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NSAI Standards

Irish Standard
I.S. EN 50464-1:2007

# 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

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# I.S. EN 50464-1:2007

*Incorporating amendments/corrigenda issued since publication:*

EN 50464-1:2007/A1:2012

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NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie

W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

# EN 50464-1/A1

January 2012

ICS 29.180

English version

# 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

Transformateurs triphasés de distribution immergés dans l'huile, 50 Hz, de 50 kVA à 2 500 kVA, de tension la plus élevée pour le matériel ne dépassant pas 36 kV - Partie 1: Prescriptions générales

Ölgefüllte Drehstrom-Verteilungstransformatoren 50 Hz, 50 kVA bis 2 500 kVA, mit einer höchsten Spannung für Betriebsmittel bis 36 kV - Teil 1: Allgemeine Anforderungen

This amendment A1 modifies the European Standard EN 50464-1:2007; it was approved by CENELEC on 2011-10-31. 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.

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

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Ref. No. EN 50464-1:2007/A1:2012 E

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# Foreword

This document (EN 50464-1:2007/A1:2012) has been prepared by CLC/TC 14, "Power transformers".

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) | 2012-10-31 |
| • latest date by which the national standards conflicting with the document have to be withdrawn | (dow) | 2014-10-31 |

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EUROPEAN STANDARD

NORME EUROPÉENNE

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# EN 50464-1

April 2007

ICS 29.180

Supersedes HD 428.1 S1:1992 + A1:1995 and HD 428.3 S1:1994

English version

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

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

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# Foreword

This European Standard, prepared by the Technical Committee CENELEC TC 14, Power transformers was submitted to the formal vote and was approved by CENELEC as EN 50464-1 on 2006-12-01.

This European Standard supersedes HD 428.1 S1:1992 + A1:1995 and HD 428.3 S1:1994.

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) | 2007-12-01 |
| – latest date by which the national standards conflicting with the EN have to be withdrawn | (dow) | 2011-12-01 |

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 |

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## 1 Scope

This document covers transformers from 50 kVA to 2 500 kVA intended for operation in three-phase distribution networks, for indoor or outdoor continuous service, 50 Hz, immersed in mineral oil, natural cooling, with two windings:

– a primary (high-voltage) winding with a highest voltage for equipment from 3,6 kV to 36 kV;

– a secondary (low-voltage) winding with a highest voltage for equipment not exceeding 1,1 kV.

NOTE 1 This document may be applied, either as a whole or in part, to transformers immersed in a synthetic insulating liquid.

NOTE 2 This document may be applied, either as whole or in part, to transformers having windings with more than one rated voltage. In this case the rated power for each rated voltage shall be specified by the purchaser.

The object of this document is to lay down requirements related to electrical characteristics and design of three phases distribution transformers immersed in mineral oil.

## 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.

| | | |
|---|---|---|
| EN 50216 | series | Power transformer and reactor fittings |
| EN 50464-2 | series | Three-phase oil-immersed distribution transformers 50 Hz, from 50 kVA to 2500 kVA with highest voltage for equipment not exceeding 36 kV |
| EN 60076 | series | Power transformers (IEC 60076 series) |
| IEC/TR 60616 | | Terminal and tapping markings for power transformers |

## 3 Electrical characteristics

### 3.1 Rated power

The values of the rated power are

50 kVA – <u>100</u> kVA – <u>160</u> kVA – <u>250</u> kVA – 315 kVA – <u>400</u> kVA – 500 kVA – <u>630</u> kVA –
800 kVA – <u>1 000</u> kVA – 1 250 kVA – <u>1 600</u> kVA – 2 000 kVA – <u>2 500</u> kVA.

The underlined values are preferred.

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