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Connectors for electronic equipment - Tests and measurements - Part 6-4: Dynamic stress tests - Test 6d: Vibration (sinusoidal) (IEC 60512-6-4:2002)

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**Connectors for electronic equipment -  
Tests and measurements  
Part 6-4: Dynamic stress tests -  
Test 6d: Vibration (sinusoidal)  
(IEC 60512-6-4:2002)**

Connecteurs pour équipements  
électroniques -  
Essais et mesures  
Partie 6-4: Essais de contraintes  
dynamiques -  
Essai 6d: Vibrations (sinusoïdales)  
(CEI 60512-6-4:2002)

Steckverbinder für elektronische  
Einrichtungen -  
Mess- und Prüfverfahren  
Teil 6-4: Prüfungen mit dynamisch-  
mechanischer Beanspruchung -  
Prüfung 6d: Schwingen (sinusförmig)  
(IEC 60512-6-4:2002)

SIST EN 60512-6-4:2003

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This European Standard was approved by CENELEC on 2002-04-01. 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, Malta, 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 document 48B/1141/FDIS, future edition 1 of IEC 60512-6-4, prepared by SC 48B, Connectors, of IEC TC 48, Electromechanical components and mechanical structures for electronic equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60512-6-4 on 2002-04-01.

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) 2003-01-01
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 2005-04-01

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 60512-6-4:2002 was approved by CENELEC as a European Standard without any modification.

SIST EN 60512-6-4:2003

<https://standards.iteh.ai/catalog/standards/sist/296f9c15-8ec1-4d0e-8d46-e0d0ccd195f0/sist-en-60512-6-4-2003>

## 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 60068-2-6 + corr. March	1995 1995	Environmental testing Part 2: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	1995
IEC 60512-1-1	- <sup>1)</sup>	Connectors for electronic equipment - Tests and measurements Part 1-1: General examination - Test 1a: Visual examination	EN 60512-1-1	2002 <sup>2)</sup>
IEC 60512-2-1	- <sup>1)</sup>	Part 2-1: Electrical continuity and contact resistance tests - Test 2a: Contact resistance - Millivolt level method	EN 60512-2-1	2002 <sup>2)</sup>
IEC 60512-2-5	- <sup>3)</sup>	Part 2-5: Electrical continuity and contact resistance tests - Test 2e: Contact disturbance	-	-
IEC 60512-7	1993	Electromechanical components for electronic equipment - Basic testing procedures and measuring methods Part 7: Mechanical operating tests and sealing tests	-	-

1) Undated reference.

2) Valid edition at date of issue.

3) In preparation.

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**60512-6-4**

Première édition  
First edition  
2002-02

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**Connecteurs pour équipements électroniques –  
Essais et mesures –**

**Partie 6-4:  
Essais de contraintes dynamiques –  
Essai 6d: Vibrations (sinusoïdales)**

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**Connectors for electronic equipment –  
Tests and measurements –**

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**Part 6-4:  
Dynamic stress tests –  
Test 6d: Vibration (sinusoidal)**

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Commission Electrotechnique Internationale  
International Electrotechnical Commission  
Международная Электротехническая Комиссия

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**CONNECTORS FOR ELECTRONIC EQUIPMENT –  
TESTS AND MEASUREMENTS –****Part 6-4: Dynamic stress tests –  
Test 6d: Vibration (sinusoidal)**

## 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 specifications, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 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 60512-6-4 has been prepared by subcommittee 48B: Connectors, of IEC technical committee 48: Electromechanical components and mechanical structures for electronic equipment.

This standard cancels and replaces test 6d of IEC 60512-4, issued in 1976, and constitutes a technical revision.

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

FDIS	Report on voting
48B/1141/FDIS	48B/1192/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.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 3.

The committee has decided that the contents of this publication will remain unchanged until 2007. At this date, the publication will be

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



## CONNECTORS FOR ELECTRONIC EQUIPMENT – TESTS AND MEASUREMENTS –

### Part 6-4: Dynamic stress tests – Test 6d: Vibration (sinusoidal)

## 1 General

### 1.1 Scope and object

This part of IEC 60512, when required by the detail specification, is used for testing electromechanical components within the scope of IEC technical committee 48. This test may also be used for similar devices when specified in a detail specification.

The object of this test is to define a standard test method to assess the ability of components to withstand specified severities of sinusoidal vibration.

### 1.2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 60512. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of IEC 60512 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60068-2-6:1995, *Environmental testing – Part 2: Tests – Test Fc: Vibration (sinusoidal)*

IEC 60512-1-1, *Connectors for electronic equipment – Tests and measurements – Part 1-1: General examination – Test 1a: Visual examination*

IEC 60512-2-1, *Connectors for electronic equipment – Tests and measurements – Part 2-1: Electrical continuity and contact resistance tests – Test 2a: Contact resistance – Millivolt level method*

IEC 60512-2-5, *Connectors for electronic equipment – Tests and measurements – Part 2-5: Electrical continuity and contact resistance tests – Test 2e: Contact disturbance*

IEC 60512-7:1993, *Connectors for electronic equipment – Tests and measurements – Part 7: Sealing tests*

## 2 Preparation of the specimen

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