



Datasheet

UT3510+ Series Bench Top Micro Ohm Meter

V1.0

August 2024

1. Main Features

- 4.3-inch TFT LCD
- Accuracy of 0.05 %, with 22,000 reading
- High resolution of 1 $\mu\Omega$, with 4 1/2 digit display
- UT3513+ measurement range: 1 $\mu\Omega$ -20 k Ω
- UT3516+ measurement range: 1 $\mu\Omega$ -2 M Ω
- Various test combinations: R, LPR, and T
- Low voltage (LRP) test mode for effective protection of the DUT (Device Under Test)
- Temperature correction (TC)
- Temperature conversion (Δt)
- USB flash drive for saving data and screenshots
- Comparator with sorting and beeper function
- Supports data storage and browse
- Maximum test speed: 10 ms/time
- Built-in temperature correction interface

2. Product Introduction

UT3510+ series Benchtop Micro Ohm Meter includes two models: UT3513+ and UT3516+.

The product features 4.3-inch LCD with high precision, high resolution, and high-speed measurement capabilities, boasting an accuracy of up to 0.05% and a high resolution of 1 $\mu\Omega$.

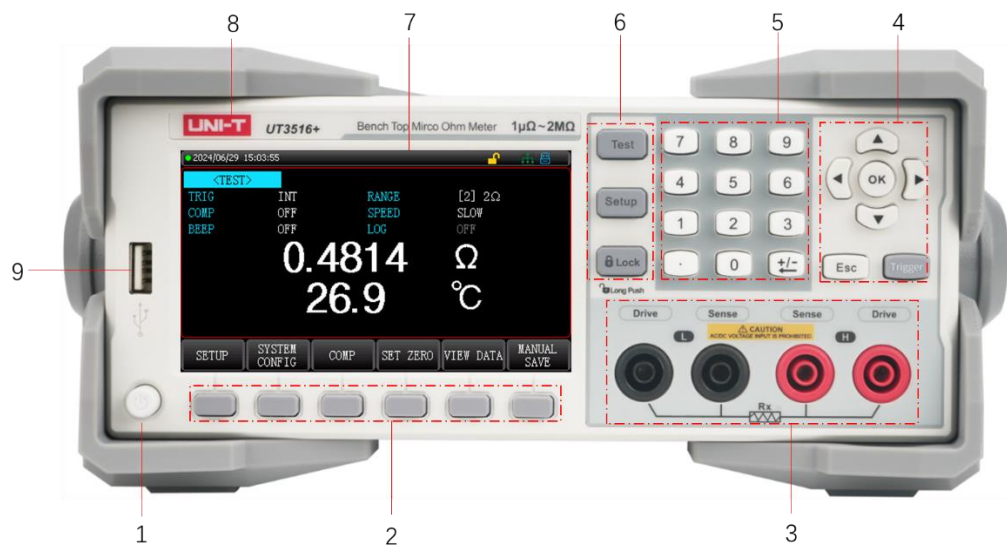
Both UT3513+ and UT3516+ are equipped with RS-232C/RS485, LAN, and HANDLER communication interfaces, supporting SCPI and MODBUS RTU protocols. These interfaces enable communication with a PC, PLC, or WINCE device, facilitating efficient remote control and data acquisition functions.

Measurement Application

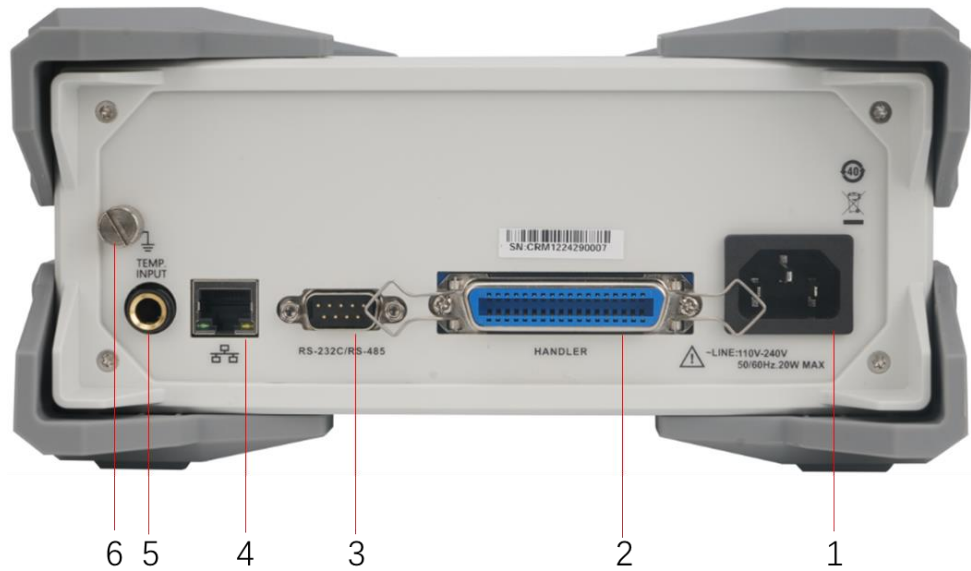
Components: Resistance, inductance, transformer, motor, relay, circuit solder joint, capacitor knuckle joint, cables, strand wire, connector, and various switches.

Materials: Thermal sensitive materials (fuses, heating regulator sensors), metal foil, and other conductive materials.

New energy: Connection bridge for electric vehicle battery pack, core connection resistance.



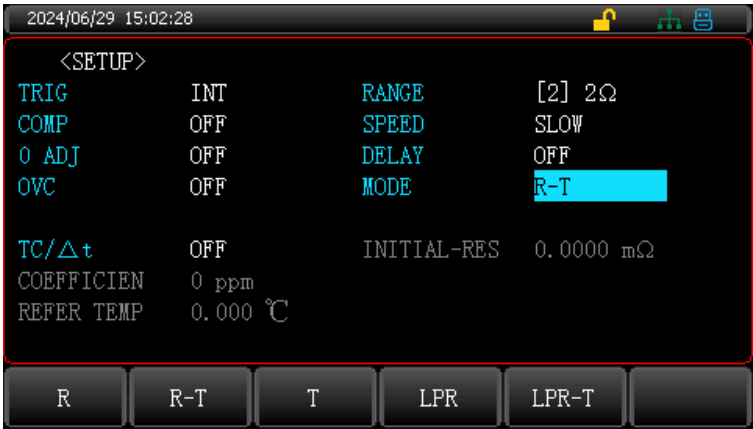
No.	Function	No.	Function
1	Power Switch	5	Numeric Keypad
2	Functional keys (at the bottom of the screen)	6	Test Key
3	Test Terminals		Setup Key
4	Arrow Keys		Lock Key
	OK Key	7	Screen
	Esc Key	8	Nameplate
	Trigger Key	9	USB Disk



No.	Function	No.	Function
1	Power Socket	4	LAN Interface
2	Handler Interface	5	PT1000 Temperature Interface
3	RS232/485 Serial Interface	6	Grounding Wire

3. Product Function

Various Mode



Five modes: R, R-T, T, LPR, and LPR-T.

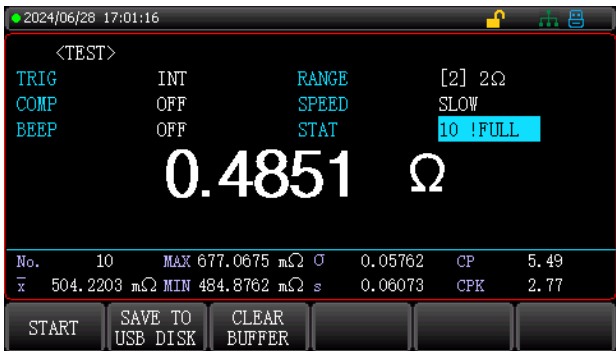
LPR is a low-voltage test mode designed to effectively protect of the DUT (Device Under Test).

6 BINs Comparison



Built-in comparator BIN allows for setting comparison results for 6 BINs. The measured component can be divided into 7 BINs: BIN1, BIN2, BIN3, BIN4, BIN5, BIN6, and NG.

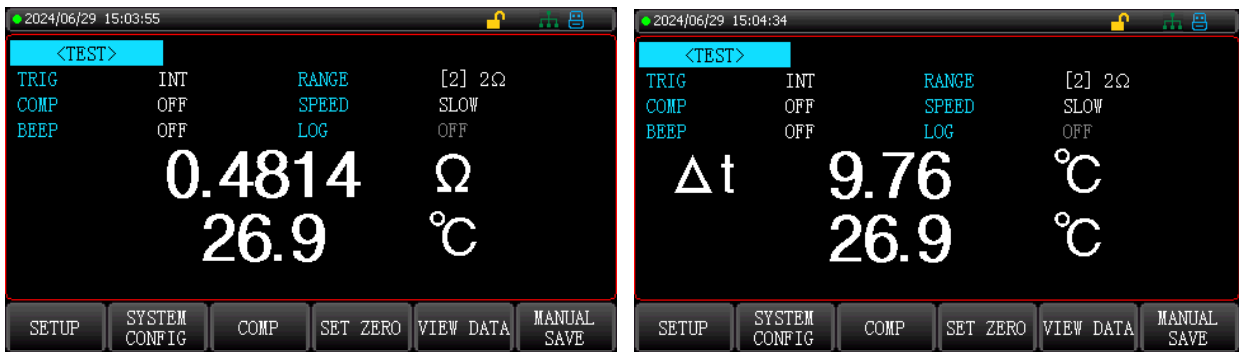
Recording and Statistics Function



Recording: Up to 10,000 group of data can be recorded.

Statistics: Up to 10,000 group of data can be counted, and the process capability index can be calculated.

Temperature Correction and Temperature Conversion



Temperature Correction: This function compensates measurement bias caused by the temperature variations. It converts the resistance measured under the current ambient temperature to the resistance at a user-defined temperature.

Temperature Conversion: This function converts the change in resistance value into the difference between the internal temperature of the DUT and the ambient temperature, using the thermal effect of the resistor.

4. Technical Index

UT3513+ (Range 0-6), UT3516+ (Range 0-8)								
Range		Maximum Display	Resolution	Accuracy			Test Current	Open-circuit Voltage on Test End
				Fast	Medium	Slow		
0	20 mΩ	22.000 mΩ	1 μΩ	0.8 % ± 5	0.2 % ± 5	0.1 % ± 3	1A	< 1 V
1	200 mΩ	220.00 mΩ	10 μΩ	0.5 % ± 5	0.1 % ± 3	0.05 % ± 2	1A	< 1 V
2	2 Ω	2.2000 Ω	100 μΩ	0.5 % ± 5	0.1 % ± 3	0.05 % ± 2	100 mA	< 1 V
3	20 Ω	22.000 Ω	1 mΩ	0.5 % ± 5	0.1 % ± 3	0.05 % ± 2	10 mA	< 2.7 V
4	200 Ω	220.00 Ω	10 mΩ	0.5 % ± 5	0.1 % ± 3	0.05 % ± 2	1 mA	< 2.7 V
5	2 kΩ	2.2000 kΩ	100 mΩ	0.5 % ± 5	0.1 % ± 3	0.05 % ± 2	1 mA	< 2.7 V
6	20 kΩ	22.000 kΩ	1Ω	0.5 % ± 5	0.1 % ± 3	0.05 % ± 2	100 μA	< 2.7 V
7	200 kΩ	220.00 kΩ	10 Ω	0.5 % ± 5	0.1 % ± 3	0.05 % ± 2	10 μA	< 2.7 V
8	2 MΩ	2.2000 MΩ	100 Ω	0.8 % ± 5	0.2 % ± 5	0.1 % ± 5	1 μA	< 2.7 V

(LPR Mode) UT3513+ and UT3516+ are the same range								
Range		Maximum Display	Resolution	Accuracy			Test Current	Open-circuit Voltage on Test End
				Fast	Medium	Slow		
0	2Ω	2.2000 Ω	100 μΩ	0.8 % ± 5	0.5 % ± 5	0.2 % ± 5	10 mA	< 40 mv
1	20 Ω	22.000 Ω	1 mΩ	0.8 % ± 5	0.5 % ± 5	0.2 % ± 5	1 mA	< 40 mv
2	200 Ω	220.00 Ω	10 mΩ	0.8 % ± 5	0.5 % ± 5	0.2 % ± 5	100 μA	< 40 mv
3	2 kΩ	2.2000 kΩ	100 mΩ	0.8 % ± 5	0.5 % ± 5	0.2 % ± 5	10 μA	< 40 mv
Range Mode			Auto, manual, and nominal Value					
Maximum Reading			22, 000					
Calibration			Short-circuit full ranges					
Beeper			OFF, Pass, and Fail					
Sorting			Three outputs: High (higher than the upper limit), Low (lower than the upper limit), and Pass. Sorting result: BIN1--BIN6, and NG					
Compare Mode			Absolute deviation, percentage deviation, and sequence mode					
Trigger Mode			Internal trigger, external trigger					
Test Speed			High speed: 10 ms/time, Fast speed: 17ms/ time, Medium speed: 56ms/ time, Slow speed: 334 ms/ time					
Test Terminal			Four terminals					
Interface			HANDLER, RS-232, RS485, LAN, and PT1000					
Supply Voltage Frequency			AC100-240 V 50/60 Hz					
Temperature/Humidity Index			Temperature: 18°C--28°C, Humidity: < 65% RH.					
Operating Temperature			0°C--40°C					
Storage Temperature			0°C--50°C					
Operating Humidity			10--80% RH.					
Storage Humidity			10--90% RH.					
Operating Altitude			≤ 2000m					
Standard Accessories			Kelvin low resistance test clips					
			PT1000 temperature line (only for UT3516+)					
			RS232 communication wire					
Size			348.5 mm*215*88 mm					
Weight			2.5 kg					

Zero adjustment: Pre-test zero clearing

Warm-up time: >30 minutes

Temperature test accuracy: 0.2% ± 0.1°C

5. Accessory

Article	Quantity	Remarks
Bench Top Micro Ohm Meter	1 pcs	UT3513+ or UT3516+
Power cord	1 pcs	
RS232C communication wire	1 pcs	
Kelvin test wire	1 pair	
Temperature sensor PT1000	1 pcs	Only for UT3516+
Quick Start Guide	1 pcs	
User's Manual	0 pcs	The electronic file can be downloaded from UNI-T official website.

6. Limited Warranty and Liability

Uni-T guarantees that the Instrument product is free from any defect in material and workmanship within three years from the purchase date. This warranty does not apply to damages caused by accident, negligence, misuse, modification, contamination or improper handling. If you need warranty service within the warranty period, please contact your seller directly. Uni-T will not be responsible for any special, indirect, incidental or subsequent damage or loss caused by using this device. For the probes and accessories, the warranty period is one year. Visit instrument.uni-trend.com for full warranty information.



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