

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

**Connectors for electronic equipment – Tests and measurements –  
Part 1-101: Blank detail specification**

**Connecteurs pour équipements électroniques – Essais et mesures –  
Partie 1-101: Spécification particulière cadre**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## CONNECTORS FOR ELECTRONIC EQUIPMENT – TESTS AND MEASUREMENTS –

### Part 1-101: Blank detail specification

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International Standard IEC 60512-1-101 has been prepared by subcommittee 48B: Electrical connectors, of IEC technical committee 48: Electrical connectors and mechanical structures for electrical and electronic equipment.

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

FDIS	Report on voting
48B/2421/FDIS	48B/2433/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 2.

A list of all parts in the IEC 60512 series, published under the general title *Connectors for electronic equipment – Tests and measurements*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

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## INTRODUCTION

This blank detail (tests and measurements) specification is a supplementary document to the IEC 60512 test and measurements specification series and contains requirements for style, layout and content of test and measurements specifications for connectors.

The content of this blank detail (tests and measurements) specification is laid out in two parts: one page contains the example of the blank detail tests and measurements specification, on the adjacent page, the guidance notes refer to the example. The guidance notes have the same numbering as the relevant clauses of the example pages. The example pages may be used as a template when preparing a detail (tests and measurements) specification within the scope of this standard.

This standard is not intended to replace the templates and guidance notes of the IEC, but to assist in their application within the range of the IEC 60512 series standards. All users are reminded to adhere to the relevant directives and guidelines of the IEC when preparing a standard.

This blank detail (tests and measurements) specification provides guidance and several common references and examples, but it is not possible to anticipate on all future standards. In new cases, it may be necessary to deviate from the document structure, e.g. by adding paragraphs, subclauses or other details.

As there are also publications providing test sequences including sets of test and measurement methods in the IEC 60512 series, attention is drawn not to apply this standard to this kind of publication as a whole, but to each of its constituting test methods.

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# CONNECTORS FOR ELECTRONIC EQUIPMENT – TESTS AND MEASUREMENTS –

## Part 1-101: Blank detail specification

### Guidance notes

#### 1 Scope and object

This clause gives a general description of the purpose of the test, and of the measurement or conditioning, possibly with reference to conditions which may occur in actual use.

#### 2 Normative references

It may be necessary to refer to IEC 60512-1 (General). In addition, IEC 60512-X-X (Connectors for electronic equipment – Tests and measurements), IEC 60068-2-XX (Environmental testing) and other specific documents may be referred, for instance to refer to a measuring method.

If reference is made to a particular element, such as a clause, table, figure, etc., the referenced document shall be dated.

#### 3 Terms and definitions

[IEC 60512-1-101:2015](#)

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In addition to the terminology used in, and applicable to, the detail (product) specification, as stated in 1.3 of IEC 60512-1, it is recommended that those terms and definitions which are unique to the test specified in the detail (product) specification be listed here.

#### 4 Preparations

##### 4.1 Test equipment

Details of equipment, fixtures, gauges, etc. relating to the test are described here.

##### 4.2 Preparation of specimen

Details such as connector type (male, female, pair, etc.), contact type (male, female, pair, etc.), termination (wired or not), accessories (with or without) and any other details are described here.



# CONNECTORS FOR ELECTRONIC EQUIPMENT – TESTS AND MEASUREMENTS –

## Part 1-101: Blank detail specification

### 1 Scope and object

This part of IEC 60512 is applicable to connectors or similar devices within the scope of IEC technical committee 48 where specified as such by the detail (product) specification.

The object of this part is to detail a standard test method to determine the ability of a connector to withstand “XXX” when exposed to “XXX” conditions.

This “XXX” test simulates “XXX” stresses which may be produced by “XXX”.

### 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60512-1:20XX, *Connectors for electronic equipment – Tests and measurements – Part 1: General*

[IEC 60512-1-101:2015](#)

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IEC 60512-X-X:20XX, *Connectors for electronic equipment – Tests and measurements – Part X-X: XXXX test Xx:XXXX*

IEC 60068-2-XX:20XX, *Environmental testing – Part X – XX -Tests – Test Xx: XXXX*

### 3 Terms and definitions

For the purposes of this document, terms and definitions in 1.3 of IEC 60512-1 as well as the following apply.

#### 3.1 XXXX

#### 3.2 XXXX

### 4 Preparations

#### 4.1 Test equipment

The following test equipment shall be provided to carry out this test.

a) XXXX

b) XXXX

#### 4.2 Preparation of specimen

The specimen consists of XXXX as specified in the detail (product) specification. Unless otherwise specified, the specimen shall be tested in the as-received condition.

## Guidance notes

### 4.3 Mounting of specimen

The mounting method, as well as adaptors and/or alignment are described in this subclause. Figures may detail the fixation and/or the position/orientation of the test specimen, and the point of application of the stress or impact.

## 5 Test / measuring method

### 5.1 Pre-conditioning

The detail (tests and measurements) specification states the parameters of the pre-conditioning. Unless otherwise specified, pre-conditioning shall be carried out under standard atmospheric conditions as specified in IEC 60512-1.

### 5.2 Initial measurements

The detail (tests and measurements) specification states the measurements and examinations which have to be performed prior to the test.

### 5.3 Tests

The detail (tests and measurements) specification shall refer to the test in IEC 60068-1 or other test specification and/or state the test procedure. It may include duration, temperature and humidity, but also mechanical handling or physical or electrical load, and/or any other circumstances that are important for carrying out the test. If a set of preferred test conditions are available, the parameters may be defined in a table.

### 5.4 Recovery

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The detail (tests and measurements) specification shall state the recovery time and the standard number to be referred.

### 5.5 Final measurements

The detail (tests and measurements) specification shall state the same measurements as 5.2.

Intermediate measuring moments, if any, may also be defined. Further, specific precautions and safety warnings can be mentioned in this clause or its subclauses.

### 4.3 Mounting of specimen

The specimen shall be mounted XXXX as indicated in the detail (product) specification.

## 5 Test / measuring method

### 5.1 Pre-conditioning

Before starting the initial measurements, the specimens shall be preconditioned under standard atmospheric conditions for testing as specified in IEC 60512-1 for a period of 24 h, unless otherwise specified in the detail (product) specification.

### 5.2 Initial measurements

Before test is started, XXXX shall be done in accordance with IEC 60512-X-X.

### 5.3 Tests

The test shall be carried out in accordance with IEC 60068-2-XX with one of the following preferred parameters (see Table 1), unless otherwise specified in the detail (product) specification. The position of the specimen and the point of application of the stress shall be as indicated in Figure X.

**Table 1 – Preferred parameters**

Preferred test conditions (units)	Tolerances (units)
XX	$\pm x$
YY	$\pm y$
ZZ	$\pm z$
UU	$\pm u$

Preferred duration of application: XX s  $\pm$  x s.

### 5.4 Recovery

After removal from the test, the specimen shall be allowed to recover for X min under standard atmospheric conditions according to Clause 2 of IEC 60512-1.

### 5.5 Final measurements

After removal of the samples from the test condition or during intermediate measurements (if any), the samples shall be verified for failures by means of general inspection and/or specific tests or measurements. In addition, the measurements as described under 5.2 are repeated.