SLOVENSKI STANDARD
SIST EN 60512-1:2002

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Connectors for electronic equipment - tests and measurements - Part 1: General (IEC 60512-1:2001)

Connectors for electronic equipment - Tests and measurements -- Part 1: General

Steckverbinder für elektronische Einrichtungen - Mess- und Prüfverfahren -- Teil 1: Allgemeines

Connecteurs pour équipements électroniques - Essais et mesures -- Partie 1: Généralités

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Connectors for electronic equipment - Tests and measurements Part 1: General (IEC 60512-1:2001)

Connecteurs pour équipements électroniques -
Essais et mesures
Partie 1: Généralités
(CEI 60512-1:2001)

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(IEC 60512-1:2001)

This European Standard was approved by CENELEC on 2001-03-01. 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, 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

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Foreword

The text of document 48B/973/FDIS, future edition 4 of IEC 60512-1, 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 60512-1 on 2001-03-01.

This European Standard supersedes EN 60512-1:1994.

This standard is to be used in conjunction with EN 60512-1-100 and the EN 60068 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) 2001-12-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2004-03-01

Endorsement notice

The text of the International Standard IEC 60512-1:2001 was approved by CENELEC as a European Standard without any modification.

CONNECTORS FOR ELECTRONIC EQUIPMENT – TESTS AND MEASUREMENTS –

Part 1: General

1 General

1.1 Scope and object

This part of IEC 60512 is intended to be used as a basic specification. It contains basic test methods and procedures which, when required by the detail specification, are used for testing connectors within the scope of technical committee 48. They may also be used for similar devices when specified in a detail specification.

The object of this standard is to establish test methods and measurement procedures for use in specifications for connectors.

This standard is to be used in conjunction with the generic, sectional and detail specification which will select and prescribe the tests to be used, the required degree of severity for each of them and the permissible performance limits. The detail specification will also specify the deviations in procedure, which may be inevitable when applying a test to the type of component under consideration, and it will further specify any special procedures which may be required.

In the event of conflict between this basic specification and any individual component specification, the requirements of the component specification will apply.

NOTE 1 RF connectors will not be dealt with by this technical committee as they will be covered by technical committee 46, together with r.f. cables.

NOTE 2 Sockets for components such as crystals or electronic tubes will be considered in co-operation with the relevant technical committee.

NOTE 3 Safety requirements for switches will not be developed by this technical committee as they are covered by subcommittee 23J.

1.2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 60512. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of IEC 60512 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60068-1:1988, *Environmental testing – Part 1: General and guidance*

1.3 Definitions

For the purpose of this part of IEC 60512, the following definitions apply.

1.3.1
family
group of electromechanical components which predominantly display a particular physical characteristic and/or fulfil a specific function

Example – Family: connectors

1.3.2
sub-family
group of electromechanical components derived by further subdivision of a family and having similar application features

Example – Sub-family: rectangular connectors

1.3.3
type and style
the definitions for "type" and "style", referring to a particular component, are given in the detail specification

Examples – Type: rectangular multipole connectors with blade contacts.

Style: rectangular multipole connectors with blade contacts, housing and contact configuration.

1.3.4
basic specification
specification which is applicable to all electromechanical components or a large group thereof

1.3.5
generic specification
specification which is applicable to a family of electromechanical components

1.3.6
sectional specification
specification which is applicable to a sub-family of electromechanical components

1.3.7
blank detail specification
while not being in themselves a specification level, blank detail specifications may be provided for the guidance of those concerned with the preparation of detail specifications

1.3.8
detail specification
specification which is derived from a sectional specification. It covers a particular component or a group of related components. It describes that component or group of components, including all necessary values and characteristics, and gives the inspection requirements and appropriate references to the generic or sectional specification

1.3.9
inspection (test) lot
specified quantity of identical electromechanical components presented together for testing in accordance with the relevant test schedule

1.3.10
test specimen
single electromechanical component to be tested in accordance with the procedure laid down in this standard

1.3.11
test
complete series of operations covered by any one heading and normally consisting of the following:

– pre-conditioning (where required);

– initial measurement (where required);

– conditioning;

– recovery (where required);

– final examination and measurements

1.3.12
pre-conditioning
treatment of a specimen for the purpose of removing or partly counteracting the effects of its previous history

1.3.13
conditioning
exposure of a specimen to environmental conditions, including electrical load, in order to determine the effect of such conditions on it

1.3.14
recovery
treatment of a specimen after conditioning in order to stabilize its properties before measurement

2 Standard conditions for testing

Unless otherwise specified, all tests shall be carried out under standard atmospheric conditions for testing, as specified in IEC 60068-1.

Before measurements are made, the test specimens shall be pre-conditioned under standard atmospheric conditions for testing for a time as specified in the detail specification.

The ambient temperature and relative humidity at which the measurements are made shall be stated in the test report.

The test shall be carried out with specimens as received from the supplier. In no case shall the contact parts be cleaned or otherwise prepared prior to test, unless explicitly required.

In cases of dispute about the test results, the test shall be carried out at one of the referee conditions of IEC 60068-1.

3 Testing

3.1 Test sequences

The test sequences are as described in the sectional or detail specifications. The test numbers used in this standard have no significance with respect to test sequence; they are given to identify a test for reference purposes. In order to avoid duplication and costly measurements, the sectional or detail specification will also select and prescribe those measurements to be performed out of a list of measurements contained in the various test method documents.

3.2 Combined tests

Combined tests are specified. Additional combination of tests should be avoided, unless essential to a specific application.

3.3 Repetition of measurements

Repetition of identical dimensional measurements is to be avoided, unless required to prove that all aspects of manufacturing, tooling or processes are satisfactory (for example, parts produced from multi-cavity tooling).

3.4 Alternative test methods

The test methods given in this standard are the preferred methods but not necessarily the only ones which can be used. In case of dispute, however, the specified method shall be used as the referee method.

Where approval procedures are involved and alternative methods are employed, it is the responsibility of the manufacturer to satisfy the authority granting approval that any alternative methods which he may use give results equivalent to those obtained by the methods specified.

4 Classification of non-conforming components

4.1 Major non-conformance

A major non-conformance is any non-conformance of a component with specified requirements that:

a) is likely to result in premature major failure of the component, and/or

b) reduces materially its ability to perform its intended function.

4.2 Minor non-conformance

A minor non-conformance is a shortcoming that does not reduce materially the ability of a component to perform its intended function, or is a minor departure from specifications, having little or no effect on the ability of a component to perform its intended function, for example, scratches, surface finish, minor corrosion, discoloration, etc.

A minor non-conformance is not a cause for rejection but it shall be recorded in the test report.