BS EN IEC 61076-3-122:2021

BSI Standards Publication

Connectors for electrical and electronic equipment — Product requirements

Part 3-122: Detail specification for 8-way, shielded, free and fixed connectors for I/O and data transmission with frequencies up to 500 MHz and current-carrying capacity in industrial environments

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National foreword

This British Standard is the UK implementation of EN IEC 61076-3-122:2021. It is identical to IEC 61076-3-122:2021. It supersedes BS EN 61076-3-122:2017, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee EPL/48, Electromechanical components and mechanical structures for electronic equipment.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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Published by BSI Standards Limited 2021

ISBN 978 0 539 01861 5

ICS 31.220.10; 31.240

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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 June 2021.

Amendments/corrigenda issued since publication

Date	Text affected

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 61076-3-122

June 2021

ICS 31.220.10

Supersedes EN 61076-3-122:2017 and all of its amendments and corrigenda (if any)

English Version

Connectors for electrical and electronic equipment - Product requirements - Part 3-122: Detail specification for 8-way, shielded, free and fixed connectors for I/O and data transmission with frequencies up to 500 MHz and current-carrying capacity in industrial environments (IEC 61076-3-122:2021)

Connecteurs pour équipements électriques et électroniques - Exigences de produit - Partie 3-122: Spécification particulière pour les fiches et les embases écrantées à 8 voies pour les entrées/sorties et la transmission des données à des fréquences jusqu'à 500 MHz avec courant limite admissible dans des environnements industriels (IEC 61076-3-122:2021)

Steckverbinder für elektrische und elektronische Einrichtungen - Produktanforderungen - Teil 3-122: Bauartspezifikation für geschirmte freie und feste Steckverbinder, 8-polig, für I/O- und Datenübertragung und Strombelastbarkeit in industriellen Umgebungen (IEC 61076-3-122:2021)

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European foreword

The text of document 48B/2864/FDIS, future edition 2 of IEC 61076-3-122, 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 IEC 61076-3-122:2021.

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) 2022-02-26
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2024-05-26

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Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 Where 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 60050-581	-	International Electrotechnical Vocabulary - Part 581: Electromechanical components for electronic equipment	-	-
IEC 60068-1	-	Environmental testing - Part 1: General and guidance	EN 60068-1	-
IEC 60068-2-38	-	Environmental testing - Part 2-38: Tests - Test Z/AD: Composite temperature/humidity cyclic test	EN IEC 60068-2-38	-
IEC 60512-1	-	Connectors for electrical and electronic equipment - Tests and measurements - Part 1: Generic specification	EN IEC 60512-1	-
IEC 60512-1-1	-	Connectors for electronic equipment - Tests and measurements - Part 1-1: General examination - Test 1a: Visual examination	EN 60512-1-1	-
IEC 60512-1-2	-	Connectors for electronic equipment - Tests and measurements - Part 1-2: General examination - Test 1b: Examination of dimension and mass	EN 60512-1-2	-
IEC 60512-2-1	-	Connectors for electronic equipment - Tests and measurements - Part 2-1: Electrical continuity and contact resistance tests - Test 2a: Contact resistance - Millivolt level method	EN 60512-2-1	-
IEC 60512-3-1	-	Connectors for electronic equipment - Tests and measurements - Part 3-1: Insulation tests - Test 3a: Insulation resistance	EN 60512-3-1	-
IEC 60512-4-1	-	Connectors for electronic equipment - Tests and measurements - Part 4-1: Voltage stress tests - Test 4a: Voltage proof	EN 60512-4-1	-

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Publication	Year	Title	EN/HD	Year
IEC 60512-5-2	-	Connectors for electronic equipment - Tests and measurements - Part 5-2: Current-carrying capacity tests - Test 5b: Current-temperature derating	EN 60512-5-2	-
IEC 60512-6-3	-	Connectors for electronic equipment - Tests and measurements - Part 6-3: Dynamic stress tests - Test 6c: Shock	EN 60512-6-3	-
IEC 60512-6-4	-	Connectors for electronic equipment - Tests and measurements - Part 6-4: Dynamic stress tests - Test 6d: Vibration (sinusoidal)	EN 60512-6-4	-
IEC 60512-9-1	-	Connectors for electronic equipment - Tests and measurements - Part 9-1: Endurance tests - Test 9a: Mechanical operation	EN 60512-9-1	-
IEC 60512-11-3	-	Connectors for electronic equipment - Tests and measurements - Part 11-3: Climatic tests - Test 11c: Damp heat, steady state	EN 60512-11-3	-
IEC 60512-11-4	-	Connectors for electronic equipment - Tests and measurements - Part 11-4: Climatic tests - Test 11d: Rapid change of temperature	EN 60512-11-4	-
IEC 60512-11-7	-	Connectors for electronic equipment - Tests and measurements - Part 11-7: Climatic tests - Test 11g: Flowing mixed gas corrosion test	EN 60512-11-7	-
IEC 60512-11-9	-	Connectors for electronic equipment - Tests and measurements - Part 11-9: Climatic tests - Test 11i: Dry heat	EN 60512-11-9	-
IEC 60512-11-10	-	Connectors for electronic equipment - Tests and measurements - Part 11-10: Climatic tests - Test 11j: Cold	EN 60512-11-10	-
IEC 60512-13-2	-	Connectors for electronic equipment - Tests and measurements - Part 13-2: Mechanical operation tests - Test 13b: Insertion and withdrawal forces	EN 60512-13-2	-
IEC 60512-15-6	-	Connectors for electronic equipment - Tests and measurements - Part 15-6: Connector tests (mechanical) - Test 15f: Effectiveness of connector coupling devices	EN 60512-15-6	-
IEC 60512-26-100	-	Connectors for electronic equipment - Tests and measurements - Part 26-100: Measurement setup, test and reference arrangements and measurements for connectors according to IEC 60603-7 - Tests 26a to 26g	EN 60512-26-100	-
IEC 60512-28-100	-	Connectors for electrical and electronic equipment - Tests and measurements - Part 28-100: Signal integrity tests up to 2 000 MHz - Tests 28a to 28g	EN IEC 60512-28-100	-

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Publication	Year	Title	EN/HD	Year
IEC 60512-99-002	-	Connectors for electrical and electronic equipment - Tests and measurements - Part 99-002: Endurance test schedules - Test 99b: Test schedule for unmating under electrical load	EN IEC 60512-99-002	-
IEC 60664-1	-	Insulation coordination for equipment within low-voltage supply systems - Part 1: Principles, requirements and tests	EN IEC 60664-1	-
IEC 61076-1	2006	Connectors for electronic equipment - Product requirements - Part 1: Generic specification	EN 61076-1	2006
+ A1	2019		+ A1	2019
IEC 61076-3	-	Connectors for electronic equipment - Product requirements - Part 3: Rectangular connectors - Sectional specification	EN 61076-3	-
IEC/TR 63040	-	Guidance on clearances and creepage distances in particular for distances equal to or less than 2 mm - Test results of research on influencing parameters	-	-
ISO/IEC 11801-1	-	Information technology - Generic cabling for customer premises - Part 1: General requirements	-	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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CONNECTORS FOR ELECTRICAL AND ELECTRONIC EQUIPMENT – PRODUCT REQUIREMENTS –

Part 3-122: Detail specification for 8-way, shielded, free and fixed connectors for I/O and data transmission with frequencies up to 500 MHz and current-carrying capacity in industrial environments

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 61076-3-122 has been prepared by subcommittee 48B: Electrical connectors, of IEC technical committee 48: Electrical connectors and mechanical structures for electrical and electronic equipment.

This second edition cancels and replaces the first edition published in 2017. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) Title modified.
b) Introduction of two sets of requirements for connectors of "class A" and "class B" where class A matches the requirements defined in the previous edition.

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c) Definition of new performance requirements for frequencies up to 500 MHz in addition to the performance requirements up to 100 MHz provided with the previous edition.

d) Re-structuring to reflect the commonalities of and differences between connector Type I and Type II.

e) Revision of drawings to clarify some dimensions.

e) The derating diagram has been corrected to align it with the upper limiting temperature in the climatic category, with no reduction of performance for the target applications.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
48B/2864/FDIS	48B/2877/RVD

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

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 61076 series, published under the general title *Connectors for electrical and electronic equipment – Product requirements*, can be found on the IEC website.

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

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