

SLOVENSKI STANDARD
SIST EN 61076-4-116:2012/A1:2016
01-junij-2016

Konektorji za elektronsko opremo - Zahteve za izdelek - 4-116. del: Konektorji za tiskana vezja - Podrobna specifikacija za visokohitrostni dvodelni konektor z vgrajeno zaslonsko zaščitno funkcijo - Dopolnilo A1

Connectors for electronic equipment - Product requirements -- Part 4-116: Printed board connectors - Detail specification for a high-speed two-part connector with integrated shielding function

Steckverbinder für elektronische Einrichtungen - Produktanforderungen - Teil 4-116: Steckverbinder für gedruckte Schaltungen - Bauartspezifikation für einen indirekten High-Speed-Steckverbinder mit integrierter Schirmungsfunktion

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Connecteurs pour équipements électroniques - Exigences de produit - Partie 4-116: Connecteurs pour cartes imprimées - Spécification particulière pour un connecteur haute vitesse en deux parties avec une fonction de protection intégrée

Ta slovenski standard je istoveten z: EN 61076-4-116:2012/A1:2016

ICS:

31.180	Tiskana vezja (TIV) in tiskane plošče	Printed circuits and boards
31.220.10	Vtiči in vtičnice, konektorji	Plug-and-socket devices. Connectors

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EUROPEAN STANDARD

EN 61076-4-116:2012/A1

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2016

ICS 31.220.10

English Version

Connectors for electronic equipment - Product requirements -
Part 4-116: Printed board connectors - Detail specification for a
high-speed two-part connector with integrated shielding function
(IEC 61076-4-116:2012/A1:2015)

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indirekten High-Speed-Steckverbinder mit integrierter
Schirmungsfunktion
(IEC 61076-4-116:2012/A1:2015)

This amendment A1 modifies the European Standard EN 61076-4-116:2012; it was approved by CENELEC on 2015-12-28. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

EN 61076-4-116:2012/A1:2016**European foreword**

The text of document 48B/2452/FDIS, future IEC 61076-4-116:2012/A1, prepared by SC 48B "Electrical connectors", of IEC/TC 48 "Electrical connectors and mechanical structures for electrical and electronic equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61076-4-116:2012/A1:2016.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2016-09-18
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2019-03-18

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SIST EN 61076-4-116:2012/A1:2016

The text of the International Standard IEC 61076-4-116:2012/A1:2015 was approved by CENELEC as a European Standard without any modification.



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NORME INTERNATIONALE



AMENDMENT 1
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**Connectors for electronic equipment – Product requirements –
Part 4-116: Printed board connectors – Detail specification for a high-speed
two-part connector with integrated shielding function**

**Connecteurs pour équipements électroniques – Exigences de produit –
Partie 4-116: Connecteurs pour cartes imprimées – Specification particulière
pour un connecteur haute vitesse en deux parties avec une fonction de
protection intégrée**

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FOREWORD

This amendment has been prepared by subcommittee 48B: Connectors, of IEC technical committee 48: Electromechanical components and mechanical structures for electronic equipment.

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

FDIS	Report on voting
48B/2452/FDIS	48B/2465/RVD

Full information on the voting for the approval of this amendment can be found in the report on voting indicated in the above table.

The committee has decided that the contents of this amendment and the base 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

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

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IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

Add the following new Annex A.

Annex A (informative)

Vibration and shock testing of connectors mounted to a mechanical structure for electronic equipment according to IEC 60917 and IEC 60297 – Test setup of assemblies with mass loading of printed boards

A.1 General

Dynamic stress tests on connector as defined in 8.5 are carried out according to IEC 60512, tests 6c and 6d. The device under test consists of the connector assembled to a printed board. The printed board under test usually contains the connector but no additional components.

Practice has demonstrated for a long time that this test setup is sufficient for connector qualification and for comparing the results of different arrangements and of different test laboratories. Nevertheless there are concerns that boards with heavy mechanical load, due to heavy components, may cause extra movements between the plug-in unit and the subrack assembly, respectively between the free printed board connector and the fixed connector mounted on the backplane, this would cause micro movements and increase the wear of the precisions metal plating in the contact area of male and female contacts.

IEC 60917 series and IEC 60297 series define the connector interfaces for subracks and associated plug-in units. A plug-in unit in general is a printed board assembly.

IEC 61587-1 and IEC 61587-5 call out the mechanical only shock, vibration and seismic testing of subracks and plug-in units with simulated mass loading. However, the electrical performance of the connector interface is not defined. The connector may pass mechanically but if the connector will pass its electrical capability is not specified.

It is the object of this amendment to provide an evaluation of the combination of connector and heavy printed board assembly (plug-in unit).

This standard contains only the necessary information and test setups to test the electrical performance of printed board connectors that are mounted to mass loaded plug-in units according to IEC 60917 series, IEC 60297 series standards and shock and vibration conditions as defined in IEC 61587-1 and IEC 61587-5.

A.2 General information and objectives

This Annex A establishes only the test setup requirements for mass loaded printed boards (plug-in units) assembled with free connectors and subracks assembled with the corresponding fixed connectors as used in IEC 60917 series and IEC 60297 series equipment practices.

The vibration and shock test severity levels are defined in IEC 61587-1. The seismic severity levels are defined in IEC 61587-5.

The object of this annex is to provide a test method for connector under conditions closer to the intended service condition to provide information of contact resistance under lifetime and expected severity of the intended use.

A.3 Terms and definitions

A.3.1

plug-in unit

plug-in units are defined in IEC 60917 series and consist in their simplest form of a printed board (PB) assembly containing a free connector interfacing with the fixed connector in the subrack

A.3.2

intended use

method of use of a plug-in unit under test that simulates an artificial service condition identified by the manufacturer, and according to which the recommended configuration as described in this standard (such as the physical size of the plug-in unit, the mass loading, the retention, bolt size, quantities, and torque values) is used during testing

A.3.3

simulated load boards

simulated mass attached to plug-in units according to IEC 61587-1. Mass as calculated for a specific application may be used

A.3.4

mated pair under test

the mated pair under test consists of the free connector (PB mounted connector or edge board) and the fixed connector (backplane mounted) and shall be tested mounted onto the centre of the PB (see Figure A.4 and Figure A.5)

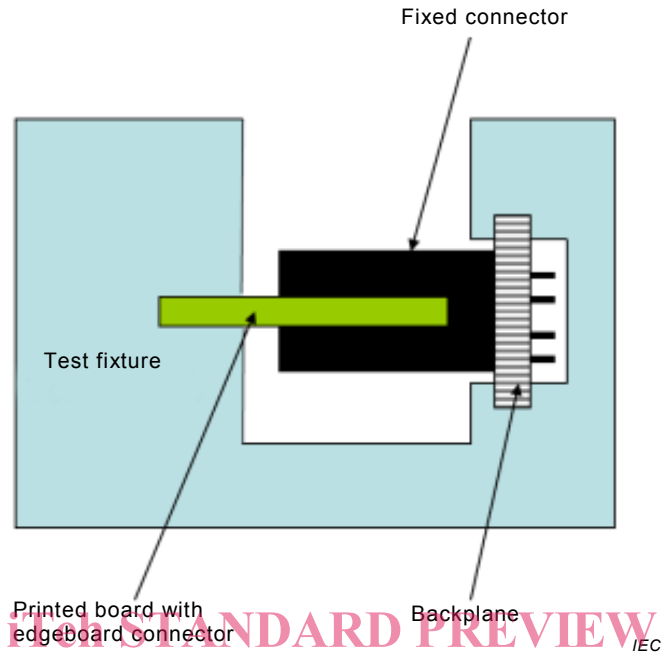
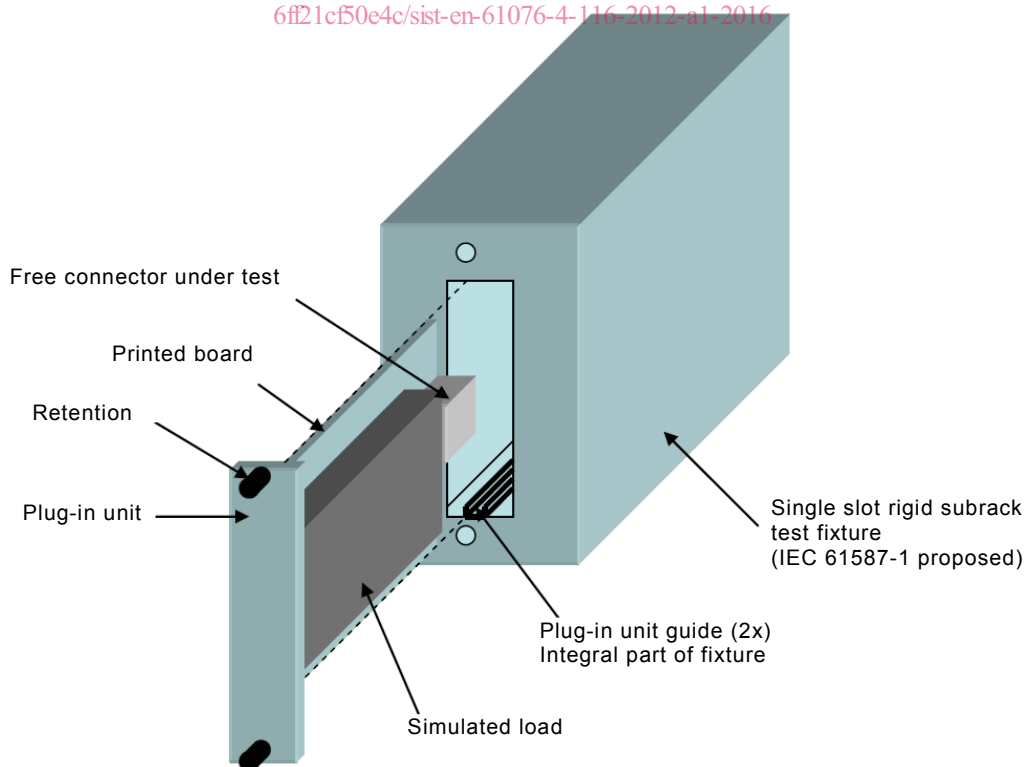
Note 1 to entry: The test arrangement consists of multiple connectors that may be placed in an application specific configuration under agreement between the manufacturer and user. The connectors under test shall be mounted to the plug-in unit PB and subrack backplane according to their intended mounting features (press fit, solder, surface, etc.).

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A.3.5

application specific

defines a specific intended use configuration as agreed between manufacturer and user. The user may select a requirement from a standard or specification or define a unique product requirement

A.4 Test setup overview**A.4.1 Existing arrangements for dynamic stress tests – no mass loading (see Figure A.1)****Figure A.1 – Existing test setups for vibration and shock tests – no mass loading****A.4.2 Arrangement for dynamic stress tests – with mass loading (see Figure A.2)****Figure A.2 – Test setups for vibration and shock tests – with mass loading**