Connectors for electrical and electronic equipment - Product requirements - Part 2-114: Circular connectors - Detail specification for connectors with M8 screw-locking with power contacts and signal contacts for data transmission up to 100 MHz

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 61076-2-114:2020 sisaldab Euroopa standardi EN IEC 61076-2-114:2020 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 61076-2-114:2020 consists of the English text of the European standard EN IEC 61076-2-114:2020.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 30.10.2020.	Date of Availability of the European standard is 30.10.2020.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 31.220.10

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 61076-2-114

October 2020

ICS 31.220.10

English Version

Connectors for electrical and electronic equipment - Product requirements - Part 2-114: Circular connectors - Detail specification for connectors with M8 screw-locking with power contacts and signal contacts for data transmission up to 100 MHz (IEC 61076-2-114:2020)

Connecteurs pour équipements électriques et électroniques - Exigences de produit - Partie 2-114: Connecteurs circulaires - Spécification particulière pour les connecteurs avec verrouillage à vis M8 avec contacts de puissance et contact de signaux pour transmission de données jusqu'à 100 MHz
(IEC 61076-2-114:2020)

Steckverbinder für elektrische und elektronische Einrichtungen - Produktanforderungen - Teil 2-114: Rundsteckverbinder - Bauartspezifikation für Steckverbinder M8 mit Schraubverriegelung mit Daten- und Leistungskontakten zur Datenübertragung bis 100 MHz
(IEC 61076-2-114:2020)

This European Standard was approved by CENELEC on 2020-10-29. 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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, 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: Rue de la Science 23, B-1040 Brussels

Ref. No. EN IEC 61076-2-114:2020 E

European foreword

The text of document 48B/2814/FDIS, future edition 1 of IEC 61076-2-114, 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 61076-2-114:2020.

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) 2021-07-29
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2023-10-29

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

Endorsement notice

The text of the International Standard IEC 61076-2-114:2020 was approved by CENELEC as a European Standard without any modification.

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	-	Basic environmental testing procedures - Part 1: General and guidance	-	-
IEC 60068-2-60	-	Environmental testing - Part 2-60: Tests - Test Ke: Flowing mixed gas corrosion test	EN 60068-2-60	-
IEC 60352	series	Solderless connections	EN 60352	series
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	-
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	-

Publication	Year	Title	EN/HD	Year
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 60512-8-1	-	Connectors for electronic equipment - Tests and measurements - Part 8-1: Static load tests (fixed connectors) - Test 8a: Static load, transverse	EN 60512-8-1	-
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 60512-12-2	-	Connectors for electronic equipment - Tests and measurements - Part 12-2: Soldering tests - Test 12b: Solderability, wetting, soldering iron method	EN 60512-12-2	-
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 60512-13-5	-	Connectors for electronic equipment - Tests and measurements - Part 13-5: Mechanical operation tests - Test 13e: Polarizing and keying method	EN 60512-13-5	-
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 60512-19-3	-	Electromechanical components for electronic equipment - Basic testing procedures and measuring methods - Part 19: Chemical resistance tests - Section 3: Test 19c - Fluid resistance	EN 60512-19-3	-
IEC 60512-25-7	2004	Connectors for electronic equipment - Tests and measurements - Part 25-7: Test 25g - Impedance, reflection coefficient, and voltage standing wave ratio (VSWR)	EN 60512-25-7	2005
IEC 60512-29-100	-	Connectors for electronic equipment - Tests and measurements - Part 29-100: Signal integrity tests up to 500 MHz on M12 style connectors - Tests 29a to 29g	EN 60512-29-100	-
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529	1991
-	-		+ corrigendum	1993
IEC 60603-7	series	Connectors for electronic equipment - Part 7: Detail specification for 8-way, unshielded, free and fixed connectors	-	-

Publication	Year	Title	EN/HD	Year
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 60664-1	-	Insulation coordination for equipment within low-voltage supply systems - Part 1: Principles, requirements and tests	EN IEC 60664-1	-
IEC 60998-2-1	-	Connecting devices for low-voltage circuits for household and similar purposes - Part 2-1: Particular requirements for connecting devices as separate entities with screw-type clamping units	EN 60998-2-1	-
IEC 60999	series	Connecting devices - Electrical copper conductors - Safety requirements for screw-type and screwless-type clamping units	EN 60999	series
IEC 61076-1	2006	Connectors for electronic equipment - Product requirements - Part 1: Generic specification	EN 61076-1	2006
IEC 61131-2	-	Industrial-process measurement and control - Programmable controllers - Part 2: Equipment requirements and tests	-	-
IEC 61784-5	series	Industrial communication networks - Profiles	EN 61784-5	series
IEC 61784-5-12	-	Industrial communication networks - Profiles - Part 5-12: Installation of fieldbuses - Installation profiles for CPF 12	EN IEC 61784-5-12	-
IEC 61918	-	Industrial communication networks - Installation of communication networks in industrial premises	-	-
IEC 61984	-	Connectors - Safety requirements and tests	EN 61984	-
IEC 62197-1	-	Connectors for electronic equipment - Quality assessment requirements - Part 1: Generic specification	EN 62197-1	-
IEC 62430	-	Environmentally conscious design (ECD) - Principles, requirements and guidance	EN IEC 62430	-
IEC Guide 109	-	Environmental aspects - Inclusion in electrotechnical product standards	-	-
ISO/IEC TR 11801	series	Information technology - Generic cabling for customer premises	-	-

Publication	Year	Title	EN/HD	Year
ISO 1302	-	Geometrical Product Specifications (GPS) - Indication of surface texture in technical product documentation	EN ISO 1302	-
ISO 11469	-	Plastics - Generic identification and marking of plastics products	EN ISO 11469	-
TIA-568 SET	2019	Commercial building telecommunications cabling standard set	-	-

IEC 61076-2-114

Edition 1.0 2020-09

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Connectors for electrical and electronic equipment – Product requirements – Part 2-114: Circular connectors – Detail specification for connectors with M8 screw-locking with power contacts and signal contacts for data transmission up to 100 MHz

Connecteurs pour équipements électriques et électroniques – Exigences de produit –
Partie 2-114: Connecteurs circulaires – Spécification particulière pour les connecteurs avec verrouillage à vis M8 avec contacts de puissance et contact de signaux pour transmission de données jusqu'à 100 MHz

IEC 61076-2-114:2020-09(en-fr)

IEC Central Office
3, rue de Varembé
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

About the IEC
The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications
The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigendum or an amendment might have been published.

IEC publications search - webstore.iec.ch/advsearchform
The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee,…). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished
Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and once a month by email.

IEC Customer Service Centre - webstore.iec.ch/csc
If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: sales@iec.ch.

Electropedia - www.electropedia.org
The world's leading online dictionary on electrotechnology, containing more than 22 000 terminological entries in English and French, with equivalent terms in 16 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC Glossary - std.iec.ch/glossary
67 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

A propos de l'IEC
La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications IEC
Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

Recherche de publications IEC - webstore.iec.ch/advsearchform
La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études,…). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

IEC Just Published - webstore.iec.ch/justpublished
Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et une fois par mois par email.

Service Clients - webstore.iec.ch/csc
Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: sales@iec.ch.

Electropedia - www.electropedia.org
Le premier dictionnaire d'électrotechnologie en ligne au monde, avec plus de 22 000 articles terminologiques en anglais et en français, ainsi que les termes équivalents dans 16 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

Glossaire IEC - std.iec.ch/glossary
67 000 entrées terminologiques électrotechniques, en anglais et en français, extraites des articles Termes et Définitions des publications IEC parues depuis 2002. Plus certaines entrées antérieures extraites des publications des CE 37, 77, 86 et CISPR de l'IEC.

IEC 61076-2-114

Edition 1.0 2020-07

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Connectors for electrical and electronic equipment – Product requirements – Part 2-114: Circular connectors – Detail specification for connectors with M8 screw-locking with power contacts and signal contacts for data transmission up to 100 MHz

Connecteurs pour équipements électriques et électroniques – Exigences de produit –
Partie 2-114: Connecteurs circulaires – Spécification particulière pour les connecteurs avec verrouillage à vis M8 avec contacts de puissance et contact de signaux pour transmission de données jusqu'à 100 MHz

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 31.220.10

ISBN 978-2-8322-8654-8

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

_____

CONNECTORS FOR ELECTRICAL AND ELECTRONIC EQUIPMENT – PRODUCT REQUIREMENTS –

Part 2-114: Circular connectors – Detail specification for connectors with M8 screw-locking with power contacts and signal contacts for data transmission up to 100 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.
2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
6) All users should ensure that they have the latest edition of this publication.
7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61076-2-114 has been prepared by subcommittee 48B: Electrical connectors, of IEC technical committee 48: Electrical connectors and mechanical structures for electrical and electronic equipment

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

FDIS	Report on voting
48B/2814/FDIS	48B/2830/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 first edition cancels and replaces IEC PAS 61076-2-114, published in 2016.

This document 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 electrical and electronic equipment – Product requirements*, can be found on the IEC website.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

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

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