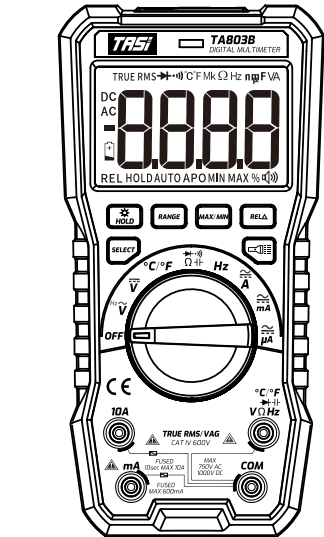




TA803B
DIGITAL MULTIMETER
Instruction manual



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Pack #:PB01-0337

Thank you very much for your patronage and choosing our products. Before you use this product please read this manual carefully as it will familiarize you with the correct operating procedure of our TASI product.

Summary

TA803B is a 3 5/6 digital instrument, is a high precision, stable performance, battery-driven high reliability and high accuracy automatic digital multimeter. The instrument has a 21mm character height super big LED screen and it can be read the value clearly and has a function of keeping peak value,it also can be used to measure DC voltage and AC voltage, DC current and AC current, resistances, capacitors, diodes, temperature, on and off, electric field induction testing, frequency and other parameters.The whole machine use double integral A / D conversion for core, is a superior performance instrument, is the laboratory, factories, radio enthusiasts and the ideal home tools.

Safety Precautions

The series of instruments in the design in line with IEC1010 (International Electrotechnical Commission issued by the safety standards), before use, please read safety precautions first.

- When measuring the voltage, do not input more than 1000V DC or AC 750V RMS voltage limit;
- Voltage below 36V is the the safety voltage, measured at 36V DC, 25V AC voltage, you need to check whether the testing lead is reliable contact, whether the correct connection, whether the insulation is good, to avoid electric shock;
- For converting the function and range, the testing lead should leave the test point;
- You should select the correct function and range, beware of misuse, the series of instruments have full range of protection, but for safety reasons, please pay more attention;

- When measuring current, do not input batteries more than 10A.
- Safety Symbol Description "⚠"Exist dangerous voltage. "⏏" Ground. "⏏" Double insulation. "⚠" Operator must refer to the instruction manual. "⏏" Low voltage symbol.

Characteristics

General Characteristics

- Display: LCD display;
- Maximum display: 5999 (3 5/6) bit automatic polarity display;
- Measurement method: double integral A / D conversion;
- Sampling rate: about 3 times per second;
- Overrange display: the highest bit was "OL";
- Low voltage display: ⏏ symbol appears;
- Working environment: (0 ~ 40) °C, relative humidity <8 0%;
- Power: 9V (NEDA1604 / 6F22);
- Volume (size): 184 *90 *46mm (length ,width and height);
- Weight: about 320g (including 9V battery);
- Annex: a manual, a certificate, one of the outer box, a pair of test pencil, K-type thermocouple TP01 and 9V (NEDA1604 / 6F22 or equivalent models).

Technical characteristics

- Accuracy (reading data of a%+ least significant digits), guaranteed accuracy environment temperature: (23±5)°C.Relative humidity <75%.calibration guarantee period from the date of manufacture for one year.

- Performance:

DC Voltage	6000 counts
AC Voltage	▲
A/DC Current uA/mA	▲
A/DC Current 10A	▲
Resistors,diodes,on and off	▲
Capacitors	▲
Frequency	▲
Temperature	▲
Auto-off	▲
Back light display	▲

Unit symbol display	▲
RMS value testing	▲

DC voltage(DCV)

Range	Resolution	Accuracy
6V	0.001V	±(0.5%+3)
60V	0.01V	
600V	0.1V	
1000V	1V	

Input impedance:10MΩ Overload protection:200mVrange is 550V DC or AC peak;
The rest is 1000V DC or 750V AC peak.

AC voltage RMS (ACV)

Range	Resolution	Accuracy
6V	0.001V	±(0.8%+3)
60V	0.01V	
600V	0.1V	
750V	1V	

Input impedance: 10MΩ

Standard sine wave and triangular wave frequency response:40Hz~1kHz;

Other waveform frequency response: 40Hz~200Hz

DC current(DCA)

Range	Resolution	Accuracy
600μA	0.1μA	±(0.8%+10)
6000μA	1μA	
60mA	0.01mA	
600mA	0.1mA	
10A	0.01A	±(2.0%+30)

Maximum measurement pressure drop: 600mV;

Maximum input current of 10A;

Overload protection: 600mA:600mA/250V glass instant fuse, 10A / 250V ceramic instant fuse (10A continuous measurement <10 seconds)

AC current(DCA)

Range	Resolution	Accuracy
600μA	0.1μA	±(0.8%+10)
6000μA	1μA	
60mA	0.01mA	
600mA	0.1mA	
10A	0.01A	±(2.0%+30)

Maximum measurement pressure drop: 600mV;

Maximum input current of 10A;

Overload protection:600mA:600mA/250V glass instant fuse, 10A / 250V ceramic instant fuse (10A continuous measurement <10 seconds);

Frequency response: sine wave and triangular wave for the 40Hz-1KHz, other waveform 40Hz-200Hz;

Show: True RMS;

Resistance

Range	Resolution	Accuracy
600Ω	0.1Ω	±(0.8%+5)
6KΩ	0.001KΩ	
60KΩ	0.01KΩ	
600KΩ	0.1KΩ	
6MΩ	0.001MΩ	±(0.8%+3)
60MΩ	0.01MΩ	

Open circuit voltage:below 3V;

Overload protection:550VDC or AC peak value;

Notices:

- When you use the range of 200Ω, you should short the testing pencil at first, you will got the wire resistor, then subtract the value in the real testing;
- When you test the resistor over 1MΩ, it is normal that the reading value will display slowly, you should read the value after the value is steady.

Capacitor

Range	Resolution	Accuracy
60nF	0.01nF	±(3.5%+20)
600nF	0.1nF	
6μF	0.001μF	
60μF	0.01μF	
600μF	0.1μF	±(5.0%+10)
6000μF	1μF	

Overload protection:550V DC or AC peak value.

Frequency

Range	Resolution	Accuracy
10Hz	0.01Hz	±(0.1%+3)
100Hz	0.1Hz	
1KHz	0.001KHz	
10KHz	0.01KHz	
100KHz	0.1KHz	
1MHz	0.001MHz	
20MHz	0.01MHz	

Input sensitivity:1.5V RMS;

Overload protection:550V DC or AC peak value (not over 10second).

Temperature

Range	Accuracy	Resolution
(-20~1000) °C	±(1.0%+5)<400 °C ±(1.5%+15)≥400 °C	1°C
(0~1832) °F	±(0.75%+5)<750 °F ±(1.5%+15)≥750 °F	1°F

Diode on and off testing

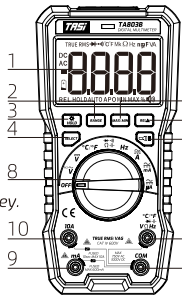
Range	Display value	Test Conditions
➔ ·))) Ω · +	Diode forward voltage drop	Forward DC current about 1mA Open circuit voltage about 3V
	The buzzer long sounds Test the resistance of two points less than (50±20)Ω	Open circuit voltage about 3V

Overload protection:550V DC or AC peak value;

Warning:For safety reason, please do not input a voltage value!

Use Method
operation panel

- 1.LCD display.
2. Range converter.
3. Keep reading value.Long press 3seconds to convert to backlight model.
4. Function selection key.
5. Max/Min.
6. REL relative testing value key.
7. Flashlight.
8. Function converting button.
9. "mA""+ "input hole.
- 10."10A""+ "input hole.
- 11.COM input point, negative input point, input hole.
12. Voltage, resistance, diode, capacitor, frequency, temperature,"+ "input hole.



DC voltage measurement

- Insert the black test lead into the "COM" jack and the red test lead into the "V/Ω/Hz"jack of;
- Turn the range switch to king" $\overline{V}$ ";
- The test meter pen can be selected to touch the test point, the screen shows the measured voltage value, for the red pen connect the voltage polarity of the point.

Notice:

- Do not exceed the input voltage of DC1000V or AC750V, otherwise there exist the risk of damage to the instrument circuit;
- When measuring high voltage circuit, pay special attention to avoid electric shock;
- After completing all the measurement operations, disconnect the test leads from the circuit under test.

AC voltage measurement

- Insert the black test lead into the "COM" jack and insert the red pen into the "V/Ω/Hz"jack of;
- Turn the range switch to " $\overline{V}$ ";

Notice:

- There are some residual numbers in each range before the test, but does not affect the measurement accuracy;
- The input voltage should not exceed 750Vrms,otherwise there may exist the risk of damage to the instrument circuit;
- After completing all the measurement operations, disconnect the test leads from the circuit under test.

DC current measurement

- Insert the black test lead into the "COM" jack and insert the red test lead into the "mA" or "uA" jack (up to 20mA), or the red test lead Insert "10A" (maximum 10A); the current default is the DC current, "SELECT" for the AC and DC current conversion key;

- Turn the range switch to the corresponding current range, and then string the meter into the circuit to be tested. The current value of the measured current and the current polarity of the red pen will be displayed on the screen at the same time.

Notice:

- Before the instrument is connected in series to the circuit to be tested, turn off the power in the circuit.
- If there is no concept of the measured current range in advance. The range switch should be transferred to the highest gear, and then according to the display value to the corresponding file: If the screen was "OL", indicating that the range has been exceeded, the range switch should be transferred to the corresponding gear position;
- The maximum input current of 200mA or 10A (depending on the red pen insertion position may be), too much current will damage the mA fuse file, pls pay attention while measure 10A, each measurement time shall not be longer than 10 seconds, too much current will make the circuit heat, or even damage the instrument;
- When the test leads are inserted in the current input port, do not put the test leads in parallel to any circuit, otherwise will damage the fuses and instruments;
- After the completion of all the measurement operations, you should first turn off the power and then disconnect the test pen and test circuit, the measurement of high current is more important;
- Do not input larger than 36V DC, 2 5V AC voltage between the current jack and the "COM" jack.

AC current measurement

- Insert the black test lead into the "COM" jack and insert the red test lead into the "mA" or "uA" jack (max. 200mA) or the red pen into "10A" (up to 10A); the current default is DC current, "SELECT" for the AC current conversion key;

- Turn the range switch to the corresponding current range, and then string the instrument into the test circuit, the measured current value and the red table pen point. The current polarity will be displayed on the screen at the same time.

Notice:

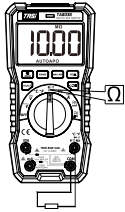
- Before the instrument is connected in series to the circuit to be tested, turn off the power in the circuit;
- If there is no concept of the measured current range in advance. The range switch should be transferred to the highest gear, and then according to the display value to the corresponding file: If the screen was "OL", indicating that the range has been exceeded, the range switch should be transferred to the corresponding gear position;
- The maximum input current of 200mA or 10A (depending on the red pen insertion position may be), too much current will damage the mA fuse file, pls pay attention while measure 10A, each measurement time shall not be longer than 10 seconds, too much current will make the circuit heat, or even damage the instrument;
- When the test leads are inserted in the current input port, do not put the test leads in parallel to any circuit, otherwise will damage the fuses and instruments;
- After the completion of all the measurement operations, you should first turn off the power and then disconnect the test pen and test circuit, the measurement of high current is more important;
- Do not input larger than 36V DC, 2 5V AC voltage between the current jack and the "COM" jack.

Measuring Resistance

- Turn the rotary switch to "Ω" to ensure that the power circuit to be tested is cut off;
- Connect the red test leads to the VR port and connect the black test leads to the COM terminals as shown;
- Touch the probe to the desired circuit test point and measure the resistance;
- Read the resistance on the display. Continuity test.

To test continuity

After selecting the resistive mode, press SELECT to enter the buzzer and the buzzer will sound continuously when the measured resistance is less than 50Ω.



Capacitance Measurement

- Insert the black test lead into the "COM" jack and insert the red pen into the "V/Ω/Hz" jack of;
- Turn the dial to gear Ω, trigger "Select " button, Select the automatic measurement of the capacitor;
- Then test the test leads across the measured capacitance at both ends.

Notice:

- When measuring capacitance with 20nF, the screen display value may have residual reading. This number is the distributed capacitance of the test pen..In order to measure precisely, it can be used to subtract the value after the measurement;
- Large capacitance measurement with serious leakage or breakdown of the capacitor, it will show some numerical and unstable; measurement of large capacitors, the reading takes a few seconds to stabilize, which during measured large capacitor is normal;
- Before test capacitor capacity, the capacitor should be fully discharged to prevent damage to the fuse and the instrument;

- Unit: 1F=1000mF 1mF=1000 uF 1uF=1000nF 1nF=1000pF.

Diodes and on-off test

- Insert the black test lead into the "COM" jack and insert the red pen into "V/Ω/Hz"the jack of (note that the red pen has a polarity of "+");
- Set the range switch to "Ω" to trigger the "SELECT" key, select the diode measurement, and connect the test leads to the diode to be tested. The reading is an approximation of the forward voltage drop of the diode. For silicon PN junctions, 500mV ~ 80mm confirmed as normal: If the measured diode open or reverse polarity, then display "OL";
- Trigger "SELECT" key, select the buzzer measurement, connect the test leads to the two points of the line to be measured. If the built-in buzzer sounds and the on-off alarm indicator is on, the resistance between the two points is less than about (50±20)Ω.

Note :

- Do not enter the voltage in the "Ω" gear, in case of damage the instrument.

Frequency Measurement

- Insert the test leads or shielded cable into the "COM" and "V / Ω / Hz" jacks; dial to "Hz";
- Turn the range switch to the frequency range, and connect the test leads or cables across the signal source or load under test.

Note:

- when the input exceeds 10V rms, you can read, but may be weak;
- In noisy environment, it is better to use shielded cable when measuring small signal;
- In the measurement of high voltage circuit, with particular attention to avoid electric shock;
- Do not input more than 250V DC or AC peak voltage, so as not to damage the instrument.

Data hold / on and off of backlight

Press "HOLD" key for data retention, keep press"HOLD"for 3 seconds, backlight is on.
And press 3 seconds again, backlight will be off, 15 seconds after the backlight will auto close.

Automatic Startup & Shutdown

When the instrument stops using for about 15 minutes, the meter will automatically power off to enter the sleep state; To restart the power, dial to the OFF position, turn the knob to other gears. Hold down the "SELECT" button, and turn on the power switch at the same time, the screen "APO" symbol disappears, will cancel the automatic shutdown function.

Troubleshooting

If your instrument does not work, the following method can help you solve the general problem, if the fault still can not be excluded, please contact the service center or dealer.

Failure phenomenon	Check the location and methods
Not shown	Battery not connected Replace the battery
Symbol exits	Replace the battery
Current is not input	Replace fuse
Display error	Replace the battery

Once this manual is being changed without notice.

These contents of this manual included are considered to be correct, if the user found errors, omissions, etc., please contact the manufacturer directly;
The company does not undertake due to user error operation and the harm caused by the accident;
The functions described in this manual are not intended to reasons of the product for special purposes.

Instrument maintenance

The series of instruments is a accurate instrument, the user should not arbitrarily change the circuit.

- Please pay attention to waterproof and dustproof;
- Should not be in the high temperature and high humidity flammable and explosive environments and strong magnetic field to store and use the instrument;
- Please use a wet cloth and mild detergent to clean the appearance of the instrument, do not use abrasive or other strong solvents like alcohol and so on;
- If you do not use for a long time, you should remove the battery to prevent leakage of the battery corrosion instrument.

Note the battery usage, when the screen shows the "APO" symbol, you should replace the battery, the steps are as follows:

- Unscrew the screws that fixed the battery cover and eject the battery cover;
- Remove the battery and replace it with a new one. Although any standard battery can be used, it is best to use alkaline batteries for extended use;
- Attach the battery cover and tighten the screws;
- Fuse replacement, when replacing the fuse, use the same type of fuse.

TASI

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Product: DIGITAL MULTIMETER

Model: TA803B

Date: 29/12/2023

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