
**Fiksne dušilke za dušenje elektromagnetnega motenja - 2-1. del: Okvirna
podrobna specifikacija - Dušilke, za katere so potrebni varnostni preskusi - Raven
ocenjevanja D**

Fixed inductors for electromagnetic interference suppression - Part 2-1: Blank detail
specification - Inductors for which safety tests are required - Assessment level D

Drosseln zur Unterdrückung elektromagnetischer Störungen - Teil 2-1: Vordruck für
Bauartspezifikation - Drosseln, für die Sicherheitsprüfungen erforderlich sind -
Bewertungsstufe D

Inductances fixes d'antiparasitage - Partie 2-1: Spécification particulière cadre -
Inductances nécessitant des essais de sécurité - Niveau d'évaluation D

Ta slovenski standard je istoveten z: prEN IEC 60938-2-1:2022

ICS:

29.180 Transformatorji. Dušilke Transformers. Reactors

oSIST prEN IEC 60938-2-1:2023 en



40/2989/CDV

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IEC TC 40 : CAPACITORS AND RESISTORS FOR ELECTRONIC EQUIPMENT

SECRETARIAT:

Netherlands

SECRETARY:

Mr Ronald Drenthen

OF INTEREST TO THE FOLLOWING COMMITTEES:

PROPOSED HORIZONTAL STANDARD:

Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.

FUNCTIONS CONCERNED:

 EMC ENVIRONMENT QUALITY ASSURANCE SAFETY SUBMITTED FOR CENELEC PARALLEL VOTING NOT SUBMITTED FOR CENELEC PARALLEL VOTING**Attention IEC-CENELEC parallel voting**

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TITLE:

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

PROPOSED STABILITY DATE: 2030

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIXED INDUCTORS FOR ELECTROMAGNETIC INTERFERENCE SUPPRESSION –

Part 2-1: Blank detail specification – Inductors for which safety tests are required

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This second edition cancels and replaces the first edition published in 1999. This edition constitutes a technical revision.

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

- a) It combines IEC 60938-2-1:1999 and IEC 60938-2-2:1999 into one BDS.
- b) Test schedule for quality conformance inspection is moved to an informative Annex

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

Draft	Report on voting
XX/XX/FDIS	XX/XX/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/standardsdev/publications.

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

FIXED INDUCTORS FOR ELECTROMAGNETIC INTERFERENCE SUPPRESSION –

Part 2-1: Blank detail specification – Inductors for which safety tests are required

9 INTRODUCTION

10 Blank detail specification

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

15 In the preparation of detail specifications, the content of 4.3 of the sectional specification shall
16 be taken into account.

17 The numbers between square brackets on the first page of the detail specification correspond
18 to the following information which shall be inserted in the position indicated.

19 Identification of the detail specification

- 20 [1] The "International Electrotechnical Commission" or the National Standards Organization
21 under whose authority the detail specification is drafted.
- 22 [2] The IEC or National Standards number of the detail specification, date of issue and any
23 further information required by the national system.
- 24 [3] The number and issue number of the IEC or national generic specification.
- 25 [4] The IEC number of the blank detail specification.

26 Identification of the inductor

- 27 [5] A short description of the type of inductor.
- 28 [6] Information on typical construction (when applicable).
- 29 [7] Outline drawing with main dimensions which are of importance for interchangeability
30 and/or reference to the national or international documents for outlines. Alternatively,
31 this drawing may be given in an annex to the detail specification.
- 32 [8] Application or group of applications covered and/or assessment level.
- 33 [9] Reference data on the most important properties, to allow comparison between the
34 various inductor types.

35
36

37

[1]	IEC 60938-2-1XX QC XXXXXXXXXXXXX	[2]
ELECTRONIC COMPONENTS OF ASSESSED QUALITY IN ACCORDANCE WITH:	IEC 60938-2-1 QC XXXXXX	[4]
[3]	FIXED INDUCTORS FOR ELECTROMAGNETIC INTERFERENCE SUPPRESSION FOR WHICH SAFETY TESTS ARE REQUIRED	[5]
Outline drawing: (see Table 1) (... angle projection)		
[7]		[6]
(Other shapes are permitted within the dimensions given)		[8]
NOTES [1] to [9] see page 4.		

38

[9]

Information on the availability of components qualified to this detail specification is given in the Register of Approvals.

39

40 1 Scope

41 This part of IEC 60938-2 is applicable to the drafting of detail specifications for fixed inductors
42 for which safety tests are required for use in electronic equipment.

43 2 Normative references

44 The following documents are referred to in the text in such a way that some or all of their
45 content constitutes requirements of this document. For dated references, only the edition
46 cited applies. For undated references, the latest edition of the referenced document (including
47 any amendments) applies.

48 IEC 60938-2:2021, *Fixed inductors for electromagnetic interference suppression –*
49 *Part 2: Sectional specification*

50 3 Terms and definitions

51 No terms and definitions are listed in this document.

52 ISO and IEC maintain terminological databases for use in standardization at the following
53 addresses:

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

56 4 General information

57 4.1 Recommended method(s) of mounting

58 The recommended method of mounting for normal use shall be specified. It is mandatory to
 59 use this method for the application of shock and vibration tests. If the design of the inductor
 60 requires special mounting fixtures in its use, the detail specification shall describe the
 61 mounting fixtures and they shall be used in the application of shock and vibration tests. The
 62 specified heat sink shall be used in the application of the endurance test.

63 4.2 Dimensions

64 **Table 1 – Dimensions related to case size**

Case size reference or type	Dimensions					
	mm					
	<i>L</i>	<i>W</i>	<i>H</i>			

NOTE 1 When there is no case size reference, the dimensions should be given per type designation.
 NOTE 2 The dimensions should be given as maximum dimensions or as nominal dimensions with a tolerance.

65 4.3 Ratings and characteristics

66 Nominal inductance (L_N) (see Table 2)

67 Tolerance on inductance

68 Rated current (I_R) (see Table 2)

69 DC resistance (R) (see Table 2)

70 Rated voltage

71 Rated temperature

72 Climatic category

73 Category of passive flammability (optional)

74 **Table 2 – Type designation related to values of inductance, rated current**
 75 **and DC resistance**

Type designation related to values of inductance, rated current and DC resistance	L_N per line mH	I_R A	R_{max} per line Ω

76

77 4.4 Marking

78 The marking of the inductor and the package shall be in accordance with the requirements
 79 of 4.5 of IEC 60938-2:2021.

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

82 **4.5 Ordering information**

83 Orders for inductors covered by this specification shall contain, in clear or in coded form, the
84 following minimum information:

85 a) type designation;

86 b) nominal inductance;

87 c) rated current;

88 d) number and issue reference of the detail specification and style reference.

89 **4.6 Certified records of released lots**

90 Required/non required.

91 **4.7 Additional information (not for inspection purposes)**

92

93 **4.8 Additional or increased severities or requirements to those specified in the** 94 **generic or sectional specification**

95 NOTE Additions or increased requirements should be specified only when essential.

96

Table 3 – Other characteristics

This table is to be used for defining characteristics which are additional to or more severe than those given in the sectional specification.

97

98

99 5 Inspection requirements

100 5.1 Procedures

101 For qualification approval, the procedure shall be in accordance with 5.1 of
102 IEC 60938-2:2021.

103 5.2 Test schedules

104 5.2.1 Initial approval

105 See IEC 60938-2:2021, Annex A and Annex B for sampling plan and test schedule.

106 5.2.2 Conformance tests

107 5.2.2.1 Conformance tests (lot-by-lot)

108 See Table 4.

109 **Table 4 – Conformance tests (lot by lot)**

Subclause number and test (Note 1)	D or ND (Note 3)	Conditions of test (Note 1)	Sample size	Requirements (Note 1)
5.6 Inductance 5.3 Visual examination 5.5 Voltage test	ND		100 % (Note 2)	Within specified tolerance Legible marking and as specified in 4.4 of this specification No permanent breakdown or flashover
<p>NOTE 1 – Clause numbers of test and performance requirements refer to the sectional specification, IEC 60938-2:2021 and Clause 4 of this specification.</p> <p>NOTE 2 – Can be carried out as end-of-line testing.</p> <p>NOTE 3 – D = destructive ND = non destructive</p>				

110 5.2.2.2 Re-qualification

111 Re-qualification tests according to 5.2.1 may be required by the certification body when a
112 change of the declared design as given in Annex A is intended.

113 The certification body shall be informed about the intended change(s) and shall decide
114 whether re-qualification tests have to be performed.

115 As a maximum, a complete re-qualification according to 5.2.1 may be necessary.

116 5.2.3 Quality conformance inspection

117 Annex B gives an example of a test schedule for quality conformance inspection.