BS EN IEC 62041:2020

BSI Standards Publication

Transformers, power supplies, reactors and similar products — EMC requirements

National foreword

This British Standard is the UK implementation of EN IEC 62041:2020. It is identical to IEC 62041:2017. It supersedes BS EN 62041:2010, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PEL/96, Small transformers.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Published by BSI Standards Limited 2020

ISBN 978 0 580 83494 3

ICS 29.180; 33.100.01

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 29 February 2020.

Amendments/corrigenda issued since publication

Date	Text affected

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 62041

February 2020

ICS 29.180; 33.100

Supersedes EN 62041:2010 and all of its amendments and corrigenda (if any)

English Version

Transformers, power supplies, reactors and similar products - EMC requirements (IEC 62041:2017)

Transformateurs, alimentations, bobines d'inductance et produits analogues – Exigences CEM (IEC 62041:2017)

Transformatoren, Drosseln, Netzgeräte und entsprechende Kombinationen - EMV-Anforderungen (IEC 62041:2017)

This European Standard was approved by CENELEC on 2019-12-11. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 96/465/FDIS, future edition 3 of IEC 62041, prepared by IEC/TC 96 "Transformers, reactors, power supply units, and combinations thereof" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62041:2020.

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) 2020-09-11
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2022-12-11

This document supersedes EN 62041:2010 and all of its amendments and corrigenda (if any).

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.

Endorsement notice

The text of the International Standard IEC 62041:2017 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60065	NOTE	Harmonized as EN 60065
IEC 60601-1	NOTE	Harmonized as EN 60601-1
IEC 60950-1	NOTE	Harmonized as EN 60950-1
IEC 61000-4-20:2010	NOTE	Harmonized as EN 61000-4-20:2010 (not modified)
IEC 61010-1	NOTE	Harmonized as EN 61010-1
IEC 61204	NOTE	Harmonized as EN 61204
IEC 61347 (series)	NOTE	Harmonized as EN 61347 (series)
IEC 62040 (series)	NOTE	Harmonized as EN 62040 (series)
CISPR 11	NOTE	Harmonized as EN 55011

IEC 62041

Edition 3.0 2017-08

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Transformers, power supplies, reactors and similar products – EMC requirements

Transformateurs, alimentations, bobines d'inductance et produits analogues – Exigences CEM

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 29.180; 33.100.01

ISBN 978-2-8322-5231-4

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of 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, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). 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. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International standard IEC 62041 has been prepared by Technical Committee 96: Transformers, reactors, power supply units and combinations thereof.

This third edition cancels and replaces the second edition published in 2010. It constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- the inclusion of a clause on tests in series production;
- the inclusion of a new clause on measurement uncertainly, and
- the status of a harmonized standard for this third edition.

It has the status of a product family EMC standard in accordance with IEC Guide 107:2009,

Electromagnetic compatibility – Guide to the drafting of electromagnetic compatibility publications.

This bilingual version (2018-01) corresponds to the monolingual English version, published in 2017-08.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
96/465/FDIS	96/467/RVD

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

The French version of this standard has not been voted upon.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

This standard is to be used in conjunction with the IEC 61558 series.

In this standard, the following print types are used:

- requirements proper: in roman type;
- *test specifications: in italic type*;
- explanatory matter: in smaller roman type.

In the text of this publication, the words in **bold** are defined in Clause 3 of this document and in the IEC 61558 series.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

NOTE The attention of the National Committees is drawn to the fact that equipment manufacturers and testing organizations may need a transitional period following publication of a new, amended or revised IEC publication in which to make products in accordance with the new requirements and to equip themselves for conducting new or revised tests.

It is the recommendation of the committee that the content of this publication be adopted for implementation nationally not earlier than 12 months or not later than 3 years from the date of publication.

The transitional period is no longer than 3 years after the publication of this standard.

TRANSFORMERS, POWER SUPPLIES, REACTORS AND SIMILAR PRODUCTS –

EMC requirements

1 Scope

This document is applicable to transformers, reactors and power supply units covered by the IEC 61558 series of standards. This document deals with the electromagnetic compatibility requirements for emission and immunity within the frequency range 0 Hz to 400 GHz. No tests need to be performed at frequencies where no requirements are specified.

For associated transformers, associated reactors and associated power supply units either supplied with or incorporated into an appliance or equipment, the relevant EMC standard for that appliance or equipment applies.

This document covers normal operating conditions only. Other operations of the transformers, reactors and power supply units (e.g. simulated faults in the electric circuitry for testing purposes or functional safety due to the effects of the electromagnetic phenomena, or evaluation of human being for exposure to electromagnetic fields (EMF)) have not been taken into consideration in this document.

Requirements are specified for each port considered. If requirements are different, the most severe takes precedence.

This document may also be used as a guide to test transformers, reactors and power supply units separately before these are incorporated into an appliance or equipment.

NOTE When **EUT** (**Equipment under test**) is used, it covers **transformers**, **reactors** and **power supply** units where applicable.

This document does not apply to:

- uninterruptible power supplies (UPS) covered by IEC 62040 (all parts);
- power supply units covered by IEC 61204,

  (i.e. DC-DC converters, DC power and distribution equipment and power supply units for use in applications covered by IEC 60950-1, IEC 61010-1, IEC 60601-1 and IEC 60065);
- power supplies and converters for use with or in products covered by IEC 61347 (all parts).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

IEC 60050-161, *International Electrotechnical Vocabulary – Chapter 161: Electromagnetic compatibility*

IEC 61000-3-2, *Electromagnetic compatibility (EMC) – Part 3-2: Limits – Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)*