User's Manual

HA2YF3030000

● Features

1. Core magnet movement:
   Avoids interruption of external magnetic field.
2. Double protection device:
   Diode to protect movement，fuse to protect parts of circuit board.
3. Handy stand attached，with wide visual for easy readout.
4. With DC 12A measuring range.

● Specifications

1. Dimensions: 146(L) x 98 (W) x 37mm (H)
2. Weight: about 255 g(including batteries).
3. Power supply: 006P 9V 1pc, 1.5V/UM3 batteries *2.
4. Operating temperature and humidity: 0℃~40℃,0%~80% RH.
5. Fuse:5 ϕ *20mm 0.5A 1pc.
6. Accessory: test leads 1ser, 0.5A spare fuse 1pc, operating manual 1pc.

● MEASUREMENT RANGES AND PERFORMANCE

As a transistor tester

Leakage current(iceo)(LI)	0-150 μA at x1K range 0-15mA at x 10 range 0-150mA at x 1 range	±5% of arc	Current across terminals
DC current amplification factor(h_{FE})	0~1000 at x 10 range $\frac{Ic}{Ib}$	±3% of arc	With connector extra

As a circuit tester:

Measurement	Measurement ranges	Allowance	Remarks
DC Voltage (DCV)	0-0.3V-3V-12V-30V-120V -300V-1200V Battery 1.5V Check 0-1.5V	±3% fs	Input impedance 20KΩ/V
AC Voltage (ACV)	0-6V-30V-120V-300V- 1200V	±4% fs	Input impedance 8KΩ/V
DC Current (DCmA A)	0-0.06m A(60 μA)-3m A-30m A-0.3A-12A，0.06m A at 0.3V DC position	±3% fs	Voltage drop 300m V
Resistance (Ω)	Range x1-x10-x1K-x10K Minimum 0.2-2-200-2K (Ω) Midscale 20-200-20K-200K(Ω) Maximum 2K-20K-2M-20M(Ω)	±3% of arc	Internal batteries UM-3x2 006Px1
AF output(dB)	-10dB-+17dB at AC6V position 0dB/0.775V(1mW through 600 Ω)-10dB-+63 dB(ACV all ranges)	±4% fs	8KΩ/V for out put terminal

● PRELIMINARY INSTRUCTIONS

- Only the leads supplied with the instrument guarantee compliance with the safety standards. They must be in good condition and, if necessary, be replaced with identical leads.
- Do not test circuits exceeding the current and voltage limits.
- Assure the batteries are installed correctly.
- Before connecting the test leads to the circuit to be tested, make sure that the rotary selector switch is set to the correct function.
- Remove the test leads from the circuit under test before changing the range.
- When the tester is connected to the measuring circuits, do not touch any unused terminal.
- If the instrument is not be used for a long period, remove the battery.
- Indication of zero correction:
  Before measuring, place the pointer on zero position of the scale left by adjusting the screw of zero corrector.
- Range selection:
  When measuring an unknown value of voltage or current, start from the highest range, then adjust to a proper lower range. Measurement is more accurate as near to the full scale, for resistance measurement, near to the middle scale.
- OFF range:
  After measurement place range selector to OFF range. This is to prevent pointer from swaying and to protect multitester.

● OPERATION

1. DC Voltage(DCV)
   DC Voltages of batteries，amplifier circuits，power source of communication equipment，tube and transistor circuit biases，etc. are measured，Each of the 7 range notations(0.3~1200) indicates the maximum voltage reading for that range.

2. AC Voltage(ACV)
   Voltages of commercial AC supply，AC powered circuits. AF signal level，etc. are measured Each of the 4 range notations (6~1200) indicates the maximum voltage reading for that range.

3. DC Current(DC mA，A)
   Current consumption of DC power operated equipment，bias current of tube and transistor circuits，etc are measured，Each of the 5 range notations (60 μ/12A) indicates the maximum current reading for that range，
   Note:
   For 12A Measurement，Insert the red lead into DC-12A + terminal and the black lead into the-COM terminal：set the range switch to 300mA & up position，

4. Resistance(Ω)
   Resistance is measured，and line and circuit continuity(∞ or 0 Ω)tested． Each of the 4 range notations indicates the multiplication of the reading for that range，where k stands for 1000.

5. dB scale
   dB(decibel)is measured in the same way as ACV measurement reading the dB scale instead for a range selector setting of AC6V，read dB directly on the dB scale.

6. Buzzer " ·)) " Test
   6.1 Set the range select to " ·)) " position.
   6.2 Plug the short ends of test leads to "+" and "-" jacks.
   6.3 Connect the two long ends of test leads to the two ends of desired circuit.
   6.4 When the buzzer sounds or means the circuit is conductible its impedance.

7. hFE measurement for transistor
   7.1 Place range selector to Ω*10(hFE) range. Be sure to accomplish 0Ω adjustment before measuring.
   7.2 Plug PNP or NPN transistor to hFE connector according to EBCE sequences.
   7.3 Read the value indicated on hFE scale.c

8. Battery check – UP
   8.1 Place range selector to BATT 1.5V range.
   8.2 Plus short end of red test leads to "+" connector, and short end of black test leads to "-" connector.
   8.3 Connect red test lead to positive pole of battery, and black test lead to negative pole of battery.
   8.4 Read the value indicated on BATT 1.5V scale to judge quality.

9. High frequency output voltage measurement
   Plug black test lead to "-" connector and red red test lead to OUTPUT connector. Place the range selector to ACV position. Reading of measurement and scale are same as ACV measurement.