BRITISH STANDARD

BS EN
60512-15-6:2008

Connectors for electronic equipment — Tests and measurements —

Part 15-6: Connector tests (mechanical) — Test 15f: Effectiveness of connector coupling devices

ICS 31.220.10

National foreword

This British Standard is the UK implementation of EN 60512-15-6:2008. It is identical to IEC 60512-15-6:2008.

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.

Compliance with a British Standard cannot confer immunity from legal obligations.

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English version

Connectors for electronic equipment - Tests and measurements - Part 15-6: Connector tests (mechanical) - Test 15f: Effectiveness of connector coupling devices

(IEC 60512-15-6:2008)

Connecteurs
pour équipements électroniques -
Essais et mesures -
Partie 15-6: Essais (mécaniques)
des connecteurs -
Essai 15f: Efficacité des dispositifs
d'accouplement des connecteurs
(CEI 60512-15-6:2008)

Steckverbinder
für elektronische Einrichtungen -
Mess- und Prüfverfahren -
Teil 15-6: Mechanische Prüfungen
an Steckverbindern -
Prüfung 15f: Wirksamkeit
von Steckverbinder-Verriegelungen
(IEC 60512-15-6:2008)

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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

Ref. No. EN 60512-15-6:2008 E

Foreword

The text of document 48B/1848/FDIS, future edition 1 of IEC 60512-15-6, 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 60512-15-6 on 2008-07-01.

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)	2009-04-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2011-07-01

Annex ZA has been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 60512-15-6:2008 was approved by CENELEC as a European Standard without any modification.

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CONNECTORS FOR ELECTRONIC EQUIPMENT – TESTS AND MEASUREMENTS –

Part 15-6: Connector tests (mechanical) – Test 15f: Effectiveness of connector coupling devices

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 assess the effectiveness of the coupling device to maintain engagement of mated connectors fitted with coupling and / or retaining devices when subject to specified forces applied to the cable/wire bundle or harness or applied directly to the connector body if so specified in a detail specification.

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*

IEC 60512-2-5, *Connectors for electronic equipment – Tests and measurements – Part 2-5: Electrical continuity and contact resistance tests – Test 2e: Contact disturbance*

3 Preparations

3.1 Preparation of specimen

The specimen shall consist of a mated pair with its terminations, wired as specified in the detail specification. All coupling and retaining devices shall be utilised as referred to, or specified in, the detail specification. Any preconditioning given in the detail specification shall be applied.

3.2 Equipment

For the application of the axial loads a suitable device able to provide the controls on the loads (intensity, rate of increase, time of constant load application) 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 Mounting

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

4 Test method

Unless otherwise stated in the detail specification, 3 connectors shall be tested.

4.1 Procedure

A specified force shall be applied in the direction of separation of the mated pair, at a rate not exceeding 25 mm/min, or as specified in the detail specification, until the specified force is applied. This shall then be maintained for 15 s. The force shall then be removed.

NOTE 1 For some heavy-duty connectors, rates above 25 mm/min may be requested by the detail specification in order to achieve the specified load in a reasonable time.

The force may be applied either through the cable bundle or through the main body of the connector housing, as specified in the detail specification. Unless otherwise specified in the detail specification, an electrical continuity shall be monitored throughout the test.

NOTE 2 In the case of the application of force through the cable bundle, it may be that either contacts are dislodged from the housing, or the cables break. In which case, the testing laboratory should refer to the manufacturer(s) of the connector, with a view to revision of the detail specification through their National Committee.

4.2 Measurements

4.2.1 Before testing

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

4.2.2 During testing

The connectors shall remain fully engaged. Unless otherwise specified by the detail specification, electrical continuity monitoring shall be done according to IEC 60512-2-5. There shall be no electrical discontinuity greater than 1 μs or as specified by the detail specification.

4.2.3 After testing

Visual examination according to IEC 60512-1-1 shall be done. Special attention shall be given to the operation of coupling and retaining devices.

5 Details to be specified

When this test is required by a detail specification the following shall be given therein:

a) number of connectors to be tested (if other than 3);

b) any preconditioning required;

c) wiring of the specimen, cable bundle support means may be specified;

d) axial force to be applied, point of application, rate of application if other than that given in 4.1;

e) electrical monitoring, if necessary, and allowable period of discontinuity, if other than given in 4.2.2;

f) if any displacement is permitted;

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.

Publication	Year	Title	EN/HD	Year
IEC 60512-1-1	-[1)]	Connectors for electronic equipment - Tests and measurements - Part 1-1: General examination - Test 1a: Visual examination	EN 60512-1-1	2002[2)]
IEC 60512-2-5	-[1)]	Connectors for electronic equipment - Tests and measurements - Part 2-5: Electrical continuity and contact resistance tests - Test 2e: Contact disturbance	EN 60512-2-5	2003[2)]

[1)] Undated reference.

[2)] Valid edition at date of issue.

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