EN

Axiomet AX-582B

1. Safety Notices

The instrument meets IEC 1010 clauses (the safety standards promulgated by International Electrotechnical Commission) in terms of design, and shall be used after reading the safety notices.

- Do not input values over the maximum range of each measurement to avoid damages of the Meter.
- The voltage of below 36V is safe. When the voltage measured is higher than DC36V or AC25V, users shall check when the multimeter probe is reliably contacted, correctly connected, and well insulated, in order to avoid electric shock;
- Be sure to keep the test leads off the testing points when switching function or range.
- Select correct function and range to avoid fault operation.
- Please do not measuring before battery isn't installed and back cap isn't firm.
- Do not input any voltage when measure resistance.
- Always remove the test leads before replacing the battery or fuses.
- Do not input a current higher than 20A when measuring the current.
- The following safety symbols may appear in this manual or on the instrument:
- ⚠ Attention! Exists high voltage,⏚ GND, ⧈ Dual insulation, ⚠ Must refer to manual, 🔋 Low battery

2. Specification

2.1. General feature

- Display mode: Liquid crystal display;
- Max display: 1999 (3 ½) digits automatic polarity display.
- Measuring method: Dual-integral A/D conversion;
- Sampling rate: Around 3 times/ second;
- Ultra-range display: Highest position displayed as "OL";
- Low voltage display: Appearance of the sign 🔋;
- Working environment: (0~40)°C, relative humidity <80%;
- Power supply: 9V battery
- Volume (dimensions): 190 x 88,5 x 27,5mm (L×W×H)

- Weight: Around 320g (including battery);
- Accessories: 20A test leads, user manual, holster, gift box, and 9V battery.

2.2. Technical characteristics

2.2.1. Accuracy

± (a% of the reading + least significant bit); guaranteed accurate ambient temperature: (23±5)° C; relative humidity: <75%; guaranteed calibration period: one year since the date of delivery.

2.2.2. DC voltage measurement

Range / Accuracy / Resolution
200mV / ±(0.5%+5) / 0.1mV
2V / ±(0.5%+3) / 1mV
20V / ±(0.5%+3) / 10mV
200V / ±(0.5%+3) / 100mV
1000V / ±(1,0%+10) / 1V
Input impedance: 10MΩ;
Over load protection: 250V DC or AC peak value for range 200mV; 1000V DC or AC peak value for other ranges.

2.2.3. AC Voltage Measurement

Range / Accuracy / Resolution
2V / ±(0.8%+5) / 1mV
20V / ±(0.8%+5) / 10mV
200V / ±(0.8%+5) / 100mV
750V / ±(1.2%+10) / 1V
Input impedance: 10 MΩ;
Overload protection: DC1000V or AC750V peak value;
Frequency response: The frequency scope for all ranges is 40Hz – 1kHz (applicable to standard sine wave and triangle wave).
Display: Sine wave RMS (Average value response)

2.2.4. DC current measurement

Range / Accuracy / Resolution
20uA / ±(1,2%+8) / 0.01uA
200uA / ±(1,2%+8) / 0.1uA
2mA / ±(1,2%+8) / 1uA
20mA / ±(1,2%+8) / 10uA
200mA / ±(1,2%+8) / 100uA

2A / ±(1.5%+10) / 1mA
20A / ±(2.0%+5) / 10mA
Maximum voltage drop measured: Full range mA: 200mV
Maximum input current: 10A (not more than 10s);
Overload protection: 0.2A/250V fuse; 20A/250V fuse.

2.2.5. AC current measurement

Range / Accuracy / Resolution
200mA / ±(1,5%+15) / 100uA
2A / ±(2.0%+5) / 1mA
20A / ±(3.0%+10) / 10mA
Maximum voltage drop measured: 200mV;
Maximum input current: 20A (not more than 15s);
Overload protection: 0.2A/250V fuse; 20A/250V fuse.
Frequency response: (40~200)Hz
Display: Sine wave RMS (Average value response)

2.2.6. Resistance

Range / Accuracy / Resolution
200Ω / ±(0.8%+5) / 0.1Ω
2kΩ / ±(0.8%+3) / 1Ω
20kΩ / ±(0.8%+3) / 10Ω
200kΩ / ±(0.8%+3) / 100Ω
2MΩ / ±(0.8%+3) / 1kΩ
200MΩ / ±(5.0%+20) / 100KΩ
Testing condition: Open voltage is approx. 3V
Over load protection: 250V DC or AC peak value
At range 200Ω, short-circuit the test leads to measure the wire resistance, then subtracts it from the real measurement.

2.2.7. Capacitance

Range / Accuracy / Resolution
20nF / ±(3,5%+20) / 10pF
200nF / ±(3,5%+20) / 100pF
2uF / ±(3,5%+20) / 1nF
20uF / ±(5,0%+10) / 10nF
200uF / ±(5,0%+10) / 100nF
2000uF / ±(5,0%+10) / 1uF
Overload protection: 36V DC or AC peak value

2.2.8. Square Wave Output

Range:⎍
Voltage: about 3,3V
Frequency: 50 Hz~5KHz
Input protection: 500Vrms

2.2.9. Diodes and Continuity Measurement

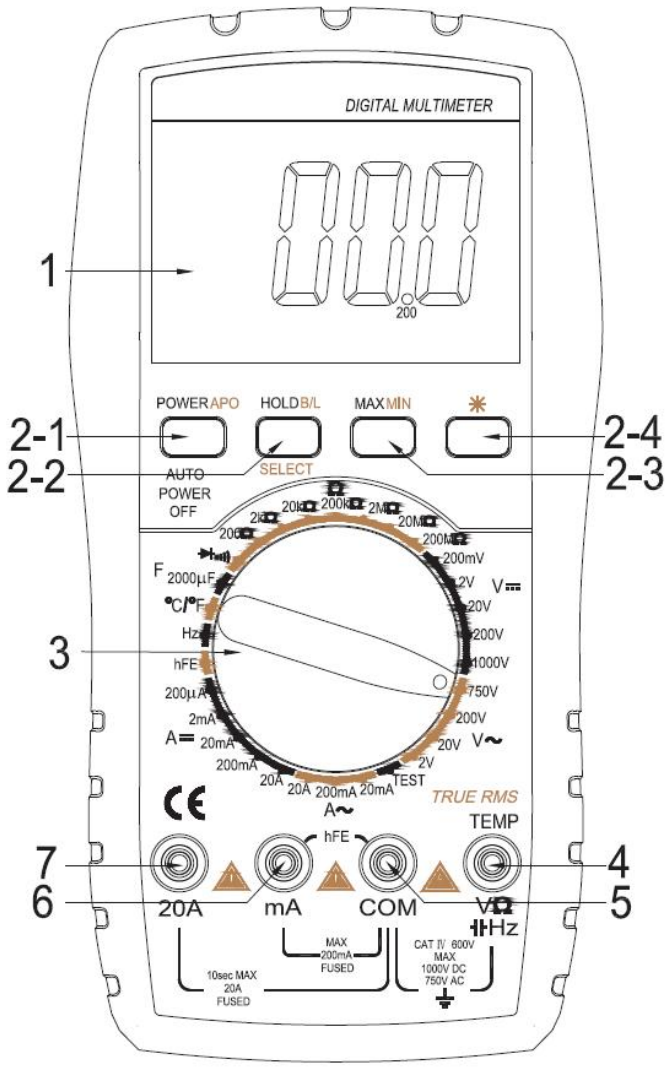
⊣•))
Value displayed: Forward voltage drop of diode
Testing condition: Forwrd DCA is approx. 1mA, the backward voltage is approx. 3V
⊣•))
Value displayed:Buzzer sounds, the resistance is less than (50 ± 20) Ω
Testing condition: Open voltage is approx. 3V
Overload protection: DC or AC250V peak value.
Warning: It's forbidden to input voltage value in this range for the sake of safety!

2.2.10. Transistor measurement

Range: hFE NPN or PNP
Displaying: 0 ~ 1000
Test condition: Basic current is approx. 10uA, Vce is about 3V

3. Application Method

3.1. Description of operating panel



- 1. LCD unit: It displays the numerical value measured with the instrument and its unit;
- 2-1. Power ON/OFF
- 2-2. HOLD, B/L
- 2-3. MIN/MAX key

- 2-4. Buzzer indicator lamp
- 3. Knob switch: Used to change the measuring function and range;
- 4. Voltage, resistance and frequency COM
- 5. GND, the anode COM of test accessory.
- 6. 0,2A current test COM, the cathode COM of test accessory
- 7. COM for measuring current 20A

3.2. DC voltage measurement

- Insert the black multimeter probe into “COM” end, and the red multimeter probe into “VΩHz” end;
- Select the knob to a proper DCV range, and connect the test leads crossly to the electric circuit under test, LCD displays polarity and voltage under test connected by the red test lead.

Notes

- Firstly users should select the knob to the highest range, if users had no idea about the range of voltage under test, and then select the proper range based on displaying value. If LCD displays “OL” it means meter is over the max. Value of this range, thus should select the knob to a higher range.
- Do not input to DC Voltage above 1000V or AC above 750V RMS.
- Never contact the high-voltage circuit measured.

3.3. AC Voltage Measurement

- Insert the black multimeter probe into “COM” end, and the red multimeter probe into “VΩHz” end;
- Select the knob to a proper ACV range, and then connect the test leads crossly to the electric circuit under test.

Notes

- Firstly users should select the knob to the highest range, if users had no idea about the range of voltage under test, and then select the proper range based on displaying value. If LCD displays “OL” it means meter is over the max. Value of this range, thus should select the knob to a higher range.
- Do not input to DC Voltage above 1000V or AC above 750V RMS.
- Never contact the high-voltage circuit measured.

3.4. DC current measurement

- Insert the black multimeter probe into “COM” hole, and the red multimeter probe into “mA” or “20A” hole (maximum 200mA or 20A);
- Select the knob to a proper DCA range, and connect the test leads crossly to the electric circuit under test; LCD displays polarity and current under test connected by red test lead.

Notes

- If having no idea about the scope of current measured, users shall rotate the range switch to the highest level, and then rotate it to corresponding level according to the value displayed;
- If LCD shows “OL”, it indicates going beyond the range, and the range switch shall be rotated to a higher level.
- The maximum input current is 200mA or 20A (depending on the inserting location of red probe). In case of exceeding rated current, the fuse will be melted or even the instrument will be damaged.

3.5. AC current measurement

- Insert the black multimeter probe into “COM” hole, and the red multimeter probe into “mA” or “20A” hole (maximum 200mA or 20A);
- Select the knob to a proper ACA range, and connect the test leads crossly to the electric circuit under test.

Notes

- If having no idea about the scope of current measured, users shall rotate the range switch to the highest level, and then rotate it to corresponding level according to the value displayed;
- If LCD shows “OL”, it indicates going beyond the range, and the range switch shall be rotated to a higher level.
- The maximum input current is 200mA or 20A (depending on the inserting location of red probe). In case of exceeding rated current, the fuse will be melted or even the instrument will be damaged.

3.6. Resistance measurement

- Insert the black multimeter probe into “COM” end, and the red multimeter probe into “VΩHz” end;
- Select the knob to a proper resistance range, and connect the test leads crossly with the resistor under test.

Notes

- Under the mode of manual range measurement, if having no idea about the scope of resistance measured, users shall adjust the switch to the highest level;
- If LCD shows “OL”, it indicates going beyond the range, and users shall adjust the range to a higher level. If the resistance measured is more than 1M, it will take several seconds for the reading to become stable, and this is normal for measurement of high resistance;
- If the input end is open-circuited, the overload sign “OL” will be displayed;
- The online resistance measurement may be started after it’s confirmed that, all power sources of tested circuit are cut off, and all capacitors are completely discharged;
- Never input voltage at resistance level.

3.7. Capacitance measurement

- Insert the black multimeter probe into “COM” end, and the red multimeter probe into “VΩHz” end;
- Select the knob to proper capacitance range,

Notes

- If the capacitance under tested is over the max. Value of selected range, LCD displays “OL”, thus should select the knob to a higher range.
- When measuring at large capacitance range, if capacitor is crept badly or broken, LCD displays a value and it’s unstable.
- Tested capacitor shall be completely discharged, for fear of damaging the instrument;
- Unit: 1uF=1000nF 1nF=1000pF

3.8. Square Wave Output

- Insert test leads or shielded cable into “COM” and “ V/Ω/Hz” terminal.
- Set the knob to square wave and connect the probe cable to the oscilloscope with test leads, it will display a value under 50-5kHz.

Notes

- The initial square wave output is 50Hz, if want to output different frequency, press „HOLD” to choose.
- CAUTION: do not input voltage at this range!

3.9. Diode and on-off test

- Insert the black multimeter probe into “COM” hole and red multimeter probe into “VHz” hole (the polarity of red multimeter pole is “+”;
- Rotate the functional switch to “DIODE” or “BUZZ” level; ⇥⊢•))
- Measurement in forward direction: Connect the red/black multimeter probe to the positive/ negative pole of the tested diode, and the display unit will display the approximate value of the voltage drop in forward direction of the diode;
- The buzzer sounds if the resistance of a circuit under test is less than (50±20)Ω.

Notes

- Don’t input voltage at ⇥⊢•))level.

3.10. Transistor measurement

- Set the knob to hFE range. Inset the test leads to “COM” and “mA” Note: “COM” terminal is for positive pole (+), “mA” terminals is (-).
  Verify the transistor under tested is NPN or PNP, insert emitter, base and collector to proper jack.

3.11. Data holding, B/L

Press the “Hold B/L” switch, the presently measured value is held on LCD, press it again, the function is cancelled. Press “Hold B/L” key to turn on the backlight

3.12. Automatic power off

- The meter will be into sleeping mode when it works for (15±10) minutes. Press “POWER” key twice to restart the power.

3.13. Hot Wire Test

- Insert the red test lead into the ΩHzV terminal and the black test lead into theCOM terminal.
- Set the knob to TEST range, and set the red test lead to the tested circuit.
- If LCD displays “OL” and the light and sound alarming, it means the circuit of the red test lead tested is hot wire, if there is no any response, it means it is neutral wire.

Notes

- The function is only for testing AC (AC 110V~AC380V)

4. Maintenance of the Instrument

This instrument is precise, and users shall never change its circuit at random.

- Protect the instrument from water, dust and hurl-down.
- Never store or use the instrument in high-temperature, high-humidity, flammable, explosive and strong-magnetic-field environment;
- Please clean the outer surface of the instrument with wet fabric and gentle detergent, instead of grinding additives and strong solvents like alcohol, etc.;
- If the instrument is left unused for long term, the battery shall be taken out in order to avoid that the instrument is eroded by battery weeping;
- When symbol displays, should replace the battery.
- For replacement of fuse, please use fuse of the same specification and model.

Notes

- Don’t connect the voltage higher than DC1000V or AC750V peak value;
- Don’t use this instrument is the batteries are not installed or the back cover is not fastened;
- Please move the testing probes from tested points and shut down the machine before replacement of batteries or fuse.

5. Troubleshooting

If your instrument does not work normally, the following methods may help you solve common problems.
If the troubles can not still be eliminated, please contact our maintenance center or dealer.
Fault phenomena - Position to be inspected and method
No display - The power supply is not connected; Holding switch; Replace the batteries.
Appearance of the sign "🔋" - Replace the batteries.
No input of current - Replace the fuse.
Big error in display - Replace the batteries.
The specifications are subject to change without notice.
The content of this manual is regarded as correct error or omits Pls. contact with factory.
We hereby will not be responsible for the accident and damage caused by improper operation.
The function stated for this User Manual cannot be the Reason of special usage.