Irish Standard
I.S. EN 50645:2017

Ecodesign requirements for small power transformers

I.S. EN 50645:2017

Incorporating amendments/corrigenda/National Annexes issued since publication:

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National Foreword

I.S. EN 50645:2017 is the adopted Irish version of the European Document EN 50645:2017, Ecodesign requirements for small power transformers

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50645

October 2017

ICS 29.180

English Version

Ecodesign requirements for small power transformers

Exigences en matière d'écoconception applicables aux transformateurs de faible puissance

Anforderungen an die umweltgerechte Gestaltung von Kleinleistungstransformatoren

This European Standard was approved by CENELEC on 2017-07-31. 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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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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European foreword

This document (EN 50645:2017) has been prepared by CLC/BTTF 146-1 "*Losses of small transformers: methods of measurement, marking and other requirements related to eco-design regulation*".

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

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2018–07–31
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2020–07–31

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of this document.

EN 50645:2017

1 Scope

This European Standard gives Ecodesign requirements for small power transformers complying with the EN 61558 series and in relation to Commission Regulation (EU) N° 548/2014 implementing the European Directive 2009/125/EC.

This European Standard is applicable to transformers with 50 Hz AC input and output with a rated power of 1 kVA or more and a voltage lower than 1 kV, except those excluded in the regulation.

For transformers with a voltage between 1 kV and 1,1 kV, this standard may be used as a guide.

2 Normative references

Not applicable.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

NOTE Unless otherwise specified, the terms “voltage” and “current” imply the r.m.s. values of alternating voltage and current.

3.1
(power) transformer
static piece of apparatus with two or more windings which, by electromagnetic induction, transforms a system of alternating voltage and current into another system of voltage and current usually of different values and at the same frequency for the purpose of transmitting electrical power

[SOURCE: IEV 421-01-01]

Note 1 to entry: The term frequency also implies that the waveform remains the same.

3.2
short-circuit voltage
voltage to be applied to the **input winding**, when the windings are at ambient temperature, to produce in the short-circuited **output winding** a current equal to the **rated output current**

Note 1 to entry: The **short-circuit voltage** is usually expressed as a percentage of the **rated supply voltage**.

3.3
rated output current
output current at rated supply voltage, rated supply frequency and rated output voltage, at rated power factor, assigned to the transformer by the manufacturer for the specified operating conditions of the transformer

3.4
rated supply voltage
supply voltage (for polyphase supply, the phase-to-phase voltage) assigned to the **transformer** by the manufacturer for the specified operating conditions of the **transformer**

3.5
rated output voltage
output voltage (for polyphase supply, the phase-to-phase voltage) at **rated supply voltage**, **rated supply frequency** and **rated output current**, at **rated power factor**, assigned to the **transformer** by the manufacturer for the specified operating conditions of the **transformer**