



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)

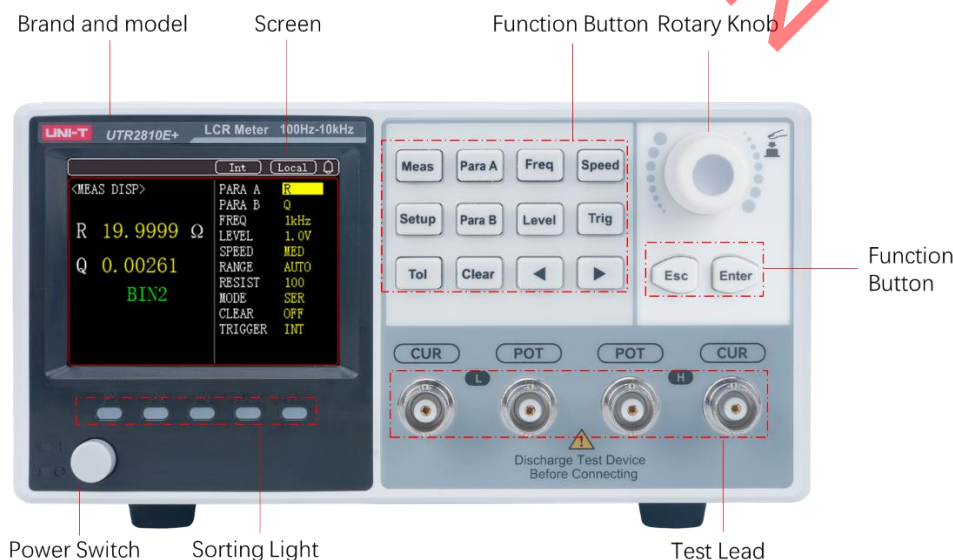
UTR2810E can send sorting signal through Handler interface

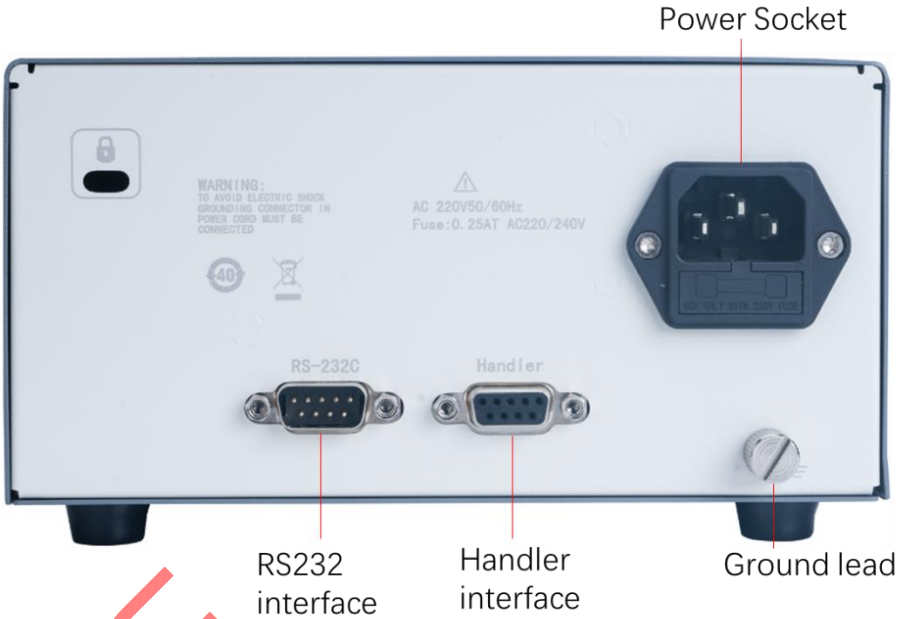
UTR2810E can be connected to the upper computer for statistical analysis

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.

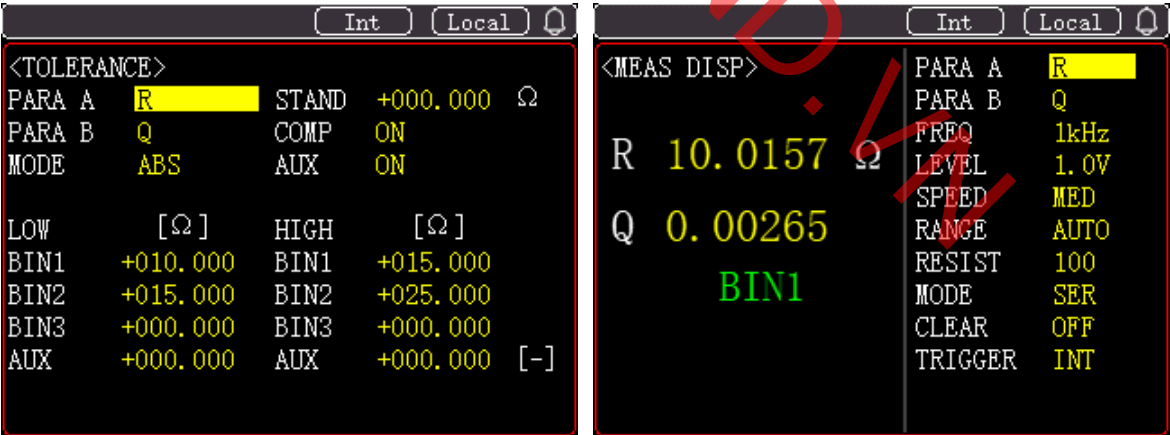




3. Design Highlights

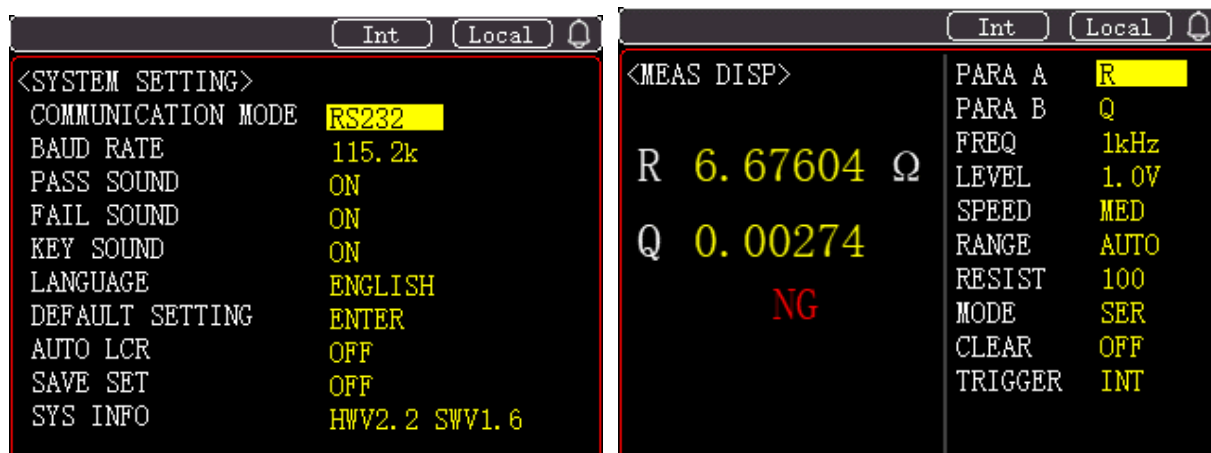
Four stage sorting

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.



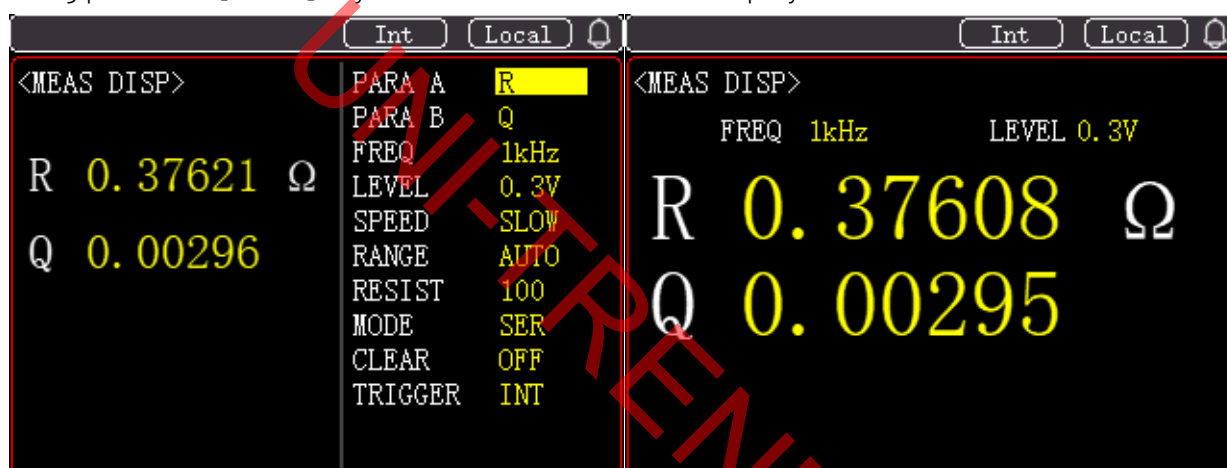
2.8inch TFT LCD display

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.



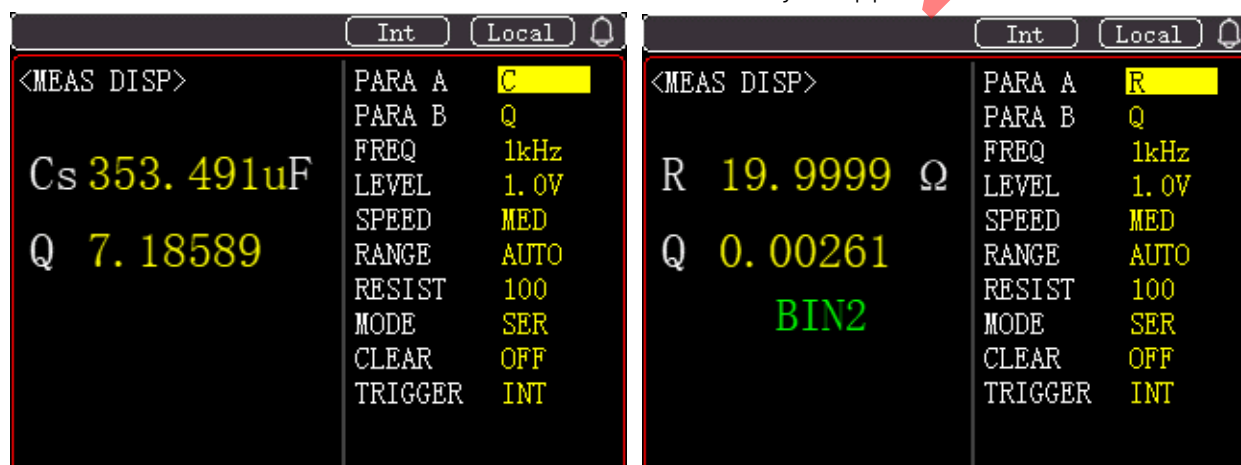
Full screen display

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 | - | RS232C 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

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