^{\circ}\text{C} \sim +70^{\circ}\text{C}$

Standard Configuration

Main body 1

Probe Select From Table →

Couplant 1

Instrument Case 1

Operating Manual 1

Guarantee Card 1

Optional Configuration

Probe N05/90° (5MHz) Probe

N07(7MHz)

Probe HT5(5MHz)

DataPro Software Communication
Cable

Model	Freq MHz	Diam mm	Measuring Range	Lower limit	Description
P5EE	5	12	Echo-Echo mode: (3~30)mm for	Φ20mm×3.0mm	Trough Coating Measurement
N05	5	10	1mm~600.0mm (In Steel)	Φ20mm×3.0mm	Normal Measurement
N05 /90°	5	10	1mm~600.0mm (In Steel)	Φ20mm×3.0mm	Normal Measurement
N07	7	6	0.65mm~ 200.0mm (In Steel)	Φ15mm×2.0mm	For thin pipe wall or small curvature pipe wall measurement
HT5	5	14	1~600mm (In Steel)	30mm	For high temperature (lower than 300℃) measurement.

FEATURES

- In accordance with ISO 2954, used for periodic measurements, to detect out-of-balance, misalignment and other mechanical faults in rotating machines.
- * specially designed for easy on site Vibration Measurement of all Rotating machinery for quality control, commissioning and predictive maintenance purposes.
- * Individual high quality accelerometer for accurate and repeatable measurements.
- * Bearing condition monitoring function
- * Large Backlit LCD digital display
- * Lightweight and easy to use
- * Wide frequency range (10Hz. To 10kHz.) in acceleration mode
- * Can communicate with PC computer for statistics and printing by the optional cable and the software for RS232C interface



VM 8200+

VM 8200 mkII+

Specifications	Metrix+ VM 8200+		Metrix+ VM 8200mk II+
Display	4 digits 18mm LCD measured Values & makers units, 10 & battery symbols		
Transducer	Piezo electric Accelerometer		
Velocity	0.01-200.00 mm/s true RMS		0.01-400.0 mm/s // 0.000 ~ 16 inch/s
Acceleration	0.1-200.0 m/s ² , 0.3 ~ 656.2 ft/s ² equivalent peak		0.1-400.0 m/s ² , 0.3 ~ 1312 ft/s ² equivalent peak
Displacement	0.001-2.000mm Peak - Peak value		0.001-4.000mm Equivalent Peak-Peak; 0.04-160.0 mil
R P M	N A		60-99,990 r/min Readings should be multiplied by 10 if the display show '10'.
Frequency	N A		1 ~ 20kHz
Frequency Range For Measuring	Acceleration	10Hz. to 1kHz. In '1' mode 10Hz. to 10kHz. In '10' Mode for Bearing condition check	10Hz. to 1kHz. In '1' mode 10Hz. to 10kHz. In '10' Mode for Bearing condition check
	Velocity	10Hz to 1kHz	10Hz to 10kHz
	Displacement	10Hz to 1 kHz	10Hz to 10kHz
Accuracy	±5% of reading + 2digits		
APO	Enabled by USER		
Max Hold	With max value hold and low battery indication		Peak HOLD
Analog Output	AC output 0~2.0V peak full scale(load resistance: above 10k)		
Power Supply	1.5V x 4 AAA Battery		1.5V x 2 AA battery
Operating Condition	Temperature : 0-50°C Humidity : below 90% RH		Temperature : 0-50°C Humidity : below 95% RH
Dimension & Weight	160 x 68 x 38mm 181 gm.		130 x 70 x 30mm 305 gm.
Standard Accessories	* Powerful rare earth magnet * Measurement sensors * Stinger probe (Cone) * Stinger probe (Ball) * Carrying case * Operational instruction manual		* Powerful rare earth magnet * Measurement sensors * Stinger probe (Cone) * Stinger probe (Ball) * Carrying case * Operational instruction manual
Optional Accessories	* Headphones for use as electronic stethoscope * Cable and software for RS232C or USB		* Headphones for use as electronic stethoscope * Cable and software for RS232C or USB

Product Description

Can display the parameters of "Displacement", "Velocity" and "Acceleration" simultaneously; Applied to the periodic motion measurements to detect moving mechanical imbalances and misaligned. Designed for on-site measuring various mechanical vibration, for quality control, running time and prior equipment maintenance data. Selection of high-performance accelerometers to achieve accurate, replicable measurement. It has a bearing condition measurement function.

Product Feature

- * Can display the parameters of "Displacement", "Velocity" and "Acceleration" simultaneously.
- * In accordance with ISO 2954, used for periodic measurements, to detect out-of-balance, misalignment and other mechanical faults in rotating machines.
- * Specially designed for easy on site vibration measurement of all rotating machinery for quality control, commissioning, and predictive maintenance purposes.
- * Individual high quality accelerometer for accurate and repeatable measurements.
- * Wide frequency range (10Hz~10kHz) in acceleration mode.
- * AC output socket for headphones and recording.
- * Optional headphones for use as electronic stethoscope.
- * Bearing condition monitoring function.
- * Use "USB data output" and "RS-232 data output" with connection PC



Product Parameters

Transducer	Piezoelectric accelerometer
Accuracy	±5%+2 digits
Measurement Range	Displacement : 0.001-4.000mm equivalent peak-peak / 0.04-160.0 mil
	Velocity : 0.01-400.0 mm/s true RMS / 0.000-16.00 inch/s
	Acceleration : 0.1-400.0 m/s ² equivalent peak / 0.3-1312 ft/s ² / 0.0-40g
Frequency Range	Displacement : 10Hz. ~ 1kHz.
	Velocity : 10Hz. ~1kHz.
	Acceleration: 10Hz. ~ 10kHz.
Operating Conditions	Temperature : 0-50 °C
	Humidity : below 95% RH
Analogue Output	AC output 0~2.0V peak full scale (load resistance: above 10k)
Power Supply	2x1.5vAA (UM-3) Battery
Size	130x70x30mm
Weight	305g (Not including Batteries)

Product Accessories

Standard Accessories	Host
	Magnetic Suction Seat
	Probe (Cone)
	Probe (Spherical)
	Piezoelectric Sensor
	Carrying Case
	Manual Book
Optional Accessories	Headset
	USB Data Output
	RS-232 Data Output