SLOVENSKI STANDARD
SIST EN 61243-2:2000

01-junij-2000

Delo pod napetostjo - Indikatorji napetosti - 2. del: Uporovni tip za uporabo na napetostih od 1 kV do 36 kV izmenično (IEC 61243-2:1995, spremenjen)

Live working - Voltage detectors -- Part 2: Resistive type to be used for voltages of 1 kV to 36 kV a.c.

Arbeiten unter Spannung - Spannungsprüfer -- Teil 2: Resistive (ohmsche) Ausführungen für Wechselspannungen von 1 kV bis 36 kV

Travaux sous tension - Détecteurs de tension -- Partie 2: Type résistif pour usage sur des tensions alternatives de 1 kV à 36 kV

Ta slovenski standard je istoveten z: **EN 61243-2:1997**

ICS:

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

SIST EN 61243-2:2000 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61243-2

August 1997

ICS 13.340.20

Descriptors: High voltage, alternating voltage, safety equipment, tension detector, performance evaluation, tests

English version

Live working - Voltage detectors
Part 2: Resistive type to be used for voltages of 1 kV to 36 kV a.c
(IEC 61243-2:1995 + corrigendum 1996, modified)

Travaux sous tension
Détecteurs de tension
Partie 2: Type résistif pour usage sur des tensions alternatives de 1 kV à 36 kV
(CEI 61243-2:1995 + corrigendum 1996, modifiée)

Arbeiten unter Spannung
Spannungsprüfer
Teil 2: Resistive (ohmsche) Ausführungen für Wechselspannungen von 1 kV bis 36 kV
(IEC 61243-2:1995 + Corrigendum 1996, modifiziert)

This European Standard was approved by CENELEC on 1997-03-11. 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, 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

Foreword

The text of the International Standard IEC 61243-2:1995 and its corrigendum June 1996, prepared by IEC TC 78, Tools for live working, together with the common modifications prepared by the Technical Committee CENELEC TC 78, was submitted to the CENELEC Unique Acceptance Procedure and was approved by CENELEC as EN 61243-2 on 1997-03-11.

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) 1998-03-01

- latest date by which national standards conflicting with the EN have to be withdrawn (dow) 1998-03-01

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

Endorsement notice

The text of the International Standard IEC 61243-1:1995 and its corrigendum June 1996 was approved by CENELEC as a European Standard with agreed common modifications as given below.

COMMON MODIFICATIONS

Contents

Delete " 8 Records".

Add:

Annex ZA - Normative references to international publications with their corresponding European publications

3 Definitions

3.11 **Add**, at the end of the definition: "or other devices which connect permanently or not the lead to the detector and to the earth system (other devices equivalent to clip and clamp are permissible)."

3.17 **Replace** the definition by:

Distinctive physical guard separating the handle from the insulating element.

3.27 **Replace** in the French version only, "essai nominale" by "tension nominale".

Add a new definition:

3.33 active signal: Active signal is the combination of visual and audible indication functioning simultaneously.

4 Requirements

4.2.1.3 **Replace** the word "continuous" by "permanent".

4.2.2 **Replace**, the two last dashes by:

- group III: Indication with one active signal which gives an indication of the condition voltage present and shall have a stand-by state.

4.4.1 **Replace** the paragraph by:

The user shall be provided with adequate distance by combination of a resistive element and an insulating element. The resistive element provides the distance and the insulating element provides the insulation."

4.4.1.1 a) **Add** "insulating element" after "resistive element" and **replace** "figures 1a and 1b" by "figure 1b".

4.4.2 **Replace** in the first sentence "with or without an insulating element" by "with an insulating element".

Add at the end of the subclause:

The resistance against buckling and ageing for the earth lead shall be proved.

5 Tests

5.2.1.1 **Replace**, in English only, in the sixth paragraph "diminished" by "reduced in size".

5.3.1 **Replace** the whole subclause by:

5.3.1 ***Insulating materials***

Tubes, rods and other parts of insulating element shall be tested according to IEC 60855 or IEC 61235.

5.3.5.1 **Replace,** in English only, in the sixth paragraph "The a detector" by "The detector".

Add a new subclause:

5.3.9 ***Non response to d.c. voltage***

For a detector with a nominal voltage range, the test voltage shall be chosen according to higher nominal voltage. The test voltage shall be U_r.
The detector shall be placed with contact electrode on d.c. voltage source, in accordance with IEC 60060-1. The test shall be repeated with polarity reversed. The test is considered as passed if there is no continuous signal longer than 1,0 s.

5.4.2 **Add** after the fifth paragraph:

The test to prove resistance under buckling and ageing is under consideration.

5.4.3 **Delete** the subclause.

5.4.8.2 **Replace** in the fourth paragraph "increased 2 K/min" by "increased 2 °C/min".

5.4.9 **Replace** in the second line "trifluorotrichloroethane ($CF_2CLCFCL_2$)" by "ethyl alcohol".

8 Records

Delete.

Figures

Figure 1a **Delete**.

Figure 4 **Replace**, in figure 4a, "10 000 x 1 000" by "1 000 x 1 000".

Figure 7 **Replace**, in figure 7b,
- "$e \geq a_1 \times 100$, max. 1 000" by "$e \geq d_1 + 100$, max. 1 000".

Figure 10 **Add** on the dotted line, the temperature value of "25 °C ± 10 °C".

Annexes

Annex C
Table C.1 **Delete** the line "5.4.3 Other mechanical tests on earth lead".

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(601)	1985	Chapter 601: Generation, transmission and distribution of electricity - General	-	-
IEC 60060-1	1989	High-voltage test techniques Part 1: General definitions and test requirements	HD 588.1 S1[1)]	1991
IEC 60068-1	1988	Environmental testing Part 1: General and guidance		
+ A1	1992		EN 60068-1[2)]	1994
IEC 60068-2-6	1982	Part 2: Tests - Test Fc and guidance: Vibration (Sinusoidal)	HD 323.2.6 S2[3)]	1988
IEC 60068-2-14	1984	Part 2: Tests - Test N: Change of temperature	HD 323.2.14 S2[4)]	1987
IEC 60068-2-32	1975	Part 2: Tests - Test Ed: Free fall		
+ A2	1990		EN 60068-2-32	1993
IEC 60071-1	1993	Insulation co-ordination Part 1: Definitions, principles and rules	EN 60071-1	1995
IEC 60410	1973	Sampling plans and procedures for inspection by attributes	-	-
IEC 60651	1979	Sound level meters	EN 60651	1994
A1	1993		A1	1994

1) HD 588.1 S1 includes the corrigendum March 1990 to IEC 60060-1.

2) EN 60068-1 includes the corrigendum October 1988 to IEC 60068-1.

3) HD 323.2.6 S2 is superseded by EN 60068-2-6:1995, which is based on IEC 60068-2-6:1995.

4) HD 323.2.14 S2 includes A1:1986 to IEC 60068-2-14.

Publication	Year	Title	EN/HD	Year
IEC 60855 (mod)	1985	Insulating foam-filled tubes and solid rods for live working	EN 60855	1996
IEC 61235 (mod)	1993	Live working - Insulating hollow tubes for electrical purposes	EN 61235[5)]	1995
ISO 3745	1977	Acoustics - Determination of sound power levels of noise sources - Precision methods for anechoic and semi-anechoic rooms	-	-
ISO 8402	1986[6)]	Quality - Vocabulary	-	-
ISO 9000	1987	Quality management and quality assurance standards - Guidelines for selection and use	-	-
ISO 9002	1987	Quality systems - Model for quality assurance in production and installation	EN 29002[7)]	1988
ISO 9004	1987	Quality management and quality system elements - Guidelines	EN 29004[8)]	1988
ICI 15.2	1986	Colorimetry		

5) EN 61235 includes the corrigendum March 1997 to IEC 61235.

6) ISO 8402:1994 is harmonized as EN ISO 8402:1995.

7) EN 29002 is superseded by EN ISO 9002:1994 which is based on ISO 9002:1994.

8) EN 29004 is superseded by EN ISO 9004-1, which is based on ISO 9004-1:1994.

NORME INTERNATIONALE
INTERNATIONAL STANDARD

CEI
IEC
1243-2

Première édition
First edition
1995-10

Travaux sous tension – Détecteurs de tension –

Partie 2:
Type résistif pour usage sur des tensions alternatives de 1 kV à 36 kV

Live working – Voltage detectors –

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

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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For price, see current catalogue

Publication 1243-2 de la CEI
(Première édition - 1995)

Travaux sous tension - Détecteurs de tension

Partie 2: Type résistif pour usage sur des tensions alternatives de 1 kV à 36 kV

IEC Publication 1243-2
(First edition - 1995)

Live working - Voltage detectors

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

CORRIGENDUM 1

Page 59

Remplacer la page 59 existante par la nouvelle page 59 (voir au verso).

Page 59

Replace the existing page 59 by the new page 59 (see overleaf).

Page 60, figure 4a

Au lieu de

Surface gris clair
10 000 × 1 000

lire

Surface gris clair
1 000 × 1 000

Page 60, figure 4a

Instead of

Light-grey screen
10 000 × 1 000

read

Light-grey screen
1 000 × 1 000

(voir au verso)

(see overleaf)

Juin 1996

June 1996

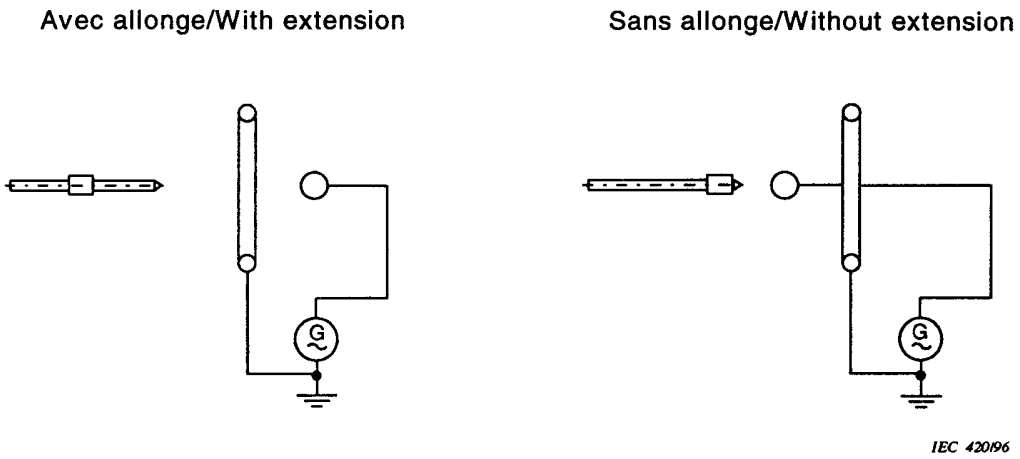

Figure 3a – Mesurage de la tension de seuil (5.2.1.2) et influence d'une tension perturbatrice (5.2.2.3)
Measurement of threshold voltage (5.2.1.2) and influence of interference voltage (5.2.2.3)

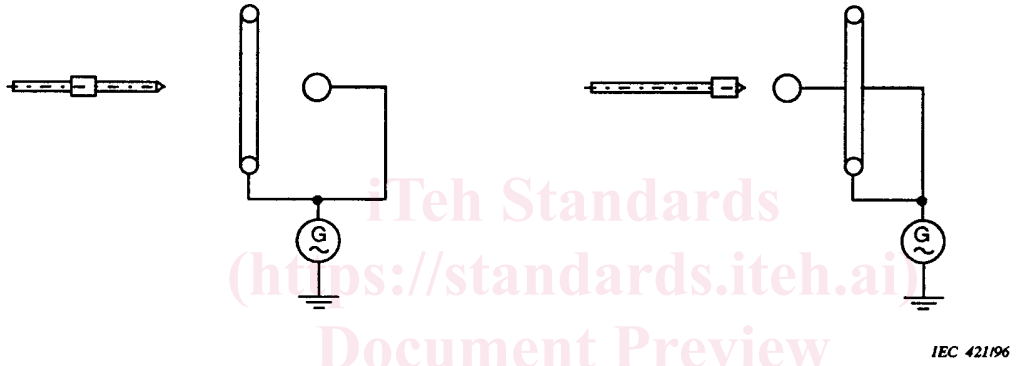

Figure 3b – Influence d'interférence en phase (5.2.2.1)
Influence of in-phase interference (5.2.2.1)

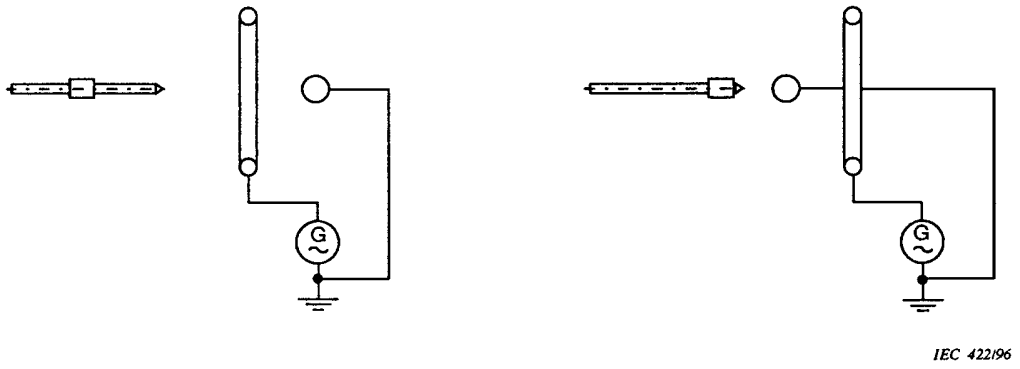

Figure 3c – Influence d'un champ perturbateur en opposition de phase (5.2.2.2)
Influence of phase opposition interference field (5.2.2.2)

Figure 3 – Raccordements pour essais de fonctionnement
Circuit connections for functional tests

Publication 61243-2 de la CEI
(Premi re dition – 1995)

Travaux sous tension – D tecteurs de tension –

Partie 2: Type r sistif pour usage sur des tensions alternatives de 1 kV 36 kV

IEC Publication 61243-2
(First edition – 1995)

Live working – Voltage detectors –

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

CORRIGENDUM 2

Le comit technique 78 est toujours attentif l'emploi en travaux sous tension de mat riaux et de produits chimiques qui, tout en tant ad quats, assurent la sant et la s curit au travail ainsi que la protection de l'environnement. En cons quence, un solvant ad quat a t identifi pour remplacer le trichloro-1,1,2 trifluoro-1,2,2 thane (aussi connu sous les appellations trifluorotrichloro thane, Fr on et R frig rant 113), utilis au pr alable.

Technical committee 78 continues to monitor the use of chemicals and materials in live working that are suitable and provide for safety, occupational health and environmental protection. As a result, a suitable solvent has been found to replace the previously used trichloro-1,1,2 trifluoro-1,2,2 ethane (also known as trifluorotrichloroethane, Freon and Refrigerant 113).

Page 26

5.1.3 Essais sous conditions humides

Premier alin a, deuxi me ligne

Au lieu de:

avec du trifluorotrichlor thane ($CF_2ClCFCl_2$)

lire:

avec de l'isopropanol (CH_3-CH(OH)-CH_3)

Ajouter la fin de cet alin a, la note suivante:

NOTE Il est du devoir d'un employeur de s'assurer que la l gislation applicable ainsi que les prescriptions de s curit propres l'usage de ce produit chimique sont respect es int gralement.

Page 27

5.1.3 Tests under wet conditions

First paragraph, first line

Instead of:

with trifluorotrichloroethane ($CF_2ClCFCl_2$)

read:

with isopropanol (CH_3-CH(OH)-CH_3)

Add at the end of this paragraph, the following note:

NOTE It is the duty of an employer to ensure that the relevant legislation and safety requirements for the use of this chemical are complied with in their entirety.

Page 54

5.4.9 Durabilit des marquages

Premier alin a, deuxi me ligne

Au lieu de:

de trifluorotrichlor thane ($CF_2ClCFCl_2$)

lire:

d'isopropanol (CH_3-CH(OH)-CH_3)

Page 55

5.4.9 Durability of markings

First paragraph, second line

Instead of:

in trifluorotrichloroethane ($CF_2ClCFCl_2$)

read:

in isopropanol (CH_3-CH(OH)-CH_3)