

## INTRODUCTION

This instrument is a high performance, 4½ digits bench multi-meter for measuring DC and AC Voltage, DC and AC Current, Resistance, Capacitance, Hz, hFE, Diodes and Continuity. The max. voltage measuring can up to 1000V DC or AC peak value, resolution can be 10µV, and current measuring can up to 20A, it also has the function of polarity auto-change, backlight displaying and directly reading.

For AC measuring, it is performed by high accuracy rms, has the feature of width measuring and to get accurate rms for AC flow of any wave shape.

## GENERAL SPECIFICATION

- Power supply: 220V/ 110V AC
- Manual range
- 4 1/2-digit large LCD display with back light (displaying range: 75 × 40mm), max. reading: 19999
- Voltage measurement up to 1000VDC and 750V AC
- DC, AC current up to 20A
- ACV frequency response: 50kHz
- Frequency, Resistance, Capacitance measurement, Triode, Diode check and Continuity Test
- Overload protection: 250V rms
- Operation environment: 0°C–40°C, <75% R.H
- Dimension: 260mm × 220mm × 82mm
- Weight: approx. 1kg

## TECHNICAL SPECIFICATION

Accuracy = ±(reading% + the lowest effective digit) preheating time: 30 min.

Temperature for accuracy guarantee: (23 ± 5)°C, R.H < 75%.

### DC VOLTAGE

Range	Accuracy	Resolution
200mV	± (0.05% RDG + 3)	10µV
2V		100µV
20V		1mV
200V		10mV
1000V	± (0.1% RDG + 5)	100mV

**Input resistance:** 10MΩ for all ranges

**Overload protection:** 200mV range: 250VDC or AC peak value  
Other range: 1000VDC or AC peak value

### AC VOLTAGE

Range	Input Frequency	Accuracy	Resolution
200mV	50Hz - 50kHz	± (0.8% RDG + 80)	10µV
2V	50Hz - 20kHz		100µV
20V			1mV
200V	50Hz - 5kHz		10mV
750V	50Hz - 400kHz	± (1.0% RDG + 50)	100mV

The input value for accuracy guarantee should be larger than 10% of range.

**Input resistance:** 2MΩ for all ranges.

**Overload protection:** 200mV range: DC or AC peak value,  
Other range: 1000V DC or AC peak value

\*Technical Specifications & Appearance are subject to change without prior notice



### DC CURRENT

Range	Accuracy	Resolution
20mA	± (0.35% RDG + 10)	1µA
200mA		10µA
2A	± (0.8% RDG + 10)	100µA
20A		1mA

**Max. input voltage drop:** 200mV

**Max. input current:** 20A (within 15s)

**Overload protection:** 2A/250V fused, 20A/250V fused

### AC CURRENT

Range	Input Frequency	Accuracy	Resolution
200mA	50Hz-5kHz	± (0.8% RDG + 80)	10µA
2A	50Hz-400Hz		100µA
20A		± (1.0% RDG + 50)	1mA

**Max. input voltage drop:** 200mV

**Max. input current:** 20A (within 15s)

**Overload protection:** 2A/250V fused, 20A/250V fused

## RESISTANCE

Range	Accuracy	Resolution
200 Ω	± (0.1% RDG + 20)	0.01 Ω
2k Ω		0.1 Ω
20k Ω		1 Ω
200k Ω		10 Ω
2M Ω		100 Ω
20M Ω	± (0.4% RDG + 5)	1k Ω

Open voltage: less than 3V

Overload protection: 250V DC or AC peak value

## CAPACITANCE

Range	Accuracy	Resolution
20nF	± (3.5% + 20)	1pF
2μF		100pF
200μF	± (5% + 30)	10nF

Measuring frequency: approx. 400Hz

Overload protection: 36V DC or AC peak value

## FREQUENCY

Range	Accuracy	Resolution
20kHz	± (1.0% + 20)	0.1Hz
200kHz		1Hz


Input sensitivity: 500mV rms

Overload protection: 250V DC or AC peak value (within 15s)

## hFE MEASURING

Range	Displaying	Test Condition
hFE NPN or PNP	0~1000.0	Basic current is approx. 10mA, Vce is approx. 3V

## DIODE AND CONTINUITY TEST

Range	Accuracy	Resolution
	The measuring value is the approx. value for forward voltage drop. when the resistance under tested is less than 70 Ω ± 20 Ω, buzzer sounds and display the approx. value. The open voltage is approx. 3V	Forward DCA is approx. 1mA, backward DCV is less than 3V

Overload protection: 250V DC and AC peak value.

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