DIGITAL MULTIMETER

EICO

MODEL EICO 18D7

OPERATING MANUAL

◎ General Specification

(1) LCD: 3½ digits, with a maximum reading of 1999.
(2) Polarity Indication: Automatic polarity, "–" display for negative input.
(3) Overload Indication: LCD will display "1" or " – 1" in the highest position.
(4) Low Battery Indication: As LCD display "BAT", battery replacement is required.
(5) Sampling – Rate: 2.5 times per second.
(6) Power Supply: One battery, Type 006P 9V.
(7) Battery Life: 150 Hours approx.
(8) Operating Temperature & Humidity: 0°C – 40°C below 80% RH.
(9) Dimension & Weight: 143 x 73 x 26mm, 185g approx.
(10) Accessories: Operating instruction manual, test leads, spare fuse.

◎ **Measurement**

I. DCV (ACV) Measurement

(1) Plug red test lead to "VΩ" conenctor, and black test lead to "COM" connector.
(2) Turn the range rotary selector to "ACV" or "DCV" region (if measuring an unknown voltage start from the highest range, then adjust to a proper lower range for a best resolution).
(3) Connect the other ends of test leads to the desired circuit.
(4) Read the value from the LCD.

II. DCA Measurement

(1) Plug red test lead to "mA" connector (plug to "10A" connector instead as current over 200mA), and black test lead to "COM" connector.
(2) Turn the range rotary selector to "DCA" region (if the approximate current value to be measured is not sure, turn directly to the highest range, then adjust to select a proper lower range for a display of the best resolution).
(3) Connect the other ends of test leads to the desired circuit (in series with the circuit to be tested).
(4) Read the value from LCD.

III. Resistance Measurement

(1) Plug red test lead to "VΩ" connector, and black test

lead to "COM" connector.

(2) Turn the function range selector to "Ω" region (if measuring an unknown resistance, start from the highest range, then adjust to a proper lower range for a best resolution).

(3) Connect the other ends of test leads to the desired resistor.

(4) Read the value from the LCD.

IV. Diode (→\|←) Measurement

(1) Turn the function range selector to "→\|←" region.

(2) Plug red test lead to "VΩ" connector, and black test lead to "COM" connector.

(3) Connect the other end of red test leads to the positive pole (P) of the diode, and the other end of black test leads to the negative pole (N).

(4) Read the value from the LCD. (If connection to poles of diode is reverse, LCD will display "1" in the highest digit.)

V. hFE Measurement (for Transistor)

(1) Turn the function range selector to "hFE" (NPN or PNP) region.

(2) Insert the transistor pins into "hFE" connector according to E.B.C. sequence.

(3) Read the value from LCD.

◎ Maintenance

1. Battery Replacement

As battery power is not sufficient, LCD will display, "BAT", replace battery to keep measurement accurate.

(1) Remove all the test leads, and turn the power off.

(2) Open the battery cover according to instructed direction, take out the battery, and install a new one.

(3) Secure the battery cover.

2. Fuse Replacement

If replacement is required, please replace with a same one rated 0.5A 250VAC, 5øx 20mm to keep circuit protected normally.

(1) Turn the power off, and remove all the test leads.

(2) Open the battery cover according to instructed direction, take out the burned fuse, and install a new one.

(3) Secure the battery cover.

◎ Electrical Specifications (23°C ± 5°C, below 80%RH)
Accuracy: ±(..... % rdg + ... dgt)

DCV

Range	Resolution	Accuracy	Input impedance	Overload Protection
2V	1mV	± 0.8% + 1	1MΩ	1100V DC 800V AC
20V	10mV			
200V	100mV			
1000V	1V			

ACV

Range	Resolution	Accuracy	Input Impedance	Overload Protection
200V	100mV	1.2% + 3 (50Hz - 500Hz)	450KΩ	1100V DC 800V AC
750V	1V			

DCA

Range	Resolution	Accuracy	Burden Voltage	Overload Protection
2mA	1μA	1% + 1	0.3Vmax	0.5A Fuse
20mA	10μA	1.5% + 1		
200mA	100μA			
10A	10mA	2% + 1	0.7Vmax	

Resistance

Range	Resolution	Accuracy	Open Voltage	Overload Protection
200Ω	0.1Ω	1.2% + 2	2.8V	AC/DC 500V rms
2KΩ	1Ω	1% + 2	0.35V	
20KΩ	10Ω			
200KΩ	100Ω			
2MΩ	1KΩ			

Diode Test

Range	Resolution	Test Current	Open Voltage	Overload Protection
▶|	1mV	1.2mA	2.8V	DC/AC 500V rms

hFE Test

Range	Test Range	Resolution	Test Current	Overload Protection
NPN PNP	0 ~ 1000	1	IB ≒ 10μA	