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Data Sheet

UT8803E Benchtop Digital Multimeter



Main Features

- Reading resolution: 3%, maximum reading 5999
- Measuring rate: 2~3 reading/s
- DC voltage range: 600mV~1000V
- DC current range: 600µA~20A
- AC voltage range: 600mV~750V (True-RMS)
- AC current range: 600µA~20A (True-RMS)
- Resistance range: 600Ω~60MΩ
- Capacitance range: 6nF~6mF
- Inductance range: 600µH~100H
- Frequency measurement range: 600Hz~20MHz
- Duty cycle measurement range: 5%~95%
- Mathematical operation: maximum, minimum, relative value, trend chart
- Interface: USB device, It can be connected to the upper computer control software
- Frequency response: 100KHz
- Data record: 20000 groups
- It can measure triode and thyristor
- Support global mains voltage

Multimeter Panel



- ① Power switch
- ② Display screen
- ③ 10A jack
- ④ uA/mA jack
- ⑤ COM jack
- ⑥ Function jack (voltage, resistance, inductance, capacitance, frequency, continuity, diode, duty ratio)
- ⑦ Function Buttons
- ⑧ Function dial



- ① Grounding
- ② Fuse dial (F2 600mA)
- ③ USB Device interface
- ④ AC voltage selector
- ⑤ Power supply interface

Product Introduction

UT8803E is a 6000 count 3 ½ digital, automatic range, portable desktop, AC powered digital multimeter. Large screen large character display with backlight, more clear and easy to read. With full function test, full range overload protection and unique appearance design, it has become an electrical test instrument with better performance. This instrument can be used to measure : AC / DC voltage, AC / DC current, resistance, frequency, capacitance, inductance, triode HFE, diode (LED), thyristor (SCR) and circuit on-off. Meet the measurement needs of users with multi-function, high precision and automation.

Display accuracy

UT8803E digital multimeter can display 3 ½ digits (5999), It can provide you high-precision and accurate result display. Its simulation bar makes the display of measurement results more intuitive.



D/Q parameter measurement

UT8803E digital multimeter can measure D / Q parameters of capacitance and inductance. In the capacitance or inductance measure, press the EQR key to switch and view the measured value of parameters, so as to provide you with reference.



Inductance measurement

UT8803E digital multimeter has inductance test function. Switch to I option and cooperate with Q / R value measurement to better calibrate the measured inductance for you.



Triode / thyristor measurement

UT8803E digital multimeter can realize the measurement of triode and thyristor with the help of ut-s03a. Connect the tested part according to the fixture guidance, the magnification, conduction direction and conduction voltage of the tested part can be measured, and it can help you screen good products.



Multiple measurement items optional

UT8803E digital multimeter covers the testing of AC / DC voltage, AC / DC current, resistance, capacitance, inductance, temperature, frequency duty cycle, triode thyristor, diode and other items. Provide you with a comprehensive universal test instrument. Solve the measurement problem of basic electronic devices.



Extreme value function

The UT8803E digital multimeter has the function of

maximum and minimum value statistics. This function can help you find out the maximum output, the minimum output in batch products or multiple measurements.



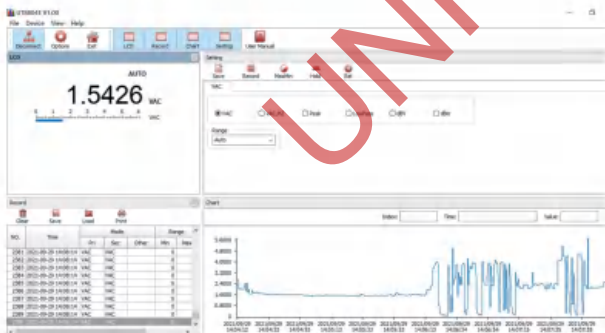
Reference value mode

Press REL to set the test reference value, which can be set according to the error or deviation of the measured items, Then you can see the calculation result relative to the reference value on the display,



Remote operation

UT8803E digital multimeter can be connected to the upper computer. After installing the driver software, it can realize remote viewing and control, and observe historical data and trend chart in real time.



Technical Specification

Explain:

Accuracy: $\pm(\%$ of reading + least significant digits), 1 year warranty

Ambient temperature: $23^{\circ}\text{C} \pm 5^{\circ}\text{C}$

Ambient humidity: $\leq 75\%$ RH

Input impedance: $10\text{M}\Omega$

Overload protection: $1000\text{V}/750\text{Vrms}$

AC Display: True RMS, applicable to $10\% \sim 100\%$ of the range

If current $\geq 10\text{A}$, measure time should less than 30s with 15mins interval. In open status, allowable error: ≤ 5 residual digits.

AC Voltage					
Range	Resolution	Accuracy			
		40-1kHz	1k-10kHz	10k-20kHz	20k-100kHz
600mV	0.1mV	$\pm(0.6\%+5)$	$\pm(1.2\%+5)$	$\pm(3\%+5)$	$\pm(4\%+5)$
6V	0.001V	$\pm(0.6\%+5)$	$\pm(1.2\%+5)$	$\pm(3\%+5)$	$\pm(4\%+5)$
60V	0.01V	$\pm(0.6\%+5)$	$\pm(1.5\%+5)$	$\pm(3\%+5)$	$\pm(8\%+5)$
600V	0.1V	40-1kHz	1k-10kHz		
		$\pm(0.6\%+5)$	$\pm(3.5\%+5)$		
750V	1V	40-1kHz	1k-3kHz		
		$\pm(1.2\%+5)$	$\pm(3\%+5)$		

DC Voltage				
Range	Resolution	Accuracy	remarks	
600mV	0.01mV	$\pm(0.5\%+2)$		
6V	0.0001V	$\pm(0.3\%+2)$		
60V	0.001V	$\pm(0.3\%+2)$		
600V	0.01V	$\pm(0.3\%+2)$		
1000V	0.1V	$\pm(0.5\%+3)$		

AC current			
Range	Resolution	Accuracy	
		40-10kHz	10k-15kHz
600uA	0.1uA	$\pm(1\%+5)$	$\pm(2\%+5)$
6mA	0.01mA	$\pm(1\%+5)$	$\pm(2\%+5)$
60mA	0.1mA	40-5kHz	5k-15kHz
		$\pm(1\%+5)$	$\pm(3\%+5)$
600mA	0.1mA	$\pm(1\%+5)$	$\pm(3\%+5)$
10A	0.01A	40-1kHz	1k-15kHz
		$\pm(2\%+6)$	$\pm(3\%+6)$

DC current		
Range	Resolution	Accuracy
600uA	0.1uA	$\pm(0.8\%+3)$
6mA	1uA	$\pm(0.8\%+3)$
6mA	0.01mA	$\pm(0.8\%+3)$
600mA	0.1mA	$\pm(1.5\%+3)$
10A	0.01A	$\pm(2\%+5)$

Resistance			
Range	Resolution	Accuracy	Remarks
600Ω	0.1Ω	±(0.8%+5)	Open circuit voltage: -0.5V
6kΩ	0.001kΩ	±(1%+5)	
60kΩ	0.01kΩ	±(1%+5)	
600kΩ	0.1kΩ	±(1%+5)	
6MΩ	0.001MΩ	±(2%+5)	
60MΩ	0.01MΩ	±(5%+5)	





Capacitance			
Range	Resolution	Accuracy	Remarks
6nF	0.001nF	±(2.5%+5)	Minimum measure range:>8PF Input impedance:4kΩ If capacitance>6.6mF, OL symbol appears
60nF	0.01nF	±(1.5%+5)	
600nF	0.1nF	±(1.5%+5)	
6uF	0.001uF	±(3%+10)	
60uF	0.01uF	±(3%+10)	
600uF	0.1uF	±(5%+5)	
6mF	1uF	±(10%+8)	

Inductance			
Range	Resolution	Accuracy	Remarks
600uH	0.1uH	±(2.5%+5)	Measure voltage:0.6V RMS Minimum measure range: >16uH Input impedance: 4KΩ
6mH	0.001mH	±(2%+5)	
60mH	0.01mH	±(2%+5)	
600mH	0.1mH	±(2%+5)	
6H	0.001H	±(2%+5)	
60H	0.01H	±(2%+5)	
100H	0.1H	Only for reference	

Equivalent resistance(ACR)Ω			
Range	Resolution	Accuracy	Remarks
60Ω	0.01Ω	±(2%+10)	Minimum measure range: >0.1Ω Input impedance: 4KΩ
600Ω	0.1Ω	±(1%+5)	
6kΩ	0.001kΩ	±(1%+5)	
60kΩ	0.01kΩ	±(1%+5)	
600kΩ	0.1kΩ	±(1%+5)	
2MΩ	0.001MΩ	±(5%+5)	

Temperature			
Range	Resolution	Accuracy	Remarks
-40C~0C	1C	±(2%+5)	K-type thermocouple applicable
0C~400C	1C	±(1%+5)	
400C~1000C	1C	±(2%+3)	
-40°F~32°F	1°F	±(2%+9)	
32°F~752°F	1°F	±(1%+9)	
752°F~1832°F	1°F	±(2%+6)	

Frequency/duty ratio			
Range	Resolution	Accuracy	Remarks
600Hz	0.1Hz	±(0.1%+10)	Sensitivity: frequency< 600KHz, amplitude> 15Vrms or frequency > 600kHz, amplitude>2.5Vrms, minimum input>5Hz. Duty ratio measurement only applicable for square waves≤10kHz. 2Vpp≤input amplitude≤30Vpp Frequency<1kHz, Duty: 5.0%~95.0% Frequency>1kHz, Duty: 30.0%~70.0%
6kHz	0.001kHz	±(0.1%+10)	
60kHz	0.01kHz	±(0.1%+10)	
600kHz	0.1kHz	±(0.1%+10)	
6MHz	0.001MHz	±(0.1%+10)	
20MHz	0.01MHz	±(0.1%+10)	
5%~95%	0.1%	Only for reference	

Diode/audion/thyristor/continuity				
Function	Position	Resolution	Accuracy	Remarks
Diode		10mV	0.5-0.8V	When measuring hFE, Ib0: about 10uA; Vce: about 2.8V When measuring diode, Silicon PN junction onset voltage drop: 0.5-0.8V, open status voltage: 8V
SCR test	SCR	10mV	0.1-2V	
Audion hFE	hFE	1β	No specified	When measuring continuity, in good conducted circuit, resistance<10Ω, buzzer goes off; in open circuit, resistance>30Ω, buzzer does not go off.
Continuity		About 0.1Ω	No specified	When measuring SCR, onset voltage drop: 0.1-2V; open circuit voltage: about 9V.
Display	SCR polarity indicator	Status		SCR polarity
0.1-2V		Normal		Two-way
0.1-2V		Normal		One-way
ERR		SCR bad contact		Unknown
OL		Pulse width term: > \ < \ =		Unknown



*The UTD8803E have been certified by CE, cETLus.

Standard accessories

UT-L41 test lead	Alligator clip short test lead:110-130mm
UT30(CE) test probe	Test Leads , Double insulated wire CAT III 1000V /CAT IV 600V 10A
UT-T01 K-type temperature probe	Temperature probe, flat plug-in point thin wire 1000 K type
UT-S03A	Auxiliary test fixture for triode thyristor
Power cable	Fits the standard of destination country
USB data cable	USB standard printer cable length 1m (RoHS)

Warranty

Three-years warranty, excluding probes and accessories.

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