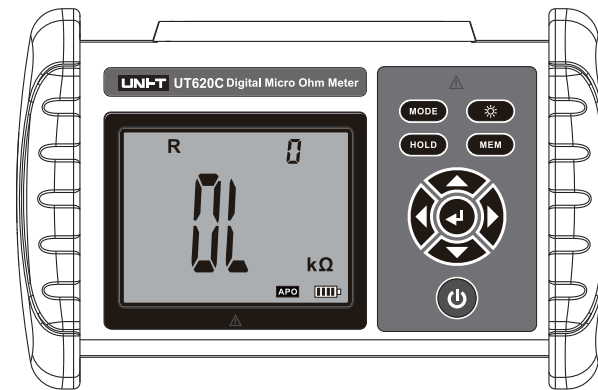


# UNI-T®



## UT620C

### Operating Manual

## Digital Micro Ohm Meter

# UNI-T®

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## I. Safety Information

Thank you for purchasing the product, for better use, please read the user manual carefully and follow the safety information below.

- ◆ Pay special attention to safety when using the product.
- ◆ Do not measure any live object. Make sure that the resistor or metal object to be measured is de-energized before measurement, otherwise, it may damage the product.
- ◆ When low battery symbol appears, please charge the product in time (the charging time is 5~8 hours).
- ◆ Please charge the battery once a month or two months if the product is not used for a long time.
- ◆ Please stop use immediately in case test lead is broken during use.
- ◆ Do not place or store the product in environments with high temperature, high humidity, dews, and direct sunlight for a long time.
- ◆ Perform regular maintenance, keep product and test leads clean. Avoid drop or impact.
- ◆ Use, dismantling or repair shall be performed by authorized professional.
- ◆ If danger caused by the product occurs, please stop use and seal the product immediately, and send it to authorized center for maintenance.
- ◆ The symbol " " affixed at product and shown in user manual indicates user must operate according to the instruction.

## II. Overview

**Digital Micro Ohm Meter** (also known as Micro Ohm Meter, Ohm Meter, and DC Resistance Tester) adopts micro-processor technology and 4-wire testing method to make measurement safe, accurate and reliable.

The meter is mainly applied to measure resistance of conductor, contact resistance of switch, connector and relay, resistance and contact resistance of coil, motor and transformer winding.

It can also test connection resistance and low resistance between metal parts, resistance and contact resistance of connecting conductors between grounding electrode of ground grid.

The product consists of meter, monitoring software, test leads, communication cable, etc. Featuring a large LCD, the tester enables user to view the data easily. It can store 500 groups of data. The measured resistance ranges from 0.001m to 300.0k . The software of master computer has multiple functions including data viewing, data accessing, data storage, report generation, etc.

### III. Range and Accuracy

Model	Range	Accuracy	Resolution	Max. Testing Current
UT620C	0.001m ~10.000m	$\pm 0.1\%FS \pm 20\text{dgt}$ (18°C~28°C; <70%rh)	0.001m	1.2A
	10.01m ~100.00m		0.01m	1.2A
	100.1m ~1000.0m		0.1	1.2A
	1.001 ~10.000		0.001	1.2A
	10.01 ~100.00		0.01	0.5A
	100.1 ~1000.0		0.1	0.05A
	1.001K ~10.000K		0.001K	5mA
	10.01K ~100.00K		0.01K	0.5mA
	100.1K ~300.0K		0.1K	0.05mA

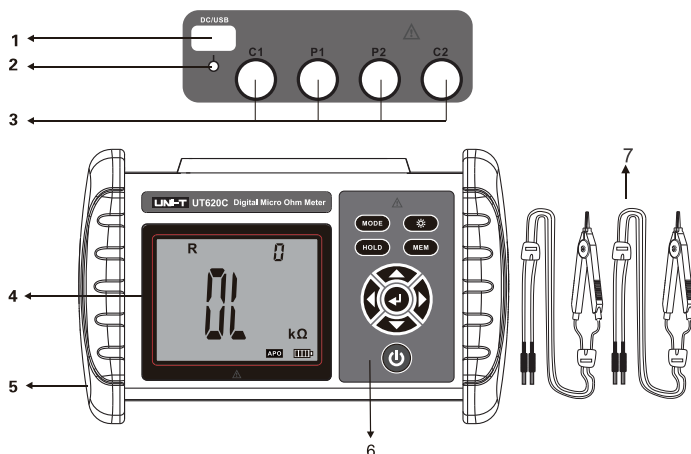
Note:  $\pm 0.2\%FS \pm 20\text{dgt}$  (18°C~28°C; >70%rh / -10°C~50°C; <80%rh)

### IV. Technical Specifications

Function	The meter is mainly applied to measure resistance of conductor, contact resistance of switch, connector and relay, resistance and contact resistance of coil, motor and transformer winding. It can also test connection resistance and low resistance between metal parts, resistance and contact resistance of connecting conductors between grounding electrode of ground grid.
Testing method	4-wire method
Testing current	1A
Open-circuit voltage	4.2V
Power	8W
Power supply	DC 3.7V 2000mAh lithium battery
Backlight	Controllable backlight on off-white screen (applicable to use in dark environments)
Display mode	LCD display; backlight on off-white screen
LCD size	71mm*52mm (L*W)
Product dimensions	187mm*191mm*51mm (L*W*H)
Length of test lead	About 70cm (red test lead: 1pc; black test lead: 1pc)
Measurement time	About 2 times per second
USB port	Micro USB port

Communication cable	Micro USB cable (1pc)
Data storage	Store 500 groups of data. "MEM" to indicate storage; "FULL" to indicate full storage.
Data viewing	Symbol "MR" appears
Overrange indication	Symbol "OL" appears
Battery voltage	Battery voltage is displayed in real time. Please charge the battery in time if the meter indicates low battery.
Auto power off	"APO" to indicate auto power off. The meter powers off automatically after 15 minutes of inactivity.
Power consumption	Standby: About 100mA (with backlight off)
	Backlight: About 105mA
	Measuring: 2A Max.
Weight	Meter: 480g (including battery)
	Test leads: 250g
Operating temperature and humidity	-10°C~50°C; <70%rh
Storage temperature and humidity	-20°C~60°C; <70%rh
Overload protection	AC 220V/0.0001s (C1-C2, P1-P2). After performing overload protection, please restart the meter for normal testing.
Insulation resistance	>10M (500V between circuit and casing)
Withstand voltage	AC 3700V/rms (between circuit and casing)
Electromagnetic characteristic	IEC61010-4-3. Electromagnetic field of radio frequency is 1V/m
Applicable regulation	IEC61010-1, CAT III 600V, Pollution Class 2, JJG724-1991 "Verification Regulation of DC Digital Ohmmeter", JJG166-1993 "Verification Regulation of DC Resistors", "DL/T967-2005 Verification Regulation of Loop Resistance Tester and DC Resistance High-Speed Tester"


## V. External Structure




1. USB transmission/charging port
2. Charging indicator light
3. Connectors for test leads
4. LCD display
5. Rubber insulation protector
6. Functional buttons
7. Test leads (red: 1pc; black: 1pc)

## VI. Operating Instructions


### 1. Power on/off

Press “” to power on/off the meter. “APO” appears on the bottom right corner of the LCD after the meter powers on. The meter powers off automatically after 15 minutes of inactivity.

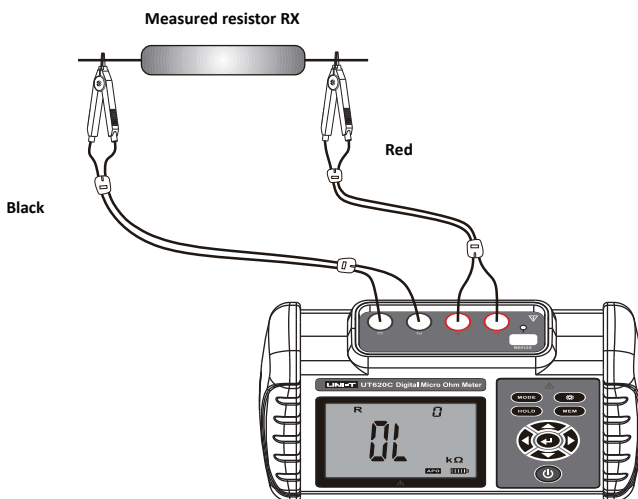
### 2. Check battery voltage

If low battery symbol “” appears on the LCD after the meter turns on for 2 to 4 seconds, it indicates the battery voltage is low, in such case, please charge the battery in time. Sufficient battery voltage ensures measurement accuracy. The battery indication bars decrease as the battery voltage decreases.

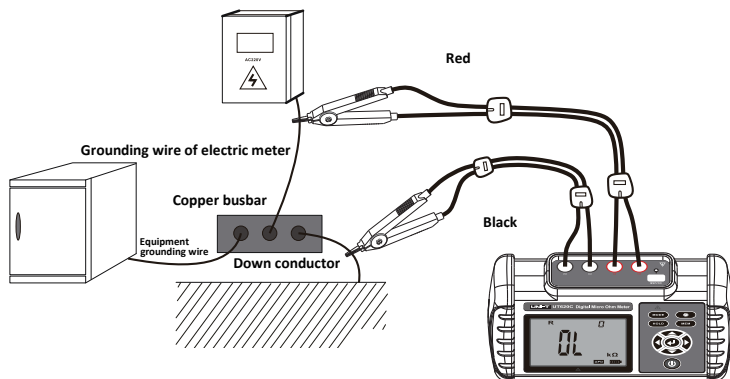
### 3. Resistance precision testing

	Please clear the insulation layer and the oxidation layer on the surface of the object to be measured before test.
	Do not perform live test for resistance or DC low resistance. Live test may damage the meter.
	Test clips may be oxidized after they are used for a long time. To ensure good contact of clips, please clear the oxide and the foreign object at the clips.
	Make sure the connection between test leads and tester/measured object are reliable.
	Component heat during test may cause error, thus it is recommended to perform test for 30 seconds, with testing interval at 30 seconds.
	If the symbol "OL" appears during test, it indicates the resistance between measured points exceeds the range. Please restart the meter and then retest to troubleshoot fault caused by overload protection, if the fault is caused by overload protection, it indicates the measured resistor is energized, please de-energized the measured resistor immediately and restart the meter for retesting. Or please check if poor contact of test leads occurs (the circuit between measured points may be open).

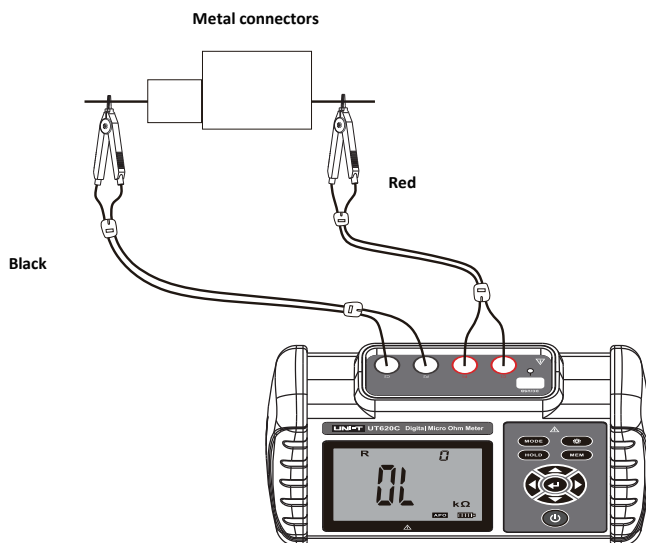
Measure resistance by connecting the meter with the resistor



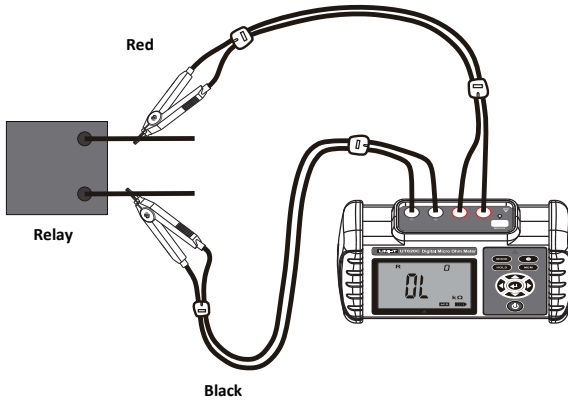
Measure the resistance between electric meter and down conductor




Measure the resistance between metal connectors







Measure the resistance of contact points of relay



#### 4. Backlight control

In power-on state, press “” to turn on/off backlight. The backlight function applies in dark environments. The default state of backlight is off when powering on the meter.

#### 5. Data hold/storage

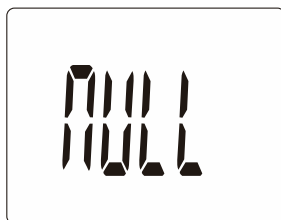
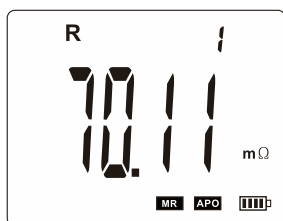
After the meter is powered on or measurement is completed, press “” to hold the current displayed data, press “” to perform numbering automatically and store current displayed data. The symbol “” appears on the LCD if storage is full. As shown below, the measurement data is 70.11m $\Omega$ , it is held when “” is pressed.



## 6. Data viewing/deletion

After the meter is powered on or measurement is completed, the meter switches to data viewing mode and “MR” appears on the LCD when “MODE” is pressed. Press “◀” or “▶” to set the step as 1 (group), press “ ” or “ ” to set the step as 10 (groups). Press “↵” or press “MODE” for twice to exit the mode and return to testing mode.

As show below, the number “1” at top right is the number of group. If no data is stored, “NULL” appears on the LCD.



In data viewing mode, press “MODE” to switch to data deletion mode. Press “ ” or “ ” to select “NO” or “YES”. When pressing “NO” and then pressing “↵”, the data will not be deleted and the meter returns to testing state. Press “YES” and then press “↵” to delete all stored data. After deletion, the display is showed as below:



## 7. Data upload

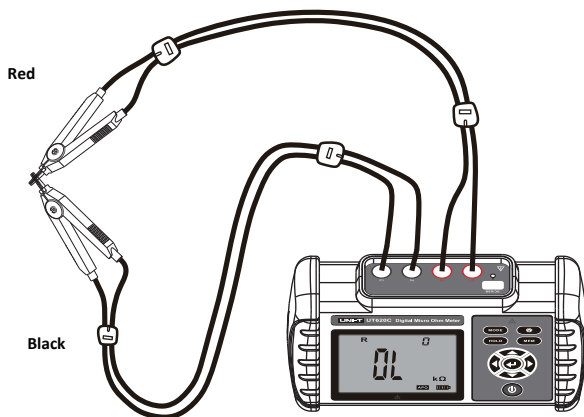
Connect the meter with computer via USB cable, turn on the meter, then operate the software of master computer. If USB connection is successful, the stored data can be viewed, uploaded and saved.

The software of master computer has multiple functions including data viewing, data accessing, data storage, etc.


### 8. Line resistance calibration (clear residual resistance)


Short-circuit both clips first, then long press “▲” for 2 to 3 seconds after the displayed value is stabilized, to complete calibrating line resistance, as shown below:

Note: Only when the displayed value is stabilized can “▲” be pressed.



## VII. Battery Description

	The charging time is 5~8 hours typically.
	Please charge the battery once a month or two months if the product is not used for a long time.
	Charge the battery with the equipped original charger. The product does not support fast charging.
	The charger lights up red when charged and lights up green after charged fully.

The product is powered by 3.7V lithium battery. If the battery voltage decreases, the battery indication bars will decrease and the symbol “” will appear on the LCD, in such situation, please charge the battery in time. Low battery voltage can affect measurement accuracy.

## VIII. Packing List

Meter	1 pc
Carrying bag	1 pc
USB cable (data transmission)	1 pc
Test lead	2 pcs (red: 1pc; black: 1pc)
Power Charger	1 pcs
User manual	1 pcs

### Note:

The content of this user manual cannot be used as a reason for using the product for special purposes.

The company is not responsible for other losses caused by use.

The company reserves the right to modify the contents of the user manual. If there are changes, no further notice will be given.