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Irish Standard I.S. EN 61243-1:2005

Live working - Voltage detectors -- Part 1: Capacitive type to be used for voltages exceeding 1 kV a.c. (IEC 61243 -1:2003 (MOD))

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EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

EN 61243-1/A1

February 2010

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English version

Live working -Voltage detectors -Part 1: Capacitive type to be used for voltages exceeding 1 kV a.c. (IEC 61243-1:2003/A1:2009)

Travaux sous tension -Détecteurs de tension -Partie 1: Type capacitif pour usage sur des tensions alternatives de plus de 1 kV (CEI 61243-1:2003/A1:2009) Arbeiten unter Spannung -Spannungsprüfer -Teil 1: Kapazitive Ausführung für Wechselspannungen über 1 kV (IEC 61243-1:2003/A1:2009)

This amendment A1 modifies the European Standard EN 61243-1:2005; it was approved by CENELEC on 2009-11-17. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

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

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Foreword

The text of document 78/751/CDV, future amendment 1 to IEC 61243-1:2003, prepared by IEC TC 78, Live working, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A1 to EN 61243-1:2005 on 2009-11-17.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

The following dates were fixed:

-	latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2010-09-01
_	latest date by which the national standards conflicting with the amendment have to be withdrawn	(dow)	2012-12-01

As a consequence of endorsing amendment 1:2009 to IEC 61243-1:2003, the common modifications in EN 61243-1:2005 are now covered by the IEC text.

Endorsement notice

The text of amendment 1:2009 to the International Standard IEC 61243-1:2003 was approved by CENELEC as an amendment to the European Standard without any modification.

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Annex ZA

(normative)

Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application 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 Where an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	<u>Year</u>	Title	<u>EN/HD</u>	<u>Year</u>		
Replace the existin	ig referenc	e to IEC 60071-1:1993 by the following:				
IEC 60071-1	2006	Insulation co-ordination Part 1: Definitions, principles and rules	EN 60071-1	2006		
Add:						
IEC 61318	2007	Live working - Conformity assessment applicable to tools, devices and equipment	EN 61318	2008		

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EUROPEAN STANDARD

EN 61243-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2005

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Supersedes EN 61243-1:1997 + A1:1997

English version

Live working – Voltage detectors Part 1: Capacitive type to be used for voltages exceeding 1 kV a.c. (IEC 61243-1:2003, modified)

Travaux sous tension – Détecteurs de tension Partie 1: Type capacitif pour usage sur des tensions alternatives de plus de 1 kV (CEI 61243-1:2003, modifiée) Arbeiten unter Spannung – Spannungsprüfer Teil 1: Kapazitive Ausführung für Wechselspannungen über 1 kV (IEC 61243-1:2003, modifiziert)

This European Standard was approved by CENELEC on 2005-03-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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CENELEC

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

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Foreword

The text of the International Standard IEC 61243-1:2003, prepared by IEC TC 78, Live working, together with the common modifications prepared by the Technical Committee CENELEC TC 78, Equipment and tools for live working, was submitted to the formal vote and was approved by CENELEC as EN 61243-1 on 2005-03-01.

This European Standard supersedes EN 61243-1:1997 + A1:1997 + corrigendum June 1999.

The following dates were fixed:

-	latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2006-03-01
_	latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2008-03-01

Annex ZA has been added by CENELEC.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

LIVE WORKING – VOLTAGE DETECTORS –

Part 1: Capacitive type to be used for voltages exceeding 1 kV a.c.

FOREWORD

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

This edition includes the following major technical changes from the previous edition:

- a) the Scope has been extended to cover the use on electrical systems for voltages up to 765 kV a.c.;
- b) the notion of family of voltage detectors which are identical in terms of design and dimensions and only differ by their nominal voltages (or nominal voltage ranges) has been included;
- c) the classification in terms of the setting of the threshold voltage to give a clear indication has been eliminated;
- a new test set-up with bars has been introduced. Depending on the nominal voltage of the voltage detector, it is required or becomes an alternative test set-up for checking the influence of interference fields, the influence of interference voltages, the protection against bridging and the spark resistance;

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- e) the revision of specific dielectric tests has been included;
- f) some test procedures (clear perceptibility of audible indication, drop resistance, climatic dependence) have been improved and completed.

This consolidated version of IEC 61243-1 consists of the second edition (2003) [documents 78/527/FDIS and 78/537/RVD], its amendment 1 (2009) [documents 78/751/CDV and 78/794/RVC] and its corrigendum of October 2005.

The technical content is therefore identical to the base edition and its amendment and has been prepared for user convenience.

It bears the edition number 2.1.

A vertical line in the margin shows where the base publication has been modified by amendment 1.

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

IEC 61243 consists of the following parts, under the general title *Live working* – *Voltage detectors:*

Part 1: Capacitive type to be used for voltages exceeding 1 kV a.c.

Part 2: Resistive type to be used for voltages of 1 kV to 36 kV a.c.

Part 3: Two-pole low-voltage type

Part 5: Voltage detecting systems (VDS)

The committee has decided that the contents of the base publication and its amendments will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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INTRODUCTION

This International Standard has been prepared according to the requirements of IEC 61477, where applicable.

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LIVE WORKING – VOLTAGE DETECTORS –

Part 1: Capacitive type to be used for voltages exceeding 1 kV a.c.

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 765 kV a.c., and frequencies of 50 Hz and/or 60 Hz.

This part applies only to voltage detectors of capacitive type used in contact with the 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 standard (see 4.4.1 for general design).

Other types of voltage detectors are not covered by this part of the standard.

Some restrictions on their use are applicable in the case of factory-assembled switchgear and on overhead systems of electrified railways (see Annex B, instructions for use).

NOTE Except where otherwise specified, all the voltages defined in this standard 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 should be used to determine the operating voltage.

2 Normative references

The following referenced documents are indispensable for the application 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 60060-1:1989, High-voltage test techniques – Part 1: General definitions and test requirements

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

IEC 60068-2-6:1995, Environmental testing – Tests – Test Fc and guidance: Vibration (sinusoidal)

IEC 60068-2-14:1984, *Environmental testing* – *Tests* – *Test N: Change of temperature* Amendment 1 (1986)

IEC 60068-2-32:1975, *Environmental testing – Tests – Test Ed: Free fall* Amendment 2 (1990)

IEC 60071-1:2006, Insulation co-ordination – Part 1: Definitions, principles and rules

IEC 60417-DB:2002¹, Graphical symbols for use on equipment

IEC 60942, *Electroacoustics – Sound calibrators*

IEC 61260:1995, Electroacoustics – Octave-band and fractional-octave-band filters

¹ "DB" refers to the IEC on-line database.



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