HAMEG Instruments

LCR-Bridge
HM8118

HM8118

USB | RS-232 | optional IEEE-488

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 HO118 (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

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

Conditions

Test signal voltage:	1 V_{rms}
Open and short corrections performed	
Measurement time:	SLOW

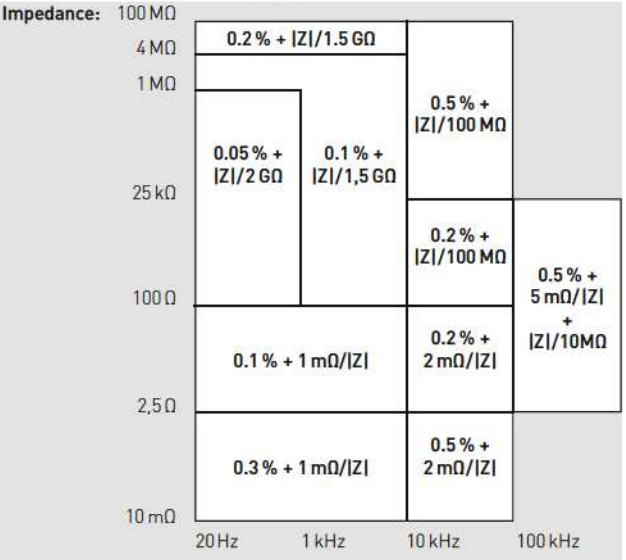
Display

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

Impedance:



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, Handler 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} < 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:	± 5ppm/°C
Interface:	USB/RS-232 (HO820), IEEE-488 (option)
Safety Class:	Safety Class I (EN61010-1)
Power supply:	110/230 V ± 10 %, 50/60 Hz, CAT II
Power consumption:	approx. 20 Watt
Operating temperature:	+5°C...+40°C
Storage temperature:	-20°C...+70°C
Max. rel. humidity:	5%...80% (non condensing)
Dimensions (W x H x D):	285 x 75 x 365 mm
Weight:	approx. 4 kg

Accessories supplied: Power cable, Operator's Manual, HZ184 4 Terminal Kelvin Test Cable and HZ188 4 Terminal SMD Component Test Fixture

Optional accessories:

HZ181 4 Terminal Test Fixture including Shorting Plate
HZ186 4 Terminal Transformer Test Cable
HO118 Binning Interface
HO880 IEEE-488 (GPIB) Interface (galvanically isolated)

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