

LCR-Bridge HM8118



HM8118



HZ188 4 Wire SMD Test Fixture (included in delivery)



HZ184 Kelvin Clip Leads (included in delivery)



HZ181 4 Wire Test Fixture with shorting plate



Basic Accuracy 0.05 %

Measurement functions L, C, R, |Z|, X, |Y|, G, B, D, Q, Θ , Δ , M, N

Test frequencies from 20 Hz to 200 kHz

Up to 12 measurements per second

Parallel and Series Mode

Binning and limits for parts sorting (optional)

Internal programmable voltage and current bias

Transformer parameter measurement

External capacitor bias up to 40 V

Kelvin cable and 4 wire SMD Test adapter included in delivery

Galvanically isolated USB/RS-232 Interface, optional: IEEE-488

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Valid at 23 °C after a 30 minute warm-up period

Conditions

Test signal voltage: 1 V_{rms}

Open and short corrections performed

Measurement time: SLOW

Display

Measurement modes: Auto, L+Q, L+R, C+D, C+R, R+Q, Z+θ, Y+θ, R+X, G+B, N-θ, M

Equivalent circuits: Auto, Series or Parallel

Parameters displayed: Value, Deviation or % Deviation

Averaging: 2 - 99 measurements

Accuracy

Primary Parameter: Basic accuracy (Test voltage: 1.0V, measurement SLOW/MEDIUM, autoranging mode, constant voltage OFF, bias off)
For FAST mode double the basic accuracy values

Impedance:	Accuracy			
	20 Hz	1 kHz	10 kHz	100 kHz
100 MΩ	0.2% + Z /1.5 GΩ		0.5% + Z /100 MΩ	
4 MΩ				
1 MΩ	0.05% + Z /2 GΩ	0.1% + Z /1.5 GΩ	0.2% + Z /100 MΩ	0.5% + 5 mΩ/ Z + Z /10 MΩ
25 kΩ				
100 Ω	0.1% + 1 mΩ/ Z		0.2% + 2 mΩ/ Z	
2.5 Ω				
10 mΩ	0.3% + 1 mΩ/ Z		0.5% + 2 mΩ/ Z	

Secondary Parameter:

Basic accuracy DQ ± 0.0001 @ f = 1 kHz

Phase angle ± 0.005° @ f = 1 kHz

Ranges

|Z|, R, X: 0.01 mΩ to 100 MΩ

|Y|, G, B: 10 nS to 1000 S

C: 0.01 pF to 100 mF

L: 10 nH to 100 kH

D: 0.0001 to 9.9999

Q: 0.1 to 9999.9

θ: -180° to +180°

Δ: -999.99% to 999.99%

M: 1 μH to 100 H

N: 0.95 to 500

Measurement conditions and functions

Test frequency: 20 Hz to 200 kHz (69 steps)

Frequency accuracy: ±100 ppm

AC test signal level: 50 mV_{rms} - 1.5 V_{rms}

Resolution: 10 mV_{rms}

Drive level accuracy: ± (5% + 5 mV)

Internal Bias Voltage: 0 to +5.00 V_{dc}

Resolution: 10 mV

External Bias Voltage: 0 to +40 V_{dc} (fused 0.5 A)

Internal Bias Current: 0 to +200 mA

Resolution: 1 mA

Ranging: Auto and Hold

Trigger: Continuous, manual or external via interface, Handler Interface or Trigger Input

Trigger delay time: 0 to 999 ms in 1 ms steps

Measurement time (f ≥ 1 kHz)

FAST 70 ms

MEDIUM 125 ms

SLOW 0.7 s

Others Instruments Functions

Test signal level monitor: Voltage, current

Error Correction: Open, Short, Load

Save / Recall: 9 instrument settings

Front-end Protection: V_{max} < √2/C
@ V_{max} < 200V, C in Farads
(1 Joule of stored energy)

Low Potential and Low Current Guarding: Ground, Driven Guard or Auto (fused)

Constant Voltage Mode (25 Ω source)
Temperature effects:

R, L or C: ± 5ppm/°C

Interface: USB/RS-232, optional IEEE-488

Safety Class: Safety Class I (EN61010-1)

Power supply: 110-230 V ± 10% / 50-60 Hz

Power consumption: approx. 20 Watt

Operating temperature: + 10 °C to + 40 °C

Max. rel. humidity: 10%-90 % (without condensation)

Dimensions (W x H x D): 285 x 75 x 365 mm

Weight: approx. 4 kg

Accessories supplied: Power cable, Operator's Manual, HZ184 4 Terminal Kelvin Test Cable and HZ188 4 Terminal SMD Component Test Fixture

Optional accessories:

HZ181 4 Terminal Test Fixture including Shorting Plate

HZ186 4 Terminal Transformer Test Cable

HO880 IEEE-488 (GPIB) Interface

