
Electromechanical components for electronic equipment - Basic testing procedure and measuring methods - Part 1: General - Section 4: Test 1d: Contact protection effectiveness (IEC 60512-1-4:1997)

Electromechanical components for electronic equipment - Basic testing procedures and measuring methods -- Part 1: General -- Section 4: Test 1d: Contact protection effectiveness (scoop-proof)

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Elektrisch-mechanische Bauelemente für elektronische Einrichtungen - Meß- und Prüfverfahren -- Teil 1: Allgemeines -- Hauptabschnitt 4: Prüfung 1d: Wirksamkeit des Kontaktschutzes (Scoop-proof)

[SIST EN 60512-1-4:2002](https://standards.iteh.ai/catalog/standards/sist/c5c27bde-fe8c-4f2a-b0bb-57701c000000/sist-en-60512-1-4-2002)

<https://standards.iteh.ai/catalog/standards/sist/c5c27bde-fe8c-4f2a-b0bb-57701c000000/sist-en-60512-1-4-2002>
Composants électromécaniques pour équipements électroniques - Procédures d'essai de base et méthodes de mesure -- Partie 1: Généralités -- Section 4: Essai 1d: Efficacité de la protection des contacts (scoop-proof)

Ta slovenski standard je istoveten z: EN 60512-1-4:1997

ICS:

31.220.01	Elektromehanske komponente (sestavni deli, gradniki) na splošno	Electromechanical components in general
-----------	---	---

SIST EN 60512-1-4:2002**en**

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 60512-1-4:2002](https://standards.iteh.ai/catalog/standards/sist/c5c27bde-fe8c-4f2a-b0bb-d7144b1cadbc/sist-en-60512-1-4-2002)

<https://standards.iteh.ai/catalog/standards/sist/c5c27bde-fe8c-4f2a-b0bb-d7144b1cadbc/sist-en-60512-1-4-2002>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 60512-1-4

October 1997

ICS 31.220.01

English version

Electromechanical components for electronic equipment
Basic testing procedures and measuring methods
Part 1: General
Section 4: Test 1d: Contact protection effectiveness
(scoop-proof)
(IEC 60512-1-4:1997)

Composants électromécaniques
pour équipements électroniques
Procédures d'essai de base et
méthodes de mesure
Partie 1: Généralités
Section 4: Essai 1d: Efficacité de la
protection des contacts (scoop-proof)
(CEI 60512-1-4:1997)

Elektrisch-mechanische Bauelemente
für elektronische Einrichtungen
Meß- und Prüfverfahren
Teil 1: Allgemeines
Hauptabschnitt 4: Prüfung 1d:
Wirksamkeit des Kontaktschutzes
(Scoop-proof)
(IEC 60512-1-4:1997)

This European Standard was approved by CENELEC on 1997-10-01. 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.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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/598/FDIS, future edition 1 of IEC 60512-1-4, 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 60512-1-4 on 1997-10-01.

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) 1998-07-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1998-07-01

Annexes designated "normative" are part of the body of the standard.
In this standard, annex ZA is normative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60512-1-4:1997 was approved by CENELEC as a European Standard without any modification.

[SIST EN 60512-1-4:2002](https://standards.iteh.ai/catalog/standards/sist/c5c27bde-fe8c-4f2a-b0bb-d7144b1cadbc/sist-en-60512-1-4-2002)

<https://standards.iteh.ai/catalog/standards/sist/c5c27bde-fe8c-4f2a-b0bb-d7144b1cadbc/sist-en-60512-1-4-2002>

Annex ZA (normative)**Normative references to international publications
with their corresponding European publications**

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE: When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60512-2	1985	Electromechanical components for electronic equipment - Basic testing procedures and measuring methods Part 2: General examination, electrical continuity and contact resistance tests, insulation tests and voltage stress tests	-	-

iteh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 60512-1-4:2002](https://standards.iteh.ai/catalog/standards/sist/c5c27bde-fe8c-4f2a-b0bb-d7144b1cadbc/sist-en-60512-1-4-2002)

<https://standards.iteh.ai/catalog/standards/sist/c5c27bde-fe8c-4f2a-b0bb-d7144b1cadbc/sist-en-60512-1-4-2002>

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 60512-1-4:2002](https://standards.iteh.ai/catalog/standards/sist/c5c27bde-fe8c-4f2a-b0bb-d7144b1cadbc/sist-en-60512-1-4-2002)

<https://standards.iteh.ai/catalog/standards/sist/c5c27bde-fe8c-4f2a-b0bb-d7144b1cadbc/sist-en-60512-1-4-2002>

**NORME
INTERNATIONALE
INTERNATIONAL
STANDARD**

**CEI
IEC**

60512-1-4

Première édition
First edition
1997-08

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

**Partie 1:
Généralités –**

**Section 4: Essai 1d: Efficacité de la protection
des contacts (scoop-proof)**

SIST EN 60512-1-4:2002
https://standards.globalspec.com/std/60512-1-4-2002
4714451cadbc/sist-en-60512-1-4-2002

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

**Part 1:
General –**

**Section 4: Test 1d: Contact protection
effectiveness (scoop-proof)**

© IEC 1997 Droits de reproduction réservés — Copyright - all rights reserved

Aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'éditeur.

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Electrotechnical Commission
Telefax: +41 22 919 0300

3, rue de Varembe Geneva, Switzerland
e-mail: inmail@iec.ch IEC web site <http://www.iec.ch>



Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE

E

*Pour prix, voir catalogue en vigueur
For price, see current catalogue*

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTROMECHANICAL COMPONENTS FOR ELECTRONIC EQUIPMENT –
BASIC TESTING PROCEDURES AND MEASURING METHODS –****Part 1: General –
Section 4: Test 1d: Contact protection effectiveness
(scoop-proof)**

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.
- 2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60512-1-4 has been prepared by subcommittee 48B: Connectors, of IEC technical committee 48: Electromechanical components and mechanical structures for electronic equipment.

The complete standard 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/598/FDIS	48B/644/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.

The contents of the corrigendum of November 2000 have been included in this copy.

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

Part 1: General – Section 4: Test 1d: Contact protection effectiveness (scoop-proof)

1 Scope and object

This section of IEC 60512-1 is to be used when referenced by the detail specification to test mechanical components overseen by the IEC subcommittee 48B. This test can also be done on similar devices when the detail specification so prescribes.

The object of this test is to define a standard test method to verify the ability of a connector to prevent the accidental touching of its contact by the front of the mating connector. It is primarily intended to be applied to cylindrical multi-contact connectors which are required to be scoop-proof.

2 Normative reference

The following normative document contains provisions which, through reference in this text, constitute provisions of this section of IEC 60512-1. At the time of publication, the edition indicated was valid. All normative documents are subject to revision, and parties to agreements based on this section of IEC 60512-1 are encouraged to investigate the possibility of applying the most recent edition of the normative document indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60512-2: 1985, *Electromechanical components for electronic equipment – Basic testing procedures and measuring methods – Part 2: General examination, electrical continuity and contact resistance tests, insulation tests and voltage stress tests*

3 Preparation of specimens

The connectors shall be fitted with their full set of contacts.

They shall be wired as specified by the detail specification.

4 Test methods

4.1 Procedure

A suitable device for detecting electrical continuity, such as an ohmmeter, shall be connected between the housing (shell) of the free connector and all of the contacts in the fixed connector wired together.

4.2 Method A

While attempting to mismatch the free connector, fitted with female contacts to the fixed connector fitted with male contacts, at various angles and rotations as illustrated in figure 1, any evidence of electrical continuity shall be noted.