

Connectors for electronic equipment - Tests and measurements - Part 1-1: General examination - Test 1a: Visual examination (IEC 60512-1-1:2002)

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EUROPEAN STANDARD

**EN 60512-1-1**

NORME EUROPÉENNE

EUROPÄISCHE NORM

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English version

**Connectors for electronic equipment –  
Tests and measurements  
Part 1-1: General examination –  
Test 1a: Visual examination  
(IEC 60512-1-1:2002)**

Connecteurs pour équipements  
électroniques –  
Essais et mesures  
Partie 1-1: Examen général –  
Essai 1a: Examen visuel  
(CEI 60512-1-1:2002)

Steckverbinder für elektronische  
Einrichtungen –  
Mess- und Prüfverfahren  
Teil 1-1: Allgemeine Untersuchungen –  
Prüfung 1a: Sichtprüfung  
(IEC 60512-1-1:2002)

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**SIST EN 60512-1-1:2003**

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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.

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**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/1128/FDIS, future edition 1 of IEC 60512-1-1, 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 60512-1-1 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- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2005-04-01

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## Endorsement notice

The text of the International Standard IEC 60512-1-1:2002 was approved by CENELEC as a European Standard without any modification.

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# NORME INTERNATIONALE INTERNATIONAL STANDARD

CEI  
IEC  
**60512-1-1**

Première édition  
First edition  
2002-02

## Connecteurs pour équipements électroniques – Essais et mesures –

**Partie 1-1:**  
**Examen général –**

**Test 1a: Examen visuel**

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

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**Part 1-1:**  
**General examination –**  
**Test 1a: Visual examination**

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International Electrotechnical Commission  
Международная Электротехническая Комиссия

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**CONNECTORS FOR ELECTRONIC EQUIPMENT –  
TESTS AND MEASUREMENTS –****Part 1-1: General examination –  
Test 1a: Visual examination****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.
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- 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 60512-1-1 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 1a of IEC 60512-2, issued in 1985, and constitutes a technical revision.

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

FDIS	Report on voting
48B/1128/FDIS	48B/1179/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 1-1: General examination – Test 1a: Visual examination

#### 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 for the visual examination of electromechanical components.

#### 2 General

The visual examination checks the identification, appearance, workmanship and finish of an item against the relevant specification. Optical aids, as specified in clause 4, should be used when specified by the detail specification.

The visual examination is to a certain extent a subjective method. Care must be taken to come to a fair judgement. Defects, deviations from a given standard or changes due to stresses must be carefully differentiated according to their importance or significance.

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#### 3 Features to be examined

The following features shall be examined:

- a) workmanship and finish;
- b) marking;
- c) materials;
- d) surface finish, for example:
  - traces of corrosion;
  - colour (comparison with applicable colour standards or samples);
  - degree of lustre (comparison with an applicable standard, for example Boll's scale or sample);
  - roughness, grooves, waves, scratches, furrows, holes, pores, depressions, crests, scales, cracks, burrs, flash, etc.;
  - foreign material in and on the surface;
- e) internal conditions of translucent materials (for example cavities, gaseous inclusions and flow lines, including inclusions of foreign matter);
- f) condition and location of a lubricant (as far as can be visually ascertained);
- g) loosened and detached parts (especially after stress).

#### 4 Method of visual examination

The visual examination shall be carried out by one of the following methods:

- a) with the naked eye (normal strength of vision, normal colour perception, at the most favourable viewing distance and with suitable illumination);
- b) with magnification, if specified.

For the purpose of this standard, special methods, for example using polarized light (for observing internal tensions in materials) or other indicators (for observing internal material cracks or pores), are not permitted, unless explicitly required by the detail specification.

#### 5 Details to be specified

When this test is required by the detail specification, the following details shall be specified:

- a) details to be examined;
- b) features to be checked;
- c) deficiency criteria;
- d) power of magnification, if specified;
- e) any deviation from the standard test method.

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