# IEC 60477-2

Edition 2.0 2022-03

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

## Laboratory resistors –
## Part 2: Laboratory AC resistors

**Résistances de laboratoire –**
**Partie 2: Résistances de laboratoire à courant alternatif**



IEC 60477-2:2022-03

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## 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;

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- withdrawn,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.

# 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]