BS EN IEC 60477-2:2022

BSI Standards Publication

Laboratory resistors

Part 2: Laboratory AC resistors

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National foreword

This British Standard is the UK implementation of EN IEC 60477-2:2022. It is identical to IEC 60477-2:2022. It supersedes BS EN 60477-2:1999, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PEL/85, Measuring equipment for electrical and electromagnetic quantities.

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

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EUROPEAN STANDARD

NORME EUROPÉENNE

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EN IEC 60477-2

May 2022

ICS 17.220.20; 31.040.01

Supersedes EN 60477-2:1997 + A1:1997

English Version

Laboratory resistors - Part 2: Laboratory AC resistors (IEC 60477-2:2022)

Résistances de laboratoire - Partie 2: Résistances de laboratoire à courant alternatif (IEC 60477-2:2022)

Labor-Widerstände - Teil 2: Labor-Wechselstromwiderstände (IEC 60477-2:2022)

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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

The text of document 85/822/FDIS, future edition 2 of IEC 60477-2, prepared by IEC/TC 85 "Measuring equipment for electrical and electromagnetic quantities" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60477-2:2022.

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) 2023-02-04
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2025-05-04

This document supersedes EN 60477-2:1997 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.

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Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60477-1	-	Laboratory resistors - Part 1: Laboratory-DC resistors		-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

LABORATORY RESISTORS –

Part 2: Laboratory AC resistors

FOREWORD

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IEC 60477-2 has been prepared by IEC technical committee 85: Measuring equipment for electrical and electromagnetic quantities. It is an International Standard.

This second edition cancels and replaces the first edition published in 1979, and Amendment 1:1997. This edition constitutes a technical revision.

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

a) extended the AC resistor frequency range to 1 MHz;
b) updated the terms and definitions according to IEC 60050 series;
c) added the definition of AC/DC difference of an AC resistor;
d) added the resistor classification according to the AC resistance or AC/DC difference index;
e) updated the classification according to the AC resistor construction;
f) updated the safety symbols and requirements according to IEC 60477-1;
g) added the three-element equivalent circuits of an AC resistor in Annex C;

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h) added the annex on constructions of AC resistors.

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

Draft	Report on voting
85/822/FDIS	85/825/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.

A list of all parts in the IEC 60477 series, published under the general title *Laboratory resistors*, can be found on the IEC website.

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.

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

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LABORATORY RESISTORS –

Part 2: Laboratory AC resistors

1 Scope

This part of IEC 60477 applies to resistors intended as laboratory AC resistors for use over a range of frequencies from DC up to a stated frequency which is not in excess of 1 MHz. Such resistors are hereinafter referred to as "AC resistors".

In addition to satisfying the requirements of IEC 60477-1, resistors satisfying the requirements of this document are designed to have a small variation of resistance and a small phase displacement over the stated frequency range.

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 60477-1, *Laboratory resistors – Part 1: Laboratory DC resistors*

3 Terms and definitions

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

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

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

3.1
equivalent electric circuit
circuit composed of ideal circuit elements which has, at the terminals or ports, a behaviour equivalent to that of a given electric or magnetic circuit or device

Note 1 to entry: Equivalent electric circuits can also be used to represent other kinds of devices or phenomena.

[SOURCE: IEC 60050-131:2002, 131-15-07]

3.2
circuit element
in electromagnetism, mathematical model of a device characterized by one or more relations between integral quantities

[SOURCE: IEC 60050-131:2002, 131-11-03]

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