BS EN 60062:2016+A1:2019
Incorporating corrigendum December 2016



BSI Standards Publication

# Marking codes for resistors and capacitors

bsi.

# National foreword

This British Standard is the UK implementation of EN 60062:2016+A1:2019. It is identical to IEC 60062:2016, incorporating corrigendum December 2016 and amendment 1:2019. It supersedes BS EN 60062:2016, which is withdrawn.

The start and finish of text introduced or altered by corrigendum is indicated in the text by tags. Text altered by IEC corrigendum December 2016 is indicated in the text by [AC1⟩ ⟨AC1].

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The UK participation in its preparation was entrusted to Technical Committee EPL/40X, Capacitors and resistors for electronic equipment.

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

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**EN 60062:2016+A1**

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English Version

# Marking codes for resistors and capacitors (IEC 60062:2016)

Codes de marquage des résistances et des condensateurs (IEC 60062:2016)

Kennzeichnung von Widerständen und Kondensatoren (IEC 60062:2016)

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## European foreword

The text of document 40/2465/FDIS, future edition 6 of IEC 60062, prepared by IEC/TC 40 "Capacitors and resistors for electronic equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60062:2016.

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This document supersedes EN 60062:2005.

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In the official version, for Bibliography, the following note has to be added for the standard indicated :

| | | |
|---|---|---|
| ISO 1043-1 | NOTE | Harmonized as EN ISO 1043-1. |

## Foreword to amendment A1

The text of document 40/2622/CDV, future IEC 60062/A1, prepared by IEC/TC 40 "Capacitors and resistors for electronic equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60062:2016/A1:2019.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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# MARKING CODES FOR RESISTORS AND CAPACITORS

## FOREWORD

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International Standard IEC 60062 has been prepared by IEC technical committee 40: Capacitors and resistors for electronic equipment.

This sixth edition cancels and replaces the fifth edition published in 2004 and constitutes a technical revision.

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

- introduction of the new code colour pink for the coding of the multiplier $10^{-3}$;
- introduction of new subclauses, 3.2 Prescription of code colours, 3.3 Methods for marking resistance value and tolerance, 3.4 Methods for TCR marking, for improved clarity, the subjects of colour assignment, coding of R value and tolerance, and coding of TCR is dealt with in separate clauses;
- inclusion of illustrations for TCR marking by interrupted colour band;
- inclusion of a new subclause on a fixed length code marking, fixed length code marking of resistance values with up to 3 significant digits, hence a fixed code length of 4 digits, and

fixed length code marking of capacitance values with up to 2 significant digits, hence a fixed code length of 3 digits;

- introduction of two new clauses, Clause 6, Coding of properties specific to capacitors and Clause 7, Coding of properties specific to resistors;
- introduction of Annex A, Special three character coding of resistance value with three significant numerals.

A1 • introduction of Annex B, Special two-character code system for capacitors. A1

The text of this standard is based on the following documents:

| FDIS | Report on voting |
|---|---|
| 40/2465/FDIS | 40/2473/RVD |

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

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

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

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

The contents of the corrigendum of December 2016 have been included in this copy.

**IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.**

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# MARKING CODES FOR RESISTORS AND CAPACITORS

## 1 Scope

This International Standard specifies designation and marking codes for capacitors and resistors.

It provides coding methods for the resistance or capacitance value and its tolerance, including colour coding for resistors.

It provides coding for parameters specific either to capacitors, like e.g. the dielectric material, or to resistors, like e.g. the temperature coefficient of resistance (TCR).

It also provides date code systems suitable for the marking of small components.

## 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 60063, *Preferred number series of resistors and capacitors*

IEC 60757, *Code for designation of colours*

ISO 8601, *Data elements and interchange formats – Information interchange – Representation of dates and times*

## 3 Colour code for fixed resistors

### 3.1 General rules

Colour code is applied in a sequence of individual solid colour bands.

〚AC1〛 Wherever possible, the first band shall be the one nearest to the end of the resistor and the bands shall be so placed and spaced that there can be no confusion in reading the coding.

The design width of the band used for marking the tolerance shall be at least 1,5 times the width of the other bands in order to avoid any confusion.

NOTE The design width is not intended to be measured. 〚AC1〛

Any additional coding shall be so applied as not to confuse the coding for value and tolerance.

Although colour bands are expected to be complete rings around the perimeter of a cylindrical resistor body, incidental interruption of a band shall be permissible if at least two thirds of the band is visible from any radial angle of view.

### 3.2 Prescription of code colours

The colours black, brown, red, orange, yellow, green, blue, violet, grey and white are used for the coding of the figures 0 through 9 for each significant numeral. 〚AC1〛 Complemented with the