



English

Product Datasheet

Stock No: 193-8694

DMM with Kelvin (4-wire) small resistance measurement



Introduction

The measurement functions are selected using the dial switch. Automatic measurement range selection is active in all measurement ranges (apart from 4-lead low Ohm measurement and continuity test).

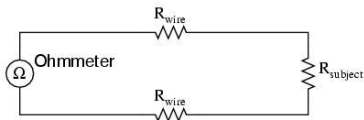
The two current measuring ranges are secured against overload with a ceramic high-performance fuse. The voltage in the measuring circuit may not exceed 600 V.

The measuring instrument must not be operated when it is open, i.e. with an open battery compartment or when the battery compartment cover is missing. Measurements must not be carried out under unfavourable ambient conditions.

OPERATING PRINCIPLE

The Milliohm meter allows you to measure resistances in normal measurement ranges from 0.1 Ω to 40 M Ω using the 2-lead measurement procedure and also allows the precise measurement of low Ohm resistances from 0.1 m Ω to 40 Ω using the 4-lead measurement procedure.

The 2-lead measurement includes the resistance of the measuring leads in the total measurement. The measurement lead resistance is approx. 0.5 Ω . This low value can be disregarded in a measurement range up to 40 M Ω . The switching diagram is illustrated on the right:

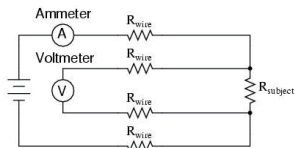


Ohmmeter indicates $R_{\text{wire}} + R_{\text{subject}} + R_{\text{wire}}$

The 4-lead measurement connects a current and voltage measurement circuit. According to Ohm's law, all currents in a series circuit are equal. The current measurement in the measurement circuit is independent of the measurement location.

The voltage measurement is carried out at high Ohms so that the measurement circuit is not loaded and the measured values are not falsified. The additional voltage measurement then allows the resistance to be measured without loss through cables (formula: $R = U/I$). The switching diagram is illustrated on the right:

The two measurement methods are explained in the following.



FEATURES

Low resistance range	0~40Ω
Display	Large LCD with bar graph display
Maximum output current	200mA (400mΩ)
Sampling Rate	2 times per second.
relative measurement	
Over Range Indicator	OL of highest digit is displayed.
Low Battery Indication	The is displayed when the battery Voltage drop below the operating voltage.
Auto Power Off	To conserve battery life, the meter will automatically turn off after approx. 30 minutes of non-use. When this happens, the state of the meter is saved. In order to disable auto power off function, power on the meter when any of the push function , except for HOLD, is pressed down.The "APO" sign on the LCD panel indicates whether the auto power-off function is enabled or not.
Operating Temperature	0°C to 40°C (32°F to 104°F) and Humidity below 80% RH
Storage Temperature	-10°C to 60°C (14°F to 140°F) and Humidity below 70% RH
Power source	6x1.5V Size "AA" battery or Equivalent (DC9V)
Dimensions	200(L) x 92(W) x 50(H) mm
Weight	Approx 700g include battery
Accessories	4 sets Test kits, 4pcs iron rods, 6pcs battery, Carrying case, manual

Specification

Accuracies are specified in the way:

\pm (...% of reading + ...digits) at 23°C \pm 5°C, below 80% RH.

Low resistance

Range	Resolution	Accuracy	Current
400m Ω	0.1m Ω	\pm (1% + 10d)	200mA
4 Ω	1m Ω	\pm (1% + 5d)	20mA
40 Ω	0.01 Ω	\pm (1% + 5d)	2mA

OHMS

Range	Resolution	Accuracy
400 Ω	0.1 Ω	\pm (1.0% + 4d)
4K Ω	1 Ω	\pm (1.5% + 2d)
40K Ω	10 Ω	
400K Ω	100 Ω	
4M Ω	1K	\pm (2.5% + 3d)
40M Ω	10k Ω	\pm (3.5% + 5d)

DC Current

Rang	Resolution	Accuracy
400 μ A	0.1 μ A	\pm (1.5% + 5d)
4000 μ A	1 μ A	
40mA	0.01mA	
400mA	0.1mA	

AC Current

Rang	Resolution	Accuracy/50 ~ 60Hz	Accuracy/400Hz
400 μ A	0.1 μ A	\pm (1.5% + 5d)	\pm (1.5% + 5d)
4000 μ A	1 μ A	\pm (1.5% + 5d)	\pm (1.5% + 5d)
40mA	0.01mA	\pm (1.5% + 5d)	\pm (1.5% + 5d)
400mA	0.1mA	\pm (1.5% + 5d)	\pm (1.5% + 5d)

DC Voltage

Rang	Resolution	Accuracy
400mV	0.1 mV	± (1% + 5d)
4V	1 mV	
40V	0.01V	
400V	0.1V	
1000V	1V	± (1.2% + 5d)

AC Voltage

Rang	Resolution	Accuracy/50 ~ 60Hz	Accuracy/400Hz
400mV	0.1 mV	± (1.2% + 10d)	± (2.5% + 10d)
4V	1 mV	± (1.0% + 10d)	± (1.2% + 10d)
40V	0.01V	± (1.0% + 10d)	± (1.2% + 10d)
400V	0.1V	± (1.0% + 10d)	± (1.2% + 10d)
750V	1V	± (1.0% + 10d)	± (1.2% + 10d)

Capacitance

Rang	Resolution	Accuracy
4nF	1pF	unspecified
40nF	10PF	± (5.0% + 20d)
400nF	0.1nF	± (3% + 10d)
4uF	1nF	
40uF	10nF	± (4% + 10d)
400uF	0.1uF	
4mF	1uF	± (10% + 10d)
40mF	10uF	unspecified

Accessories:

Rubber holster, 4-wire cable and 6x1.5V "AA" battery, test leads, gift box with carrying case.