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Standards

Irish Standard  
I.S. EN 60603-7:2009

# Connectors for electronic equipment -- Part 7: Detail specification for 8-way, unshielded, free and fixed connectors (IEC 60603-7:2008 (EQV))

## I.S. EN 60603-7:2009

*Incorporating amendments/corrigenda issued since publication:*

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<b>NSAI</b> 1 Swift Square, Northwood, Santry Dublin 9	T +353 1 807 3800 F +353 1 807 3838 E standards@nsai.ie W <b>NSAI.ie</b>	<b>Sales:</b> T +353 1 857 6730 F +353 1 857 6729 W standards.ie
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**EUROPEAN STANDARD**

**EN 60603-7**

**NORME EUROPÉENNE**

**EUROPÄISCHE NORM**

November 2009

ICS 31.220.10

Supersedes EN 60603-7:1997

English version

**Connectors for electronic equipment -  
Part 7: Detail specification for 8-way, unshielded,  
free and fixed connectors  
(IEC 60603-7:2008)**

Connecteurs pour équipements  
électroniques -  
Partie 7: Spécification particulière  
pour les fiches et les embases  
non écrantées à 8 voies  
(CEI 60603-7:2008)

Steckverbinder für elektronische  
Einrichtungen -  
Teil 7: Bauartspezifikation  
für ungeschirmte freie und feste  
Steckverbinder, 8polig  
(IEC 60603-7:2008)

This European Standard was approved by CENELEC on 2009-09-01. 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.

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.

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**CENELEC**

European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

**Central Secretariat: Avenue Marnix 17, B - 1000 Brussels**

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**Foreword**

The text of document 48B/1883A/FDIS, future edition 3 of IEC 60603-7, 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 on 2009-09-01.

This European Standard supersedes EN 60603-7:1997.

EN 60603-7:2009 includes the following significant technical changes with respect to EN 60603-7:1997:

- drawings and test schedules were updated based on the work done developing EN 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 EN 60603-7:1997.

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) 2010-06-01
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 2012-09-01

Annex ZA has been added by CENELEC.

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**Endorsement notice**

The text of the International Standard IEC 60603-7:2008 was approved by CENELEC as a European Standard without any modification.

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

IEC 60603-7-2	NOTE	Harmonized as EN 60603-7-2:2009 (not modified).
IEC 60603-7-3	NOTE	Harmonized as EN 60603-7-3:2009 (not modified).
IEC 60603-7-4	NOTE	Harmonized as EN 60603-7-4:2005 (not modified).
IEC 60603-7-5	NOTE	Harmonized as EN 60603-7-5:2009 (not modified).
IEC 60603-7-7	NOTE	Harmonized as EN 60603-7-7:2006 (not modified).
IEC 61169-16	NOTE	Harmonized as EN 61169-16:2007 (not modified).

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## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

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.

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	- <sup>1)</sup>	International Electrotechnical Vocabulary (IEV) - Part 581: Electromechanical components for electronic equipment	-	-
IEC 60068-1	- <sup>1)</sup>	Environmental testing - Part 1: General and guidance	EN 60068-1	1994 <sup>2)</sup>
IEC 60068-2-14	- <sup>1)</sup>	Environmental testing - Part 2-14: Tests - Test N: Change of temperature	EN 60068-2-14	2009 <sup>2)</sup>
IEC 60068-2-38	- <sup>1)</sup>	Environmental testing - Part 2-38: Tests - Test Z/AD: Composite temperature/humidity cyclic test	EN 60068-2-38	2009 <sup>2)</sup>
IEC 60352-2	- <sup>1)</sup>	Solderless connections - Part 2: Crimped connections - General requirements, test methods and practical guidance	EN 60352-2	2006 <sup>2)</sup>
IEC 60352-3	- <sup>1)</sup>	Solderless connections - Part 3: Solderless accessible insulation displacement connections - General requirements, test methods and practical guidance	EN 60352-3	1994 <sup>2)</sup>
IEC 60352-4	- <sup>1)</sup>	Solderless connections - Part 4: Solderless non-accessible insulation displacement connections - General requirements, test methods and practical guidance	EN 60352-4	1994 <sup>2)</sup>
IEC 60352-5	- <sup>1)</sup>	Solderless connections - Part 5: Press-in connections - General requirements, test methods and practical guidance	EN 60352-5	2008 <sup>2)</sup>
IEC 60352-6	- <sup>1)</sup>	Solderless connections - Part 6: Insulation piercing connections - General requirements, test methods and practical guidance	EN 60352-6	1997 <sup>2)</sup>
IEC 60352-7	- <sup>1)</sup>	Solderless connections - Part 7: Spring clamp connections - General requirements, test methods and practical guidance	EN 60352-7	2002 <sup>2)</sup>

<sup>1)</sup> Undated reference.

<sup>2)</sup> Valid edition at date of issue.

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<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60512	Series	Connectors for electronic equipment - Tests and measurements	EN 60512	Series
IEC 60512-1-100	- <sup>1)</sup>	Connectors for electronic equipment - Tests and measurements - Part 1-100: General - Applicable publications	EN 60512-1-100	2006 <sup>2)</sup>
IEC 60603-7	Series	Connectors for electronic equipment - Part 7: Detail specifications for 8-way free and fixed connectors	EN 60603-7	Series
IEC 60664-1	- <sup>1)</sup>	Insulation coordination for equipment within low-voltage systems - Part 1: Principles, requirements and tests	EN 60664-1	2007 <sup>2)</sup>
IEC 61076-1	2006	Connectors for electronic equipment - Product requirements - Part 1: Generic specification	EN 61076-1	2006
IEC 61156	Series	Multicore and symmetrical pair/quad cables for digital communications	-	-
IEC 61156-1	- <sup>1)</sup>	Multicore and symmetrical pair/quad cables for digital communications - Part 1: Generic specification	-	-
IEC 61156-2	- <sup>1)</sup>	Multicore and symmetrical pair/quad cables for digital communications - Part 2: Horizontal floor wiring - Sectional specification	-	-
IEC 61156-3	- <sup>1)</sup>	Multicore and symmetrical pair/quad cables for digital communications - Part 3: Work area cable - Sectional specification	-	-
IEC 61156-4	- <sup>1)</sup>	Multicore and symmetrical pair/quad cables for digital communications - Part 4: Riser cables - Sectional specification	-	-
IEC 61156-5	- <sup>1)</sup>	Multicore and symmetrical pair/quad cables for digital communications - Part 5: Symmetrical pair/quad cables with transmission characteristics up to 1 000 MHz - Horizontal floor wiring - Sectional specification	-	-
IEC 61156-6	- <sup>1)</sup>	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	- <sup>1)</sup>	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	- <sup>1)</sup>	Information technology - Generic cabling for customer premises	-	-
ISO 1302	- <sup>1)</sup>	Geometrical Product Specifications (GPS) - Indication of surface texture in technical product documentation	EN ISO 1302	2002 <sup>2)</sup>

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<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ITU-T Recommendation K.20	2000 <sup>3)</sup>	Resistibility of telecommunication equipment installed in a telecommunications centre to overvoltages and overcurrents	-	-
ITU-T Recommendation K.44	2000 <sup>4)</sup>	Resistibility tests for telecommunication equipment exposed to overvoltages and overcurrents - Basic Recommendation	-	-

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<sup>3)</sup> ITU-T Recommendation K.20 is superseded by ITU-T Recommendation K.20:2003 but for the purpose of this standard, the 2000 edition applies.

<sup>4)</sup> ITU-T Recommendation K.44 is superseded by ITU-T Recommendation K.44:2003 but for the purpose of this standard, the 2000 edition applies.

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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### **CONNECTORS FOR ELECTRONIC EQUIPMENT –**

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

#### **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.
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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.

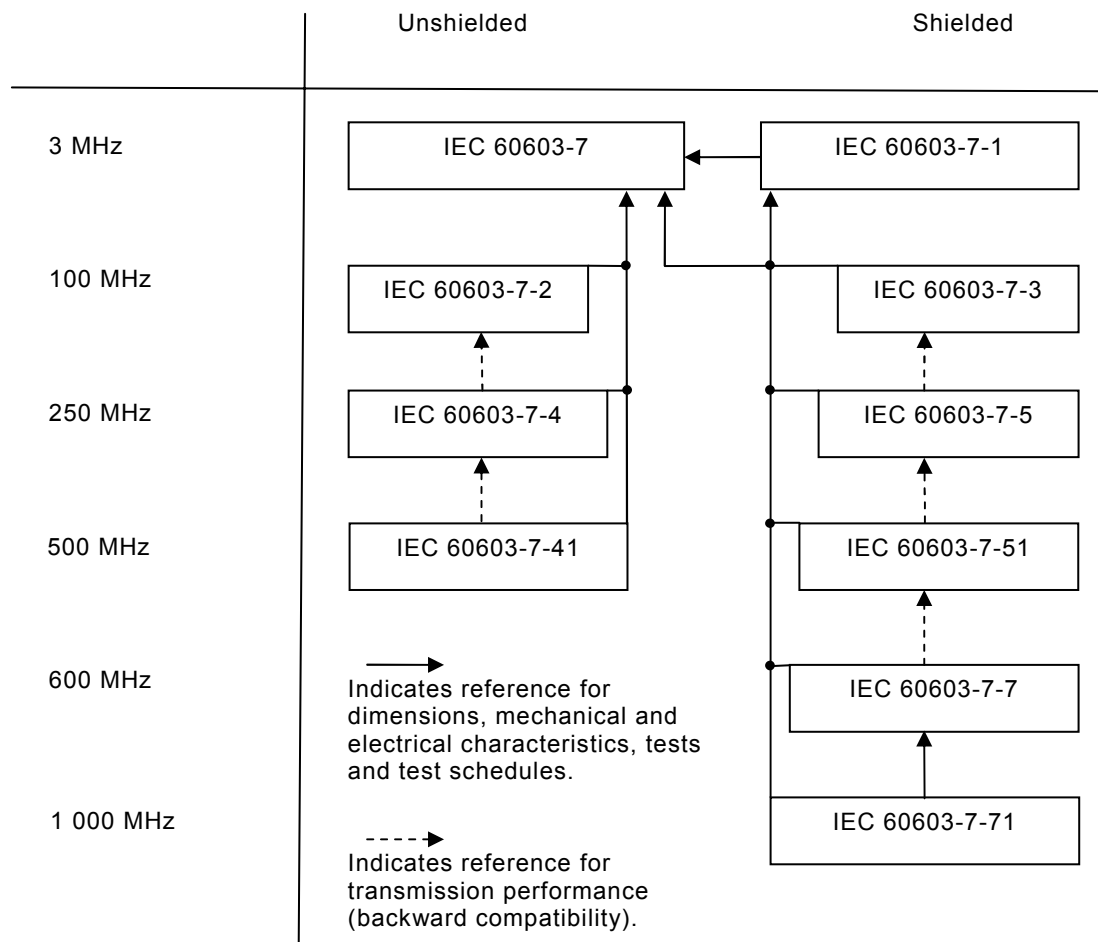
A list of all parts of IEC 60603-7 series, under the general title: *Connectors for electronic equipment*, can be found on the IEC website.

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

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

## 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*

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