SEW

4338 mO

DIGITAL MILLIOHM METER AND RESISTANCE TESTER

INSTRUCTION MANUAL

INDEX PAGE

1. INTRODUCTION

NOTE

This meter has been designed and tested According to CE Safety Requirements for Electronic Measuring Apparatus, IEC / EN 61010-1 and other safety standards. Follow all warnings to ensure safe operation.

WARNING

READ "SAFETY NOTES" (NEXT PAGE) BEFORE USING THE METER.

CAT IV - Is for measurements performed at the source of the low voltage installation.

CAT III - Is for measurements performed in the building installation.

CAT II - Is for measurement performed on circuits directly connected to the low voltage installation.

2. SAFETY NOTES

- Read the following safety information carefully Before attempting to operate or service the meter.
- Use the meter only as specified in this manual. Otherwise, the protection provided by the meter may be impaired.
- Rated environmental conditions :
  (1) Indoor Use.
  (2) Installation Category IV.
  (3) Pollution Degree 2.
  (4) Altitude up to 2000 meters.
  (5) Relative humidity 80% max.
  (6) Ambient temperature 0~40°C.
- Observe the International Electrical Symbols listed below :


Meter is protected throughout by double insulation or reinforced insulation.


Warning ! Risk of electric shock.


Caution ! Refer to this manual before using the meter.

3. FEATURES

- Four terminal measurement for mΩ.
- 4-wire method testing(mΩ): 1100.0mΩ / 11000mΩ.
- 2-wire method resistance testing: 110.00Ω / 1.1000kΩ / 11.000kΩ / 110.00kΩ / 1.1000MΩ / 11.000MΩ / 110.0MΩ.(auto ranging)
- Maximum resolution of 0.1mΩ.
- Large LCD (68×34mm).
- Relative mode / Auto-zero mode.
- Data hold function.
- MAX/MIN function.
- Power source: 1.5V "C" battery × 8
- Long battery life and stable power.
- Low battery indication.
- Lightweight, robust & compact.
- "O-Ring" sealed case.
- Safety Standard :
  EN 61010-1 CAT IV 20V
  EN 61326-1

4. SPECIFICATIONS

mΩ measurement (4-wire method)

Measuring ranges (mΩ)	0~1100.0mΩ in steps of 100uΩ 0~11000mΩ in steps of 1mΩ
Accuracy	±0.8% of reading ±4 digits over the operating temperature range 0°C ~ 40°C, with the supplied test leads

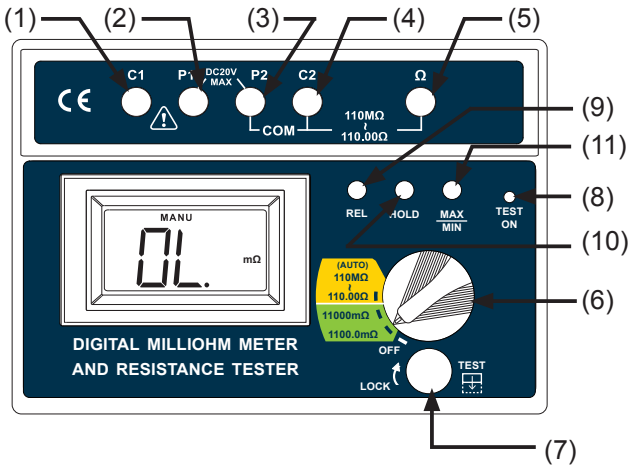
Resistance measurement (Auto-ranging 2-wire method)

Range	Resolution	Accuracy
110.00Ω	0.01Ω	0~2MΩ: ±(1.2%rdg+3dgt) 2~40MΩ: ±(2.0%rdg+4dgt) 40~110MΩ: ±(8.0%rdg+4dgt)
1.1000kΩ	0.1Ω	
11.000kΩ	1Ω	
110.00kΩ	10Ω	
1.1000MΩ	100Ω	
11.000MΩ	1KΩ	
110.0MΩ	100KΩ	

5. GENERAL

- **Protection fuse:**
  200mA/250V × 1
- **Dimensions :**
  250(L) × 190(W) ×126(D)mm
- **Weight :**
  Approx. 1848g (battey included)
- **Power source :**
  1.5V "C" battery × 8
- **Low Battery Indication :**
  " B " sign appears on the display when the battery voltage drops below accurate operating level.
- **Accessories :**
  Instruction Manual
  Test leads
  Shoulder belt
  Batteries

6. INSTRUMENT LAYOUT



● Test Leads

● Special Resistance Test Lead
(Specialized for 2-wire resistance testing)

(1) C1 Termianl
(2) P1 Termianl
(3) P2 Termianl
(4) C2 Termianl
(5) Ω Terminal
(6) Function Rotary Switch
(7) TEST Button
(8) TEST ON LED
(9) REL Button
(10) HOLD Button
(11) MAX/MIN Button

(1) C1 Termianl

This is the C1 terminal which is used for mΩ measurement, for 1100.0mΩ and 11000mΩ (4-wire testing).

(2) P1 Termianl

This is the P1 terminal which is used for mΩ measurement, for 1100.0mΩ and 11000mΩ (4-wire testing).

(3) P2 Termianl

This is the P2 terminal which is used for mΩ measurement, for 1100.0mΩ and 11000mΩ (4-wire testing).
This terminal is also the COM terminal for resistance measurement, for 110.00Ω~110MΩ (2-wire testing).

(4) C2 Termianl

This is the P2 terminal which is used for mΩ measurement, for 1100.0mΩ and 11000mΩ (4-wire testing).

This terminal is also the COM terminal for resistance measurement, for 110.00Ω~110MΩ (2-wire testing).

(5) Ω Terminal

This is the positive input termial for resistance measurement, for 110.00Ω~110MΩ(2-wire testing).

(6) Function Rotary Switch

The function rotary switch is for selecting different functions.

(7) TEST Button

The TEST Button is only available for mΩ measurement, which includes 1100.0mΩ and 11000mΩ. Press and turn the TEST button for continuously testing. Remember to release the TEST Button after the testing.

(8) TEST ON LED

When press the TEST button, the TEST ON LED glows. When release the TEST button, the TEST ON LED disappears.

(9) REL Button

In REL mode, the LCD displays D_{N+K}-D_N, where D_N=1,2,3,..., D_N is the last value before REL is pushed, and D_{N+K} is the current value. If REL is pushed again in REL mode, the meter displays the reference value. The meter returns to normal operation if REL is pressed and held for longer than one second. Pressing HOLD in REL mode makes the meter stop updating the reading on the LCD.

(10) HOLD Button

HOLD mode makes the meter stop updating the reading on the LCD. Enabling HOLD function in automatic mode makes the meter switch to manual mode, but the full-scale range remains the same. HOLD function can be cancelled by changing the measurement mode, or push HOLD again.

(11) MAX/MIX Button

The meter displays the maximum or minimum value of the input in MAX/MIN mode.
When MAX/MIN is pressed for the first time, the meter displays the maximum value.
When MAX/MIN is pressed again, the meter displays the minimum value.
When MAX/MIN is pressed for the third time, the meter displays current value. The meter returns

to normal operation if MAX/MIN is pressed and held for longer than one second. Pressing HOLD in MAX/MIN mode makes the meter stop updating the maximum or the minimum value.

7. MEASUREMENT

mΩ MEASUREMENT(4-wire method).

Use C1, P1, P2, C2 four terminals for 4-wire mΩ measurement.

Connect green, red, blue, black test leads to C1, P1, P2, C2 4 terminals.

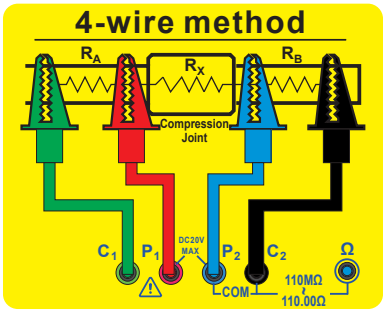
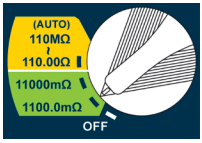


Fig 1

Connect the test leads to the object or device for measuring mΩ as Fig 1.
Turn the rotary switch to the position of 1100.0mΩ or 11000mΩ. Press the TEST button to do the measurement, and get the mΩ reading on the LCD.

When press the TEST button, the TEST ON LED will glow red.



Please remember to release the TEST button after mΩ testing, the TEST ON LED will disappear.

It's necessary to release the TEST button after testing.

RESISTANCE MEASUREMENT(2-wire method).

Use P2, C2, Ω three terminals for 2-wire resistance measurement.

★ **The first step is to connect the special resistance test lead to P2 and C2 terminals before turning the rotary switch to the position of 110.00Ω~110MΩ.**

Connect the special resistance test lead to P2 and C2 terminals as Fig 2, connect the red test lead to Ω terminal as Fig 2.

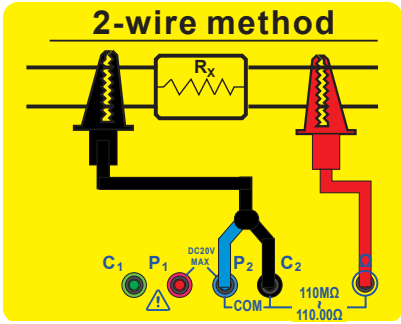
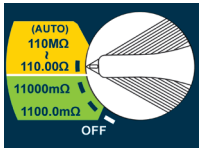


Fig 2

Connect the special resistance test lead and the red test lead to the object or device for measuring resistance (110.00Ω/1.1000kΩ/11.000kΩ/110.00kΩ/1.1000MΩ/11.000MΩ/110.0MΩ auto ranging).
Turn the rotary switch to the position of 110.00Ω~110MΩ(yellow area), then get the resistance reading on the LCD.



It's not allowed to press the TEST button when the rotary switch is at the position of 110.00Ω~110MΩ(yellow area).
It's not allowed to press the TEST button when do the 2-wire method resistance measurement.

8. MAINTENANCE

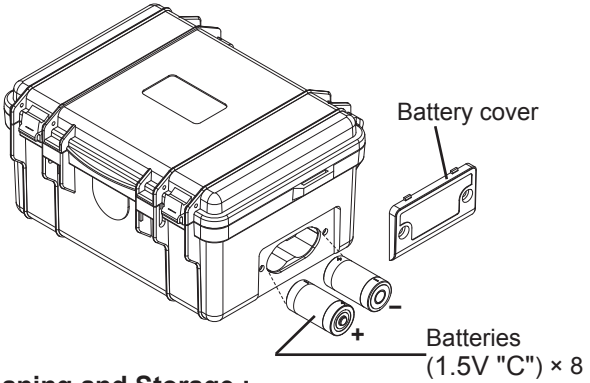
Battery replacement :

When low battery warning symbol " B "appears, change new batteries as follows :

(1) Disconnect the test leads from the instrument and turn off the power.

(2) Unscrew the battery cover and replace with new batteries(1.5V "C" battery × 8).

(3) Re-install the battery cover.



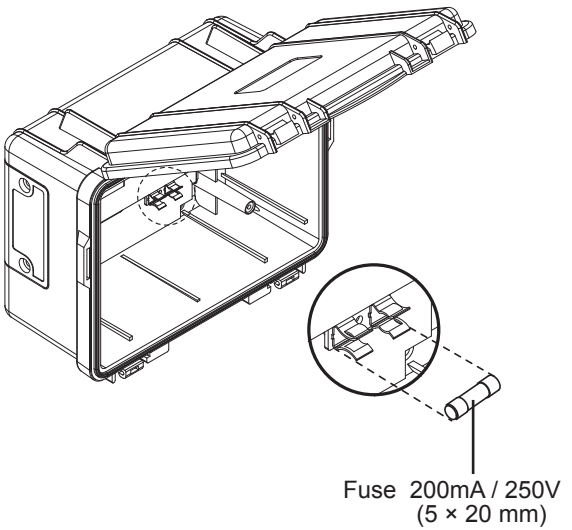
Cleaning and Storage :

> **⚠ WARNING**
> To avoid electrical shock or damage to the meter, do not get water inside the case.

Periodically wipe the case with a damp cloth and detergent. Do not use abrasives or solvents.
If the meter is not used for over 60 days, remove the batteries for storage.

9. FUSE REPLACEMENT

Open the meter case, replace with a new fuse which has the same specification 200mA/250V, 5×20mm.



Due to our policy of constant improvement and development, we reserve the right to change specifications without notice.