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colour inside

Marking codes for resistors and capacitors

Codes de marquage des résistances et des condensateurs

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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MARKING CODES FOR RESISTORS AND CAPACITORS

FOREWORD

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This Consolidated version is not an official IEC Standard and has been prepared for user convenience. Only the current versions of the standard and its amendment(s) are to be considered the official documents.

This Consolidated version of IEC 60062 bears the edition number 6.1. It consists of the sixth edition (2016-07) [documents 40/2465/FDIS and 40/2473/RVD], its corrigendum (2016-12) and its amendment 1 (2019-08) [documents 40/2622/CDV and 40/2661/RVC]. The technical content is identical to the base edition and its amendment.

This Final version does not show where the technical content is modified by amendment 1. A separate Redline version with all changes highlighted is available in this publication.

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

This sixth edition 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.
- introduction of Annex B, Special two-character code system for capacitors.

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

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

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- withdrawn,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

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.

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 as a sequence of individual solid colour bands.

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.

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. Complemented with the