Aplab

MODEL MT4090

200KHz LCR Meter

Features

- ★ Measurement Parameters : Z, Ls, Lp, Cs, Cp, DCR, ESR, D Q, and θ
- ★ Test Conditions : 100Hz, 120Hz, 1KHz, 10KHz, 100KHz, 200KHz, 1Vrms, 250mVrms, 50mVrms, 1Vdc (DCR only)
- ★ DMM Functionalities
- ★ Dual LCD Display with LED Backlit
- ★ Open / Short Calibration
- ★ RS232 Interface Facility
- ★ Auto Range / Range Hold Selection
- ★ Separate Display for Series & Parallel Measurements

Description

Aplab Model MT4090 is high accuracy in-circuit LCR/ESR meter that meets today's requirements of design, production and quality assurance areas.

It measures inductance, capacitance, resistance, dissipation and quality factor to a basic accuracy of 0.2%.

Combination of display for series & parallel mode on large dual LCD display for better viewing. Model MT4090 incorporates 4 terminals measuring technique which reduces error due to electro-magnetic coupling of leads as well as reducing residual inductance stray capacitance.

The built-in functions of DC/AC voltage/current measurements and diode/audible continuity checks makes it essential tool on any service bench.

Specifications

Test Conditions :

Measurement Frequency	:	100Hz/120Hz/1KHz/10KHz/ 100KHz/200KHz selectable.
Accuracy	:	0.1%.
Voltage Level Across Components	:	1Vrms / 250mVrms / 50mVrms / 1Vdc (DCR only).
Accuracy	:	±10%.
Measurement Parameters	:	Z, Ls, Lp, Cs, Cp, DCR, ESR, D, Q and θ.
Basic Accuracy	:	0.2%.

Display	:	Dual Liquid Crystal Display with LED backlit.

Primary Parameters Display :

Z	:	AC Impedance.
DCR	:	DC Resistance.
Ls	:	Serial Inductance.
Lp	:	Parallel Inductance.
Cs	:	Serial Capacitance.
Cp	:	Parallel Capacitance.

Secondary Parameters Display :

θ	:	Angle Impedance.
ESR	:	Equivalent Series Resistance.
D	:	Dissipation Factor.
Q	:	Quality Factor.

Combinations of Display :

Serial Mode	:	Z-θ, Cs-D, Cs-Q, Cs-ESR, Ls-D, Ls-Q, Ls-ESR.
Parallel Mode	:	Cp-D, Cp-Q, Lp-D, Lp-Q.

Measurement Range :

AC Impedance (Z)	:	0.000Ω to 500.00MΩ.
Inductance (L)	:	0.030µH to 9999H.
Capacitance (C)	:	0.003pF to 80.00mF.
DC Resistance (DCR)	:	0.000Ω to 500.0MΩ.
Equivalent Series Resistance (ESR)	:	0.000Ω to 9999Ω.
Dissipation Factor (D)	:	0.000 to 9999.
Quality Factor (Q)	:	0.000 to 9999.
Angle Impedance (θ)	:	-180.0° to 180.0°.
Voltage (V)	:	0.000mV to ±600.0V.
Current (I)	:	0.000mA to ±2.000A.

Ultimate Resolution :

Inductance (L)	:	0.001µH.
Capacitance (C)	:	0.001pF.
DC Resistance (DCR)	:	0.001Ω.
Equivalent Series Resistance (ESR)	:	0.001Ω.
Dissipation Factor (D)	:	0.001.
Quality Factor (Q)	:	0.001.

DMM Functionalities :

DCV, ACV, DCA, ACA, Diode/Continuity check.

DC Voltage Measurement :

Range	:	2V, 20V 200V and 600V.
Resolution	:	1mV, 10mV, 100mV, 1V.
Accuracy	:	±(0.4% +3 digit).
Input Impedance	:	1MΩ.

AC Voltage Measurement (True RMS) :

Range	:	2V, 20V, 200V and 600V.
Resolution	:	1mV, 10mV, 100mV, 1V.
Accuracy	:	±(0.8% +5 digit) @ 40Hz – 1KHz.
Input Impedance	:	1MΩ.

DC Current Measurement :

Range	:	2A, 0.2A, 20mA and 2mA.
Resolution	:	1mA, 0.1mA, 0.01mA and 1µA.
Accuracy	:	±(0.4% +3 digit).
Current Shunt	:	0.1Ω @ current >20mA 10Ω @ current ≤20mA.

AC Current Measurement (True RMS) :

Range	:	2A, 0.2A, 20mA and 2mA.
Resolution	:	1mA, 0.1mA, 0.01mA and 1µA.
Accuracy	:	±(0.8 % +3digit) @ 40Hz - 1KHz.
Current Shunt	:	0.1Ω @ current >20mA 10Ω @ current ≤20mA.

Continuity Check :

Continuity Threshold	:	50Ω (Approx.).
Continuity Indicator	:	Tone Buzzer.
Input Protection	:	600V (max).

Diode Test :

Test Current	:	2.5mA (Typical).
Open Circuit Voltage	:	5.0VDC (nominal).
Input Protection	:	600V (max).

General :

Temperature	:	0 to 40°C (Operating) -20 to 70°C (Storage).
Relative Humidity	:	Upto 85%.
AC Power	:	110V/220V ±10%, 60/50Hz.
Dimensions	:	300 (D) x 220 (W) x 150 (H) mm.
Weight	:	4.5 kgs..

Standard Accessories :

1. TL09C Kelvin Clips - 1 pc.
2. Test Leads - 1 pc.

Optional Accessories :

1. TL09A SMD Test Probe
2. TL09B Component Fixture

WE PURSUE A POLICY OF CONTINUOUS DEVELOPMENT AND PRODUCT IMPROVEMENT. THUS THE SPECIFICATIONS IN THIS DOCUMENT AND THE LOCATION OF CONTROLS ON THE FRONT PANEL MAY BE CHANGED WITHOUT NOTICE.

Aplab **Test & Measurement Instruments**

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