

# 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,  $\Theta$ ,  $\Delta$ , M, N
- Test frequencies 20Hz...200kHz
- Up to 12 measurements per second
- Parallel and Series Mode
- Binning Interface H0118 (optional) for automatic sorting of components
- Internal programmable voltage and current bias
- Transformer parameter measurement
- External capacitor bias up to 40V
- Kelvin cable and 4 wire SMD Test adapter included in delivery
- Galvanically isolated USB/RS-232 Interface, optional IEEE-488

## LCR-Bridge HM8118

All data valid at 23 °C after 30 minute warm-up

### Conditions

Test signal voltage: 1 V<sub>rms</sub>

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

### Secondary Parameter:

Basic accuracy D, Q: ± 0.0001 @ f = 1 kHz

Phase angle: ± 0.005° @ f = 1 kHz

### Ranges

|Z|, R, X: 0.01 mΩ...100 MΩ

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

C: 0.01 pF...100 mF

L: 10 nH...100 kH

D: 0.0001...9.9999

Q: 0,1...9999,9

θ: -180°...+180°

Δ: -999.99%...999.99%

M: 1 μH...100 H

N: 0.95...500

### Measurement conditions and functions

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

Frequency accuracy: ±100 ppm

AC test signal level: 50 mV<sub>rms</sub>...1.5 V<sub>rms</sub>

Resolution: 10 mV<sub>rms</sub>

Drive level accuracy: ± (5% + 5 mV)

Internal Bias Voltage: 0...+5.00 V<sub>dc</sub>

Resolution: 10 mV

External Bias Voltage: 0...+ 40 V<sub>dc</sub> (fused 0.5 A)

Internal Bias Current: 0...+200 mA

Resolution: 1 mA

Ranging: Auto and Hold

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

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

Measurement time (f ≥ 1 kHz)

FAST 70 ms

MEDIUM 125 ms

SLOW 0.7 s

### Other Instrument Functions

Test signal level monitor: Voltage, current

Error Correction: Open, Short, Load

Save / Recall: 9 instrument settings

Front-end Protection: V<sub>max</sub> < √2/C  
@ V<sub>max</sub> < 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 (H0820), IEEE-488 (option)

Safety Class: Safety Class I (EN61010-1)

Power supply: 110...230 V ± 10 %, 50/60 Hz, CAT II

Power consumption: approx. 20 Watt

Operating temperature: +5°C...+40°C

Storage temperature: -20°C...+70°C

Rel. humidity: 5%...80% (non condensing)

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

H0118 Binning Interface

H0880 IEEE-488 (GPIB) Interface (galvanically isolated)

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