

# HTC<sup>TM</sup>

## INSTRUMENTS

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Sr. No.	MODEL NAME	MODEL NO.	PAGE NO.
1	Analog Multimeter	YX-360TRE-B	3
2	Digital Multimeter	DM-92	4
3	Digital Multimeter	DM-96	5
4	Digital Multimeter	DM-86	6
5	Digital Multimeter	DM-88	7
6	Digital Multimeter	DM-97	8
7	Digital Multimeter	DM-98	9
8	Digital Multimeter	DM-23	10
9	Digital Multimeter	DM-56	11
10	Digital Multimeter	DM-87	12
11	Bench Type True RMS Digital Multimeter	DM-8045R	13
12	AC Clamp Meter (400AMP)	CM-2000	14
13	AC Clamp Meter (1000 AMP)	CM-2030	15
14	AC Clamp Meter (1000 AMP)	CM-2070C & CM-2070FT	16
15	AC Clamp Meter	CM-2100/CM-2200	17
16	AC/DC Clamp Meter (1000 AMP)	CM-2046	18
17	AC/DC Clamp Meter (1000 AMP)	CM-2056	19
18	Power Clamp Meter	PA-170	20
19	AC Leakage Current Tester	CL-2054	21
20	Earth Leakage	CE-8200/CE-8201	22
21	Insulation Resistance Tester	6250IN	23
22	Phase Rotation Meter	ST-852	24
23	Voltage Detector	AC-II	25
24	Digital Capacitance Meter	CM-1500/CM-1501	26
25	Digital LCR Meter	LCR-4070	27
26	Digital Milliohm Meter	MO 5000	28
27	Pen R/C Meter for SMD	SMD TESTER	29
28	Transistor Tester	TT-825	30
29	Lux Meter	LX-101A/LX-102A	31
30	Lux Meter	LX-104	32
31	Sound Level Meter	SL-1350	33
32	Sound Level Meter	SL-1352	34
33	Anemometer	AVM-07	35
34	Hot Wire Anemometer	AVM-08	36
35	Vibration Meter	VB-8205	37
36	Digital Stroboscope	DT-2229	38
37	Pen Type Digital Thermometer	DT-1	39

### About Us:-

HTC Instruments had been established in 2008 to provide the optimal Quality and Customer Service by innovation and integration. The company's flagship measuring instrument business provides products and services indispensable to the development, manufacture and maintenance on a global scale.

With our expertise engineering team, HTC now develops / manufacturer and source many day to day products for the industry under its own brand name, to fulfill the needs and serve every industry from A (Agriculture) to Z (Zoology) be it small, big mine or quarry.

As a result of its constant endeavor to innovate and expand, HTC is today, one of India's leading manufacturer of industrial products, supplied to Government & private sectors. The desire to satisfy the special needs and demands of every industry has resulted in the company having more than 100 products & 10,000 satisfied customers over the last five years!

HTC now has 5 years experience of developing the highest quality testing and measuring equipment, backed by a global reputation for quality and service. The system is based on an ongoing commitment to quality, professional fulfillment of duties and constant expansion and development.

### Our Vision:-

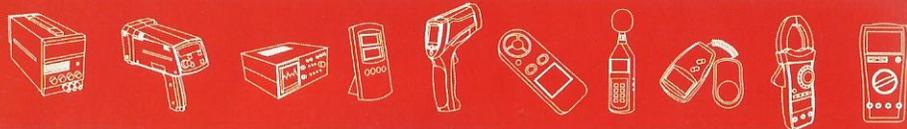
To establish a global presence as one of the finest industrial houses from India.

### Our Mission:-

HTC Instruments will deliver reliable, high-quality measuring equipment and scientific testing equipments, always ensuring that integrity and sustainability are at the core of every effort.



Sr. No.	MODEL NAME	MODEL NO.	PAGE
38	Thermometer	DT-302-1 / DT-302-2	40
39	Contact Thermometer	DT-305	41
40	Humidity & Temp. Meter	HT-306	42
41	Humidity & Temp. Meter	HD-304	43
42	Infrared Thermometer	MTX-2	44
43	Infrared Thermometer	MT4 & MT6	45
44	Infrared Thermometer	MTX4	46
45	Infrared Thermometer	IRX-63/64/65/66	47
46	Professional High Temp. Infrared Thermometer	IRX-67/68/69	48
47	Body Infraredmeter	BODY SCAN (IR)	49
48	Temperature Calibrator	CC-01	50
49	RTD Calibrator	CC-02	51
50	Temperature Calibrator	CC-04	52
51	Thermo-Hygrometer	103-CTH/411-CTH	53
52	Thermo-Hygrometer	288-CTH/288-ATH	54
53	RH-Temp Data Logger	Easy Log	55
54	Manometer	PM-6202/PM-6205	56
55	Electro Magnetic Field Tester	EMF-522	57
56	Electro Magnetic Field Tester	EMF-523	58
57	Oscilloscope	ST-16A	59
58	Oscilloscope	ST-16B	60
59	Oscilloscope	HTC-5020/5020C	61
60	Oscilloscope	HTC-5030/5030C	62
61	Oscilloscope	PDO 5025S/5060S/50100S	63
62	Regulated Power Supply	DC 3002/3003/3005/3010	64
63	Regulated Power Supply	DC 3002-II/3003-II/3005-II	65
64	Function Generator	FG-2002	66
65	2.4 GHz Intellective Frequency Counter	VC-3165	67
66	Microwave Leakage Detector	ML-2	68
67	Digital Altimeter	AL-7010	69
68	Altimeter/Distance Meter	AL-7000	70
69	Laser Distance Meter	LD-01/LD-02	71
70	CO-1 Carbon Monoxide Meter	CO-01	72
71	Accessories	TL-1	73
72	Temperature Probe	TP-01/02A/03A	74
73	Computer Interface	RS-232 / RS-232 TO USB Cable	75



## Features:

- Analog Multimeter with Mirror Scale
- Inbuilt Buzzer and LED
- 0Ω Adjustable with x 100 Range
- Transistor Test, hFE with Diode



## Technical Data :

Basic Functions	Range	Basic Accuracy of FSD	Sensitivity
DC Voltage	0.1mV~1000v	3; for 1000V:5	20kΩ/V
AC Voltage	10V~1000v	4; for 1000V:5	9kΩ/V
DC Current	50μA~10A	3; for 10A:5	
Resistance x 1	0.2Ω~2kΩ	3	
x 10	2Ω~20kΩ		
x 100	20Ω~200kΩ		
X 1k	200Ω~2MΩ		
X 10k	2kΩ~2Mhz		
I <sub>ceo</sub>	150 μA-15mA-150mA		
hFE	0~1000 with connector		

## Special Function

Diode Test	✓	Function Protection	✓
Transistor Testing	✓	Continuity Buzzer	✓

- **Standard Accessories** : Test Leads, Holster, Manual
- **Dimension** : 148(H) x 100(W) x 35(D)mm



**Features:**

- 3½ Digital Multimeter
- Large LCD Display with Manual Range
- No Power-OFF under natural operation
- Full protection in All Ranges.



**Technical Data :**

Basic Functions	Range	Basic Accuracy
DC Voltage	200mV/2V/20V/200V/1000V	±(0.5%+3)
AC Voltage	2V/20V/200V/750V	±(0.8%+5)
DC Current	200uA/2mA/20mA/20A/20A	±(0.8%+3)
AC Current	20mA/20mA/20A	±(1.0%+5)
Resistance	200MΩ/2kΩ/20kΩ/200kΩ/2MΩ/20MΩ/200MΩ	±(0.8%+3)
Capacitance	20nF/200nF/2uF/200uF	±(2.0%+20)

**Special Function**

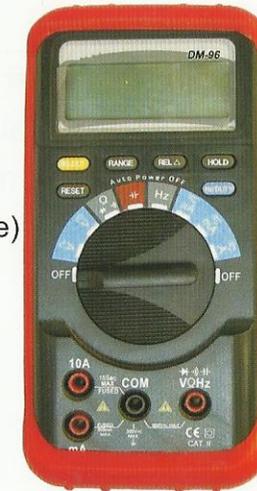
Diode test	✓	Anti Shock Protect	✓
Transistor Testing	✓	Input impedance	10MΩ
Continuity Buzzer	Approx. < 30Ω+10Ω	Sampling Rate	3 times per second
Low Battery Display	Approx. < 7.5V	AC Frequency Response	40-400Hz
Auto Power OFF	Approx. 30 min.	Power	9V (6F22)

- **Standard Accessories** : Test Leads, Holster, Manual
- **Dimension** : 185(H) x 93(W) x 35(D)mm



**Features:**

- 3¾ Digital Multimeter
- 4000 Counts
- Auto/Manual Range
- Data Hold, Auto Power Off(Can Disable)
- Capacitance, Frequency / Duty Cycle



**Technical Data :**

Basic Functions	Range	Basic Accuracy
DC Voltage	0.1mV~600v	(±0.5% +5Digit)
AC Voltage	0.1mV~600v	(±0.8% +5Digit)
DC Current	0.1uA~10A	(±2.0% +5Digit)
AC Current	0.1uA~10A	(±2.5% +5Digit)
Resistance	0.1Ω~40Ω	(±1.0% +5Digit)
Capacitance	0.1pF~100uF	(±3.0% +5Digit)
Frequency	5.12~10MHz	(±0.1% +5Digit)
Duty Cycle	0.1%~99.9%	(±2.5% +5Digit)

- **Standard Accessories** : Test Leads, Holster, Manual
- **Dimension** : 155(H) x 75(W) x 33(D)mm



**Features:**

- 3½ Digital Multimeter
- No Power-OFF under natural operation
- Full protection in All Ranges
- NCV Test



**Technical Data :**

Basic Functions	Range	Basic Accuracy
DC Voltage	200mV/2V/20V/200V/1000V	±(0.5% + 4)
AC Voltage	200mV/2V/20V/200V/750V	±(0.8% + 5)
DC Current	200uA/2mA/20mA/200mA/2A/20A	±(1.0% + 5)
AC Current	200uA/2mA/20mA/200mA/2A/20A	±(1.5% + 5)
Resistance	200Ω/2kΩ/20kΩ/200kΩ/2MΩ/20MΩ	±(0.8% + 1)
Temperature	-40 ~ 1000 C / 0 ~ 1832 F	±(1.0% + 5)

**Special Function**

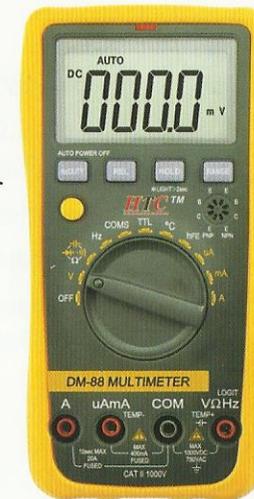
Diode test	✓	NCV	✓
Transistor Testing	✓	Input impedance	10MΩ
Continuity Buzzer	Approx. < 30Ω±10Ω	Sampling Rate	3 times per second
Low Battery Display	Approx. < 7.5V	AC Frequency Response	40-400Hz
Auto Power OFF	Approx. 30 min.	Power	9V (6F22)

- **Standard Accessories** : Test Leads, Holster, Temp. Probe, Manual
- **Dimension** : 170(H) x 86(W) x 35(D)mm



**Features:**

- 3¾ Digital Multimeter
- **COMS, TTL Logic Test**
- Large LCD display makes reading clear
- No Power-OFF under natural operation
- Data Hold, Max. / Min. Value Hold
- Capacitance, Frequency / Duty Cycle, Temperature and Transistor Test



**Technical Data :**

Basic Functions	Range	Basic Accuracy
DC Voltage	0.1mV ~ 1000V	±(0.5% + 4digit)
AC Voltage	0.1mV ~ 750V	±(0.8% + 6digit)
DC Current	0.1uA ~ 10A	±(1.0% + 5digit)
AC Current	0.1uA ~ 10A	±(1.5% + 5digit)
Resistance	0.1Ω ~ 40MΩ	±(0.8% + 1digit)
Capacitance	10pF ~ 200uF	±(3.5% + 8digit)
Frequency	0.1Hz ~ 30MHz	±(0.5% + 4digit)
Temperature	-40°C ~ 1000°C	±(0.8% + 4digit)

**Special Function**

Logic Function	✓	Function Protection	✓
Diode and hFE test	✓	Input impedance	10MΩ
Transistor testing	✓	Sampling Rate	3 times per second
Continuity Buzzer	Lower 50Ω ± 10Ω	AC Frequency Response	40-400Hz
Low Battery Display	Lower 2.4V	Power	F3V AAA * 2
Auto Power OFF	Approx. 30 min.		

- **Standard Accessories** : Test Leads, Battery, Manual, TP 01 Temperature Probe
- **Dimension** : 170(H) x 86(W) x 35(D)mm



**Features:**

- 3¾ Digital Multimeter
- 4000 Counts Large LCD Display with Auto/Manual Range
- No Power-OFF under natural operation
- Data Hold, Max. / Min. Value Hold
- Capacitance, Frequency / Duty Cycle, Temperature and Transistor Test



**Technical Data :**

Basic Functions	Range	Basic Accuracy
DC Voltage	0.1mV ~ 1000V	±(0.5% + 4digit)
AC Voltage	0.1mV ~ 750V	±(0.8%+ 6digit)
DC Current	0.1uA ~ 20A	±(1.0% + 5digit)
AC Current	0.1uA ~ 20A	±(1.5% + 5digit)
Resistance	0.1Ω ~ 40MΩ	±(0.8% + 2digit)
Capacitance	10pF ~ 200uF	±(3.5% + 8digit)
Frequency	0.1Hz ~ 30MHz	±(0.5% + 4digit)
Celsius	-40°C ~ 1000°C	±(0.8% + 4digit)
hhFE (NPN or PNP)	0 ~ 1000	

**Special Function**

Diode test	✓	Function Protection	✓
Transistor Testing	✓	Input impedance	10MΩ
Continuity Buzzer	Lower 30Ω ± 10 Ω	Sampling Rate	3 times per second
Low Battery Display	Lower 2.4V	AC Frequency Response	40-400Hz
Auto Power OFF	Approx. 30 min.	Power	F3V AAA

- **Standard Accessories** : Test Leads, Holster, Manual, TP 01 Temperature Probe Bead type
- **Dimension** : 185(H) x 93(W) x 35(D)mm



**Features:**

- 3¾ Digital Multimeter
- 4000 Counts
- Auto/Manual Range
- Data Hold
- Auto Power Off (Can Disable)
- Capacitance, Frequency, Duty Cycle
- Backlight
- Optical RS-232 Communication (Advanced Software Program for all windows)



**Technical Data :**

Basic Functions	Range	Basic Accuracy
DC Voltage	400mV/4/40/400V	±0.5%
	1000v	±0.8%
AC Voltage	4/40/400V	±0.8%
	400mV/750V	±1.2%
DC Current	400/4000uA	±2%
	40/400mA	±1.5%
AC Current	4/10A	±2%
	400/4000uA	±2.5%
	40/400mA	±2%
Resistance	4/10A	±2.5%
	400Ω/4/40/400Ω	±1%
	4/40MΩ	±2%
Capacitance	40nF/400nF/4uF/40uF	±3%
	400uF/4000uF	±20%
Frequency	0.1Hz ~ 10MHz	±0.1%
Duty Cycle	±0.1%~99.9%	±2.5%

- **Standard Accessories** : Test Leads, Holster, Manual, RS-232 Cable, Software CD
- **Dimension** : 177(H) x 98(W) x 39(D)mm



**Features:**

- 4½ Digital Multimeter
- 20,000 Counts
- Large LCD Display with Manual Range
- No Power-OFF under natural operation
- Data Hold, Max
- Resistance, Capacitance, Frequency
- Backlight



**Technical Data :**

Basic Functions	Range	Basic Accuracy
DC Voltage	10 $\mu$ V ~ 1000V	$\pm(0.05\% + 3\text{digit})$
AC Voltage	10 $\mu$ V ~ 750V <sub>rms</sub>	$\pm(0.8\% + 25\text{digit})$
DC Current	0.01 $\mu$ A ~ 20A	$\pm(0.5\% + 4\text{digit})$
AC Current	10 $\mu$ A ~ 20A	$\pm(1.5\% + 25\text{digit})$
Resistance	0.01 $\Omega$ ~ 200M $\Omega$	$\pm(0.2\% + 5\text{digit})$
Capacitance	0.1pF ~ 200 $\mu$ F	$\pm(3.5\% + 10\text{digit})$
Frequency	200kHz	$\pm(3.0\% + 15\text{digit})$
hFE (NPN or PNP)	0 ~ 1000	Basic current is approx. 10 $\mu$ A, Vce is approx 3.0V

**Special Function**

Diode test	✓	Anti Shock Protect	✓
hFE test	✓	Input impedance	10M $\Omega$
Continuity Buzzer	Approx. < 30 $\Omega$ ±10 $\Omega$	Sampling Rate	3 times per second
Low Battery Display	Approx. < 7.5V	AC Frequency Response	40-400Hz
Auto Power OFF	Approx. 30 min.	Power	9V (6F22)
Function Protection	✓		✓

- **Standard Accessories** : Test Leads, Holster, Manual
- **Dimension** : 185(H) x 93(W) x 35(D)mm



**Features:**

- 4½ Digital Multimeter
- 20,000 Counts
- Large LCD Display with Manual Range
- No Power-OFF under natural operation
- Data Hold, Max
- Conductance, Capacitance, Frequency
- Backlight



**Technical Data :**

Basic Functions	Range	Basic Accuracy
DC Voltage	10 $\mu$ V ~ 1000V	$\pm(0.05\% + 3\text{digit})$
AC Voltage	10 $\mu$ V ~ 750V	$\pm(0.8\% + 25\text{digit})$
DC Current	0.01 $\mu$ A ~ 20A	$\pm(0.5\% + 4\text{digit})$
AC Current	10 $\mu$ A ~ 20A	$\pm(1.5\% + 25\text{digit})$
Resistance	0.01 $\Omega$ ~ 200M $\Omega$	$\pm(0.2\% + 5\text{digit})$
Conductance	(0.1~100)nS	$\pm(1.0\% + 3\text{digit})$
Capacitance	0.1pF ~ 200 $\mu$ F	$\pm(3.5\% + 10\text{digit})$
Frequency	200kHz	$\pm(3.0\% + 15\text{digit})$
hFE (NPN or PNP)	0 ~ 1000	Basic current is approx. 10 $\mu$ A, Vce is approx 3.0V

**Special Function**

Diode test	✓	Anti Shock Protect	✓
hFE test	✓	Input impedance	10M $\Omega$
Continuity Buzzer	Approx. < 30 $\Omega$ ±10 $\Omega$	Sampling Rate	3 times per second
Low Battery Display	Approx. < 7.5V	AC Frequency Response	40-400Hz
Auto Power OFF	Approx. 30 min.	Power	9V (6F22)
Function Protection	✓		✓

- **Standard Accessories** : Test Leads, Holster, Manual
- **Dimension** : 185(H) x 93(W) x 35(D)mm



**Features:**

- 4½ Digital Multimeter
- VSD & diode Test.
- Large LCD display makes reading clear
- No Power-OFF under natural operation
- Data Hold, Max. / Min. Value Hold
- Capacitance, Frequency / Duty Cycle, Temperature and Transistor Test



**Technical Data :**

Basic Functions	Range	Basic Accuracy
DC Voltage	0.1mV ~ 1000V	±(0.5% + 4digit)
AC Voltage	0.1mV ~ 750V	±(0.8%+ 10digit)
DC Current	0.1uA ~ 20A	±(1.0% + 10digit)
AC Current	0.1uA ~ 20A	±(1.5% + 20digit)
Resistance	0.1Ω ~ 30MΩ	±(0.8% + 3digit)
Capacitance	10pF ~ 2000uF	±(2.5% + 5digit)
Frequency	5Hz ~ 30MHz	±(0.5% + 4digit)
Temperature	-40°C ~ 1000°C	±(0.8% + 4digit)

**Special Function**

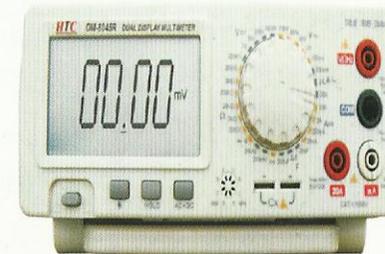
VSD - V	750 V (± 2 % + 10)	True RMS	✓
Diode and hFE test	✓	Function Protection	✓
Transistor testing	✓	Input impedance	10MΩ
Continuity Buzzer	Lower 30Ω ± 10Ω	Sampling Rate	3 times per second
Low Battery Display	Lower 5.5V	AC Frequency Response	30Hz-60Hz or 60Hz-200Hz
Auto Power OFF	Approx. 15 min.	Power	9V(6F22)

- **Standard Accessories :** Test Leads, Battery, Manual, TP 01 Temperature Probe, Crocodile Clip
- **Dimension :** 185(H) x 93(W) x 35(D)mm



**Features:**

- 4½ Digital Large LCD Display
- 20,000 Counts
- Auto Power OFF
- Data Hold
- Backlight
- True RMS



**Technical Data :**

Basic Functions	Range	Basic Accuracy
DC Voltage	200mV/2V/20V/200V/1000V	±(0.05%+3)
AC Voltage	200mV/2V/20V/200V/750V	±(0.8%+80)
DC Current	20mA/200mA/2A/20A	±(0.35%+10)
AC Current	200mA/2A/20A	±(0.8%+80)
Resistance	200Ω/2KΩ/20KΩ/200KΩ/2MΩ/20MΩ	±(0.1%+5)
Frequency	20kHz/200kHz	±(1.0%+20)
Capacitance	20nF/2uF/200uF	±(3.5%+20)

**Special Function**

Diode test	✓	Overload Protection	✓
hFE test	✓	Function Protection	✓
True RMS	✓	Anti Shock Protect	✓
Continuity Buzzer	Approx. < 30Ω±10Ω	Input Impedance	10MΩ
Low Battery Display	Approx. < 7.5V	Sampling Rate	3 times per second
Auto Power OFF	Approx. 30 min.	AC Frequency Response	40-400Hz

- **Standard Accessories :** Test Leads, Power Cord , Manual
- **Dimension :** 245(H) x 220(W) x 82(D)mm



### Features:

- 3½ Digits LCD Display
- Clamp Max Saw size : 35 mm
- Full function protection, anti high voltage circuit design
- Data Hold
- Low Battery Indication
- Max. measuring capacitance



### Technical Data :

Basic Functions	Range	Accuracy
DCV	200mV/2V/20V/200V/500V	±(1.0%+3)
ACV	200mV/2V/20V/200V/500V	±(1.5%+5)
ACA	2A/20A/200A/400A	±(2.0%+5)
Resistance	200Ω/2kΩ/20kΩ/200kΩ/2MΩ/20MΩ	±(1.0% +3)
Temperature	(-40 ~ 1000)°C (0 ~ 1832)°F	±(0.8% +4) ±(1.2% +4)
Diode	Open Voltage : 1.5V, Test Current : 0.5mA	
Continuity	Buzzer Sound at less than 10Ω	

- **Standard Accessories** : Test Leads, Manual, TP01 temperature probe
- **Dimension** : 230(H) x 80(W) x 37(D)mm

### Features:

- 3½ MANUAL AC CLAMP METER.
- FULLY PROTECTED in the RANGE
- CLAMP OPEN: 52mm.
- Clamp Torch.



### Technical Data :

Function	Range	Resolution	Accuracy
DC VOLTAGE (DCV)	1000V	1V	±(0.8%+2)
AC VOLTAGE (ACV)	750V	1V	±(1.0%+5)
AC Current (ACA)	200A	0.1A	±(3.0%+5)
	1000A	1A	
Resistance (Ω)	200 Ω	0.1 Ω	±(1.0%+3)
	20k Ω	10 Ω	
	200k Ω	100 Ω	

	Description	Test Condition
Diode and Continuity	Diode forward voltage drop.	Forward DC Current is approx 1mA, Reserve DC voltage is less than 3V.
	When resistance is less then 30±10Ω, buzzer sounds	Open circuit voltage is about 3V

- **Standard Accessories** : Soft Carrying case, Manual, Probe
- **Dimension** : 123(H) x 270(W) x 35(D)mm

### Features:

- 3½ Auto range Clamp Meter.
- Full Function Protection, Strong anti-interferential Performance.
- CLAMP OPEN: 52mm.
- Clamp Light and backlight display.
- Temperature & NCV.
- Frequency Test (For CM-2070FT)



### Technical Data :

Function	Range	Accuracy
DC VOLTAGE (DCV)	200 mV ~ 1000 V	+(0.5%+5)
AC VOLTAGE (ACV)	200 mV ~ 750 V	+(1.0%+5)
AC Current (ACA)	200A	+(2.0%+5)
	1000A	
Resistance (Ω)	200Ω / 2KΩ / 20KΩ / 200KΩ / 2MΩ / 20MΩ	+(0.8%+3)
Temperature	(-40 ~ 1000) °C	±(1.0%+5)
	(0 ~ 1832) °F	±(1.0%+5)
Frequency (For CM-2070FT)	100 Hz ~ 10 MHz	±(0.5%+5)

- **Standard Accessories:** Test leads, Battery, Manual, TP01 Temperature probe
- **Dimension** : 123(H) x 270(W) x 35(D)mm



### Features:

- 3¾ Digits Display
- 4000 Counts
- CE CAT III 600V
- Data Hold Function
- Auto Range or Manual Range Selection
- Max. Jaw Size : 57mm
- AC Current 1500A(CM-2100)
- AC Current 1500A(CM-2200)
- Auto Power Off



### Technical Data :

Function	Range	Resolution	Accuracy	Input Impedance
DCV	4/40/400/1000V	1mV	±(1.0%+3d)	10MΩ
ACV	4/40/400/750V	1mV	±(1.5%+5d)	10MΩ
DCA	400/1500A(CM-2100)	0.1A	±(2.0%+5d)	
ACA	400/2000A(CM-2200)			
Resistance	400/4k/40k/400k/4M/40MΩ	0.1Ω	±(1.0%+3d)	
Frequency	10/100/1K/10k/100k/1MHz	0.01Hz	±(1.0%+3d)	
Continuity	Buzzer Sound at less than 20Ω			
Diode		1mV		

- **Standard Accessories** : Carrying case, Test Leads, Manual
- **Dimension** : 280(H) x 100(W) x 50(D)mm



**Features:**

- Clamp opens 52mm
- Large LCD Display
- **Full function protection,** strong Anti-Interferential Performance.
- Data Hold
- Clamp Light and Backlight display

**Technical Data :**

Basic Functions	Range	Basic Accuracy
DC Voltage (DCV)	200mV ~ 1000V	±(0.5% + 5digit)
AC Voltage (ACV)	200mV ~ 750V	±(1.0%+ 5digit)
DC Current (DCA)	200A/1000A	±(2.0% + 5digit)
AC Current (ACA)	200A/1000A	±(2.0% + 5digit)
Resistance (Ω)	200Ω ~ 20MΩ	±(0.8% + 3digit)

**Special Function :**

Diode test	✓	Data Hold	Data hold/ Max Value hold
Continuity Testing	Less than 50Ω ±10Ω	AC Frequency Response	Voltage 50-400Hz

- **Standard Accessories :** Test Leads, battery, Manual
- **Dimension :** 270(H) x 123(W) x 50(D)mm

**Features:**

- Clamp opens 52mm
- Large LCD Display
- **Full function protection,** strong Anti-Interferential Performance.
- Data Hold
- Clamp Light and Backlight display

**Technical Data :**

Basic Functions	Range	Basic Accuracy
DC Voltage (DCV)	400mV ~ 1000V	±(0.5% + 5digit)
AC Voltage (ACV)	400mV ~ 750V	±(1.0%+ 5digit)
DC Current (DCA)	400A/1000A	±(2.0% + 5digit)
AC Current (ACA)	400A/1000A	±(2.0% + 5digit)
Resistance (Ω)	400Ω ~ 40MΩ	±(0.8% + 3digit)
Capacitance(F)	40nF~100uF	±(3.5% + 5digit)
Frequency (Hz)	10Hz~10MHz	±(0.5% + 5digit)
Temperature (°C)	-40~1000 °C	±(1.0% + 5digit)

**Special Function :**

Diode test	✓	Data Hold	✓
Continuity Testing	Less than 30Ω ±10Ω	AC Frequency Response	Current 50-60Hz / Voltage 50-400Hz

- **Standard Accessories :** Test Leads, battery, Manual
- **Dimension :** 270(H) x 123(W) x 50(D)mm



### Features:

- Analysis for single phase and balanced 3 phase system
- True RMS Value (Voltage Current)
- Large LCD Display with Backlight
- USB interface
- Min/Max measurement
- True Power/Apparent power/ power factor measurement
- Data Hold/ Auto ranging / Overflow indication/ Auto power Off
- 2.16"(55mm) Jaw opening



### Technical Data :

Function	Range	Accuracy
AC Voltage	15V/100V/300V/750V	±(1.2%+5)
AC Current	40A/100A/400A/1000A	±(2%+5)
True Power	0.60kW-750kW	±(3%+5)
Apparent Power	0.60kVA-750kVA	±(3%+5)
Reactive Power	0.60kVar-750kVar	±(4%+5) of 15V/1000A else±(4%+5)
Power Factor	0.3-1	±(2%+20)
Phase Angle	0° -90°	±1
Frequency	20Hz-200Hz	±(0.5%+5)
Energy	1-9999kWh	±(3%+2)

- **Standard Accessories** : Test Lead, Gifts Box Carrying Case and 9VBattery,USB cable
- **Dimension** : 295(H) x 100(W) x 46(D)mm



### Features:

- 10uA high Resolution
- Large 3 3/4 ( 4000 counts ) LCD Display
- Auto Power OFF
- Shielded transformer jaw opens to 1.2"
- Max/Min, Data hold, Low Battery indication
- Overload Protection



### Technical Data :

Function	Max Range	Resolution	Best Accuracy
Current AC	40mA ~ 100A	10uA ~ 100mA	±(1.0% +3d)
Voltage AC	400V	0.1Va	±(1.0% +10d)
Resistance	40 ~ 400Ω	0.1Ω	±(1.0% +2d)
Continuity Test	Threshold 40Ω, Continuity Beeper 2.5KHz		

- **Standard Accessories** : Hard Carrying Case, Test Lead, Manual
- **Dimension** : 209(H) x 43(W) x 30(D)mm



**Features:**

- 1999 Display
- Large 3 ¾ (4000 Counts) LCD Display
- Auto power Off
- Conductor Size: 32 x65
- Max/Min, Data Hold
- Low battery indication
- Overload protection
- Double Insulation Protection Level
- Spare 5.1 Test Ring, to detect Self Precision

**Technical Data :**

Basic Function	Range	Resolution	Best Accuracy
Resistance	0.010-0.099Ω	0.001Ω	±(1%+0.01Ω)
	0.10-0.99Ω	0.01Ω	±(1%+0.01Ω)
	1.0-49.9Ω	0.1Ω	±(1.5%+0.1Ω)
	50.0-99.5Ω	0.5Ω	±(2%+0.5Ω)
	100-199Ω	1Ω	±(3%+1Ω)
	200-395Ω	5Ω	±(6%+51Ω)
	400-590Ω	10Ω	±(10%+10Ω)
	600-1000Ω	20Ω	±(20%+20Ω)
Current (8201 only)	0.00-299mA	1mA	±(2.5%+2mA)
	0.30-2.99A	10mA	±(2.5% + 10mA)
	3.00-20.00A	10mA	±(2.5%+ 20mA)

- **Standard Accessories :** Hard Carrying Case, Test Lead, Manual
- **Dimension :** 285(H) x 85(W) x 66(D)mm

**Features:**

- 3 ½ Digits LCD Display
- 1999 Counts
- Backlight
- Data Hold
- Auto Ranging
- 3 in 1  
Insulation Resistance,  
Phase Testing  
& Voltage Testing

**Technical Data :**

Function	Range	Accuracy	Resolution
Insulation Resistance	0.1MΩ~200GΩ	±(3%+5)	10MΩ
Testing Voltage	1000V,2500V,5000V		
AC Voltage (Test Frequency 50/60Hz)	0~700V	±(2.0%+5)	1V
Phase Sequence (Test Frequency 40~60Hz)	100V~450V		

- **Standard Accessories :** Carrying case, Test Leads, Manual
- **Dimension :** 150(H) x 100(W) x 70(D)mm



**Features:**

- **Operational Voltage:**  
60 ~ 600V (3 Phase AC)
- **Limit Support Voltage:**  
2000V/minutes (impulse voltage 4000V)
- **Measuring Frequency Range:**  
20Hz ~ 400Hz
- **Time Limit for Continuous Measurement:**  
Less than 60 minutes at 200V AC  
Less than 4 minutes at 600V AC



**Technical Data :**

Measuring Result	Open Phase Check by LED	Phase Order Check by LED	Buzzer
Current Phase (CW)	All 3 Orange LED are Lit	Green LED is lit	Intermittent beep
Reverse Phase (CCW)	All 3 Orange LED are Lit	Red LED is lit	Continuous beep
Open Phase (One Phase Only)	Orange LED For Open phase are off	Bothe Green and Red LED are Off .	

- **Standard Accessories :** Measuring Lead, Meter Pen, Measuring Shelf, Band, Carrying Case, Manual
- **Dimension :** 85(H) x 64(W) x 23(D)mm



**Features:**

- Contact-free voltage test :  
90VAc to 1000VAC
- Display LED (flashing) acoustic Sound Signal
- Auto power Off (approx. five minutes)
- Bright White LED Flash Light.



**Technical Data :**

Basic Functions	Volt Detect AC-II
Voltage Range	90 V to 1000V AC,
IP- Protection	IP40
Overvoltage Category	CAT IV,1000V

- **Standard Accessories :** Power Supply 2 AAA Battery
- **Dimension :** 145(H) x 25(W) x 21(D)mm
- **Weight :** Approx 42g



**Features:**

- 3½ Digit Display
  - 2000 Counts
  - Large LCD Display
  - Full Protection function, capacitor with the function of Self discharge
  - Strong antimagnetic and anti-jamming performance.
- (Only for CM-1501)



**Technical Data :**

Basic Functions	Range	Basic Accuracy
Capacitance	200pF/2nF/20nF/200nF/2uF/20uF/200uF	±(0.5% + 1 digit)
	2000uF	±(2% + 1 digit)
	20mF	±(2% + 2 digit)
	200mF (Only for CM-1501)	±(5% + 10 digit)

**Special Function :**

Low Battery Indication	Approx. < 7.5V	Sampling Rate	3 times per second
Capacitance discharge protection	✓	Battery	9V(6F22)

- **Standard Accessories** : Test Leads, Holster, Manual
- **Dimension** : 185(H) x 93(W) x 35(D)mm



**Features:**

- 3½ Digit Display
- 2000 Counts
- Large LCD Display
- Full Protection function, capacitor with the function of Self discharge
- Auto Power off



**Technical Data :**

Basic Functions	Range	Basic Accuracy	Resolution
Capacitance	200pF/2nF/20nF/200nF/2uF/20uF/200uF/2000uF	±(2.5% + 5 digit)	0.1pF
Inductance	200uH/2mH/20mH/200mH/2H/20H	±(2.0% + 5 digit)	0.1uH
Resistance	20Ω/200Ω/2kΩ/20kΩ/200kΩ/20MΩ	±(0.8% + 2 digit)	0.01Ω

**Special Function :**

Low Battery Indication	Approx. < 7.5V	Sampling Rate	3 times per second
Capacitance discharge protection	✓	Battery	9V(6F22)

- **Standard Accessories** : Soft Carrying Case, Test Leads, Holster, Manual
- **Dimension** : 185(H) x 93(W) x 35(D)mm



**Features:**

- Large LCD Display for easy reading
- 4 wire testing, capable of testing extreme low resistance
- Accurate measurement of conductor, electric heating elements and solder point
- HOLD key for data hold
- Connection for external power supply
- High measurement range of 0.01mΩ to 2kΩ at 6 ranges
- Backlight LCD for easy reading under dark light
- Strong anti-magnetic and anti-jamming functions
- Full function Protection



**Technical Data :**

Range	Range	Resolution	Measuring Current
20mΩ	±(1.5%rdg±3)	0.01mΩ	Approx. 1000mA
200mΩ		0.1mΩ	
2Ω		1mΩ	
20Ω		10mΩ	
200Ω		100mΩ	
2kΩ		1Ω	
	±(0.5%rdg±3)		Approx. 500mA

**Special Function :**

Special function	MO-5000
Low battery indication	Less than approx. 7.5V
Functional protection	✓
Sampling rate	3 times/sec.
Operation mode	Manual range
Max. display	1999
LCD size	75x52mm
Power Source	1.5V AA battery x 6pcs, or external DC 9V power Source
Power consumption	Quiescent current approx. 50mA

- **Standard Accessories** : 4-wire test lead, shoulder strap, battery, operation Manual, Packing Gift box
- **Dimensions** : 176(L) x 116(W) x 63(D)mm



**Re-Calibrated SMD Components Identifier in a Set of Tweezers**

**Features:**

- Diode Test
- Auto Power OFF
- Low battery indication



**Technical Data :**

Basic Functions	Range	Resolution	Basic Accuracy
Capacitance	3nF/30nF/300nF/3uF/30uF/300uF/3mF/30mF	1pF	±(2.5%rdg +3dgt) ±(3%rdg +3dgt)
Resistance	300Ω/3KΩ/30KΩ/300KΩ/3MΩ/30MΩ	0.1Ω	±(1%rdg +2dgt) ±(1.2%rdg +3dgt)
Diode Check	Open Voltage : 2.8V Testing Current : 2mA		
Continuity Check	When the resistance is less than 30Ω, The Buzzer is Sounded		

- **Standard Accessories** : Hard Box, Manual
- **Dimension** : 170(H) x 31(W) x 17(D)mm



**Features:**

- 3½ Digit LCD Display
- 2000 Counts
- Data Hold Function
- Auto Range
- Measuring forward voltage, reverse voltage, forward saturation voltage drop, amplification factor, reverse leakage current of various crystal diode, audios, silicon controlled rectifier(SCR), field effect transistor(FET)
- Measuring rated working voltage of chemical capacitor, ethylene capacitor, a capacitor, leaded multilayer ceramic capacitor, high voltage locker.
- Measuring protection voltage of varistor.
- Measuring starting voltage of neon bulb, neon lamp
- Measuring constant voltage value of 78,79 series three-pole circuit.



**Technical Data :**

Basic Functions	Range	Basic Accuracy
V(BR)	1000V	Breakdown of Current <1mA
Vcc(set)	200V	Breakdown of Current <1mA
	2A(Ic)	Ic approx 2000mA, Ib approx 200mA
HFE	800mA(Ic)	Ic approx 800mA, Ib approx 80mA
	100mA(Ic)	Ic approx 100mA, Ib approx 100A
	10mA(Ic)	Ic approx 10mA, Ib approx 1mA
	10mA(Ib)	Ib approx 10mA
Iceo	10mA(Ib)	Lb approx 1mA
	10μA(Ib)	Lb approx 0.01mA
	2000μA	Vcc approx 27V
Voltage of Thread-end	78xx/79xx	Uf approx 27V

- **Standard Accessories** : Hard case (Meter Enclosed), Test Leads, Manual
- **Dimension** : 150(H) x 100(W) x 70(D)mm



**Features:**

- DATA HOLD
- Auto Power OFF
- PEAK HOLD(LX-102A)



**Technical Data :**

Basic Functions		LX-101A	LX-102A
Range	LUX	0~2,00,000 LUX	0~2,00,000 LUX
	FC	---	0~20,000 FC
ACCURACY		+5% of reading	
Receiving light		Silicon of photo electricity diode	
Low Battery display		---	
Power Source		1x9.0V (6F22)	

- **Standard Accessories** : Soft carrying case, Manual
- **Dimension** : Photo Detector : 82(H) x 55(W) x 7(D)mm  
Meter Body : 148(H) x 70(W) x 40(D)mm





### Features:

- 3 ¾ Digital Multimeter
- 4000 Counts with Bar graph 61 Segments
- Auto Ranging
- Peak Hold
- Max. & Data Hold
- Auto Power Off
- Low Battery indication
- User selectable FC/Lux
- USB Computer Interface (Advanced Software Program for all windows)
- Capacity of Data Logging 99

### Technical Data :

Basic Functions	Range
Measure Range	400,000Lux
Accuracy	±5%±10d(<10,000 Lux)
	±10%±10d(<10,000 Lux)
Max. Resolution	0.1 Lux / 0.01Fc
Measuring Rate	1.5 times /second

- **Standard Accessories :** Soft carrying case, Gift Box, Manual Photo Detector and USB Cable, CD Software.
- **Dimension :** Photo Detector : 115(H) x 60(W) x 27(D)mm  
Meter Body : 203(H) x 75(W) x 50(D)mm



### Features:

- 10mm (0.4") LCD Display
- Auto Manual Shutdown
- Low Battery indicator
- DC Output : 0 ~ 1.3V 10mV/db
- 'A', 'C' or 'Flat' Weighing with Slow / Fast response
- 94db in full Calibration at (1KHz)
- Optional RS-232 Communication (Advances Software Program for all Windows)
- Alarm Volume o/p : 30 ~ 130db
- Alarm o/p : LED Optional Relay Output
- Backlight

### Measurement:

- LP : Current Sound pressure Level
- Leq : Equivalent Continuous A Sound pressure level (i.e Arithmetic mean value in a period of time set)
- Leq : Statistic analysis i.e % of all measured values which is Greater than or equal to the alarm value (Alarm set by User)

### Technical Data :

Frequency	Measurement	Resolution	Accuracy
	LP	30 ~ 130dB (A)	0.1 dB
		35 ~ 130dB (C)	
		35 ~ 130dB (F)	
31.5 Hz ~ 8kHz	Leq	30 ~ 130dB	1dB
		10Sec, 1min, 5 min, 10min, 15min, 30min, 1hr, 8hr, 24hr	
	LN	0 ~ 100%	

### Special Function:

Memory	Max. Value (30 groups)	Power Supply	4 x 1.5V AAA
Alarm	Electron		(UM-4 Battery)

- **Standard Accessories :** Hard Carrying Case, Wind Ball, Screw Driver, Manual
- **Optional Accessories :** HTC RS-232 Cable with Software, RS-232 USB Cable
- **Dimensions :** 236 \* 63 \* 26mm





### Features:

- Max & Min Measurement
- Over Range Display
- Under range display
- A & C Weighting
- FAST & SLOW response
- Analog AC/DC Outputs for connection to frequency analyzer or X-Y shaft recorder
- Datalogger function
- Adjustable Alarm Levels
- Backlight
- **USB Computer Interface**  
( advanced Software program for all Windows)

### Technical Data :

Basic Functions	Range
Accuracy	1.4dB
Resolution	0.1dB
Frequency Range	31.5Hz ~8kHz
Dynamic Range	50dB
Level Range	Low:30dB~80dB Medium:50dB~100dB High:80dB~130dB Auto: 30dB~130dB
Time Wieghting	FAST (125mS),SLOW (1s)
Microphone	½ inch electric condenser microphone
Display Update	2 times/sec
Analog Output	AC/DC outputs,AC=1Vrms,DC=10mV/dB

Alarm	Electron	Power Supply	1x9VBattery

- **Standard Accessories :** Gift Box with Hard Carrying Case, Manual, Battery, Screwdriver, Audio Plug, Windscreen, Tripod & DC 9V power supply, HTC USB with Software
- **Dimension :** 278(H) x 76(W) x 50(D)mm



### Features:

- 0.5" (13mm) 4Digit LCD Display
- Data Hold
- Dta Memory : 24 groups
- Auto Power OFF
- **Optional RS-232 Communication**  
(Advanced Software Program for all windows)

### Technical Data :

Air Velocity			
Basic Functions	Range	Resolution	Basic Accuracy
m/s (meter/Second)	0.40 ~ 45.0m/s	0.1m/s	±(2% +0.1m/s)
km/h (kilometers/Hour)	10µA ~ 750V	0.1km/hr	±(2% +0.1km/hr)
Ft/min (Feet/minute)	0.01µA ~ 20A	0.1ft/min	±(2% +0.1ft/min)
Knots(Nautical MPH)	10PA ~ 20A	0.1 knots	±(2% +0.1knots)
Air Flow			
CMM(m³/min)	0~9999 m³/min	0.001~1	
CFM(ft³/min)	0~9999 ft³/min	0.001~1	
Beaufort Scale	0~12	0.1	±0.5
Wave Height	0~14	0.1	±0.1
Air Temperature	0~60°C	0.1°C	0.5°C
	32~140°F	0.1°F	0.9°F

### Special Function :

Data Memorized	24 Groups	Operating Temp.	0~50°C(32~122°F)
Air Velocity/ Flow Sensor	Conventional angled Vane arm with low-Friction ball bearing	Operating Humidity	Max. 80% RH
		Power Supply	4x 1.5 AAA size
Temperature Sensor	Precision thermistor	Auto Power Off	0~9 minutes set by users

- **Standard Accessory :** Sensory probe, Hard Carrying Case, Manual
- **Optional Accessory :** HTC RS-232 Cable with Software, RS-232 USB Cable
- **Dimension :** Instrument- 156 x 67x28mm  
Sensory Head -72mm Dia



### Features:

- °C / °F Function
- Super large LCD display with backlight
- Reading the Air Velocity & Temp. same Time
- **Thermistor sensor for Temperature measurement, Fast response time.**



### Technical Data :

#### Air Velocity

Basic Functions	Range	Resolution	Basic Accuracy
m/s (meter/Second)	0.10 ~ 25.0m/s	0.1m/s	±(5% +0.1m/s)
km/h (kilometers/Hour)	0.3 ~ 90.0 Km/hr	0.1km/hr	±(5% +0.1km/hr)
Ft/min (Feet/minute)	20 ~ 4925 ft/min	0.1ft/min	±(5% +0.1ft/min)
MPH (miles per Hour)	0.2 ~ 55.8 MPH	0.1 MPH	±(5% +0.1MPH)
Knots (Nautical MPH)	0.2 ~ 48.5 knots	0.1 knots	±(2% +0.1knots)
Air Temperature	0°C ~ 50°C (32°F ~ 122°F)		

- **Standard Accessory** : Anemo probe, Carrying Case
- **Dimension** : Instrument- 198 x 78 x 51 mm



### Features:

- 4 Digits, 18mm LCD Display
- Auto Power OFF
- Max. Hold
- Measure Accelerator / Velocity / Displacement with RPM & Frequency
- Metric / Imperial Measurement
- Low Battery Indicator
- AC output socket for headphones and recording
- Optional Headphones for use as electronic stethoscope
- **Optional RS-232 Communication** (Advanced Software Program for all windows)



### Technical Data :

Basic Function		Metric	Imperial
Acceleration	10Hz-1KHz (Mode1)	0.1 ~ 200 m/s <sup>2</sup>	0.3 ~ 200ft/s <sup>2</sup>
	10Hz-10KHz (Mode 10)	0.3-200ft/ms <sup>2</sup>	0.3-1312ft/ms <sup>2</sup>
Velocity	10Hz-1KHz	0.01 ~ 40 cm/s True RMS	0.000 ~ 16.00 inch/s
Displacement	10Hz-1KHz	0.001 ~ 4mm	0.04-160 mil

RPM (revolution) : 60 ~ 99,990r/min  
 Frequency : 1 ~ 20 KHz

- **Standard Accessory** : Magnet, Accelerometer, Stinger probe (Cone), Stinger Probe (Ball), Hard Carrying Case, Manual
- **Optional Accessory** : HTC RS-232 Cable with Software, RS-232 USB Cable
- **Dimensions** : 124 x 62 x 30mm

