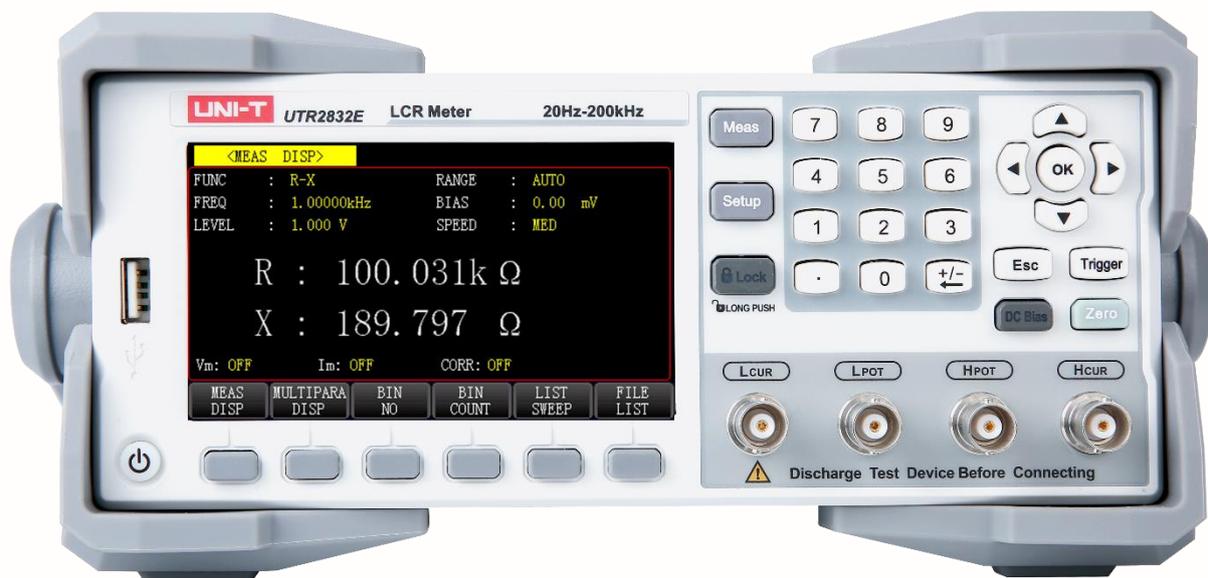


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Datasheet

UTR2830 Series Digital LCR Meter

1. Main Features

- 4.3 inch TFT - LCD, concise operation panel
- Maximum test frequency: 300kHz
- Basic accuracy: 0.05%
- Testing speed: 12.5ms/time
- Internal resistance: 30 Ω , 50 Ω , 100 Ω
- 10 BIN sorting, count, PASS/FAIL
- Soft power switch
- DCR function
- Multiple interfaces: RS232, HANDLER, USB HOST, USB DEVICE, LAN

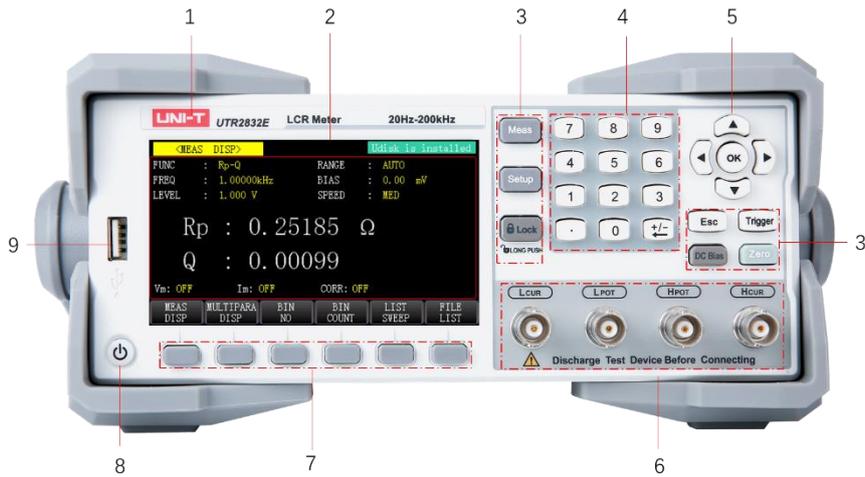
2. Product Introduction

UTR2830 series LCR is a new generation of low-frequency component measurement instruments. It has the advantages of small size, light weight, beautiful appearance, easy operation, ultra-high cost performance and good test stability. It can meet the needs of production line quality assurance, incoming and outgoing quality inspection and automatic production.

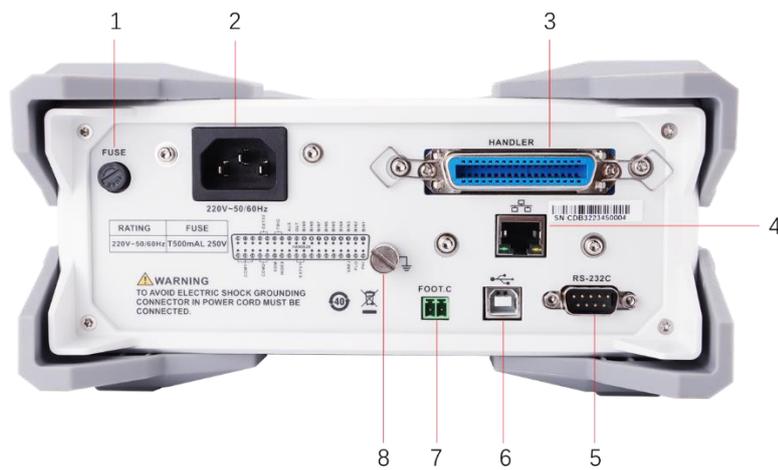
Application field

Passive component: evaluation of impedance parameters of capacitor, inductor, magnetic core, resistor, piezoelectric device, transformer, chip assemblies and network components, etc.

Other component: evaluation of impedance parameters of printed circuit board, relay, cable and battery, etc.



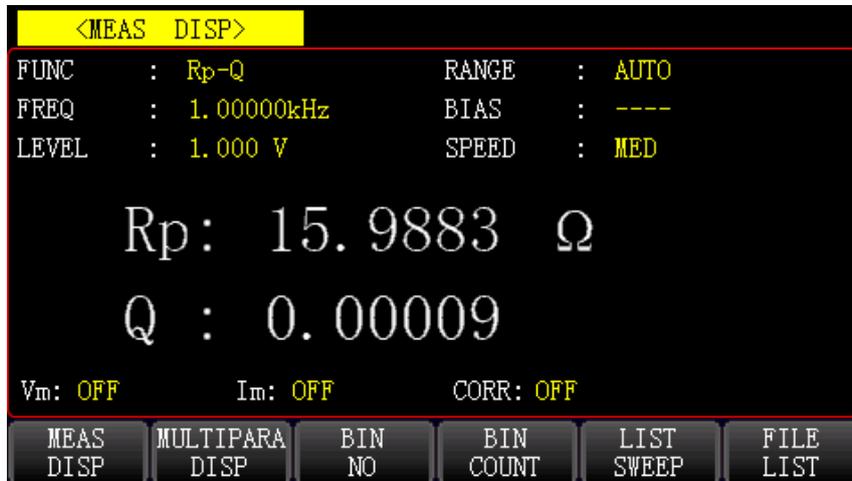
| No. | Name | No. | Name |
|-----|----------------------|-----|--------------------------|
| 1 | Nameplate | 6 | Test terminal |
| 2 | Display screen | 7 | Functional key of screen |
| 3 | Function key | 8 | Power switch |
| 4 | Numerical keyboard | 9 | USB HOST |
| 5 | Arrow key and OK key | | |



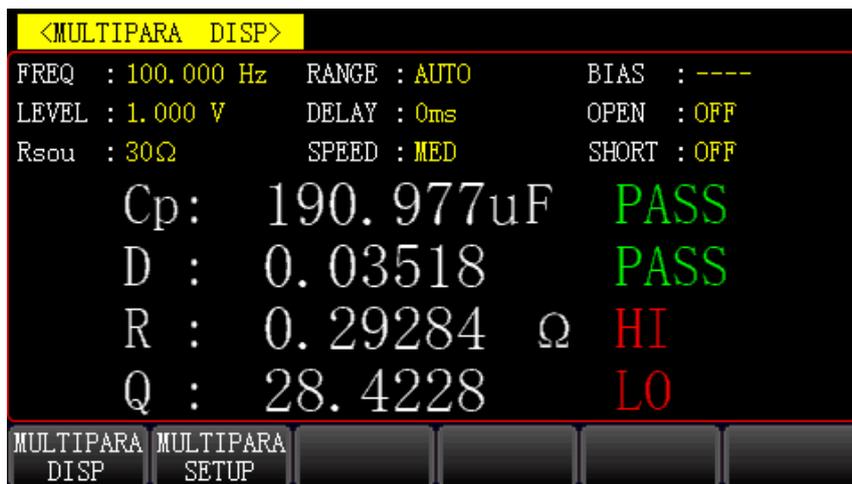
| No. | Name | No. | Name |
|-----|--------------------------|-----|-----------------------|
| 1 | Fuse | 5 | RS232 interface |
| 2 | AC 220/110V power socket | 6 | USB DEVICE interface |
| 3 | HANDLER interface | 7 | 3.81 plug-in terminal |
| 4 | Network interface | 8 | Ground terminal |

3. Design Highlight

Measurement Display

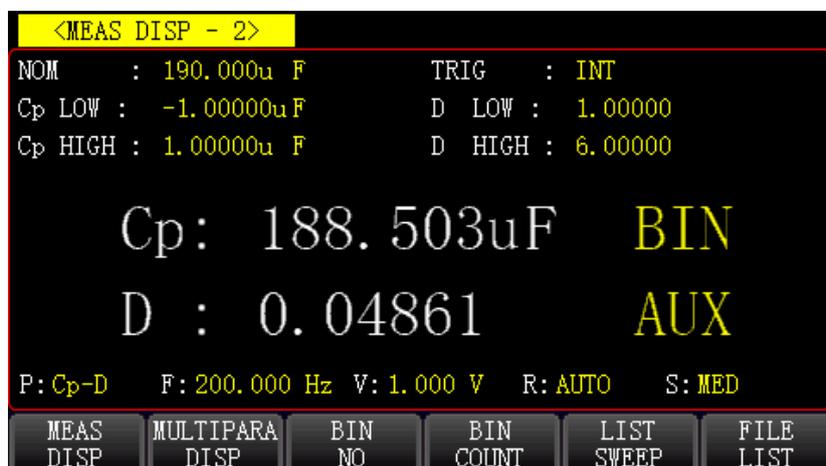


Double parameter display



Multiple parameter judgment and test result display

Comparator



UTR2830 series built-in comparator function divides the DUT to 10 BIN (BIN1 to BIN9 and BIN OUT). It can set the limit of 9 set of primary parameter and one pair of secondary parameter.

When the comparator function is enabled (ON), the sorted result will display on the measurement display 2 and BIN NO. page. The sorted result can also be output via HANDLER interface. The automatic sorting test can be realized when the test result is output to the automatic test system.

List Sweep

| <LIST SWEEP DISP> | | | | | |
|-------------------|----------|----------|--------------------|---------|-----|
| MODE : SEQ | | | | | |
| No. | FREQ[Hz] | LEVEL[V] | C _p [F] | D[-] | CMP |
| 001 | 1.00000k | 1.000 | 180.805u | 0.14451 | P |
| *002 | 800.000 | 1.500 | 179.618u | 0.11867 | P |
| 003 | 200.000 | 1.000 | 188.536u | 0.04859 | P |
| 004 | --- | --- | --- | --- | --- |
| 005 | --- | --- | --- | --- | --- |
| 006 | --- | --- | --- | --- | --- |
| 007 | --- | --- | --- | --- | --- |
| 008 | --- | --- | --- | --- | --- |
| 009 | --- | --- | --- | --- | --- |
| 010 | --- | --- | --- | --- | --- |

MEAS DISP
MULTIPARA DISP
BIN NO
BIN COUNT
LIST SWEEP
FILE LIST

The list sweep function can perform automatic sweep test of up to 201 points of test frequency, test level or DC bias.

The test point is automatically swept and the test result is compared to the limit. During the test, the data change and judgment result will be displayed on the screen.

In list sweep, an icon "*" on the left indicates the currently test point.

Bin Count

| <BIN COUNT DISP> | | | |
|------------------|-------------------|----------|--------------------|
| FUNC : | C _p -D | NOM. : | 180.000u F COUNT : |
| | | | ON |
| BIN | Low [F] | HIGH [F] | COUNT |
| 1 | -1.00000u | 1.00000u | 0 |
| 2 | -2.00000u | 2.00000u | 17 |
| 3 | -3.00000u | 3.00000u | 0 |
| 4 | ----- | ----- | 0 |
| 5 | ----- | ----- | 0 |
| 6 | ----- | ----- | 0 |
| 7 | ----- | ----- | 0 |
| 8 | ----- | ----- | 0 |
| 9 | ----- | ----- | 0 |
| 2nd | ----- | ----- | [-] |
| AUX : | OFF | OUT : | 0 |

OFF
ON

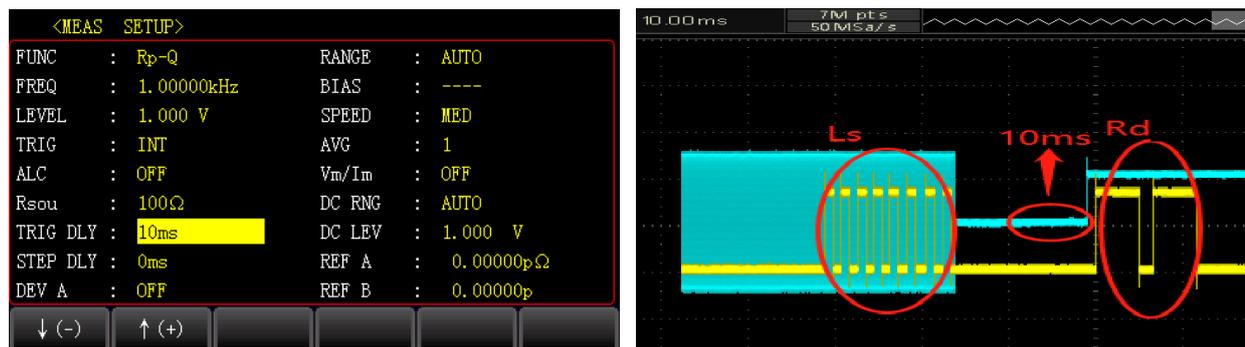
RESET COUNT

Bin count function can automatically count and display the number during the sorting test.

This page is related to the LIMIT SETUP page, so the parameter setting on the LIMIT SETUP page will be synchronized with the BIN COUNT DISP page.

The sorted result will directly display on BIN COUNT DISP page.

Trigger Delay



Trigger Delay: The delay between when the instrument starts to output the excitation signal and when the measurement starts.

4. Technical Specification

| Model | | UTR2830E | UTR2832E | UTR2833E |
|------------------------------------|-------------------------------|--|--|--|
| Display screen | | 4.3 TFT LCD 480×272 | 4.3 TFT LCD 480×272 | 4.3 TFT LCD 480×272 |
| Frequency of test signal frequency | Test frequency | 20Hz ~ 100kHz(± 0.02%) (continuous frequency point) | 20Hz ~ 200kHz(± 0.02%) (continuous frequency point) | 20Hz ~ 300kHz(± 0.02%) (continuous frequency point) |
| | Minimum resolution | 100mHz | 100mHz | 100mHz |
| Accuracy | | LCRZ 0.05%, DCR 0.1% | LCRZ 0.05%, DCR 0.1% | LCRZ 0.05%, DCR 0.1% |
| AC level | Voltage range of test signal | 10mVrms - 2Vrms | 10mVrms - 2Vrms | 10mVrms - 2Vrms |
| | Minimum resolution of voltage | 10mV | 10mV | 10mV |
| | Accuracy | 10% x the set voltage + 2mV | 10% x the set voltage + 2mV | 10% x the set voltage + 2mV |
| | Current range of test signal | 100μArms - 20mArms | 100μArms - 20mArms | 100μArms - 20mArms |
| | Minimum resolution of current | 0.1mA | 0.1mA | 0.1mA |
| DC level | Voltage range of test signal | 1V | 50mV - 2V | 50mV - 2V |
| Internal resistance of AC | ISO ON | 100Ω | 100Ω | 100Ω |
| | ISO OFF | 30Ω / 50Ω / 100Ω | 30Ω / 50Ω / 100Ω | 30Ω / 50Ω / 100Ω |
| DC bias voltage | Range of Voltage / Current | -- | 0V - ± 5V | 0V - ± 5V |
| | Resolution | -- | 1mV | 1mV |
| | Accuracy of voltage | -- | 1% x the set voltage + 5mV | 1% x the set voltage + 5mV |
| Internal resistance of DCR | | 100Ω | 100Ω | 100Ω |
| Testing parameter | | L, C, R, Z , D, Q, Y , G, X, θd, θr, RDC, Vm, Im, Δ% | | |
| Testing speed (ms/time) | | Fast speed: 12.5ms; Medium speed: 83ms; Slow speed: 167ms | | |
| Display range | | Display range: R, X, Z : 0.00001 Ω ~ 99.9999MΩ; G, B, Y : 0.00001μS ~ 99.9999S; | | |

| | |
|---------------------------|---|
| | L: 0.00001uH ~ 99.9999kH; C: 0.00001pF ~ 9.99999F; D: 0.00001 ~ 9.99999; Q: 0.00001 ~ 99999.9; θ d: - 179.999° ~ 179.999 °; θ r: - 3.14159 ~ 3.14159; DCR: 0.00001Ω ~ 999.999MΩ; Δ %: - 999.999% ~ 999.999% |
| V/I monitoring | √ |
| Test lead | 5 - end |
| Zero clearing | Open - circuit, short - circuit, load |
| List sweep | 201 counts, scanning parameter: test frequency, AC voltage, AC current, DC BIAS voltage, DC BIAS current |
| Equivalent circuit | Serial connection, parallel connection |
| Picture scanning analysis | -- |
| Range mode | Auto, Hold |
| Trigger mode | Internal, manual, external, bus |
| Average number | 1~255 |
| Mathematical operation | Direct reading, Δ ABS, Δ % |
| Delay | Trigger delay, step delay: 0 - 60.000s, step by 1 ms |
| Comparator | 10 BIN sorting, BIN1 - BIN9, NG, AUX, BIN count, PASS, FAIL display with LED on the front panel |
| Storage | Internal: 100 sets of instrument built-in test setup files, results of 201 test USB: setup file, BMP, CSV data file |
| Interface | RS232, HANDLER, USB HOST, USB DEVICE, Network port |
| Judgment function | PASS / FAIL |
| Size | 350*215*88mm |
| Weight | 4.65 kg |
| Other function | L - RDC concurrent testing, soft power switch, one - key screenshot, data record |

5. Accessory

| Article | Quantity | Remarks |
|----------------------------------|----------|--|
| LCR meter | 1 pcs | |
| Power cable | 1 pcs | |
| RS232C communication wire | 1 pcs | |
| USB communication wire | 1 pcs | |
| Short-circuit plate | 1 pcs | |
| 0 meter test fixture | 1 pcs | |
| 1 meter test clip | 1 pcs | |
| Spare fuse | 2 pcs | 110V 1A, 220V 0.5A |
| Packing List | 1 pcs | |
| Certification of Calibration | 1 pcs | |
| Multi Language Safety Precaution | 1 pcs | |
| User's manual | 0 pcs | Electronic file can download from official website |

6. Contact US

Warranty Service

If the LCR is under warranty or is covered by a maintenance contract, it will be repaired under the terms of warranty as below. If the LCR is no longer under warranty, UNI-T will notify you of the cost of repair after examining the LCR.

UNI-T UTR2830 series LCR provide 3- year warranty for mainframes and 1-year warranty for accessories as standard.

The above warranty applies to all UNI-TREND test measurement instrument products procured through the UNI-TREND authorized distributors. Product purchased from outside the UNI-TREND instruments network will be serviced by the selling agents and not UNI-TREND TECHNOLOGY. Please Go to UNI-T official website ->instruments->support->Where to buy to find the authorized test and measurement instrument distributors.

Learn more at: www.uni-trend.com

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