
Electromechanical components for electronic equipment - Basic testing procedure and measuring methods - Part 6: Dynamic stress tests - Section 5: Test 6e: Random vibration (IEC 60512-6-5:1997, modified)

Electromechanical components for electronic equipment - Basic testing procedures and measuring methods -- Part 6: Dynamic stress tests -- Section 5: Test 6e: Random vibration

Elektrisch-mechanische Bauelemente für elektronische Einrichtungen - Meß- und Prüfverfahren -- Teil 6: Prüfungen mit dynamisch-mechanischer Beanspruchung -- Hauptabschnitt 5: Prüfung 6e: Schwingen, rauschförmig

[SIST EN 60512-6-5:2002](https://standards.iteh.ai/catalog/standards/sist/9f56cd9-4e0f-4d87-bc53-8820f9c42600/60512-6-5:2002)

Composants électromécaniques pour équipements électroniques - Procédures d'essai de base et méthodes de mesure -- Partie 6: Essais de contraintes dynamiques -- Section 5: Essai 6e: Vibrations aléatoires

Ta slovenski standard je istoveten z: EN 60512-6-5:1999

ICS:

31.220.01	Elektromehanske komponente (sestavni deli, gradniki) na splošno	Electromechanical components in general
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SIST EN 60512-6-5:2002**en**

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EUROPEAN STANDARD
 NORME EUROPÉENNE
 EUROPÄISCHE NORM

EN 60512-6-5

November 1999

ICS 31.220

English version

Electromechanical components for electronic equipment
Basic testing procedures and measuring methods
Part 6: Dynamic stress tests
Section 5: Test 6e: Random vibration
 (IEC 60512-6-5:1997, modified)

Composants électromécaniques pour
 équipements électroniques - Procédures
 d'essai de base et méthodes de mesure
 Partie 6: Essais de contraintes
 dynamiques
 Section 5: Essai 6e: Vibrations
 aléatoires
 (CEI 60512-6-5:1997, modifiée)

Elektrisch-mechanische Bauelemente
 für elektronische Einrichtungen
 Meß- und Prüfverfahren
 Teil 6: Prüfungen mit
 dynamisch-mechanischer
 Beanspruchung
 Hauptabschnitt 5: Prüfung 6e:
 Schwingen, rauschförmig
 (IEC 60512-6-5:1997, modifiziert)

This European Standard was approved by CENELEC on 1999-10-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

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 the International Standard IEC 60512-6-5:1997, prepared by SC 48B, Connectors, of IEC TC 48, Electromechanical components and mechanical structures for electronic equipment, together with common modifications prepared by the Technical Committee CENELEC TC 48B, LF connectors, was submitted to the formal vote and was approved by CENELEC as EN 60512-6-5 on 1999-10-01.

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) 2000-10-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2002-10-01

This standard is to be used in conjunction with EN 60512-1:1994.

Annexes designated "normative" are part of the body of the standard.
In this standard, annex ZA is normative.
Annex ZA has been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 60512-6-5:1997 was approved by CENELEC as a European Standard with agreed common modifications as given below.

COMMON MODIFICATIONS**4 Test method**

Replace the existing subclause 4.1 by:

4.1 This test shall be carried out in accordance with EN 60068-2-64:1994 and, as applicable, using the degree of severity specified in the detail specification.

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<https://standards.iteh.ai/catalog/standards/sist/9f56cd9-4e0f-4d87-bc53-68e22549e78d/sist-en-60512-6-5-2002>

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 60068-2-34 + A1	1973 1983	Environmental testing Part 2: Tests - Test Fd: Random vibration wide band - General requirements	HD 323.2.34 S1	1988
IEC 60068-2-35 + A1	1973 1983	Part 2: Tests - Test Fda: Random vibration wide band - Reproducibility High	HD 323.2.35 S1	1988
IEC 60068-2-36 + A1	1973 1983	Part 2: Tests - Test Fdb: Random vibration wide band - Reproducibility Medium	HD 323.2.36 S1	1988
IEC 60068-2-37 + A1	1973 1983	Part 2: Tests - Test Fdc: Random vibration wide band - Reproducibility Low	HD 323.2.37 S1	1988
IEC 60068-2-64 + corr. October	1993 1993	Part 2: Test methods - Test Fh: Vibration, broad-band random (digital control) and guidance	EN 60068-2-64	1994
IEC 60512-2	1985	Electromechanical components for electronic equipment - Basic testing procedures and measuring methods Part 2: General examination, electrical continuity and contact resistance tests, insulation tests and voltage stress tests	-	-

**NORME
INTERNATIONALE
INTERNATIONAL
STANDARD**

**CEI
IEC**

60512-6-5

Première édition
First edition
1997-10

**Composants électromécaniques
pour équipements électroniques –
Procédures d'essai de base et méthodes
de mesure –**

**Partie 6:
Essais de contraintes dynamiques –
Section 5: Essai 6e: Vibrations aléatoires**

SIST EN 60512-6-5:2002

<https://standards.iteh.ai/catalog/standards/sist/9f56cdf9-4e0f-4d87-bc53-68e2219c76a3/sist-en-60512-6-5-2002>

**Electromechanical components
for electronic equipment –
Basic testing procedures and
measuring methods –**

**Part 6:
Dynamic stress tests –
Section 5: Test 6e: Random vibration**

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTROMECHANICAL COMPONENTS FOR
ELECTRONIC EQUIPMENT –
BASIC TESTING PROCEDURES AND MEASURING METHODS –**

**Part 6: Dynamic stress tests –
Section 5: Test 6e: Random vibration**

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical reports or guides and they are accepted by the National Committees in that sense.
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- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60512-6-5 has been prepared by subcommittee 48B: Connectors, of IEC technical committee 48: Electromechanical components and mechanical structures for electronic equipment.

This standard should be read in conjunction with part 1: General, issued as IEC 60512-1. The complete standard will include other tests which will be issued as they become available.

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

FDIS	Report on voting
48B/601/FDIS	48B/648/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.

ELECTROMECHANICAL COMPONENTS FOR ELECTRONIC EQUIPMENT – BASIC TESTING PROCEDURES AND MEASURING METHODS –

Part 6: Dynamic stress tests – Section 5: Test 6e: Random vibration

1 Scope and object

This section of IEC 60512-6 defines a test method which is intended to assess the ability of components to withstand specified severities of random vibration.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this section of IEC 60512-6. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this section of IEC 60512-6 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60068-2-34:1973, *Environmental testing – Part 2: Tests – Test Fd: Random vibration wide band – General requirements*
Amendment 1 (1983)

IEC 60068-2-35:1973, *Environmental testing – Part 2: Tests – Test Fda: Random vibration wide band – Reproducibility High*
Amendment 1 (1983)

IEC 60068-2-36:1973, *Environmental testing – Part 2: Tests – Test Fdb: Random vibration wide band – Reproducibility Medium*
Amendment 1 (1983)

IEC 60068-2-37:1973, *Environmental testing – Part 2: Tests – Test Fdc: Random vibration wide band – Reproducibility Low*
Amendment 1 (1983)

IEC 60512-2:1985, *Electromechanical components for electronic equipment: Basic testing procedures and measuring methods – Part 2: General examination, electrical continuity and contact resistance tests, insulation tests and voltage stress tests.*

3 Preparation of the specimen

3.1 Specimens shall be equipped with their normal accessories, mounted, and wired as specified by the detail specification.

3.2 Details of the monitoring circuit, including the method and attachment points of sensors on the specimen shall be specified.

3.3 A minimum of 200 mm of wire or cable shall be unsupported on both ends of the specimen, unless the detail specification states otherwise. The wire or cable shall be secured to the vibration fixture bottom plate (or in a similar location).

3.4 When required by the detail specification, the specimens shall be mated and unmated as many times as specified prior to the test.