FL30
LAMP TESTER

Instruction Manual



MARTINDALE ELECTRIC

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GENERAL SAFETY INFORMATION: Always read before proceeding.

Warning
These instructions contain both information and warnings that are necessary for the safe operation and maintenance of this product. It is recommended that you read the instructions carefully and ensure that the contents are fully understood. Failure to understand and to comply with the warnings and instructions can result in serious injury, damage or even death.

In order to avoid the danger of electrical shock, it is important that proper safety measures are taken when working with voltages exceeding 30V AC rms, 42V AC peak or 60V DC.

This product must only be used by a competent person capable of interpreting the results under the conditions and for the purposes for which it has been constructed. Particular attention should be paid to the Warnings, Precautions and Technical Specifications. Always check the unit is in good working order before use and that there are no signs of damage to it. Do not use if damaged.

Where applicable other safety measures such as use of protective gloves, goggles etc. should be employed.

Please keep these instructions for future reference. Updated instructions and product information are available at: www.martindale-electric.co.uk

REMEMBER: SAFETY IS NO ACCIDENT

MEANING OF SYMBOLS:

CE **Equipment complies with relevant EU Directives**

End of life disposal of this equipment should be in accordance with relevant EU Directives

⚠ **Caution - risk of electric shock**

⚠ **Caution - risk of danger & refer to instructions**

Thank you for buying one of our products. For safety and full understanding of its benefits please read this manual before use. Technical support is available from 01923 441717 and support@martindale-electric.co.uk.

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1. INTRODUCTION

1.1 Inspection
Examine the shipping carton for any sign of damage. Inspect the unit and any accessories for damage. If there is any damage then consult your distributor immediately.

1.2 Description
The FL30 Lamp Tester is ideal for the fast testing of gas filled lamps, especially low and high pressure vapour lamps. The FL30 tests gas filled lamps by ionizing them with a high frequency voltage (3kV approx.).

The FL30 can be used for testing the following types of gas filled lamps:
- Fluorescent
- Low and high pressure sodium vapour
- Neon tubes
- Mercury and metal halogen

1.3 Accessories (included)
- Carrying case
- Telescopic antenna
- 9V battery
- Instructions

1.4 Battery Installation
Refer to section 4.1 (battery replacement) for the battery installation instructions for the FL30.

2. PRODUCT SPECIFIC SAFETY INFORMATION

Overvoltage Category I (CAT I) is for equipment intended to be connected to a mains supply in which means have been taken to substantially and reliably reduce transient overvoltages to a level where they cannot cause a hazard.

2.1 Precautions

This product has been designed with your safety in mind, but please pay attention to the following warnings and cautions before use.

⚠ Warning
Before use check the unit for cracks or any other damage. Make sure the unit is free from dust, grease and moisture. Also check any associated leads and accessories for damage. Do not use if damaged.

⚠ Warning
Do not connect the test probe or antenna of this unit to a **live** circuit.

⚠ Warning
Do not use if the battery cover is not fitted.

⚠ Warning
Never use the unit when explosive, flammable gas or liquid is nearby.

⚠ Warning
Always keep your fingers behind the finger guard, and do not touch the test probe or telescopic antenna if fitted.

⚠ Caution
Avoid severe mechanical shock or vibration and extreme temperature.

⚠ Caution
Remove the battery when not in use for an extended period, to avoid corrosion from leaking batteries.

3. OPERATION

3.1 General Testing Procedure

⚠ Warning
Do not touch live parts or circuits with the test probe or antenna.

If the lamp under test is installed do not make contact with the pin area, only contact the glass body.

Referring to sections 3.2 to 3.7 for the lamp or tube type being tested, touch the test probe to the glass body or pins of the lamp or tube.

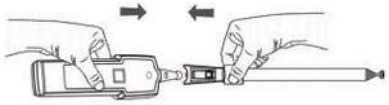
Press and hold down the TEST button for the duration of the test. Typical test time is <2 seconds.

Do not touch electronic devices with the test probe or antenna. Damage to the electronic device may result.

Do not touch the lamp pins with your hand as this could lead to faulty test results.

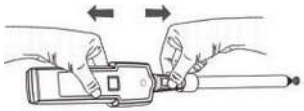
3.2 Attaching and Detaching the Antenna

Figure 1. Attaching the Antenna



Push on the antenna until it clicks into position.

Figure 2. Detaching the Antenna



Press down the antenna button and pull apart.

3.3 Testing Fluorescent Lamps

3.3a Testing Fluorescent Tubes

Fluorescent tubes can be tested by contacting either the glass tube or the end cap with the test probe. Illumination of the tube during the test confirms that there is sufficient gas. The spiral wound filament should also be checked prior to installation. By using a continuity tester or standard multimeter (eg Martindale MM39), test between the cap pins to prove continuity of the filament. If the tubes do not function when installed, the ballast may be faulty.

3.3b Testing Fluorescent 2D Lamps & PL Lamps

Fluorescent 2D lamps and PL lamps should be tested using the same procedure as used for testing fluorescent tubes.

3.3c Testing Compact Fluorescent Lamps

Compact Fluorescent Lamps (CFL) are constructed with the control gear housed inside the body of the lamps. Because of the different designs of compact fluorescent lamps, the procedure for testing the control gear may vary. All types of fluorescent lamps can be checked for sufficient gas by contacting the tube or the cap section with the test probe. For most compact fluorescent lamps, place the test probe across both of the contacts. The lamp should illuminate and pulsing of the light should be clearly visible. A minority of designs do not display the pulsing in the illuminated tube so functional testing will be required. Please note that contact on the glass tube or the side of the cap fitting with the test probe will only confirm sufficient gas is present and the internal controls will remain untested.

3.4 Testing Low Pressure Sodium Vapour Lamps (SOX)

Test the tube by contacting the pins with the test probe and observe that the inner tube is glowing. In some cases, only part of the tube will glow. The other part should glow when the test probe contacts the second pin.

3.5 Testing High Pressure Sodium Vapour Lamps (SON)

Touch the tube with the test probe.
A clear, blue line within the arc tube indicates that the tube is in good condition. Any other result indicates a defective tube.

3.6 Testing Neon Tubes

Touch the tube or pins with the test probe. The tube will need replacing if no illumination is visible.

3.7 Testing Mercury Vapour and Metal Halogen Lamps

Touch the tube pins with test probe.
The arc tube is defective if there is no constant glowing.
If the tube only operates when not installed and goes on and off or seems unstable within the lamp holder, check if the lamp holder or the lamp are subjected to unusual or extreme heat. Unusual or extreme heat can cause repeated opening and closing of the thermal tube switch.

3.8 Filament testing

Filaments can be tested using a multimeter or continuity tester.

4. MAINTENANCE

4.1 Battery Replacement

⚠ To avoid shock or injury, the lamp tester probe or antenna must not be in contact with any external circuit before proceeding. The battery compartment cover is underneath the unit and is secured by a locking screw and two snaps at the bottom of the cover. Using a screwdriver turn the battery cover locking screw from the **lock** to the **open** position, then slide back the battery cover to release the snaps and remove the cover. Fit a new 9 volt battery, IEC 6LR61, NEDA 1604. Slide the battery cover back on until the snaps click into place, then turn the locking screw to the **lock** position.

4.2 Cleaning

The unit may be cleaned using a soft dry cloth. Do not use moisture, abrasives, solvents, or detergents, which can be conductive.

4.3 Repair & Service

There are no user serviceable parts in this unit other than those that may be described in section 4. Return to Martindale Electric if faulty. Our service department will quote promptly to repair any fault that occurs outside the guarantee period.

Please contact our Service Department
Email: service@martindale-electric.co.uk
Tel: 01923 650660

Before the unit is returned, please ensure that you have checked the unit and battery.

4.4 Storage Conditions

The instrument should be kept in warm dry conditions away from direct sources of heat or sunlight, and in such a manner as to preserve the working life of the unit. It is strongly advised that the unit is not kept in a tool box where other tools may damage it.

5. WARRANTY AND LIMITATION OF LIABILITY

This Martindale product is warranted to be free from defects in material and workmanship under normal use and service. The warranty period is 2 years and begins on the date of receipt by the end user. This warranty extends only to the original buyer or end-user customer, and does not apply to fuses, disposable batteries, test leads or to any product which, in Martindale's opinion, has been misused, altered, neglected, contaminated, or damaged by accident or abnormal conditions of operation, handling or storage.

Martindale authorised resellers shall extend this warranty on new and unused products to end-user customers only but have no authority to extend a greater or different warranty on behalf of Martindale.

Martindale's warranty obligation is limited, at Martindale's option, to refund of the purchase price, free of charge repair, or replacement of a defective product which is returned to
Martindale within the warranty period.

This warranty is the buyer's sole and exclusive remedy and is in lieu of all other warranties, expressed or implied, including but not limited to any implied warranty of merchantability or fitness for a particular purpose. Martindale shall not be liable for any special, indirect, incidental or consequential damages or losses, including loss of data, arising from any cause or theory.
Since some jurisdictions do not allow limitation of the term of an implied warranty, or exclusion or limitation of incidental or consequential damages, the limitations and exclusions of this warranty may not apply to every buyer. If any part of any provision of this warranty is held invalid or unenforceable by a court or other decision-maker of competent jurisdiction, such holding will not affect the validity or enforceability of any other provision or other part of that provision.

Nothing in this statement reduces your statutory rights.

MARTINDALE ELECTRIC

Specification
FL30
Lamp Tester



ELECTRICAL SPECIFICATIONS
Lamp test voltage: 3kV at 280kHz approx (with new battery)
Field strength: 100µV/m approx.

GENERAL SPECIFICATIONS
Operating environment: -10°C to 50°C ≤ 70% R.H.
Altitude: up to 2000m

Power: Single standard 9 volt battery, IEC 6LR61, NEDA 1604

Dimensions:169 x 40 x 24 mm approx.
Weight: 109g (battery included) approx.

Includes: Carry case, telescopic antenna, 9V battery, instructions.

SAFETY
Conforms to BS EN61010-1 CAT I
max 50V to earth
Pollution Degree: 2

EMC: Conforms to BS EN61326

Check out what else you can get from Martindale:

- 17th Edition Testers
- Accessories
- Calibration Equipment
- Continuity Testers
- Electricians' Kits
- Environmental Products
- Full Calibration & Repair Service
- Fuse Finders
- Digital Clamp Meters
- Digital Multimeters
- Labels
- Microwave Leakage Detectors
- Motor Maintenance Equipment
- Multifunction Testers
- Non-trip Loop Testers
- Pat Testers & Accessories
- Phase Rotation Testers
- Proving Units
- Socket Testers
- Thermometers & Probes
- Test Leads
- Voltage Indicators
- Specialist Metrohm Testers (4 & 5kV)
- Specialist Drummond Testers

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