SVENSK STANDARD SS-EN 61076-3-110

Fastställd	Utgåva	Sida	Ansvarig kommitté
2017-03-15	3	1 (1+19)	SEK TK 48B

Anslutningsdon för elektronikutrustning – Del 3-110: Rektangulära anslutningsdon – Detaljspecifikation för skärmade anslutningsdon med fast don och kabeldon för dataöverföring med frekvenser upp till 3 000 MHz

Connectors for electronic equipment – Product requirements – Part 3-110: Detail specification for free and fixed connectors for data transmission with frequencies up to 3 000 MHz

Som svensk standard gäller europastandarden EN 61076-3-110:2016. Den svenska standarden innehåller den officiella engelska språkversionen av EN 61076-3-110:2016.

Nationellt förord

Europastandarden EN 61076-3-110:2016

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 61076-3-110, Third edition, 2016 - Connectors for electronic equipment - Product requirements - Part 3-110: Detail specification for free and fixed connectors for data transmission with frequencies up to 3 000 MHz**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 61076-3-110, utgåva 2, 2013, gäller ej fr o m 2019-10-04.

ICS 31.220.10

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61076-3-110

November 2016

ICS 31.220.10

Supersedes EN 61076-3-110:2012

English Version

Connectors for electronic equipment - Product requirements - Part 3-110: Detail specification for free and fixed connectors for data transmission with frequencies up to 3 000 MHz (IEC 61076-3-110:2016)

Connecteurs pour équipements électroniques - Exigences de produit - Partie 3-110: Spécification particulière pour les fiches et les embases pour la transmission de données à des fréquences jusqu'à 3 000 MHz
(IEC 61076-3-110:2016)

Steckverbinder für elektronische Einrichtungen - Produktanforderungen - Teil 3-110: Bauartspezifikation für freie und feste Steckverbinder für Datenübertragungen bis 3 000 MHz
(IEC 61076-3-110:2016)

This European Standard was approved by CENELEC on 2016-10-04. 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 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.

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

Ref. No. EN 61076-3-110:2016 E

SEK Svensk Elstandard

European foreword

The text of document 48B/2496/FDIS, future edition 3 of IEC 61076-3-110, 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 61076-3-110:2016.

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)	2017-07-04
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2019-10-04

This document supersedes EN 61076-3-110:2012.

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 61076-3-110:2016 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 60603-7-81:2015	NOTE	Harmonized as EN 60603-7-81:2016 (not modified).
IEC 61076 Series	NOTE	Harmonized as EN 61076 Series.
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 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu

Publication	Year	Title	EN/HD	Year
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	Series
IEC 60512-1	-	Connectors for electronic equipment - Tests and measurements - Part 1: General	EN 60512-1	-
IEC 60512-25-9	-	Connectors for electronic equipment - Tests and measurements - Part 25-9: Signal integrity tests - Test 25i: Alien crosstalk	EN 60512-25-9	-
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	-	Connectors for electronic equipment - Part 7: Detail specification for 8-way, unshielded, free and fixed connectors	EN 60603-7	-
IEC 60603-7-1	-	Connectors for electronic equipment - Part 7-1: Detail specification for 8-way, shielded, free and fixed connectors	EN 60603-7-1	-
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	-	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	-

Publication	Year	Title	EN/HD	Year
IEC 60603-7-82	2016	Connectors for electronic equipment - Part 7-82: Detail specification for 8-way, 12 contacts, shielded, free and fixed connectors, for data transmission with frequencies up to 2 000 MHz	EN 60603-7-82	201X [1)]
IEC 61076-1	-	Connectors for electronic equipment - Product requirements - Part 1: Generic specification	EN 61076-1	-
IEC 62153-4-15	2015	Metallic communication cable test methods - - Part 4-15: Electromagnetic compatibility (EMC) - Test method for measuring transfer impedance and screening attenuation - or coupling attenuation with triaxial cell	-	-

[1)] To be published.

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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CONNECTORS FOR ELECTRONIC EQUIPMENT – PRODUCT REQUIREMENTS –

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

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of 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, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). 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. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 61076-3-110 has been prepared by subcommittee 48B: Electrical connectors, of IEC technical committee 48: Electrical connectors and mechanical structures for electrical and electronic equipment.

This third edition cancels and replaces the second edition published in 2012. This edition constitutes a technical revision.

The main technical changes with regard to the previous edition are as follows:

- IEC 61076-3-110 series connectors have been updated to support intermateability with IEC 60603-7-82 (up to 2 000 MHz) connectors, in addition to IEC 60603-7-71 (up to 1 000 MHz) connectors and IEC 60603-7-7 (up to 600 MHz) connectors for prior editions;
- the specifications cover electrical transmission requirements for frequencies up to 3 000 MHz.

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

FDIS	Report on voting
48B/2496/FDIS	48B/2509/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 of IEC 61076 series, under the general title *Connectors for electronic equipment – Product requirements*, 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

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

INTRODUCTION

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

This detail specification describes connectors that are similar to, intermateable with, and intended to be used with IEC 60603-7 series connectors.

The IEC 61076-3-110 series connectors include alternative arrangements of additional contacts and features, which extend the functionality of the IEC 60603-7 series connectors.

This detail specification covers electrical transmission requirements for frequencies up to 3 000 MHz.

This detail specification describes connectors that support unshielded and three types of shielded cables used with separated pairs of contacts: individual pair unshielded, with or without an overall shield; and individual pair shielded, with or without an overall shield.

The IEC 60603-7 series connectors are typically used in ISO/IEC 11801 balanced cabling systems. The ISO/IEC 11801 balanced cabling systems are organized by categories according to frequency range and by basic cabling types according to shielding configurations.

Typically a IEC 61076-3-110 free connector, using the alternative four separated pairs' contacts, is mated with the IEC 60603-7-7, IEC 60603-7-71, or IEC 60603-7-82 fixed connectors operating in their higher-frequency mode.

The complete requirements for the connectors described herein are comprised by this detail specification and the current editions of IEC 61076-3 and IEC 60603-7 series, particularly IEC 60603-7-1, IEC 60603-7-7, IEC 60603-7-71, and IEC 60603-7-82, which are referenced herein accordingly.

CONNECTORS FOR ELECTRONIC EQUIPMENT – PRODUCT REQUIREMENTS –

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

1 Scope

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

This detail specification covers mechanical, electrical and environmental requirements and electrical transmission requirements for frequencies up to 3 000 MHz.These connector's transmission requirements are specifically intended for specific pairs of contacts, which are separated from the other pairs of contacts, such as by means of individual pair shields within the connector.

These connectors are similar to, intermateable with, and intended to be used with the IEC 60603-7 series connectors.

The IEC 60603-7 series connectors are typically used in ISO/IEC 11801 balanced cabling systems. The ISO/IEC 11801 balanced cabling systems are organized by categories according to frequency range and by basic cabling component types, e.g. according to shielding configurations.

A primary common feature among the IEC 60603-7 series connectors is backward compatibility to lower frequency categories. The IEC 61076-3-110 series connectors are backward compatible with IEC 60603-7-7, IEC 60603-7-71 and IEC 60603-7-82 connectors. The IEC 61076-3-110 series connectors are not backward compatible with some IEC 60603-7 series connectors.

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

IEC 60512-25-9, *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*[1]

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

IEC 60603-7-1, *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, *Connectors for electronic equipment – Part 7-71: Detail specification for 8-way, shielded, free and fixed connectors for data transmission with frequencies up to 1 000 MHz*

IEC 60603-7-82:—, *Connectors for electronic equipment – Part 7-82: Detail specification for 8-way, 12 contacts, shielded, free and fixed connectors, for data transmission with frequencies up to 2 000 MHz*[2]

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

IEC 62153-4-15:2015, *Metallic communication cable test methods – Part 4-15: Electromagnetic compatibility (EMC) – Test method for measuring transfer impedance and screening attenuation – or coupling attenuation with triaxial cell*

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1 The tests include frequencies up to 2 000 MHz.

2 To be published. Currently at FDIS stage. Is likely to be published at the same time as this document.