IEC 60512-9-4

Edition 1.0 2011-04

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Connectors for electronic equipment – Tests and measurements – Part 9-4: Endurance tests – Test 9d: Durability of contact retention system and seals (maintenance, ageing)

Connecteurs pour équipements électroniques – Essais et mesures – Partie 9-4: Essais d'endurance – Essai 9d: Durabilité du système de rétention des contacts et des joints d'étanchéité (entretien, vieillissement)

IEC 60512-9-4:2011

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CONNECTORS FOR ELECTRONIC EQUIPMENT – TESTS AND MEASUREMENTS –

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FOREWORD

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International Standard IEC 60512-9-4 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 9d of IEC 60512-5, issued in 1992 and constitutes a technical revision.

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

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

CDV	Report on voting
48B/2123/CDV	48B/2215/RVC

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 2.

A list of all parts in the IEC 60512 series, under the general title *Connectors for electronic equipment – Tests and measurements*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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- withdrawn,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

CONNECTORS FOR ELECTRONIC EQUIPMENT – TESTS AND MEASUREMENTS –

Part 9-4: Endurance tests – Test 9d: Durability of contact retention system and seals (maintenance, ageing)

1 Scope and object

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

The object of this standard is to detail a standard test method to assess the ability of a connector to withstand stresses caused by repeated extraction and insertion of contacts during maintenance.

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, *Connectors for electronic equipment – Tests and measurements – Part 1: General*

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

IEC 60512-1-100, *Connectors for electronic equipment – Tests and measurements – Part 1-100: General – Applicable publications*

IEC 60512-15-1, *Connectors for electronic equipment – Tests and measurements – Part 15-1: Connector tests (mechanical) – Test 15a: Contact retention in insert*

IEC 60512-15-4, *Connectors for electronic equipment – Tests and measurements – Part 15-4: Connector tests (mechanical) – Test 15d: Contact insertion, release and extraction force*

3 Details of test equipment

The test equipment shall consist of insertion and extraction tools as specified in the detail specification.

4 Preparation of the specimen

The specimen shall consist of a component with all contacts installed and wired according to the detail specification.

Loosen or remove any accessories to permit extraction and insertion of contacts. The accessories shall remain loose or be removed during the test.

5 Test method

Unless otherwise specified in the detail specification, for test specimens having fewer than 6 positions, all contacts shall be tested. For test specimens with more than 6 positions, 20 % of contact positions, but not less than 6 nor more than 10, shall be tested in each test specimen. For test specimens with more than 6 positions, the contacts tested shall be chosen at random but shall include at least one contact near the periphery and at least one near the centre of the insert or housing. For components having six or less contacts, all contacts shall be used for the tests.

Unless otherwise specified, there shall be ten extraction and insertion cycles for each contact.

6 Initial measurements

a) Contact retention in insert (IEC 60512-15-1, Test 15a).

b) Contact insertion, release and extraction force (IEC 60512-15-4, Test 15d).

7 Final measurements

a) Contact retention in insert (IEC 60512-15-1, Test 15a).

b) Contact insertion, release and extraction force (IEC 60512-15-4, Test 15d).

c) Visual examination for damage to wire, seals, etc. (IEC 60512-1-1, Test 1a).

8 Details to be specified

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

a) design or type of insertion and extraction tools;

b) cable/wire to be used;

c) preparation and mounting of the specimen;

d) requirements for initial measurements;

e) requirements for final measurements;

f) any deviation from the standard test method.

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