

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Fixed capacitors for use in electronic equipment -
Part 14-1: Blank detail specification - Fixed capacitors for electromagnetic
interference suppression and connection to the supply mains - Assessment
level DZ**

**Condensateurs fixes utilisés dans les équipements électroniques -
Partie 14-1: Spécification particulière-cadre - Condensateurs fixes
d'antiparasitaire et raccordement à l'alimentation - Niveau d'assurance DZ**



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**Fixed capacitors for use in electronic equipment -
Part 14-1: Blank detail specification - Fixed capacitors for
electromagnetic interference suppression and connection
to the supply mains - Assessment level DZ**

FOREWORD

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IEC 60384-14-1 has been prepared by IEC technical committee 40: Capacitors and resistors for electronic equipment. It is an International Standard.

This fourth edition cancels and replaces the third edition published in 2016. This edition constitutes a technical revision.

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

- a) the tables for dimensions have been replaced with a guidance text in the document;
- b) the possibility to give the requirements for the service in DC applications and in high humidity conditions have been added;
- c) the changes in this document in comparison with the previous edition are given in Annex B.

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

Draft	Report on voting
40/3237/FDIS	40/3250/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.

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/publications.

A list of all parts in the IEC 60384 series, published under the general title *Fixed capacitors for use in electronic equipment*, can be found on the IEC website.

This International Standard is to be used in conjunction with IEC 60384-1 and IEC 60384-14:2023.

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, or
- revised.

INTRODUCTION

0 Blank detail specification

0.1 General

This blank detail specification forms the basis for a uniform procedure for a common international safety mark. It implements the approval schedule for safety tests in IEC 60384-14, specifies a declaration of design for parameters relevant to safety and indicates conformance tests to be conducted on every lot prior to its release and requalification tests depending on changes to the declared design.

This specification offers the assessment level DZ (zero defects).

A blank detail specification is a supplementary document to the sectional specification and contains requirements for style, layout and minimum content of detail specifications. Detail specifications not complying with these requirements are not considered as being in accordance with IEC specifications, nor should they so be described.

In the preparation of detail specifications, refer to IEC 603984-14:2023, Clause 7.

0.2 Identification of the detail specification

The first page of the detail specification should have the layout recommended on the next page of this blank detail specification. The numbers between square brackets in the layout correspond to the following information in [1] to [4] which should be inserted at the position indicated:

- [1] The "International Electrotechnical Commission" or the National Standards Organization under whose authority the detail specification is drafted.
- [2] The IEC or National Standards number of the detail specification, date of issue and any further information required by the national system.
- [3] The number and issue number of the IEC, or national, generic, or sectional specification, as relevant.
- [4] If different from the IEC number, the national number of the detail specification, date of issue and any further information required by the national system, together with any amendment numbers.

0.3 Identification of the capacitor

The numbers between square brackets in the layout correspond to the following information in [5] to [9] which should be inserted at the position indicated.

- [5] A short description of the type of capacitor or range of capacitors. The text should be suitable for an entry in the IECQ register of approvals.
- [6] Information on typical construction (when applicable). The text should be suitable for an entry in the IECQ register of approvals.
- [7] Outline drawing with main dimensions which are of importance for either interchangeability or reference to the appropriate national or international documents for outlines. Alternatively, the drawing can be given in an annex to the detail specification, but [7] should always contain an illustration of the general outer appearance of the component.
- [8] The level(s) of quality assessment covered by the detail specification, as appropriate.
- [9] Reference data giving information on the most important properties of the component which allow comparison between the various component types intended for the same or similar applications.

[1]	appropriate national or international detail specification number	[2]
ELECTRONIC COMPONENTS OF ASSESSED QUALITY IN ACCORDANCE WITH: IEC 60384-1 IEC 60384-14	[3]	IEC 60384-14-1 [4]
Outline drawing: [see Table 1] [first angle projection] [Other shapes are permitted within the dimensions given]	[7]	FIXED CAPACITORS FOR ELECTROMAGNETIC INTERFERENCE SUPPRESSION AND CONNECTION TO THE SUPPLY MAINS (ASSESSMENT LEVEL DZ) [5]
		TYPICAL CONSTRUCTION (Examples) [6]
		Class/subclass [8]
Information on the availability of components qualified to this detail specification is given in the Qualified products list.		[9]

Sample Document

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1 Scope

This part of IEC 60384-14 is applicable to the drafting of detail specifications for fixed capacitors and resistor-capacitor combinations for which both safety and performance tests based on assessment level DZ, are required for use in electronic equipment.

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 60384-14:2023, *Fixed capacitors for use in electronic equipment - Part 14: Sectional specification - Fixed capacitors for electromagnetic interference suppression and connection to the supply mains*

3 Terms and definitions

No terms and definitions are listed in this document.

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

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

4 General information

4.1 Recommended method(s) of mounting (to be inserted)

Method(s) of mounting shall be in accordance with IEC 60384-14:2023, 7.3.

4.2 Dimensions

The dimensions expressed as maximum dimensions or as nominal dimensions with a tolerance shall be given in the manufacturer's specification.

4.3 Ratings and characteristics

Ratings and characteristics are as listed below:

- a) capacitance range;
- b) tolerance on nominal capacitance;
- c) rated voltage;
- d) rated current (if applicable);
- e) climatic category;
- f) rated temperature;
- g) tangent of loss angle;
- h) insulation resistance;
- i) category of passive flammability.

Values of capacitance related to the rated voltage, dimensions and ordering code or type designation shall be given in the manufacturer's specification.

4.4 Marking

The marking of the capacitor, if any, and the packaging shall be in accordance with the requirements of IEC 60384-14:2023, Clause 6.

The details of the marking of the component and packaging shall be given in full in the detail specification.

4.5 Ordering information

Orders for capacitors covered by this specification shall contain, in clear or in coded form, the following information:

- a) nominal capacitance;
- b) tolerance on nominal capacitance;
- c) rated voltage;
- d) manufacturer's type designation;
- e) number and issue reference of the detail specification and style reference.

4.6 Certified records of released lots

Certified records of released lots shall be indicated as "required" or "not required" by the customer.

4.7 Additional information (not required for inspection purposes)

Any additional information, which is not for inspection purposes, but which is relevant for the customer, can be included in this specification.

4.8 Requirements in the case that the components are qualified in accordance with Annex H or Annex I of IEC 60384-14:2023

4.8.1 Additional requirements for use in DC applications (Annex H)

In case the specified rated DC voltage exceeds the rated AC voltage, for which the capacitor is qualified, the detail specification shall define:

- the intended rated DC voltage;
- the additional test conditions as given in IEC 60384-14:2023, Table H.1, which shall be used for qualification and conformance testing.

4.8.2 Additional requirements for use under high humidity operating conditions (Annex I)

In case the capacitors are specified for use in applications, where high stability under high humidity operating conditions is required, the detail specification shall define:

- the applicable humidity robustness grade;
- the related test condition and requirements as given in IEC 60384-14:2023, Clause I.3 and Table I.1, which shall be used for qualification and conformance testing.

4.9 Additional or increased severities or requirements to those specified either in the generic or in the sectional specification

Additional or increased requirements should be specified only when essential. They should be given in Table 1.