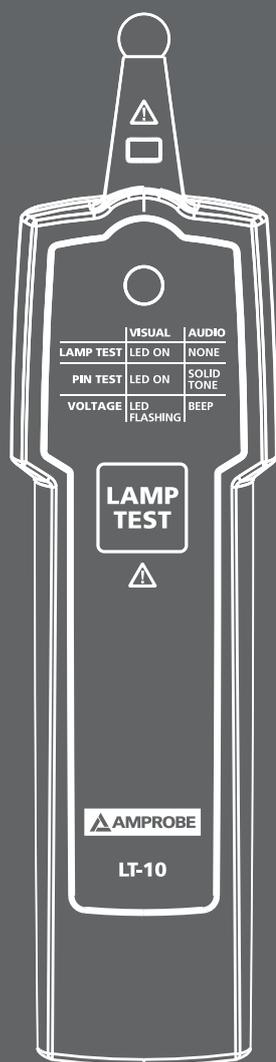




HARD AT WORK SINCE 1948.



# LT-10 LT-10-EUR Lamp Tester

## Users Manual

- Mode d'emploi
- Bedienungshandbuch
- Manuale d'Uso
- Manual de uso
- Användarhandbok





**LT-10**

**LT-10-EUR**

**Lamp Tester**

**Users Manual**

**English**

## **Limited Warranty and Limitation of Liability**

Your Amprobe product will be free from defects in material and workmanship for one year from the date of purchase unless local laws require otherwise. This warranty does not cover fuses, disposable batteries or damage from accident, neglect, misuse, alteration, contamination, or abnormal conditions of operation or handling. Resellers are not authorized to extend any other warranty on the behalf of Amprobe. To obtain service during the warranty period, return the product with proof of purchase to an authorized Amprobe Service Center or to an Amprobe dealer or distributor. See Repair Section for details. THIS WARRANTY IS YOUR ONLY REMEDY. ALL OTHER WARRANTIES - WHETHER EXPRESS, IMPLIED OR STATUTORY - INCLUDING IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, ARE HEREBY DISCLAIMED. MANUFACTURER SHALL NOT BE 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.

## **Repair**

All Amprobe returned for warranty or non-warranty repair or for calibration should be accompanied by the following: your name, company's name, address, telephone number, and proof of purchase. Additionally, please include a brief description of the problem or the service requested and include the test leads with the meter. Non-warranty repair or replacement charges should be remitted in the form of a check, a money order, credit card with expiration date, or a purchase order made payable to Amprobe.

## **In-warranty Repairs and Replacement – All Countries**

Please read the warranty statement and check your battery before requesting repair. During the warranty period, any defective test tool can be returned to your Amprobe distributor for an exchange for the same or like product. Please check the "Where to Buy" section on [www.Amprobe.com](http://www.Amprobe.com) for a list of distributors near you. Additionally, in the United States and Canada, in-warranty repair and replacement units can also be sent to an Amprobe Service Center (see address below).

## **Non-warranty Repairs and Replacement – United States and Canada**

Non-warranty repairs in the United States and Canada should be sent to an Amprobe Service Center. Call Amprobe or inquire at your point of purchase for current repair and replacement rates.

USA:

Amprobe

Everett, WA 98203

Tel: 877-AMPROBE (267-7623)

Canada:

Amprobe

Mississauga, ON L4Z 1X9

Tel: 905-890-7600

## **Non-warranty Repairs and Replacement – Europe**

European non-warranty units can be replaced by your Amprobe distributor for a nominal charge. Please check the "Where to Buy" section on [www.Amprobe.eu](http://www.Amprobe.eu) for a list of distributors near you.

Amprobe Europe\*

Beha-Amprobe

In den Engematten 14

79286 Glottertal, Germany

Tel.: +49 (0) 7684 8009 - 0

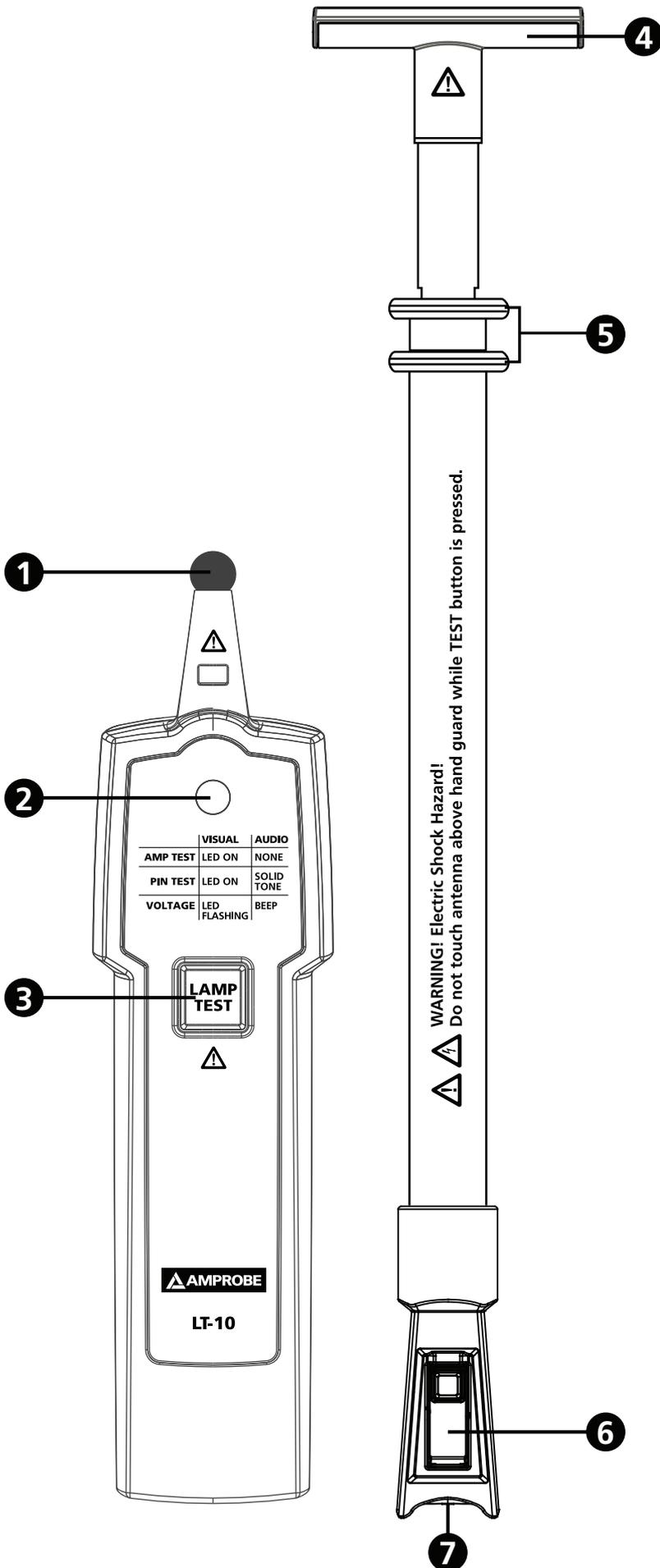
[www.Amprobe.eu](http://www.Amprobe.eu)

\*(Correspondence only – no repair or replacement available from this address. European customers please contact your distributor.)

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# LT-10 / LT-10-EUR Lamp Tester



- 1 Test probe  
(CAT II 300 V, CAT I 600 V)
- 2 LED indicator
- 3 LAMP TEST button
- 4 Adaptor plate
- 5 Finger guard
- 6 Locking switch for antenna connection
- 7 Antenna connection to test probe

## SYMBOLS

	Caution! Risk of electric shock.
	Caution! Refer to the explanation in this manual.
	The equipment is protected by double insulation or reinforced insulation.
	Battery.
	Canadian Standards Association (NRTL/C)
	Complies with European Directives.
	Conforms to relevant Australian standards.
	Do not dispose this product as unsorted municipal waste. Contact a qualified recycler.

## SAFETY INFORMATION

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The meter complies with:

IEC/EN 61010-1 3rd Ed., UL61010-1 2nd Ed. and CAN/CSA C22.2 No. 61010-1-04 + CSA Update No.1: 2008 to CAT II 300 V, CAT I 600 V, pollution degree 2.  
EMC IEC/EN 61326-1

“This product has been tested to the requirements of CAN/CSA-C22.2 No.61010-1, second edition, including Amendment 1, or a later version of the same standard incorporating the same level of testing requirements.”

Measurement Category II (CAT II) is for measurements performed on circuits directly connected to low voltage; for example, measurements on household appliances, portable tools and similar equipment.

Measurement Category I (CAT I) is for measurements performed on circuits not directly connected to mains.

### CENELEC Directives

The instruments conform to CENELEC low voltage directive 2006/95/EC and electromagnetic compatibility directive 2004/108/EC

### For Use by Competent Persons

Anyone using this instrument should be knowledgeable and trained about the risks involved with light fixtures and electrical connections. They must understand the importance of taking safety precautions and testing the instrument before and after use to ensure that it is in good working condition.

## **⚠️⚠️ Warning: Read Before Using**

**To avoid possible electric shock or personal injury:**

- If the tester is used in a manner not specified by the manufacturer, protection provided by the tester may be impaired.
- For indoor use only. Do not use the tester in rain, snow, damp or wet locations. Do not use the tester around explosive gas or vapor. Do not insert or remove the battery in an explosive or flammable environment.
- Comply with local and national safety requirements.
- Use proper protective equipment as required by local or national authorities.

## **UNPACKING AND INSPECTION**

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Your shipping carton should include:

- 1 LT-10 Lamp Tester
- 1 Detachable antenna
- 1 Adaptor plate
- 1 Carrying case
- 1 9V alkaline battery
- 1 Users manual

If any of these items are damaged or missing, return the complete package to the place of purchase for an exchange.

## **FEATURES**

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The Amprobe LT-10 Lamp Tester is a pocket-size tool designed to troubleshoot florescent lamps and verify presence of voltage in electrical systems.

Three easy steps to troubleshoot lamps:

1. Check if fluorescent (electroluminescent) light bulb is damaged with Lamp-test and pin-check functions
2. Verify if voltage is present at the ballast with VolTect™ non-contact voltage detection.
3. If light bulb passes the test in step 1 and the voltage is present in step 2, but the lamp is not working, then replace the ballast

- Tests fluorescent (electroluminescent) lights
- Built-in VolTect™ non-contact voltage detection
- Lamp and filament test to check fluorescent light bulbs
- Simple one-handed, single button operation
- Ultra-compact design for portability
- 4 foot removable, fully retractable antenna included to test lights and voltage without a ladder
- Compatible with all fluorescent (electroluminescent) light bulbs:
  - T2, T4, T5, T8, T9, T10, T12
  - Fluorescent energy saving light bulbs
- Insulated antenna sleeve and tip provided to safely extend and retract during use
- Does not work with LED and incandescent (standard) light bulbs
- Replacement parts: Antenna LT-10-ANT (Item No. 4357839)

## **OPERATING THE TESTER**

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The test probe / antenna emits a high frequency voltage (approx. 3 kV) to ionize the light fixtures in order to diagnose the failure.

### **Precautions:**

- When LAMP TEST button is pressed, be alert. Do not touch test probe or antenna. Discharge can cause electric shock or personal injury.
- Do not attempt to overreach. Make sure you have proper footing and balance at all times.
- Do not allow test probe or antenna to touch energized wires.
- To avoid damages to antenna and personal injury, do not attempt to bend or use the antenna as a crowbar.
- Do not operate the instrument with the case or the battery door open.
- Do not use if the instrument appears damaged or doesn't operate properly. If in doubt, have the instrument serviced.
- The non-contact voltage function is always on. Test on a known live source within the rated ac voltage range of the product, both before and after use to ensure the instrument is in good working condition.

## Test Functions and Indications:

Test \ Indication	Visual	Audio
Lamp test	LED on	None
Pin test	LED on	Solid tone
Non-contact voltage	LED flashing	Modulated beep

### Attaching the Antenna

Make sure the switch is securely locked onto the probe before use.

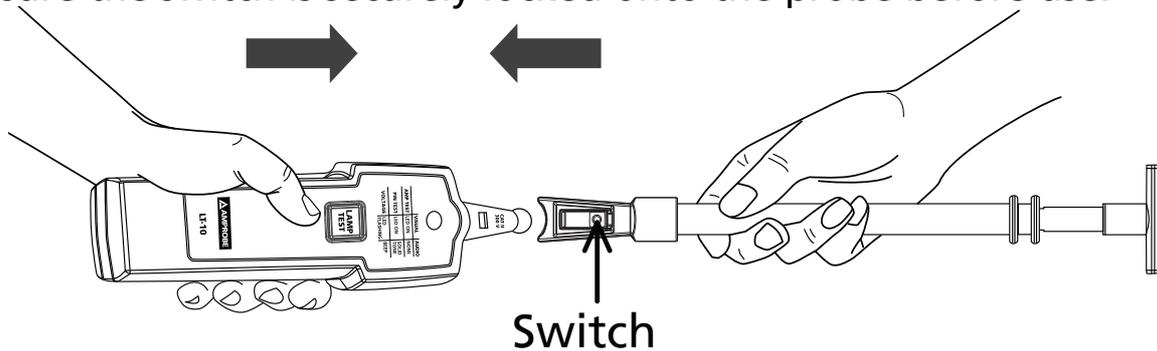


Figure 1: Attaching the antenna

### Removing the Antenna

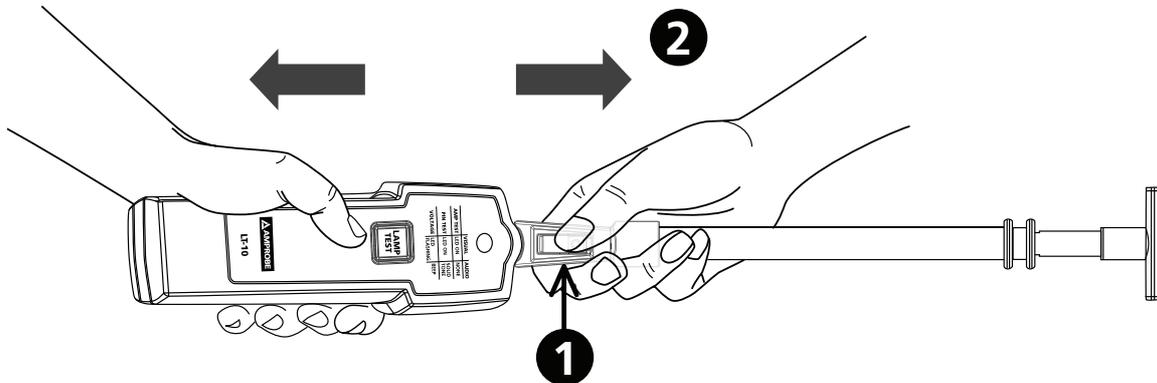
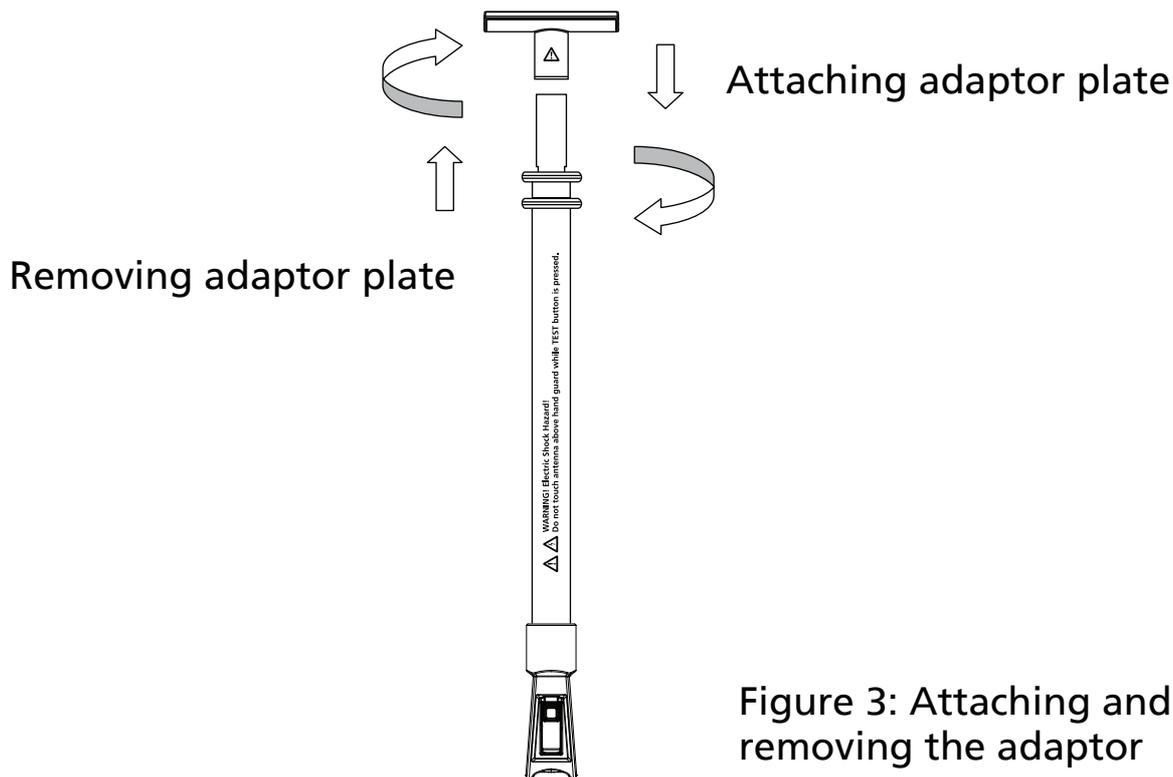


Figure 2: Removing the antenna

- 1 Press and hold down the switch to unlock.
- 2 Remove the antenna from the probe.

Removing the antenna in a manner not specified in this manual may cause damages to the instrument and protection provided by the instrument may be impaired.

## Attaching and Removing the Adaptor



## Lamp Test

Non-contact voltage detection is always on. When the probe or the antenna is close to energized wires, LED flashes and beeps. Non-contact voltage detection will be disabled when LAMP TEST button is pressed.

For better result, do the following while testing:

- Press and hold down LAMP TEST button for one second and release it for one second.
- Operating time: one second ON, one second OFF for maximum five cycles and wait for 1 minute before making another measurement.

## Lamp Test with the Antenna

1. Attach the antenna to the test probe and make sure the switch is locked and secured.
  2. Pull the antenna to the desired length or fully extended.
  3. Touch the surface of the light bulb with the tip of the antenna.
    - To boost the test signal, install the adapter plate.
- ⚠ Do not touch the live parts with the antenna.**
4. Press and hold down the LAMP TEST button
    - The fluorescent lamp is good if lit during lamp test
    - The fluorescent lamp is bad if not lit during lamp test

- If the fluorescent lamp is lit during the lamp test, but does not function when installed in the light fixture, the spiral wound filament, the starter or the ballast may be faulty.

**⚠ Do not touch the antenna during test.**

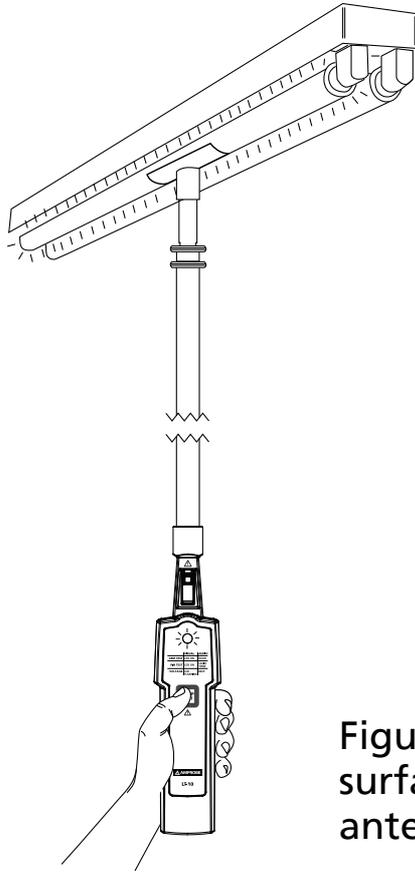


Figure 4: Lamp test against glass surface in light fixture with the antenna

## Lamp Test with the Probe

1. Touch the surface of the light bulb or the lamp socket with the probe.

**⚠ Do not touch energized parts with the probe.  
Do not touch the lamp socket during test. This could lead to faulty test results and cause electric shock.**

2. Press and hold down the LAMP TEST button.

- The fluorescent lamp is good if lit during lamp test
- The fluorescent lamp is bad if not lit during lamp test
- If the fluorescent lamp is lit during the lamp test, but does not function when installed in the light fixture, the spiral wound filament, the starter or the ballast may be faulty.

**⚠ Do not touch the live parts with the probe.**

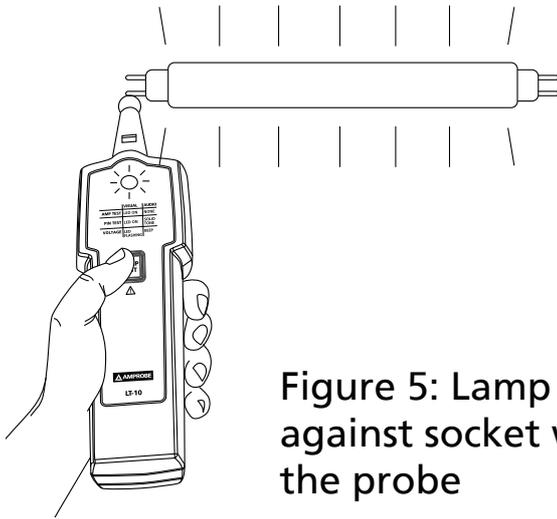


Figure 5: Lamp test against socket with the probe

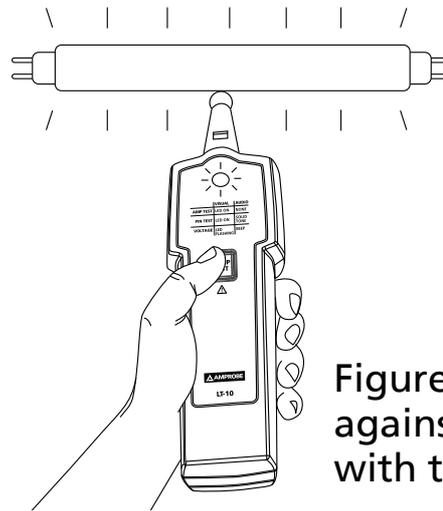


Figure 6: Lamp test against glass surface with the probe

## VolTect™ Non-contact Voltage Detection

### **⚠️ ⚠️ WARNING!**

- If the instrument is used in a manner not specified by the manufacturer, protection provided by the tester may be impaired.
- Test on a known energized source within the rated ac voltage range of the instrument both before and after use to ensure the instrument is in good working condition.
- The non-contact voltage detection function is always on. When the probe or antenna is close to energized wires, LED flashes and beeps. Non-contact voltage detection will be disabled when LAMP TEST button is pressed.
- When using the instrument, if LED indicator does not glow or the instrument does not beep, voltage could still be present. The instrument indicates active voltage in the presence of electrostatic fields of sufficient strength generated from the source voltage. If the field strength is low, the instrument may not provide indication of live voltage. Lack of an indication occurs if the instrument is unable to sense the presence of voltage which may be influenced by several factors including, but not limited to:
  - Shielded wire/cables
  - Thickness and type of insulation
  - Distance from the voltage source
  - Fully-isolated users that prevent an effective ground
  - Receptacles in recessed sockets or differences in socket design
  - Condition of the instrument and batteries

- Do not use if the instrument appears damaged or if it doesn't operate properly. Closely examine the tip of the probe for cracks or breakage before use. If in doubt, have the instrument serviced.
- Do not use the instrument to test voltage higher than the rated voltage as marked on the instrument.
- Use caution with voltages above 30 V ac as a shock hazard may exist.
- Comply with local and national safety requirements.
- Use proper protective equipment as required by local or national authorities.

The non-contact voltage (NCV) test can be used to check whether the ballast is functional by verifying the presence of ac voltages at the input and output of the ballast, or the energized parts of the light fixture. The light fixture must be turned on before verifying the presence of ac voltage with the instrument.

## Voltage Detection with Antenna

**⚠ Do not touch the energized parts with the antenna.**

1. Turn the light fixture's power on.
2. Use the antenna to quickly check the presence of ac voltage to the light fixture.
  - If the LED flashes red and beeps (modulated), there is ac voltage present.

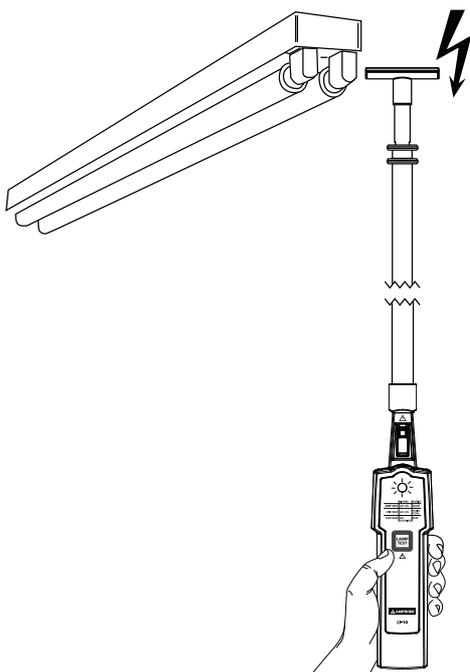


Figure 7: Voltage detection with antenna

## Voltage Detection with Probe

**⚠ Do not touch energized parts with the probe.**

1. Turn the light fixture's power on.
2. Use the probe to detect the presence of ac voltage on the wires at input of the ballast.
  - If the tester's LED flashes red and beeps, there is ac voltage present.
3. Use the probe to detect the presence of ac voltage on the wires at output of the ballast.
  - If the tester's LED flashes red and beeps, there is ac voltage present. The lamp may be faulty.
  - If LED and beeper do not activate during voltage detection at the ballast output wires, the ballast may be faulty.

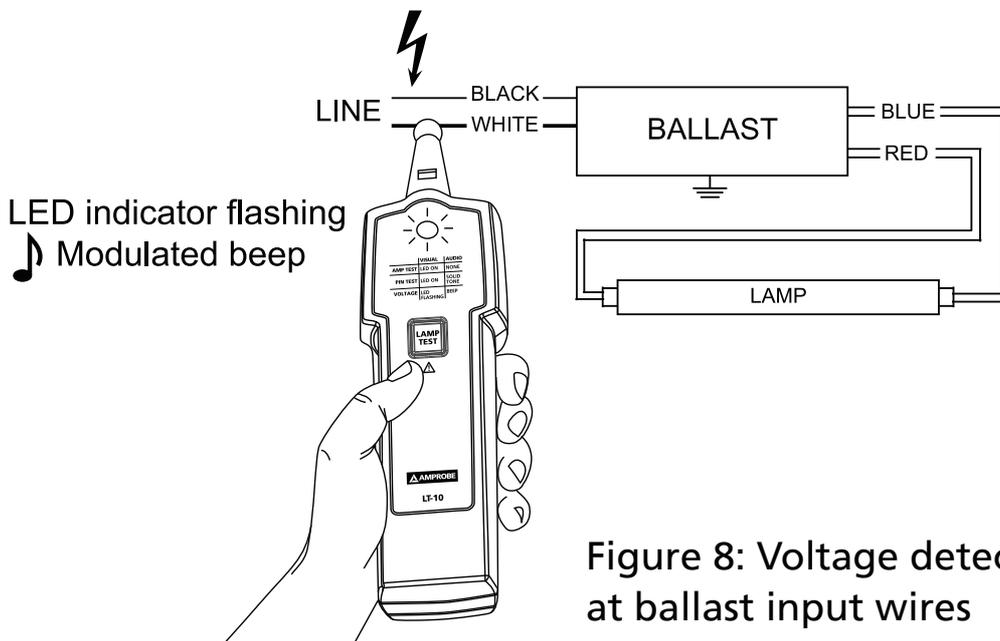


Figure 8: Voltage detection at ballast input wires

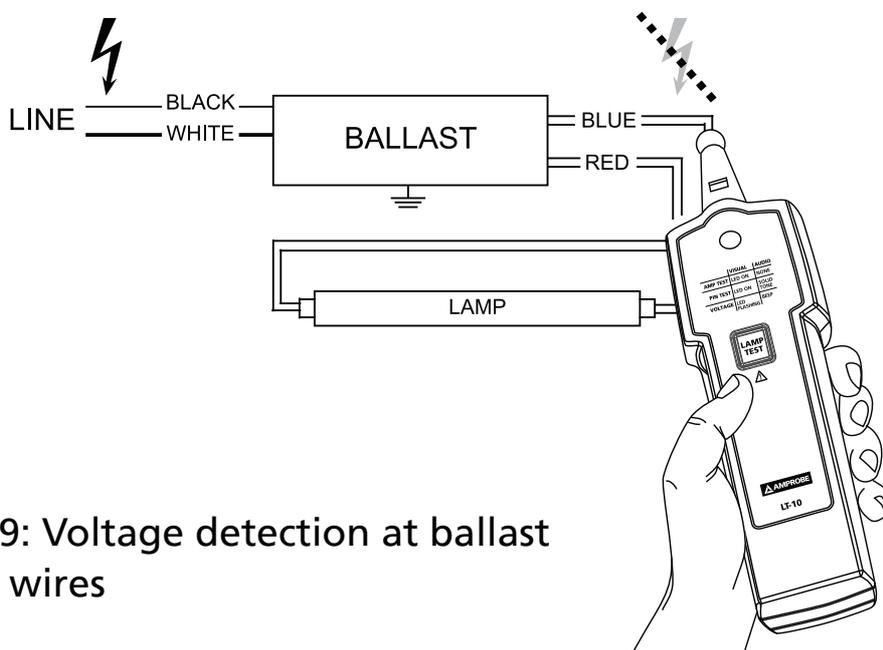


Figure 9: Voltage detection at ballast output wires

## Pin Test

The pin test (filament test) can be used on dual pin fluorescent lamps that have a filament under the metal cap. The filament is used to excite the gas inside the tube and turn it on. The lamp will not function correctly if the filament is broken.

**⚠ Turn the power off to the light fixture before removing the lamp from the fixture.**

1. PIN test is always on. Plug the lamp pins into the pin test slots on the back of the tester.
  - If the tester does not beep and LED indicator is not on, the filament is broken. Replace the lamp.
  - If the tester beeps and LED indicator is on, the filament is functional. The pins are good.
2. Repeat step 1 with the other end of the lamp.

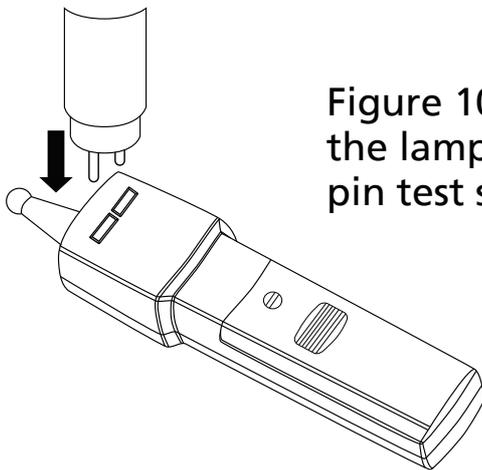


Figure 10: Plug the lamp into the pin test slots

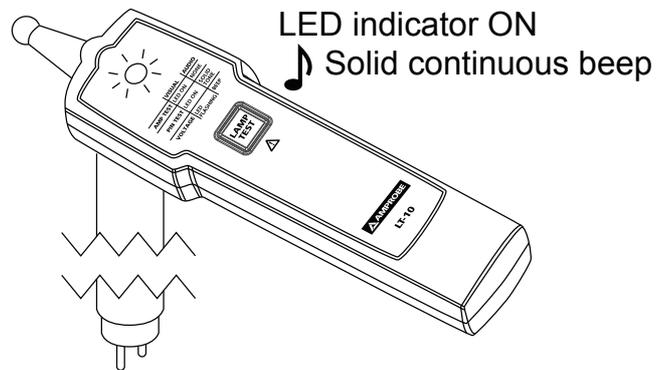


Figure 11: Pin test indications

## DETAILED SPECIFICATIONS

Test voltage (with new battery)	Approximately 3 kV / 280 kHz
Field strength	Approximately 100 $\mu$ V/m at 260 - 300 kHz
Maximum antenna length	4-FT (121.92 cm)
Filament test	T2, T4, T5, T8, T9, T10, T12
Non-contact voltage detection	AC 90 V to AC 600 V, 50/60 Hz CAT II 300 V, CAT I 600 V

<b>Non-contact voltage sensitivity (with probe)</b>	LED illuminates and beeps at approximately 3 mm (0.12 in) distance from a wire carrying 120 Vac LED illuminates and beeps at approximately 5 mm (0.2 in) distance from a wire carrying 230 Vac
<b>Drop proof</b>	1 meter
<b>Operating time</b>	One second ON, one second OFF for maximum five cycles and wait for 1 minute before making another measurement
<b>Operating temperature</b>	-10°C to +50°C (14°F to 122°F) ≤85% RH
<b>Storage temperature</b>	-10°C to +50°C (14°F to 122°F) ≤85% RH
<b>Operating altitude</b>	Up to 2000 meters
<b>Battery</b>	1 x 9V lithium or alkaline battery only, 6LR61/6LF22/MN1604 or equivalent
<b>Battery life</b>	500 tests (alkaline typically)
<b>Dimensions (L x W x H)</b>	Approximately 170 x 40 x 24 mm (6.69 x 1.57 x 0.94 in)
<b>Weight</b>	Approximately 80 g (0.18 lb) with battery installed
<b>Safety compliance</b>	IEC 61010-1, UL 61010-1 CAN/CSA-C22.2 No. 61010-1-2004
<b>EMC compliance</b>	IEC 61326-1
<b>Certification</b>	CSA and CE

## MAINTENANCE AND REPAIR

If the instrument fails to operate, check the battery and replace as necessary.

Do the following:

1. Replace the battery if the tester does not work.
2. If antenna is not working, check the antenna connection. Make sure the antenna is locked and secured.
3. Review the users manual to better understand how the tester operates.

Except for the replacement of the battery, repair of the tester should be performed only by an authorized service center or by other qualified instrument service personnel.

The front panel and carrying case can be cleaned with a mild solution of detergent and water. Apply sparingly with a soft cloth and allow to dry completely before using. Do not use aromatic hydrocarbons, gasoline or chlorinated solvents for cleaning.

## **TROUBLESHOOTING**

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### **Lamp tester does not work**

**Problem:** Possible low or dead battery

**Action:** Check and/or replace battery

### **Low lamp tester response**

**Problem:**

1. Possible low battery
2. Bad contact between the probe/antenna and the lamp tester

**Action:**

1. Check and/or replace battery
2. Test the area on the lamp where the probe/antenna can make good contact against lamp glass surface or the lamp socket

### **Antenna does not work**

**Problem:**

1. Possible low battery
2. Bad contact between the antenna and the lamp under test
3. Bad connection contact between the probe and antenna

**Action:**

1. Check and/or replace battery
2. Test the area on the lamp where the antenna can make good contact against lamp glass surface or the lamp socket
3. Check and re-install the antenna. Make sure the antenna is securely locked onto the probe. If the antenna is still not working, the antenna may be damaged. Contact a service center for repair or antenna replacement

## Probe does not work or work well against lamp socket

### Problem:

1. Possible low battery
2. Bad contact between the probe and the lamp socket

NOTE: The insulated probe may not work on socket of energy saving lamp.

### Action:

1. Check and/or replace battery
2. Test the glass tube on the lamp with the probe.

## **BATTERY REPLACEMENT**

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Replacing BATTERY follow below steps:

1. On the battery case, turn the screw to "open" position by using a flat screw driver. Then open the battery cover.
2. Remove battery and replace it with one 9V alkaline or lithium battery only (6LF22, 6LR61, MN1604 or equivalent). Pay attention to the polarity signs."
3. Put the battery cover back and re-fasten the screw.

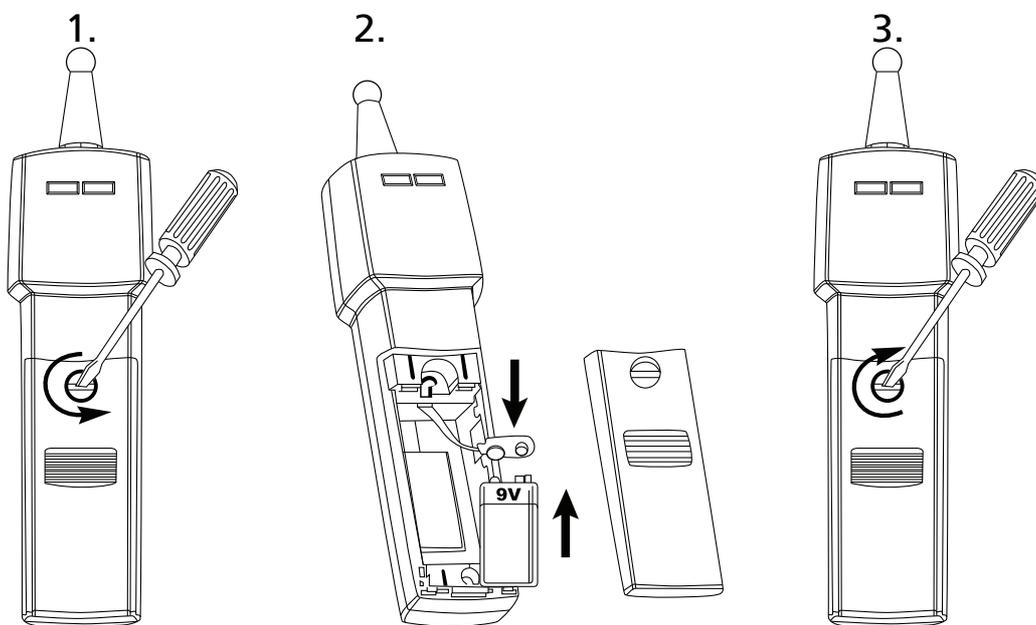


Figure 12: Replacing battery