

Live working - Voltage detectors - Part 1: Capacitive type to be used for voltages exceeding 1 kV AC

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 61243-1:2021 sisaldab Euroopa standardi EN IEC 61243-1:2021 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 61243-1:2021 consists of the English text of the European standard EN IEC 61243-1:2021.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 04.06.2021.	Date of Availability of the European standard is 04.06.2021.
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ICS 13.260, 29.240.99, 29.260.99

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English Version

Live working - Voltage detectors - Part 1: Capacitive type to be
used for voltages exceeding 1 kV AC
(IEC 61243-1:2021)

Travaux sous tension - Détecteurs de tension - Partie 1:
Type capacitif pour usage sur des tensions alternatives de
plus de 1 kV
(IEC 61243-1:2021)

Arbeiten unter Spannung - Spannungsprüfer - Teil 1:
Kapazitive Ausführung für Wechselspannungen über 1 kV
(IEC 61243-1:2021)

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 78/1253/CDV, future edition 3 of IEC 61243-1, prepared by IEC/TC 78 "Live working" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61243-1:2021.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2022-02-26
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2024-05-26

This document supersedes EN 61243-1:2005 and all of its amendments and corrigenda (if any).

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In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60743:2013	NOTE	Harmonized as EN 60743:2013 (not modified)
IEC 60855-1	NOTE	Harmonized as EN 60855-1
IEC 61235	NOTE	Harmonized as EN 61235
IEC 61481 (series)	NOTE	Harmonized as EN 61481 (series)
IEC 61936-1:2010	NOTE	Harmonized as EN 61936-1:2010 (modified)
IEC 61936-1:2010/A1:2014	NOTE	Harmonized as EN 61936-1:2010/A1:2014 (not modified)

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60060-1	2010	High-voltage test techniques - Part 1: General definitions and test requirements	EN 60060-1	2010
IEC 60068-1	-	Environmental testing - Part 1: General and guidance	EN 60068-1	-
IEC 60068-2-6	-	Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	-
IEC 60068-2-14	-	Environmental testing - Part 2-14: Tests - Test N: Change of temperature	EN 60068-2-14	-
IEC 60068-2-31	-	Environmental testing - Part 2-31: Tests - Test Ec: Rough handling shocks, primarily for equipment-type specimens	EN 60068-2-31	-
IEC 60068-2-75	-	Environmental testing - Part 2-75: Tests - Test Eh: Hammer tests	EN 60068-2-75	-
IEC 60071-1	2019	Insulation co-ordination - Part 1: Definitions, principles and rules	EN IEC 60071-1	2019
IEC 60417	-	Graphical symbols for use on equipment. Index, survey and compilation of the single sheets.	-	-
IEC 60942	-	Electroacoustics - Sound calibrators	EN IEC 60942	-
IEC 61000-6-2	2016	Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity standard for industrial environments	EN IEC 61000-6-2	2019
IEC 61260	series	Electroacoustics - Octave-band and fractional-octave-band filters	-	-
IEC 61318	-	Live working - Conformity assessment applicable to tools, devices and equipment	EN 61318	-

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61326-1	-	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements	EN IEC 61326-1	-
IEC 61477	-	Live working - Minimum requirements for the utilization of tools, devices and equipment	EN 61477	-
IEC 61672-1	-	Electroacoustics - Sound level meters - Part 1: Specifications	EN 61672-1	-
IEC 62271 series	series	High-voltage switchgear and controlgear	EN 62271	series
ISO 286-1	-	Geometrical product specifications (GPS) - ISO code system for tolerances on linear sizes - Part 1: Basis of tolerances, deviations and fits	EN ISO 286-1	-
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	EN ISO 286-2	-
ISO 3744	2010	Acoustics - Determination of sound power levels and sound energy levels of noise sources using sound pressure - Engineering methods for an essentially free field over a reflecting plane	EN ISO 3744	2010
CISPR 11	-	Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement	EN 55011	-
CIE 015	-	Colorimetry	-	-

INTERNATIONAL STANDARD

NORME INTERNATIONALE



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

**Travaux sous tension – Détecteurs de tension –
Partie 1: Type capacitif pour usage sur des tensions alternatives de plus de 1 kV**



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INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Live working – Voltage detectors –
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**Travaux sous tension – Détecteurs de tension –
Partie 1: Type capacitif pour usage sur des tensions alternatives de plus de 1 kV**

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ICS 13.260; 29.240.20; 29.260.99

ISBN 978-2-8322-9513-7

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CONTENTS

FOREWORD.....	6
INTRODUCTION.....	8
1 Scope.....	9
2 Normative references	9
3 Terms and definitions	10
4 Requirements	14
4.1 General requirements	14
4.2 Functional requirements.....	15
4.2.1 Clear indication	15
4.2.2 Clear perceptibility.....	16
4.2.3 Temperature and humidity dependence of the indication.....	17
4.2.4 Frequency dependence	18
4.2.5 Response time.....	18
4.2.6 Power source dependability	18
4.2.7 Testing element.....	18
4.2.8 Non-response to DC voltage.....	18
4.2.9 Time rating	18
4.2.10 Electromagnetic compatibility (EMC)	18
4.3 Electrical requirements	18
4.3.1 Insulating material	18
4.3.2 Protection against bridging	19
4.3.3 Resistance against sparking	19
4.4 Mechanical requirements	19
4.4.1 General	19
4.4.2 Design.....	19
4.4.3 Dimensions, construction.....	19
4.4.4 Grip force and deflection.....	22
4.4.5 Vibration resistance	22
4.4.6 Drop resistance	22
4.4.7 Shock resistance	22
4.5 Markings	22
4.6 Documents for the user.....	23
4.7 Instructions for use	23
4.8 Requirements in case of reasonably foreseeable misuse of the selector	23
4.8.1 Initial position of the selector	23
4.8.2 Voltage indication at an incorrect low position of the selector (where relevant)	23
5 Specific requirements	23
5.1 For insulating element of a voltage detector as a complete device	23
5.1.1 Dielectric strength.....	23
5.1.2 Leakage current.....	23
5.2 Insulation of the indicator casing of voltage detector as a separate device	23
5.3 Stand-by state	23
5.4 Ready to operate state.....	23
6 Tests	24
6.1 General.....	24

6.1.1	Testing provisions	24
6.1.2	Atmospheric conditions	24
6.1.3	Tests under wet conditions	24
6.1.4	Type test	24
6.1.5	Test methods	25
6.2	Function tests	26
6.2.1	Clear indication	26
6.2.2	Electromagnetic compatibility (EMC)	37
6.2.3	Clear perceptibility of visual indication	38
6.2.4	Clear perceptibility of audible indication	40
6.2.5	Frequency dependence	42
6.2.6	Response time	42
6.2.7	Power source dependability	42
6.2.8	Check of testing element	43
6.2.9	Non-response to DC voltage	43
6.2.10	Time rating	43
6.3	Dielectric tests	44
6.3.1	Insulating material for tubes and rods for voltage detectors as a complete device	44
6.3.2	Protection against bridging for indoor and outdoor type voltage detectors	45
6.3.3	Protection against bridging for outdoor type voltage detector	50
6.3.4	Spark resistance	52
6.4	Mechanical tests	52
6.4.1	Visual and dimensional inspection	52
6.4.2	Grip force and deflection (only applicable for voltage detector as a complete device)	52
6.4.3	Vibration resistance	53
6.4.4	Drop resistance	54
6.4.5	Shock resistance	54
6.4.6	Climatic dependence	54
6.4.7	Durability of markings	56
7	Specific tests	56
7.1	Leakage current for voltage detector as a complete device	56
7.1.1	General	56
7.1.2	Leakage current under dry conditions	56
7.1.3	Leakage current under wet conditions (outdoor type and exclusively outdoor type)	57
7.1.4	Alternative test for voltage detectors having completed the production phase	58
7.2	Test for stand-by state	58
7.3	Test for ready to operate state	58
8	Test for reasonably foreseeable misuse of the selector	59
8.1	Initial position of the selector	59
8.2	Voltage indication at incorrect low position of the selector (where relevant)	59
9	Conformity assessment of voltage detectors having completed the production phase	59
10	Modifications	59
	Annex A (normative) Suitable for live working; double triangle (IEC-60417-5216:2002-10)	60

Annex B (normative) Instructions for use	61
Annex C (normative) Chronology of type tests	63
Annex D (informative) Classification of defects and tests to be allocated	65
Annex E (informative) Rationale for the classification of defects	67
Annex F (informative) Information and guidelines on the use of the limit mark and of a contact electrode extension	70
F.1 General.....	70
F.2 Situation when using a voltage detector as a complete device	70
F.3 Situation when using a voltage detector as a separate device.....	72
Annex G (informative) In-service care	74
G.1 General.....	74
G.2 Testing	74
Annex H (informative) Information for the next maintenance	76
H.1 Overhead line test.....	76
H.1.1 Rationale	76
H.1.2 Proposal for an improved test (will be discussed within the next maintenance).....	76
H.2 Threshold deviation ratio category (deviation category) for voltage detectors of category L.....	76
H.2.1 Rationale	76
H.2.2 Proposal for a new requirement (will be discussed within the next maintenance).....	76
H.3 Phase opposition test for voltage detectors of category L.....	76
H.3.1 Rationale	76
H.3.2 Proposal for an improved test (will be discussed within the next maintenance).....	76
H.4 Non-contact behaviour of voltage detectors of category L	77
H.4.1 Rationale	77
H.4.2 Proposal for a new test (will be discussed within the next maintenance)	77
Bibliography.....	78
Figure 1 – Examples of designs of voltage detectors of capacitive type	20
Figure 2 – Examples of suitable means for ensuring appropriate contact between a contact electrode and the ball electrode.....	27
Figure 3 – Ball and ring test set-up (see 6.2.1 and 6.2.5)	29
Figure 4 – Test set-up with bars (see 6.2.1)	31
Figure 5 – Circuit connections for <i>clear indication</i> tests (see 6.2.1).....	33
Figure 6 – Test set-up for measurement of clear perceptibility of visual indication (see 6.2.3.1)	39
Figure 7 – Test set-up for measurement of clear perceptibility of audible indication (see 6.2.4.1)	41
Figure 8 – Test set-up for protection against bridging and spark resistance (see 6.3.2 and 6.3.4)	48
Figure 9 – Test for protection against bridging for outdoor type voltage detector	51
Figure 10 – Test set-up for grip force	53
Figure 11 – Drop resistance test – Diagonal position	54
Figure 12 – Curve of test cycle for climatic dependence.....	55

Figure 13 – Arrangement for leakage current tests under dry conditions for voltage detector as a complete device.....	57
Figure 14 – Arrangement for leakage current tests under wet conditions for outdoor type voltage detector as a complete device.....	58
Figure F.1 – Insulation element of a <i>voltage detector</i> as a complete device	70
Figure F.2 – Example of positioning of a voltage detector in contact with a live part without obstacles from other live parts	71
Figure F.3 – Example of incorrect positioning of a voltage detector with the limit mark between two live parts	72
Figure F.4 – Usual way of managing the use of the voltage detector for maintaining the insulation distance between the limit mark and the hand guard	72
Figure F.5 – Usual ways of managing the use of the voltage detector as a separate device for assuring the appropriate insulation for the user	73
Table 1 – Indication group	17
Table 2 – Climatic categories.....	18
Table 3 – Minimum length of the insulating element (L_i) of a voltage detector as a complete device.....	21
Table 4 – Selection of the test set-up for the influence of in-phase interference field	34
Table 5 – Distance G (see Figure 5d).....	34
Table 6 – Selection of the test set-up for the influence of phase opposition interference field.....	35
Table 7 – Selection of the test set-up for the influence of interference voltage	35
Table 8 – EMC parameters	37
Table 9 – Performance criteria for all the EMC tests	37
Table 10 – Test parameters for emission limit.....	37
Table 11 – Selection of the test set-up and type of test.....	45
Table 12 – Distance d_1 for the bridging test set-up	48
Table 13 – Dimensions for the concentric rings and band electrodes	50
Table 14 – Selection of the test set-up for the spark resistance test.....	52
Table C.1 – Sequential order for performing type tests	63
Table C.2 – Type tests out of sequence	64
Table D.1 – Classification of defects and associated requirements and tests	65
Table E.1 – Rationale for the classification of defects	67
Table G.1 – In-service testing	75
Table H.1 – Maximum distances for early detection	77

INTERNATIONAL ELECTROTECHNICAL COMMISSION

LIVE WORKING – VOLTAGE DETECTORS –

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

FOREWORD

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International Standard IEC 61243-1 has been prepared by IEC technical committee 78: Live working.

This third edition cancels and replaces the second edition published in 2003 and Amendment 1:2009. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) The scope is more precise, stating that only bare contact to the part to be tested is reliable for these contact *voltage detectors*. The rationale is that tests on painted or coated conductors have led to wrong indications, as this non-conductive paint or coat acts as a capacitor with different capacity according to the thickness. This capacity has an effect on the *threshold voltage*.
- b) A *contact probe* is introduced as a new type of non-conductive *contact electrode*.
- c) A new type "*exclusively outdoor type*" has been defined and implemented into the requirements and test procedure.

- d) A *selector* for voltage and frequency is allowed if foreseeable misuse is excluded.
- e) The marking for *voltage detectors* with low *interference voltage* has been made more precise.
- f) The indication groups have been made more precise and requirements and tests for the "*ready to operate state*" and "*stand-by state*" added.
- g) Requirements and tests for electromagnetic compatibility have been implemented.
- h) An example for good electrical connection for the tests is introduced.
- i) A new test set-up with one bar has been added for *voltage detectors* of category L for overhead line configuration.
- j) A dielectric test for tubes and rods has been implemented for those not covered by IEC 60855-1 or IEC 61235.
- k) Old Annex E (mechanical shock test – pendulum method) has been deleted (see IEC 60068-2-75 pendulum method) and replaced by an information and a guideline on the use of the *limit mark* and the *contact electrode extension*.
- l) Annex E and Annex F have swapped places to make it easier for the reader to combine the classification of defects (Annex D) and the rationale for this classification (new Annex E).
- m) A new informative Annex H has been created to give information for further developments of *voltage detectors* due to field experiences.
- n) Editorial changes have been made to harmonize with other new published standards.

The text of this International Standard is based on the following documents:

CDV	Report on voting
78/1253/CDV	78/1294/RVC

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

Terms defined in Clause 3 are given in *italic* print throughout this document.

A list of all parts in the IEC 61243 series, published under the general title *Live working – Voltage detectors*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

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