MT954

Lamp Tester

INTRODUCTION

The Lamp Tester is a handy test instrument for fast lamp failure detection, especially for all gas-filled low pressure and high pressure vapour lamps. The gas-filed lamps are ionized using a high frequency voltage (approx.3kV) and thus tested.

1. Lamp tester for gas-filed lamps
2. Continuity Tester
3. Single Pole Voltage Tester
4. Torch Light

The instrument is used for testing ballasts, starters, capacitors, resistors and the following lamp types:

1. Fluorescent lamps
2. Low pressure sodium vapour lamps
3. High pressure sodium vapour lamps
4. Neon tubes
5. Mercury and metal halogen lamps

SAFETY SYMBOLS

This symbol adjacent to another symbol, terminal or operating device indicates that the operator must refer to an explanation in the Operating Instructions to avoid personal injury or damage to the tester.

This symbol adjacent to one or more terminals identifies them as being associated with ranges that may, in normal use, be subjected to particularly hazardous voltages. For maximum safety, the tester should not be handled when these terminals are energized.

Conformity symbol: the instrument complies with the valid directives. It complies with the EMV Directive (89/336/EEC). Standards EN 50081-1 and EN 50082-1 are fulfilled. It also complies with the Low Voltage directive (73/23/EEC). Standard EN 61010-1 is fulfilled.

Instrument complies with the standard (2002/96/EG) WEE.

SAFETY REFERENCES

The respective accident prevention regulations established by the professional associations for electrical systems and equipment must be strictly met at all time.

In order to avoid electrical shock, the valid safety and VDE regulations regarding excessive contact voltages must receive utmost attention when wording with voltages exceeding 120 V (60V) DC or 50V (25V) AC. The values in brackets are valid for limited ranges (as for example medicine and agriculture).

Measurements in dangerous proximity of electrical systems are only to be carried out in compliance with the instruction of a responsible electronics technician and never alone.

If the operator's safety is no longer ensured, the instrument is to be put our of service and protected against use. The safety is no longer insured if the instrument:

1. Shows obvious damage
2. Does not carry out the desired measurements
3. Has been stored for too long under unfavorable conditions
4. Has been subjected to mechanical stress during transport

The instrument may only be used within the operating ranges, as specified to mechanical stress during transport.

Avoid any heating up of the instrument by direct sunlight to ensure perfect functioning and long instrument life.

The instrument may only be used under those conditions and for those purposes for which it was conceived. For this reason, in particular the safety references, the technical data including environmental conditions and the usage in dry environments must be followed.

When modifying or changing the instrument, the operational safety is no longer ensured.

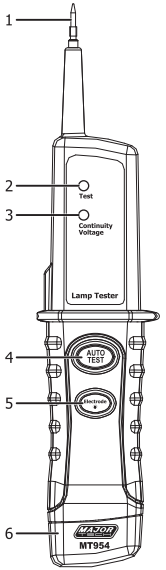
Transport and Storage

In order to avoid instrument damage, it is advised to remove accumulators when not using the instrument over a certain time period. However, should the instrument be contaminated by leaking battery cells you are kindly requested to return it to the factory for cleaning and inspection.

Instrument must be stored in a dry and closed area. In the case of on instrument being transported in extreme temperature, a recovery time of minimum 2 hours is required prior to instrument operation.

Description

1. Test probe for lamp test, voltage test and continuity test
2. LED for lamp test
3. LED for voltages 60-250V and continuity
4. Button for lamp test
5. Button for torch light and touch electrode
6. Battery case



General information

1. Measurements in dangerous proximity of electrical systems are only to be carried our in compliance with the instructions of a responsible electronics technician and never alone.
2. Instruments may only be touched at handle surfaces provided. Absolutely avoid the direct contact of the test probes
3. Measurements have to be carried out by respecting the standards.

Maintenance

When the instrument is used in compliance with the instruction manual, no special maintenance is required.

If functional errors occur after expiration of warranty, our after sales service will repair your instrument without delay.

Cleaning

If the instrument is dirty after daily usage, it is advised to clean it by using a humid cloth and a mild household detergent. Prior to cleaning, ensure that instrument is switched off and disconnected from external voltage supply and any other instruments connected(such as UUT, control instruments, etc.)

Replacement of Batteries

1. Prior to battery replacement, disconnect the instrument from all connected circuits.
2. Only use batteries as described in the technical data action.
3. Loosen the screw (i.e. with a coin) on the instrument.
4. Lift the battery case cover.
5. Remove the discharged batteries.
6. Insert new batteries.
7. Replace the battery case cover and tighten the screw.

Voltage Measurement

The lamp tester allows AC voltage tests between 60-250V.

1. To avoid electrical shock, the valid safety measures strictly have to be met concerning excessive contact voltage when working with voltages exceeding 120V(60V)DC or 50V(25V) rms AC. The value in brackets are valid for limited areas(such as e.g. medicine, agriculture).
2. A correct indication is only ensured for AC voltage circuits with a frequency of 40-60Hz being grounded in accordance with the regulations.
3. The quality of the indication may be impaired when testing in unfavorable locations, such as wooden ladders or in insulated floor coverings

   Test voltage tester function prior to testing on a known voltage source.

   Never use the voltage tester in wet environments (dew or rain).

Lamp Test

Connect test probe to glass body or lamp socket. Then press test button during the whole lamp test.

Do not touch the lamp socket (this could lead to faulty test results).

1. Testing Fluorescent Tubes
   If the fluorescent tubes are lit during lamp tester check but do not function when installed, the spiral-wound filament of the ballast may be faulty. Filaments and ballasts can be tested using the built-in tester.
   Only check ballasts and capacitors when disconnected from live circuits and when capacitors have been discharged. The conditions have to be verified by measurements.
2. Testing low pressure sodium vapor tubes
   Test tube by contacting the socket pins with the test probe and observe if the inner tube is glowing. In some cases, only part of the tube is glowing. The other part should be lit when the test probe contacts the second pin.
3. Testing high pressure sodium vapor tubes
   Touch tube with test probe. A clear, blue line within the arched tube indicates that the tube is in perfect condition. Any other test result indicates a defective tube.
4. Testing Neon tube
   Touch tube or socket with test probe and press button "**TEST**". The tube has to be replaced if no illumination is visible.
5. Testing mercury vapor and metal halogen lamps
   Touch tube socket with test probe and press button "**TEST**". The arched 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, verify if the lamp holder or the lamp are subjected to unusual or extreme heat. Unusual or extreme heat can result in repeated opening and closing of the thermal tube switch.

Continuity/Diode Test

The lamp tester allows continuity tests with optical and acoustical indication.

Prior to any continuity test, it must be ensured that the resistance to be measured is not live. Failure to comply with this prescription can lead to dangerous user injuries.

1. Connect test probe to unit under test and touch the other pole of the unit with your hand.
2. During the test, please touch the electrode.

The continuity test facility enables resistance tests between 0 and ±0.5MΩ. The resistance value can be determined by the intensity and the sound level of the acoustic signal. A higher sound level indicates a lower resistance value (±0Ω). Simultaneously, the LED for continuity is illuminated.

The diode testing is carried out in the same way. The negative test voltage pole is connected to the test probe, where by the hand represents the positive pole.

Test probe connected to the diode cathode, hand connected to anode-the LED for continuity is illuminated.

Specifications

Voltage Test

FUNCTION	RANGE
Test range	60 to 250V AC
Frequency	40 to 60Hz
Test current	<200mA

Lamp Test

FUNCTION	RANGE
Voltage (with new battery)	±3KV/160KHz
Display	Red LED Test and Audible signal

Continuity Test

FUNCTION	RANGE
Test range	±0 to 5MΩ
Test current	<7μA
Display	Red LED Continuity/Voltage and Audible signal

General

FUNCTION	RANGE
Temperature range	-10°C~+50°C
Relative humidity	70%
Operating range	up to 2000m
Measurement Cat	CAT III / 300V
Power supply	1 x 9V

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