

INTERNATIONAL STANDARD

NORME INTERNATIONALE

GROUP ENERGY EFFICIENCY PUBLICATION
PUBLICATION GROUPEE SUR L'EFFICACITE ENERGÉTIQUE

**Safety of transformers, reactors, power supply units and combinations thereof –
Part 2-10: Particular requirements and tests for separating transformers with
high insulation level and separating transformers with output voltages
exceeding 1 000 V**

**Sécurité des transformateurs, bobines d'inductance, blocs d'alimentation et des
combinaisons de ces éléments –
Partie 2-10 : Exigences particulières et essais pour les transformateurs
d'isolement à enroulements séparés à niveau d'isolement élevé et pour les
transformateurs d'isolement à enroulements séparés à tensions secondaires
supérieures à 1 000 V**



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CONTENTS

FOREWORD.....	3
INTRODUCTION.....	5
1 Scope.....	6
2 Normative references	7
3 Terms and definitions	7
4 General requirements	8
5 General notes on tests	8
6 Ratings.....	8
7 Classification.....	9
8 Marking and other information	9
9 Protection against electric shock	10
10 Change of input voltage setting	11
11 Output voltage and output current under load	11
12 No-load output voltage	11
13 Short-circuit voltage.....	12
14 Heating.....	12
15 Short-circuit and overload protection	12
16 Mechanical strength	12
17 Protection against harmful ingress of dust, solid objects and moisture	12
18 Insulation resistance, dielectric strength and leakage current	12
19 Construction	13
20 Components	14
21 Internal wiring.....	14
22 Supply connection and other external flexible cables or cords	14
23 Terminals for external conductors.....	14
24 Provisions for protective earthing.....	14
25 Screws and connections	15
26 Creepage distances, clearances and distances through insulation.....	15
27 Resistance to heat, fire and tracking.....	16
28 Resistance to rusting.....	16
Annexes	17
Bibliography.....	18
Table 101 – Symbols indicating the kind of transformer	10
Table 102 – Output voltage difference	12
Table 103 – Table of dielectric strength test voltages for working voltages above 1 000 V.....	13
Table 104 – Minimum clearances in air up to 2 000 m above sea level.....	15
Table 105 – Minimum creepage distances for basic or supplementary insulation.....	16

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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POWER SUPPLY UNITS AND COMBINATIONS THEREOF –****Part 2-10: Particular requirements and tests for separating
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transformers with output voltages exceeding 1 000 V**

FOREWORD

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IEC 61558-2-10 has been prepared by IEC technical committee 96: Transformers, reactors, power supply units and combinations thereof. It is an International Standard.

This second edition cancels and replaces the first edition published in 2014. This edition constitutes a technical revision.

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

- a) adjustment of structure and references in accordance with IEC 61558-1:2017;
- b) overvoltage categories I, II, III and IV for clearances and dielectric strength tests are included;

c) clearances for homogenous field conditions deleted.

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

Draft	Report on voting
96/589/FDIS	96/595/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

It has the status of a group safety publication in accordance with IEC Guide 104.

This International Standard is to be used in conjunction with IEC 61558-1:2017.

This document supplements or modifies the corresponding clauses in IEC 61558-1:2017, so as to convert that publication into the IEC standard: *Particular requirements and tests for separating transformers with high insulation level and separating transformers with output voltages exceeding 1 000 V*.

A list of all parts in the IEC 61558 series published under the general title *Safety of transformers, reactors, power supply units and combinations thereof*, can be found on the IEC website.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

Where this document states "*addition*", "*modification*" or "*replacement*", the relevant text of IEC 61558-1:2017 is to be adapted accordingly.

In this document, 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 document, the words in **bold** are defined in Clause 3.

Subclauses, notes, figures and tables additional to those in IEC 61558-1:2017 are numbered starting from 101; supplementary annexes are entitled AA, BB, etc.

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

- reconfirmed,
- withdrawn, or
- revised.

INTRODUCTION

IEC TC 96 has a group safety function in accordance with IEC Guide 104 for transformers other than those intended to supply distribution networks, in particular transformers and **power supply units** intended to allow the application of protective measures against electric shock as defined by TC 64, which is about electrical installations and protection against electric shock, but in certain cases including the limitation of voltage and horizontal safety function for SELV, in accordance with IEC 60364-4-41.

The group safety function (GSF) is used because of responsibility for **safety extra-low voltage (SELV)** in accordance with IEC 61140:2016, 5.2.6 and IEC 60364-4-41:2005, 414.3.1 or control circuits in accordance with IEC 60204-1:2016, 7.2.4.

The group safety function is used for each part of IEC 61558-2 because different standards of the IEC 61558 series can be combined in one construction but in certain cases with no limitation of **rated output** power.

For example an auto-transformer in accordance with IEC 61558-2-13 can be designed with a separate **SELV-circuit** in accordance with the particular requirements for IEC 61558-2-6 relating to the general requirements of IEC 61558-1.