TEK100/TEK100YE/TEK101
VOLTAGE INDICATOR

INSTRUCTION MANUAL



MARTINDALE ELECTRIC

1. SAFETY INFORMATION: Always read before proceeding.

⚠ REMEMBER: SAFETY IS NO ACCIDENT

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.

Particular attention should be paid to the Warnings, Precautions and Technical Specifications.

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

1.1 Meaning of Symbols and Markings

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

⚠ **Caution - risk of electric shock**

Equipment protected by double or reinforced insulation (Class II)

CAT IV **(Measurement Category IV)** is applicable to test and measuring equipment connected at the source of the building's low-voltage MAINS installation.

For further information on measurement categories see page 10 or visit www.martindale-electric.co.uk/measurement_categories.php

CE **Equipment complies with relevant EU Directives**

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

⚠

ALWAYS READ THESE INSTRUCTIONS BEFORE PROCEEDING

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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1.2 Precautions

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

⚠ Warnings

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.

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

The voltage indicator must only be used by a skilled and competent person who is familiar with the relevant regulations, the safety risks involved and the consequent normal safe working practices, and is capable of interpreting the results under the conditions and for the purposes for which it has been constructed.

Before each use the unit should be examined for damage, cracks, cuts or scratches. If there is any doubt the voltage indicator should **not be used**.

Make sure the unit is dry, clean and free from dust, grease and moisture while in use to avoid the danger from electric shock due to surface leakage.

Before and after each use, the voltage indicator must be proven using a suitable proving device or a known good voltage source. **Do not use** the voltage indicator if any expected indication LED's fail to illuminate correctly during proving.

Testing for a voltage that exceeds the specified limits of the voltage indicator may damage the unit and expose the operator to a shock hazard. Always check the voltage indicator's specified limits before use.

The voltage indicator must only be used on CAT IV, CAT III and CAT II installations up to 600V to earth, and within the operating temperature and humidity range specified.

Do not use the voltage indicator if the battery casing is not fitted.

Always keep your fingers behind the finger guard.

The voltage indicator will not detect DC voltage.

Do not use the voltage indicator during rain or precipitation.

The voltage indicator must not be dismantled or modified in any way by unauthorized persons. The safety of the voltage indicator cannot be guaranteed under such circumstances and **must not be used**.

⚠ Cautions

Avoid severe mechanical shock or vibration and extreme temperature.

To avoid possible corrosion from a leaking battery, remove the battery if discharged, or when the unit is not in use for an extended period.

3. OPERATION

3.1 Self Test

The self test checks the functionality and battery, a proving check should always be performed prior to use.

Set the voltage indicator **OFF/PROVE/VAC** switch to **PROVE** and check for the following:

- The + − LED is continuously illuminated;
- The V~ LED is flashing;
- There is an audible tone.

Set the **OFF/PROVE/VAC** switch to **VAC** and check that only the + − LED is still continuously illuminated and the audible tone has ceased.

Do not use the voltage indicator if either LED fails to illuminate or the buzzer fails to sound.

If both LED's and the buzzer do not function, replace the battery (see section 4.1 Battery Replacement) and retest the unit.

3.2 Proving Check

Before and after use, verify the voltage indicator is functioning correctly on a known good voltage source.

Do not use the voltage indicator if either of the LED's fails to illuminate or the buzzer fails to sound during proving.

⚠ Warning

If the voltage source exceeds the specified limits of the voltage indicator the unit may be damaged and the operator exposed to a shock hazard. Always check the voltage magnitude of the voltage source before proceeding with a proving check.

2. INTRODUCTION

2.1 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.

2.2 Description

The TEK100 is a non-contact voltage indicator suitable for detecting the presence of AC voltage in the range of 100V to 600V.

The TEK100/YE and TEK101 are designed to be less sensitive, and detect the presence of AC voltage in the range of 180V to 600V.

The TEK101 has an extended probe tip for access to confined spaces.

A self test circuit checks the functionality and battery of the voltage indicator.

2.3 Battery Installation

Refer to Section 4.1 (Battery Replacement) for the battery installation instructions for the TEK100, TEK100YE and TEK101.

3.3 Testing for the Presence of Voltage

⚠ Warning

Non-contact voltage indicators are not suitable to determine if a circuit is **not** hazardous live. A double pole voltage test should always be used for that purpose.

Grip the voltage indicator fully and firmly around the hand grip to obtain optimum and consistent sensitivity. A loose grip during testing may reduce the unit's sensitivity.

Set the **OFF/PROVE/VAC** switch to **VAC**.

Taking all necessary safety precautions and referring to section 3.4, apply the voltage indicator probe tip to the cable or area you wish to test for voltage.

When an AC voltage is detected the V~ LED will flash and the buzzer will sound.

Switch the tester off when not in use to conserve battery power.

3.4 Voltage Testing Considerations

From some directions the neutral and earth conductors in cables will shield the live, so it is important that a cable is probed from all directions.

When testing for the presence of voltage in multi-core cables always run the probe tip of the voltage indicator along a short length of cable so as to overcome the natural twist in conductors.

⚠ Be aware that if the presence of AC voltage is not indicated, voltage could still be present. The unit indicates active voltages

in the presence of electrostatic fields. If the field strength is low the unit may not indicate. This could be due to factors such as:

- Low mains voltage (<100V AC rms, <180V for the TEK100/YE and TEK101)
- Shielded wire/cables
- Thickness and types of insulation
- Distance from the voltage source
- Low battery

If testing at locations with high background noise levels, always determine whether the buzzer is perceptible before relying solely on the buzzer indication.

4. MAINTENANCE

4.1 Battery Replacement

⚠ To avoid shock or injury, remove the voltage indicator from the vicinity of any external circuits before proceeding.

To gain access to the battery compartment, undo the screw securing the battery compartment cover and lift off the cover.

Fit a new 9V, PP3 alkaline battery (IEC 6LR61, NEDA 1604A).

Replace the battery cover and the screw.

4.2 Cleaning

⚠ To reduce the risk of surface leakage, this instrument must be kept in a clean condition.

Prior to cleaning, remove the voltage indicator from the vicinity of any external circuits before proceeding.

If contamination is found, clean with a damp soft cloth and if necessary a mild detergent or alcohol. Do not use abrasives, abrasive solvents, or detergents which can cause damage to the unit. If a mild detergent is used, the unit should subsequently be thoroughly cleaned with a water dampened soft cloth. After cleaning, dry and allow to remain in a dry environment for 2 hours before use.

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.

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 reasonable opinion, has been misused, altered, neglected, contaminated, or damaged by accident or abnormal conditions of operation, handling or storage.

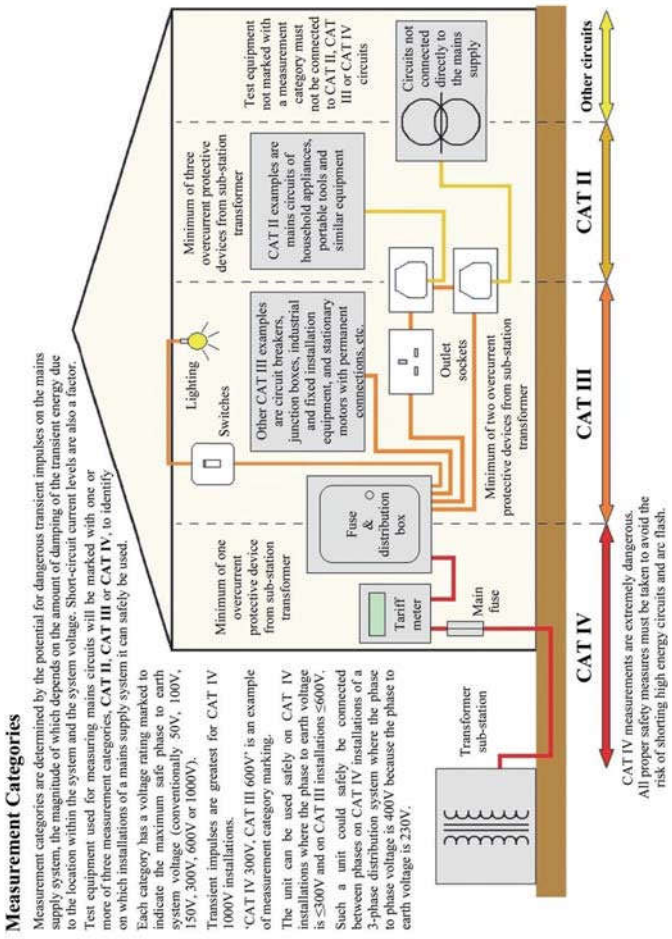
Martindale authorised resellers shall extend this warranty on new and unused products to end-user customers only but have no authority to extend a greater or different warranty on behalf of Martindale. Martindale's warranty obligation is limited, at Martindale's option, to refund of the purchase price, 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.



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Specification
TEK100/TEK100YE/TEK101
Non-contact Voltage Indicator

Environmental
Temperature (Operating & Storage): -10°C to 40°C.
Humidity (Operating & Storage): ≤ 85% R.H.
Altitude: up to 2000m
Pollution degree: 2

General
Power: 9V, PP3 alkaline battery (IEC 6LR61, NEDA 1604A)
Current consumption: 34mA max
Dimensions: 205 x 36 x 25 mm
Weight: approx. 120g (battery included)

Includes: 9V PP3 battery, instructions

Safety
Conforms to BS EN61010-1 CAT IV 600V (TEK100 & TEK100/YE)
CAT IV 1000V (TEK101)

Class II, double insulation

EMC
Conforms to BS EN61326-1

MARTINDALE ELECTRIC

Specification
TEK100/TEK100YE/TEK101
Non-contact Voltage Indicator



Electrical
Voltage range: 100V to 600V AC rms (TEK100)
180V to 600V AC rms (TEK100YE & TEK101)
Frequency range: 45Hz to 1kHz
Voltage sensitivity: see table 1

Table 1. Typical Sensing Distances for Energised Cables at 50Hz

Cable Type	TEK100		TEK100YE & TEK101
	at 115V	at 230V	at 230V
Flat 1mm² twin & earth	3mm	23mm	3 mm
Flat 2.5mm² twin & earth	5mm	23mm	3 mm
Round 1.5mm²	2mm	18mm	2 mm

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

MARTINDALE ELECTRIC

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