

INTERNATIONAL STANDARD

NORME INTERNATIONALE

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

**Connecteurs pour équipements électroniques – Essais et mesures –
Partie 15-4: Essais (mécaniques) des connecteurs – Essai 15d: Force
d'insertion, de déverrouillage et d'extraction des contacts**



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

CONNECTORS FOR ELECTRONIC EQUIPMENT – TESTS AND MEASUREMENTS –

Part 15-4: Connector tests (mechanical) – Test 15d: Contact insertion, release and extraction force

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International Standard IEC 60512-15-4 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 15d of IEC 60512-8, issued in 1993. 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:

FDIS	Report on voting
48B/1846/FDIS	48B/1898/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 2.

A list of all parts of 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 maintenance result 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

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- replaced by a revised edition; or
- amended.

CONNECTORS FOR ELECTRONIC EQUIPMENT – TESTS AND MEASUREMENTS –

Part 15-4: Connector tests (mechanical) – Test 15d: Contact insertion, release and extraction force

1 Scope and object

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

The object of this document is to detail a standard test method to determine the forces required to insert contact into, and extract them from, their normal position in the intended connector.

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*

3 Preparations

3.1 Preparation of specimen

The specimen shall consist of a connector with its terminations, wired as specified in the detail specification. Any accessories, which do not form part of the contact system, may be removed. Any preconditioning given in the detail specification shall be applied.

Any contact retention device shall be placed in such a position as not to influence the test, except where the use of such devices is part of the normal insertion and extraction process.

All contacts shall be installed except for those to be used for the test.

3.2 Lubricant or sealing substance

For the application and measurement of the forces a suitable device able to provide the controls on the loads shall be required (e.g.: a universal materials testing machine).

NOTE If the detail specification requires special preconditioning of the specimen, all the necessary equipment detailed in the relevant documents describing such conditioning would also be required.

3.3 Equipment

Insertion and extraction tools, when specified by the detail specification, shall be provided.

3.4 Mounting

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