

1.0 GENERAL DESCRIPTION

The Racal Dana 9343M LCR Databridge measures inductance, capacitance, resistance, D and Q, to a basic accuracy of $\pm 0.1\%$ of reading, for values up to 2000 H, 2000 μF , 1 M ohm and 99, respectively. Measurements can be made at frequencies of 100 Hz, 1 kHz or 10 kHz, as required, and either the Series Equivalent or Parallel Equivalent component values can be displayed. Range selection is fully automatic and the Databridge automatically discriminates between inductors, capacitors and resistors. The automatic mode can be manually cancelled to enable measurement of the minor term. An internal d.c. bias voltage of 2 Volts can be selected for use when testing electrolytic capacitors. The operating system of the Databridge provides assistance to the user, in selecting the measurement mode and frequency, to give best accuracy. Loss of basic accuracy due to measurement of the minor term in any component is also indicated. Measurements up to 9999 H, 9999 μF and 100 Mohm can be made, albeit at a degraded accuracy.

1.1 Technical Specification

Variables measured	:R, L, C, D and Q
Modes	:Series or parallel equivalent
Measurement frequency	:User settable 100Hz, 1kHz or 10kHz
Accuracy of measurement frequency	: $\pm 0.01\%$ of nominal
Maximum voltage across component	: 0.3 V rms
Measurement update rate	: 2 per second
Maximum time for valid reading after user connecting component	: 1 second
Display	: 5 digit, 14 mm LED with automatic decimal point
Connection to component under test	: 4 terminal integral test jig

Measurement ranges

R	: 0.1m ohm to 990 M ohm
L	: 0.001 uH to 9900 H
C	: 0.001 pF to 9999 uF
D	: 0.001 to 999
Q	: 0.001 to 999

Basic accuracy : $\pm 0.1\%$ of reading
 ± 1 digit

Ultimate resolution

L	: 0.001 uH
C	: 0.001 pF
R	: 0.1 m ohm

Conditions for basic accuracy

Measurement frequency	: 100 Hz	1 kHz	10 kHz
Range of inductance (Q > 10)	: 4mH - 2000H	400uH - 200H	40uH - 10H
Range of capacitance(Q > 10)	: 4nF - 2000uF	400pF - 200uF	40pF - 10uF
Range of resistance (Q < 0.1)	: 2ohm - 1Mohm	2ohm - 500kohm	2ohm - 100kohm

Input protection : The input is protected
against connection of capacitors
of up to 10 mF charged to not
more than 50 V

Operating temperature range : -0°C to $+50^{\circ}\text{C}$ (useable -5°C to $+55^{\circ}\text{C}$)

Power supply : 188V to 265V 45Hz to 66Hz
(Switch selectable) 94V to 127V 45Hz to 66Hz
188V to 212V 360Hz to 440Hz
108V to 122V 360Hz to 440Hz

Fuse rating : For nominal 240V : 20mm 160mA anti surge
For nominal 120V : 20mm 630mA anti surge

Size : 440 mm x 250 mm

Weight : 7.0 kg.