EAGLOTEST

S460+
MICROHMMETER



USER MANUAL

CATALOG

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SECTION 1

Safety Warnings

Thank you for purchasing our company's Micro-ohmmeter S460+.

— Please carefully read the user manual before using the instrument.Do not operate this equipment unless users are completely familiar with the user manual and the instrument.

— Strictly abide by the safety rules and precautions listed in this manual.

- This instrument is designed, manufactured, and tested in accordance with IEC 61010 safety standards.
- Under any circumstances, pay attention to safety when using this instrument.
- Pay attention to the text and icons on the panel and back panel of the instrument.
- The instrument is equipped with over-voltage protection, direct measurement of conductors connected to mains power should be avoided whenever possible.
- Before use, make sure the instrument and accessories are in good condition, and there is no damage, exposure or disconnection of the instrument and the insulation layer of the test leads. Please stop using the instrument when the housing or test leads are exposed due to breakage.During measurement, do not touch exposed conductors or the circuit being measured.
- **If the test specimen is a transformer or Induct-or, the test specimen must be discharged manually after the test is completed, and the test**

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wire must be removed after the discharge is completed, otherwise an arc discharge may occur!

- Make sure that the connecting plugs of the wires are tightly inserted into the instrument connector.
- It is prohibited to test in flammable and hazardous locations.
- Do not use the instrument in hazardous atmospheres with high temperatures and humidity. Do not store it under direct sunlight or in condensed fields.
- If the instrument is damp, dry it before storing.
- Low battery voltage symbol displayed, please charge promptly, approximately 3 hours per charge.
- l If the tester is not used for a long period of time, please recharge the battery once every three months.
- Only authorized personnel can disassemble, repair the instrument, and conduct regular maintenance.
- Stop using the instrument immediately in case of any danger will be caused by continuing to use it. Please securely pack the equipment and send it to an authorized organization for disposal.
- The user must follow the instructions and dangerous warnings to perform a safe operation. The icon is an extremely dangerous warning.

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Introduction

S460+ Micro-ohmmeter is a high-precision portable micro-ohmmeter and suitable for use in a wide range of applications.

Application:

The resistance of the connecting conductor between electrical equipment and the earth grid electrode;
Contact resistance of circuit breakers, switches, and socket contacts;
Resistors for current dividers, metal riveted resistors for vehicles, ships and aircraft;
Resistance of electric welded joints;
Battery parallel connection resistor;
Resistance of bus bar and conductor joints in distribution boards;

Feature:

- High Resolution:0.01mΩ
- Adopt Precision four-wire method
- Current range : ≤ 2A
- Standard resistor to conduct accuracy test
- Alarm function, alarm threshold setting range: 0.1 mΩ to 100.0 kΩ
- Wire Length Test Function.

Model	Max Current	Remark
S460+	2A	/

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SECTION 3

Technical Specification

Function	The resistance of the connecting conductor between electrical equipment and the earth grid electrode;Contact resistance of circuit breakers, switches, and socket contacts;Resistors for current dividers, metal riveted resistors for vehicles, ships and aircraft;Resistance of electric welded joints;Battery parallel connection resistor;Resistance of bus bar and conductor joints in distribution boards;
Power	DC 7.4V 3Ah rechargeable lithium-ion battery, capable of performing approximately 300 measurements when fully charged
Test Current	≤ 2A
Testing Method	Precision four-wire method
Display Mode	3.5-inch true colour LCD display
Measurement Range	0.01mΩ to 100kΩ
Resolution	0.01mΩ
Accuracy	0.01mΩ to 10.0Ω: ±2% ±5dgt
	10.0Ω to 100kΩ: ±1.5% ±5dgt
Wire Length Test	L: ≤100km

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SECTION 3

Standard Wire Length	Standard sample wire length setting range: 1m to 99m
Test Interface	I+: positive current, I-: negative current, V+: positive voltage, V-: negative voltage
Test Time	Approximately 3 seconds per measurement for standard resistors (for transformers, measurement continues until stability is achieved)
Automatic Shutdown	Approximately 15 minutes after inactivity
Data Storage	900 groups (data is not lost due to power failure or battery replacement)
Alarm Settings	Alarm threshold setting range: 0.1 mΩ to 100.0 kΩ. A threshold value of 0 disables the alarm function. The alarm function does not activate upon each startup.
Alarm Indication	When the test value exceeds the alarm set value, a long beep sound (“beep-----”) will sound as an alarm prompt.
Data Hold	Press the HOLD key to hold the data and store it.
Test Leads	Approx. 5m long, 1 red and 1 black, total 2 leads.
Instrument Dimensions	207mm × 101mm × 45mm
Total Weight	Approx. 3.4kg (including packaging and test leads)
Line Voltage	Should Avoid

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Overflow Display	Over-range overflow function: 'OL' symbol displayed
Low voltage Indication	When the battery voltage drops to approximately 6.8V, the low battery voltage symbol is displayed, prompting timely charging.
Operating Temperature and Humidity	-10°C to 40°C; below 80% RH
Storage Temperature and Humidity	-10°C to 60°C; below 70% RH
Charging Interface	Yes, USB charging interface
Withstand Voltage	AC 3700V/rms (between the front and rear ends of the housing)
Safety Standard	IEC 61010-1, CAT III 600V, Pollution Grade 2, JJG 724-1991 'Calibration Regulations for DC Digital Ohmmeter', JJG 166-1993 'Calibration Regulations for DC Resistors', DL/T 967-2005 'Calibration Regulations for Loop Resistance Testers and DC Resistance Rapid Testers'

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SECTION 4

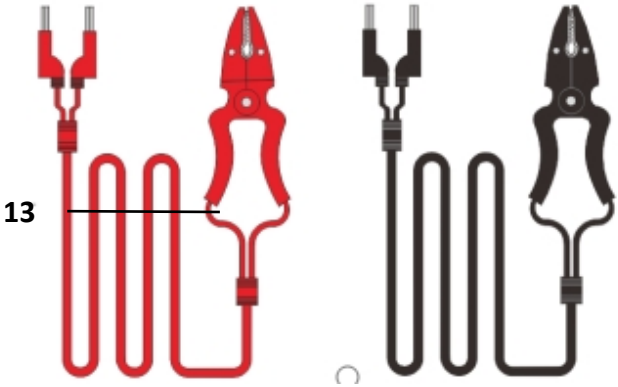
Structure



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SECTION 4



1. Charging and communication interface
2. Product model label position
3. LCD
4. Power button
5. R button (resistance measurement)
6. I+ (current positive terminal)
7. I- (voltage positive terminal)
8. Hold button
9. Length button (measure wire length)
10. Arrow keys and Menu button
11. I- (current negative terminal)
12. V- (Voltage Negative Terminal)
13. Test leads

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SECTION 5

Operation

5.1 Basic operation

Press the **POWER key** to turn on the instrument. After power-on, the LCD display will appear. If no press buttons for approximately 15 minutes, the LCD will flash, indicating that the instrument will automatically shut down. At this point, pressing any button will allow the instrument to continue operating.

Press the **R key** to switch to resistance measurement mode, then press the **MENU key** to start measurement.

When the instrument temperature is too high, an overheat icon will appear . It is recommended to wait until the overheat icon disappears before continuing measurement, otherwise measurement errors may occur.

If the instrument detects external voltage, a lightning icon will appear and a warning sound (beep-beep-beep) will be emitted. Do not continue measurement at this time to avoid damaging the instrument.

In the **Resistance Measurement** interface, press the **HOLD key** to lock and store data. When data is locked, the “HOLD” symbol is displayed, and the instrument automatically numbers and stores the data, with a capacity to store 900 sets of data.

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Press the **LENGTH key** to switch to the **Wire Length Measurement** function: in the **Set Sampling Line** Length **interface**, press the “” or“” buttons to set the wire length; press the “” or“” buttons to select Set Sampling Line Length, Measure Sampling Resistance, or Measure Total Line Resistance

Press and hold the **MENU key** to enter the menu.Press the “” ,“”,“”,“” buttons to move the cursor to Warning Settings,Brightness, Data Query, or Data Delete, then press the **MENU key** to enter the corresponding function.

In the **Warning Settings** interface, use the “” ,“” keys to move the cursor, and the “”,“” keys to change the value. Press the **MENU key** to save and exit.

In the **Brightness** interface, press the “” ,“” keys to adjust the brightness, then press the **MENU key** to save and exit.

In the **Data Query** interface, press the “”,“” keys to view the previous or next page of data, press the “” ,“”t keys to quickly scroll through the data, then press the **MENU key** to exit.

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In the **Data Deletion** interface, press the“ ” ,“ ” keys to move the cursor to Cancel Deletion or Confirm Deletion, then press the **MENU key** to confirm the operation and exit.

5.2 Test

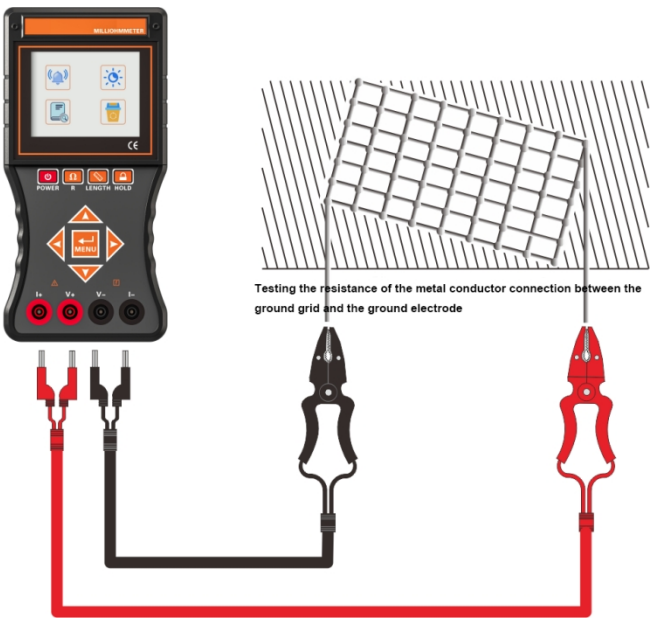
	Remove the insulating layer and oxide layer from the surface of the object being tested before testing.
	Avoid direct measurement of conductors connected to mains power.
	Ensure that the test leads are securely connected to the tester and the object being tested.
	Do not shake the line clamps during testing.
	If the displayed value decreases after multiple tests on the same point, it may be due to component heating causing a decrease in line resistance. Please pause for a moment and then test again.
	If the testing instrument displays the “OL” symbol during testing, it indicates that the potential difference between the two test points exceeds the measurement range. Check the contact condition of the test leads; there may be an open circuit between the two test points.

Equipotential (resistance) Test:

First, connect the test leads to the conductor under test . Ensure that the connections are not mixed up. Insert the red banana plug into the I+ and V+

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ports of the instrument, and clamp the jaws of the clamp to one end of the conductor under test. Insert the black banana plug into the I- and V- ports of the instrument, with the clamp end clamped to the other end of the conductor being tested. After confirming that the connections are complete, press the **MENU key** on the resistance measurement interface to start the measurement.



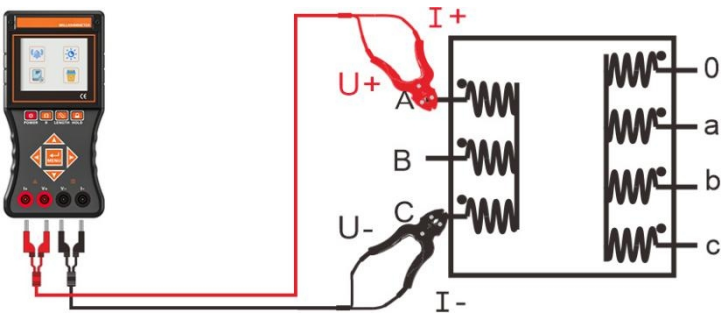
Inductance Test:

Insert the red banana plug into the I+ and V+ ports of the meter, and clip the clamp end to the A terminal of the transformer. Insert the black banana plug into the I- and V- ports of the meter, and clip the clamp end to the C terminal of

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the transformer. After confirming that the connections are complete, press the **MENU key** on the resistance measurement interface to start the measurement.



Note	When testing the resistance of inductive coils, such as transformer winding, since the instrument does not have a discharge function, the user must first use an appropriate instrument to discharge the tested inductance after the test is complete. After discharge is complete, remove the line clamp.
	Before testing, wear insulated gloves and other protective equipment to prevent electric shock.

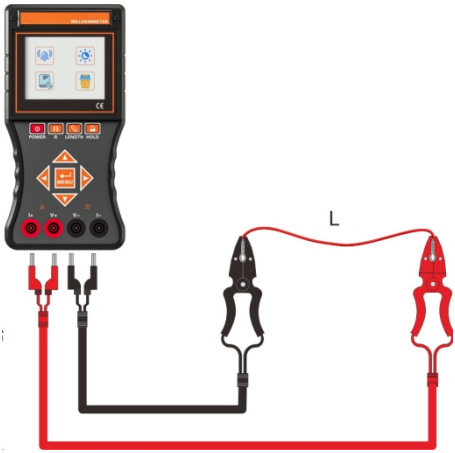
Wire Length Test:

The wire length test is completed in three steps. Set the sample wire length. the recommended length is generally 5 meters. Measure the sample resistance. Cut a certain length of sample wire from the wire to be tested and measure the

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sample resistance. Measure the total resistance of the wire and the instrument will automatically calculate the length of the wire to be tested.





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SECTION 6

Battery Management

	Charge the battery promptly. If the instrument is not used for an extended period, charge the battery once every three months.
	Warning! Do not perform tests with the battery cover open, as this may be dangerous.
	When replacing the battery, ensure the polarity is correct to avoid damaging the instrument.

- When the low battery symbol appears, please charge the battery promptly. The charging time is approximately 3 hours.
- If replacing the battery, first ensure the instrument is turned off. Loosen the screws on the battery cover, open the cover, install the new battery, ensuring the battery specifications and polarity are correct, then close the cover and tighten the screws.
- Press the **POWER** button to check if the instrument can start normally. If it cannot start, please follow step 2 again.
- If the user is unable to replace the battery, please contact the manufacturer.

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Packing List

Instrument	1
Instrument box	1
8.4V 1A charger	1
USB communication cable	1
Test cable/cable clamp	2 (5 meters, 1 red and 1 black)
User manual, warranty card, certificate of conformity	1

Note:

- We are not responsible for other damages caused by the use of this product.
- The contents of this user manual do not justify the use of the product for special purpose.
- The Company reserves the right to modify the contents of the user manual. In the case of modification, no further notice will be given.

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