

200kHz 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 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 (GPIB)

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 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
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Impedance:	100 MΩ	0.2% + Z /1.5GΩ		0.5% + Z /100MΩ
	4 MΩ	0.05% + Z /2GΩ	0.1% + Z /1.5GΩ	
	1 MΩ			0.2% + Z /100MΩ
	25 kΩ	0.1% + 1mΩ/ Z	0.2% + 2mΩ/ Z	0.5% + 5mΩ/ Z + Z /10MΩ
	100 Ω	0.3% + 1mΩ/ Z	0.5% + 2mΩ/ Z	
	2.5 Ω			
0.01mΩ	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 _{rms} ...1.5 V _{rms}
Resolution:	10 mV _{rms}
Drive level accuracy:	±(5% + 5 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
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 _{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: ±5 ppm/°C

Interface: USB/RS-232 (H0820), IEEE-488 (option)

Safety Class: Safety Class I (EN61010-1)

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

Power consumption: approx. 20 Watt

Operating temperature: +5...+40 °C

Storage temperature: -20...+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: Line cord, Operating manual, HZ184 4 Terminal Kelvin Test Cable and HZ188 4 Terminal SMD Component Test Fixture

Recommended accessories:

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