



SLOVENSKI STANDARD

SIST EN IEC 61076-3-106:2023

Konektorji za električno in elektronsko opremo - Zahteve za izdelek - 3-106. del: Pravokotni konektorji - Podrobna specifikacija za zaščitna ohišja za uporabo pri 8-rednih zasljenjih in nezasljenjih konektorjih za industrijska okolja z vgrajenimi zaporednimi vmesniki po IEC 60603-7 (IEC 61076-3-106:2023)

Connectors for electrical and electronic equipment - Product requirements - Part 3-106:
Rectangular connectors - Detail specification for protective housings for use with 8-way
shielded and unshielded connectors for industrial environments incorporating the IEC
60603-7 series interface (IEC 61076-3-106:2023)

Steckverbinder für elektrische und elektronische Einrichtungen – Produktanforderungen – Teil 3-106: Rechteckige Steckverbinder - Bauartspezifikation für Schutzgehäuse für die Anwendung mit 8-poligen geschirmten und ungeschirmten Steckverbindern für industrielle Umgebungen zur Aufnahme der Schnittstelle der Reihe IEC 60603-7 (IEC 61076-3-106:2023)

Connecteurs pour équipements électroniques - Exigences de produit - Partie 3-106:
Connecteurs rectangulaires - Spécification particulière pour boîtiers de protection utilisés
avec des connecteurs blindés et non blindés 8 voies pour des environnements
industriels incorporant l'interface série CEI 60603-7 (IEC 61076-3-106:2023)

Ta slovenski standard je istoveten z: EN IEC 61076-3-106:2023

ICS:

31.220.10 Vtiči in vtičnice, konektorji Plug-and-socket devices.
Connectors

SIST EN IEC 61076-3-106:2023 en

**EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM**

EN IEC 61076-3-106

September 2023

ICS 31.220.10

Supersedes EN 61076-3-106:2006

English Version

**Connectors for electrical and electronic equipment - Product requirements - Part 3-106: Rectangular connectors - Detail specification for protective housings for use with 8-way shielded and unshielded connectors for industrial environments incorporating the IEC 60603-7 series interface
(IEC 61076-3-106:2023)**

Connecteurs pour équipements électriques et électroniques
- Exigences de produit - Partie 3-106: Connecteurs rectangulaires - Spécification particulière pour boîtiers de protection utilisés avec des connecteurs blindés et non blindés 8 voies pour des environnements industriels
incorporant l'interface série IEC 60603-7
(IEC 61076-3-106:2023)

Steckverbinder für elektrische und elektronische Einrichtungen - Produktanforderungen - Teil 3-106: Rechteckige Steckverbinder - Bauartspezifikation für Schutzgehäuse für die Anwendung mit 8-poligen geschirmten und ungeschirmten Steckverbindern für industrielle Umgebungen zur Aufnahme der Schnittstelle der Reihe IEC 60603-7
(IEC 61076-3-106:2023)

This European Standard was approved by CENELEC on 2023-08-23. 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, Türkiye 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

EN IEC 61076-3-106:2023 (E)**European foreword**

The text of document 48B/3034/FDIS, future edition 2 of IEC 61076-3-106, 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 61076-3-106:2023.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2024-05-23 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2026-08-23 document have to be withdrawn

This document supersedes EN 61076-3-106:2006 and all of its amendments and corrigenda (if any).

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.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

iTeh STANDARD PREVIEW (standardpreview.ai)

The text of the International Standard IEC 61076-3-106:2023 was approved by CENELEC as a European Standard without any modification.
www.cenelec.eu/standards/sist_en_iec_61076-3-106_2023_a7ad5c28151/sist-en-iec-61076-3-106-2023

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

IEC 60512-99-001:2012 NOTE Approved as EN 60512-99-001:2012 (not modified)

IEC 60512-99-002:2022 NOTE Approved as EN IEC 60512-99-002:2022 (not modified)

IEC 61076-3-114 NOTE Approved as EN 61076-3-114

IEC 61076-3-115 NOTE Approved as EN 61076-3-115

IEC 61076-3-116 NOTE Approved as EN 61076-3-116

IEC 61076-3-117 NOTE Approved as EN 61076-3-117

ISO 14405 (series) NOTE Approved as EN ISO 14405 (series)

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.cencenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-1	-	Environmental testing - Part 1: General and guidance	EN 60068-1	-
IEC 60068-2-14	-	Environmental testing - Part 2-14: Tests - Test N: Change of temperature	EN 60068-2-14	-
IEC 60068-2-30	-	Environmental testing - Part 2-30: Tests - Test Db: Damp heat, cyclic (12 h + 12 h cycle)	EN 60068-2-30	-
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	2002	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	2002
IEC 60512-2-5	-	Connectors for electronic equipment - Tests and measurements - Part 2-5: Electrical continuity and contact resistance tests - Test 2e: Contact disturbance	EN 60512-2-5	-
IEC 60512-3-1	2002	Connectors for electronic equipment - Tests and measurements - Part 3-1: Insulation tests - Test 3a: Insulation resistance	EN 60512-3-1	2002
IEC 60512-4-1	2003	Connectors for electronic equipment - Tests and measurements - Part 4-1: Voltage stress tests - Test 4a: Voltage proof	EN 60512-4-1	2003

EN IEC 61076-3-106:2023 (E)

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 60512-8-1	2010	Connectors for electronic equipment - Tests and measurements - Part 8-1: Static load tests (fixed connectors) - Test 8a: Static load, transverse	EN 60512-8-1	2010
IEC 60512-9-1	2010	Connectors for electronic equipment - Tests and measurements - Part 9-1: Endurance tests - Test 9a: Mechanical operation	EN 60512-9-1	2010
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 60512-13-1	2006	Connectors for electronic equipment - Tests and measurements - Part 13-1: Mechanical operation tests - Test 13a: Engaging and separating forces	EN 60512-13-1	2006
-	-		+ corrigendum Dec. 2006	
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	2008	Connectors for electronic equipment - Tests and measurements - Part 15-6: Connector tests (mechanical) - Test 15f: Effectiveness of connector coupling devices	EN 60512-15-6	2008
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529	1991
-	-		+ corrigendum May 1993	
IEC 60603-7	-	Connectors for electronic equipment - Part 7: Detail specification for 8-way, unshielded, free and fixed connectors	EN IEC 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 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

IEC 61156-2	-	Multicore and symmetrical pair/quad cables for digital communications - Part 2: Symmetrical pair/quad cables with transmission characteristics up to 100 MHz - Horizontal floor wiring - Sectional specification	-	-
IEC 61156-3	-	Multicore and symmetrical pair/quad cables for digital communications - Part 3: Work area cable - Sectional specification	-	-
IEC 61156-4	-	Multicore and symmetrical pair/quad cables for digital communications - Part 4: Riser cables - Sectional specification	-	-

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN IEC 61076-3-106:2023](#)

<https://standards.iteh.ai/catalog/standards/sist/c6d69c30-1b5a-41dc-a97f-a7ad5c72815f/sist-en-iec-61076-3-106-2023>



INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Connectors for electrical and electronic equipment – Product requirements –
Part 3-106: Rectangular connectors – Detail specification for protective
housings for use with 8-way shielded and unshielded connectors for industrial
environments incorporating the IEC 60603-7 series interface**

SIST EN IEC 61076-3-106:2023

**Connecteurs pour équipements électriques et électroniques – Exigences de
produit –**

a7ad5c72815f/sist-en-iec-61076-3-106-2023

**Partie 3-106: Connecteurs rectangulaires – Spécification particulière pour
boîtiers de protection utilisés avec des connecteurs blindés et non blindés
8 voies pour des environnements industriels incorporant l'interface série
IEC 60603-7**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 31.220.10

ISBN 978-2-8322-7023-3

Warning! Make sure that you obtained this publication from an authorized distributor.

Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.

CONTENTS

FOREWORD	5
INTRODUCTION	7
1 Scope	8
2 Normative references	8
3 Terms and definitions	10
4 Dimensional information	10
4.1 Common features	10
4.2 General	10
4.3 Contact arrangement of all connector types	10
4.4 IP65/IP67 sealing	10
4.5 Industrial IEC 60603-7 variant 01 – bayonet coupling	11
4.5.1 Industrial IEC 60603-7 variant 01, fixed connector	11
4.5.2 Industrial IEC 60603-7 variant 01, free connector	12
4.5.3 Mounting information for variant 01, fixed connector	12
4.6 Industrial IEC 60603-7 variant 04 – snap-in coupling	14
4.6.1 Industrial IEC 60603-7 variant 04, fixed connector	14
4.6.2 Industrial IEC 60603-7 variant 04, free connector	15
4.6.3 Mounting information for variant 04, fixed connector	16
4.7 Industrial IEC 60603-7 variant 05 – locking lever coupling	17
4.7.1 Industrial IEC 60603-7 variant 05, fixed connector	17
4.7.2 Industrial IEC 60603-7 variant 05, free connector	18
4.7.3 Mounting information for variant 05, fixed connector	19
4.8 Industrial IEC 60603-7 variant 06 – snap-in coupling	20
4.8.1 Industrial IEC 60603-7 variant 06, fixed connector	20
4.8.2 Industrial IEC 60603-7 variant 06, free connector	21
4.8.3 Mounting information for variant 06, fixed connector	22
4.9 Industrial IEC 60603-7 variant 07 – locking lever coupling	23
4.9.1 Industrial IEC 60603-7 variant 07, fixed connector side	23
4.9.2 Industrial IEC 60603-7 variant 07, free connector	24
4.9.3 Mounting information for variant 07, fixed connector	25
4.10 Termination information	25
5 Gauges – Connectors for the IEC 60603-7 interface	25
6 Characteristics	25
6.1 Climatic category	25
6.2 Electrical	26
6.2.1 Clearance and creepage distances	26
6.2.2 Voltage proof	26
6.2.3 Current-carrying capacity	27
6.2.4 Mating cycles with power applied	27
6.2.5 Initial contact resistance	27
6.2.6 Input to output resistance	28
6.2.7 Resistance unbalance	28
6.2.8 Initial insulation resistance	28
6.3 Transmission characteristics	28
6.4 Mechanical	28
6.4.1 Mechanical operation	28

6.4.2	Effectiveness of connector coupling devices transversal	28
6.4.3	Effectiveness of connector coupling devices	28
6.4.4	Engaging and separating forces.....	29
7	Test schedule	29
7.1	General.....	29
7.2	Test procedures and measuring methods.....	29
7.3	Preconditioning	29
7.4	Wiring and mounting of specimens.....	29
7.4.1	Wiring.....	29
7.4.2	Mounting	30
7.5	Arrangement for contact resistance test	30
7.6	Arrangement for dynamic stress tests	30
7.7	Basic (minimum) test schedule.....	30
7.8	Full test schedule.....	30
7.8.1	General	30
7.8.2	Test group P – Preliminary	31
7.8.3	Test group AP – Dynamic/climatic	32
7.8.4	Test Group BP – Mechanical	34
7.8.5	Test group CP – Continuity	35
7.8.6	Test Group DP.....	35
7.8.7	Test Group EP	35
Bibliography.....		36
Figure 1 – Variant 01, fixed connector		11
Figure 2 – Variant 01, free connector		12
Figure 3 – Variant 01, style 1 mounting drawing.....		13
Figure 4 – Variant 01, style 2 mounting drawing.....		13
Figure 5 – Variant 04, fixed connector		14
Figure 6 – Variant 04, free connector		15
Figure 7 – Variant 04 mounting drawing.....		16
Figure 8 – Variant 05, fixed connector		17
Figure 9 – Variant 05, free connector		18
Figure 10 – Variant 05 mounting drawing		19
Figure 11 – Variant 06, fixed connector.....		20
Figure 12 – Variant 06, free connector		21
Figure 13 – Variant 06 mounting drawing		22
Figure 14 – Variant 07, fixed connector.....		23
Figure 15 – Variant 07, free connector		24
Figure 16 – Variant 07 mounting drawing		25
Figure 17 – Connector derating curve		27
Figure 18 – Vibration and shock test arrangement		30
Table 1 – Dimensions for fixed connector variant 01		11
Table 2 – Dimensions for free connector variant 01		12
Table 3 – Variant 01, style 1 mounting information.....		13
Table 4 – Variant 01, style 2 mounting information.....		13

Table 5 – Dimensions for fixed connector variant 04	14
Table 6 – Dimensions for free connector variant 04	15
Table 7 – Variant 04 mounting information	16
Table 8 – Dimensions for fixed connector variant 05	17
Table 9 – Dimensions for free connector variant 05	18
Table 10 – Variant 05 mounting information	19
Table 11 – Dimensions for fixed connector variant 06	20
Table 12 – Dimensions for free connector variant 06.....	21
Table 13 – Variant 06 mounting information	22
Table 14 – Dimensions fixed connector variant 07	23
Table 15 – Dimensions for free connector variant 07.....	24
Table 16 – Variant 07 mounting information	25
Table 17 – Climatic categories – selected values for environmental performance level A	26
Table 18 – Creepage and clearance	26
Table 19 – Test group P	31
Table 20 – Test group AP – Dynamic/climatic	32
Table 21 – Test Group BP – Mechanical	34
Table 22 – Test group CP – Continuity.....	35

(standards.iteh.ai)

SIST EN IEC 61076-3-106:2023

<https://standards.iteh.ai/catalog/standards/sist/c6d69c30-1b5a-41dc-a97f-a7ad5c72815f/sist-en-iec-61076-3-106-2023>

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**CONNECTORS FOR ELECTRICAL AND ELECTRONIC EQUIPMENT –
PRODUCT REQUIREMENTS –****Part 3-106: Rectangular connectors – Detail specification for protective
housings for use with 8-way shielded and unshielded connectors for
industrial environments incorporating the IEC 60603-7 series interface****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.

IEC 61076-3-106 has been prepared by subcommittee 48B: Electrical connectors, of IEC technical committee 48: Electrical connectors and mechanical structures for electrical and electronic equipment. It is an International Standard.

This second edition cancels and replaces the first edition published in 2006. This edition constitutes a technical revision.

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

- a) improvement of drawings and addition of dimensions.