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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

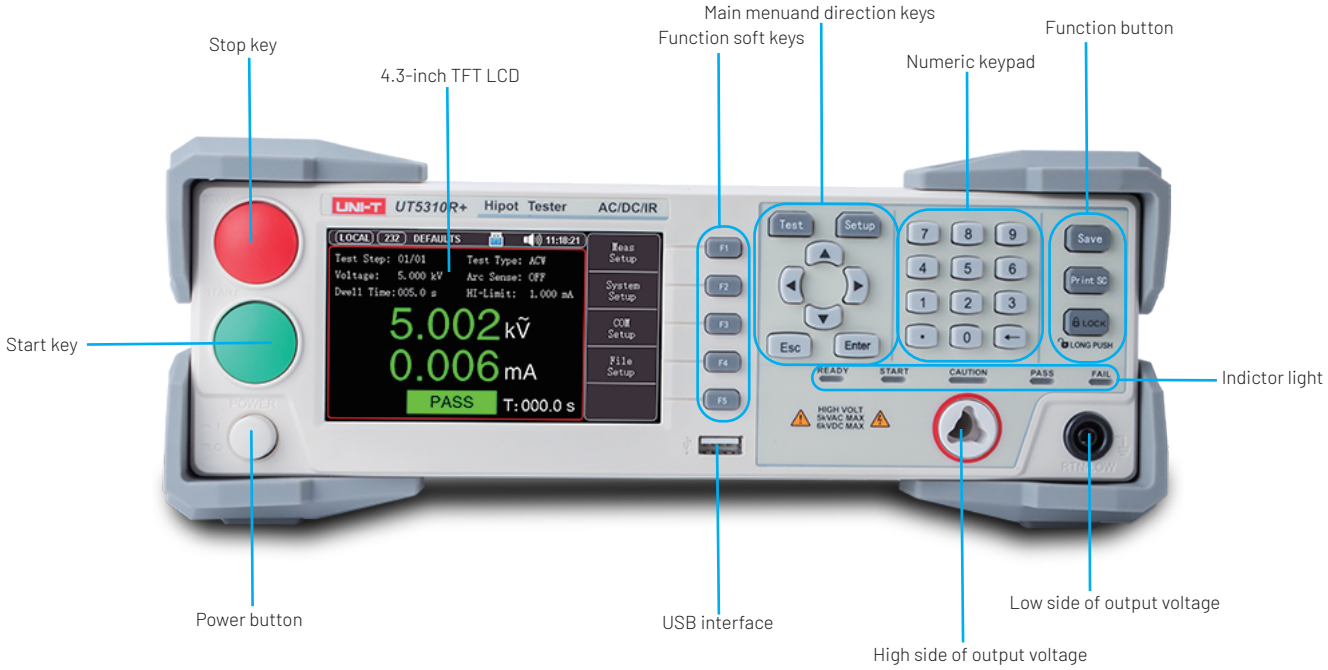
•File management

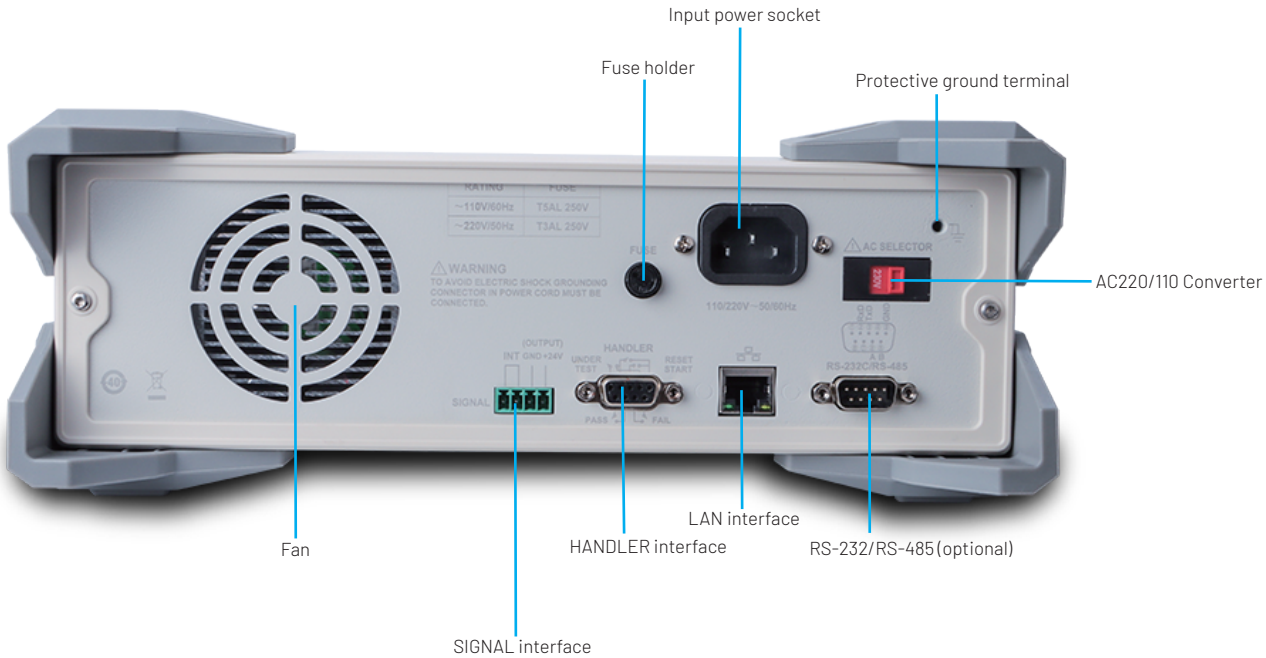
Programmable 100 test files, each file can have 20 test items

•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



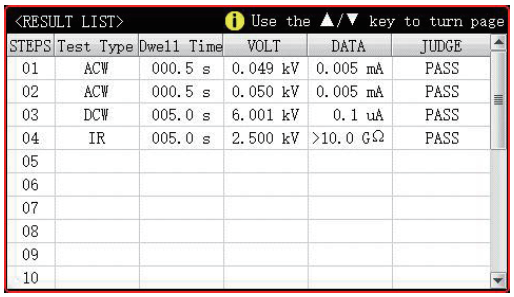


Product Introduction

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



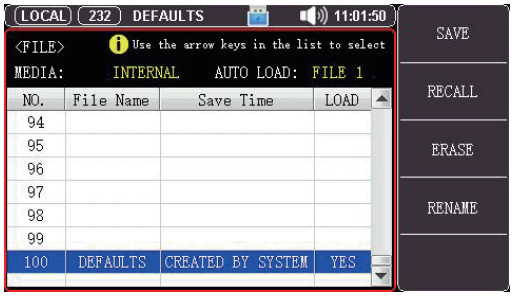
STEPS	Test Type	Dwell Time	VOLT	DATA	JUDGE
01	ACW	000.5 s	0.049 kV	0.005 mA	PASS
02	ACW	000.5 s	0.050 kV	0.005 mA	PASS
03	DCW	005.0 s	6.001 kV	0.1 uA	PASS
04	IR	005.0 s	2.500 kV	>10.0 GΩ	PASS
05					
06					
07					
08					
09					
10					

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.

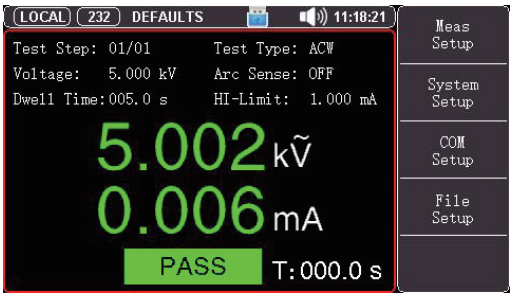
File management

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.



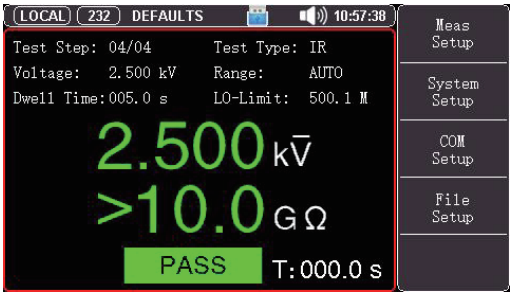
Intelligent judgment

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+	50VA	√	-	-	-
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)
		Voltage regulation	±(1.0%+50V)(rated power)	±(1.0%+50V)(rated power)
	DC	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)
			1GΩ- 10GΩ For reference only, no accuracy requirements	1GΩ- 10GΩ For reference only, no accuracy requirements
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 Idown ON: when Idown< Ix < Iup , PASS; when Ix ≤ Idown or Ix ≥ Iup, FAIL; (Idown < Iup) Idown OFF: when Ix < Iup, PASS; when Ix ≥ Iup, FAIL; Insulation resistance discrimination method is the same as above		
Current upper limit setting Iup	AC	0.001mA - 10mA		0.001mA - 20mA
	DC	0.1uA - 5mA		0.1uA - 10mA
Current lower limit setting Idown (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 18℃~28℃ Humidity ≤65% RH		
		Operation: Temperature 10℃~40℃ Humidity 10~80% RH		
		Storage: Temperature 0℃~50℃ 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	—
	3.81-4P plug	1	—
	Fuse	2	—

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

Warranty

Three-years warranty, excluding probes and accessories.

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UNI-T Corporate Website: www.uni-trend.com

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