
**Varnost transformatorjev, dušilk, napajalnikov in kombinacij teh elementov - 2-8.
del: Posebne zahteve in preskusi za transformatorje in napajalnike za zvonce in
gonge**

Safety of transformers, reactors, power supply units and combinations thereof - Part 2-8:
Particular requirements and tests for transformers and power supply units for bells and
chimes

Sécurité des transformateurs, bobines d'inductance, blocs d'alimentation et des
combinaisons de ces éléments - Partie 2-8: Règles particulières et essais pour les
transformateurs et blocs d'alimentation pour sonneries et carillons

Ta slovenski standard je istoveten z: prEN IEC 61558-2-8:2023

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Transformatorji. Dušilke

Transformers. Reactors

oSIST prEN IEC 61558-2-8:2023

en



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TITLE:

Safety of transformers, reactors, power supply units and combinations thereof - Part 2-8: Particular requirements and tests for transformers and power supply units for bells and chimes

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**SAFETY OF TRANSFORMERS, REACTORS,
POWER SUPPLY UNITS AND COMBINATIONS THEREOF –****Part 2-8: Particular requirements and tests for transformers
and power supply units for bells and chimes**

FOREWORD

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International standard IEC 61558-2-8 has been prepared by IEC technical committee 96: Transformers, reactors, power supply units and combinations thereof.

This third edition cancels and replaces the second edition published in 2010. 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) new symbol for power supply unit with linearly regulated output voltage.

92 The text of this document is based on the following documents:

Draft	Report on voting
96/XXX/FDIS	96/XXX/RVD

93
94 Full information on the voting for its approval can be found in the report on voting indicated in
95 the above table.

96 The language used for the development of this document is English.

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

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

102 This document is to be used in conjunction with IEC 61558-1:2017.

103 This document supplements or modifies the corresponding clauses in IEC 61558-1:2017, so as
104 to convert that publication into the IEC standard: *Particular requirements and tests for*
105 *transformers and power supply units for bells and chimes*.

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

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

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

112 In this document, the following print types are used: *sist/64539dc2-2add-4c49-92ea-*

113 – requirements proper: in roman type;

114 – *test specifications: in italic type*;

115 – explanatory matter: in smaller roman type.

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

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

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

- 122 • reconfirmed,
- 123 • withdrawn,
- 124 • replaced by a revised edition, or
- 125 • amended.

126

127

INTRODUCTION

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

133 The group safety function (GSF) is used because of responsibility for example for safety extra-
134 low voltage (SELV) in accordance with IEC 61140:2016, 5.2.6 and IEC 60364-4-41:2005,
135 414.3.1 or control circuits in accordance with IEC 60204-1:2016, 7.2.4.

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

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

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<https://standards.iteh.ai/catalog/standards/sist/64539dc2-2add-4c49-92ea-fa3ad814dc58/osist-pren-iec-61558-2-8-2023>

**SAFETY OF TRANSFORMERS, REACTORS,
POWER SUPPLY UNITS AND COMBINATIONS THEREOF –**

**Part 2-8: Particular requirements and tests for transformers
and power supply units for bells and chimes**

1 Scope

Replacement

This part of IEC 61558 deals with the safety of **bell and chime transformers** and **power supply units** incorporating **bell and chime transformers**. **Transformers** incorporating **electronic circuits** are also covered by this document.

NOTE 1 Safety includes electrical, thermal and mechanical aspects.

Unless otherwise specified, from here onward, the term **transformer** covers **bell and chime transformers** and **power supply units** incorporating **bell and chime transformers**.

For **power supply units** (linear) this document is applicable. For **switch mode power supply units** IEC 61558-2-16 is applicable together with this document. Where two requirements are in conflict, the most severe take precedence.

This document is applicable to **stationary**, single-phase, air-cooled (natural or forced) **independent** or **associated dry-type transformers**. The windings can be encapsulated or non-encapsulated.

The **rated supply voltage** does not exceed 250 V AC and the **rated supply frequency** and the **internal operating frequencies** do not exceed 500 Hz.

The **rated output** does not exceed 100 VA.

The **no-load output voltage** does not exceed 33 V AC or 46 V ripple-free DC, and the **rated output voltage** does not exceed 24 V AC, or 33 V ripple-free DC.

Bell and chime transformers are generally intended to supply domestic sound signalling equipment and other similar devices where the load is applied for short periods of time.

NOTE 2 A partial load can be applied for illumination purposes.

This document is not applicable to external circuits and their components intended to be connected to the input terminals and output terminals of the **transformers**.

NOTE 3 **Transformers** covered by this document are only used in applications where **double** or **reinforced insulation** between circuits is required by the installation rules or by the end product standard.

NOTE 4 Normally the **transformers** are intended to be used with equipment to provide voltages different from the supply voltage for the functional requirements of the equipment. The protection against electric shock can be provided or completed by other features of the equipment, such as the **body**. Parts of **output circuits** can be connected to the **input circuits** or to protective earthing.

This document is applicable to **transformers** associated with specific equipment, to the extent decided upon by the relevant IEC technical committees.

Attention is drawn to the following, if necessary:

- measures to protect the **enclosure** and the components inside the enclosure against external influences such as fungus, vermin, termites, solar-radiation, and icing;
- the different conditions for transportation, storage, and operation of the **transformers**;
- additional requirements in accordance with other appropriate standards and national rules can be applicable to **transformers** intended for use in special environments.

Future technological development of **transformers** can necessitate a need to increase the upper limit of the frequencies. Until then this document can be used as a guidance document.

This group safety publication focusing on safety guidance is primarily intended to be used as a product safety standard for the products mentioned in the scope but is also intended to be used by technical committees in the preparation of publications for products similar to those mentioned in the scope of this group safety publication, in accordance with the principles laid down in IEC Guide 104 and ISO/IEC Guide 51.

One of the responsibilities of a technical committee is, wherever applicable, to make use of basic safety publications and/or group safety publications in the preparation of its publications.

2 Normative references

This clause of IEC 61558-1:2017 is applicable except as follows:

Addition

IEC 61558-1:2017, *Safety of transformers, reactors, power supply units and combinations thereof – Part 1: General requirements and tests*

IEC 61558-2-16:2021, *Safety of transformers, reactors, power supply units and combinations thereof - Part 2-16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units for general applications*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 61558-1:2017 apply, except as follows:

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

Addition

3.1.101

bell and chime transformer

single-phase **safety isolating transformer** specifically intended to supply household sound signalling equipment and other similar devices

4 General requirements

This clause of IEC 61558-1:2017 is applicable.

5 General notes on tests

This clause of IEC 61558-1:2017 is applicable.

6 Ratings

This clause of IEC 61558-1:2017 is applicable except as follows:

Addition

6.101 The **rated output voltage** shall not exceed 24 V AC or 33 V ripple-free DC.

For **independent transformers**, this **output voltage** limitation applies even when **output windings**, not intended for interconnection, are connected in series.

6.102 The **rated output** shall not exceed 100 VA.

6.103 The **rated supply frequency** and the **internal operating frequencies** shall not exceed 500 Hz.

6.104 The **rated supply voltage** shall not exceed 250 V AC.

Compliance with the requirements of 6.101 to 6.104 is checked by inspection of the marking.

7 Classification

This clause of IEC 61558-1:2017 is applicable except as follows:

7.2

Replacement

According to short-circuit characteristic or protection against abnormal use:

- **inherently short-circuit proof transformers;**
- **non-inherently short-circuit proof transformers;**
- **fail-safe transformers.**

7.4

Replacement

According to their mobility:

- **fixed transformers.**