

FLUKE®


T5-600 / T5-1000 Electrical Tester

Instruction Sheet







Read First: Safety Information

Use the tester only as specified in this Instruction Sheet, otherwise the protection provided by the tester may be impaired.

Warning

- Do not use the tester if it is damaged or operating abnormally. Protection may be impaired.
- Before each use:
 - Make sure the battery door is closed and latched.
 - Inspect the tester and test leads. Look for cracks, missing plastic, exposed metal, or damaged insulation. Replace damaged test leads before using the tester.
 - Verify the tester's operation by measuring a known voltage.
 - Perform the Battery Test to avoid false readings due to a low battery.
- Replace the batteries as soon as the low battery indicator () appears.
- Do not use the tester around explosive gas, vapor or dust.
- Do not apply more than the rated voltage, as marked on the tester, between terminals or between any terminal and earth ground.
- When servicing the tester, use only specified replacement parts.
- Use caution when working above 30 V ac rms, 42 V ac peak, or 60 V dc.
- When using the probes, keep your fingers behind the finger guards on the probes.
- Connect the common test lead before you connect the live test lead. Disconnect the live test lead first.

Symbols

	AC (alternating current)		Earth ground
	DC (direct current)		Double insulated
	Safety Information (Refer to the manual)		Battery

Voltage Indicator

While the tester is on, the LED glows when more than 30 V ac or 60 V dc is present across the leads.

The LED can also glow at lower voltages. Be aware that such voltages pose a shock hazard.

Measuring Voltage (V)

The tester automatically selects dc (DC) or ac (AC) voltage mode based on the peak values of the measured signal.

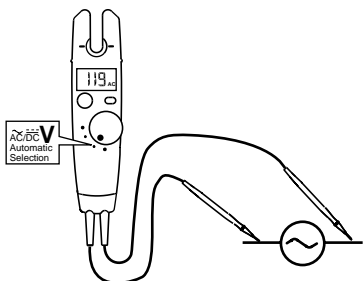
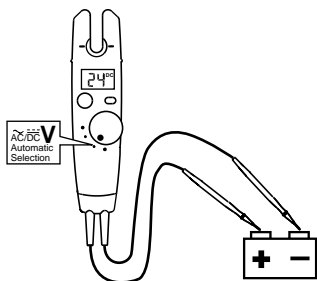
The tester defaults to ac voltage when turned on.

DC Voltage

T5-600 maximum: 600 V
T5-1000 maximum: 1000 V
CAT III

AC Voltage

45 Hz to 66 Hz
T5-600 maximum: 600 V rms
T5-1000 maximum: 1000 V rms
CAT III

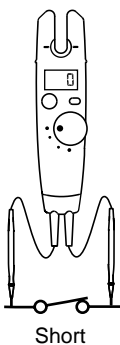
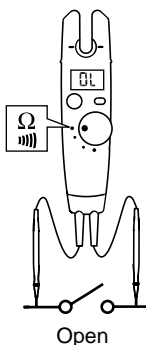




ex2.eps

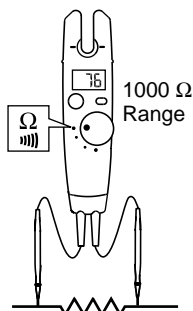
Measuring Continuity and Resistance (Ω)

Continuity

Resistance



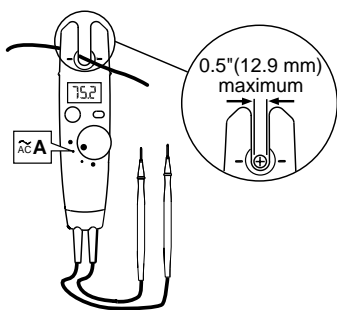
Less than
25 Ω 
Greater than
400 Ω 



ex3.eps

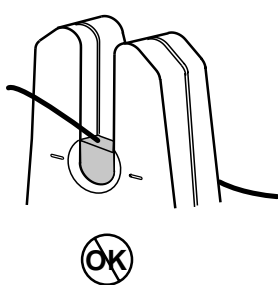
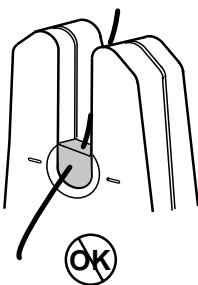
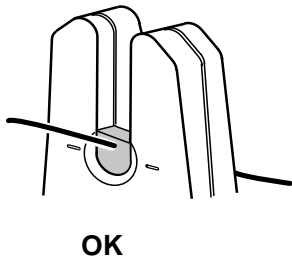
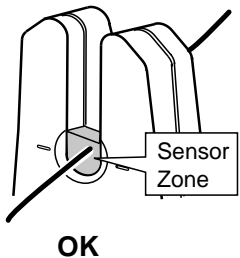
Beeper indicates shorts lasting 1 ms (1/1000 second) or longer.

Measuring AC Current (A)



- Range: 0 A to 100.0 A; 45 Hz to 66 Hz
- Remove probes from test points.
- Place conductor anywhere within the sensor zone (shaded area shown below).

ex1.eps



ex5.eps

Display Hold **HOLD**

To hold the reading on the display, press and release **HOLD**. The voltage indicator LED () continues to operate.


To exit the display hold mode, press and release **HOLD** again, or turn the rotary switch to a new position.

Automatic Power Down

The tester turns off automatically if you do not turn the rotary switch or press **HOLD** for approximately 34 minutes. To resume operation, turn the tester off, wait two seconds, then turn the tester on.

Low Battery Indicator

Warning

To avoid false readings, which could lead to possible electric shock or personal injury, replace the battery as soon as the low battery indicator () appears.

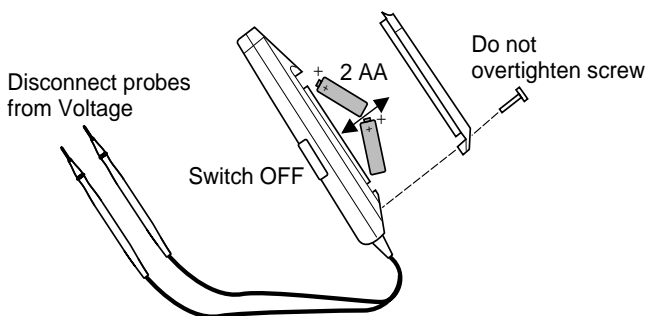
Maintenance

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

Because the inputs are electronically protected, no fuses are required.


Battery Replacement

Observe the polarity markings inside the battery compartment.



ex4.eps

Replacement Parts

Test Lead Assembly. Replace only with Fluke double-insulated leads () See "Accessories" for available probes.	PN 648029
Battery Door	PN 648144
Battery Door Screw	PN 643830

Accessories

H5 Belt Holster

TP1 Probe Set, Flat-Blade

TP4 Probe Set, 4 mm round

Service Information Sheet, PN 686953

To contact Fluke, call:

USA and Canada: 1-888-99-FLUKE (1-888-993-5853)

Europe: +31 402-678-200

Japan: +81-3-3434-0181

Singapore: +65-276- 6196

Anywhere in the world: +1-425-446-5500

Visit Fluke's Web site at www.fluke.com.

Specifications

Calibration: One-year calibration cycle.

Maximum Voltage Between any Terminal and Earth Ground:

T5-600: 600 V rms, Overvoltage Category III;

T5-1000: 1000 V rms, Overvoltage Category III

Temperature: Operating: -10 °C to +50 °C (14 °F to 122 °F);

Storage: -30 °C to +60 °C (-22 °F to +140 °F)

Altitude: Operating: 2000 m (6562 ft); Storage: 10,000 m (32808 ft)

Relative Humidity: 0 % to 95 %, 5 °C to 30 °C (41 °F to 86 °F);

0 % to 75 %, 30 °C to 40 °C (86 °F to 104 °F);

0 % to 45 %, 40 °C to 50 °C (104 °F to 122 °F)

Battery Type and Life: AA (2); 400 hours continuous with alkaline; 200 hours continuous with zinc chloride

Shock, Vibration: 1 m drop at 15 °C to 35 °C (59 °F to 95 °F) per ANSI/ISA-S82.01-1994 and EN 61010-1: 1993. Sinusoidal vibration per MIL-PRF-28800F for a Class 2 instrument (5 Hz to 55 Hz, 3 g maximum).

Surge Protection: T5-600 6 kV per IEC 1010-1, 1990-09;
T5-1000 8 kV per IEC 1010-1, 1990-09

Enclosure Rating: IP 52 per IEC 529, no vacuum applied

RF Field Specification: 0.5 % full scale + (specified accuracy) at 3 V / m; Amps: >100 MHz, performance unspecified.

Safety: Complies with ANSI/ISA-S82.01-94 for use in Overvoltage category III (CAT III) locations, UL3111, CSA/CAN C22.2 No.1010.1-92, and EN61010-1: 1993.

EMC: EN 50081-1, EN 50082-1

Certifications:



Accuracy is specified for 1 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 ([% of reading] + [number of least significant digits])

Temperature coefficient of 0.1 x (specified accuracy) / °C for <18 °C or >28 °C (< 64.4 °F or > 82.4 °F)

Function	T5-600 Range	T5-1000 Range	Resolution	Accuracy
\tilde{V}	600 V rms	1000 V rms	1 V	\pm (1.5 % + 2 digits)
\bar{V}	600 V	1000 V	1 V	\pm (1 % + 1 digit)
\tilde{A}	100.0 A	100.0 A	0.1 A	\pm (3 % + 3 digits)
Ω	1000 Ω	1000 Ω	1 Ω	\pm (1 % + 2 digits)

Function	Input Impedance (nominal)	Input Protection	
		T5-600	T5-1000
\tilde{V}	1 M Ω , <100 pF ac-coupled	600 V rms	1000 V rms
\bar{V}	1 M Ω , <100 pF	600 V rms	1000 V rms
Ω	>2.6 k Ω	600 V rms	1000 V rms

Function	Open Circuit Test Voltage	Short Circuit Current
Ω	2.4 V dc (nominal)	<600 μ A

Limited Warranty & Limitation Of Liability

This Fluke product will be free from defects in material and workmanship for two years from the date of purchase. This warranty does not cover fuses, disposable batteries, or damage from accident, neglect, misuse or abnormal conditions of operation or handling. Resellers are not authorized to extend any other warranty on Fluke's behalf. To obtain service during the warranty period, send the defective product to the nearest Fluke Authorized Service Center with a description of the problem.

THIS WARRANTY IS YOUR ONLY REMEDY. NO OTHER WARRANTIES, SUCH AS FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSED OR IMPLIED. FLUKE IS NOT LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES, ARISING FROM ANY CAUSE OR THEORY.

Since some states or countries do not allow the exclusion or limitation of an implied warranty or of incidental or consequential damages, this limitation of liability may not apply to you.

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