

**Fixed inductors for electromagnetic interference
suppression - Part 2: Sectional specification**

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 60938-2:2002 sisaldab Euroopa standardi EN 60938-2:1999 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 18.12.2002 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 60938-2:2002 consists of the English text of the European standard EN 60938-2:1999.

This standard is ratified with the order of Estonian Centre for Standardisation dated 18.12.2002 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

The standard is available from Estonian standardisation organisation.

ICS 29.100.10, 31.020

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EUROPEAN STANDARD

EN 60938-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 1999

ICS 29.100.10; 31.020

Supersedes **EN 138100:1996**

English version

Fixed inductors for electromagnetic interface suppression
Part 2: Sectional specification
(IEC 60938-2:1999)

Inductances fixes d'antiparasitage
Partie 2: Spécification intermédiaire
(CEI 60938-2:1999)

Drosseln zur Unterdrückung
elektromagnetischer Störungen
Teil 2: Rahmenspezifikation
(IEC 60938-2:1999)

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 40/1111/FDIS, future edition 2 of IEC 60938-2, prepared by IEC TC 40, Capacitors and resistors for electronic equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60938-2 on 1999-12-01.

This European Standard supersedes EN 138100:1996.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2000-09-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2002-12-01

Annexes designated "normative" are part of the body of the standard.
In this standard, annexes A, B, C, D and ZA are normative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60938-2:1999 was approved by CENELEC as a European Standard without any modification.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE: When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60060-1 + corr. March	1989 1990	High-voltage test techniques Part 1: General definitions and test requirements	HD 588.1 S1	1991
IEC 60063	1963	Preferred number series for resistors and capacitors	-	-
A1	1967		-	-
A2	1977		-	-
IEC 60085	1984	Thermal evaluation and classification of electrical insulation	HD 566 S1	1990
IEC 60279	1969	Measurement of the winding resistance of an a.c. machine during operation at alternating voltage	-	-
IEC 60938-1	1999	Fixed inductors for electromagnetic interference suppression Part 1: Generic specification	EN 60938-1	1999
ISO 3	1973	Preferred numbers - Series of preferred numbers	-	-

INTERNATIONAL STANDARD

NORME INTERNATIONALE

QC 280100

**Fixed inductors for electromagnetic interference suppression –
Part 2: Sectional specification**

**Inductances fixes d'antiparasitage –
Partie 2: Spécification intermédiaire**



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INTERNATIONAL STANDARD

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**Fixed inductors for electromagnetic interference suppression –
Part 2: Sectional specification**

**Inductances fixes d'antiparasitage –
Partie 2: Spécification intermédiaire**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**FIXED INDUCTORS FOR ELECTROMAGNETIC
INTERFERENCE SUPPRESSION –****Part 2: Sectional specification**

FOREWORD

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International Standard IEC 60938-2 has been prepared by IEC technical committee 40: Capacitors and resistors for electronic equipment.

This second edition cancels and replaces the first edition published in 1988.

This bilingual version, published in 2008-08, corresponds to the English version.

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

FDIS	Report on voting
40/1111/FDIS	40/1137/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.

The French version of this standard has not been voted upon.

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

A list of all parts of the IEC 60938 series, under the general title: *Fixed inductors for electromagnetic interference suppression*, can be found on the IEC website.

The QC number that appears on the front cover of this publication is the specification number in the IEC Quality Assessment System for Electronic Components (IECQ).

The committee has decided that the contents of this publication will remain unchanged until the maintenance result 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.

FIXED INDUCTORS FOR ELECTROMAGNETIC INTERFERENCE SUPPRESSION –

Part 2: Sectional specification

1 General

1.1 Scope

This International Standard applies to fixed inductors designed for electromagnetic interference suppression and which fall within the scope of the generic specification, IEC 60938-1. It is restricted to fixed inductors for which safety tests are appropriate. This implies that inductors specified according to this specification will either be connected to mains supplies, when compliance with the mandatory tests of Table 1 is necessary, or used in other circuit positions where the equipment specification prescribes that some or all of these safety tests are required.

This standard applies to fixed inductors which will be connected to an a.c. mains or other supply with a nominal voltage not exceeding 1 000 V a.c. (r.m.s.) or d.c. between conductors and with a nominal frequency not exceeding 400 Hz.

1.2 Object

The object of this standard is to prescribe standard requirements for safety tests and standard ratings and characteristics, to select from IEC 60938-1 the appropriate methods of test and to give general performance requirements for suppression inductors. Test severities and performance requirements prescribed in detail specifications referring to this sectional specification shall be of equal or higher performance level. In addition, the minimum requirements for safety tests specified herein always apply.

1.3 Normative references

The following referenced documents are indispensable for the application 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 60060-1:1989, *High-voltage test techniques – Part 1: General definitions and test requirements*

IEC 60063:1963, *Preferred number series for resistors and capacitors*

Amendment 1 (1967)

Amendment 2 (1977)

IEC 60068-1, *Environmental testing – Part 1: General and guidance*

IEC 60085:1984, *Thermal evaluation and classification of electrical insulation*¹⁾

IEC 60279:1969, *Measurement of the winding resistance of an a.c. machine during operation at alternative voltage*²⁾

IEC 60294, *Measurement of the dimensions of a cylindrical component having two axial terminations*

1) A new edition of this publication exists.

2) Withdrawn

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

IEC 60938-1:1999, *Fixed inductors for electromagnetic interference suppression – Part 1: Generic specification*

IEC 60938-2-1:1999, *Fixed inductors for electromagnetic interference suppression – Part 2-1: Blank detail specification – Inductors for which safety tests are required – Assessment level D*

IEC 60938-2-2:1999, *Fixed inductors for electromagnetic interference suppression – Part 2-2: Blank detail specification – Inductors for which safety tests are required (only)*

CISPR 16-1-1:2003, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-1: Radio disturbance and immunity measuring apparatus – Measuring apparatus³⁾*

CISPR 16-1-2:2003, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-2: Radio disturbance and immunity measuring apparatus – Ancillary equipment – Conducted disturbances*

ISO 3:1973, *Preferred numbers – Series of preferred numbers*

1.4 Information to be given in a detail specification

1.4.1 General

Detail specifications shall be derived from the relevant blank detail specification.

Detail specifications shall not specify requirements inferior to those of the generic or sectional specification. When more severe requirements are included they shall be listed in 1.8 of the detail specification and indicated in the test schedules, for example by an asterisk.

NOTE The information given in 1.4.2 may, for convenience, be presented in tabular form.

The information given in 1.4.2 to 1.4.5 shall be given in each detail specification and the values quoted shall preferably be selected from those given in the appropriate clause of this sectional specification.

1.4.2 Outline drawing and dimensions

There shall be an illustration of the inductor as an aid to easy recognition and for comparison of the inductor with others. Dimensions and their associated tolerances, which affect interchangeability and mounting, shall be indicated upon the drawing. All dimensions shall be stated in millimetres.

Normally the numerical values shall be given for the length of the body, the width and height of the body or for cylindrical types, the body diameter, and the length and diameter of the terminations. When necessary, for example when a number of items (inductance values/voltage ranges) are covered by a detail specification, the dimensions and their associated tolerances shall be placed in a table below the drawing.

When the configuration is other than described above, the detail specification shall state such dimensional information as will adequately describe the inductor. When the inductor is not designed for use on printed boards, this shall be clearly stated in the detail specification.

³⁾ A new edition of this publication exists.