

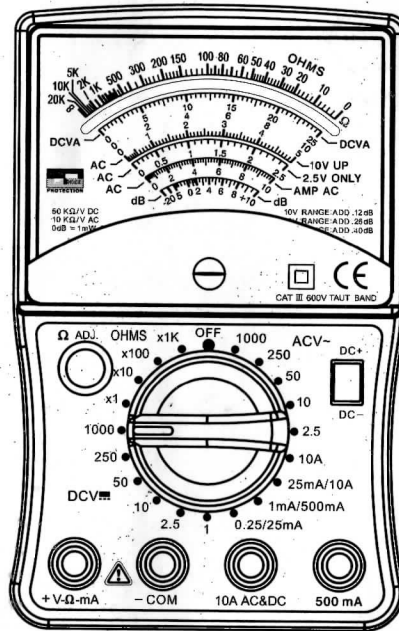
Fig. 2

- CAT IV - Is for measurements performed at the source of the low-voltage installation.
- CAT III - Is for measurements performed in the building installation.
- CAT II - Is for measurements performed on circuits directly connected to the low-voltage installation.
- CAT I - Is for measurements performed on circuits not directly connected to Mains.

Due to our policy of constant improvement and development, we reserve the right to change specifications without notice.

505N

MULTITESTER

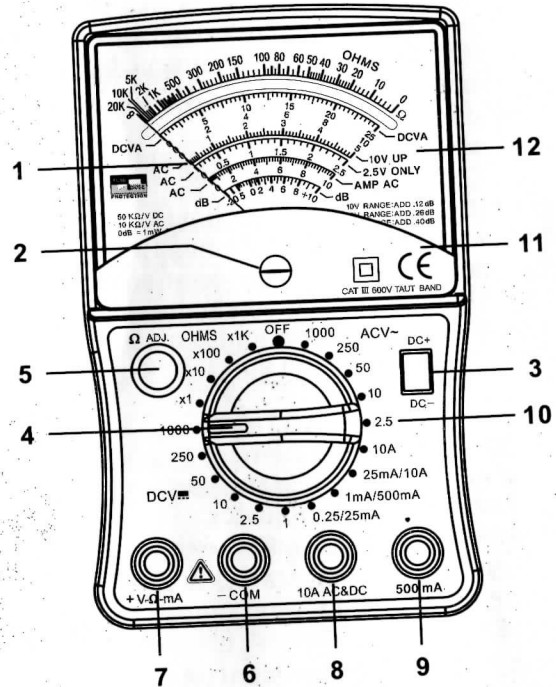


INSTRUCTION MANUAL

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1. INSTRUMENT LAYOUT



- | | |
|-----------------------------|-------------------------|
| 1. Pointer | 7. V-Ω-mA + terminal |
| 2. Zero corrector | 8. 10A AC & DC terminal |
| 3. Polarity reversal switch | 9. 500mA terminal |
| 4. Range selector | 10. Range positions |
| 5. 0Ω ADJ adjustor | 11. Name plate |
| 6. COM-terminal | 12. Scale plate |

2. INTRODUCTION

NOTE

This meter has been designed and tested according to IEC publication 348, safety requirements for electronic measuring apparatus, IEC-1010 (EN 61010) and other safety standards.

Follow all warnings to ensure safe operation.

This 50,000 Ω /V analogue multimeter with its wide range of measurement capabilities, which includes a 10AAC range, is particularly designed for the requirement of electrical and electronic specialists and engineers. This instrument is also provided with meter over load protection and shock proof device.

CAUTION

- (1) When making a measurement check and see if the pointer is at 0 position of the scale. If not, reset it by adjusting the zero adjustor.
- (2) Check that the range selector is set to the correct range. When in doubt, start with the highest range first and then reset to lower ranges for more precise readings.
- (3) Do not prolong measurement on high current Ranges.
- (4) The polarity reversal switch is provided for quick transference of + and - for test of DC. When testing AC and OHMS, keep the switch at + side.

3. SAFETY NOTES

- Read the following safety information carefully before attempting to operate or service the meter.
- Use the meter only as specified in this manual ; otherwise the protection provided by the meter may be impaired.
- Rated environmental conditions :
 - (1). Indoor use.
 - (2). Installation Category III .
 - (3). Pollution Degree 2.
 - (4). Altitude up to 2000 Meter.
 - (5). Relative Humidity 80% Max.
 - (6). Ambient Temperature 0°~40°C.
- Observe the international electrical symbols listed below :



Meter is protected throughout by double insulation or reinforced insulation.



Caution ! Refer to this manual before using the meter.



AC... Alternating current.



DC... Direct current.

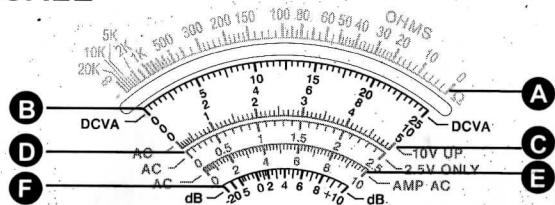
4. FEATURES

- High quality Taut Band movement.
- Easy to read 3-color scale : for mistake proof reading.
- Mirror scale : makes reading pointer easy.
- Safety features : on all ranges.
- Safety features : safety fused, safety "OFF" position.
- dB measurement.
- With stand : makes reading and measuring easy.
- IEC/EN 61010-1 : 01 CAT III 600V.
EN 61326-1 : 06, EN 61326-2-2 : 06,
EN 55011 : 07+A2 : 07, EN 61000-3-2 : 06,
EN 61000-3-3 : 95+A1 : 01+A2 : 05,
EN 61000-4-2 : 95+A1 : 98+A2 : 01,
EN 61000-4-3 : 02+A1 : 02, EN 61000-4-4 : 04,
EN 61000-4-5 : 95+A1 : 01,
EN 61000-4-6 : 96+A1 : 01, EN 61000-4-11 : 04

5. SPECIFICATION

- DC Voltage
Ranges : 0.25-1-2.5-10-50-250-1000V
Accuracy : $\pm 2\%$ FS
Sensitivity : $50\text{K}\Omega/\text{V}$
- DC Current
Ranges : $25\mu\text{A}$ -1mA-25mA-500mA-10A(on separate input)
Accuracy : $\pm 2\%$ FS
Voltage Drop : 250mV
- AC Voltage
Ranges : 2.5-10-50-250-1000V
Accuracy : $\pm 3\%$ FS
Sensitivity : $10\text{K}\Omega/\text{V}$
Decibelmeter : -20 to 62dB 0dB=1mW/600 Ω
Direct Scale : -20 to +10dB
- AC Current
Range : 10A
Accuracy : $\pm 3\%$ FS
- Resistance
Ranges : Rx1 0.2 Ω to 20K Ω
Rx10 2 Ω to 200K Ω
Rx100 20 Ω to 2M Ω
Rx1K 200 Ω to 20M Ω
Accuracy : $\pm 3\%$ FS Length
- Dimension : 160(L)x100(W)x45(D)mm
- Weight : 380g(battery included)
- Battery : 1.5V(UM-3, SUM-3 or R6)x2

6. SCALE



Measurement	Range	Scale	Multiplier
DC Volt.	DC 0.25V	25	x0.01
	1V	B 10	x0.1
	2.5V	B 25	x0.1
	10V	B 10	x1
	50V	B 5	X10
	250V	B 25	X10
1000V	B 10	x100	
DC Current	DC 25 μ A	B 25	x1
	1mA	B 10	x0.1
	25mA	B 25	x1
	500mA	B 5	x100
	10A	B 10	x1
AC Volt.	AC 2.5V	D	x1
	10V	C 10	x1
	50V	C 5	x10
	250V	C 25	x10
	1000V	C 10	x100
AC Current	AC 10A	E	x1
Resistance	Rx1(0.2 Ω to 20K Ω)	A	x1
	Rx10(2 Ω to 200K Ω)	A	x10
	Rx100(20 Ω to 2M Ω)	A	x100
	Rx1K(200 Ω to 20M Ω)	A	x1000
Decibel	-20 to +10dB	F	x1
	-8 to +22dB	F	x1+12dB
	+6 to +36dB	F	x1+26dB
	+20 to +50dB	F	x1+40dB
	+32 to +62dB	F	x1+52dB

7. OPERATION

DCV MEASUREMENT

1. Plug the black test lead into the -COM terminal and the red lead into the + terminal.
2. Place the range selector to the DCV range appropriate for the circuit to be tested.
3. Connect the tester in parallel with the load, with the Black test lead on the negative side and the red lead on the positive side.
4. Read the DCVA scale (black) referring the reference table in Page 6.

DCA MEASUREMENT

1. Plug the black test lead into the -COM terminal and the red lead into the + terminal. For 500mA and 10A, the red lead is plugged into the separated input terminals.
2. Place the range selector to the DC currange range appropriate for the circuit to be tested.
3. Cut the power to the circuit to be tested and connect the tester in series with the circuit, with the black test lead on the negative side and the red lead on the positive side.
4. Read the DCVA scale (black) referring the reference table in Page 6.

ACV MEASUREMENT

1. Plug the black test lead into the -COM terminal and the red lead into the + terminal.
2. Place the range selector to the VAC range appropriate for the circuit to be tested.
3. Connect the tester in parallel with the load reagrdless to the polarities of the circuit.
4. Read the AC 10V UP or AC 2.5V ONLY scales referring the reference table in Page 6.

ACA MEASUREMENT

1. Plug the black test lead into the -COM terminal and the red lead into the 10A terminal.
2. Place the range selector to 10AAC range.
3. Connect the tester in series with the circuit regardless to its negative and positive polarities.
4. Read the AMP AC scale directly.

RESISTANCE MEASUREMENT

1. Plug the black test lead into the -COM terminal and the red lead into the + terminal.
2. Set the range selector to the Ω range appropriate for the circuit or device to be tested.
3. Make sure that there is no voltage across the resistance to be tested.
4. Short the test leads and adjust the pointer to 0 position by turning the 0 ADJ.
5. Connect the test leads to the resistor or device to be tested.
6. Read the scale (green) in accordance with the reference table in Page 6.

DECIBEL MEASUREMENT

1. Plug the black test lead into the -COM terminal and red lead into the + terminal.
2. Place the range selector to the ACV range appropriate for the circuit to be tested. (2.5ACV for -20 to +10dB, 10ACV for -8 to +22dB, 50ACV for +6 to +36dB, 25ACV for +20 - +50dB, 1000ACV for +32 to +62dB).
3. Connect the test leads to the circuit to be tested and read the dB scale referring the reference table in Page 6.

8. MAINTENANCE

● Batteries Replacement :

- (1) If 0Ω adjustment is impossible in $\times 1\Omega$ range. The two internal 1.5V (UM-3, SUM-3, or R6) batteries have worn out. Replace them with fresh ones.
- (2) To replace the batteries. Open the rear case after removal of the screw and insert them into the battery compartment correctly, taking note of their polarities.

● Fuse Replacement :

- (1) When the fuse is blown, the tester fails to work.
- (2) Open the rear case, removal of the screw.
- (3) Replace fuse with new fuse, refer to Fig.1 And Fig.2 for its position.
- (4) Close the case and lock the screw.

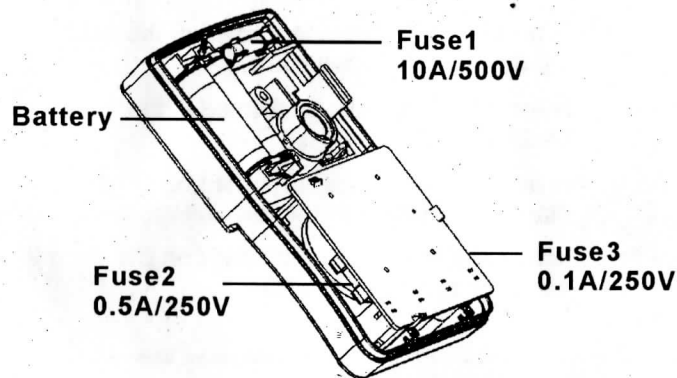


Fig. 1