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Edition 2.1 2020-11
CONSOLIDATED VERSION

INTERNATIONAL STANDARD

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Power transformers –
Part 10-1: Determination of sound levels – Application guide

INTERNATIONAL
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IEC 60076-10-1:2016-03+AMD1:2020-11 CSV(en)

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POWER TRANSFORMERS –

Part 10-1: Determination of sound levels – Application guide

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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IEC 60076-10-1 edition 2.1 contains the second edition (2016-03) [documents 14/847/FDIS and 14/850/RVD] and its amendment 1 (2020-11) [documents 14/1037/CDV and 14/1047/RVC].

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

International Standard IEC 60076-10-1 has been prepared by technical committee 14: Power transformers.

This second edition constitutes a technical revision.

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

a) extended information on sound fields provided;
b) effect of current harmonics in windings enfolded;
c) updated information on measuring methods sound pressure and sound intensity given;
d) supporting information on measuring procedures walk-around and point-by-point given;
e) clarification of A-weighting provided;
f) new information on frequency bands given;
g) background information on measurement distance provided;
h) new annex on sound-built up due to harmonic currents in windings introduced.

This standard is to be read in conjunction with IEC 60076-10.

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

A list of all parts in the IEC 60076 series, published under the general title *Power transformers*, can be found on the IEC website.

The committee has decided that the contents of the base publication and its amendment will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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POWER TRANSFORMERS –

Part 10-1: Determination of sound levels – Application guide

1 Scope

This part of IEC 60076 provides supporting information to help both manufacturers and purchasers to apply the measurement techniques described in IEC 60076-10. Besides the introduction of some basic acoustics, the sources and characteristics of transformer and reactor sound are described. Practical guidance on making measurements is given, and factors influencing the accuracy of the methods are discussed. This application guide also indicates why values measured in the factory may differ from those measured in service.

This application guide is applicable to transformers and reactors together with their associated cooling auxiliaries.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60076-10:2016, *Power transformers – Part 10: Determination of sound levels*

IEC 60076-10-1

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FINAL VERSION

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