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DIGITAL MULTIMETER

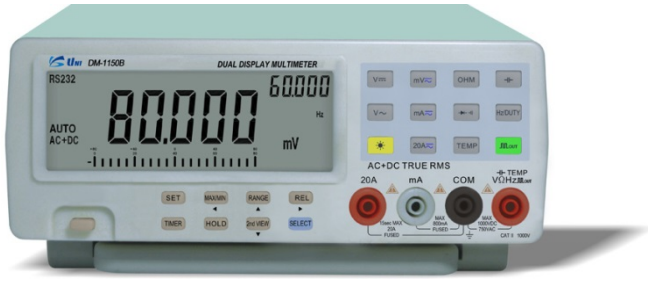
BENCH TYPE

BENCH DIGITAL MULTIMETER

DM-1140B & DM-1150B

Features

- 4 1/2digits(19999count), bench type, large LCD of white backlight, easy to read
- Manual Range operation
- Sample Rate : 3 times per sec
- Overload protection
- With basic DCV, ACV, DCA, ACA, Ω, CAP, Hz, hFE, Diode and Continuity measuring functions.
- Voltage test range up to 1000V DC or peak-peak value AC, resolution up to 10uV.
- Current test range up to 20A, auto polarity shift, data hold
- AC measuring adopts high accuracy true RMS, measuring broadband and AC+DC function, enabling accurate measuring of virtual value of AC by any waveform



Features

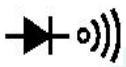
- Large LCD, 80000 count Dual-display, Analog bar 21 sets
- 50 measuring functions, with basic DCV, ACV, DCA, ACA, Ω, CAP, Hz, TEMP, diode and Continuity measuring function, etc.
- 18 types of frequency, frequency up to 80MHz, 1800 waveform outputs, 0.1%~99% duty cycle.
- Simultaneous measure (AC+DC), (AC+Hz), (DC+dBm), (dBm+Hz), (Hz+Duty), (℃+℉)
- Auto data update and refresh, auto data hold, auto peak hold
- 36-hour dynamic record: MAG, MIN, AVG, MAX-MIN (REL△), (REL%), setting upper & lower limit, timing measurement
- AC measuring adopts highly accurate true RMS measurement, with testing frequency bandwidth and AC+DC measuring, capable of accurate true RMS measuring of any waveforms in AC range
- RS-232 interface

Technical Specification

DIGITAL MULTIMETER

BENCH TYPE

DM-1140B

Spec.	Range	Resolution	Accuracy		Remarks
DCV	200mV	10uV	±(0.05%reading+3)		Input impedance : 10MΩ for all ranges Overload protection: 200mV range: 250VDC or AC peak value Other range: 1000V DC or AC peak value
	2V	100uV			
	20V	1mV			
	200V	10mV			
	1000V	100mV	±(0.1%reading+5)		
ACV(T-RMS)	200mV	10uV	±(0.8% reading+80)	50Hz–50kHz	The input value for accuracy guarantee should be larger than 10% of full range. Input impedance : 2MΩ for all ranges Overload protection : 200mV range: 250V DC or AC peak value other range: 1000V DC or AC peak value
	2V	100uV		50Hz–20kHz	
	20V	1mV			
	200V	10mV		50Hz–5kHz	
	750V	100mV	±(1.0%reading+50) 50Hz–400Hz		
DCA	20mA	1uA	±(0.35%reading+10)		Max. input voltage drop: 200mV Max. input current: 20A （within 10s） Overload protection : 2A/250V fuse, 13A/250V fuse
	200mA	10uA			
	2A	100uA	±(0.8%reading+10)		
	20A	1mA			
ACA(T-RMS)	200mA	10uA	±(0.8%reading+80)		Max. input voltage drop: 200mV Max. input current: 20A(within 10s) Overload protection: 2A/250V fuse, 13A/250V fuse
	2A	100uA	±(1.0%reading+50)		
	20A	1mA			
Resistance	200Ω	0.01Ω	±(0.1%reading+20)		Open circuit voltage: less than 3V Over load protection : 250V DC or AC peak value NOTE: At range 200 Ω, short-circuit the test leads to measure the wire resistance and then subtracts it from the real measurement.
	2kΩ	0.1Ω	±(0.1%reading+5)		
	20kΩ	1Ω			
	200kΩ	10Ω			
	2MΩ	100Ω			
	20MΩ	1kΩ	±(0.5%reading+5)		
Frequency	20kHz	1Hz	±(1.0%reading+20)		Input sensitivity: 500mV rms Overload protection: 250V DC or AC peak
	200kHz	10Hz			
Capacitance	20nF	1pF	±(3.5%+20)		Measuring frequency: approx. 400Hz Measuring voltage: approx. 40mV Overload protection: 36V DC or AC peak value
	2uF	100pF			
	200uF	10nF	±(5%+30)		
hFE	Range		Displaying		Test condition
	hFE NPN or PNP		0 ~ 1000.0		Base current is approx. 10μA, Vce is approx. 3V.
Diode & Continuity	Range		Description		Test condition
			The measuring value is the approx. value for forward voltage drop. When the resistance under tested is less than 30Ω±10Ω, buzzer sounds and display the approx. value. The open circuit voltage is approx. 3V.		Forward DCA is approx. 1mA, backward DCV is less than 3V.
	Overload protection: 250V DC and AC peak value.				
Power	AC 220V/110V, 50Hz/60Hz				
Size	245×220×98mm				
Net weight	1.4kg				

DIGITAL MULTIMETER

BENCH TYPE

Technical Specification

DM-1150B

Spec.	Range	Resolution	Accuracy			Remarks
DCV	80mV	1μV	±(3% rdg+10)			Input impedance : 80mV~800mV: >1000MΩ; 8V~1000V: 10MΩ.
	800mV	10μV	±(0.05% rdg+5)			
	8V	0.1mV				
	80V	1mV				
	800V	10mV	±(0.08% rdg+10)			
	1000V	0.1V				
ACV(T-RMS)	80mV	1μV	<75% Range: 50Hz~20kHz	<75% Range: 20kHz~50kHz	>75% Range: 50Hz~20kHz	Input impedance : 80mV~800mV: >1000MΩ; 8V~1000V: 10MΩ. Parallel capacitance: <100pF
	800mV	10μV	±(0.8% rdg+50)	±(6.0% rdg+50)	±(8.0% rdg+50)	
	8V	0.1mV				
	80V	1mV				
	750V	10mV	± (0.8% rdg+50) (at <90% Range), 50Hz~1kHz			
			± (5.0% rdg+50) (at >90% Range), 50Hz~1kHz			
DCA	80mA	1μA	±(0.2% rdg+10)			Fuse: F750Ma/250v F13A/250V Voltage drop: ≤800mV
	800mA	10μA				
	8A	0.1mA	±(0.5% rdg+10)			Max.input current: 20A (up to15 seconds)
	20A	1mA				
ACA(T-RMS)	80mA	1μA	±(0.2% rdg+10) / 50Hz~5kHz			Fuse: F750Ma/250v F13A/250V Voltage drop: ≤800mV
	800mA	10μA				
	8A	0.1mA	±(0.5% rdg+10) / 50Hz~500Hz			Max.input current: 20A (up to15 seconds)
	20A	1mA				
Resistance	800Ω	0.01Ω	±(0.3% rdg+10)			Overload protection: 250V RMS Sensitivity: 0.7V RMS
	8kΩ	0.1Ω	±(0.3% rdg+5)			
	80kΩ	1Ω				
	800kΩ	10Ω				
	8MΩ	100Ω				
	80MΩ	1kΩ	0Ω~40MΩ: ±(2.5% rdg+10)			
			40MΩ~80MΩ: ±(3.5% rdg+10)			
Frequency	999.99Hz	0.01Hz	±(0.5% rdg+5)			Overload protection: 250V RMS
	9.9999kHz	0.1Hz				
	99.999kHz	1Hz				
	999.99kHz	10Hz				
	8.0000MHz	100Hz				
	10.0MHz	1kHz	±(0.1% rdg+5)			Plus adapter(Optional)
	100.0MHz	10kHz				
	1000.0MHz	100kHz				
Capacitance	1nF	1pF	±(5.0% rdg+50)			Overload protection: 250V RMS
	10nF	10pF	±(2.5% rdg+50)			
	100nF	100pF				
	1μF	1nF				
	10μF	10nF				
	100μF	100nF				
Diode	3.0000V	0.0001V	±(3.0% rdg+5)			Diode positive voltage drop Overload protection: 250V RMS
Temp.	50℃~1300℃	0.0℃	±(1.5% rdg+10)			K type thermocouple Overload protection: 250V RMS
	58℉~2372℉	0.1℉				
dBm	-80.00dBm~ +80.00dBm	0.01dBm	±1.0% rdg			
Square Wave Output	Voltage amplitude : Approx.3V / Frequency : 0.5Hz~5000Hz / Duty cycle : 1%~99%					