



YU FINE

MULTITESTER

OPERATING MANUAL

**MODEL
YF-55A**

FEATURES

1. Core magnet movement: Avoiding interruption of external magnetic field.
2. Super thin & delicate design: Thickness 25 mm only, light, easy to operate and store.
3. Wide range for measurement: DC current from 1 μ A to 10A available, ohm ranges diversified broadly for better selection.
4. Double protection device: Diode to protect movement, fuse to protect parts of circuit board.
5. Polarity reverse switch: Test lead irrespective of positive or negative pole need to set onto terminal once only, also polarity of electricity can be indicated easily.

SPECIFICATION

MEASUREMENT RANGES AND PERFORMANCE

1) As a circuit tester:

Function	Measurement ranges	Allowance	Remarks
DC Voltage (DCV)	0-0.1V-0.5V-2.5V-10V-50V-250V-1000V	$\pm 3\%$ fs	Input impedance 20K Ω /V
AC Voltage (ACV)	3-10V-50V-250V-1000V	$\pm 4\%$ fs	Input impedance 8K Ω /V
DC Current (DCmA A)	0-0.05mA (50 μ A)-2.5mA-25mA-250mA-10A 0.05mA: at 0.1V DC position	$\pm 3\%$ fs	Voltage drop 250 mV
AC Current (ACA)	0~10A	$\pm 4\%$ fs	Voltage drop 250mV

Resistance (Ω)	Range x1-x10-x100-x1K-x10K Minimum 0.2-2-20-200-2K (Ω)		Internal batteries
AF output (dB)	Midscale 20-200-2K-20K-200K (Ω) Maximum 2K-20K-200K-2M 20M (Ω) -10dB~+22dB at AC 10V position -10dB~+62dB (ACV all ranges) 0dB/0.775V (1mW through 600 Ω)	$\pm 3\%$ of arc $\pm 4\%$ fs	UM-3 x 2 006P x 1 8K Ω /V for output terminal

2) As a transistor tester:

Leakage current (I_{ceo}) LI	0~150 μ A at x1K range 0~1.5 mA at x100 range 0~15 mA at x10 range 0~150 mA at x1 range	$\pm 5\%$ of arc	Current across terminals
DC Current gain factor (hFE)	0~1000 at x10 range $\frac{I_c}{I_b}$	$\pm 3\%$ of arc	With connector extra

- Batteries: UM-3, 1.5V, 2pc's; 006P, 9V, 1pc.
- Fuse: 0.5A 1pc. (with spare fuse 1pc.)
- Size & Weight: 197 x 146 x 30mm & 266 g. approx.
(5 $\frac{3}{16}$ " x 3 $\frac{13}{16}$ " x 1 $\frac{3}{16}$ " & 9.4 oz. approx.)
- Accessories: Test leads 1 set, Extra connector 1 set, Instruction manual 1 sheet.

OPERATION I AS A CIRCUIT TESTER

1. Caution

1) Zeroing actuator

It is to adjust the pointer on 0 of the scale left.

2) Test lead connection

The red lead is connected to the + jack and the black lead to the – COM jack.

3) Selection of range

For most accurate readings use a range setting that results in a reading in the upper 1/3 of the meter scale.

4) Range selector OFF position

After measuring, the range selector should be set to the OFF position. This provides a damping action that protects the meter movement.

5) Polarity reverse switch

While measuring DC Voltage or DC Current, the pointer happen to deflect counterclockwise, what you need to do is to set the polarity reverse switch to the – position. The position of the polarity reverse switch on + must be confirmed before starting measurement of AC Voltage or Resistance.

6) Replacement of batteries

When the internal 1.5V batteries are exhausted, it becomes impossible to make 0 adjustment for the x 1 range. So is it for x 10K range when 9V battery is consumed. The batteries must be replaced.

2. DC Voltage measurements

1) The black lead is connected as usual to the – COM

jack and the red lead to the + jack.

- 2) Set range switch to one of the DCV positions; it is best to start at the top and work down.
- 3) The test leads are connected across the load or the source under test read the voltage on the brown DCV. A scale.

3. AC Voltage measurements

- 1) Insert the red test lead into the + jack and the black test lead into the – COM jack.
- 2) Connect the test leads across the load under test. The polarity are not important.
- 3) There are two scale markings for the AC Voltages 0-10V and 0-50V UP. Use the 0-10V scale for 10V range only. The 0-50V UP marking are for the 50 250, 1000 volt ranges.

4. DC Current measurements

- 1) Insert the red test lead into the + jack and the black test lead into the – COM jack.
- 2) Connect the test leads in series with the circuit under test.
- 3) For current between 250mA and 10A, set range switch to 250 & 10A and insert the red test lead into DC "10A+" jack.

5. AC current (ACA) measurements.

- 1) Insert the test leads to the AC10A (DC 10A + and -COM jack. Connect the test leads in series with the circuit under test.
- 2) Use the AC 0-10A scale for ACA range only.

6. Resistance measurements and 0 Ω adjustment

- 1) Insert the red test lead into the + jack and the black test lead into the –COM jack. Before taking any resistance measurements, touch the test probes together

and adjust the OHMS-ADJUST Knob to bring the

and adjust the OHMS-ADJUST Knob to bring the pointer to the "O" on the OHMS scale right.

- 2) Connect the test leads across the circuit or part under test. Use the proper multiplier to obtain the correct value.

6. Decibel measurements

- 1) dB (decibel) is measured in the same way as ACV measurement reading the dB scale instead.
- 2) For measurement on the 10 ACV, read dB directly on the dB scale. For other ranges, the figures of the ADD dB table on the right corner of the scale dial are added to the reading on the range used.

7. ACV measurements on output terminal

- 1) The black lead is connected as usual to the – COM jack and the red lead to the OUT jack.
- 2) AF output voltage is measured in the same way as ACV measurement.

OPERATION II AS A CIRCUIT TESTER

1. Measurements of I_{ceo} (collector emitter leakage current)

- 1) A small-size TR (hereinafter a transistor is referred to as TR) is checked on the $\times 10\Omega$ (15mA) range, and a large-size TR on the $\times 1\Omega$ (150mA) range.
- 2) For NPN-TR measurement, the collector is connected to the – COM jack and the emitter is connected to the + jack.
- 3) For PNP-TR measurement, the collector is connected to the + jack and the emitter is connected to the – COM jack.

- 4) Read the quantity of the leakage current on the blue LI scale.
2. Extra connector for h_{FE} measurements
 - 1) For NPN-TR measurement, insert the extra connector to the - COM jack. For PNP-TR measurement, insert the extra connector to the + jack. The range switch is set on $\times 10$.
 - 2) The red clip of the connector is connected to the collector and the black clip of the connector to the base, and the lead from the other terminal of the tester, to the emitter.
 - 3) Read the h_{FE} on the blue h_{FE} scale.
3. Measurement of diode including LED
 - 1) The connection of Fig. 1 read I_F (forward current) or I_R (reverse current) on the LI scale provided.
 - 2) The forward voltage of LED is generally more than 1.5V. While light is being emitted, the LI scale reads the forward current I_F , and the LV scale the forward voltage V_F .



