

T5-600/T5-1000

Electrical Tester

Service Information

Introduction

This service information sheet provides the following information for the T5-600 and T5-1000 Electrical Testers (hereafter referred to as the tester or the Product).

- Safety information
- Specifications
- Parts and service information
- Cleaning procedure
- Required equipment
- Performance tests
- Parts and accessories list
- Battery replacement procedure

For operating instructions, refer to the *T5-600/T5-1000 Electrical Tester Instruction Sheet*.

Safety Information

General Safety Information is in the printed Safety Information document that ships with the Product and at www.fluke.com. More specific safety information is listed where applicable.

Specifications

Safety Specifications are in the printed Safety Information document that ships with the Product and at www.fluke.com. More specific safety information is listed where applicable. General Specifications are in the Instruction Card that ships with the Product.

March 1998 Rev. 2, 8/25

©1998-2025 Fluke Corporation. All rights reserved.

Specifications are subject to change without notice.

All Product names are trademarks of their respective companies.

Parts and Service

The tester is warranted to be free from defects in material and workmanship for two years, while under normal use. Parts and repairs are warranted for 90 days. For the complete warranty statement, refer to the *T5-600/T5-1000 Electrical Tester Instruction Sheet*.

Fluke Corporation operates worldwide. For local contact information, go to our website:
www.fluke.com

To register your product, view, print, or download the latest manual or manual supplement, go to our website.

+1-425-446-5500

fluke-info@fluke.com

Identify Firmware Version

Use these steps to identify the software version of the tester:

1. While holding down , turn the rotary knob from OFF to VAC. If all of the segments of the display turn on and stay on than proceed to step 2. If the segments do not remain on, the Firmware version is N/A.
2. Push  again to display the model number. "1000" displays for a T5-1000. "600" displays for a T5-600.
3. Push  again to display the firmware version.

Firmware Version 2.X

Resolution and Accuracy

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

Input Characteristics

Function	Input Protection		Input impedance (nomial
	T5-600	T5-1000	
	600 V rms	1000 V rms	1 M Ω , <100 pF ac-coupled
	600 V rms	1000 V rms	1 M Ω , <100 pF
	600 V rms	1000 V rms	
	Open Circuit Test Voltage		Short Circuit Current
	1.1 V dc (nominal)		<600 μ A

Firmware Version 1.X

Resolution and Accuracy

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

Input Characteristics

Function	Input Protection		Input impedance (nomial
	T5-600	T5-1000	
$\tilde{V}$	600 V rms	1000 V rms	1 M Ω , <100 pF ac-coupled
$\bar{V}$	600 V rms	1000 V rms	1 M Ω , <100 pF
Ω	600 V rms	1000 V rms	
	Open Circuit Test Voltage		Short Circuit Current
Ω	1.65 V dc (nominal)		<600 μ A

Units with No Software Version Identifier

Resolution and Accuracy

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

Input Characteristics

Function	Input Protection		Input impedance (nomial
	T5-600	T5-1000	
$\tilde{V}$	600 V rms	1000 V rms	1 M Ω , <100 pF ac-coupled
$\bar{V}$	600 V rms	1000 V rms	1 M Ω , <100 pF
Ω	600 V rms	1000 V rms	
	Open Circuit Test Voltage		Short Circuit Current
Ω	2.4 V dc (nominal)		<600 μ A

Clean the Tester



Warning

To avoid electric shock or damage to the tester, never allow water inside the case.
To avoid damaging the tester's case, never use solvents on the tester.

If the tester requires cleaning, wipe it down with a cloth that is lightly dampened with water or a mild detergent. Do not use aromatic hydrocarbons, chlorinated solvents, or methanol-based fluids when wiping down the tester.

Equipment Required for Performance Tests

The following equipment is required for performance tests:

- Fluke 5500A Multi-Product Calibrator, or equivalent
- 0 V to 5 V adjustable dc power supply
- Approximately 8 m (26 ft) of #14 single-conductor magnet wire wound into a butterfly-shaped coil. [Figure 1](#) shows how to make the coil.

Performance Tests

Use the following procedures to verify the tester's performance. If the tester fails any of the tests, return it to Fluke for calibration or repair.

Testing the AC Current Function

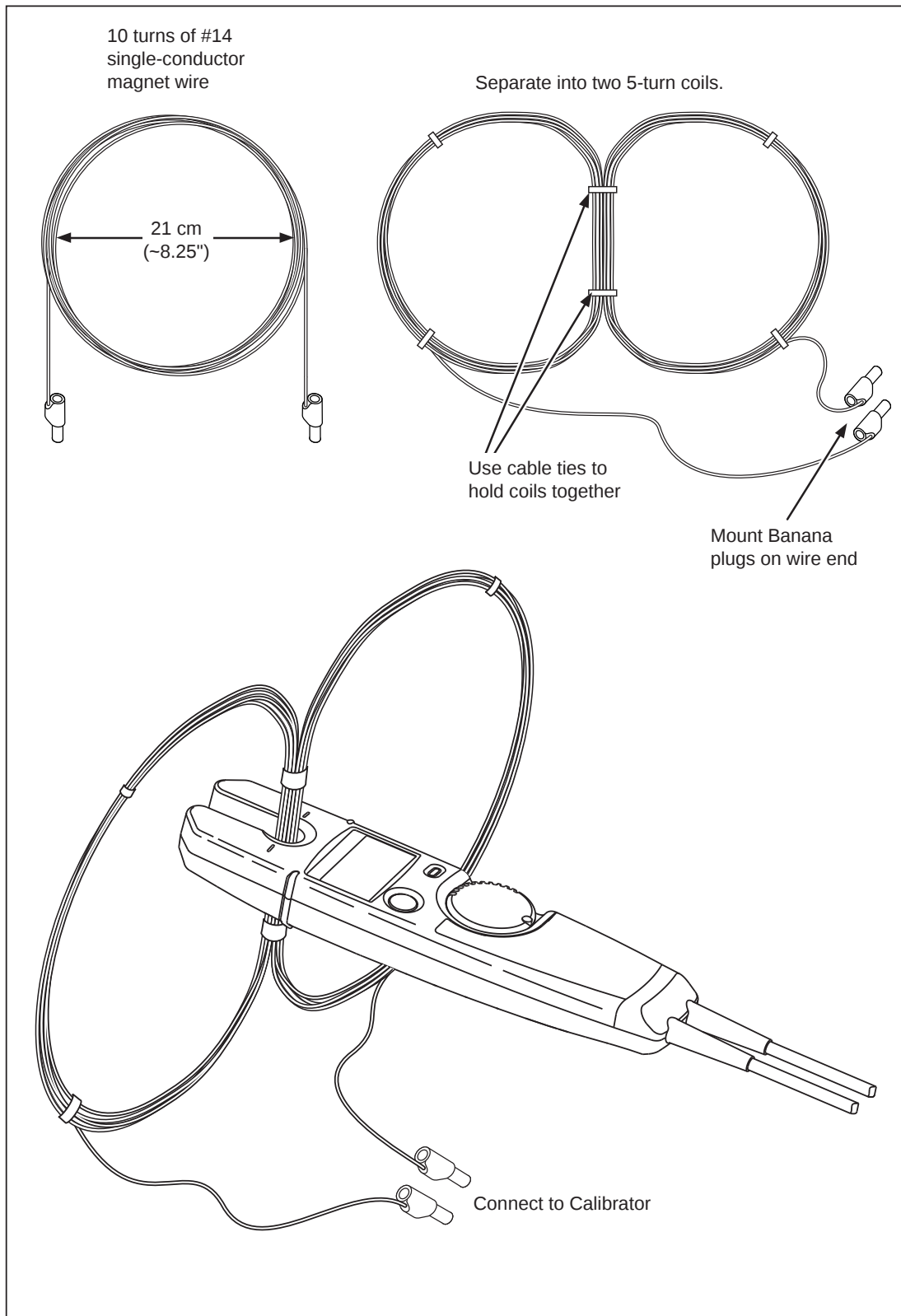
The tests in this section require the butterfly coil shown in [Figure 1](#). Note that the 10 conductors in the middle of the coil cause the tester to read 10 times more current than the calibrator supplies.

1. Put one edge of the butterfly coil in a vice to hold the coil during testing.
2. Set the calibrator to the current and frequency given in Step 1 of [Table 1](#).
3. Connect the butterfly coil to the calibrator.
4. Set the tester to the amperage function.
5. Place the tester's current fork around the middle of the coil so that the alignment marks are centered and perpendicular to the wire bundle, as shown in [Figure 1](#).
6. Verify that the tester reads within the display limits shown for Step 1 in [Table 1](#).
7. Apply the currents and verify the tester's readings for the remaining steps in [Table 1](#).

Table 1. AC Current Tests

Step	Calibrator output	T5-600/T5-1000 Display Limits
1	10 A, 60 Hz	96.7 to 103.3
2	10 A, 45 Hz	96.7 to 103.3
3	0.5 A, 45 Hz	4.5 to 5.5

Figure 1. Making the Butterfly Coil



Testing the Voltage Functions

The tests in this section check the following voltage functions:

- Automatic selection of ac or dc voltage mode
- Correct operation of the hazardous voltage indicator
- Correct operation of the HOLD function

Perform the tests as follows:

1. Set the calibrator to the T5-600 or T5-1000 test voltage given in [Table 2](#).
2. Apply the voltage to the tester. Verify that the tester reads within the display limits shown.
3. Apply the voltages and verify the tester's readings for the steps in [Table 3](#) and [Table 4](#).

Table 2. AC Voltage Test

T5-600		T5-1000	
Calibrator Output	T5-600 Display Limits (AC annunciator ON)	Calibrator Output	T5-1000 Display Limits (AC annunciator ON)
600 V, 60 Hz	589 to 611	1000 V, 60 Hz	983 to 1017

Table 3. DC Voltage Tests

Step	T5-600		T5-1000	
	Calibrator Output	T5-600 Display Limits (DC annunciator ON)	Calibrator Output	T5-1000 Display Limits (DC annunciator ON)
1	600 V dc	593 to 607	1000 V dc	989 to 1011
2	-60 V dc	-58 to -62	-100 V dc	-98 to -102
3	1.0 V dc	$1 \pm 1^{[1]}$	1.0 V dc	$1 \pm 1^{[1]}$
4	-1.0 V dc	$-1 \pm 1^{[1]}$	-1.0 V dc	$-1 \pm 1^{[1]}$
[1] Verify that the ac annunciator is OFF.				

Table 4. Hazardous Voltage LED and HOLD Function Tests

Step	Calibrator Output	T5-600/T5-1000 Display Indicators
1	12 V, 60 Hz	Reading: 12 ± 1 Hazardous voltage LED OFF
2	12 V, 60 Hz Tap tester's HOLD button	Reading: 12 ± 1 Hazardous voltage LED OFF HOLD indicator ON
3	+38 V dc	Reading: 12 ± 1 Hazardous voltage LED ON HOLD indicator ON

Resistance and Continuity Function Tests

To test resistance and continuity:

1. Set the calibrator to the resistance given in Step 1 of [Table 5](#).
2. Apply the resistance to the tester. Verify that the tester reads within the display limits shown.
3. Apply the resistances and verify the tester's responses for the remaining steps in [Table 5](#).

Table 5. Resistance and Continuity Tests

Step	Calibrator Output	T5-600/T5-1000 Display Limits and Beeper Responses
1	1 k Ω	988 to 1012
2	26 Ω	Beeper ON
3	300 Ω	Beeper OFF
4	0 Ω	-2 to 2, Beeper ON

Low Battery Indicator Test

The following procedure verifies correct operation of the low battery indicator.

1. Remove the tester's batteries.
2. Set the dc power supply to 3.0 V. Apply this voltage to the tester's battery terminals.
3. Set the calibrator to 1 k Ω . Apply this resistance to the tester's probes.
4. Slowly decrease the dc voltage just until the tester's low battery indicator () turns on.
5. Verify that the tester reads 1000 $\pm$ 12 counts (988 to 1012).
6. Disconnect the calibrator and the dc power supply. Reinstall the tester's batteries.

Parts and Accessories

[Table 6](#) shows the replacement parts and accessories available from Fluke for the T5-600 and T5-1000 Electrical Testers.

Table 6. Replacement Parts and Accessories

Description	Fluke Part Number
Test lead assembly(T5-RLS) Replace only with Fluke double-insulated leads  .	4089137
Battery door	2091779
Battery door screw	1618578
AA battery, 1.5 V, carbon-zinc (2 required)	650181
AA battery, 1.5 V, alkaline (2 required)	376756
<i>T5-600/T5-1000 Electrical Tester Instruction Card</i>	1631780

Description	Fluke Part Number
T5-600/T5-1000 Electrical Tester Safety Information	1631798
For additional accessories, see the Fluke website.	

Battery Replacement

Figure 2 shows how to replace the batteries. Observe the polarity markings inside the battery compartment.

Figure 2. Replacing the Batteries

