

Tanks for buying our products please go through the instruction manual before starting to use the meter.

I. INTRODUCTION:

1.DISPLAY: 3½ digit LED.

2.SWITCH

2.1 FUNCTION and RANGE

Our CMM adopt rotational switch which situated at the middle of the front case. It is used for the selection of FUNCTION and RANGE.

2.2 HOLD

The switch is used to hold the display reading when the instrument is disconnected from whatever was being measured.

2.3 BACK LIGHT

2.3.1 It will be automatically turned off in about 5 seconds after the BACK LIGHT is turned on. It needs to be turned on and turned on again to continue the switch.

2.3.2The BACK-LIGHT will be light when turn on the BLCTR switch. It needs to be turned off and turned on again to continue the switch.

3. " COM " jack: Common jack.

4. " V Ω mA " jack

Voltage, resistance, not more 200mA current, temperature and battery input test jack.

5. " 10A " jack

For the input of more than 200mA current.

II. FEATURES:

Display: 3½ LCD with maximum display 1999.

Polarity: Auto polarization.


Over-range: maximum display " 1 " .

Working environment: Temperature 0–40°C。

Humidity<75%。

Storing environment:–15~50°C.

Battery: 9V.

Low voltage indication: left side LCD will
show "  " symbol.

III. TECHNICAL SPECIFICATION:

Accuracy: $\pm a\%$ of reading: $\pm N0$ digits
guaranteed for 1 year.

Environmental Humidity: 23°C \pm 2°C.

Relative Humidity:<75%.

1. DC Voltage (Over 500V only reference):

Range	Accuracy	Resolution
200mV	$\pm 0.8\%$ of rdg ± 15 digits	100 μ V
2V	$\pm 0.5\%$ of rdg ± 15 digits	1mV
20V	$\pm 0.8\%$ of rdg ± 5 digits	10mV
200V		100mV
500V		1V

Input impedance: 10M Ω on all ranges.

2. DC Current (Over 5A only reference):

Range	Accuracy	Resolution
200 μ A	$\pm 1.8\%$ of rdg ± 10 digits	0.1 μ A
2mA		1 μ A
20mA		10 μ A
200mA	$\pm 2.0\%$ of rdg ± 10 digits	100 μ A
10A	$\pm 5.0\%$ of rdg ± 10 digits	10mA

Overload protection: 0.2A/250V fused, 10A range not fused.

3. AC Voltage (Over 500V only reference):

Range	Accuracy	Resolution
200V	$\pm 1.5\%$ of rdg ± 10 digits	100mV
500V	$\pm 1.5\%$ of rdg ± 15 digits	1V

Frequency range: 40Hz to 400Hz.

Overload protection: AC 500Vrms.

Indication: Average value (rms of sine wave).

4. Resistance:

Range	Accuracy	Resolution
200 Ω	$\pm 0.8\%$ of rdg ± 10 digits	0.1 Ω
2k Ω	$\pm 0.8\%$ of rdg ± 8 digits	1 Ω
20 k Ω		10 Ω
200 k Ω		100 Ω
20 M Ω	$\pm 2.0\%$ of rdg ± 10 digits	1 k Ω

Overload protection: 250V DC or AC rms. Less than 10sec. Maximum open circuit voltage: approx 3V.

5. Battery Test

Range	Description	Test Condition
1.5V	The working current of the battery will be displayed, so the quality of battery could be judged.	Working current is about 4.0mA.
9V		Working current is about 25mA.

6. Temperature (only 830CL)

Range	Accuracy	Resolution
-40°C – 400°C	$\pm (1.2\%+5)$	1°C
401°C – 1000°C	$\pm (1.8\%+15)$	

7. Transistor hFE:

Vce approximately 3V, Ib approximately 10 μ A, Display show approximately hFE 0~1000 .

8. Diode and Audible Continuity:

Diode: Testing voltage approx 2.4V, current 1.5mA, indicate forward diode approx value.

Buzzer: Sounds when measure less than 70 $\Omega \pm 20 \Omega$.

IV. OPERATING INSTRUCTION:

1. DC Voltage Measurement V --- (DCV) :

1.1 Connect RED test lead to: " V Ω mA " jack, BLACK test lead to " COM " jack.

1.2 Set the FUNCTION switch to the desired V...

(DVC) position. If not sure, set to the highest range.

1.3 Connect the test leads across the source or load under measurement.

2. DC Current Measurement A --- (DCA) :

2.1 Connect the RED test lead to " V Ω mA " jack when the current is less than 200mA and

" 10A " jack when the current is larger than 200mA.

Connect the BLACK test lead to " COM " jack.

2.2 Set the FUNCTION switch to the desired DCA position.

2.3 Connect the test leads across the source or load under measurement and read the display value.

3. AC Voltage Measurement V_{\sim} (A C V):

3.1 Connect the RED test lead to " V Ω mA " jack and BLACK test lead to " COM " jack.

3.2 Set the FUNCTION switch to the desired ACV position.

3.3 Connect the test leads measuring point and read the display value. The polarity of the red lead connection will be indicated at the same time as the voltage.

4. Resistance Measurement (Ω):

4.1 Connect the RED test leads to " V Ω mA " jack and BLACK test lead to " COM " jack.

4.2 Set the FUNCTION switch to the desired Ω position.

4.3 Connect the test leads across the resistor under measurement and read the display value.

5. Temperature Measurement:

5.1 Set the FUNCTION switch to T position. The built-in temperature sensor will show room temperature.

5.2 Insert the thermocouple plug into KPROBE socket and connect the object under measurement. The display will show the temperature value.


6. Transistor hFE Measurement:

6.1 Set the FUNCTION switch to hFE position.

6.2 Insert the E.B.C. of the PNP or NPN transistor to the proper jack in the socket on the front panel.

7. Diode and Audible Continuity Measurement:


7.1 Connect RED test lead to the " V Ω mA " jack and BLACK test lead to " COM " jack.

7.2 Set the FUNCTION switch to the "  " position and connect the RED test leads to the ANODE of diode and BLACK to CATHODE. The display will then show the approx forward voltage of this diode, if connect the test leads on the other way round, the display will show an over-range figure " 1 " .


7.3 Buzzer sounds if the resistance between the two probes less than approximately $70 \Omega \pm 20 \Omega$.

8. Battery Test

8.1 Red lead to " mA " , Black lead to " COM " .

8.2 Set the FUNCTION switch to "  " range, connect the test leads separately to the polar of the battery under test.

V. BATTERY AND FUSE REPLACEMENT:

When the voltage of the battery is low, the "  " symbol or BATT will appear on the display. Then the battery should be replaced. Open the battery compartment cover, remove the spent battery and replace it with a battery of the same type.

Should the fuse need replacement use only 200mA fuses identical in physical size to the original.