SLOVENSKI STANDARD

SIST EN 60512-3-1:2003

oktober 2003

Connectors for electronic equipment - Tests and measurements - Part 3-1: Insulation tests - Test 3a: Insulation resistance (IEC 60512-3-1:2002)

ICS 31.220.10

Referenčna številka
SIST EN 60512-3-1:2003(en)

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60512-3-1

April 2002

ICS 31.220.10

English version

Connectors for electronic equipment – Tests and measurements Part 3-1: Insulation tests – Test 3a: Insulation resistance (IEC 60512-3-1:2002)

Connecteurs pour équipements électroniques –
Essais et mesures
Partie 3-1: Essais d'isolement –
Essai 3a: Résistance d'isolement
(CEI 60512-3-1:2002)

Steckverbinder für elektronische Einrichtungen
Mess- und Prüfverfahren –
Teil 3-1: Prüfungen der Isolation –
Prüfung 3a: Isolationswiderstand
(IEC 60512-3-1:2002)

This European Standard was approved by CENELEC on 2002-04-01. 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, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, 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

Ref. No. EN 60512-3-1:2002 E

Foreword

The text of document 48B/1133/FDIS, future edition 1 of IEC 60512-3-1, 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 60512-3-1 on 2002-04-01.

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) 2003-01-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2005-04-01

Endorsement notice

The text of the International Standard IEC 60512-3-1:2002 was approved by CENELEC as a European Standard without any modification.

NORME INTERNATIONALE

INTERNATIONAL STANDARD

CEI
IEC
60512-3-1

Première édition
First edition
2002-02

Connecteurs pour équipements électroniques – Essais et mesures –

Partie 3-1: Essais d'isolement – Essai 3a: Résistance d'isolement

Connectors for electronic equipment – Tests and measurements –

Part 3-1: Insulation tests – Test 3a: Insulation resistance

International Electrotechnical Commission, 3, rue de Varembé, PO Box 131, CH-1211 Geneva 20, Switzerland
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch

Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE D

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

INTERNATIONAL ELECTROTECHNICAL COMMISSION

CONNECTORS FOR ELECTRONIC EQUIPMENT – TESTS AND MEASUREMENTS –

Part 3-1: Insulation tests – Test 3a: Insulation resistance

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 specifications, 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 60512-3-1 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 test 3a of IEC 60512-2, issued in 1985, and constitutes a technical revision.

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

FDIS	Report on voting
48B/1133/FDIS	48B/1184/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 3.

The committee has decided that the contents of this publication will remain unchanged until 2007. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

CONNECTORS FOR ELECTRONIC EQUIPMENT – TESTS AND MEASUREMENTS –

Part 3-1: Insulation tests – Test 3a: Insulation resistance

1 Scope and object

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

The object of this test is to define a standard test method to assess the insulation resistance of electromechanical components.

2 Mounting of specimen

The specimen shall be mounted in accordance with the detail specification.

3 General requirements

The insulation resistance shall be measured with a closed-circuit d.c. voltage of 10 V ± 1 V, 100 V ± 15 V or 500 V ± 50 V, using method A, B or C specified in the detail specification.

The insulation resistance shall be measured only when a stable reading is obtained.

If a stable condition is not reached, the insulation resistance reading shall be recorded within 60 s ± 5 s after the application of voltage.

The insulation resistance shall be not less than that specified in the detail specification.

4 Measuring methods

Method A

The insulation resistance shall be measured on specimens using the specified test voltage applied in turn between each termination being tested and all others connected together and to the housing and/or the mounting plate.

Method B

Alternate terminations shall be connected together to form two groups.

The insulation resistance shall be measured on specimens using the specified test voltage applied between:

1) the first group of terminations and the second group connected to the housing and/or the mounting plate, and
2) the second group of terminations and the first group connected to the housing and/or the mounting plate.

NOTE In the case of terminations arranged in two or more rows, it will be necessary to form a second arrangement of two groups in order to measure the insulation resistance of each pair of adjacent terminations.

Method C

The insulation resistance shall be measured between two adjacent terminations having a minimum spacing using the specified test voltage.

5 Detail to be specified

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

a) measuring method to be used;
b) value of the test voltage;
c) minimum value of the insulation resistance;
d) contacts to be tested;
e) any deviation from the standard test method.