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Test & Measurement

- sales
- rentals
- calibration
- repair
- disposal

Complimentary Reference Material

This PDF has been made available as a complimentary service for you to assist in evaluating this model for your testing requirements.

TMG offers a wide range of test equipment solutions, from renting short to long term, buying refurbished and purchasing new. Financing options, such as Financial Rental, and Leasing are also available on application.

TMG will assist if you are unsure whether this model will suit your requirements.

Call TMG if you need to organise repair and/or calibrate your unit.

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Product Lifecycle Management System

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LCR-Meter HM8018

HM8018



HZ19 SMD Test Tweezers



Option HZ18 Kelvin test lead



Mainframe HM8001-2
required for operation

Measurement functions: L, C, R, Θ , D, |Z|

Basic accuracy 0.2 %

5 measurement frequencies: 100 Hz, 120 Hz, 1 kHz, 10 kHz, 25 kHz

Max. Resolution: 0.001 Ω , 0.001 pF, 0.01 μ H

2- and 4-wire measurement, parallel and series mode

LCR-Meter HM8018

Valid at 23 °C after a 30 minute warm-up period

Measurement functions

Measuring modes:	R, L, C, Θ , Q/D, Z
Equivalent circuits:	serial, parallel
Measuring method:	2-wire, 4-wire
Measuring ranges:	R: 0.001 Ω – 99.9 M Ω C: 0.001 pF – 99.9 mF L: 0.01 μ H – 9999 H Q: 0.0001 – 99.9 D: 0.0001 – 9.9999 Θ : -180.00° – +180.00°
Basic accuracy:	0.2%
Measuring frequencies:	100 Hz, 120 Hz, 1 kHz, 10 kHz, 25 kHz
Freq. Accuracy:	± 100 ppm (except 120 Hz: 120.2 Hz ± 100 ppm)
Measuring voltage:	0.5 V _{eff} ± 10 % (unloaded)
Measuring rate:	2 measurements/second
Range changing:	automatic, manual
DC Bias voltage:	1 V ± 10 %
Zero setting:	Open/short circuit compensation
Compensation limits:	Short: R < 10 Ω Z < 15 Ω Open: Z > 10 k Ω

Measurement accuracy

with $D < 0.1$ or $Q > 10$:

$$C: A_e = A_f (1 + C_x / C_{max} + C_{min} / C_x)$$

$$L: A_e = A_f (1 + L_x / L_{max} + L_{min} / L_x)$$

$$Z: A_e = A_f (1 + Z_x / Z_{max} + Z_{min} / Z_x)$$

$$R: A_e = A_f (1 + R_x / R_{max} + R_{min} / R_x)$$

with $D \geq 0.1$: $A_e = \sqrt{1 + D_x^2}$

with the parameters:

C_x = Measurement value
 $A_f = 0.2\%$ at $f = 100$ Hz, 120 Hz, 1 kHz
 $A_f = 0.3\%$ at $f = 10$ kHz
 $A_f = 0.5\%$ at $f = 25$ kHz

Parameter	Auto Range
C_{max}	160 μ F/f
C_{min}	53 pF/f
L_{max}	480 H/f
Z_{max}, R_{max}	3 M Ω
Z_{min}, R_{min}	1 m Ω

Dissipation factor accuracy: $D_e = \pm \frac{A_e}{100}$

Quality factor accuracy: $Q_e = \frac{Q_x^2 \cdot D_e}{1 \pm D_x \cdot D_e}$

Phase angle accuracy: $\Theta_e = \frac{180}{\pi} \cdot \frac{A_e}{100}$

Display

5-digits 7-Segment LEDs with sign

Display Parameters:

Value	} Calculation from measurement value and reference value stored
% Value	
Deviation	
% Offset	

Miscellaneous

The inputs are short-circuit-proof and overvoltage protected up to 100 V_{DC} with a maximum energy consumption of 1 J.

One configuration can be saved.

Operating temperature: +10 °C ... 40 °C

Max. relative humidity: 80 %

Power supply
(from mainframe): +5 V/300 mA
+5.2 V/50 mA
-5.2 V/50 mA
($\Sigma = 2$ W)

Dimensions (W x H x D) (without 22-pole flat plug):

135 x 68 x 228 mm

Weight: approx. 0.5 g

Included in delivery: Operator's Manual

Optional accessories: HZ18 Kelvin test lead, HZ10S/R Silicone test lead

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