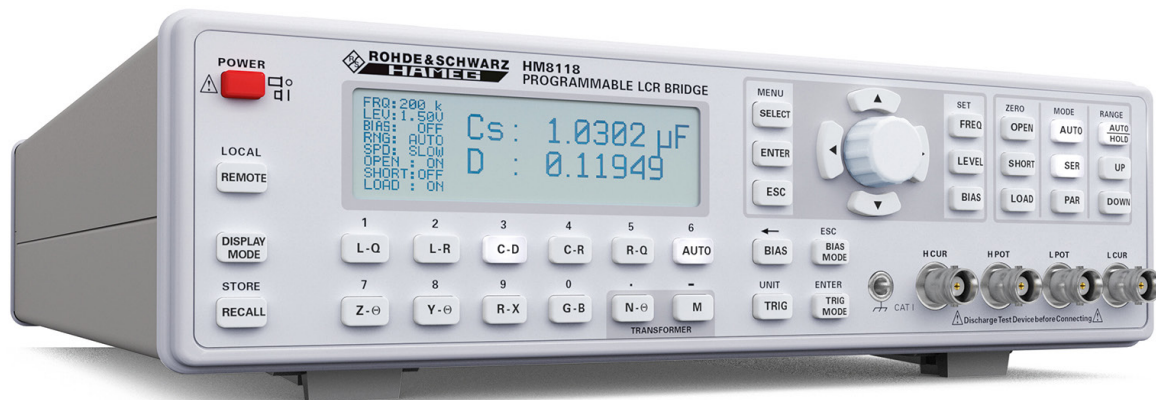


HM8118

LCR-Bridge

Technical Data

HAMEG®
Instruments
A Rohde & Schwarz Company



Key facts

- Basic Accuracy 0.05 %
- Measurement Functions L, C, R, |Z|, X, |Y|, G, B, D, Q, θ , Δ , M, N
- Test Frequencies 20 Hz...200 kHz
- Up to 12 Measurements per Second
- Parallel and Serial Mode
- Binning Interface HO118 (optional) for automatic Sorting of Components
- Internal programmable Voltage and Current Bias
- Transformer Parameter Measurement
- External Capacitor Bias up to 40 V
- Kelvin Cable and 4-Terminal SMD Test Adapter included
- Galvanically isolated USB/RS-232 Dual-Interface, optional IEEE-488 (GPIB)

Technical Data

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 to 99 measurements

Genauigkeit

Primary parameters	Basic accuracy (Test voltage: 1.0 V, 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 /1.5 GΩ		0.5% + Z /100 MΩ
4 MΩ				
1 MΩ				
		0.05% + Z /2 GΩ	0.1% + Z /1,5 GΩ	
25 kΩ				
				0.2% + Z /100 MΩ
100 kΩ				0.5% + 5 mΩ / Z
		0.1% + 1 mΩ / Z		+ Z /100 MΩ
2,5 kΩ				
		0.3% + 1 mΩ / Z		0.5% + 2 mΩ / Z
0,01 mΩ				
	20 Hz	1 kHz	10 kHz	100 kHz

Secondary parameters

Basic accuracy D, Q	± 0.0001 if $f = 1 \text{ kHz}$
Phase angle	$\pm 0.005^\circ$ if $f = 1 \text{ kHz}$

Ranges

Z , R, X	0.01 mΩ to 100 MΩ
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 μH to 100 H
N	0.95 to 500

Measurement conditions and functions

Test frequency	20 Hz to 200 kHz (69 steps)
Frequency accuracy	$\pm 100 \text{ ppm}$
AC test signal level	50 mV _{rms} to 1.5 V _{rms}
Resolution	10 mV _{rms}

Drive level accuracy	$\pm(5\% + 5 \text{ mV})$
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
Range selection	Auto and Hold
Trigger	Continuous, manual or external via interface, binning 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

Miscellaneous

Test signal level monitor	Voltage, current
Error correction	Open, short, load
Save/Recall	9 instrument settings
Front-end protection	$V_{\max} < \sqrt{2}C$ @ $V_{\max} < 200 \text{ V}$, 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	$\pm 5 \text{ ppm}/^\circ\text{C}$
Interface	Dual interface USB/RS-232 (HO820), IEEE-488 (GPIB) (optional)
Safety	Safety class I (EN61010-1)
Power supply	110 to 230 V $\pm 10\%$, 50 to 60 Hz, CAT II
Power consumption	approx. 20 W
Operating temperature	+5 to +40 °C
Storage temperature	-20 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, operating manual, HZ184 4-terminal kelvin test cable and HZ188 4-terminal SMD component test fixture, CD

Recommended accessories:

HO118	Binning interface
HO880	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