

CEM 45

4½ DIGIT TRMS DIGITAL MULTIMETER BENCH TOP

GENERAL SPECIFICATION

- Power supply : 220V ± 10%, 50Hz
- 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 range.

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

DC CURRENT

Range	Accuracy	Resolution
20mA	± (0.35% RDG + 10)	1µA
200mA	± (0.8% RDG + 10)	10µA
2A		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	± (1.0% RDG + 50)	100µA
20A			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	± (0.1% RDG + 5)	10 Ω
2M Ω		100 Ω
20M Ω		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
1Hz		200kHz


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.

(SPECIFICATIONS & DESIGN SUBJECT TO CHANGE WITHOUT PRIOR NOTICE)