



Data Sheet

UT5300+ Series Hipot Tester



Main Features

• Quick measurement

Controlled by a high-performance 32-bit ARM, it can measure various safety parameters in real time and meet the requirements of the production line for rapid testing

• Easy to operate

4.3-inch TFT LCD display. Function keys and numeric keyboard can quickly complete various test condition settings and tests, and the operation is simple

• Intelligent judgment

It has the function of intelligent judgment of upper and lower limits, which can automatically identify defective products and provide sound and light alarms

• Reliable operation

Full isolation measures are adopted between the circuit modules, it has strong anti-interference ability. Output voltage closed-loop control. It has hardware and software protection at the same time, greatly improving the reliability of the instrument

• Security

Ground wire current detection, short circuit detection, ARC detection, DC fast discharge, automatic OVP, OCP, safer to use

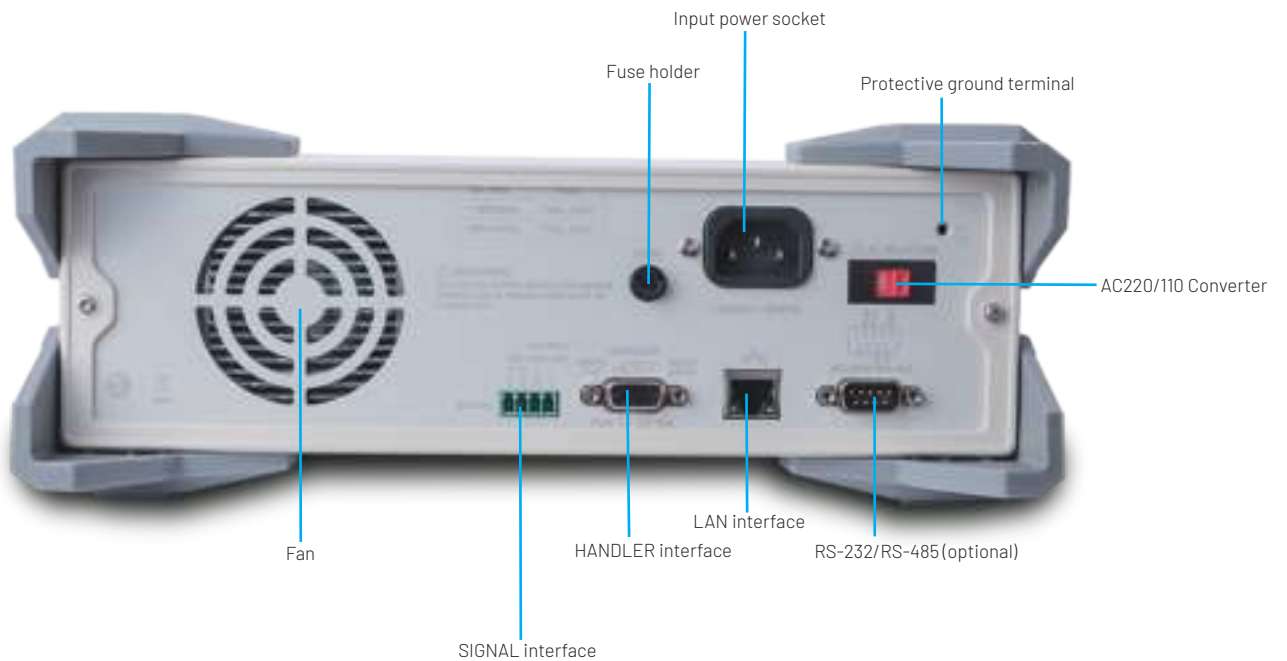
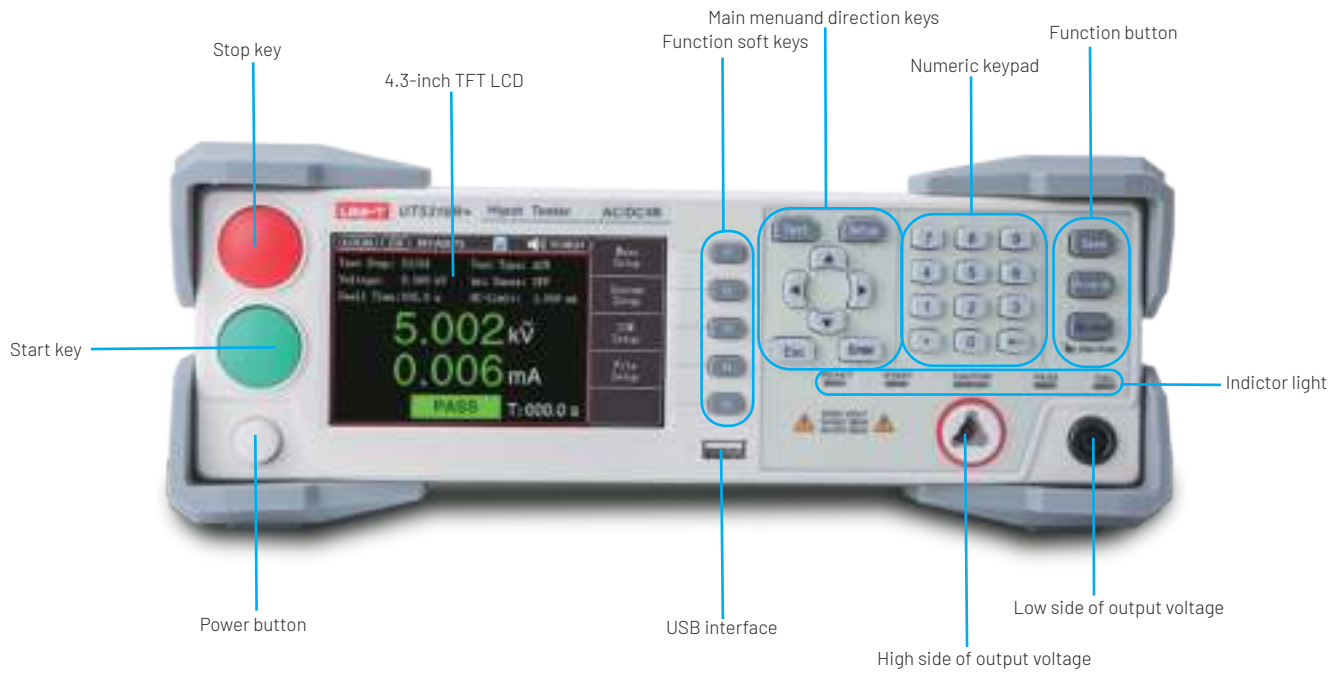
• File management

Programmable 100 test files, each file can have 20 test items

• Rich interface

Equipped with Handler (PLC) interface for industrial control, RS485 (option), RS-232C and LAN interface for connecting to a computer. At the same time, it supports two communication protocols, SCPI and Modbus RTU, and efficiently completes the functions of remote control and data acquisition.

Panel Structure



Product Introduction

UT5300+ series is an instrument that integrates multiple testing functions of electrical strength (AC/DC withstand voltage) and insulation resistance. It can be widely used in the safety performance inspection of household appliances, transformers, electrical equipment and components.

Multiple test modes

Support multiple test modes, support AC, DC withstand voltage test, insulation resistance test. high accuracy and fast measurement speed

STEP	Test-Type	Dwell-Time	VOLT	CURRENT	JUDGE
01	ACW	000.5 s	0.049 kV	0.005 mA	PASS
02	ACW	000.5 s	0.050 kV	0.005 mA	PASS
03	DCW	005.0 s	0.001 kV	0.1 uA	PASS
04	IR	005.0 s	2.500 kV	>10.0 GΩ	PASS
05					
06					
07					
08					
09					
10					

Easy to operate

With 4.3 inch LCD screen, numeric keys and function keys, it is convenient to set up, select and control the test process. The screen is large and the displayed content is specific and clear.



File management

Programmable 100 groups of test files, each group can contain 20 steps of test operations. Create favorable conditions for programmatic control of safety testing operations.

No.	File Name	Save Time	LOAD
94			
95			
96			
97			
98			
99			

Intelligent judgment

Upper and lower limit intelligent judgment function, and provide sound and light alarm at the same time. Provide a good prompt for the measurement work, and broadcast the results immediately.



IR measurement

Insulation resistance test voltage is 2.5kV as standard, 5.0kV is optional, suitable for more test occasions.



Rich interface

Equipped with Handler (PLC) interface for industrial control, RS485 (option), RS-232C and LAN interface for connecting to a computer. At the same time, it supports two communication protocols, SCPI and Modbus RTU, and efficiently completes the functions of remote control and data acquisition.



Technical Specification

Model	Output power	ACW	DCW	IR	LAN	
UT5310A+	500VA	√	-	-	-	
UT5310D+		√	√	-	-	
UT5310R+		√	√	√	√	
UT5320R+	100VA	√	√	√	√	
Model	UT5310+ series		UT5320+ series			
Withstand voltage test						
Output voltage	AC	Voltage range	0.050kV–5.000kV	0.050kV–5.000kV		
		Voltage waveform	Sine wave	Sine wave		
		Distortion	< 3%	< 3%		
		Operating frequency	50- 60Hz optional	50- 60Hz optional		
		Frequency accuracy	±1%	±1%		
		Output power	50VA (5.000kV 10mA)	100VA (5.000kV 20mA)		
	DC	Voltage regulation	±(1.0%+50V)(rated power)	±(1.0%+50V)(rated power)		
		Voltage range	0.050 kV–6.000kV	0.050 kV–6.000kV		
		Signal source frequency	600Hz	600Hz		
		Output power	30VA (6.000kV 5mA)	60VA (6.000kV 10mA)		
		Voltage regulation	±(1.0% +100V)(rated power)	±(1.0% +100V)(rated power)		
		Voltage resolution	1V	1V		
	Voltage output accuracy	±(1.0%set value+5V)(no load)	±(1.0%set value+5V)(no load)			
	Voltage test accuracy	±(1.0%reading+5V)	±(1.0%reading+5V)			
Voltage generation mode	DDS signal source plus AB class amplifier		DDS signal source plus AB class amplifier			
Current test range	AC	Current range	0.001mA – 10mA	0.001mA – 20mA		
		Short-circuit current (moment)	>20 mA(set output voltage>500V)	>40 mA(set output voltage>500V)		
		Current resolution	0.001 mA	0.001 mA		
		Current accuracy	±(2.0% reading + 5 digits)	±(2.0% reading + 5 digits)		
		Actual current	OFF, 0.001 mA-10mA	OFF, 0.001 mA-20mA		
	DC	Current range	0.1uA – 5.00mA	0.1uA – 10.00mA		
		Current accuracy	±(2.0% reading + 5 digits)	±(2.0% reading + 5 digits)		
		Discharge function	Automatic discharge after test		Automatic discharge after test	
		Insulation resistance test				
		Output voltage	0.050kV – 2.500kV(Optional 5.00kV)		0.050kV – 2.500kV(Optional 5.00kV)	
Voltage resolution	1V		1V			
Voltage test accuracy	±(1.0% reading +2V)		±(1.0% reading +2V)			
Maximum output current	5mA		10mA			
Maximum output power	12.5VA (2500V/5mA)		25VA (2500V/10mA)			
Output instantaneous short-circuit current	>10mA(Set output voltage>500V)		>20mA(Set output voltage>500V)			
Load regulation	≤1% (rated power)		≤1% (rated power)			
Ripple (1kV)	≤3% (1kV, no load)		≤3% (1kV, no load)			
Discharge function	Discharge automatically after the test		Discharge automatically after the test			
Resistance measurement range	0.2MΩ-10GΩ		0.1MΩ-10GΩ			
Resistance display range(1000V)	5mA 0.2 MΩ-1 MΩ		10mA 0.1 MΩ-0.5 MΩ			
	1mA 1 MΩ-10 MΩ		2mA 0.5 MΩ-5 MΩ			
	100uA 10 MΩ-100 MΩ		200uA 5 MΩ-50 MΩ			
	10uA 100 MΩ-1GΩ		20uA 50 MΩ-500 MΩ			
	1uA 1GΩ-10GΩ		2uA 500 MΩ-10GΩ			
Accuracy of resistance measurement	≥500V		≥500V			
	1MΩ- 1GΩ ±(5% reading+5digits)		1MΩ- 1GΩ ±(5% reading+5digits)			
	1GΩ- 10GΩ ±(10% reading+5digits)		1GΩ- 10GΩ ±(10% reading+5digits)			
	< 500V		< 500V			
	0.2MΩ- 1GΩ±(10% reading+5digits)		0.1MΩ- 1GΩ±(10% reading+5digits)			
Accuracy of current measurement	±(1.5% reading+5digits) (After clearing)		±(1.5% reading+5digits) (After clearing)			

ARC Detector			
Measuring range	AC	OFF, 1-9 level	OFF, 1-9 level
	DC	OFF, 1-9 level	OFF, 1-9 level
Comparator			
Discrimination mode	window comparison method I _{down} ON: when I _{down} < I _x < I _{up} , PASS; when I _x ≤ I _{down} or I _x ≥ I _{up} , FAIL; (I _{down} < I _{up}) I _{down} OFF: when I _x < I _{up} , PASS; when I _x ≥ I _{up} , FAIL; Insulation resistance discrimination method is the same as above		
Current upper limit setting I _{up}	AC	0.001mA - 10mA	0.001mA - 20mA
	DC	0.1uA - 5mA	0.1uA - 10mA
Current lower limit setting I _{down} (LOWER OFF)	AC	0.001mA - 10mA	0.001mA - 20mA
	DC	0.1uA - 5mA	0.1uA - 10mA
Resistance upper limit setting	OFF, 0.1MΩ - 10GΩ		OFF, 0.1MΩ - 10GΩ
Resistance lower limit setting	0.1MΩ - 10GΩ		0.1MΩ - 10GΩ
Discrimination output	PASS/FAIL LCD and LED Separate display and sound alarm		
Parameter setting			
Voltage rise time	0.1s - 999.9s		
Voltage drop time	0 s - 999.9s, (Only after withstand voltage PASS)		
Voltage waiting time	0.3s - 999.9s (Only DC withstand voltage, and meet the rise time + test time > waiting time)		
Test time setting	0.1s - 999.9s (when TIMER ON)		
Time accuracy	± (0.2% set value ± 0.1s)		
Measurement function			
Keyboard lock	Prevent accidental modification of test conditions, or prohibit test conditions from being modified		
Base number clearing	The current flowing through the insulation resistance and distributed capacitance between the output lines can be reset to zero		
Start wait delay	When starting the test (pressing START), the high voltage start signal is output first, and the high voltage output starts after a certain period of time.		
Current over-range judgment	Hardware quickly judges insulation breakdown, which is faster and safer than voltage sampling, and reduces impact damage to products		
ARC detection	Sampling the sudden change signal of the current to judge the potential hidden dangers and approximate scale of the circuit		
Ground current detection	Protect personal safety in case of accidental electric shock or high voltage leakage to the casing		
Alarm volume adjustment	Off, Low, Medium, High		
High voltage indication	Window indication and LED light indication		
Storage and interface			
File programming and storage	Programmable 100 test files, each file can have 20 test items.		
USB HOST interface	Yes (maximum support 128G)		
Save boot parameters	The set parameters are saved as default parameters, and they can be automatically restored next time the machine is turned on.		
Display	4.3inch(480x272) TFT LCD		
Control interface	HANDLER, SINGAL		
Communication protocol	SCPI, Modbus RTU		
Communication Interface	RS232C, LAN, optional RS485		
Environment	Specifications: Temperature 18C~28C Humidity ≤65% RH		
	Operation: Temperature 10C~40C Humidity 10~80% RH		
	Storage: Temperature 0C~50C Humidity 10~90% RH		
Power	100V-121V, 198V-242V, 47.5-63Hz		
Power dissipation	≤300VA		≤400VA
Size	280mm*88mm*428mm		
Weight	10.7kg		12.9kg

Order information

	Description	Standard Quantity per Carton	Order No.
Model	UT5320R+ (AC/DC/IR, Programmable, 20mA, 1CH)	1	UT5320R+
	UT5310R+ (AC/DC/IR, Programmable, 10mA, 1CH)	1	UT5310R+
	UT5310D+ (AC/DC, Programmable, 10mA, 1CH)	1	UT5310D+
	UT5310A+ (AC, Programmable, 10mA, 1CH)	1	UT5310A+
Standard accessories	Power cord that conforms to the standard of the destination country	1	–
	RS232C Data Cable	1	–
	High Voltage Rod Test Lead (Small & No Switch)	1	–
	High voltage red and black test clips	1	–
	Fuse	2	–
Optional accessories	High Voltage Rod Test Lead	–	UT-L63
	Remote control high voltage rod test line (support remote start)	–	UT-L62

Note: All mainframes, accessories and options can be ordered from your local UNI-T dealer.

Warranty

Three-years warranty, excluding probes and accessories.

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