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Anslutningsdon för elektronikutrustning – Del 3-110: Rektangulära anslutningsdon – Detaljspecifikation för skärmade anslutningsdon med fast don och kabeldon för dataöverföring med frekvenser upp till 1000 MHz

Connectors for electronic equipment –

Product requirements –

*Part 3-110: Detail specification for shielded, free and fixed
connectors for data transmission with frequencies up to 1000 MHz*

Som svensk standard gäller europastandarden EN 61076-3-110:2012. Den svenska standarden innehåller den officiella engelska språkversionen av EN 61076-3-110:2012.

Nationellt förord

Europastandarden EN 61076-3-110:2012

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 61076-3-110, Second edition, 2012 - Connectors for electronic equipment - Product requirements - Part 3-110: Detail specification for shielded, free and fixed connectors for data transmission with frequencies up to 1000 MHz**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 61076-3-110, utgåva 1, 2008, gäller ej fr o m 2015-06-11.

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English version

**Connectors for electronic equipment -
Product requirements -
Part 3-110: Detail specification for shielded, free and fixed connectors for
data transmission with frequencies up to 1 000 MHz
(IEC 61076-3-110:2012)**

Connecteurs pour équipements
électroniques -
Exigences de produit -
Partie 3-110: Spécification particulière
pour les fiches et les embases blindées
pour la transmission de données à des
fréquences jusqu'à 1 000 MHz
(CEI 61076-3-110:2012)

Steckverbinder für elektronische
Einrichtungen -
Produktanforderungen -
Teil 3-110: Bauartspezifikation für
geschirmte freie und feste Steckverbinder
für Datenübertragungen bis 1 000 MHz
(IEC 61076-3-110:2012)

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 48B/2285/FDIS, future edition 2 of IEC 61076-3-110, 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 approved by CENELEC as EN 61076-3-110:2012.

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) 2013-03-11
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2015-06-11

This document supersedes EN 61076-3-110:2008.

EN 61076-3-110:2012 includes the following significant technical changes with respect to EN 61076-3-110:2008:

- changes in 4.5 regarding electrical transmission performance i.e. return loss, among other specific changes, in compliance to the requirements of ISO/IEC 11801,
- updated text and format to be consistent with the referenced standards,
- removal of duplication of requirements in the EN 60603-7 series,
- introduction of transmission performance testing procedures as specified by EN 60512-28-100.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 61076-3-110:2012 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

- | | | |
|------------------|------|---|
| IEC 60068-2-38 | NOTE | Harmonized as EN 60068-2-38. |
| IEC 61076-3:2008 | NOTE | Harmonized as EN 61076-3:2008 (not modified). |

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

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>
-	-	Communication cables - Specifications for test methods - Part 1-14: Electrical test methods - Coupling attenuation or screening attenuation of connecting hardware	EN 50289-1-14	-
IEC 60068-1	-	Environmental testing - Part 1: General and guidance	EN 60068-1	-
IEC 60512	Series	Connectors for electronic equipment - Tests and measurements	EN 60512-1	Series
IEC 60512-23-3 + corr. April	2000 2003	Electromechanical components for electronic equipment - Basic testing procedures and measuring methods - Part 23-3: Test 23c: Shielding effectiveness of connectors and accessories	EN 60512-23-3	2001
IEC 60512-25-9	2008	Connectors for electronic equipment - Tests and measurements - Part 25-9: Signal integrity tests - Test 25i: Alien crosstalk	EN 60512-25-9	2008
IEC 60512-28-100	-	Connectors for electronic equipment - Tests and measurements - Part 28-100: Signal integrity tests up to 1 000 mhz on IEC 60603-7 and IEC 61076-3 series connectors - Tests 28a to 28g	EN 60512-28-100	-
IEC 60603-7	2008	Connectors for electronic equipment - Part 7: Detail specification for 8-way, unshielded, free and fixed connectors	EN 60603-7	2009
IEC 60603-7-1	2011	Connectors for electronic equipment - Part 7-1: Detail specification for 8-way, shielded, free and fixed connectors	EN 60603-7-1	2011
IEC 60603-7-7	2010	Connectors for electronic equipment - Part 7-7: Detail specification for 8-way, shielded, free and fixed connectors for data transmission with frequencies up to 600 MHz	EN 60603-7-7	2010
IEC 60603-7-71	2010	Connectors for electronic equipment - Part 7-71: Detail specification for 8-way, shielded, free and fixed connectors, for data transmission with frequencies up to 1000 MHz	EN 60603-7-71	2010
IEC 61076-1	2006	Connectors for electronic equipment - Product requirements - Part 1: Generic specification	EN 61076-1	2006

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 62153-4-12	-	Metallic communication cable test methods - Part 4-12: Electromagnetic compatibility (EMC) - Coupling attenuation or screening attenuation of connecting hardware - Absorbing clamp method	-	-

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INTRODUCTION

This detail specification describes connectors according to the IEC 61076-3 series connector requirements.

This detail specification describes connectors that are similar to and compatible with IEC 60603-7 series connectors.

The IEC 61076-3-110 free connector can be used in data communication cabling systems with the IEC 60603-7-7 and IEC 60603-7-71 fixed connector.

The IEC 61076-3-110 connector includes up to 12 contacts, including up to 8 contacts (1,2,3,4,5,6,7,8) that are similar to a standard IEC 60603-7 series connector. In addition, the IEC 61076-3-110 connector includes up to 4 additional contacts (6',3',4',5') located on the opposite side from the original contacts' positions of a basic IEC 60603-7 series connector.

For use in high speed communications cabling systems, IEC 60603-7-7 and IEC 60603-7-71 fixed connectors include a switch or other means to engage these two different sets of four contacts to enable backward compatibility for transmission performance. In this application the IEC 61076-3-110 free connector simply uses 8 contacts (1,2,3',4',5',6',7,8) and no switch.

The IEC 61076-3-110 fixed connector includes a board mounted style in addition to the cable mounted style.

The complete requirements for the connectors described herein correspond to this detail specification and the current issues of IEC 61076-3 and IEC 60603-7 series, which are referenced herein accordingly.

CONNECTORS FOR ELECTRONIC EQUIPMENT – PRODUCT REQUIREMENTS –

Part 3-110: Detail specification for shielded, free and fixed connectors for data transmission with frequencies up to 1 000 MHz

1 Scope

This part of IEC 61076 is a detail specification for two-part connectors.

This detail specification covers mechanical and environmental requirements, and electrical transmission requirements for frequencies up to 1 000 MHz.

These connectors can be used as category 7_A connectors in class F_A cabling systems specified in ISO/IEC 11801.¹

The connectors are intermateable with IEC 60603-7 series connectors (see 3.3).

The connectors are interoperable with IEC 60603-7-7 and IEC 60603-7-71 connectors (see 3.4).

The connectors are backward compatible with IEC 60603-7-7 and IEC 60603-7-71 connectors (see 3.5).

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

IEC 60512 (all parts), *Connectors for electronic equipment – Tests and measurements*

IEC 60512-23-3: 2000, *Electromechanical components for electronic equipment – Basic testing procedures and measuring methods – Part 23-3: Test 23c: Shielding effectiveness of connectors and accessories*

IEC 60512-25-9: 2008, *Connectors for electronic equipment – Tests and measurements – Part 25-9: Signal integrity tests – Test 25i: Alien crosstalk*

IEC 60512-28-100: *Connectors for electronic equipment – Tests and measurements – Part 28-100: Signal integrity tests up to 1 000 MHz on IEC 60603-7 and IEC 61076-3 series connectors – Tests 28a to 28g (to be published)*

IEC 60603-7:2008, *Connectors for electronic equipment – Part 7: Detail specification for 8-way, unshielded, free and fixed connectors*

¹ ISO/IEC 11801 contains various 'category' designations corresponding to various frequency ranges.

IEC 60603-7-1:2011, *Connectors for electronic equipment – Part 7-1: Detail specification for 8-way, shielded, free and fixed connectors*

IEC 60603-7-7:2010, *Connectors for electronic equipment – Part 7-7: Detail specification for 8-way, shielded, free and fixed connectors for data transmission with frequencies up to 600 MHz*

IEC 60603-7-71:2010, *Connectors for electronic equipment – Part 7-7: Detail specification for 8-way, shielded, free and fixed connectors for data transmission with frequencies up to 1000 MHz*

IEC 61076-1:2006, *Connectors for electronic equipment – Product requirements – Part 1: Generic specification*

IEC 62153-4-12, *Metallic communication cable test methods – Part 4-12: Electromagnetic compatibility (EMC) - Coupling attenuation or screening attenuation of connecting hardware – Absorbing clamp method*

EN 50289-1-14, *Communication cables – Specifications for test methods – Electrical test methods – Coupling attenuation or screening attenuation of connecting hardware*