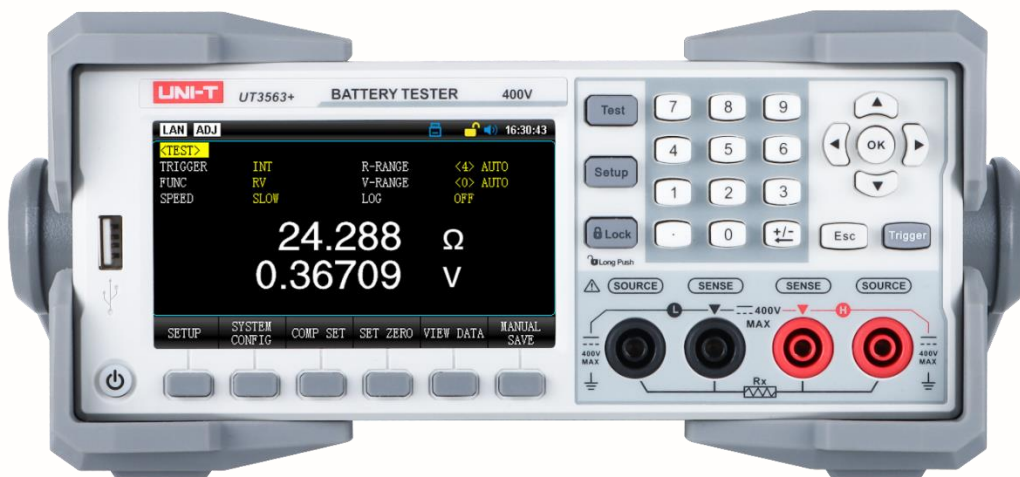


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Data Sheet

UT3560+ Series Battery Internal Resistance Testers

V1.0

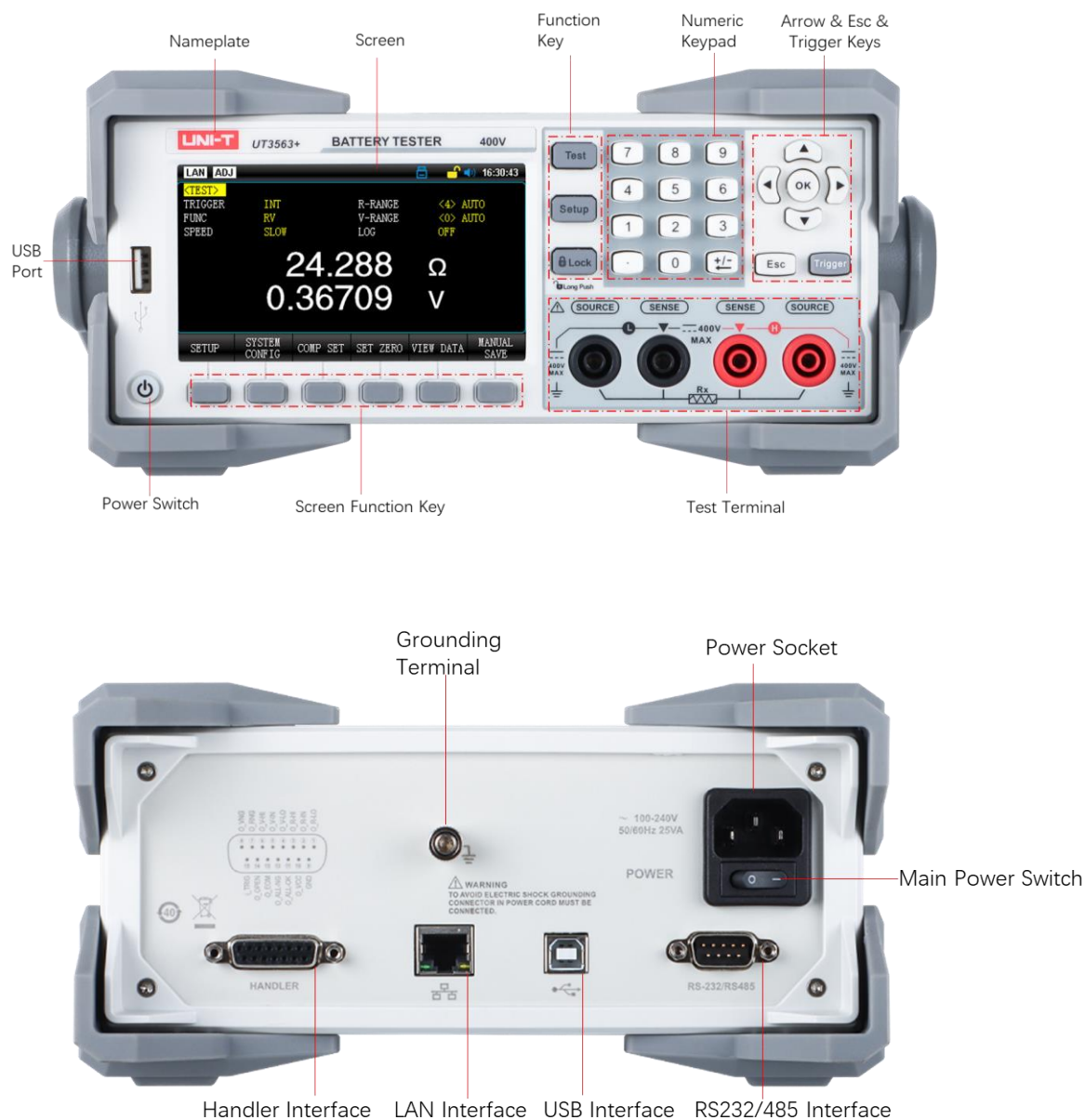
June 2026

1. Features and Advantages

- 4.3-inch LCD display, battery internal resistance and voltage displayed simultaneously.
- Wide measurement range – Resistance: 0.0001 mΩ to 3.3 kΩ, Voltage: 0.00001 V to 1500 V
- Resistance basic accuracy: 0.5%, minimum resolution: 0.1 μΩ
- Voltage accuracy: 0.01%, minimum resolution: 10 μV
- AC four-terminal measurement improves test accuracy and eliminates the influence of test lead impedance.
- Simultaneous measurement of resistance and voltage, with a maximum test speed of 100 readings/reading/s.
- Contact check function detects whether the test leads maintain good contact during measurement.
- Calibration function with full-range short-circuit zeroing.
- Comparator sorting function with multiple comparison modes, enabling pass/fail sorting and buzzer alert.
- Recording function supports up to 10,000 sets of data buffering, with manual storage of up to 500 sets of measurement data.
- Rich interfaces, supporting SCPI and Modbus-RTU communication protocols for easy integration into automated test systems.

2. Product Description

The UT3560+ Series Battery Internal Resistance Tester is a high-accuracy, high-resolution, and high-speed battery tester. The instrument can measure resistance from 0.0001 mΩ to 3.3 kΩ and DC voltage from 0.00001 V to 1500.00 V (UT3565+), with a resistance accuracy of 0.5% and a voltage accuracy of 0.01%, and a maximum measurement speed of up to 100 times/sreading/s. The instrument features a rich set of built-in communication interfaces, including RS-232C, RS-485, USB, LAN, and Handler, along with two communication protocol options: SCPI and Modbus-RTU. It efficiently supports remote control and data acquisition, making it highly suitable for automated sorting systems and fully automated production line testing. The instrument is widely used for testing various types of batteries, including lithium batteries, NiMH batteries, NiCd batteries, button cells, cylindrical batteries, and pouch batteries.



3. Design Highlights

High Accuracy, High Resolution, High-Speed Testing

- Resistance basic accuracy: 0.5%, minimum resolution: 0.1 $\mu\Omega$
- Voltage accuracy: 0.01%, minimum resolution: 10 μV
- Simultaneous measurement of resistance and voltage, with a maximum test speed of 100 reading/s.

Wide measurement range, meeting the testing requirements of high-voltage

battery packs and large-scale battery systems

- Resistance: 0.0001 m Ω to 3.3 k Ω
- Voltage: 0.00001 V to 1500 V

Multiple measures to ensure measurement accuracy

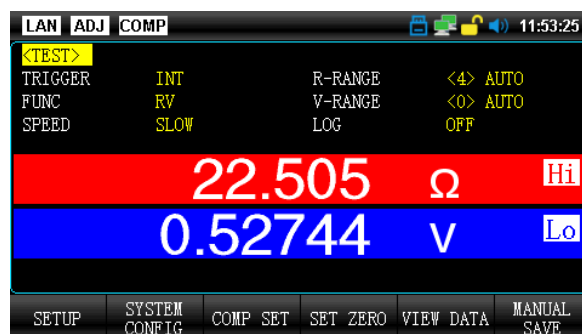
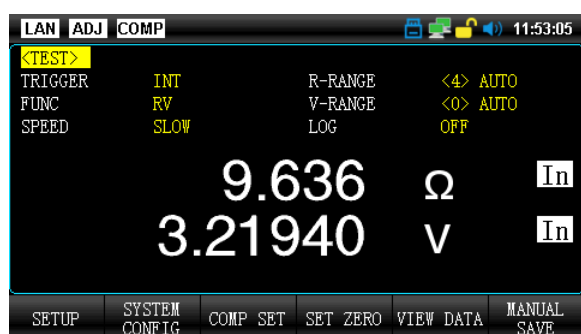
- Measurement anomaly check: Detects poor contact and open-circuit conditions of test probes, improving measurement reliability.
- Averaging function: Utilizes 2 to 256 times averaging to reduce instability factors, ensuring reliable measurement.
- AC four-terminal method: Impedance measurement uses the AC four-terminal method, eliminating the influence of test lead wiring impedance during measurement.

Safety Design

On production lines, batteries accumulate static electricity during conveyor transport, which may cause instrument malfunction. The UT3560+ Series withstands contact static discharge of up to ± 30 kV, preventing static-related faults and reducing production line downtime.

Comparator Function

- Simultaneous resistance and voltage judgment.
- Buzzer alarm when exceeding Hi/Lo range limits.
- Handler output for comprehensive judgment results.



4. Technical Specifications

Model		UT3562+	UT3563+	UT3564+	UT3565+
Measurement Method		AC four-terminal method			
Current Frequency		1 kHz ±0.2 Hz			
Max. Input Voltage		DC ±100 V	DC ±400 V	DC ±1000 V	DC ±1500 V
Max. Rated Ground Voltage		DC ±100 V	DC ±400 V	DC ±1000 V	DC ±1500 V
Measurement Channel		Single Channel			
Resistance Measurement					
Resistance Test Range (Max. Display, Resolution, Measuring Current)	3 mΩ	3.3000 mΩ, 0.1 μΩ, 100 mA			
	30 mΩ	33.000 mΩ, 1 μΩ, 100 mA			
	300 mΩ	330.00 mΩ,10 μΩ, 10 mA			
	3 Ω	3.3000 Ω,100 μΩ, 1 mA			
	30 Ω	33.000 Ω, 1 mΩ, 100 μA			
	300 Ω	330.00 Ω, 10 mΩ, 10 μA			
	3 kΩ	3.3000 kΩ, 100 mΩ, 10 μA			
Resistance Test Accuracy	Slow	±0.5% rdg ±10 dgt (3 mΩ range), ±0.5% rdg ±5 dgt (above 30 mΩrange)			
	Normal	±0.5% rdg ±15 dgt (3 mΩ range), ±0.5% rdg ±7 dgt (above 30 mΩrange)			
	Fast	±0.5% rdg ±20 dgt (3 mΩ range), ±0.5% rdg ±7 dgt (above 30 mΩrange)			
	EXFAST	±0.5% rdg ±40 dgt (3 mΩ range), ±0.5% rdg ±8 dgt (30 mΩ above range)			
Temperature coefficient		(±0.05% rdg ±1 dgt)/°C (3 mΩ), (±0.05% rdg ±0.5 dgt)/°C (above 30 mΩrange)			

Voltage Measurement					
Voltage Test Range (Max. Display, Resolution)	6 V	6.06000 V, 10 μ V	6.06000 V, 10 μ V	-	-
	10 V	-	-	9.99999V, 10 μ V	9.99999V, 10 μ V
	60 V	60.6000V, 100 μ V	60.6000V, 100 μ V	-	-
	100 V	101.000V, 1 mV	-	99.9999V, 100 μ V	99.9999V, 100 μ V
	400 V	-	404.000V, 1 mV	-	-
	1000 V	-	-	1010.00V, 1 mV (Above 1000.00V, resolution: 10mV)	-
	1500 V	-	-	-	1550.00 V, 1 mV (Above 1000.00V, resolution: 10mV)
Voltage Test Accuracy	Slow	$\pm 0.01\%$ rdg ± 3 dgt			
	Normal	$\pm 0.01\%$ rdg ± 5 dgt			
	Fast	$\pm 0.05\%$ rdg ± 5 dgt			
	EXFAST	$\pm 0.1\%$ rdg ± 6 dgt			
Temperature coefficient		$(\pm 0.001\%$ rdg ± 0.3 dgt)/ $^{\circ}\text{C}$			

Other Functions	
Test Speed	EXFAST: 100 readings/s Fast: 50 readings/s Normal: 14 readings/s Slow: 3 readings/s
Range Mode	Automatic, Manual
Open Terminal Voltage	<25 V
Calibration Method	Short circuit full range reset
Contact Inspection	Supported
Pulse Test Function	Supported
Comparator	ABS, PER, and SEQ
Handler	Resistance HI/IN/LO, Voltage HI/IN/LO Total unqualified grade
Beep	Off, Pass, Fail
Trigger	Internal, External (Manual and Remote) Trigger
Data Logging	Up to 10,000 data points
Manual Storage	500 sets of measurement data
File Management	Save test conditions, up to 30 files
Key Lock	Supported
General Specifications	
Display	4.3-inch LCD display
Language	English/ Simplified Chinese
Communication Interfaces	RS232, RS485, USB, LAN, Handler, USB Host
Communication Protocols	SCPI, Modbus-RTU
Rated Performance Temperature / Humidity	18 to 28°C / 30 to 65% RH (no condensation)

Operating Temperature / Humidity		0 to 40°C / 20 to 70% RH (no condensation)
Storage Temperature / Humidity		-20 to 70°C / 90% RH or less (no condensation)
Input Power	Voltage (AC)	100 – 120 VAC / 200 – 240 VAC
	Frequency	50/60 Hz $\pm$ 5%
	Apparent Power	25 VA, Fuse: T1A/250VAC slow-blow (internal)
Dimensions (W $\times$ H $\times$ D, mm)		215 x 88 x 350
Weight		2.4 kg

Temperature: 23°C $\pm$ 5°C, Humidity: 35%–65% RH

Zero adjustment: Zero clearing before testing

Warm-up time: > 30 minutes

5. Accessories

Name	Quantity	Remarks
Battery Tester	1	
Power Cord	1	
RS232C Communication Cable	1	
USB Cable	1	
UT-L87 Kelvin Test Leads	1	UT-L87
UT-L86 Crown Test Probe Leads	1	UT-L86
Quick Start Guide	1	
User Manual	1	Electronic version, available for download from the 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 a 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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