

# Connectors for electronic equipment — Tests and measurements —

**Part 16-9: Mechanical tests on contacts  
and terminations — Test 16i: Grounding  
contact spring holding force**

ICS 31.220.10

## National foreword

This British Standard is the UK implementation of EN 60512-16-9:2008. It is identical to IEC 60512-16-9:2008.

The UK participation in its preparation was entrusted to Technical Committee EPL/48, Electromechanical components and mechanical structures for electronic equipment.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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### Amendments/corrigenda issued since publication

Date	Comments

**Connectors for electronic equipment -  
Tests and measurements -  
Part 16-9: Mechanical tests on contacts and terminations -  
Test 16i: Grounding contact spring holding force  
(IEC 60512-16-9:2008)**

Connecteurs  
pour équipements électroniques -  
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Prüfung 16i: Haltekraft der Erdungsfeder  
(IEC 60512-16-9:2008)

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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/1872/FDIS, future edition 1 of IEC 60512-16-9, 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 60512-16-9 on 2008-06-01.

This standard is to be read in conjunction with EN 60512-1 and EN 60512-1-100 which explains the structure of the EN 60512 series.

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) 2009-03-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2011-06-01

Annex ZA has been added by CENELEC.

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## Endorsement notice

The text of the International Standard IEC 60512-16-9:2008 was approved by CENELEC as a European Standard without any modification.

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## CONNECTORS FOR ELECTRONIC EQUIPMENT – TESTS AND MEASUREMENTS –

### Part 16-9: Mechanical tests on contacts and terminations – Test 16i: Grounding contact spring holding force

#### 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 technical committee 48. This test may also be used for similar devices when specified in a detail specification.

The object of this part of IEC 60512 is to detail a standard test method to determine the holding capacity of grounding contact springs by means of gauges.

#### 2 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 60512-1-1, *Connectors for electronic equipment – Tests and measurements – Part 1-1: General examination – Test 1a: Visual examination*

ISO 1302, *Geometrical Product Specification (GPS) – Indication of surface texture in technical product documentation*

#### 3 Preparations

##### 3.1 Preparation of specimen

The specimen shall consist of a component with its terminations, and may be wired if so specified in the component detail specification. If lubricant is specified for use with the contact system, it shall be applied in the manner specified in the component detail specification. Any preconditioning given in the component detail specification shall be applied.

##### 3.2 Equipment

Set(s) of gauges as specified in the component detail specification, shall be provided.

##### 3.3 Mounting

If mounting of the specimen is appropriate, it shall be as specified in the component detail specification.

## 4 Test methods

### 4.1 Method A – Single contact gauges

#### 4.1.1 Female contact springs

Each contact to be tested shall have the maximum size gauge specified, engaged and separated three times. After which, the minimum size retention force gauge specified shall be inserted.

#### 4.1.2 Male contact springs

Each contact to be tested shall have the minimum size gauge specified, engaged and separated three times. After which, the contact shall be inserted into the maximum size retention force gauge specified.

### 4.2 Method B – Multiple contact gauges

As Method A, except that contacts shall be tested in specified groups using gauges having multiple contact engaging elements. After which appropriate individual maximum or minimum gauges shall be used.

### 4.3 Measurements and requirements

#### 4.3.1 Before testing

Visual examination according to IEC 60512-1-1 shall be carried out. There shall be no defects, which would impair the validity of the test.

#### 4.3.2 During testing

Contacts shall support the weight of the individual contact retention force gauge in a vertically downward direction.

#### 4.3.3 After testing

Visual examination according to IEC 60512-1-1 shall be carried out. There shall be no defects that would impair the normal functioning of the component. Special attention shall be given to the resilient features of the specimen.

## 5 Details to be specified

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

- a) whether preconditioning is required;
  - b) nature and means of application of any lubricant to be applied;
  - c) whether the specimen is to be wired, and if so, details of this;
  - d) whether special mounting of the specimen is required;
  - e) details of gauges to be used, including surface roughness, according to ISO 1302;
  - f) number of specimens to be tested;
  - g) any deviation from the standard test method.
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**Annex ZA**  
(normative)

**Normative references to international publications  
with their corresponding European publications**

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.

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 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>
ISO 1302	- <sup>1)</sup>	Geometrical Product Specifications (GPS) - Indication of surface texture in technical product documentation	EN ISO 1302	2002 <sup>2)</sup>

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<sup>1)</sup> Undated reference.

<sup>2)</sup> Valid edition at date of issue.

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