

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Connectors for electrical and electronic equipment – Tests and measurements –
Part 8-3: Static load tests (fixed connectors) – Test 8c: Robustness of actuating
lever

Connecteurs pour équipements électriques et électroniques – Essais et mesures –
Partie 8-3: Essais de charge statique (embases) – Essai 8c: Robustesse de l'ergot
d'activation



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IEC Central Office
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

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Connectors for electrical and electronic equipment – Tests and measurements – Part 8-3: Static load tests (fixed connectors) – Test 8c: Robustness of actuating lever

Connecteurs pour équipements électriques et électroniques – Essais et mesures – Partie 8-3: Essais de charge statique (embases) – Essai 8c: Robustesse de l'ergot d'activation

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**CONNECTORS FOR ELECTRICAL AND ELECTRONIC EQUIPMENT –
TESTS AND MEASUREMENTS –****Part 8-3: Static load tests (fixed connectors) –
Test 8c: Robustness of actuating lever**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of 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, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). 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. 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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International Standard IEC 60512-8-3 has been prepared by subcommittee 48B: Electrical connectors, of IEC technical committee 48: Electrical connectors and mechanical structures for electrical and electronic equipment.

This second edition cancels and replaces the first edition published in 2011. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) This edition reflects IEC 60512-1-101, Blank detail specification.
- b) Subclause 4.2 (Preparation of specimen) is improved.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
48B/2615/FDIS	48B/2622/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

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

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

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
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CONNECTORS FOR ELECTRICAL AND ELECTRONIC EQUIPMENT – TESTS AND MEASUREMENTS –

Part 8-3: Static load tests (fixed connectors) – Test 8c: Robustness of actuating lever

1 Scope

This part of IEC 60512, when required by the detail (product) 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 (product) specification.

The object of this document is to detail a standard test method to assess the robustness of the actuating lever of a connector mating or release mechanism.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

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

[IEC 60512-8-3:2018](#)

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

3 Terms and definitions

For the purposes of this document, the terms and definitions from IEC 60512-1 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

4 Preparations

4.1 Test equipment

A suitable test device and appropriate fixture shall be used.

4.2 Preparation of specimen

A specimen of connector or similar device shall be equipped with a mating/release mechanism (latching/unlatching) including an actuating lever.

The number of specimens to prepare shall be as specified in the detail (product) specification

4.3 Mounting of specimen

Mounting of the specimen shall be as specified in the detail (product) specification.

Unless otherwise specified, the specimen shall be mounted in the normal manner, using the normal panel or chassis cut-out as laid down in the detail (product) specification.

The panel or chassis should be strong enough to sustain the applied forces. The length and width of the panel or chassis should be longer and wider enough than the contour of the specimen.

5 Test / measuring method

5.1 Pre-conditioning

Specimens shall be subject to the preconditioning as specified in the detail (product) specification.

5.2 Initial measurements

Visual examination according to IEC 60512-1-1 shall be done.

5.3 Tests

Test shall be carried out using the following test methods as specified in the detail product specification.

Test method (A and/or B) and test procedure (in sequence or independent) shall be described in the detail product specification.

a) Test method A: Force

Force specified in the detail (product) specification shall be applied at the tip of the actuating lever. This force shall be applied in each of the following directions (see Figure 1):

- perpendicular to the lever axis and in the plane of lever travel, at each end position of the lever (Fa1 and Fa2);
- perpendicular to the lever axis and perpendicular to the plane of lever travel at each position of the lever (Fb1 and Fb2);
- axially with the lever axis towards the lever pivot (Fc);
- axially with the lever axis away from the lever pivot (Fd).

The specified force shall be steadily increased up to the specified value and maintained for 1 min.

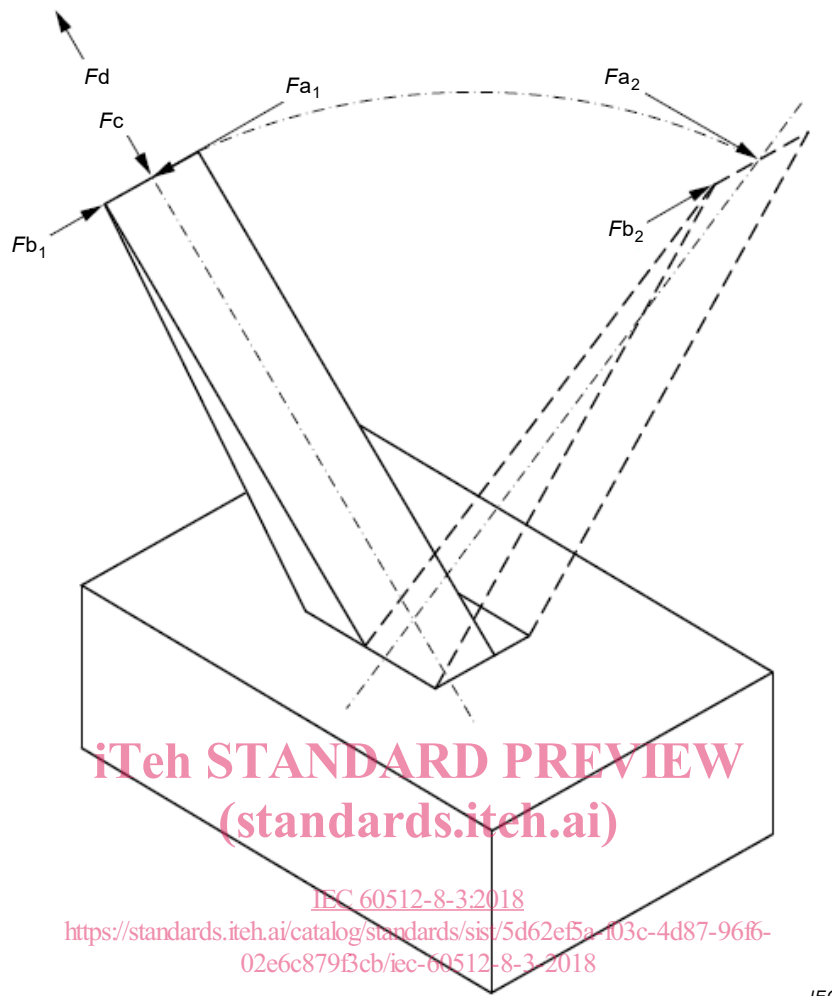


Figure 1 – Details of force application

b) Test method B: Torque

Torque specified in the detail (product) specification shall be applied around the axis of the lever in either direction for 1 min.

Application of a torque around its axis is not the intended use for the actuating lever of a mating / release mechanism of a connector. The aim of this test is to verify its robustness against reasonably foreseeable misuse.

5.4 Recovery

Specimens shall be subject to the recovery, if required by the detail (product) specification.

5.5 Final measurements

The following examination shall be made.

- a) Visual examination (IEC 60512-1-1, test 1a).
- b) Applicable operational characteristics.

NOTE If applicable, the detail (product) specification may require a sealing test from the IEC 60512-14 series or an ingress protection test according to IEC 60529.

6 Details to be specified

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

- a) test method (A and/or B) and test procedure (in sequence or independent);
- b) number of specimens;
- c) fitting of accessories, if required;
- d) mounting details, including dimensions of the panel cut-out, if applicable;
- e) shape of the fixture or tool used for applying the force/torque;
- f) force/torque to be applied, direction and rate of application;
- g) pre-conditioning and recovery, if required;
- h) requirements for initial and final measurements;
- i) sealing test or ingress test, if applicable;
- j) any deviation from the standard test method.

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Bibliography

IEC 60512-1-101, *Connectors for electronic equipment – Tests and measurements – Part 1 – 101: Blank detail specification*

IEC 60512-14 (all parts), *Connectors for electronic equipment – Tests and measurements – Part 14: Sealing tests*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

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