# ACA BENCH METER

## Model : AA-104



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#### **1. FEATURES**

- \* Digital bench ACA meter, easy operation, professional quality, compact size.
- \* 4 ranges : 2 mA, 20 mA, 200 mA, 5 A.
- \* Large LCD display.
- \* All ranges build in fuse for over load protection
- \* Application : Education, Maintenance, Production line, School, Laboratory, Industrial and Quality control.

#### 2. SPECIFICATIONS

Display	LCD, 18 mm (0.7") digit height.
Measurement	AC current.
Range/	2 mA x 0.001 mA
Resolution	20 mA x 0.01 mA
	200 mA x 0.1 mA
	5 A x 0.01 A
Accuracy	2 mA/20 mA/200 mA range :
	(1.2% + 2d) reading
	5 A range :
	(1.5% + 3d) reading
Voltage Drop of	2 mA/20 mA/200 mA range : 200 mV.
the full scale	5 A range : 50 mV.
Over load	2 mA/20 mA/200 mA range :
Protection	500 mA Fuse.
	5 A range :
	5 A Fuse.
Frequency	40 Hz-500 Hz, sine wave.
Response	

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AC/DC converter	Average reading calibrated to RMS,
	sine wave.
Zero Adjustment	Automatic.
Over - input	Display shows '1'.
Safety	Meet IEC1010 CATII 600V.
Sampling Time	Approx. 0.4 second.
Operating	0蚓 to 50蚓 (32蚌 to 122蚌)
Temperature	
Operating	Less than 80% RH.
Humidity	
Power Supply	006P DC 9V battery.
Power	Approx. 1.9 mA.
Consumption	
Dimension	147 x 117 x 47 mm,
	( 5.8 x 4.6 x 1.85 inch ).
Weight	324 g/0.71 LB (including battery).
Input terminal	Standard terminals, 3 PCs,
	(Red, Black, Green each)
Standard	Instruction Manual1 PC
Accessories	

### 3. FRONT PANEL DESCRIPTION

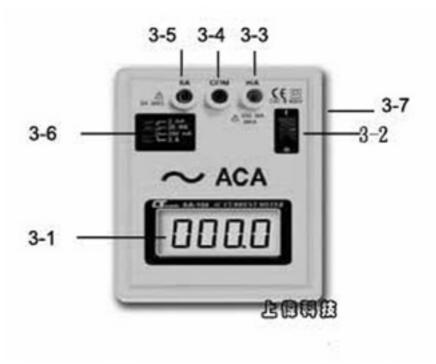


Fig. 1

3-1 Display

- 3-2 Power Switch
- 3-3 mA ( Red ) Input Terminals
- 3-4 COM ( Black ) Input Terminals
- 3-5 5A (Green ) Input Terminals
- 3-6 Range Switch
- 3-7 Battery compartment/Cover



Current measurement 200 mA

- 1)For safety consideration, before the measurement, should disconnect (power off) the power supply of the measurement circuit.
- 2) Connect the test lead to " mA Input Terminal ( Red terminal ) " ( 3-3, Fig. 1 ) and to the " COM Input Terminal ( Black terminal ) " ( 3-4, Fig. 1 )
- 3) Determine the highest anticipated current ( 2 mA, 20 mA, 200 mA) on the "Range Switch " ( 3-6, Fig. 1 ) and select to the corresponding position.
- 4) Open the circuit in which current is to be measured. Now securely connect test leads in series with the load in which the current is be measured.
- 5) Power On the meter by slide the "Power Switch" (3-2, Fig. 1) to the "1" or "ON " position.

Current measurement > 200 mA and 5 A

- 1)For safety consideration, before the measurement, should disconnect (power off) the power supply of the measurement circuit.
- 2) Connect the test lead to " 5 A Input Terminal (Green terminal)" (3-5, Fig. 1) and to the "COM Input Terminal (Black terminal)" (3-4, Fig. 1)
- 3) Select the "Range Switch " (3-6, Fig. 1) to the "5 A " position.
- 4) Open the circuit in which current is to be measured. Now securely connect test leads in series with the load in which the current is be measured.



5) Power On the meter by slide the "Power Switch" (3-2, Fig. 1) to the "1" or "ON " position.

#### Warning !

Over load protection, the 2 mA/20 mA/200 mA range build in 500 mA fuse, the 5 A range build in 5 A Fuse.

We recommend strongly that the input current of the 2 mA/20 mA/200 mA range should less than 250 mA, the 5 A range should not over 5 A, otherwise the fuse may broken.

If the meter can not make the operation ( when make the measurement, display show 0 only ), please check the fuse condition first.

#### 5. BATTERY REPLACEMENT

- When the left corner of LCD display show "BAT ", It is necessary to replace the battery. However, in-spec measurement may still be made for several hours after Low Battery Indicator appears before the instrument become inaccurate.
- 2) To replace the battery, remove the "Battery Cover " (3-7, Fig. 1) on the rear cabinet.
- 3) Take out the battery, install a new one (006P DC 9V) and reinstall the battery cover again.

#### **6. FUSE REPLACEMENT**

 This meter is provided with 500 mA fuse to be protected the circuit from overload current at "2 mA, 20 mA, 200 mA " range. When the 2 mA, 20 mA, 200 mA range can not be operated, please check if the 500 mA fuse is broken or not ?

2) This meter is provided with 5 A fuse to be protected the circuit from overload current at "5 A " range.When the 5 A range can not operation, please check if the 5 A fuse is broken or not ?

- 3) When replace the fuse, please loose the rear case, replace the fuse according the specification.
- 4) Make sure the rear case is secured with the screw after changing the fuse.

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