

1300 SERIES DIGITAL MULTIMETER



- 1320 / 1330
 1320(3 1/2 Digits / 0.1%)
 1330(4 1/2 Digits / 0.03%)
- 0.5" Green LED Display
 - Up to 1200V / 20A Measurement
 - AC or AC + DC True R.M.S. Measurement
 - Meet IEC-1010-1 Safety Requirements
 - All Ranges with Protection
 - Diode Test
 - Patent :051446

Specification

ITEM	1320	1330
DC VOLTAGE MEASUREMENT		
Range	$\pm 199.9\text{mV}$, $\pm 1.999\text{V}$, $\pm 19.99\text{V}$, $\pm 199.9\text{V}$, $\pm 1200\text{V}$, 5 Ranges	$\pm 199.99\text{mV}$, $\pm 1.9999\text{V}$, $\pm 19.999\text{V}$, $\pm 199.99\text{V}$, $\pm 1200\text{V}$, 5 Ranges
Accuracy	$\pm(0.1\%+1\text{d})$	$\pm(0.03\%+4\text{d})$
Input Impedance	$10\text{M}\Omega$	
AC VOLTAGE MEASUREMENT (AC or AC+DC TrueRMS)		
Range	199.9mV , 1.999V , 19.99V , 199.9V , 1000V , 5 Ranges	199.99mV , 1.9999V , 19.999V , 199.99V , 1000V , 5 Ranges
Accuracy	$199.9\text{mV}\sim 199.9\text{V}$ 4 Ranges $45\text{Hz}\sim 2\text{KHz}$ $\pm(0.5\%+1\text{d})$, $2\text{KHz}\sim 10\text{KHz}$ $\pm(1\%+1\text{d})$, $10\text{KHz}\sim 20\text{KHz}$ $\pm(2\%+1\text{d})$, $20\text{KHz}\sim 50\text{KHz}$ $\pm(5\%+2\text{d})$, 1000V Range $45\text{Hz}\sim 1\text{KHz}$ $\pm(0.5\%+2\text{d})$.	$199.99\text{mV}\sim 199.99\text{V}$ 4 Ranges $45\text{Hz}\sim 2\text{KHz}$ $\pm(0.5\%+15\text{d})$, $2\text{KHz}\sim 10\text{KHz}$ $\pm(1\%+15\text{d})$, $10\text{KHz}\sim 20\text{KHz}$ $\pm(2\%+15\text{d})$, $20\text{KHz}\sim 50\text{KHz}$ $\pm(5\%+30\text{d})$, 1000V Range $45\text{Hz}\sim 1\text{KHz}$ $\pm(0.5\%+15\text{d})$.
Input Impedance	$10\text{M}\Omega//100\text{pF}$	
DC CURRENT MEASUREMENT		
Range	$\pm 199.9\mu\text{A}$, $\pm 1.999\text{mA}$, $\pm 19.99\text{mA}$, $\pm 199.9\text{mA}$, $\pm 1999\text{mA}$, $\pm 19.99\text{A}$, 6 Ranges	$\pm 199.99\mu\text{A}$, $\pm 1.9999\text{mA}$, $\pm 19.999\text{mA}$, $\pm 199.99\text{mA}$, $\pm 1999.9\text{mA}$, $\pm 19.999\text{A}$, 6 Ranges
Accuracy	$199.9\mu\text{A}\sim 199.9\text{mA}$ 4 Ranges $\pm(0.2\%+1\text{d})$ $1999\text{mA}\sim 19.99\text{A}$ 2 Ranges $\pm(0.3\%+1\text{d})$	$199.99\mu\text{A}\sim 199.99\text{mA}$ 4 Ranges $\pm(0.2\%+2\text{d})$ $1999.9\text{mA}\sim 19.999\text{A}$ 2 Ranges $\pm(0.3\%+2\text{d})$
Protection	2A 250V DC or RMS 【Fuse Protected】 for $199.9\mu\text{A}\sim 1999\text{mA}$	2A 250V DC or RMS 【Fuse Protected】 for $199.99\mu\text{A}\sim 1999.9\text{mA}$
AC CURRENT MEASUREMENT (AC or AC+DC TrueRMS)		
Range	$199.9\mu\text{A}$, 1.999mA , 19.99mA , 199.9mA , 1999mA , 19.99A , 6 Ranges	$199.99\mu\text{A}$, 1.9999mA , 19.999mA , 199.99mA , 1999.9mA , 19.999A , 6 Ranges
Accuracy	$199.9\mu\text{A}\sim 199.9\text{mA}$ 4 Ranges $45\text{Hz}\sim 2\text{KHz}$ $\pm(0.5\%+1\text{d})$, $2\text{KHz}\sim 10\text{KHz}$ $\pm(1\%+1\text{d})$, $10\text{KHz}\sim 20\text{KHz}$ $\pm(2\%+1\text{d})$ $1999\text{mA}\sim 19.99\text{A}$ 2 Ranges $45\text{Hz}\sim 2\text{KHz}$ $\pm(0.5\%+1\text{d})$	$199.99\mu\text{A}\sim 199.99\text{mA}$ 4 Ranges $45\text{Hz}\sim 2\text{KHz}$ $\pm(0.5\%+15\text{d})$, $2\text{KHz}\sim 10\text{KHz}$ $\pm(1\%+15\text{d})$, $10\text{KHz}\sim 20\text{KHz}$ $\pm(2\%+15\text{d})$ $1999.9\text{mA}\sim 19.999\text{A}$ 2 Ranges $45\text{Hz}\sim 2\text{KHz}$ $\pm(0.5\%+15\text{d})$
Protection	2A 250V DC or RMS 【Fuse Protected】 for $199.9\mu\text{A}\sim 1999\text{mA}$	2A 250V DC or RMS 【Fuse Protected】 for $199.99\mu\text{A}\sim 1999.9\text{mA}$
OHM MEASUREMENT		
Range	199.9Ω , $1.999\text{K}\Omega$, $19.99\text{K}\Omega$, $199.9\text{K}\Omega$, $1.999\text{M}\Omega$, $19.99\text{M}\Omega$, 6 Ranges	199.99Ω , $1.9999\text{K}\Omega$, $19.999\text{K}\Omega$, $199.99\text{K}\Omega$, $1.9999\text{M}\Omega$, $19.999\text{M}\Omega$, 6 Ranges
Accuracy	199.9Ω Range $\pm(0.1\%+1\text{d})$ $1.999\text{K}\Omega\sim 1.999\text{M}\Omega$ 4 Ranges $\pm(0.1\%+1\text{d})$ $19.99\text{M}\Omega$ Range $\pm(0.25\%+2\text{d})$	199.99Ω Range $\pm(0.1\%+4\text{d})$ $1.9999\text{K}\Omega\sim 1.9999\text{M}\Omega$ 4 Ranges $\pm(0.1\%+2\text{d})$ $19.999\text{M}\Omega$ Range $\pm(0.25\%+2\text{d})$
DIODE TEST	YES	
GENERAL		
Display	0.5", 3 1/2 Digits Green LED Display	0.5", 4 1/2 Digits Green LED Display
Power Source	ACV 115V/230V, $\pm 10\%$, 60Hz/50Hz	
Dimension	262(W) X 85(H) X 270(D)mm	
Net Weight	1.5kg	
Accessories	ACS-018 X 1, Operation Manual X 1	

1310 DIGITAL WATT AMMETER



- Dual Display Digital V-A-W
- True Watt & True RMS Current
- Power Factor : 0~1

Specification

ITEM	1310
WATT MEASUREMENT	
Range	19.99W, 199.9W, 1999W
Accuracy	$\pm(0.3\% + 3d)$
FREQ. Response	40Hz~70Hz
MAX. Voltage	299.9V
MAX. Current	200mA for 19.99W, 2A for 199.9W, 20A for 1999W
Power Factor	0~1, Leading or Lagging
Shunt Resistance	0.01 Ω
AC VOLTAGE MEASUREMENT	
Range	0~299.9V
Accuracy	$\pm(0.25\% + 2d)$
FREQ. Response	40Hz~1KHz
Protection	700V
Impedance	1000K Ω
AC CURRENT MEASUREMENT	
Range	.1999A, 1.999A, 19.99A
Accuracy	$\pm(0.3\% + 2d)$
FREQ. Response	40Hz~200Hz for .1999A 40Hz~1KHz for 1.999~19.99A
Shunt Resistance	0.01 Ω
Crest Factor	MIN 60:1, Linear Decreasing to 3:1
GENERAL	
MIN. Input	10% of Range for All True RMS Converters
Power Source	ACV 115V/ 230V $\pm 10\%$, 60Hz/50Hz
Dimension	262 (W) X 85(H) X 270(D)mm
Net Weight	1.5kg
Accessories	Operation Manual X1

1210 100MHz FREQUENCY COUNTER



- 8 Digits 0.5" Green LED Display
- 15mVrms Sensitivity
- With Low Pass Filter
- Trigger Level Adjustable

Specification

ITEM	1210
Frequency Range	0.1Hz TO 100MHz
Display Digits	8 Digits 0.5" Green LED Displays
FREQUENCY MEASUREMENT	
Range	0.1Hz TO 100MHz
Gate Time	0.01S, 0.1S, 1S, 10S
Resolution	100Hz, 10Hz, 1Hz, 0.1Hz
Accuracy	$\pm(1 \text{ COUNT} + \text{TIME BASE ACCURACY} + \text{TRIGGER ERROR})$
INPUT SELECTION	
Sensitivity	15mVrms
Impedance	1M Ω
Attenuator	X1, X20
AC/DC Coupling	YES
Low Pass Filter	100KHz nominal 3dB point
Trigger Level ADJ.	+2.5VDC TO -2.5VDC
TIME BASE	
Freq.	10MHz ± 10 ppm
GENERAL	
Power Source	ACV 115V/230V $\pm 10\%$, 60Hz/50Hz
Dimension	262(W) X 85(H) X 270(D) mm
Net Weight	1.8 KG
Accessories	ACS-003 BNC to clip x 1, Operation Manual x1



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