

200kHz LCR-Bridge HM8118



HM8118



HZ188 4-Terminal SMD Component Test Fixture (included)



HZ184 4-Terminal Kelvin Test Cable (included)



HZ181 4-Terminal Test Fixture with Shorting Plate (optional)



- Basic Accuracy 0.05%
- Measurement Functions L, C, R, |Z|, X, |Y|, G, B, D, Q, Θ , Δ , M, N
- Test Frequencies 20Hz...200kHz
- Up to 12 Measurements per Second
- Parallel and Serial 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-Terminal SMD Test Adapter included
- Galvanically isolated USB/RS-232 Dual-Interface, optional IEEE-488 (GPIB)

200 kHz LCR-Bridge HM8118

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

Conditions

Test signal voltage: 1 V
 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 Parameters: 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:	20 Hz	1 kHz	10 kHz	100 kHz
100 M Ω	0.2% + Z /1.5G Ω		0.5% + Z /100M Ω	
4 M Ω	0.05% + Z /2G Ω		0.2% + Z /100M Ω	
1 M Ω	0.1% + Z /1.5G Ω		0.5% + 5m Ω / Z + Z /10M Ω	
25 k Ω	0.1% + 1m Ω / Z		0.2% + 2m Ω / Z	
100 Ω	0.3% + 1m Ω / Z		0.5% + 2m Ω / Z	
2.5 Ω				
0.01m Ω				

Secondary Parameters:

Basic accuracy D, Q: ± 0.0001 @ f = 1 kHz
 Phase angle: $\pm 0.005^\circ$ @ f = 1 kHz

Ranges

|Z|, R, X: 0.01 m Ω ...100 M Ω
 |Y|, G, B: 10 nS...1,000 S
 C: 0.01 pF...100 mF
 L: 10 nH...100 kH
 D: 0.0001...9.9999
 Q: 0.1...9,999.9
 θ : -180...+180 $^\circ$
 Δ : -999.99...999.99%
 M: 1 μ H...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_{rms}...1.5 V_{rms}
 Resolution: 10 mV_{rms}
 Drive level accuracy: $\pm(5\% + 5\text{ mV})$
 Internal Bias Voltage: 0...+5.00 V_{dc}
 Resolution: 10 mV
 External Bias Voltage: 0...+40 V_{dc} (fused 0.5 A)
 Internal Bias Current: 0...+200 mA
 Resolution: 1 mA
 Range Selection: 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_{max} < $\sqrt{2}C$ @ 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: ± 5 ppm/ $^\circ$ C
 Interface: Dual-Interface USB/RS-232 (H0820), IEEE-488 (GPIB) (optional)

Safety Class: Safety Class I (EN61010-1)
 Power supply: 110...230V $\pm 10\%$, 50...60Hz, CAT II
 Power consumption: approx. 20W
 Operating temperature: +5...+40 $^\circ$ C
 Storage temperature: -20...+70 $^\circ$ 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: Line cord, Operating manual, HZ184 4 Terminal Kelvin Test Cable and HZ188 4 Terminal SMD Component Test Fixture, CD

Recommended accessories:

H0118 Binning Interface
 H0880 Interface IEEE-488 (GPIB), galvanically isolated
 HZ13 Interface cable (USB) 1.8m
 HZ14 Interface cable (serial) 1:1
 HZ33 Test cable 50 Ω , BNC/BNC, 0.5m
 HZ34 Test cable 50 Ω , BNC/BNC, 1.0m
 HZ42 19" Rackmount kit 2RU
 HZ72 GPIB-Cable 2m
 HZ181 4 Terminal Test Fixture including Shorting Plate
 HZ186 4 Terminal Transformer Test Cable