SLOVENSKI STANDARD
SIST EN 50464-2-3:2007

01-september-2007

Nadomeġļ a:
SIST HD 428.2.3 S1:1999

Trifazni oljni distribucijski transformatorji za frekvenco 50 Hz, moļ i od 50 kVA do 2 500 kVA in opremo do napetosti 36 kV ï 2-3. del: Distribucijski transformatorji s kabelskimi omaricami na visokonapetostni oziroma nizkonapetostni strani ï Kabelske omarice tip 2 za distribucijske transformatorje, ki izpolnjujejo zahteve standarda EN 50464-2-1

Three-phase oil-immersed distribution transformers 50 Hz, from 50 kVA to 2 500 kVA with highest voltage for equipment not exceeding 36 kV -- Part 2-3: Distribution transformers with cable boxes on the high-voltage and/or low-voltage side - Cable boxes type 2 for use on distribution transformers meeting the requirements of EN 50464-2-1

Ölgefüllte Drehstrom-Verteilungstransformatoren 50 Hz, 50 kVA bis 2 500 kVA, mit einer höchsten Spannung für Betriebsmittel bis 36 kV -- Teil 2-3: Verteilungstransformatoren mit Kabelanschlusskästen auf der Ober- und/oder Unterspannungsseite - Kabelanschlusskästen Typ 2 für Verteilungstransformatoren nach EN 50464-2-1

Transformateurs triphasés de distribution immergés dans l'huile, 50 Hz, de 50 kVA a 2 500 kVA, de tension la plus élevée pour le matériel ne dépassant pas 36 kV -- Partie 2-3: Transformateurs de distribution raccordés par boîtes a câble côté haute tension et/ou côté basse tension - Boîtes a câbles de type 2 pour utilisation sur transformateurs de distribution conformes aux exigences de la EN 50464-2-1

Ta slovenski standard je istoveten z: **EN 50464-2-3:2007**

ICS:

29.180 Transformatorji. Dušilke Transformers. Reactors

SIST EN 50464-2-3:2007 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50464-2-3

April 2007

ICS 29.180

Supersedes HD 428.2.3 S1:1998

English version

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This European Standard was approved by CENELEC on 2006-12-01. 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, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the 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 Harmonization Document HD 428.2.3 S1:1998, prepared by the Technical Committee CENELEC TC 14, Power transformers, was submitted to the formal vote for conversion into a European Standard and was approved by CENELEC as EN 50464-2-3 on 2006-12-01.

The following date was 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) 2007-12-01

The EN 50464 series consists of the following parts, under the general title “Three-phase oil-immersed distribution transformers 50 Hz, from 50 kVA to 2 500 kVA with highest voltage for equipment not exceeding 36 kV”:

Part 1 General requirements

Part 2-1 Distribution transformers with cable boxes on the high-voltage and/or low-voltage side – General requirements

Part 2-2 Distribution transformers with cable boxes on the high-voltage and/or low-voltage side – Cable boxes type 1 for use on distribution transformers meeting the requirements of EN 50464-2-1

Part 2-3 Distribution transformers with cable boxes on the high-voltage and/or low-voltage side – Cable boxes type 2 for use on distribution transformers meeting the requirements of EN 50464-2-1

Part 3 Determination of the power rating of a transformer loaded with non-sinusoidal currents

Part 4 Requirements and tests concerning pressurised corrugated tanks

Contents

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Table

1 Scope

Cable boxes described in this European Standard correspond to cable boxes Type 2 in EN 50464-2-1 and are suitable for assembly on the cover of oil-immersed distribution transformers meeting the requirements of EN 50464-2-1.

Cable boxes are air-filled, metal- or non-metal enclosed, for high- and/or low-voltage connections in the following variations:

1.1 High-voltage side

a) Connection directly to bushings;

b) Connection via busbar system.

1.2 Low-voltage side

a) Connection directly to bushings (maximum of four connectors per bushing);

b) Connection via busbar system.

2 Normative references

For the purposes of this document, the normative references of EN 50464-2-2 apply.

3 Definitions

For the purposes of this document, the terms and definitions of EN 50464-2-2 apply.

4 High-voltage connections

High-voltage bushings shall preferably be in accordance with EN 50180, pollution class II.

Dimension D, which is the minimum distance between live parts and between live parts and earth, is given in Table 1 and indicated in Figures 1 and 2. The value of D may be decreased by inserting barriers of insulating material. In this case, the insulation level shall be demonstrated by test.

Busbars in Figure 2 shall be dimensioned by reference to rated currents and short-circuit forces. Connection may be by single- or multi-core cables.

Figures 1 and 2 show typical arrangements; the actual design may vary.

Table 1 – Minimum distances in the cable box

U_M kV	Rated short duration power frequency withstand voltage (r.m.s.) kV	Rated lightning impulse withstand voltage (peak) kV		Minimum clearance D mm	
		List 1	List 2	List 1	List 2
3,6	10	20	40	-	60
7,2	20	40	60	60	90
12	28	60	75	90	125
17,5	38	75	95	125	170
24	50	95	125	170	225
36	70	145	170	275	315
NOTE Values in the table according to EN 60076-3, Table 2.					

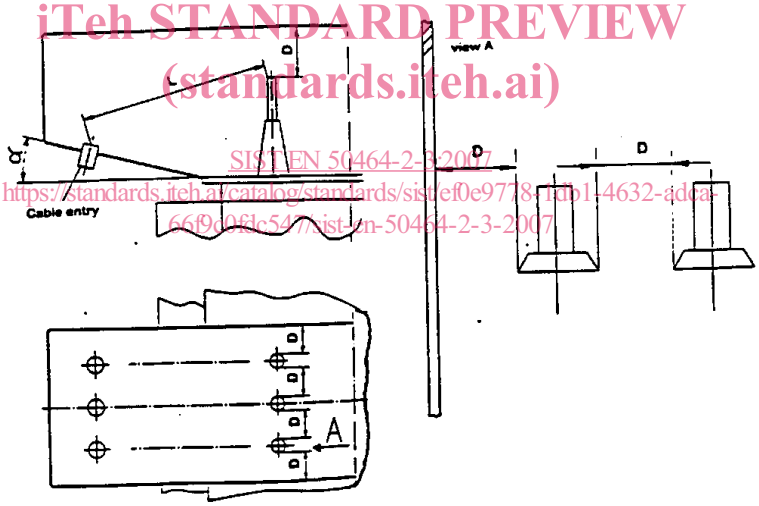
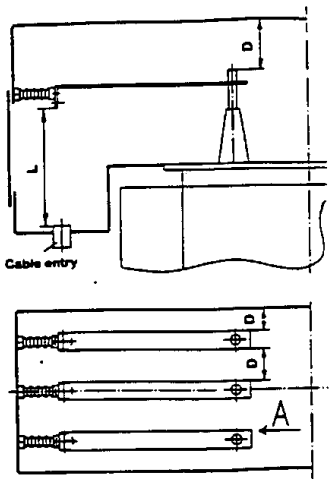


Figure 1 – High-voltage connection directly to bushings

The details of the cable entry, dimension L (distance between the cable entry and the bushing connection), angle α and other cable entry directions shall be subject to agreement between manufacturer and purchaser.



View as in Figure 1

Figure 2 – High-voltage connection via busbar system

The details of the cable entry, dimension L (distance between the cable entry and the busbar connection) and other cable entry directions shall be subject to agreement between manufacturer and purchaser.

5 Low-voltage connections

Low-voltage bushings shall be in accordance with EN 50386.

Dimension D, which is the minimum clearance between live parts and between live parts and earth, is indicated in Figures 3 and 4. The minimum value of D shall be 40 mm.

Busbars in Figure 3 shall be dimensioned by reference to rated currents and short-circuit forces.

Connection may be by single- or multi-core cables.

Figures 3 and 4 show typical arrangements, the actual design may vary.

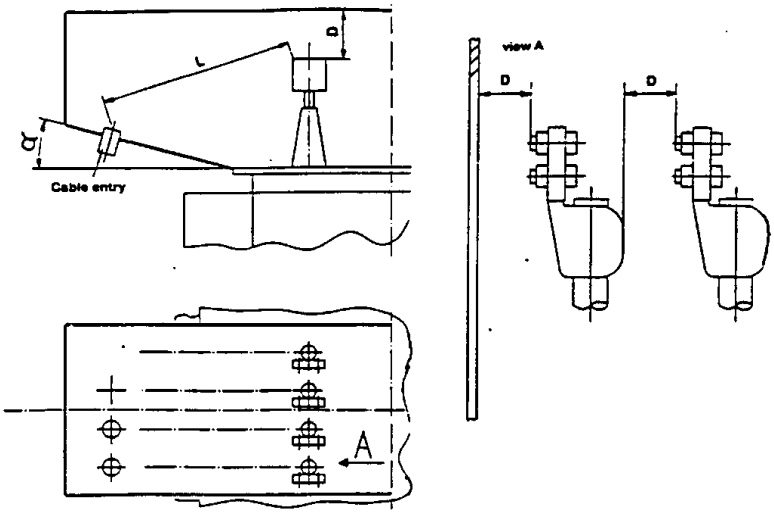
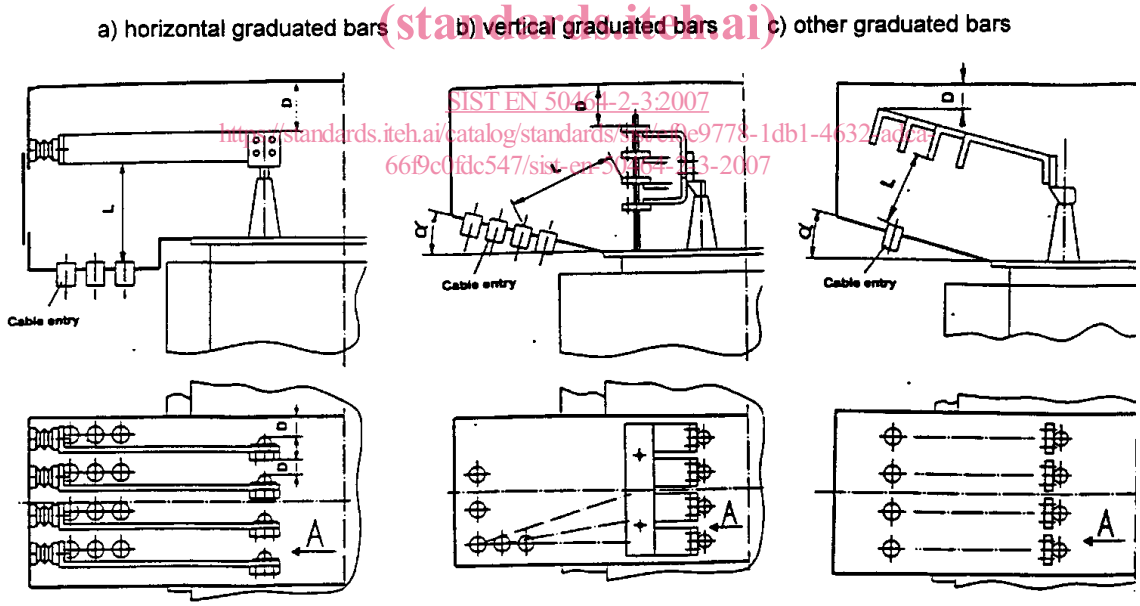


Figure 3 – Low-voltage connection directly to bushings

The details of the cable entry, dimension L (distance between the cable entry and the bushing connection), angle α and other cable entry directions shall be subject to agreement between manufacturer and purchaser.



View as in Figure 3

Figure 4 – Low-voltage connection to busbar system

The arrangement of the cable entry, dimension L (distance between the cable entry and the busbar connection), angle α and other cable entry directions shall be subject to agreement between manufacturer and purchaser.