



## DRAFT TANZANIA STANDARD

(Draft for comments only)

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Voltage detectors – Part 1: Capacitive type to be used for voltages exceeding 1kV AC

TANZANIA BUREAU OF STANDARDS

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## 1 National Foreword

This draft Tanzania Standard has been prepared by the TBS Electrical Equipment Technical Committee, under the supervision of the Electrotechnical Divisional Standards Committee (EDC)

This draft Tanzania Standard is identical to the International Standard IEC 61243-1:2021 Live working - Voltage detectors – Part 1: Capacitive type to be used for voltages exceeding 1kV AC, which has been prepared by the International Electrotechnical Commission.

## 2 Terminology and conventions

Some terminologies and certain conventions are not identical with those used in Tanzania standards; attention is drawn especially to the following: -

- 1) The comma has been used as a decimal marker for metric dimensions. In Tanzania Standards, it is current practice to use “full point” on the baseline as the decimal marker.
- 2) Where the words “International Standard(s)” appear, referring to this standard they should read “Tanzania Standard(s)”



**LIVE WORKING – VOLTAGE DETECTORS –**  
**Part 1: Capacitive type to be used for voltages**  
**exceeding 1 kV AC**

**1 Scope**

This part of IEC 61243 is applicable to portable voltage detectors, with or without built-in power sources, to be used on electrical systems for voltages of 1 kV to 800 kV AC, and frequencies of 50 Hz and/or 60 Hz.

This document applies only to voltage detectors of capacitive type used in contact with the bare part to be tested, as a complete device including its insulating element or as a separate device, adaptable to an insulating stick which, as a separate tool, is not covered by this document (see 4.4.2.1 for general design).

Other types of voltage detectors are not covered by this document.

NOTE Self ranging voltage detectors (formally "multi range voltage detectors") are not covered by this document.

Some restrictions or formal interdictions on their use are applicable in case of switchgear of IEC 62271 series design, due to insulation coordination, on overhead line systems of electrified railways (see Annex B) and systems without neutral reference. For systems without neutral reference, the insulating level is adapted to the maximum possible voltage to the earth (ground). Products designed and manufactured according to this document contribute to the safety of users provided they are used by persons trained for the work, in accordance with the hot stick working method and the instructions for use.

Except where otherwise specified, all the voltages defined in this document refer to values of phase-to-phase voltages of three-phase systems. In other systems, the applicable phase-to-phase or phase-to-earth (ground) voltages are used to determine the operating voltage.

**2 Normative references**

The following documents are referred to in the text in such a way that some or all of their content

constitutes requirements of this document. For dated references, only the edition cited applies.



For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60060-1:2010, High-voltage test techniques – Part 1: General definitions and test requirements

IEC 60068-1, Environmental testing – Part 1: General and guidance

IEC 60068-2-6, Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal)

IEC 60068-2-14, Environmental testing – Part 2-14: Tests – Test N: Change of temperature

IEC 60068-2-31, Environmental testing – Part 2-31: Tests – Test Ec: Rough handling shocks, primarily for equipment-type specimens

IEC 60068-2-75, Environmental testing – Part 2-75: Tests – Test Eh: Hammer tests

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IEC 60071-1:2019, Insulation co-ordination – Part 1: Definitions, principles and rules

IEC 60417, Graphical symbols for use on equipment (Available from: <http://www.graphical-symbols.info/equipment>)

IEC 60942, Electroacoustics – Sound calibrators

IEC 61000-6-2:2016 Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity standard for industrial environments

IEC 61260 (all parts), Electroacoustics – Octave-band and fractional-octave-band filters

IEC 61318, Live working – Conformity assessment applicable to tools, devices and equipment

IEC 61326-1, Electrical equipment for measurement, control and laboratory use – EMC requirements – Part 1: General requirements

IEC 61477, Live working – Minimum requirements for the utilization of tools, devices and equipment

IEC 61672-1, Electroacoustics – Sound level meters – Part 1: Specifications

IEC 62271 (all parts), High-voltage switchgear and controlgear

ISO 286-1, Geometrical product specifications (GPS) – ISO code system for tolerances on linear sizes – Part 1: Basis of tolerances, deviations and fits



ISO 286-2, Geometrical product specifications (GPS) – ISO code system for tolerances on linear sizes – Part 2: Tables of standard tolerance classes and limit deviations for holes and shafts

ISO 3744:2010, Acoustics – Determination of sound power levels and sound energy levels of noise sources using sound pressure – Engineering method for an essentially free field over a reflecting plane

CISPR 11, Industrial, scientific and medical equipment – Radio-frequency disturbance characteristics – Limits and methods of measurement

CIE 015.2, Colorimetry