

DIY LCR digital bridge

Stalls:

Inductance 200mH - 2000H minimum resolution 0.01mH

Capacitance 200pF - 200mF minimum resolution 0.01pF

Resistance 2000m Ω - 20M Ω minimum resolution 0.1m Ω

Deputy Senate Display range:

Q: 0.000 - 999.0

D: 0.000 - 9.999

θ : -179.0 - +179.0

Features:

- (1) Epiphany 1999.9 count, Vice count was 999.9
- (2) measurement frequency: 100HZ / 1KHZ / 7.8KHZ
- (3) measuring voltage: 0.2Vrms
- (4) output impedance: 40 Ω
- (5) basic accuracy: 0.3%
- (6) LCR automatic identification / manual measurements
- (7) open / short calibration compensation

Display main parameters:

Cp: capacitors in parallel mode

Cs: capacitance line mode

Lp: Parallel mode inductance

Ls: inductance in series mode

Rp: resistor in parallel mode

Rs: resistance in series mode

Deputy Senate show:

Q: quality factor

D: Loss factor

θ : Phase angle

Rp: equivalent parallel resistance

ESR: equivalent series resistance

Xp: Equivalent Shunt Reactors

Xs: equivalent series reactance

Instructions:

Press the "menu (menu) button to enter the main menu.

Then press the "Range (RNG)" to enter the calibration mode, then press the C key, the calibration data will be cleared! ! !

To restore the default precision after 0.5%

You can self-calibrate to 0.3%

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1, automatic measurement

When the instrument is turned on, the default state is automatic recognition mode (AUTO), default measurement frequency is 1KHz.

In automatic mode automatically identify analytes characteristic impedance instrument automatically selects the primary parameter L, C or R is extremely suitable series-parallel modes.

When the automatic measurement mode, series and parallel impedance based on the size of the measured object, the higher the impedance ($> 10K\Omega$) select parallel, low impedance ($< 10K\Omega$)

Select tandem.

2, L / C / R mode measurement parameters

1) The main parameters, default AUTO in the boot state, press the "mode (X)" key parameters were selected as "AUTO → AUTO-C → AUTO-L → AUTO-R → AUTO"

Note 1: The line mode is "ESR", the parallel mode is "RP", X_s / X_p only be activated in the main parameter R (resistance) is.

3, series-parallel measuring mode selection and press the corresponding master reference model "values (R)" key parameters were selected as "AUTO- <C \ L \ R> → P → S → AUTO- <C \ L \ R>".

4, measurement frequency, this bridge provides three frequency test point: 100HZ / 1KHZ / 7.8KHZ boot default frequency of 1KHz, press the "frequency (F)" button to select a different frequency point measurement "1KHZ → 7.8KHZ → 100HZ → 1KHZ".

5, open / short calibration compensation measure folder open or short-circuit state, press "zero (C)" key to make the sweep open / short calibration compensation. (Measuring clamp open press "zero (C)" key can be swept open correction test clip short circuit press the C key to do short correction)

6, Advanced mode screen [2004], any measurement mode, press the "Save (L)" key to enter this mode (manual mode), exit manual mode, press the "Save (L)" button.

Advanced Mode, "Range (RNG)" key is available, the switching range "40R → 1K → 10K → 100K → 40R".

The first row shows the following:

Manual mode identification, and identifies a series impedance - reactance

The second line shows the following:

Measurement frequency, the main range, capacitance (inductance) measurements, Q value

7, the calibration mode, press the "menu (menu)" to enter the main menu. Then press the "range (rng)" to enter the calibration mode

Exit calibration mode method: Press the "menu (menu)" to enter the main menu, then press the "mode (X)" key to return to measurement mode.

In the calibration mode parameter (Q), frequency (F), these two keys are used to select the calibration project.

Mode (X), value (R), these two keys are + - calibration parameter values.

"Save (L)" button: save the calibration results, you must press the "Save (L)" button After calibration is complete, otherwise the calibration results will not be stored.

"Zero (C)" key: used to clear the value of the current calibration items.

Press five times in a row, it will load the default calibration value.

8. The relative measurement

In the measurement mode, press "parameter (Q)" under the current measured value key, will record and enter the relative measurement mode, press again "parameter (Q)" key or mode switching, etc., will exit the relative measurement. In the relative measurement mode, the display of the measured object deputy participants in the recorded value of the relative error, expressed as a percentage.

It indicates the range: -99.9% + 99.9%