
Connectors for electronic equipment - Part 7-1: Detail specification for 8-way, shielded free and fixed connectors with common mating features, with assessed quality (IEC 60603-7-1:2002)

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English version

Connectors for electronic equipment
Part 7-1: Detail specification for 8-way, shielded free and fixed connectors
with common mating features, with assessed quality
(IEC 60603-7-1:2002)

Connecteurs pour équipements
électroniques
Partie 7-1: Spécification particulière
pour connecteurs blindés à 8 voies
comprenant des fiches et des embases
avec caractéristiques d'accouplement
communes, avec assurance
de la qualité
(CEI 60603-7-1:2002)

Steckverbinder für elektronische
Einrichtungen
Teil 7-1: Bauartspezifikation für
geschirmte freie und feste Steckverbinder,
8polig, mit gemeinsamen
Steckmerkmalen und bewerteter Qualität
(IEC 60603-7-1:2002)

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat 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 Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

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/1120/FDIS, future edition 1 of IEC 60603-7-1, 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 60603-7-1 on 2002-03-01.

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) 2002-12-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2005-03-01

Annexes designated "normative" are part of the body of the standard. In this standard, annexes A, B, C, D, E and ZA are normative. Annex ZA has been added by CENELEC.

The International Electrotechnical Commission (IEC) and CENELEC draw attention to the fact that it is claimed that compliance with this International Standard/European Standard may involve the use of a patent concerning connectors, shielded, 8-way, for interconnect systems given in clauses 3 and 4.

The IEC and CENELEC take no position concerning the evidence, validity and scope of this patent right.

The holder of this patent right has assured the IEC that he is willing to negotiate licences under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of this patent right is registered with the IEC. Information may be obtained from:

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Endorsement notice

The text of the International Standard IEC 60603-7-1:2002 was approved by CENELEC as a European Standard without any modification.

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 60050-581	1978	International Electrotechnical Vocabulary (IEV) - Chapter 581: Electromechanical components for electronic equipment	-	-
IEC 60068-1	1988	Environmental testing Part 1: General and guidance	EN 60068-1 1)	1994
IEC 60326-3	1991	Printed boards Part 3: Design and use of printed boards	-	-
IEC 60352-2	1990	Solderless connections Part 2: Solderless crimped connections - General requirements, test methods and practical guidance	EN 60352-2	1994
IEC 60352-3	1993	Part 3: Solderless accessible insulation displacement connections - General requirements, test methods and practical guidance	EN 60352-3	1994
IEC 60352-4	1994	Part 4: Solderless non-accessible insulation displacement connections - General requirements, test methods and practical guidance	EN 60352-4	1994
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	-	-

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

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
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 60512-6	1984	Part 6: Climatic tests and soldering 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 60512-11-7	1996	Part 11: Climatic tests - Section 7: Test 11g: Flowing mixed gas corrosion test	EN 60512-11-7	1996
IEC 60603-1	1991	Connectors for frequencies below 3 MHz for use with printed boards Part 1: Generic specification - General requirements and guide for the preparation of detail specifications, with assessed quality	-	-
+ A1	1992	(standards.iteh.ai)	EN 60603-1	1998
IEC 60664-1 (mod)	1992	Insulation coordination for equipment within low-voltage systems Part 1: Principles, requirements and tests	HD 625.1 S1 + corr. November	1996 1996
A1	2000		-	-
IEC 60807-1	1991	Rectangular connectors for frequencies below 3 MHz Part 1: Generic specification - General requirements and guide for the preparation of detail specifications for connectors with assessed quality	-	-
IEC 61196	Series	Radio-frequency cables	EN 61196	Series
IEC QC 001001	2000	IEC Quality Assessment System for Electronic Components (IECQ) - Basic Rules	-	-
IEC QC 001002	Series	IEC Quality Assessment System for Electronic Components (IECQ) - Rules of Procedure	-	-
ITU-T Recommendation K.20	2000	Resistibility of telecommunication equipment installed in a telecommunication centre to overvoltages and overcurrents	-	-

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First edition
2002-01

Connecteurs pour équipements électroniques –

Partie 7-1:

Spécification particulière pour connecteurs blindés à 8 voies comprenant des fiches et des embases avec caractéristiques d'accouplement communes, avec assurance de la qualité

Connectors for electronic equipment –

Part 7-1:

Detail specification for 8-way, shielded free and fixed connectors with common mating features, with assessed quality

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International Electrotechnical Commission
Telefax: +41 22 919 0300

3, rue de Varembé Geneva, Switzerland
e-mail: inmail@iec.ch IEC web site <http://www.iec.ch>



Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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For price, see current catalogue*

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

CONNECTORS FOR ELECTRONIC EQUIPMENT –

Part 7-1: Detail specification for 8-way, shielded free and fixed connectors with common mating features, with assessed quality

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.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
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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.

The International Electrotechnical Commission (IEC) draws attention to the fact that it is claimed that compliance with this International Standard may involve the use of a patent concerning connectors, shielded, 8-way, for interconnect systems given in clauses 3 and 4.

The IEC takes no position concerning the evidence, validity and scope of this patent right.

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Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights other than those identified above. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60603-7-1 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/1120/FDIS	48B/1155/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 3.

Annexes A, B, C, D and E form an integral part of this standard.

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

The committee has decided that the contents of this publication will remain unchanged until 2002. At this date, the publication will be

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

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CONNECTORS FOR ELECTRONIC EQUIPMENT –

Part 7-1: Detail specification for 8-way, shielded free and fixed connectors with common mating features, with assessed quality

1 General

1.1 Scope

This part of IEC 60603 covers an 8-way shielded connector system of 4, 6 or 8 contacts consisting of a range of free and fixed connectors. The connectors cover a variety of different mounting configurations and termination types with a common mating configuration.

Fixed connectors are provided with terminations suitable for solder, insulation displacement, screw terminal, crimp, insulation piercing termination and printed-board mounting.

Free connectors are provided for crimp, insulation piercing and insulation displacement terminations to cable assemblies with tinsel, stranded or solid wire conductors. At the present time, free connectors may only be available with a limited range of terminations and variants.

1.2 Normative references (standards.iteh.ai)

The following referenced documents are indispensable for the application of this part of IEC 60603. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050(581):1978, *International Electrotechnical Vocabulary (IEV) – Chapter 581: Electro-mechanical components for electronic equipment*

IEC 60068-1:1988, *Environmental testing – Part 1: General and guidance*

IEC 60326-3:1991, *Printed boards – Part 3: Design and use of printed boards*

IEC 60352-2:1990, *Solderless connections – Part 2: Solderless crimped connections – General requirements, test methods and practical guidance*

IEC 60352-3:1993, *Solderless connections – Part 3: Solderless accessible insulation displacement connections – General requirements, test methods and practical guidance*

IEC 60352-4:1994, *Solderless connections – Part 4: Solderless non-accessible insulation displacement connections – General requirements, test methods and practical guidance*

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, *Electromechanical components for electronic equipment; basic testing procedures and measuring methods – Part 3: Current-carrying capacity tests*

IEC 60512-4:1976, *Electromechanical components for electronic equipment; basic testing procedures and measuring methods – Part 4: Dynamic stress tests*

IEC 60512-5:1992, *Electromechanical components for electronic equipment; basic testing procedures and measuring methods – Part 5: Impact tests (free components), static load tests (fixed components), endurance tests and overload tests*

IEC 60512-6:1984, *Electromechanical components for electronic equipment; basic testing procedures and measuring methods – Part 6: Climatic tests and soldering tests*

IEC 60512-7:1993, *Electromechanical components for electronic equipment; basic testing procedures and measuring methods – Part 7: Mechanical operating tests and sealing tests*

IEC 60512-8:1993, *Electromechanical components for electronic equipment; basic testing procedures and measuring methods – Part 8: Connector tests (mechanical) and mechanical tests on contacts and terminations*

IEC 60512-11-7:1996, *Electromechanical components for electronic equipment; basic testing procedures and measuring methods – Part 11: Climatic tests – Section 7: Test 11g: Flowing mixed gas corrosion test*

IEC 60603-1:1991, *Connectors for frequencies below 3 MHz for use with printed boards – Part 1: Generic specification – General requirements and guide for the preparation of detail specifications, with assessed quality*
Amendment 1 (1992)

IEC 60664-1:1992, *Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests*¹⁾ [SIST EN 60603-7-1:2003](https://standards.iteh.ai/catalog/standards/sist/472da785-fd4d-415d-a848-1e7f03162cf9/sist-en-60603-7-1-2003)
Amendment 1 (2000)

IEC 60807-1:1991, *Rectangular connectors for frequencies below 3 MHz – Part 1: Generic specification – General requirements and guide for the preparation of detail specifications for connectors with assessed quality*

IEC 61196 (all parts), *Radio-frequency cables*

QC 001001:2000, *IEC Quality Assessment System for Electronic Components (IECQ) – Basic rules*

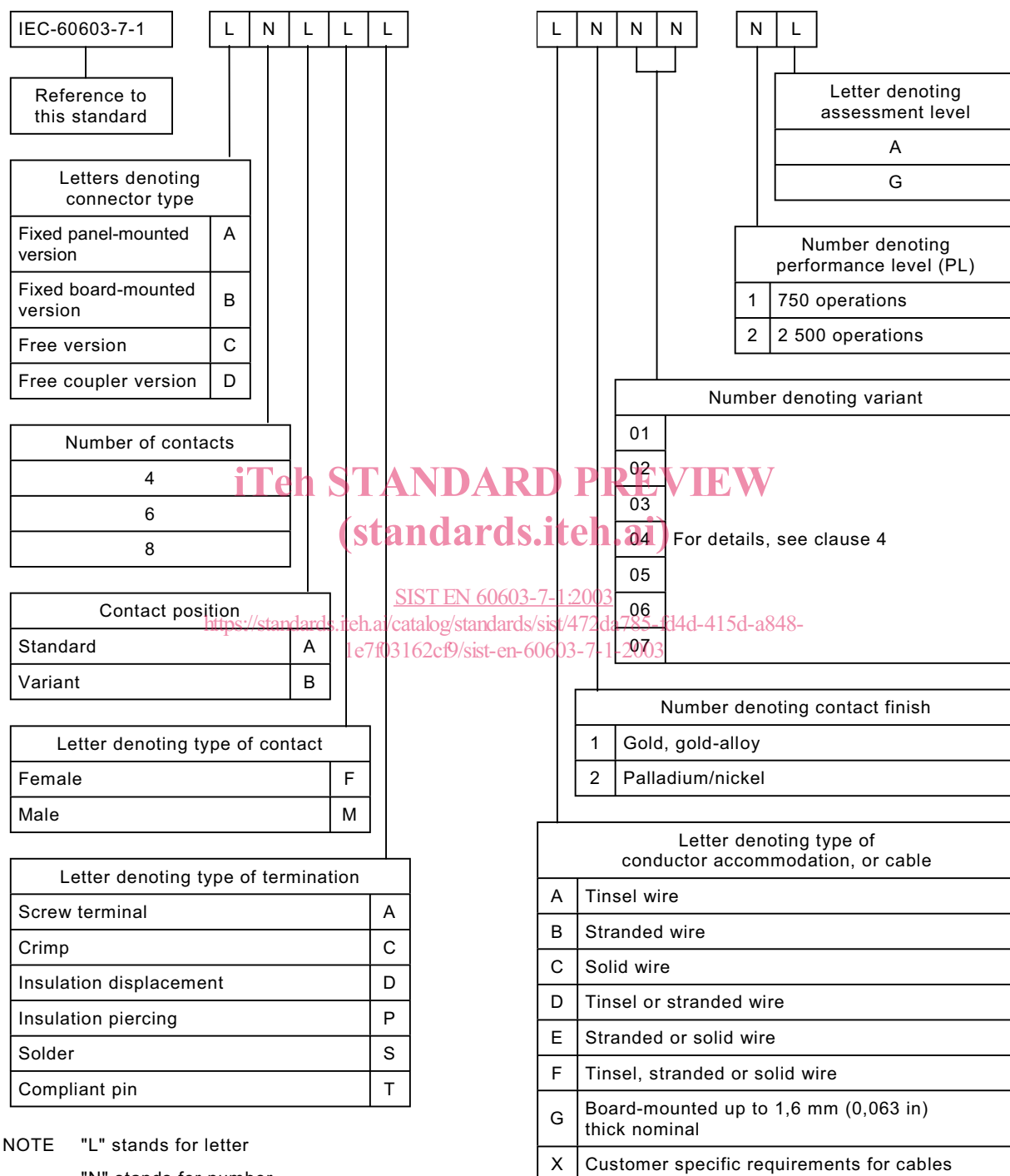
QC 001002 (all parts), *IEC Quality Assessment System for Electronic Components (IECQ) – Rules of Procedure*

ITU-T K.20:2000, *Resistibility of telecommunication equipment installed in a telecommunication centre to overvoltages and overcurrents*

¹⁾ There exists a consolidated edition 1.1 (2000) that includes edition 1.0 and its amendment.

2 IEC type designation

Connectors, connector bodies and connectors with pre-inserted contacts according to this standard shall be designated by the following system:



NOTE "L" stands for letter
"N" stands for number

Example:

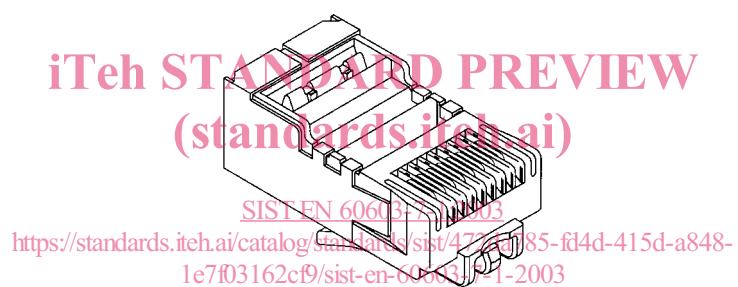
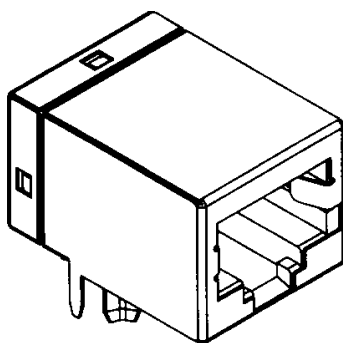
IEC 60603-7-1 B8AFS-G101-2G: Fixed shielded connector, board-mounted, unkeyed having 8 female contacts in standard contact positions, gold plated to be soldered into a printed board having a thickness of 1,6 mm nominal variant 01, meeting performance level 2, assessment level G.

2.1 Terminology

For definitions of terms used, refer to IEC 60050(581).

3 Common features and isometric view

3.1 Isometric view



IEC 024/02

Figure 1