SLOVENSKI STANDARD
SIST EN 61243-3:2000

01-september-2000

Delo pod napetostjo - Napetostni detektorji - 3. del: Dvopolni nizkonapetostni tip (IEC 61243-3:1998)

Live working - Voltage detectors -- Part 3: Two-pole low-voltage type

Arbeiten unter Spannung - Spannungsprüfer -- Teil 3: Zweipoliger Spannungsprüfer für Niederspannungsnetze

Travaux sous tension - Détecteurs de tension -- Partie 3: Type bipolaire basse tension

Ta slovenski standard je istoveten z: EN 61243-3:1998

ICS:

13.260	Varstvo pred električnim udarom. Delo pod napetostjo	Protection against electric shock. Live working

SIST EN 61243-3:2000 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61243-3

November 1998

ICS 29.260.99

English version

Live working - Voltage detectors
Part 3: Two-pole low-voltage type
(IEC 61243-3:1998)

Travaux sous tension - Détecteurs de tension
Partie 3: Type bipolaire basse tension
(CEI 61243-3:1998)

Arbeiten unter Spannung
Spannungsprüfer
Teil 3: Zweipoliger Spannungsprüfer für Niederspannungsnetze
(IEC 61243-3:1998)

This European Standard was approved by CENELEC on 1998-10-01. 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.

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.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Ref. No. EN 61243-3:1998 E

Foreword

The text of document 78/251/FDIS, future edition 1 of IEC 61243-3, prepared by IEC TC 78, Live working, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61243-3 on 1998-10-01.

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) 1999-07-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2001-07-01

Annexes designated "normative" are part of the body of the standard.
Annexes designated "informative" are given for information only.
In this standard, annexes A to E and ZA are normative and annex F is informative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61243-3:1998 was approved by CENELEC as a European Standard without any modification.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE: When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 60050(151)	1978	International Electrotechnical Vocabulary (IEV) Chapter 151: Electrical and magnetic devices	-	-
IEC 60050(441)	1984	Chapter 441: Switchgear, controlgear and fuses	-	-
IEC 60050(601)	1985	Chapter 601: Generation, transmission and distribution of electricity - General	-	-
IEC 60060-1 + corr. March	1989 1990	High-voltage test techniques Part 1: General definitions and test requirements	HD 588.1 S1	1991
IEC 60060-2	1994	Part 2: Measuring systems	EN 60060-2 + A11	1994 1998
IEC 60068-1	1988	Environmental testing Part 1: General and guidance	EN 60068-1[1)]	1994
IEC 60068-2-6 + corr. March	1995 1995	Part 2: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	1995
IEC 60068-2-32	1975	Part 2: Tests - Test Ed: Free fall	HD 323.2.32 S2[2)]	1991
IEC 60068-2-75	1997	Part 2: Tests - Test Eh: Hammer tests	EN 60068-2-75	1997
IEC 60245-4 (mod)	1994	Rubber insulated cables of rated voltages up to and including 450/750 V Part 4: Cords and flexible cables	HD 22.4 S3	1995
IEC 60304	1982	Standard colours for insulation for low-frequency cables and wires	HD 402 S2	1984

1) EN 60068-1 includes the corrigendum October 1988 and A1:1992 to IEC 60068-1.

2) HD 323.2.32 S2 is superseded by EN 60068-2-32:1993, which is based on IEC 60068-2-32:1975 + A2:1990.

Publication	Year	Title	EN/HD	Year
IEC 60364-4-41 (mod)	1992	Electrical installations of buildings Part 4: Protection for safety Chapter 41: Protection against electric shock	HD 384.4.41 S2	1996
IEC 60364-4-47 (mod)	1981	Part 4: Protection for safety Chapter 47: Application of protective measures for safety Section 470: General Section 471: Measures of protection against electric shock	HD 384.4.47 S2[3]	1995
IEC 60410	1973	Sampling plans and procedures for inspection by attributes		-
IEC 60417-1	1998[4]	Graphical symbols for use on equipment Part 1: Overview and application		-
IEC 60479-1	1994	Effects of current on human beings and livestock Part 1: General aspects		-
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr. May	1991 1993
IEC 60651	1979	Sound level meters	EN 60651	1994
IEC 60664-1 (mod)	1992	Insulation coordination for equipment within low-voltage systems Part 1: Principles, requirements and tests	HD 625.1 S1 + corr. November	1996 1996
IEC 60900 (mod)	1987	Hand tools for live working up to 1 kV a.c. and 1,5 kV d.c.	EN 60900 + A11	1993 1997
IEC 61260	1995	Electroacoustics - Octave-band and fractional-octave-band filters	EN 61260	1995
IEC 61557-7	1997	Electrical safety in low voltage distribution systems up to 1 kV a.c. and 1,5 kV d.c. Equipment for testing, measuring or monitoring of protective measures Part 7: Phase sequence	EN 61557-7	1997
ISO 354	1985	Acoustics - Measurement of sound absorption in a reverberation room	EN ISO 354	1993
ISO 3744	1994	Acoustics - Determination of sound power levels of noise sources using sound pressure - Engineering method in an essentially free field over a reflecting plane	EN ISO 3744	1995

3) HD 384.4.47 S2 includes A1:1993 to IEC 60364-4-47.

4) IEC 60417:1973 including its supplements A (1974) to M (1994), are harmonized as HD 243 S12:1995.

Publication	Year	Title	EN/HD	Year
ISO 7000	1989	Graphical symbols for use on equipment Index and synopsis	-	-
ISO 9001	1994	Quality systems - Model for quality assurance in design/ development, production, installation and servicing	EN ISO 9001	1994
ISO 9002	1994	Quality systems - Model for quality assurance in production, installation and servicing	EN ISO 9002	1994
CISPR 14-1	1993	Electromagnetic compatibility Requirements for household appliances, electric tools and similar apparatus Part 1: Emission - Product family standard	EN 55014-1	1993

NORME INTERNATIONALE

INTERNATIONAL STANDARD

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Première édition
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1998-10

Travaux sous tension – Détecteurs de tension –

Partie 3:
Type bipolaire basse tension

Live working – Voltage detectors –

Part 3:
Two-pole low-voltage type

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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LIVE WORKING – VOLTAGE DETECTORS –

Part 3: Two-pole low-voltage type

FOREWORD

1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical reports or guides and they are accepted by the National Committees in that sense.
4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61243-3 has been prepared by IEC technical committee 78: Live working.

The text of this standard is based on the following documents:

FDIS	Report on voting
78/251/FDIS	78/257/RVD

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

Annexes A, B, C, D and E form an integral part of this standard.

Annex F is for information only.

The contents of the corrigenda of May 2000 and of December 2000 have been included in this copy.

INTRODUCTION

Some low-voltage detectors have been in use for general detection of the state of electrical circuits.

The detector covered in this standard is very specific in the sense that it is not a measuring instrument. This detector complies with special requirements for live working thus providing a high level of safety to protect qualified users performing tests on electrical networks and to indicate clearly the voltage states "voltage present" and/or "voltage not present".

LIVE WORKING – VOLTAGE DETECTORS –

Part 3: Two-pole low-voltage type

1 Scope

This part of IEC 61243 is applicable to two-pole voltage detectors to be used on electrical systems for nominal voltages not exceeding 1 000 V a.c. and/or 1 500 V d.c. and below 500 Hz (nominal frequencies). The detector types are classified as follows: voltage class A: up to and including 500 V a.c./750 V d.c.; voltage class B: up to and including 1 000 V a.c./1 500 V d.c.

This part of IEC 61243 also applies to supplementary functions such as phase indications, rotating field indications, and continuity checks (see annex E). Furthermore, it applies to accessories such as crocodile clips, detachable leads and contact electrode extensions.

Unless otherwise specified, all the voltages defined in this standard refer to phase-to-phase voltages of three-phase systems. Detectors may be used in other than three-phase systems, then the applicable phase-to-phase or phase-to-earth (ground) voltages are to be used to determine the operating voltage.

Low-voltage detectors covered by this standard are not intended to provide measurement of absolute values.

Measuring devices are excluded from this standard.

NOTE – The requirements for measuring devices are specified in IEC 61010-1 and IEC 61010-2-031.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 61243. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this part of IEC 61243 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60050(151):1978, *International Electrotechnical Vocabulary (IEV) – Chapter 151: Electrical and magnetic devices*

IEC 60050(441):1984, *International Electrotechnical Vocabulary (IEV) – Chapter 441: Switchgear, controlgear and fuses*

IEC 60050(601):1985, *International Electrotechnical Vocabulary (IEV) – Chapter 601: Generation, transmission and distribution of electricity – General*

IEC 60060-1:1989, *High voltage test techniques – Part 1: General definitions and test requirements*

IEC 60060-2:1994, *High voltage test techniques – Part 2: Measuring systems*

IEC 60068-1:1988, *Environmental testing – Part 1: General and guidance*

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

IEC 60068-2-32:1975, *Environmental testing – Part 2: Tests – Test Ed: Free fall (Procedure 1)*

IEC 60068-2-75:1997, *Environmental testing – Part 2-75: Tests – Test Eh: Hammer tests*

IEC 60245-4:1994 *Rubber insulated cables – Rated voltages up to and including 450/750 V – Part 4: Cords and flexible cables*

IEC 60304:1982, *Standard colours for installation for low-frequency cables and wires*

IEC 60364-4-41:1992, *Electrical installations of buildings – Part 4: Protection for safety – Chapter 41: Protection against electric shock*

IEC 60364-4-47:1981, *Electrical installations of buildings – Part 4: Protection for safety – Chapter 47: Application of protective measures for safety – Section 470: General – Section 471: Measures of protection against electric shock*

IEC 60417-1, —, *Graphical symbols for use on equipment – Part 1: Overview and application* [1)]

IEC 60479-1:1994, *— Effects of current on human beings and livestock – Part 1: General aspects*

IEC 60529:1989, *Degrees of protection provided by enclosures (IP Code)*

IEC 60651:1979, *Sound level meters*

IEC 60664-1:1992, *Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests*

IEC 60900:1987, *Hand tools for live working up to 1 000 V a.c. and 1 500 d.c.*

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

IEC 61318:1994*, Live working – Guidelines for quality assurance plans*

IEC 61557-7:1997, *Electrical safety in low voltage distribution systems up to 1 000 V a.c. and 1 500 V d.c. – Equipment for testing, measuring or monitoring of protective measures – Part 7: Phase sequence*

ISO 354:1985, *Acoustics – Measurement of sound absorption in a reverberation room*

ISO 2859-1:1999, *Sampling procedures for inspection by attributes – Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection*

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1) To be published.