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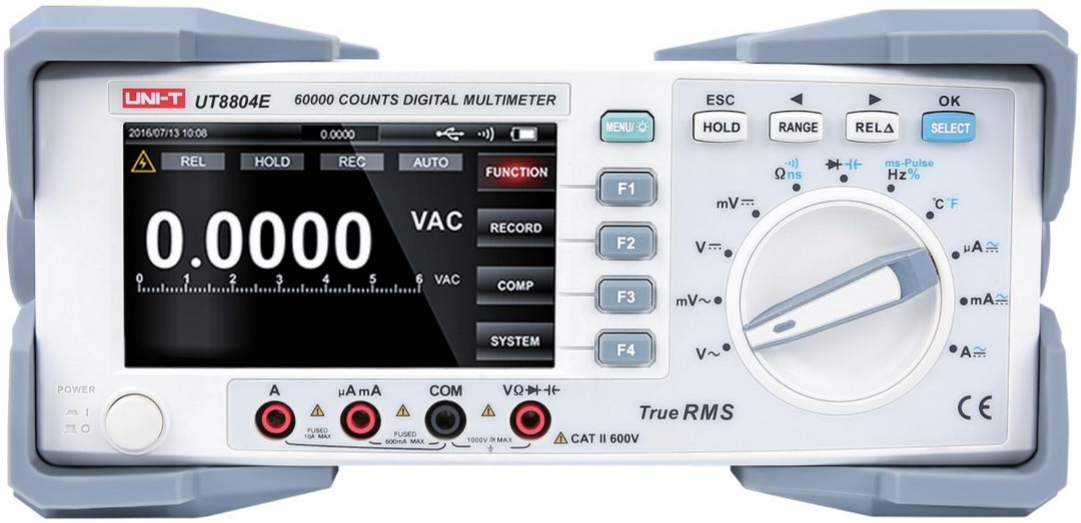
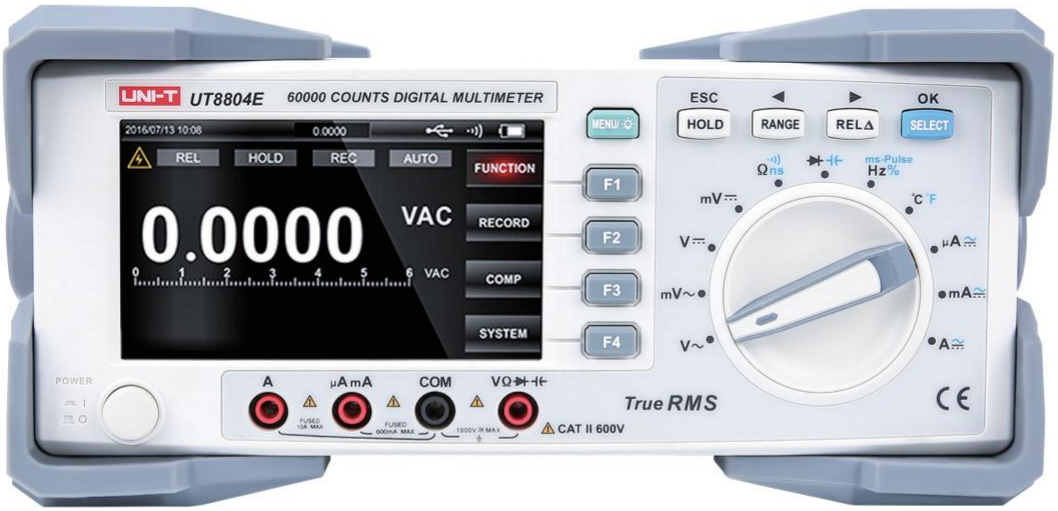


Data Sheet

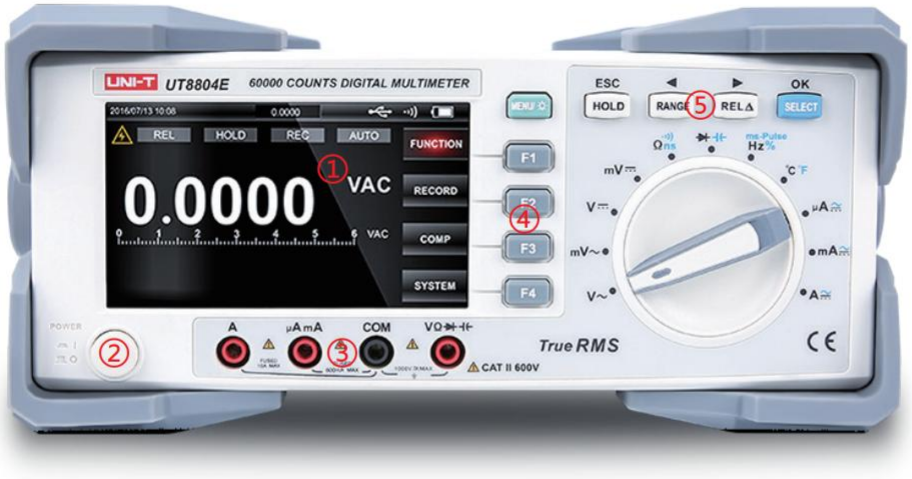
UT8804E Benchtop Digital Multimeter



Main Features

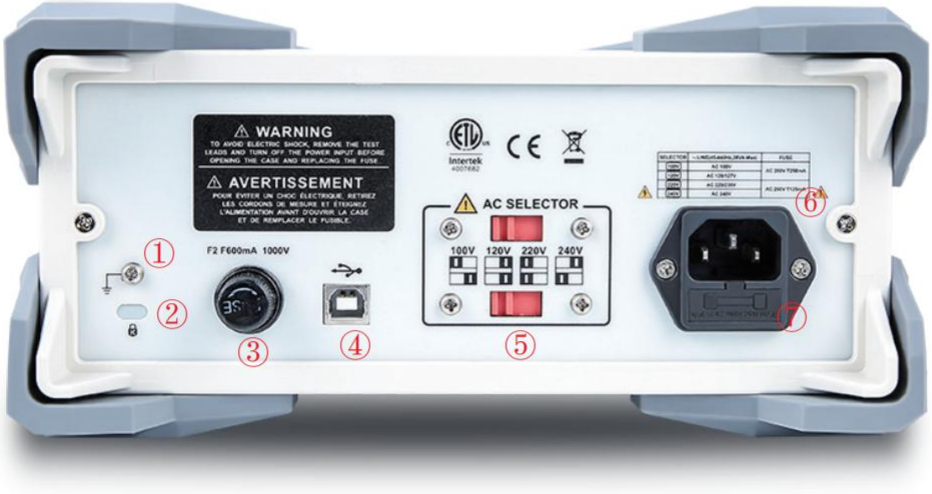
- Reading resolution: 4½, maximum reading 59999
- Measuring rate: 2 reading/s
- DC voltage range: 60mV～1000V
- DC current range: 600μA～20A
- AC voltage range: 60mV～1000V（True-RMS）
- AC current range: 600μA～20A（True-RMS）
- Resistance range: 600Ω～60MΩ
- Capacitance range: 6nF～60mF
- Conductivity range: 60ns
- Frequency measurement range: 60Hz～60MHz
- Duty cycle measurement range: 10%~90%
- Mathematical operation: maximum, minimum, average, peak, comparative measurement, trend chart
- Interface: USB device, It can be connected to the upper computer control software
- Frequency response: 100KHz
- Data record: 20000 groups
- LPF low pass filter function
- Support global mains voltage

Multimeter Panel



①LCD display ②Power switch ③Input interfaces ④Menu operating buttons

⑤Measure and auxiliary function buttons ⑥Function selector knob



①GND ②Lockhole ③Current measurement fuse ④USB Device interface

⑤AC voltage selector ⑥Power supply interface ⑦Power supply fuse

Product Introduction

UT8804E is a 4⅝-count benchtop digital multimeter (hereinafter referred to as the meter) with auto range， color display and true RMS measurement functions. Its circuit design adopts large scale integrated circuit A/D conversion, microprocessor, multifunction measurement and high stable thin-film resistor manufacturing technology， which makes it a digital multimeter with superior performance. The meter can be used to measure AC/DC voltage, AC/DC current, resistance, conductance, diode, continuity, capacitance, temperature, frequency, pulse width, etc. Besides, it also has data hold, max/min/ average value measurement, comparison function measurement, relative value measurement, peak detection, tendency chart capture, and up to 20000 data recording/readback functions. The integrated 4.3-inch color display provides multi-level, comprehensive measurement results with both readings and tendency charts, Which makes the result at a glance.

Display accuracy

UT8804E digital multimeter can display 4 ⅝ digits (59999), It can provide you high-precision and accurate result display. Its simulation bar makes the display of measurement results more intuitive. 4.3 inch full-color display, giving you a better visual experience.

Comparison function

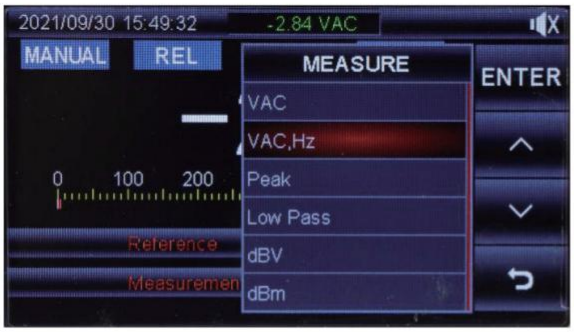
UT8804E digital multimeter has comparison function. For the index range required by batch device test, UT8804E will help you automatically identify unqualified devices and give an alarm.

Extreme value function

The UT8804E digital multimeter has the function of maximum and minimum value statistics. This function can help you find out the maximum output, the minimum output and the average value. Besides, it can also give the time when the extreme value appears and the total measurement time slot. The statistical method is applicable to all testable items such as voltage, current, resistance and capacitance.

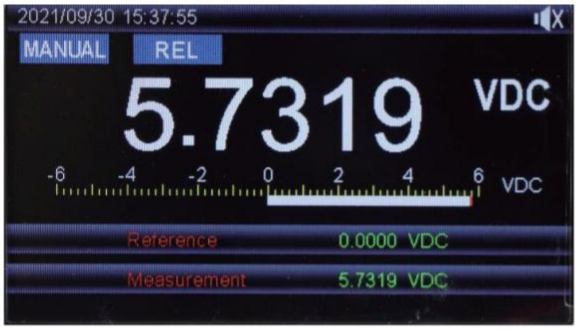
Multiple measurement items optional

For each test item, multiple test parameters can be selected to meet your test requirements. Additional secondary parameters can be added to make the measurement more specific, while displaying the main parameters.



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, The reference value and original measured value are also displayed for reference.



Data record

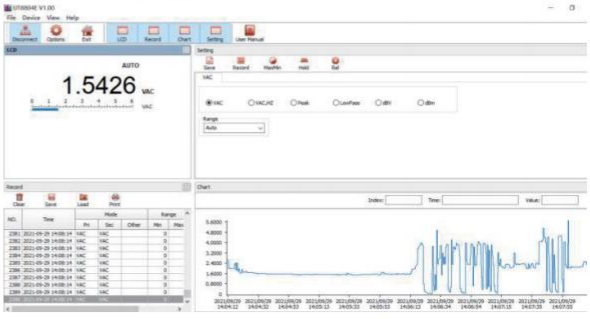
In addition to the data saving function, the UT8804E digital multimeter also has the recording function. You can record all the measured data captured in the test according to the measurement needs. During the recording process, REC• will show that the recording is in progress, and will display the number of samples recording duration, extreme value, average value and other information.

Historical data analysis

The recorded data record will have full-time statistical data and intuitive trend chart when looking back, which is convenient for you to check the abnormal data in the time slot. The value at a certain time point can also obtained by adjusting the cursor in the trend chart.

Remote operation

UT8804E 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:±(%of reading + digits)

If the ambient temperature changes by ±5℃, the accuracy will not be used until 2 hours later

The calibrator is 1 year

Ambient temperature:23℃±5℃

Ambient humidity:≤75% RH

Temperature coefficient:0.1×(specified accuracy)/℃ (<18℃or>28℃)

Input impedance: About 10MΩ

Overload protection: 1000V

AC Display: True RMS, applicable to 10%~100% of the range

When the measured current is Close to 20A， each measurement time should be less than 30s and the rest interval should be more than 10 minutes!

AC Voltage					
Range	Resolution	Accuracy			
		45-1kHz	1k-10kHz	10k-20kHz	20k-100kHz
60mV	0.001mV	±(0.6%+60)	±(1.2%+60)	±(3%+60)	±(4%+60)
600mV	0.01mV	±(0.3%+30)	±(1.2%+40)	±(3%+40)	±(4%+40)
6V	0.0001V	±(0.3%+30)	±(1.2%+40)	±(3%+40)	±(4%+40)
60V	0.001V	±(0.3%+30)	±(1.2%+40)	±(3%+40)	±(4%+40)
600V	0.01V	±(0.4%+30)	±(1.2%+40)	±(3%+40)	for reference only
1000V	0.1V	45-1kHz ±(0.6%+30)	1k-5kHz ±(3%+40)	5k-10kHz ±(6%+40)	10k-100kHz for reference only
DC Voltage					
Range	Resolution	Accuracy	remarks		
60mV	0.001mV	±(0.025%+20)	This gear requires the relative mode(REL) function to compensate for bias		
600mV	0.01mV	±(0.025%+5)			
6V	0.0001V	±(0.025%+5)			
60V	0.0001V	±(0.025%+5)			
600V	0.01V	±(0.003%+5)			
1000V	0.1V	±(0.003%+5)			
AC Voltage + DC Voltage					
Range	Resolution	Accuracy			
		50-1kHz	1k-10kHz	10k-35kHz	
60mV	0.001mV	±(1%+80)	±(3%+40)	±(6%+40)	
600mV	0.01mV	±(1%+80)	±(3%+40)	±(6%+40)	
6V	0.0001V	±(1%+80)	±(3%+40)	±(6%+40)	
60V	0.001V	±(1%+80)	±(3%+40)	±(6%+40)	
600V	0.01V	±(1%+80)	for reference only	for reference only	
1000V	0.01V	±(1.2%+80)	for reference only	for reference only	
AC current					
Range	Resolution	Accuracy			

		45-1kHz	1k-10kHz
600uA	0.01uA	±(0.6%+40)	±(1.2%+40)
6000uA	0.1uA	±(0.6%+20)	±(1.2%+40)
60mA	0.001mA	±(0.6%+40)	±(1.2%+40)
600mA	0.01mA	±(0.6%+20)	±(0.6%+20)
6A	0.0001A	±(1%+20)	±(3%+40)
10A	0.001A	±(1%+20)	±(3%+40)

DC current		
Range	Resolution	Accuracy
600uA	0.01uA	±(0.08%+20)
6000uA	0.1uA	±(0.08%+10)
60mA	0.001mA	±(0.08%+20)
600mA	0.01mA	±(0.15%+10)
6A	0.0001A	±(0.3%+10)
10A	0.001A	±(0.5%+10)

AC current + DC current			
Range	Resolution	Accuracy	
		50-1kHz	1k-10kHz
600uA	0.1uA	±(0.8%+40)	±(2.0%+40)
6000uA	0.1uA	±(0.8%+20)	±(2.0%+40)
60mA	0.001mA	±(0.8%+40)	±(2.0%+40)
600mA	0.01mA	±(0.8%+20)	±(2.0%+40)
6A	0.0001A	±(1.2%+20)	±(3%+40)
10A	0.001A	±(1.2%+20)	±(3%+40)

Resistance			
Range	Resolution	Accuracy	Remarks
600Ω	0.01Ω	±(0.05%+10)	In the REL state
6kΩ	0.0001kΩ	±(0.05%+2)	
60kΩ	0.001kΩ	±(0.05%+2)	
600kΩ	0.01kΩ	±(0.05%+2)	
6MΩ	0.0001MΩ	±(0.3%+10)	
60MΩ	0.001MΩ	±(2%+10)	Required humidity < 50%

Conductance			
Range	Resolution	Accuracy	Remarks
6nF	0.001nF	±(3%+10)	
60nF	0.01nF	±(2.5%+5)	
600nF	0.1nF	±(2%+5)	
6uF	0.001uF	±(2%+5)	
60uF	0.01uF	±(2%+5)	
600uF	0.1uF	±(2%+5)	
6mF	6mF	±(5%+5)	
60mF	10uF	Not specified	

Temperature			
Range	Resolution	Accuracy	Remarks
-40℃~40℃	1℃	±(2%+30)	Temperature sensor: the accessories are point type K thermocouple, which is only applicable to the measurement of temperature below 230℃.
40℃~100℃	1℃	±(1%+30)	
100℃~1000℃	1℃	±2.5%	
-40°F~104°F	1°F	±(2.5%+50)	
104°F~752°F	1°F	±(1.5%+50)	
752°F~1832°F	1°F	±2.5%	

Temperature			
Range	Resolution	Accuracy	Remarks

-40℃~40℃	1℃	±(2%+30)	Temperature sensor: the accessories are point type K thermocouple, which is only applicable to the measurement of temperature below 230℃.
40℃~100℃	1℃	±(1%+30)	
100℃~1000℃	1℃	±2.5%	
-40°F~104°F	1°F	±(2.5%+50)	
104°F~752°F	1°F	±(1.5%+50)	
752°F~1832°F	1°F	±2.5%	
Frequency			
Range	Resolution	Accuracy	Remarks
60Hz	0.001Hz	±(0.02%+8)	Input amplitude requirements: 10Hz~30MHz: 600mV≤a≤30Vrm
600Hz	0.01Hz	±(0.01%+5)	
6kHz	0.0001kHz	±(0.01%+5)	
60kHz	0.001kHz	±(0.01%+5)	
600kHz	0.01kHz	±(0.01%+5)	
6MHz	0.0001MHz	±(0.01%+5)	
60MHz	0.001MHz	±(0.01%+5)	
Duty Ratio			
Range	Resolution	Accuracy	Remarks
10%~90% (10Hz~2kHz)	0.01	±(1.2%+30)	Rise time:<1us, the signal is centered on the triggering level.
Pulse Width			
Range	Resolution	Accuracy	Remarks column
250m	0.001mS~ 0.01mS	±(1.2%+30)	10Hz ~ 60KHZ, pulse width > 2us. The pulse width range is determined by the frequency of the signal. Input amplitude requirements: 1vpp ≤ a ≤ 20vpp.
Continuity Measurement			
Range	Resolution	Remarks	
	0.01Ω	The OCV is about 3V; Short circuit alarm: If the resistance is<10Ω, the buzzer goes off continuously; If the resistance is>50Ω, the buzzer does not go off. Open circuit alarm: If the resistance is>50Ω, the buzzer goes off continuously; If the resistance is<10Ω, the buzzer does not go off.	
Diodes Measurement			
Range	Resolution	Remarks	
	0.0001V	The OCV is about 3V, and the measurable forward voltage drop value of the PN junction is about 3V. When the buzzer is activated, short beep indicates the normality of the PN junction; continuous beep indicates the short circuit of the PN junction. The typical voltage of silicon PN junction is about 0.5 to 0.8V.	

*The UTD8804E have been certified by CE, cETLus.

Warranty

Three-years warranty, excluding probes and accessories.

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