

Test Equipment Depot
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FLUKE®

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7-600

Electrical Tester *Instruction Sheet*



Read First: Safety Information

To ensure that the tester is used safely, follow these instructions:

- Do not use the tester if the tester or test leads appear damaged, or if you suspect that the tester is not operating properly.
- Disconnect the live test lead before disconnecting the common test lead.
- When using the probes, keep your fingers behind the finger guards on the probes.
- Do not use the tester to measure voltages in circuits that could be damaged by the tester's low input impedance ($\approx 2 \text{ k}\Omega$).
- Turn off power to the circuit under test before cutting, desoldering, or breaking the circuit. Small amounts of current can be dangerous.
- Do not apply more than 600V rms between a 7-600 tester terminal and earth ground.
- Use caution when working with voltages above 60V dc or 30V ac rms. Such voltages pose a shock hazard.

Automatic Selection

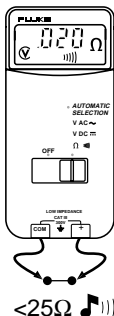
The tester automatically selects the appropriate measurement mode and range. When turned on, the tester powers up in resistance/continuity mode. If a dc or ac voltage greater than about 4.5V is present across the inputs, the tester switches to dc or ac voltage mode.

⚠ Warning

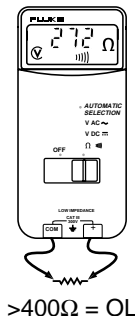
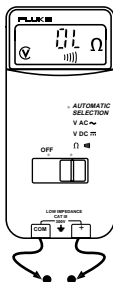
Repetitive transients on a dc bus will cause Automatic Selection (V) to select ac volts, even though a hazardous dc voltage may be present.

In dc and ac voltage modes, the tester has low input impedance **(between $\approx 2\text{ k}\Omega$ and $100\text{ k}\Omega$)**. This low impedance, which places a moderate load on the circuit under test, is appropriate only for measuring power supply voltages under load. Do not use the tester to measure voltage in circuits that could be damaged by a $2\text{ k}\Omega$ load.

Continuity



Resistance

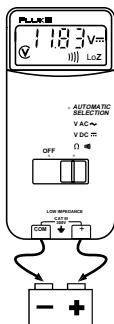


DC and AC Voltage

Refer to Automatic Selection.

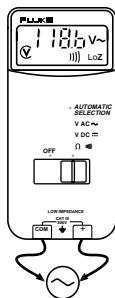
Volts dc >4.5V

Input Impedance $\cong 2 \text{ k}\Omega$



Volts ac >4.5 VRMS

Input Impedance $\cong 2 \text{ k}\Omega$



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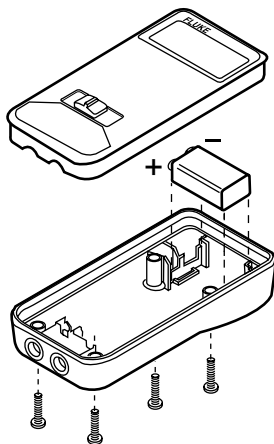
Standby Mode

If the tester is on but inactive and not connected to voltage for more than 45 min, the display goes blank to preserve battery life. To resume operation, switch the tester OFF for 2 seconds or more; then switch the tester on.

Maintenance

Clean the case with a damp cloth and detergent. Do not use abrasives or solvents.

Battery Replacement



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Test Lead Replacement (☐ Indicates double insulation.)

Replace the test leads with Fluke TL-75 PN 855705 double-insulated leads.

Specifications

Maximum Voltage Between any Terminal and Earth Ground	600 V rms
Display	3 3/4-digits, 4000 counts, updates 4/sec
Operating Temperature	-10°C to 50°C (14°F to 122°F)
Storage Temperature	-30°C to 60°C (-22°F to 140°F) indefinitely (to -40°C (-40°F) for 100 hrs)
Temperature Coefficient	0.1 x (specified accuracy)/°C (<18°C or >28°C; <64°F or > 82°F)
Relative Humidity	0% to 90% (-10°C to 35°C; 14°F to 95°F) 0% to 70% (35°C to 50°C; 95°F to 122°F)
Battery Type	9V, NEDA 1604 or IEC 6F22
Battery Life	650 continuous hours with alkaline 450 continuous hours with carbon-zinc
Shock, Vibration	1 meter shock. Per MIL-T-28800D for a Class 3 instrument
Size (HxWxL)	3.46 cm x 7.05 cm x 14.23 cm (1.35 in x 2.75 in x 5.55 in)
Weight	286g (10 oz)
Safety	Designed to Protection Class II requirement of UL3111, ANSI/ISA-S82, CSA C22.2 No 231, and VDE 0411, and IEC 1010 overvoltage Category III (CAT III).
EMI Regulations	Complies with FCC Part 15, Class B, and VDE 0871B.



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Complies with EN 61010-1: 1993.

Accuracy is specified for a period of one year after calibration, at 18°C to 28°C (64°F to 82°F) with relative humidity to 90%. AC conversions are ac-coupled, average responding, and calibrated to the rms value of a sine wave input. Accuracy specifications are given as follows:

$\pm([\% \text{ of reading}] + \text{number of least significant digits})$

Function	Range	Resolution	Accuracy (50 to 400 Hz)
V_~	40.00V	00.01V	$\pm(2.9\% + 3)$
	300.0V (7-300)	00.1V	$\pm(2.9\% + 3)$
	400.0V (7-600)	000.1V	$\pm(2.9\% + 3)$
	0600V (7-600)	0001V	$\pm(2.9\% + 3)$
V₋₋₋	40.00V	00.01V	$\pm(1.5\% + 1)$
	300.0V (7-300)	00.1V	$\pm(1.5\% + 1)$
	400.0V (7-600)	000.1V	$\pm(1.5\% + 1)$
	0600V (7-600)	0001V	$\pm(1.5\% + 1)$
Ω^*	400.0 Ω	000.1 Ω	$\pm(1.5\% + 2)$
* The beeper typically comes on at <25 Ω and turns off at >400 Ω .			

Function	Overload Protection	*Input Impedance (Nominal)
V_{\sim}	600V rms	>2 k Ω , 200 pF ac-coupled
$V_{\text{---}}$	600V rms	>2 k Ω , 200 pF
Ω	600V rms	NA
* \approx 2 k Ω input impedance up to 50V. Impedance increases with input voltage to >300 k Ω at 600V.		

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