

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

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 Temperature	0℃ to 50℃ (32℉ to 122℉)
Operating Humidity	Less than 80% RH.
Power Supply	006P DC 9V battery.
Power Consumption	Approx. 1.9 mA.
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 Accessories	Instruction Manual.....1 PC.

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

4. MEASURING PROCEDURE

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

- 1) 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

- 1) 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.