

SLOVENSKI STANDARD

SIST EN 61076-4-103:2002

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Connectors with assessed quality, for use in d.c., low frequency analogue and digital high-speed data applications - Part 4-103: Printed board connectors with assessed quality- Detail specification for two-part connectors with shielding and a basic grid of 2,5 mm (IEC 61076-4-103:1999

Connectors for use in d.c. low-frequency analogue and digital high speed data applications -- Part 4-103: Printed board connectors with assessed quality - Detail specification for two-part connectors with shielding and a basic grid of 2,5 mm

Steckverbindungen für Gleichspannungs- und Niederfrequenzanwendungen sowie digitale Anwendungen mit hoher Übertragungsrate -- Teil 4-103: Steckverbinder für gedruckte Schaltungen mit bewerteter Qualität - Bauartspezifikation für geschirmte indirekte Steckverbinder, Raster 2,5 mm

Connecteurs pour applications analogiques en courant continu et à basse fréquence et pour applications numériques utilisant des débits élevés pour le transfert des données -- Partie 4-103: Connecteurs pour cartes imprimées sous assurance de la qualité - Spécification particulière pour connecteurs en deux parties avec blindage au pas de base de 2,5 mm

Ta slovenski standard je istoveten z: EN 61076-4-103:1999

ICS:

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EUROPEAN STANDARD
NORME EUROPÉENNE
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EN 61076-4-103

April 1999

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English version

**Connectors for use in d.c. low-frequency analogue and
digital high speed data applications**
Part 4-103: Printed board connectors with assessed quality
**Detail specification for two-part connectors with shielding and
a basic grid of 2,5 mm**
(IEC 61076-4-103:1999)

Connecteurs pour applications
analogiques en courant continu et à
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(IEC 61076-4-103:1999)

This European Standard was approved by CENELEC on 1999-04-01. 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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 48B/737/FDIS, future edition 1 of IEC 61076-4-103, prepared by SC 48B, Connectors, of IEC TC 48, Electromechanical components and mechanical structures for electronic equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61076-4-103 on 1999-04-01.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2000-01-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2002-01-01

Annexes designated "normative" are part of the body of the standard.
In this standard, annex ZA is normative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61076-4-103:1999 was approved by CENELEC as a European Standard without any modification.

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Annex ZA (normative)**Normative references to international publications
with their corresponding European publications**

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE: When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-1	1988	Environmental testing Part 1: General and guidance	EN 60068-1 ¹⁾	1994
IEC 60352-5	1995	Solderless connections Part 5: Solderless press-in connections General requirements, test methods and practical guidance	EN 60352-5	1995
IEC 60410	1973	Sampling plans and procedures for inspection by attributes	-	-
IEC 60512-2	1985	Electromechanical components for electronic equipment - Basic testing procedures and measuring methods Part 2: General examination, electrical continuity and contact resistance tests, insulation tests and voltage stress tests	-	-
IEC 60512-3	1976	Part 3: Current-carrying capacity tests	-	-
IEC 60512-4	1976	Part 4: Dynamic stress tests	-	-
IEC 60512-5	1992	Part 5: Impact tests (free components), static load tests (fixed components), endurance tests and overload tests	-	-
IEC 60512-7	1993	Part 7: Mechanical operating tests and sealing tests	-	-
IEC 60512-8	1993	Part 8: Connector tests (mechanical) and mechanical tests on contacts and terminations	-	-
IEC 60512-9	1992	Part 9: Miscellaneous tests	-	-

1) EN 60068-1 includes the corrigendum October 1988 and A1:1992 to IEC 60068-1.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60512-23-3 ²⁾		Part 23-3: Test 23c - Shielding effectiveness, from 10 kHz to 1000 kHz, on connectors with cables affixed	-	-
IEC 60917	1988	Modular order for the development of mechanical structures for electronic equipment practices	EN 60917	1990
IEC 60917-2-2	1994	Part 2: Sectional specification - Interface co-ordination dimensions for the 25 mm equipment practice -- Section 2: Detail specification - Dimensions for subracks, chassis, backplanes, front panels and plug-in units	EN 60917-2-2	1996
IEC 61000-4-2	1995	Electromagnetic compatibility (EMC) Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test - Basic EMC publication	EN 61000-4-2	1995
IEC 61076-1	1995	Connectors with assessed quality, for use in d.c., low frequency analogue and in digital high-speed data applications Part 1: Generic specification - Capability approval	EN 61076-1	1995
IEC 61076-4	1995	Part 4: Sectional specification - Printed board connectors	EN 61076-4	1996
IEC 61076-4-100	1994	Part 4: Printed board connectors Section 100: Detail specification for two-part connector modules having a grid of 2,5 mm (0,098 in) for printed boards and backplanes	EN 61076-4-100	1998
ISO 468	1982	Surface roughness - Parameters, their values and general rules for specifying requirements	-	-

2) To be published.

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**Connecteurs pour applications analogiques
en courant continu et à basse fréquence et pour
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and digital high speed data applications –**

Part 4-103:

**Printed board connectors with assessed quality –
Detail specification for two-part connectors
with shielding and a basic grid of 2,5 mm**

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CONTENTS

	Page
FOREWORD	11
Clause	
1 General data	15
1.1 Recommended method of mounting	15
1.1.1 Number of contacts and contact cavities	15
1.2 Ratings and characteristics	17
1.3 Normative references	21
1.4 Marking	23
1.5 IEC type designation	23
1.6 Ordering information	25
2 Technical data	27
2.1 Definitions	27
2.1.1 Mechanical features	27
2.1.2 Contacts and terminations	27
2.1.3 Engagement sequence	27
2.1.4 Mechanical coding	29
2.2 Survey of styles and variants	29
2.2.1 Styles of connectors	29
2.2.2 Survey of termination variants	31
2.2.3 Survey of cable diameters	31
2.3 Information on application	33
2.3.1 Complete connectors (pairs)	33
2.3.2 Fixed board connectors	35
2.3.3 Free cable connectors	37
2.3.4 Coding device	39
2.3.5 Shielding and grounding	41
2.4 Survey of contact arrangements	41
3 Dimensional information	43
3.1 General	43
3.2 Isometric view and common features	45
3.2.1 Common features	45
3.2.2 Reference system	47
3.2.3 Height dimensions	47
3.2.4 Width dimensions	49
3.2.5 Depth dimensions	49
3.3 Mating information	51
3.3.1 Engaging direction	51
3.3.2 Perpendicular to the engaging direction	51
3.3.3 Inclination	53
3.4 Fixed board connectors	57
3.4.1 Dimensions of connector shrouds	57
3.4.2 Dimensions of contacts	63
3.4.3 Terminations	63

Clause	Page
3.5 Free cable connectors.....	67
3.5.1 Dimensions of cable connectors	67
3.5.2 Dimensions of contacts	73
3.5.3 Terminations	73
3.6 Accessories	77
3.6.1 Default coding configuration	77
3.7 Mounting information for fixed board connectors.....	79
3.8 Gauges.....	79
3.8.1 Sizing gauges and retention force gauges.....	81
3.8.2 Test gauge for first contact point	83
3.8.3 Test gauge for static load	85
4 Characteristics	85
4.1 Climatic category	85
4.2 Electrical characteristics.....	85
4.2.1 Creepage and clearance distances	85
4.2.2 Voltage proof.....	87
4.2.3 Current-carrying capacity.....	87
4.2.4 Contact resistance	89
4.2.5 Insulation resistance	89
4.3 Mechanical characteristics	91
4.3.1 Mechanical operation	91
4.3.2 Engaging and separating forces	91
4.3.3 Contact retention in insert	91
4.3.4 Static load, transverse	93
4.3.5 Gauge retention force.....	93
4.3.6 Vibration (sinusoidal).....	93
4.3.7 Shock	95
4.3.8 Polarizing method.....	95
4.3.9 Robustness and effectiveness of coding devices	95
4.3.10 Insert retention in housing (axial).....	97
4.3.11 Cable clamp resistance to cable rotation.....	97
4.3.12 Effectiveness of connector coupling devices	97
4.3.13 Shielding contact spring holding force.....	97
4.4 Electromagnetic compatibility (EMC)	99
4.4.1 Shielding effectiveness of connectors	99
4.4.2 Electrostatic discharge (ESD)	99
5 Test schedule	99
5.1 General.....	99
5.1.1 Arrangement for contact resistance measurements.....	101
5.1.2 Arrangement for dynamic stress tests	103
5.1.3 Arrangement for testing static load, transverse	103
5.1.4 Arrangement for voltage proof and polarization voltage	105
5.1.5 Arrangement for flammability test	105
5.1.6 Arrangement for shielding effectiveness test.....	107
5.1.7 Arrangement for electrostatic discharge test	107

Clause	Page
5.2 Test schedule tables	109
5.2.1 Group P – Preliminary	109
5.2.2 Group A – Dynamic/climatic.....	111
5.2.3 Group B – Mechanical endurance	115
5.2.4 Group C – Moisture	117
5.2.5 Group D – Electrical load.....	119
5.2.6 Group E – Mechanical resistivity.....	121
5.2.7 Group F – Chemical resistivity	123
5.2.8 Group G – Connections	123
6 Quality assessment procedures.....	123
6.1 Qualification approval testing	123
6.1.1 Method 1.....	123
6.1.2 Method 2.....	125
6.2 Quality conformance inspection.....	125
6.2.1 Lot-by-lot tests	125
6.2.2 Periodic tests	125
6.3 Delayed delivery, re-inspection.....	127
Tables	
1 Number of contacts and contact cavities for free cable connectors.....	15
2 Number of contacts and contact cavities for fixed board connectors.....	17
3 Survey of free cable connector styles	29
4 Termination variants.....	31
5 Cable diameters.....	31
6 Coordination dimensions and common features in metric equipment practice.....	45
7 Crimped terminations	73
8 IDC terminations	75
9 Climatic category.....	85
10 Minimum creepage and clearance distances for different contact arrangements.....	87
11 Voltage proof for different contact arrangements	87
12 Current-carrying capacity for different contact arrangements.....	87
13 Insulation resistance	89
14 Number of mechanical operations	91
15 Engaging and separating forces	91
16 Contact retention force in insert for different types of terminations	91
17 Vibration	93
18 Shock	95
19 Insert retention forces in housing.....	97
20 Number of specimens for inspection and test sequence.....	101
21 Group P – Preliminary testing sequence	109
22 Group A – Dynamic/climatic testing sequence.....	111
23 Group B – Mechanical endurance testing sequence	115
24 Group C – Moisture testing sequence	117
25 Group D – Electrical load testing sequence.....	119
26 Group E – Mechanical resistivity testing sequence.....	121
27 Group F – Chemical resistivity testing sequence	123
28 Number of specimens and permitted defectives.....	123
29 Assessment levels and AQL values	125
30 Periodic tests, number of specimens and permitted defectives.....	127
31 Re-inspection of delayed delivery	127

Figures

1	Three recommended applications for cable-to-board connectors.....	19
2	Survey of fixed board connector styles.....	31
3	Contact designation for different applications.....	35
4	Coordination dimensions in metric equipment practice.....	45
5	Height dimensions, modular pitch of 25 mm.....	47
6	Width dimensions, modular pitches.....	49
7	Depth dimensions.....	49
8	Contact range.....	51
9	Allowed misalignment in transverse and longitudinal axes.....	53
10	Allowed inclination during insertion.....	53
11	Allowed inclination from transverse and longitudinal axes.....	55
12	Overall dimensions of fixed shroud style P and style Q.....	57
13	Overall dimensions of fixed shroud style R and style T.....	59
14	Detailed dimensions of fixed shrouds.....	61
15	Dimensions of male contacts for fixed connector shroud.....	63
16	Straight press-in terminations.....	63
17	Straight terminations with rear plug-up contacts.....	65
18	Detailed dimensions of styles A, B and C.....	67
19	Overall dimensions of style A, straight short housing.....	69
20	Dimensions of style B, straight long housing.....	71
21	Dimensions of style C, angled 35° upwards.....	71
22	Dimensions of guiding apertures in free board connector.....	73
23	Depth dimensions on female contact.....	73
24	Angled press-in terminations.....	75
25	Configuration of default code setting.....	77
26	Hole pattern on backplane for styles P and Q.....	79
27	Sizing and retention force gauges for female contacts.....	81
28	Retention force gauge for grounding spring contacts.....	83
29	First contact point gauge for female contacts.....	83
30	Test gauge for static load on locking device.....	85
31	Current-carrying capacity: derating curves for different contact arrangements.....	89
32	Connection points for contact resistance measurement.....	101
33	Fixture for dynamic stress tests.....	103
34	Arrangement for static load, transverse test.....	103
35	Wiring arrangement for voltage proof and polarization voltage.....	105
36	Arrangement for flammability test.....	105
37	Arrangement for shielding effectiveness test.....	107
38	Arrangement for electrostatic discharge test.....	107

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**CONNECTORS FOR USE IN DC
LOW-FREQUENCY ANALOGUE AND
DIGITAL HIGH SPEED DATA APPLICATIONS –****Part 4-103: Printed board connectors with assessed quality –
Detail specification for two-part connectors with shielding
and a basic grid of 2,5 mm**

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The 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 the 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 National Committees.
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- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61076-4-103 has been prepared by subcommittee 48B: Connectors, of IEC technical committee 48: Electromechanical components and mechanical structures for electronic equipment.

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

FDIS	Report on voting
48B/737/FDIS	48B/750/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.

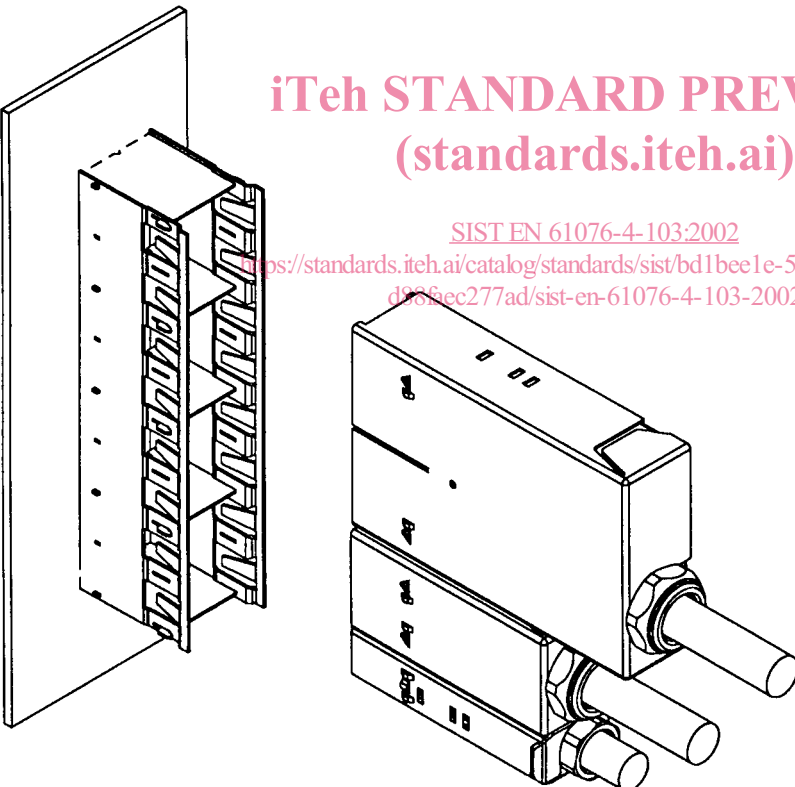
Future standards in the series will carry the new general title as cited above. Titles of existing standards in this series will be updated when a new edition is prepared.

The QC number that appears on the front cover of this publication is the specification number in the IEC Quality Assessment System for Electronic Components (IECQ).

CONNECTORS FOR USE IN DC LOW-FREQUENCY ANALOGUE AND DIGITAL HIGH SPEED DATA APPLICATIONS –

Part 4-103: Printed board connectors with assessed quality –

Detail specification for two-part connectors with shielding and a basic grid of 2,5 mm

International Electrotechnical Commission IEC SC 48B – Connectors	IEC 61076-4-103 QC 480301XX0004
Electronic components of assessed quality in accordance with: GENERIC SPECIFICATION IEC 61076-1, Issue 1, 1995	Blank detail specification: IEC 61076-4-001, Issue 1, 1996
 IEC 1 882/98	Cable-to-board connectors, shielded, for printed boards and backplanes, grid of 2,5 mm, in accordance with IEC 60917. Modular, five-row connector, with high performance shielding, locking and coding features. Fixed board connectors 25 mm to 250 mm high, free cable connectors 25 mm to 100 mm high. Performance levels (PL): 1, 2 Assessment level: G

Information on the availability of components qualified to this detail specification is given in the qualified products list.

1 General data

1.1 Recommended method of mounting

The free cable connector shall be connected to a round cable.

The shielding braid of the cable shall be connected to the conductive shell of the housing, and the insulation of the cable shall be retained by a strain relief device.

The signal wires shall be connected either directly to the female contacts by crimped or insulation displacement connections (IDC), or to an internal printed circuit board by means of a transition device.

The cable-to-board connectors are recommended for the use in three different applications:

Application a, rear plug-up connection;

Application b, connection to backplane;

Application c, connection through front panel.

See figure 1 for location of the above-mentioned reference letters.

Depending on the application the fixed board connectors shall be attached to the backplane or to the front panel through the press-in connections of their shielding frames.

Application a: for rear plug-up connections, the empty shroud of the fixed board connector accommodates the rear plug-up terminations of the fixed connector, which is mounted on the frontside of the backplane (for example a fixed board connector according to IEC 61076-4-100).

Application b: for backplane connections, the fixed board connector shall be equipped with male contacts, which are pressed into the backplane, together with the press-in terminations of its shielding frames.

Application c: for front panel connections, the fixed board connector shall be equipped with male contacts and rear plug-up terminations, which connect to a free connector on the printed board (for example a free board connector according to IEC 61076-4-100).

1.1.1 Number of contacts and contact cavities

Table 1 – Number of contacts and contact cavities for free cable connectors

Styles (see 2.2.1)	Shape of housing	Connection	½ SU	1 SU	2 SU	4 SU
A	Straight, short	IDC or crimp	20	45	90	180
B	Straight, long	Angled press-in	–	35	70	140
		IDC or crimp	–	45	90	180
C	35° angled	IDC or crimp	–	45	90	180

Table 2 – Number of contacts and contact cavities for fixed board connectors

Styles (see 2.2.1)	1 SU	2 SU	4 SU	6 SU	8 SU	9 SU	10 SU
P and Q	45	90	180	270	360	405	450
R and T	40	80	160	240	320	360	400

1.2 Ratings and characteristics

Rated voltage:	contact/contact 500 V r.m.s.
Current rating:	1 A at 70 °C (all signal contacts loaded)
Insulation resistance:	5 GΩ min.
Climatic category:	PL 1: 40/100/56 PL 2: 40/100/21
Shielding effectiveness:	initial 70 dB min. average value
Electrostatic discharge:	induced voltage 250 mV maximum by 8 kV contact discharge
Printed board:	plated-through hole diameter 0,94 mm to 1,09 mm
Backplane	thickness: — for rear plug-up applications 3,0 mm to 5,0 mm — other than rear plug-up applications 1,4 mm to 5,6 mm