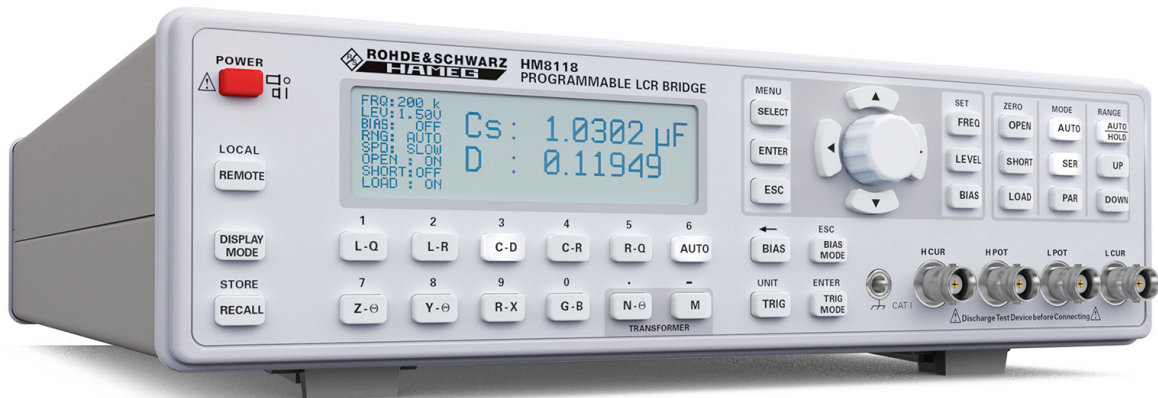


HM8118

LCR-Bridge

Technical Data



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

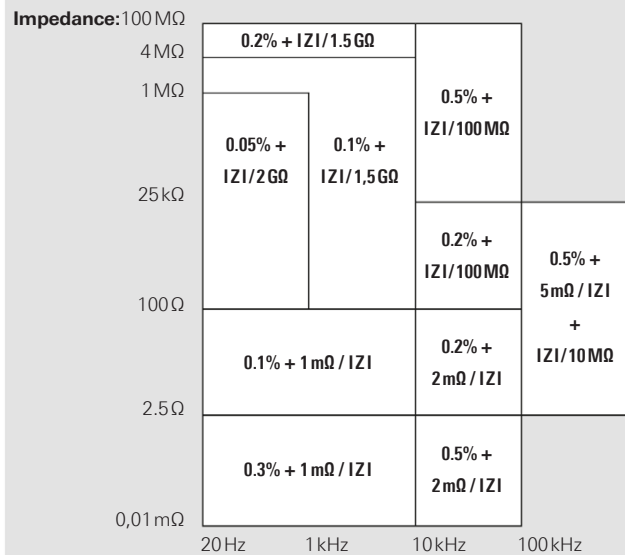
All data valid at 23°C after 30 minutes warm-up.

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

Genaugigkeit

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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Secondary parameters

Basic accuracy D, Q	$\pm 0,0001$ if $f = 1$ kHz
Phase angle	$\pm 0,005^\circ$ if $f = 1$ 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 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 ($f \geq 1$ 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	$V_{max} < \sqrt{2/C}$ @ $V_{max} < 200$ 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	± 5 ppm/°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