

# FLUKE 101/101 KIT Handheld Digital Multimeter Professional Tester Multimeter Professional Digital Multimeter With Test Leads

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## Fluke 101/101Kit Digital Multimeters

### Main features

The appearance is novel, the size is small, the grip is comfortable, and the weight is only 160g, which can be easily put into a pocket or carried easily

Auto power saving mode

Automatic range test, test is more convenient and faster; at the same time, the number of wave plate rotations is reduced, and the life of the instrument is prolonged

Data hold function for easier reading of measurement results

Meet the IEC61010-1 CATIII 600V safety level standard, users can test a wider range of occasions and test ranges, and the test is more secure, which not only protects the user's investment, but also ensures the safety of personnel and instruments.

Fluke SmartStrap™ smart magnetic multi-purpose strap (Fluke101kit is standard, Fluke-101 is optional)has a unique and novel design, which can be used for adsorption, suspension, support and use, making it easier to carry the instrument and perform tests

**Product Overview: Fluke 101/101Kit Digital Multimeters**

Fluke 101/101Kit Digital Multimeters are used for basic electrical testing and can be used by residential/commercial electricians and heating and air conditioning technicians for reliable testing. This digital multimeter is small and lightweight and comfortable to hold. It's also durable enough for years of everyday use. If you need an affordable professional-grade multimeter, the Fluke 101/101Kit Digital Multimeter is your best choice.

Function	Range	The resolution of the	Accuracy of + / - + minimum resolution (% readings words)
ACVoltage measurement v(40Hz-500Hz)	6.000V	0.001V	1%+3
Dc voltage measurement	6.000V	0.001V	0.5%+3
Communication millivolt measurement	600.0 mV	0.1mV	3%+3
Diode test	2.000V	0.001V	10%
Resistance test	400.0 Ω	0.1 Ω	0.5 % + 3
	4.000 kΩ	0.001 kΩ	0.5 % + 2

	40.00 kΩ	0.01 kΩ	0.5 % + 2
	400.0 kΩ	0.1 kΩ	0.5 % + 2
	4.000 MΩ	0.001 MΩ	0.5 % + 2
	40.00 MΩ	0.01 MΩ	1.5% + 3
Capacitance test	50.00 nF	0.01 nF	2 % + 5
	500.0 nF	0.1 nF	2 % + 5
	5.000 μF	0.001 μF	5 % + 5
	50.00 μF	0.01 μF	5 % + 5
	500.0 μF	0.1 μF	5 % + 5
	1000 μF	1 μF	5 % + 5
Frequency test(10Hz- 100KHz)	50.00 Hz	0.01 Hz	0.1 % + 3
	500.0 Hz	0.1 Hz	
	5.000 kHz	0.001 kHz	

**FLUKE**



# product description



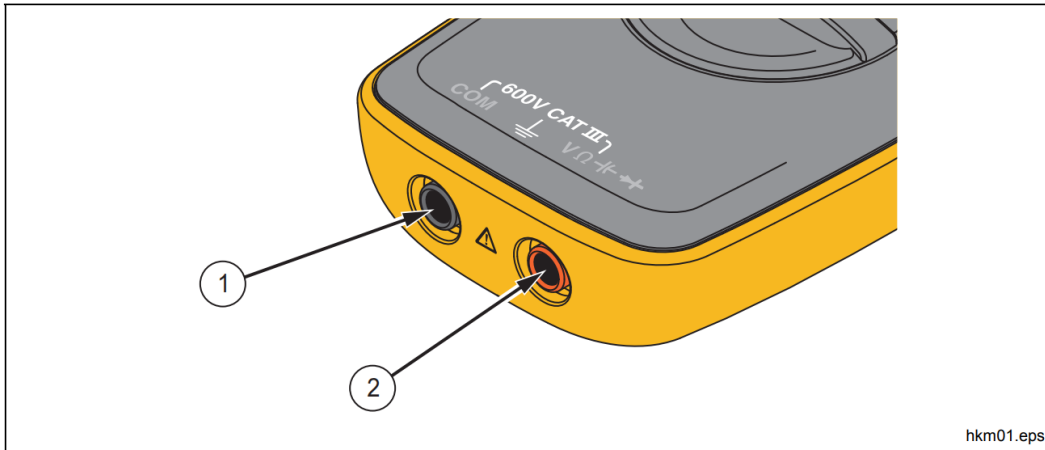
## Gold-plated dial

It is still accurate after 30,000 times



## Instrument Overview

### Terminals

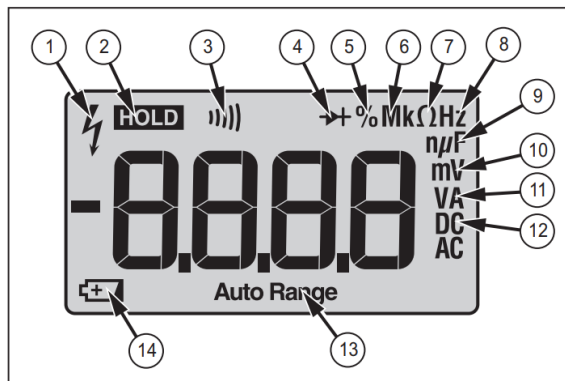


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Item	Description
①	Common (return) terminal for all measurements.
②	Input terminal for all measurements.

### Display

Figure 1 and Table 2 show the items on the Product display.



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Figure 1. Display

**Table 2. Display**

Item	Description	Item	Description
①	High voltage	⑧	Frequency is selected
②	Display Hold is enabled	⑨	Farads
③	Continuity selected	⑩	Millivolts
④	Diode test is selected	⑪	Amps or volts
⑤	Duty Cycle is selected	⑫	Dc or ac voltage or current
⑥	Decimal prefix	⑬	Auto Range mode is enabled
⑦	Ohms is selected	⑭	Battery is low and should be changed

### **Auto Power Off**

The Product automatically powers off after 20 minutes of inactivity.

To restart the Product, turn the rotary switch back to the **OFF** position and then to a necessary position.

To disable the Auto Power Off function, hold down the **YELLOW** button when turning on the Product, until **PoFF** shows on the display.

### **Measurements**

#### **Data Hold**

#### **⚠⚠ Warning**

**To prevent possible electrical shock, fire or personal injury, do not use the HOLD function to measure unknown potentials. When HOLD is turned on, the display does not change when a different potential is measured.**

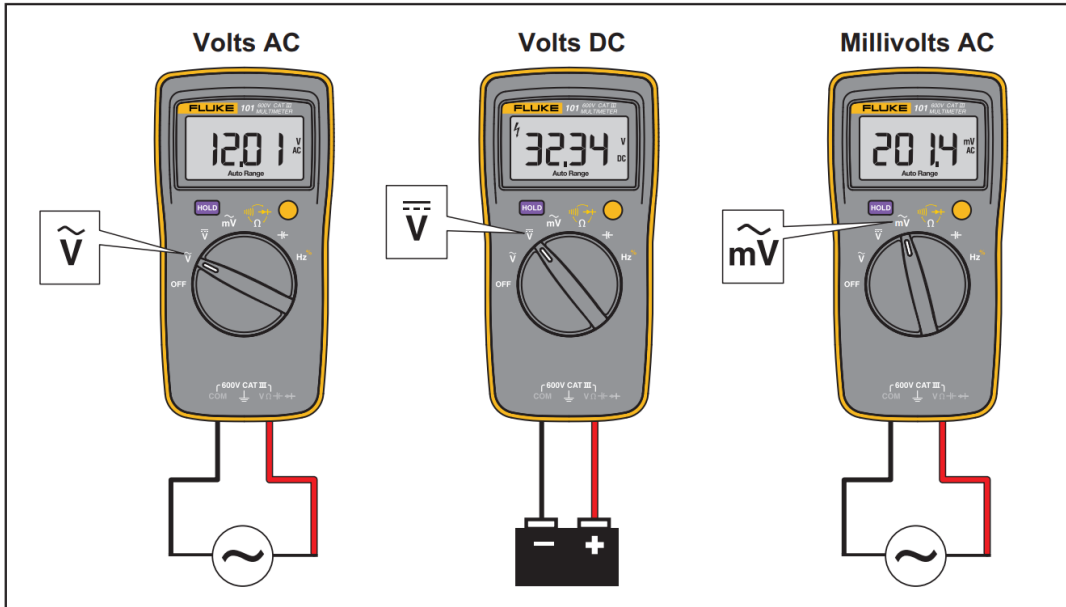
To hold the present reading, push **HOLD**. Push **HOLD** again to resume normal operation.

#### **Measure AC and DC Voltage**

To measure ac and dc voltage:

1. Choose ac or dc by turning the rotary switch to  $\tilde{V}$ ,  $\bar{V}$ , or  $m\tilde{V}$ .
2. Connect the red test lead to the **V**  $\Omega$   $\leftarrow$   $\rightarrow$  terminal and the black test lead to the **COM** terminal.
3. Measure the voltage by touching the probes to the correct test points of the circuit.
4. Read the measured voltage on the display.





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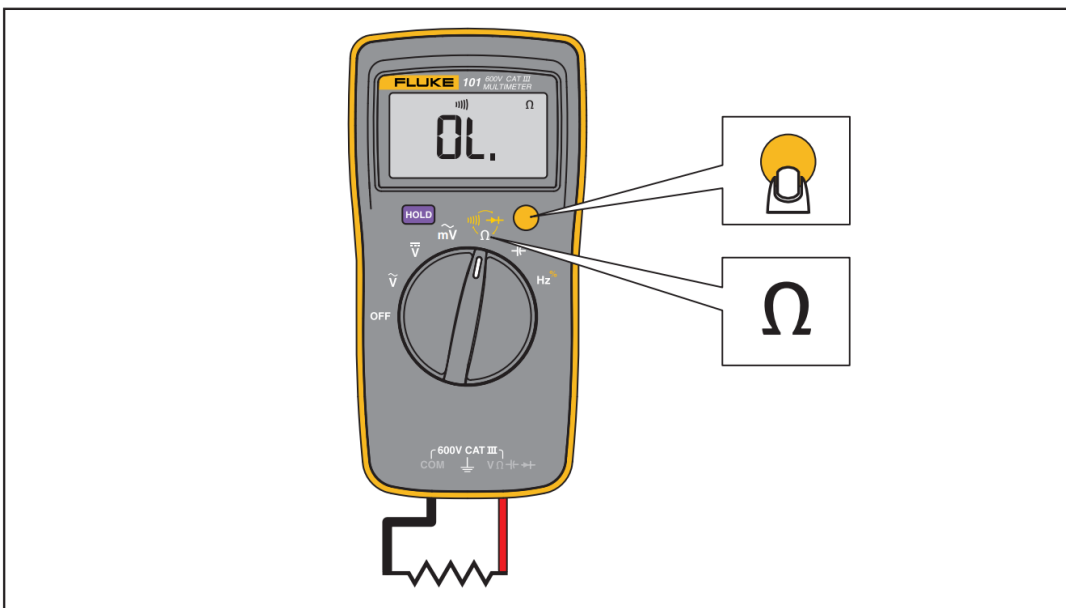
Figure 2. Measure AC and DC Voltage

### Measure Resistance

1. Turn the rotary switch to  $\Omega$ . Make sure power is disconnected from the circuit to be measured.
2. Connect the red test lead to the  $V \Omega \rightarrow$  terminal and the black test lead to the **COM** terminal.
3. Measure the resistance by touching the probes to the desired test points of the circuit.
4. Read the measured resistance on the display.

### Test for Continuity



With the resistance mode selected, push the **YELLOW** button once to activate the continuity mode. If the resistance is  $<70 \Omega$ , the beeper sounds continuously, designating a short circuit. If the Product reads  $\Omega$ , the circuit is open.





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### Test Diodes



1. Turn the rotary switch to .
2. Push the **YELLOW** button twice to activate the diode test mode.
3. Connect the red test lead to the **VΩ**  terminal and the black test lead to the **COM** terminal.
4. Connect the red probe to the anode and the black test lead to the cathode of the diode being tested.
5. Read the forward bias voltage value on the display.
6. If the polarity of the test leads is reversed with diode polarity, the display reading shows  $\overline{0}$ . This can be used to distinguish the anode and cathode sides of a diode.

### Measure Capacitance



1. Turn the rotary switch to .
2. Connect the red test lead to the **VΩ**  terminal and the black test lead to the **COM** terminal.
3. Touch the probes to the capacitor leads.
4. Let the reading stabilize (up to 18 seconds).
5. Read the capacitance value on the display.

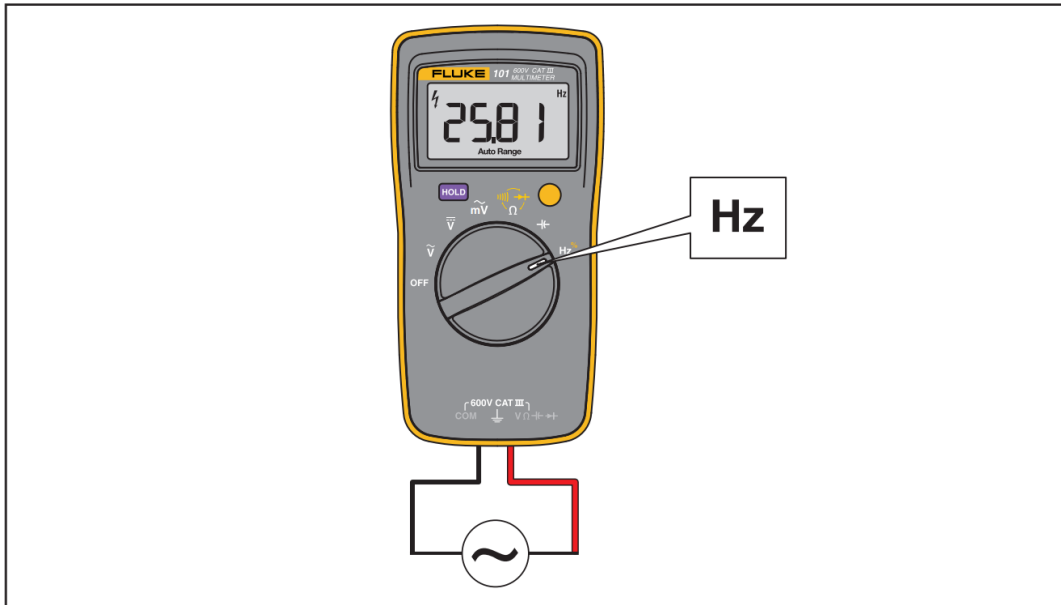
### Measure Frequency and Duty Cycle

To measure frequency:

1. Turn the rotary switch to **Hz** .
2. Connect the red test lead to the **VΩ**  terminal and the black test lead to **COM** terminal.
3. Measure frequency by touching the probes to the correct test points of the circuit.
4. Read the frequency on the display.

To measure duty cycle:

1. Turn the rotary switch to **Hz** .
2. Push the **YELLOW** button to switch to the duty cycle function.
3. Connect the red test lead to the **VΩ**  terminal and the black test lead to **COM** terminal.
4. Measure duty cycle by touching the probes to the correct test points of the circuit.
5. Read the percent of duty cycle on the display.



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Figure 4. Measure Frequency/Duty Cycle

### Accuracy Specifications

Accuracy is specified for 1 year after calibration, at operating temperature range of 18 °C to 28 °C, relative humidity at 0 % to 90 %. Accuracy specifications take the form of:  $\pm$ ([% of Reading] + [Number of Least Significant Digits])

Function	Range	Resolution	Accuracy
AC Volts (40 Hz to 500 Hz) <sup>[1]</sup> $\tilde{V}$	6.000 V 60.00 V 600.0 V	0.001 V 0.01 V 0.1 V	1.0 % + 3
DC Volts $\overline{V}$	6.000 V 60.00 V 600.0 V	0.001 V 0.01 V 0.1 V	0.5 % + 3
AC Millivolts (40 Hz to 500 Hz) <sup>[1]</sup> $\tilde{mV}$	600.0 mV	0.1 mV	3.0 % + 3
Diode Test <sup>[2]</sup> $\rightarrow +$	2.000 V	0.001 V	10 %

[1] All AC, Hz, and duty cycle are specified from 1 % to 100 % of range. Inputs below 1 % of range are not specified.

[2] Typically, open circuit test voltage is 2.0 V and short circuit current is <0.6 mA.

Function	Overload Protection	Input Impedance (Nominal)	Common Mode Rejection Ratio	Normal Mode Rejection Ratio
AC Volts	600 V <sup>[1]</sup>	>10 M $\Omega$ <100 pF	>60 dB at dc, 50 Hz or 60 Hz	–
AC Millivolts	600 mV	>1 M, <100 pF	>80 dB at dc, 50 Hz or 60 Hz	–
DC Volts	600 V <sup>[1]</sup>	>10 M $\Omega$ <100 pF	>100 dB at 50 Hz or 60 Hz	>60 dB at 50 Hz or 60 Hz

[1] 6 x 10<sup>5</sup> V Hz Max.

Function	Range	Resolution	Accuracy
Resistance $\Omega$	400.0 $\Omega$	0.1 $\Omega$	0.5 % + 3
	4.000 k $\Omega$	0.001 k $\Omega$	0.5 % + 2
	40.00 k $\Omega$	0.01 k $\Omega$	0.5 % + 2
	400.0 k $\Omega$	0.1 k $\Omega$	0.5 % + 2
	4.000 M $\Omega$	0.001 M $\Omega$	0.5 % + 2
	40.00 M $\Omega$	0.01 M $\Omega$	1.5 % + 3
Capacitance <sup>[1]</sup> $\mu\text{F}$	50.00 nF	0.01 nF	2 % + 5
	500.0 nF	0.1 nF	2 % + 5
	5.000 $\mu\text{F}$	0.001 $\mu\text{F}$	5 % + 5
	50.00 $\mu\text{F}$	0.01 $\mu\text{F}$	5 % + 5
	500.0 $\mu\text{F}$	0.1 $\mu\text{F}$	5 % + 5
	1000 $\mu\text{F}$	1 $\mu\text{F}$	5 % + 5
Frequency <sup>[2]</sup> <b>Hz</b> (10 Hz – 100 kHz)	50.00 Hz	0.01 Hz	0.1 % + 3
	500.0 Hz	0.1 Hz	
	5.000 kHz	0.001 kHz	
	50.00 kHz	0.01 kHz	
	100.0 kHz	0.1 kHz	
Duty Cycle <sup>[2]</sup>	1 % to 99 %	0.1 %	1 % typical <sup>[3]</sup>