AVO® MEGGER® B131

- **Dual Display, Dual - Parameter Measurements**
- **0,5% Basic Accuracy**
- **Parallel/Series Mode**
- **Relative Mode for Deviation Measurement**

Universal LCR Meter

DESCRIPTION

The Model B131 Universal LCR Meter is a portable instrument designed for quick, easy testing and analysing of discrete components in a broad range of applications. The unit will accurately measure the value of inductances, capacitances and resistances at frequencies of 120 Hz and 1 kHz.

The B131 provides a high 0,5% average accuracy and is capable of measuring electrolytic / ceramic capacitors, transformers, filter coils, speaker coils as well as standard LCR components. Additionally the instrument has many special features which have been incorporated for a variety of differing applications.

Dual Display

The unique Dual Display allows the meter to simultaneously display both the numerical L/C/R values as well as D/Q (dissipation/quality) factor of any inductance or capacitance measurement. A secondary display can be set to show component values in terms of percentage when the tolerance mode is activated, as well as the status of Parallel or Series mode data.

Dual-Frequency

It is important for the user to test and evaluate components at similar measuring frequencies to the components' actual operating frequencies. The B131 LCR meter provides two of the most commonly used test frequencies 120 Hz and 1 kHz to simulate the actual component application condition. For example, a voice coil is generally rated at 1 kHz whereas power circuit applications are rated at 120 Hz.

Parallel/Series Mode

The B131 LCR meter is capable of showing all the measured values in series or parallel equivalent circuits. The parallel mode is the default for capacitance and resistance measurements and the series mode is the default for inductance measurement.

Tolerance Mode

The tolerance modes are 1%, 5% and 10% respectively for the Inductance, Capacitance and Resistance functions. This feature has been designed for fast convenient component sorting, removing the necessity of the user having to take readings each time a new component is being measured. Once the tolerance mode has been selected, the meter will indicate a single "beep" for a component in tolerance and three consecutive "beeps" for components out of tolerance.

Static Recording

The Static Recording Function provides convenient statistical information when measuring bundles of components either in tape and reel or bulk packing. When testing a batch of similar components the values can automatically be stored into memory. Calculations are then performed in the static recording mode and the display will indicate the maximum value, the minimum value and the average value of the batch of components. An ideal feature when company quality procedures require routine or continuous testing of components during incoming goods inspection.

Calibration

This function is performed to calibrate the meter internally at both the upper and lower limits of each range. It will also calibrate externally to compensate for connector residues present whilst using test leads.

Relative Mode

This function is useful for value correlation and component comparison applications. By pressing the "REL" key the display will be set to zero, storing the present reading as the reference value. All subsequent readings in terms of their plus or minus value with comparison to the original stored value are then displayed.

APPLICATIONS

The instrument can be used in the Autorange or Manual mode and is designed for measuring the value of discrete components. It is suited for use in field service applications and for laboratory or repair workshop requirements. Equally the advance features make it invaluable for batch checking of components in quality assurance and inspection situations. As well as measuring standard component parameters, the B131 can be used as a component analyser for determining the Q and D factors.

SPECIFICATION

Features Include:
Full autoranging, two major measuring methods: parallel and series mode, two selected frequencies, max/min/avg record, D/Q factor test mode, relative mode, calibration, tolerance mode, auto power off.

Parameters Measurement
L.C.R and D/Q

Measurement Circuit Mode:
1) Capacitance/Resistance Measurement - Defaults to parallel mode for all ranges.

2) Inductance Measurement - Defaults to series mode for all ranges. Both parallel and series mode data are available through simple key operation.

Display
L.C.R: maximum 9999 display except at 10 mF (120 Hz) and 1 mF (1 kHz) measurement ranges which have max 1999 display.

D/Q: 3 digits, maximum 999 display (AUTO RANGE)

Ranging Mode
Auto and manual.

Test Frequency
1 kHz & 120 Hz.

Measurement Rate
1 measurement/second, normal.

Response Time
1 second/DUT (device under test) manual range.

Power Supply
9 V Battery 6LF22 or equivalent.

Optional ExternalPower Supply:

12 V d.c. (MIN)

15 V (MAX) load: 15 mA. double insulated for 250 V CAT II (not available from AVO INTERNATIONAL)

Resistance Range
10 MΩ, 1 MΩ, 100 kΩ, 10 kΩ, 1 kΩ, 100 Ω, 10 Ω.

Accuracy

@ 10 MΩ ± (2,0% + 8 digits) @ 1 MΩ ± (0,5% + 5 digits)

@ 100 kΩ ± (0,5% + 3 digits)

@ 10 kΩ ± (0,5% + 3 digits)

@ 1 kΩ ± (0,5% + 3 digits)

@ 100 Ω ± (0,8% + 5 digits)

@ 10 Ω ± (1,2% + 8 digits)

Inductance
Test Frequency

120 Hz/1 kHz (DF <0,5)

Range 10000 H, 1000 H, 100 H, 10 H, 1 H, 100 mH, 10 mH, 1 mH

Accuracy

@ 10000 H	Accuracy not specified 120 Hz only
@ 1000 H	± (1,0% + (Lx/10000)% + 5 digits) 120 Hz only
@ 100 H	± (0,7% + (Lx/10000)% + 5 digits) 120 Hz ± (1,0% + (Lx/10000)% + 5 digits) 1 Hz
@ 10 H	± (0,7% + (Lx/10000)% + 5 digits)
@ 1 H	± (0,7% + (Lx/10000)% + 5 digits)
@ 100 mH	± (1,0% + (Lx/10000)% + 5 digits) 120 Hz ± (0,7% + (Lx/10000)% + 5 digits) 1 kHz
@ 10 mH	± (2,0% + (Lx/10000)% + 5 digits) 120 Hz ± (1,2% + (Lx/10000)% + 5 digits) 1 kHz
@ 1 mH	± (2,0% + (Lx/10000)% + 5 digits) 1 kHz only

Capacitance
Range 10 mF, 1 mF, 100 µF, 10 µF, 1 µF, 100 nF, 10 nF, 1 nF

Accuracy

@ 10 mF	± (5,0% + 5 digits)(DF <0,1) 120 Hz only
@ 1 mF	± (1,0% + 5 digits)(DF <0,1) 120 Hz ± (5,0% + 5 digits)(DF <0,1) 1 kHz
@ 100 µF	± (0,7% + 3 digits)(DF <0,5) 120 Hz ± (1,0% + 5 digits)(DF <0,1) 1 kHz
@ 10 µF	± (0,7% + 3 digits)(DF <0,5)
@ 1000 nF	± (0,7% + 3 digits)(DF <0,5)
@ 100 nF	± (0,7% + 3 digits)(DF <0,5)
@ 10 nF	± (1,0% + 5 digits)(DF <0,1) 120 Hz ± (0,7% + 5 digits)(DF <0,5) 1 kHz
@ 1000 pF	± (1,0% + 5 digits)(DF <0,5) 1 kHz only

Dimensions
7.5 H x 3.5 W x 1.5 D in.

(192 H x 90 W x 37 D mm

Weight
390 gms

Safety
Meets IEC 1010-1, instrument not intended to be used on live circuits.

EMC
In accordance with IEC61326 including Amendment No.1.

ORDERING INFORMATION

Item (Qty) — **Order Code**

LCR Meter B131

Included Accessories

Test Leads including clips 8101-061
Rubber Holster 8101-062
9 V Battery .....

Optional Accessories

Test Leads including Clips 6131-460
SMD Tweezers 6220-403