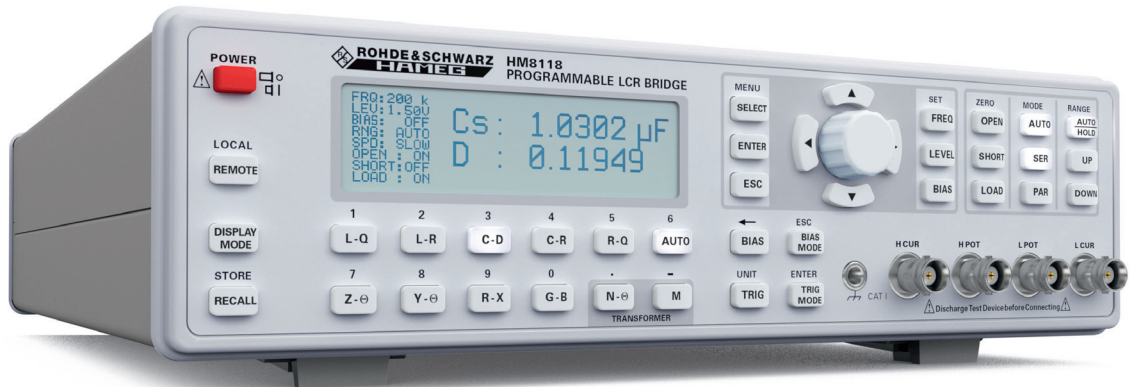


LCR Bridge HM8118



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)



- ✓ Measurement range: 20 Hz to 200 kHz (69 steps)
- ✓ Basic accuracy: 0.05 %
- ✓ Measurement rate: up to 12 values per second
- ✓ Automatic or manual selection of circuit type (serial, parallel)
- ✓ Measurement functions: L, C, R, |Z|, X, |Y|, G, B, D, Q, θ , Δ , M, N
- ✓ Transformer measurement: mutual inductance and ratio
- ✓ Tunable DC BIAS (voltage / current):
internal: 0V to 5V/0 mA to 200 mA (resolution: 10 mV/1 mA)
external: 0V to 40V (voltage BIAS only)
- ✓ RS-232/USB dual interface for remote control
- ✓ Fanless design

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 to 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
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Impedance:	100 M Ω	0.2% + $ Z /1.5G\Omega$		0.5% + $ Z /100M\Omega$		
	4 M Ω					
	1 M Ω	0.05% + $ Z /2G\Omega$	0.1% + $ Z /1.5G\Omega$	0.2% + $ Z /100M\Omega$		
	25 k Ω					
	100 Ω	0.1% + $1m\Omega/ Z $		0.2% + $2m\Omega/ Z $		0.5% + $5m\Omega/ Z $ + $ Z /10M\Omega$
	2.5 Ω	0.3% + $1m\Omega/ Z $		0.5% + $2m\Omega/ Z $		
0.01 m Ω	20 Hz	1 kHz	10 kHz	100 kHz		

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 to 100 M Ω
Y , G, B:	10 nS to 1,000 S
C:	0.01 pF to 100 mF
L:	10 nH to 100 kH
D:	0.0001 to 9.9999
Q:	0.1 to 9,999.9
θ :	-180° to +180°
Δ :	-999.99% to 999.99%
M:	1 μ H 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} to 1.5 V _{rms}
Resolution	10 mV _{rms}
Drive level accuracy:	$\pm(5\% + 5$ mV)
Internal bias voltage:	0 V _{dc} to +5.00 V _{dc}
Resolution	10 mV
External bias voltage:	0 V _{dc} to +40 V _{dc} (fused 0.5 A)
Internal bias current:	0 mA to +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 ms to 999 ms in 1 ms steps
Measurement time ($f \geq 1$ 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:	$V_{max} < \sqrt{2}V_C$ @ $V_{max} < 200V$, 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: Dual interface USB/RS-232 (H0820), IEEE-488 (GPIB) (optional)

Safety class:	Safety class I (EN61010-1)
Power supply:	110V to 230V $\pm 10\%$, 50 Hz to 60 Hz, CAT II
Power consumption:	approx. 20 W
Operating temperature:	+5 °C to +40 °C
Storage temperature:	-20 °C to +70 °C
Rel. humidity:	5% to 80% (non condensing)
Dimensions (W x H x D):	285 x 75 x 365 mm
Weight:	approx. 4 kg

Accessories supplied: Line cord, printed 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) 1.8 m
HZ14	Interface cable (serial) 1:1
HZ33	Test cable 50 Ω , BNC/BNC, 0.5 m
HZ34	Test cable 50 Ω , BNC/BNC, 1.0 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

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