
Electromechanical components for electronic equipment - Basic testing procedure and measuring methods - Part 13: Mechanical operating tests - Section 1: Test 13a: Engaging and separating forces (IEC 60512-13-1:1996)

Electromechanical components for electronic equipment - Basic testing procedures and measuring methods -- Part 13: Mechanical operating tests - Section 1: Test 13a: Engaging and separating forces

Elektrisch-mechanische Bauelemente für elektronische Einrichtungen - Meß- und Prüfverfahren -- Teil 13: Prüfungen der mechanischen Bedienbarkeit - Hauptabschnitt 1: Prüfung 13a: Kupplungs- und Trennkräfte

[SIST EN 60512-13-1:2002](https://standards.iteh.ai/catalog/standards/sist/deb9daa4-f5f0-44d7-9109-2022-000000000000/sist-en-60512-13-1-2002)

Composants électromécaniques pour équipements électroniques - Procédures d'essai de base et méthodes de mesure -- Partie 13: Essais de fonctionnement mécanique - Section 1: Essai 13a: Forces d'accouplement et de désaccouplement

Ta slovenski standard je istoveten z: EN 60512-13-1:1997

ICS:

31.220.01	Elektromehanske komponente (sestavni deli, gradniki) na splošno	Electromechanical components in general
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SIST EN 60512-13-1:2002**en**

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 60512-13-1

January 1997

ICS 31.220.01

Descriptors: Electromechanical components, mechanical tests, engaging and separating forces

English version

Electromechanical components for electronic equipment
Basic testing procedures and measuring methods
Part 13: Mechanical operating tests
Section 1: Test 13a: Engaging and separating forces
(IEC 512-13-1:1996)

Composants électromécaniques pour
équipements électroniques - Procédures
d'essai de base et méthodes de mesure
Partie 13: Essais de fonctionnement
mécanique
Section 1: Essai 13a: Forces
d'accouplement et de désaccouplement
(CEI 512-13-1:1996)

Elektrisch-mechanische Bauelemente
für elektronische Einrichtungen
Meß- und Prüfverfahren
Teil 13: Prüfungen der mechanischen
Bedienbarkeit - Hauptabschnitt 1:
Prüfung 13a: Kupplungs- und
Trennkräfte
(IEC 512-13-1:1996)

This European Standard was approved by CENELEC on 1996-12-09. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

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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

Foreword

The text of document 48B/507/FDIS, future edition 1 of IEC 512-13-1, 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 60512-13-1 on 1996-12-09.

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) 1997-09-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 1997-09-01

This part 13-1 is to be used in conjunction with EN 60512-1:1994.

Endorsement notice

The text of the International Standard IEC 512-13-1:1996 was approved by CENELEC as a European Standard without any modification.

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512-13-1

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**Composants électromécaniques pour
équipements électroniques –
Procédures d'essai de base
et méthodes de mesure –**

Partie 13:

**Essais de fonctionnement mécanique –
Section 1: Essai 13a: Forces d'accouplement
et de désaccouplement**

[SIST EN 60512-13-1:2002](https://standards.iteh.ai/catalog/standards/sist/deb9daa4-f5f0-44d7-9109-02738f1c91d1/60512-13-1:2002)

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**Electromechanical components
for electronic equipment –
Basic testing procedures and
measuring methods –**

Part 13:

**Mechanical operating tests –
Section 1: Test 13a: Engaging and
separating forces**

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International Electrotechnical Commission
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTROMECHANICAL COMPONENTS
FOR ELECTRONIC EQUIPMENT –
BASIC TESTING PROCEDURES AND MEASURING METHODS –**

**Part 13: Mechanical operating tests –
Section 1: Test 13a: Engaging and separating forces**

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The 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 512-13-1 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 clause 1 of IEC 512-7 (Test 13a). It should be read in conjunction with part 1: General, issued as IEC 512-1.

The complete publication will include other tests which will be issued as they become available.

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

FDIS	Report on voting
48B/507/FDIS	48B/552/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.

ELECTROMECHANICAL COMPONENTS FOR ELECTRONIC EQUIPMENT – BASIC TESTING PROCEDURES AND MEASURING METHODS –

Part 13: Mechanical operating tests – Section 1: Test 13a: Engaging and separating forces

1 Scope and object

This section of IEC 512-13 details a standard test method to measure the force required to fully engage or separate mating components, including the effect of any device that assists the engaging/separating operations.

NOTE – The term “force(s)” is used here in its generic sense and includes forces and torques.

2 Test method

2.1 One of the mating components shall be rigidly held in position.

2.2 The other component shall be fully engaged or separated in the normal manner, for example using any incorporated device that assists engaging/separating operation or any specified tools.

2.3 The forces required to fully engage or separate the components shall be measured.

2.4 The rate of engagement or separation shall be as specified by the detail specification.

3 Test requirements

The forces required to fully engage or separate the components shall be within the limits specified by the detail specification.

4 Details to be specified

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

- a) maximum value of the engaging force;
 - b) minimum and maximum values of the separating force, where applicable;
 - c) rates of engagement and separation, where applicable;
 - d) special tools, where applicable;
 - e) if a lubricant is used, a complete description shall be given;
 - f) any deviation from the standard test method.
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