

|            |                                                                                                                                                                                          |                                              |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| <b>STN</b> | <b>Konektory pre elektronické zariadenia.<br/>Požiadavky na výrobok. Časť 3-110: Podrobná<br/>špecifikácia na voľné a pevné konektory na<br/>prenos dát s frekvenciami do 3 000 MHz.</b> | <b>STN<br/>EN 61076-3-110</b><br><br>35 4621 |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|

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

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 03/17

Obsahuje: EN 61076-3-110:2016, IEC 61076-3-110:2016

Oznámením tejto normy sa od 04.10.2019 ruší  
STN EN 61076-3-110 (35 4621) z novembra 2012

**124578**

Úrad pre normalizáciu, metrológiu a skúšobníctvo Slovenskej republiky, 2017

Podľa zákona č. 264/1999 Z. z. o technických požiadavkách na výrobky a o posudzovaní zhody a o zmene a doplnení niektorých zákonov v znení neskorších predpisov sa slovenská technická norma a časti slovenskej technickej normy môžu rozmnožovať alebo rozširovať len so súhlasom slovenského národného normalizačného orgánu.

EUROPEAN STANDARD

**EN 61076-3-110**

NORME EUROPÉENNE

EUROPÄISCHE NORM

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.

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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 61076-3-110:2016****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 (dop) 2017-07-04  
implemented at national level by  
publication of an identical national  
standard or by endorsement
- latest date by which the national (dow) 2019-10-04  
standards conflicting with the  
document have to be withdrawn

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

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**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](http://www.cenelec.eu)

| <u>Publication</u> | <u>Year</u> | <u>Title</u>                                                                                                                                                                                          | <u>EN/HD</u>    | <u>Year</u> |
|--------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------|
| IEC 60068-1        | -           | Environmental testing -<br>Part 1: General and guidance                                                                                                                                               | EN 60068-1      | -           |
| IEC 60512          | Series      | Connectors for electronic equipment -<br>Tests and measurements                                                                                                                                       | EN 60512        | Series      |
| IEC 60512-1        | -           | Connectors for electronic equipment -<br>Tests and measurements -<br>Part 1: General                                                                                                                  | EN 60512-1      | -           |
| IEC 60512-25-9     | -           | Connectors for electronic equipment -<br>Tests and measurements -<br>Part 25-9: Signal integrity tests - Test 25i:<br>Alien crosstalk                                                                 | EN 60512-25-9   | -           |
| IEC 60512-28-100   | -           | Connectors for electronic equipment -<br>Tests and measurements -<br>Part 28-100: Signal integrity tests up to<br>1 000 MHz on IEC 60603-7 and IEC<br>61076-3 series connectors - Tests 28a to<br>28g | EN 60512-28-100 | -           |
| IEC 60603-7        | -           | Connectors for electronic equipment -<br>Part 7: Detail specification for 8-way,<br>unshielded, free and fixed connectors                                                                             | EN 60603-7      | -           |
| IEC 60603-7-1      | -           | Connectors for electronic equipment -<br>Part 7-1: Detail specification for 8-way,<br>shielded, free and fixed connectors                                                                             | EN 60603-7-1    | -           |
| IEC 60603-7-7      | 2010        | Connectors for electronic equipment -<br>Part 7-7: Detail specification for 8-way,<br>shielded, free and fixed connectors for data<br>transmission with frequencies up to 600<br>MHz                  | EN 60603-7-7    | 2010        |
| IEC 60603-7-71     | -           | Connectors for electronic equipment -<br>Part 7-71: Detail specification for 8-way,<br>shielded, free and fixed connectors, for<br>data transmission with frequencies up to<br>1000 MHz               | EN 60603-7-71   | -           |

**EN 61076-3-110:2016**

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

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<sup>1)</sup> To be published.



# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

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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**

**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**



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IEC 61076-3-110

Edition 3.0 2016-08

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

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**Connectors for electronic equipment – Product requirements –  
Part 3-110: Detail specification for free and fixed connectors for data  
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## CONTENTS

|                                                                                                                     |    |
|---------------------------------------------------------------------------------------------------------------------|----|
| FOREWORD.....                                                                                                       | 4  |
| INTRODUCTION.....                                                                                                   | 6  |
| 1 Scope.....                                                                                                        | 7  |
| 2 Normative references.....                                                                                         | 7  |
| 3 Terms and definitions .....                                                                                       | 8  |
| 4 Common features and isometric view .....                                                                          | 9  |
| 4.1 General.....                                                                                                    | 9  |
| 4.2 Cable terminations and internal connections – Fixed and free connectors.....                                    | 10 |
| 4.3 Mating information .....                                                                                        | 10 |
| 4.4 Mounting information.....                                                                                       | 10 |
| 5 Gauges .....                                                                                                      | 11 |
| 6 Characteristics .....                                                                                             | 11 |
| 6.1 General.....                                                                                                    | 11 |
| 6.2 Classification into climate categories, clearance and creepage distances and<br>current carrying capacity ..... | 11 |
| 6.3 Electrical characteristics.....                                                                                 | 11 |
| 6.4 Transmission characteristics .....                                                                              | 11 |
| 6.4.1 General .....                                                                                                 | 11 |
| 6.4.2 Insertion loss (IL).....                                                                                      | 11 |
| 6.4.3 Return loss (RL).....                                                                                         | 11 |
| 6.4.4 Propagation delay .....                                                                                       | 12 |
| 6.4.5 Delay skew .....                                                                                              | 12 |
| 6.4.6 Near-end crosstalk (NEXT).....                                                                                | 12 |
| 6.4.7 Power sum NEXT (PSNEXT) (for information only) .....                                                          | 12 |
| 6.4.8 Far-end crosstalk (FEXT) .....                                                                                | 12 |
| 6.4.9 Power sum FEXT (PSFEXT) (for information only) .....                                                          | 12 |
| 6.4.10 Transverse conversion loss (TCL) .....                                                                       | 12 |
| 6.4.11 Transverse conversion transfer loss (TCTL).....                                                              | 12 |
| 6.4.12 Power sum alien (exogenous) NEXT (PSANEXT).....                                                              | 13 |
| 6.4.13 Power sum alien (exogenous) FEXT (PSAFEXT) .....                                                             | 13 |
| 6.4.14 Coupling attenuation .....                                                                                   | 13 |
| 6.5 Mechanical characteristics .....                                                                                | 13 |
| 7 Test schedule .....                                                                                               | 13 |
| 7.1 General.....                                                                                                    | 13 |
| 7.2 Test schedule .....                                                                                             | 14 |
| 7.2.1 Test group EP.....                                                                                            | 14 |
| Annex A (normative) Gauging requirements.....                                                                       | 15 |
| A.1 Fixed connectors.....                                                                                           | 15 |
| A.2 Free connectors .....                                                                                           | 15 |
| Bibliography .....                                                                                                  | 16 |
| Figure 1 – Isometric view of fixed cable connector and free 4, 6 and 2 pair connectors,<br>examples.....            | 9  |
| Figure 2 – Isometric view of fixed board connector, example.....                                                    | 10 |

|                                                                                                  |    |
|--------------------------------------------------------------------------------------------------|----|
| Figure 3 – Fixed connector pin numbering assignments (front view of connector),<br>example ..... | 10 |
| Table 1 – Test group EP .....                                                                    | 14 |

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**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

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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*<sup>1</sup>

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*<sup>2</sup>

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*

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**

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<sup>1</sup> The tests include frequencies up to 2 000 MHz.

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