MZ-505B

This 19,999-count L/C/R hand-held meter is a special microprocessor-controlled meter for measuring functions of inductance, capacitance and resistance. Simple to operate, the instrument not only takes absolute parallel mode measurements, but also capable of series mode measurement. The meter provides direct and accurate measurements of inductors, capacitors and resistors with different testing frequencies. It is selectable for auto and manual ranging.

Parameters measured	L/C/R/D/Q.
Measuring circuit mode	
Inductance (L)	Defaults to series mode
Capacit./Resist. (C/R)	Defaults to parallel mode.
Displays	L/C/R: Maximum display 19999 D/Q: Maximum display 999 (Auto Range)
Ranging mode	Auto & Manual.
Measuring terminals	3 terminals with sockets.
Test frequency	1 KHz, 120 Hz ± 0,1%
Tolerance mode	1%, 5%, 10%.
Test signal level	0.6 Vrms approx.
Measuring rate	1 measure/second, nominal
Response time	Approx. 1 second at manual range
Auto power-off	5 minutes approx. without operation
Temperature coefficient	0.15 x (specified accuracy) / °C (0-18 °C and 28-40 °C)
Operating environmental conditions	
Altitude	Up to 2000 m
Temperature range	From 0 °C to 40 °C
Max. relative humidity	80 % (up to 31 °C), decreasing lineally up to 50% at 40 °C
Low battery indication	Approx. 6.8 V
Power consumption	Approx. 40 mA for operation / 0.08 mA after Auto Power-off
Power requirements	1.- DC 9V battery 2.- Ext. DC Adaptor: DC 12 Vmin-15 Vmax (load 50 mA Min.)
Input protection	Fuse

Standard accessories	Test alligator clips (pair) DC 9V battery User manual
Optional accessories	Carrying case **DC-231** RS232 package RM-505B SMD Tweezers **PP-009** DC Adapter (230 V AC) **AL013**
Dimensions (L/W/H)	184 / 87 / 41 mm
Weight	330 grams

RANGES AND ACCURACIES

Accuracy ± (% of reading ± num. of digits) at 23°C ±5°C, RH<75%.

Resistance (parallel mode)

Test Frequency: 120 Hz / 1 KHz

Range	Maximum Display	Accuracy		Specified Note
		at 120 Hz	at 1 KHz	
10 MΩ	9.999 MΩ	2.0%+8 dig. (1)	2.0%+8 dig. (1)	After open cal.
2000KΩ	1999.9kΩ	0.5%+5 dig.	0.5%+5 dig.	After open cal.
200KΩ	199.99kΩ	0.5%+3 dig.	0.5%+3 dig.	-
20KΩ	19.999kΩ	0.5%+3 dig.	0.5%+3 dig.	-
2000Ω	1999.9Ω	0.5%+3 dig.	0.5%+3 dig.	-
200Ω	199.99Ω	0.8%+5 dig.	0.8%+5 dig.	After short cal.
20Ω	19.999Ω	1.2%+40 dig.	1.2%+40 dig.	After short cal.

Notes: This specification is based on the measurement performed at the test socket.
DUT (Device Under Test) & Test leads should be properly shielded to GUARD if a greater measurement accuracy is necessary.

(1) This specification is based on battery operation.

Capacitance (parallel mode)

Test Frequency: 120 Hz

Range	Maximum Display	Accuracy		Specified Note
		Capacity.	DF	
10mF	19.99mF (2)	3.0%+5 dig. (DF<0.1)	10%+100/Cx+5 dig. (DF<0.1)	After short cal.
1000µF	1999.9µF (3)	1.0%+5 dig. (DF<0.1)	2%+100/Cx+5 dig. (DF<0.1)	After short cal.
200µF	199.99µF	0.7%+3 dig. (DF<0.5)	0.7%+100/Cx+5 dig. (DF<0.5)	-
20µF	19.999µF	0.7%+3 dig. (DF<0.5)	0.7%+100/Cx+5 dig. (DF<0.5)	-
2000nF	1999.9nF	0.7%+3 dig. (DF<0.5)	0.7%+100/Cx+5 dig. (DF<0.5)	-
200nF	199.99nF	0.7%+5 dig. (DF<0.5)	0.7%+100/Cx+5 dig. (DF<0.5)	After open cal.
20nF	19.999nF	1.0%+5 dig. (DF<0.1)	2%+100/Cx+5 dig. (DF<0.1)	After open cal.

Test Frequency: 1 KHz

Range	Maximum Display	Accuracy		Specified Note
		Capacity.	DF	
1mF	1.999mF(2)	3.0%+5 dig. (DF<0.1)	10%+100/Cx+5 dig. (DF<0.1)	After short cal.
200µF	199.99µF(3)	1.0%+5 dig. (DF<0.1)	2.0%+100/Cx+5 dig. (DF<0.1)	After short cal.
20µF	19.999µF	0.7%+3 dig. (DF<0.5)	0.7%+100/Cx+5 dig. (DF<0.5)	-
2000nF	1999.9nF	0.7%+3 dig. (DF<0.5)	0.7%+100/Cx+5 dig. (DF<0.5)	-
200nF	199.99nF	0.7%+3 dig. (DF<0.5)	0.7%+100/Cx+5 dig. (DF<0.5)	-
20nF	19.999nF	0.7%+5 dig. (DF<0.5)	0.7%+100/Cx+5 dig. (DF<0.5)	After open cal.
2000pF	1999.9pF	1.0%+5 dig. (DF<0.1)	2.0%+100/Cx+5 dig. (DF<0.1)	After open cal.

Notes:	Q Value is the reciprocal of DF (dissipation factor). This specification is based on the measurement performed at the test socket. DUT (Device Under Test) & Test leads should be properly shielded to GUARD if a greater measurement accuracy is necessary. Cx=Counts of displayed C value, e.g. C=88.88μF then Cx=8888.

(2) This reading can be extended to 1999 MAX display with accuracy not specified.
(3) This reading can be extended to 19999 MAX display with accuracy not specified.

Inductance (series mode)

Test Frequency: 120 Hz

Range	Maximum Display	Accuracy		Specified Note
		Inductance	DF	
1000H	999.9H	1.0%+ (Lx/10000)% +5 dig.	2%+100/Lx+5 dig.	After open cal.
200H	199.99H	0.7%+ (Lx/10000)%+5 dig.	1.2%+100/Lx+5 dig.	-
20H	19.999H	0.7%+ (Lx/10000)%+5 dig.	1.2%+100/Lx+5 dig.	-
2000m	1999.9mH	0.7%+ (Lx/10000)%+5 dig.	1.2%+100/Lx+5 dig.	-
200m	199.99mH	1.0%+ (Lx/10000)%+5 dig.	3%+100/Lx+5 dig.	After short cal.
20m	19.999mH	2.0%+ (Lx/10000)%+5 dig.	10%+100/Lx+5 dig.	After short cal.

Test Frequency: 1 KHz

Range	Maximum Display	Accuracy		Specified Note
		Inductance	DF	
100H	99.99H	1.0%+ (Lx/10000)%+5 dig.	2.0%+100/Lx+5 dig.	After open cal.
20H	19.999H	0.7%+ (Lx/10000)%+5 dig.	1.2%+100/Lx+5 dig.	-
2000mH	1999.9mH	0.7%+ (Lx/10000)%+5 dig.	1.2%+100/Lx+5 dig.	-
200mH	199.99mH	0.7%+ (Lx/10000)%+5 dig.	1.2%+100/Lx+5 dig.	-
20mH	19.999mH	1.0%+ (Lx/10000)%+5 dig.	3.0%+100/Lx+5 dig.	After short cal.
2000μH	1999.9μH	2.0%+ (Lx/10000)%+5 dig.	10%+100/Lx+5 dig.	After short cal.

Notes:	Q Value is the reciprocal of DF. This specification is based on the measurement performed at the test socket. DUT (Device Under Test) & Test leads should be properly shielded to GUARD if a greater measurement accuracy is necessary. Lx=Counts of displayed L value, e.g. L=88.88H then Lx=8888.

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