



# Datasheet

## UTR2810+ Series Digital LCR Meter

V1.0

2024-07-10

# 1. Main Features

2.8" TFT true color LCD

Multiple measurement frequency: 100Hz, 120Hz, 1kHz, 10kHz, accuracy: 0.02%

Highest measurement accuracy: 0.1%

The main and auxiliary parameters can be matched freely, with 42 combinations in total

Test speed: slow / medium / fast

The fastest test speed is 33 times / s

Automatic LCR measurement function

Comparator function (4th gear sorting)

UTR2810E can send sorting signal through Handler interface

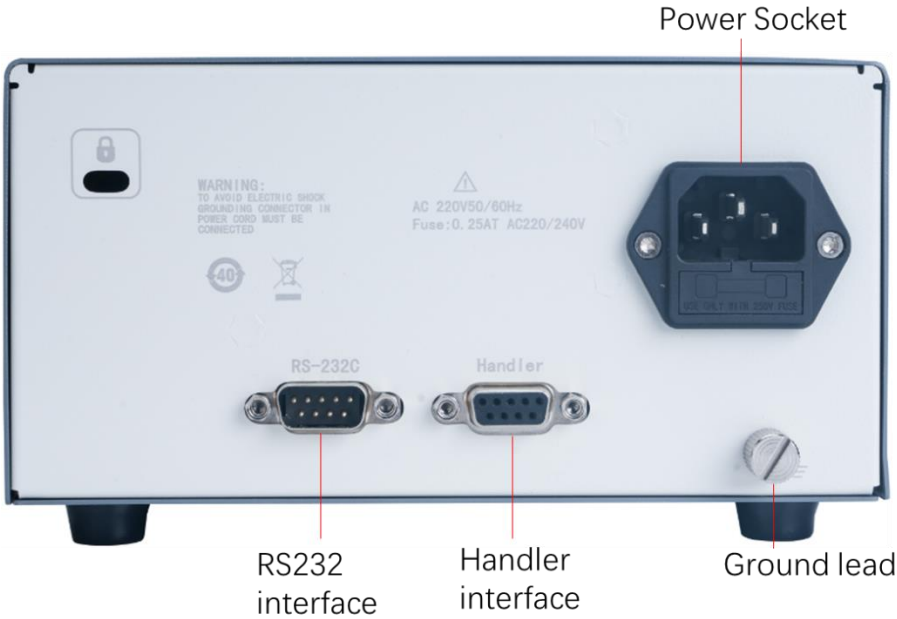
UTR2810E can be connected to the upper computer for statistical analysis

UTR2810E has bus trigger and external trigger functions

## 2. Product Overview

UTR2810+ series LCR digital bridge is a new generation of low frequency component measuring instrument. Small size, light weight, beautiful appearance, simple operation, ultra-high cost performance and good test stability. It can meet the needs of production line quality assurance, incoming material inspection and automatic production.

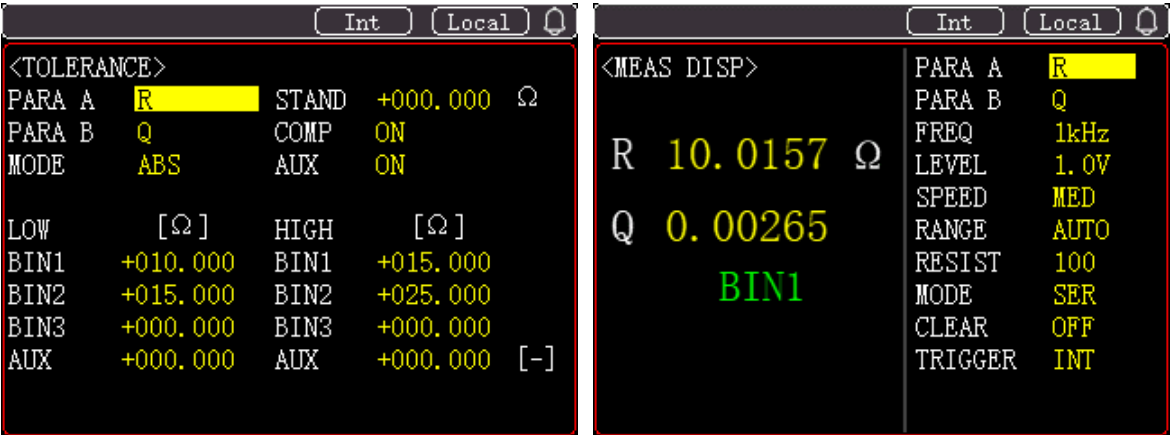




### 3. Design Highlights

Four stage sorting

The full series of UTR2810+ is equipped with four gear sorting comparators, BIN1, BIN2, BIN3, NG. Cooperate with auxiliary parameter AUX to realize multi-stage sorting function. Help you better and more carefully control the quality of electronic components.



#### 2.8inch TFT LCD display

UTR2810+ series is equipped with 2.8inch full-color LCD display. More parameters are displayed, and the color discrimination of measurement results is more intuitive. It is more conducive to human-computer interaction and improve the use experience.



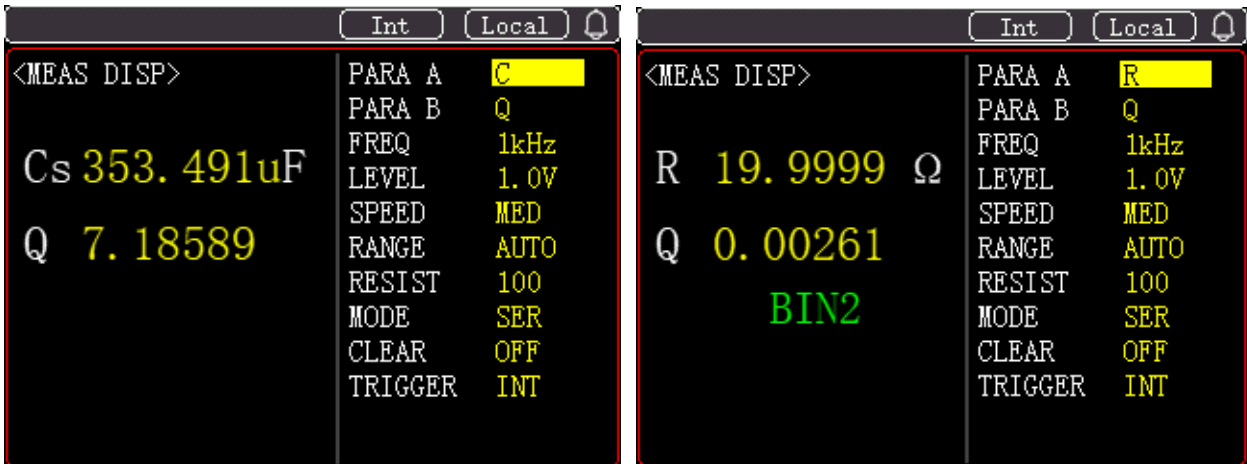
Full screen display

Long press the [Meas] key, the test result could be displayed in full screen.



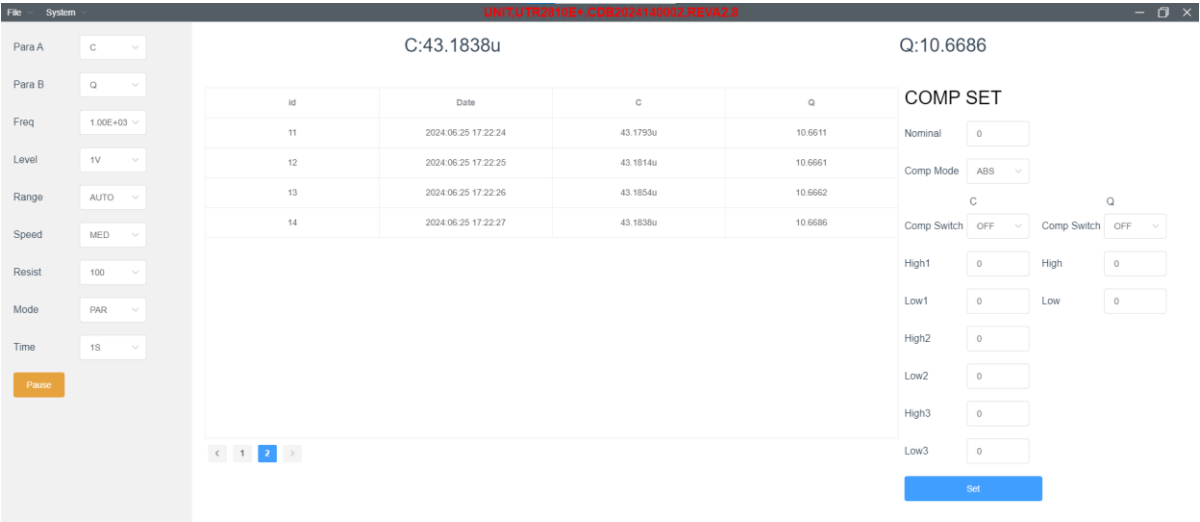
High measurement accuracy

The basic accuracy of UTR2810+ series measurement can reach 0.1%. Provide multi frequency, multi-level, multi internal resistance and other measurement parameters. Make the measurement results more accurate and meet a variety of application scenarios



Remote control

The UTR2810E+ uses the RS232 interface to connect the upper computer, so as to realize remote control. With the host computer software, the data record and filtering can be displayed at the same time. Support SCPI protocol, which can be applied to automatic construction.



4.Technical Index

Model		UTR2811E+	UTR2810E+
Test signal frequency	Frequency	100Hz,120Hz,1kHz,10kHz	100Hz,120Hz,1kHz,10kHz
	Accuracy	0.02%	0.02%
AC level	Voltage range	0.1V,0.3V,1V	0.1V,0.3V,1V
	Accuracy	±10%×set value	±10%×set value
Internal resistance of AC source	Resistance	30Ω / 100Ω	30Ω / 100Ω
	Accuracy	±5%	±5%
Measurement parameters		Main parameters: Cp,Cs,Lp,Ls,Z,R,G,Y Secondary parameters: D,Q,X,B,Rp,Rs,θr,θd Auto LCR Free collocation of main and auxiliary parameters	Main parameters: Cp,Cs,Lp,Ls,Z,R,G,Y Secondary parameters: D,Q,X,B,Rp,Rs,θr,θd Auto LCR Free collocation of main and auxiliary parameters
Test speed (ms / time)		Fast: 43ms; Medium speed: 185ms; Slow speed: 350ms	Fast: 43ms; Medium speed: 185ms; Slow speed: 350ms

Display range	R, X,  Z : 0.00001Ω ~ 99.9999MΩ; G, B,  Y  : 0.00001uS ~ 999.999S; L: 0.00001uH ~ 9.99999kH; C: 0.00001pF ~ 999.999mF; D: 0.00001 ~ 9.99999; Q: 0.00001 ~ 99999.9; θd: -179.999° ~ 179.999°; θr: -3.14159 ~ 3.14159;	R, X,  Z : 0.00001Ω ~ 99.9999MΩ; G, B,  Y  : 0.00001uS ~ 999.999S; L: 0.00001uH ~ 9.99999kH; C: 0.00001pF ~ 999.999mF; D: 0.00001 ~ 9.99999; Q: 0.00001 ~ 99999.9; θd: -179.999° ~ 179.999°; θr: -3.14159 ~ 3.14159;
Basic accuracy	C: 0.1% (1+ Cx/Cmax+ Cmin/Cx X1+Dx X1+ks+kv+kf )ke L: 0.1% (1+ Lx/Lmax+ Lmin/Lx X1+1/Qx X1+ks+kv+kf )ke Z: 0.1% (1+ Zx/Zmax+ Zmin/Zx X1+ks+kv+kf )ke R: 0.1%(1+ Rx/Rmax+ Rmin/Rx X1+QxX1+ks+kv+kf )ke D: 0.0010(1+ Zx/Zmax+ Zmin/Zx X1+Dx+Dx2 X1+ks+kv+kf )ke Q: 0.0015(1+ Zx/Zmax+ Zmin/Zx XQx+1/Qx X1+ks+kv+kf )ke	
Test end configuration	Open circuit, short circuit	Open circuit, short circuit
Clear function	Open circuit, short circuit	Open circuit, short circuit
Equivalent mode	Series, parallel	Series, parallel
Range mode	Hold, auto	Hold, auto
Trigger mode	Internal, manual	Internal, manual, external, bus
Mathematical operation	Direct reading, ΔABS, Δ%	Direct reading, ΔABS, Δ%
Comparator	Para A 4-gear sorting, BIN1-BIN3, NG, Para B 2-gear sorting, AUX, NG, front panel LCD display	Para A 4-gear sorting, BIN1-BIN3, NG, Para B 2-gear sorting, AUX, NG, front panel LCD display
Interface	-	RS232、HANDLER
Upper computer function	-	Statistical analysis of upper computer
Power	110V/220V 50/60Hz 20W-30W	110V/220V 50/60Hz 20W-30W
Display	2.8" TFT LCD 240×320	2.8" TFT LCD 240×320
Product size (W×H×D)	267mm×174mm×88mm	267mm×174mm×88mm
Product net weight	2.15kg	2.15kg

## 5. Accessory

Name	Number	Description
UTR-001	1	Short circuit board (UTR2810E+)
UTR-L10kE	1	Kelvin test cable with crocodile clip
UTR-S100KE	1	4-wire test box (UTR2810E+)
Communication cable	1	RS232 Communication cable (UTR2810E+)
Power cable	1	Fits the standard of destination country
Fuse	2	0.25A for 220V, 0.5A for 110V

## 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 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](http://instrument.uni-trend.com) for full warranty information.



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