

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Connectors for electronic equipment –
Part 7: Detail specification for 8-way, unshielded, free and fixed connectors**

**Connecteurs pour équipements électroniques –
Partie 7: Spécification particulière pour les fiches et les embases non écrantées
à 8 voies**

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IEC 60603-7

Edition 3.0 2008-07

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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

PRICE CODE
CODE PRIX



ICS 31.220.10

ISBN 2-8318-9878-1

CONTENTS

FOREWORD.....	5
INTRODUCTION.....	7
1 General.....	8
1.1 Scope.....	8
1.2 Normative references	8
2 Terms and definitions	10
3 Common features and typical connector pair	11
3.1 View showing typical fixed and free connectors	11
3.2 Mating information.....	11
3.2.1 General	11
3.2.2 Contacts – mating conditions.....	12
3.2.3 Fixed connector.....	14
3.2.4 Free connector	17
4 Cable terminations and internal connections – Fixed and free connectors	19
4.1 General.....	19
4.2 Termination types.....	19
4.2.1 Solder terminations (under consideration)	19
4.2.2 Solderless terminations	19
5 Gauges	20
5.1 Fixed connectors.....	20
5.2 Free connectors	23
6 Characteristics.....	25
6.1 General.....	25
6.2 Pin and pair grouping assignment	25
6.3 Classification into climatic category.....	25
6.4 Electrical characteristics.....	26
6.4.1 Creepage and clearance distances	26
6.4.2 Voltage proof.....	26
6.4.3 Current-temperature derating	26
6.4.4 Initial contact resistance – interface only (separable fixed and free contact).....	27
6.4.5 Input to output d.c. resistance	27
6.4.6 Input-to-output d.c. resistance unbalance	27
6.4.7 Initial insulation resistance	28
6.4.8 Transfer impedance.....	28
6.5 Transmission characteristics	28
6.6 Mechanical characteristics	28
6.6.1 Mechanical operation	28
6.6.2 Effectiveness of connector coupling devices.....	28
6.6.3 Insertion and withdrawal forces	28
7 Tests and test schedule.....	28
7.1 General.....	28
7.2 Arrangement for contact resistance test	29
7.3 Arrangement for vibration test (test phase CP1)	30
7.4 Test procedures and measuring methods	30
7.5 Preconditioning	31

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7.6	Wiring and mounting of specimens	31
7.6.1	Wiring	31
7.6.2	Mounting	31
7.7	Test schedules	31
7.7.1	Basic (minimum) test schedule	31
7.7.2	Full test schedule	31
Annex A (normative)	Gauging continuity procedure	39
Annex B (normative)	Locking-device mechanical operation	43
Annex C (normative)	Gauge requirements	44
Annex D (normative)	Keystone connector information	45
Bibliography	47
Figure 1	– View showing typical fixed and free connectors	11
Figure 2	– Contact interface dimensions with terminated free connector	12
Figure 3	– Fixed connector details	15
Figure 4	– Free connector view	17
Figure 5	– “Go” gauge	20
Figure 6	– “No-go” gauges	22
Figure 7	– “No-go” gauges	23
Figure 8	– “Go” gauge	24
Figure 9	– Fixed connector pin and pair grouping assignment (front view of connector)	25
Figure 10	– Connector de-rating curve	27
Figure 11	– Arrangement for contact resistance test	29
Figure 12	– Arrangement for vibration test	30
Figure A.1	– Gauge	41
Figure A.2	– Gauge insertion	42
Figure D.1	– Keystone connector	45
Figure D.2	– Panel drawing	46
Table 1	– Dimensions for Figure 2	13
Table 2	– Dimensions for Figure 3	16
Table 3	– Dimensions for Figure 4	18
Table 4	– Dimensions for Figures 5 and 6	22
Table 5	– Dimensions for Figure 7	23
Table 6	– Dimensions for Figure 8	24
Table 7	– Climatic categories – selected values	25
Table 8	– Creepage and clearance distances	26
Table 9	– Test group P	32
Table 10	– Test group AP	33
Table 11	– Test group BP	35
Table 12	– Test group CP	36
Table 13	– Test group DP	37
Table 14	– Test group FP	38
Table A.1	– Dimensions for Figure A.1	40

Table D.1 – Dimensions for Figure D.1	45
Table D.2 – Dimensions	46

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CONNECTORS FOR ELECTRONIC EQUIPMENT –**Part 7: Detail specification for 8-way, unshielded,
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International Standard IEC 60603-7 has been prepared by subcommittee 48B: Connectors, of IEC technical committee 48: Electromechanical components and mechanical structures for electronic equipment.

This third edition cancels and replaces the second edition published in 1996 and constitutes a technical revision. This edition includes the following significant technical change with respect to the previous edition:

- Drawings and test schedules were updated based on the work done developing IEC 60603-7-4.
- A corrected figure (Figure 10) illustrating a connector de-rating curve has been prepared and inserted in the text.
- Annex D contains the dimensions that define the panel mounting features on the connector and panel that were referenced as the Type A, variant 03 connector in the previous edition.

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

FDIS	Report on voting
48B/1883A/FDIS	48B/1917/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 2.

A list of all parts of IEC 60603-7 series, under the general title: *Connectors for electronic equipment*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

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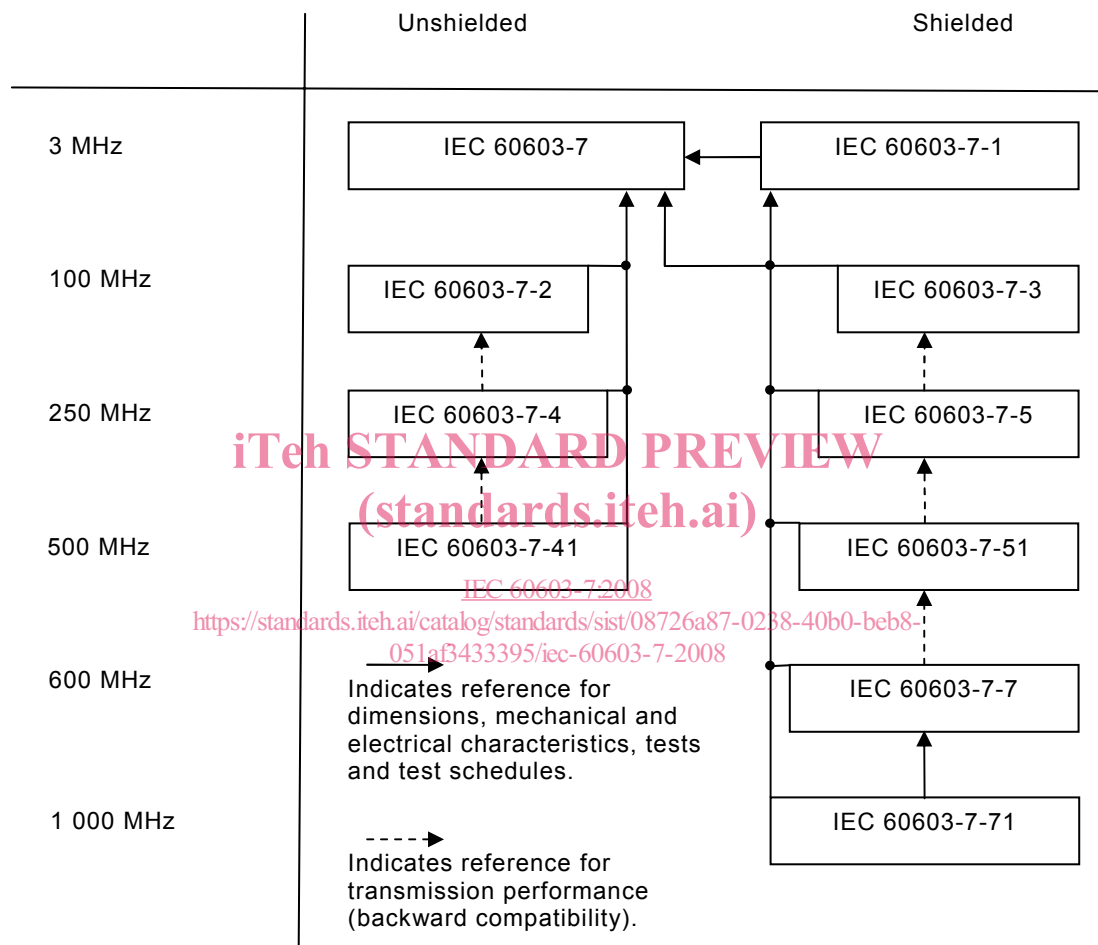
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INTRODUCTION

IEC 60603-7 is the base specification of the whole series. Subsequent specifications do not duplicate information given in the base document, but list only additional requirements. For complete specification regarding a component of a higher number document all lower numbered documents must be considered as well. The following diagram shows the interrelation of the documents:



It should be noted that during the preparation of the third edition of IEC 60603-7, the subcommittee 48B Cat 6&7 project team members determined the current de-rating curve in the standard was not correct. Several experts researched the current rating-temperature rise measurements for 60603-7 style connectors and verified that the de-rating curve in the published standard has been incorrect for many years. A corrected figure (Figure 10) has been prepared and inserted in this edition.

CONNECTORS FOR ELECTRONIC EQUIPMENT –

Part 7: Detail specification for 8-way, unshielded, free and fixed connectors

1 General

1.1 Scope

This part of IEC 60603-7 covers 8-way unshielded free and fixed connectors, it is intended to specify the common dimensions, mechanical, electrical and environmental characteristics and tests for the family of IEC 60603-7-x connectors.

These connectors are intermateable (according to IEC 61076-1 level 2) and interoperable with other IEC 60603-7 series connectors.

1.2 Normative references

The following referenced documents are indispensable for the application 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.

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

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

IEC 60068-2-14, *Basic environmental testing procedures – Part 2-14: Tests – Test N: Change of temperature*

IEC 60068-2-38, *Basic environmental testing procedures – Part 2-38: Tests – Test Z/AD: Composite temperature/ humidity cyclic test*

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

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

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

IEC 60352-5, *Solderless connections – Part 5: Press-in connections – General requirements, test methods and practical guidance*

IEC 60352-6, *Solderless connections – Part 6: Insulation piercing connections – General requirements, test methods and practical guidance*

IEC 60352-7, *Solderless connections – Part 7: Spring clamp connections – General requirements, test methods and practical guidance*

IEC 60512 (all parts), *Connectors for electronic equipment – Tests and measurements*

IEC 60512-1-100, *Connectors for electronic equipment – Tests and measurements – Part 1-100: General – Applicable publications*

IEC 60603-7 (all parts), *Connectors for electronic equipment*

IEC 60664-1, *Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests*

IEC 61076-1:2006, *Connectors for electronic equipment – Product Requirements – Part 1: Generic specification*

IEC 61156 (all parts), *Multicore and symmetrical pair/quad cables for digital communications*

IEC 61156-1, *Multicore and symmetrical pair/quad cables for digital communications – Part 1: Generic specification*

IEC 61156-2, *Multicore and symmetrical pair/quad cables for digital communications – Part 2: Horizontal floor wiring – Sectional specification*

IEC 61156-3, *Multicore and symmetrical pair/quad cables for digital communications – Part 3: Work area wiring – Sectional specification*

IEC 61156-4, *Multicore and symmetrical pair/quad cables for digital communications – Part 4: Riser cables – Sectional specification*

IEC 61156-5, *Multicore and symmetrical pair/quad cables for digital communications – Part 5: Symmetrical pair/quad cables with transmission characteristics up to 600 MHz – Horizontal floor wiring – Sectional specification* [IEC 60603-7:2008](https://standards.iteh.ai/catalog/standards/sist/08726a87-0238-40b0-beb8-051a8433395/iec-60603-7-2008)

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IEC 61156-6, *Multicore and symmetrical pair/quad cables for digital communications – Part 6: Symmetrical pair/quad cables with transmission characteristics up to 1 000 MHz – Work area wiring – Sectional specification*

IEC 61156-7, *Multicore and symmetrical pair/quad cables for digital communications – Part 7: Symmetrical pair cables with transmission characteristics up to 1 200 MHz – Sectional specification for digital and analog communication cables*

ISO/IEC 11801, *Information technology – Generic cabling for customer premises*

ISO 1302, *Geometrical Product Specifications (GPS) – Indication of surface texture in technical product documentation*

ITU-T Recommendation K.20:2000 ¹, *Resistibility of telecommunication equipment installed in a telecommunications centre to overvoltages and overcurrents*

ITU-T Recommendation K.44:2000 ², *Resistibility tests for telecommunication equipment exposed to overvoltages and overcurrents – Basic Recommendation*

¹ This document has been replaced by a new edition (2003), but for the purposes of this standard, the 2000 edition is cited.

² This document has been replaced by a new edition (2003), but for the purposes of this standard, the 2000 edition is cited.

2 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-581, IEC 61076-1, IEC 60512-1, and the following apply.

2.1

intermateability

intermateability (level 2 of IEC 61076-1:2006 (Ed 2.0)) is ensured by application of the “Go” and “No-Go” gauge requirements in the standards that may be referenced, and adherence to the dimensional requirements within

2.2

interoperability

interoperability of different IEC 60603-7 connectors is assured by compliance with the specified interface dimensions

2.3

category

relevant level of transmission performance as given in ISO/IEC 11801

2.4

Keystone connector

a Keystone connector is defined by its mounting features. The dimensional requirements for the connector and its corresponding mounting panel are defined in Annex D

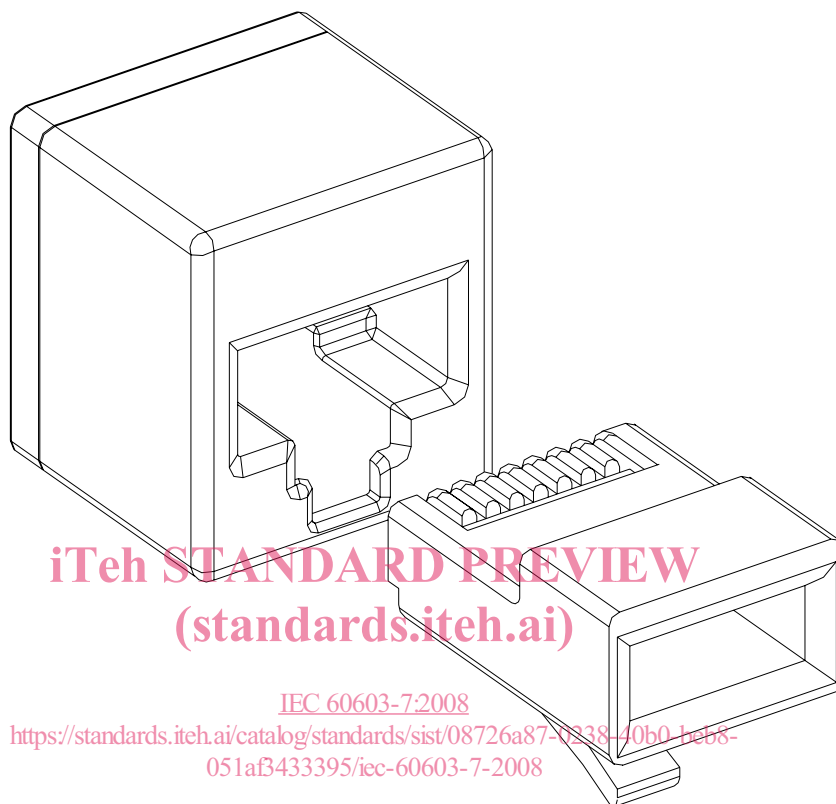
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3 Common features and typical connector pair

3.1 View showing typical fixed and free connectors



IEC 086/05

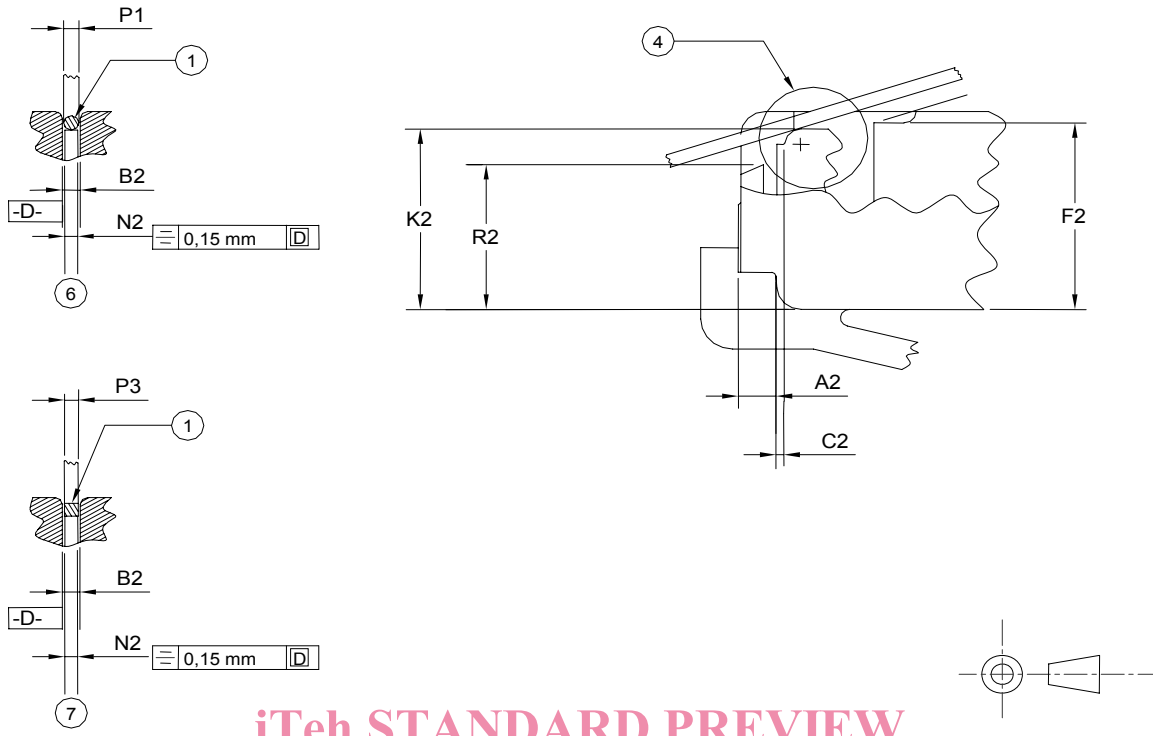
Figure 1 – View showing typical fixed and free connectors

3.2 Mating information

3.2.1 General

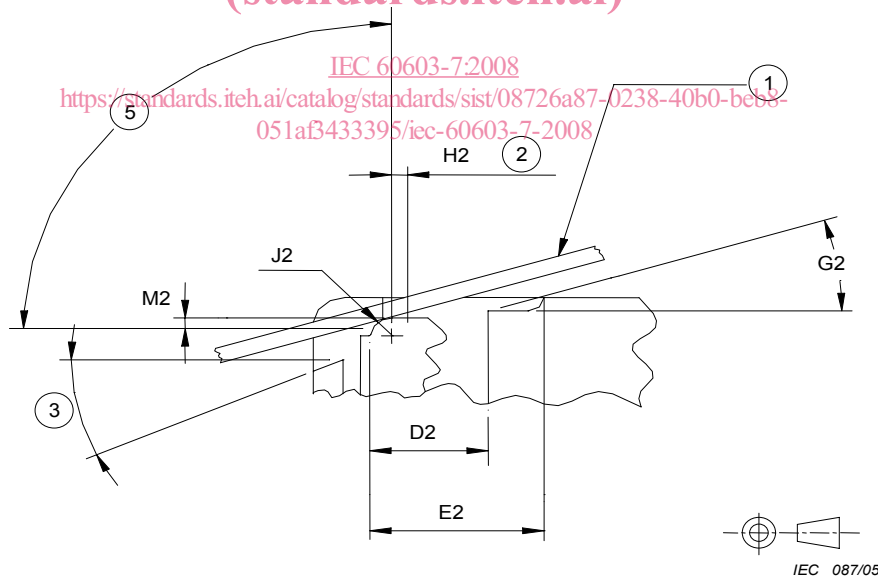
Dimensions are given in millimetres. Drawings are shown in third-angle projection. The shape of connectors may deviate from those given in Figures 1 to 4 as long as the dimensions specified are not changed.

3.2.2 Contacts – mating conditions



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IEC 1011/08



IEC 087/05

Key

- 1 Female contact of fixed connector The mating information shown can only be achieved with a free connector with a cable attached.
- 2 Burrs shall not project above the top of the contact in this area, since it may be a contact area.
- 3 Optional angle.
- 4 Preferred contact interface detail.
- 5 Minimum preferred contact configuration.
- 6 Configuration with round contact profile.
- 7 Configuration with rectangular contact profile.

Figure 2 – Contact interface dimensions with terminated free connector

Table 1 – Dimensions for Figure 2

Letter	Maximum mm	Minimum mm
A2	1,45	0,89
B2	0,61	0,51
C2	0,46	0,03
D2		2,79
E2		4,11
F2	6,22	
H2		0,38
J2	0,64	0,38
K2	6,15	5,89
M2		0,30
N2		0,28
P1	0,50	0,45
P3	0,50	0,36
R2	4,83	

Letter	Maximum
G2	10°

Care shall be taken that the fixed connector contacts avoid interference with the plastic of the free connector.

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