



IEC 60603-7

Edition 4.0 2020-10
REDLINE VERSION

INTERNATIONAL STANDARD



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

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 31.220.01

ISBN 978-2-8322-8959-4

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

CONTENTS

FOREWORD	5
INTRODUCTION	7
1 Scope	8
2 Normative references	8
3 Terms and definitions	11
4 Common features and typical connector pair	13
4.1 View showing typical fixed and free connectors (see Figure 2)	13
4.2 Mating information	13
4.2.1 General	13
4.2.2 Contacts – mating conditions	14
4.2.3 Fixed connector	17
4.2.4 Free connector	23
5 Cable terminations and internal connections – Fixed and free connectors	26
5.1 General	26
5.2 Termination types	27
5.2.1 Solder terminations	27
5.2.2 Solderless terminations	27
6 Gauges	27
6.1 Fixed connectors	27
6.2 Free connectors	33
7 Characteristics	38
7.1 General	38
7.2 Pin and pair grouping assignment	38
7.3 Classification into climatic category	38
7.4 Electrical characteristics	39
7.4.1 Creepage and clearance distances	39
7.4.2 Voltage proof	39
7.4.3 Current-temperature derating	39
7.4.4 Interface contact resistance – initial only	40
7.4.5 Input to output DC resistance	40
7.4.6 Input-to-output DC resistance unbalance	40
7.4.7 Initial insulation resistance	41
7.4.8 Transfer impedance	41
7.5 Transmission characteristics	41
7.6 Mechanical characteristics	41
7.6.1 Mechanical operation	41
7.6.2 Effectiveness of connector coupling devices	41
7.6.3 Insertion and withdrawal forces	41
8 Tests and test schedule	41
8.1 General	41
8.2 Arrangement for interface contact resistance test	42
8.3 Arrangement for vibration test (test phase CP1)	44
8.4 Test procedures and measuring methods	45
8.5 Preconditioning	45
8.6 Wiring and mounting of specimens	46

8.6.1	Wiring	46
8.6.2	Mounting	46
8.7	Test schedules.....	46
8.7.1	General	46
8.7.2	Basic (minimum) test schedule	46
8.7.3	Full test schedule	46
Annex A (normative)	Gauging continuity procedure.....	58
A.1	Object.....	58
A.2	Preparation of the specimens.....	58
A.3	Test method.....	58
A.4	Final measurements.....	58
A.5	Description of the continuity gauge	58
Annex B (normative)	Locking device mechanical operation	62
B.1	Object.....	62
B.2	Preparation of the specimens.....	62
B.3	Test method.....	62
B.4	Final measurements.....	62
Annex C (normative)	Gauge requirements	63
C.1	Fixed connectors	63
C.2	Free connectors.....	63
Annex D (normative)	Keystone connector information	64
D.1	Fixed connector, female contacts Keystone type – Type A, variant 03 in the previous edition of this standard	64
D.2	Mounting dimensions for type A, Keystone type variant 03.....	65
Annex E (normative)	Levels of compatibility.....	67
E.1	General.....	67
E.2	Intermountability	68
E.3	Intermateability	69
E.4	Intermountability and intermateability	69
E.5	Interoperability	70
E.6	Interchangeability	70
E.7	Backward compatibility	70
Bibliography.....		72
Figure 1 – IEC 60603-7 family document diagram		7
Figure 2 – View showing typical fixed and free connectors.....		13
Figure 3 – Contact interface dimensions with terminated free connector		15
Figure 4 – Fixed connector details		20
Figure 5 – Free connector view		24
Figure 5 – “Go” gauge.....		
Figure 6 – “No-go” gauges.....		
Figure 6 – Fixed connector “Go” gauge.....		31
Figure 7 – Fixed connector “No-go” gauges		32
Figure 7 – “No-go” gauges.....		
Figure 8 – “Go” gauge.....		
Figure 8 – Free connector “No-go” gauges.....		36
Figure 9 – Free connector “Go” gauge		37

Figure 10 – Fixed connector pin and pair grouping assignment (front view of connector)	38
Figure 11 – Connector de-rating curve	40
Figure 12 – Arrangement for interface contact resistance test	43
Figure 13 – Arrangement for vibration test	45
Figure A.1 – Continuity gauge	60
Figure A.2 – Continuity gauge insertion	61
Figure D.1 – Keystone connector	64
Figure D.2 – Panel drawing	65
Table 1 – Dimensions for Figure 3	16
Table 2 – Dimensions for Figure 4	21
Table 3 – Dimensions for Figure 5	25
Table 4 – Dimensions for Figure 6 and Figure 7	33
Table 5 – Dimensions for Figure 8	36
Table 6 – Dimensions for Figure 9	37
Table 7 – Climatic categories – selected values	38
Table 8 – Creepage and clearance distances	39
Table 9 – Test group P	47
Table 10 – Test group AP	48
Table 11 – Test group BP	51
Table 12 – Test group CP	53
Table 13 – Test group DP	54
Table 14 – Test group EP	56
Table 15 – Test group FP	56
Table A.1 – Dimensions for Figure A.1	59
Table D.1 – Dimensions for Figure D.1	65
Table D.2 – Dimensions for Figure D.2	66
Table E.1 – Levels of compatibility ^{b)} ^{c)} and required parameters ^{b)}	68

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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.
- 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.

This redline version of the official IEC Standard allows the user to identify the changes made to the previous edition. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.

International Standard IEC 60603-7 has been prepared by subcommittee 48B: Electrical connectors, of IEC technical committee 48: Electrical connectors and mechanical structures for electrical and electronic equipment.

This fourth edition cancels and replaces the third edition, published in 2008, its Amendment 1:2011 and its Amendment 2:2019. It constitutes a technical revision.

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

- Revised the definitions for intermateability and interoperability; added new definitions.
- Corrected dimension line for dimension AZ2 in Figure 5.
- Corrected dimension line for dimension F1 in Figure A.1.
- Revised the reference to ISO/IEC 11801 to ISO/IEC 11801-1.
- Added lower limiting temperature and upper limiting temperature definitions.
- Revised Table 1 to Table 8 so the column order is Minimum-Nominal-Maximum dimensions (ascending order).
- Corrected Table 7: Climatic category and Upper temperature values to 90 °C (to be consistent with the graph in Figure 10 and Note 1 in Figure 10).
- Revised the wording in 8.2, contact resistance, for clarification.
- Revised Figure 11 and Figure 12 and the wording in the Key below for clarification.
- Removed the sentences under the figure in the Introduction.
- Added Annex E.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
48B/2832/FDIS	8B/2843/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document 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 document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

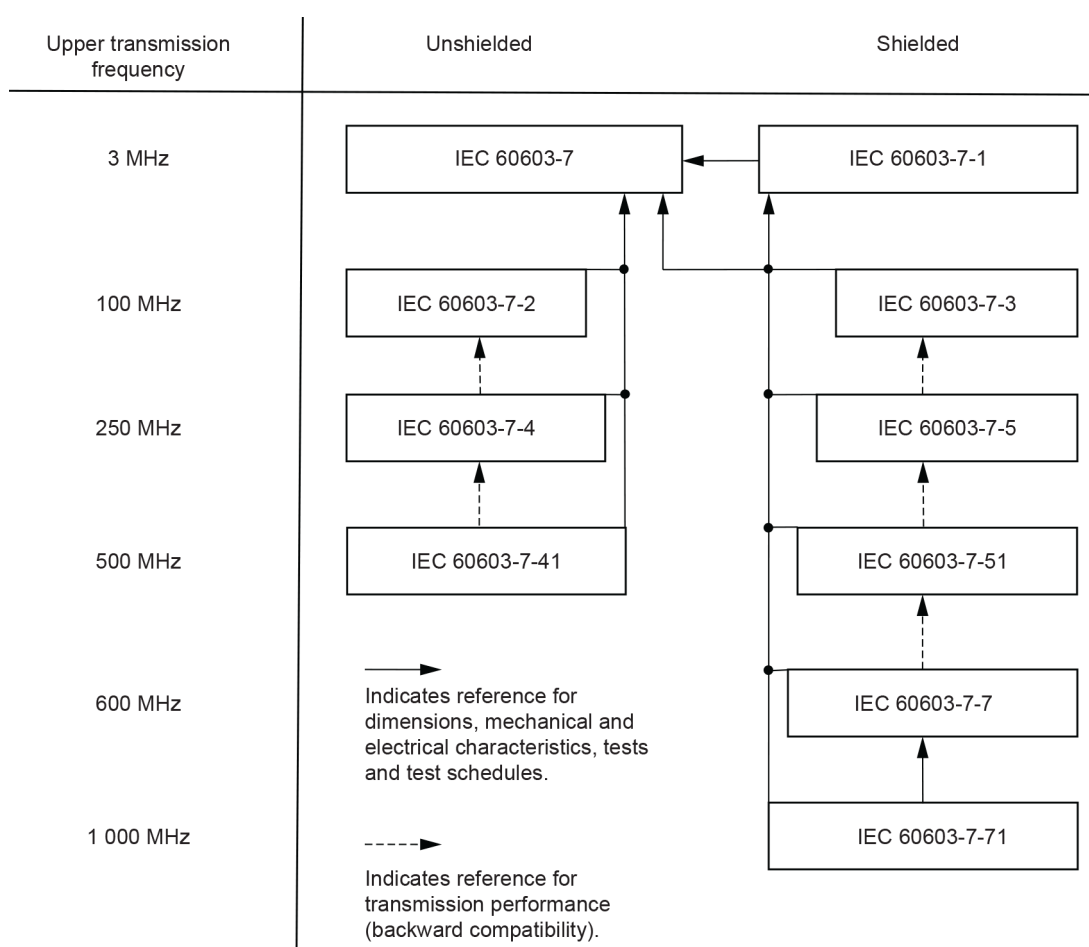
- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

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 specifications regarding a component of a higher numbered document, all lower numbered documents must be considered as well. Figure 1 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.~~



IEC

Figure 1 – IEC 60603-7 family document diagram

CONNECTORS FOR ELECTRONIC EQUIPMENT –

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

~~1~~ General

1 Scope

This part of IEC 60603-7 covers 8-way, unshielded, free and fixed connectors and is intended to specify the common dimensions (interface 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.

2 Normative references

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.

IEC 60050-581:2008, *International Electrotechnical Vocabulary (IEV) – Part 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 (ID) connections – General requirements, test methods and practical guidance*

IEC 60352-4, *Solderless connections – Part 4: Solderless Non-accessible insulation displacement (ID) 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, *Connectors for electrical and electronic equipment – Tests and measurements – Part 1: Generic specification*

IEC 60512-1-1, *Connectors for electronic equipment – Tests and measurements – Part 1-1: General examination – Test 1a: Visual examination*

IEC 60512-1-2, *Connectors for electronic equipment – Tests and measurements – Part 1-2: General examination – Test 1b: Examination of dimensions and mass*

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

IEC 60512-2-1, *Connectors for electronic equipment – Tests and measurements – Part 2-1: Electrical continuity and contact resistance tests – Test 2a: Contact resistance – Millivolt level method*

IEC 60512-2-5, *Connectors for electronic equipment – Tests and measurements – Part 2-5: Electrical continuity and contact resistance tests – Test 2e: Contact disturbance*

IEC 60512-3-1, *Connectors for electronic equipment – Tests and measurements – Part 3-1: Insulation tests – Test 3a: Insulation resistance*

IEC 60512-4-1, *Connectors for electronic equipment – Tests and measurements – Part 4-1: Voltage stress tests – Test 4a: Voltage proof*

IEC 60512-5-2, *Connectors for electronic equipment – Tests and measurements – Part 5-2: Current-carrying capacity tests – Test 5b: Current-temperature derating*

IEC 60512-6-4, *Connectors for electronic equipment – Tests and measurements – Part 6-4: Dynamic stress tests – Test 6d: Vibration (sinusoidal)*

IEC 60512-9-1, *Connectors for electronic equipment – Tests and measurements – Part 9-1: Endurance tests – Test 9a: Mechanical operation*

IEC 60512-9-2, *Connectors for electronic equipment – Tests and measurements – Part 9-2: Endurance tests – Test 9b: Electrical load and temperature*

IEC 60512-11-4, *Connectors for electronic equipment – Tests and measurements – Part 11-4: Climatic tests – Test 11d: Rapid change of temperature*

IEC 60512-11-7, *Connectors for electronic equipment – Tests and measurements – Part 11-7: Climatic tests – Test 11g: Flowing mixed gas corrosion test*

IEC 60512-13-2, *Connectors for electronic equipment – Tests and measurements – Part 13-2: Mechanical operation tests – Test 13b: Insertion and withdrawal forces*

IEC 60512-15-6, *Connectors for electronic equipment – Tests and measurements – Part 15-6: Connector tests (mechanical) – Test 15f: Effectiveness of connector coupling devices*

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 61076-3, *Connectors for electronic equipment – Product requirements – Part 3: Rectangular connectors – Sectional 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: 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 ~~wiring~~ cable – 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~~ 1 000 MHz – Horizontal floor wiring – Sectional specification*

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*

IEC 61760-3, *Surface mounting technology – Part 3: Standard method for the specification of components for through hole reflow (THR) soldering*

IEC TR 63040, *Guidance on clearances and creepage distances in particular for distances equal to or less than 2 mm – Test results of research on influencing parameters*

ISO/IEC 11801-1, *Information technology – Generic cabling for customer premises – Part 1: General requirements*

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

ITU-T Recommendation K.20:2000¹, *Resistibility of telecommunication equipment installed in a telecommunications centre to overvoltages and overcurrents*

ITU-T Recommendation K.44:2000², *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 document, the 2000 edition is cited.

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

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**

CONTENTS

FOREWORD	5
INTRODUCTION	7
1 Scope	8
2 Normative references	8
3 Terms and definitions	10
4 Common features and typical connector pair	12
4.1 View showing typical fixed and free connectors (see Figure 2)	12
4.2 Mating information	13
4.2.1 General	13
4.2.2 Contacts – mating conditions	14
4.2.3 Fixed connector	16
4.2.4 Free connector	19
5 Cable terminations and internal connections – Fixed and free connectors	20
5.1 General	20
5.2 Termination types	21
5.2.1 Solder terminations	21
5.2.2 Solderless terminations	21
6 Gauges	21
6.1 Fixed connectors	21
6.2 Free connectors	24
7 Characteristics	27
7.1 General	27
7.2 Pin and pair grouping assignment	27
7.3 Classification into climatic category	27
7.4 Electrical characteristics	28
7.4.1 Creepage and clearance distances	28
7.4.2 Voltage proof	28
7.4.3 Current-temperature derating	28
7.4.4 Interface contact resistance – initial only	29
7.4.5 Input to output DC resistance	29
7.4.6 Input-to-output DC resistance unbalance	29
7.4.7 Initial insulation resistance	30
7.4.8 Transfer impedance	30
7.5 Transmission characteristics	30
7.6 Mechanical characteristics	30
7.6.1 Mechanical operation	30
7.6.2 Effectiveness of connector coupling devices	30
7.6.3 Insertion and withdrawal forces	30
8 Tests and test schedule	30
8.1 General	30
8.2 Arrangement for interface contact resistance test	31
8.3 Arrangement for vibration test (test phase CP1)	32
8.4 Test procedures and measuring methods	32
8.5 Preconditioning	33
8.6 Wiring and mounting of specimens	33

8.6.1	Wiring	33
8.6.2	Mounting	33
8.7	Test schedules.....	33
8.7.1	General	33
8.7.2	Basic (minimum) test schedule	33
8.7.3	Full test schedule	33
Annex A (normative)	Gauging continuity procedure.....	40
A.1	Object.....	40
A.2	Preparation of the specimens.....	40
A.3	Test method.....	40
A.4	Final measurements.....	40
A.5	Description of the continuity gauge	40
Annex B (normative)	Locking device mechanical operation	43
B.1	Object.....	43
B.2	Preparation of the specimens.....	43
B.3	Test method.....	43
B.4	Final measurements.....	43
Annex C (normative)	Gauge requirements	44
C.1	Fixed connectors	44
C.2	Free connectors.....	44
Annex D (normative)	Keystone connector information	45
D.1	Fixed connector, female contacts Keystone type – Type A, variant 03 in the previous edition of this standard	45
D.2	Mounting dimensions for type A, Keystone type variant 03.....	46
Annex E (normative)	Levels of compatibility.....	47
E.1	General.....	47
E.2	Intermountability	48
E.3	Intermateability	49
E.4	Intermountability and intermateability	49
E.5	Interoperability	50
E.6	Interchangeability	50
E.7	Backward compatibility	50
Bibliography.....		52
Figure 1 – IEC 60603-7 family document diagram		7
Figure 2 – View showing typical fixed and free connectors.....		12
Figure 3 – Contact interface dimensions with terminated free connector		14
Figure 4 – Fixed connector details		17
Figure 5 – Free connector view		19
Figure 6 – Fixed connector "Go" gauge.....		22
Figure 7 – Fixed connector "No-go" gauges		23
Figure 8 – Free connector "No-go" gauges.....		25
Figure 9 – Free connector "Go" gauge		26
Figure 10 – Fixed connector pin and pair grouping assignment (front view of connector)		27
Figure 11 – Connector de-rating curve		29
Figure 12 – Arrangement for interface contact resistance test.....		31

Figure 13 – Arrangement for vibration test	32
Figure A.1 – Continuity gauge.....	42
Figure A.2 – Continuity gauge insertion	42
Figure D.1 – Keystone connector	45
Figure D.2 – Panel drawing.....	46
Table 1 – Dimensions for Figure 3	15
Table 2 – Dimensions for Figure 4	18
Table 3 – Dimensions for Figure 5	20
Table 4 – Dimensions for Figure 6 and Figure 7	24
Table 5 – Dimensions for Figure 8	25
Table 6 – Dimensions for Figure 9	26
Table 7 – Climatic categories – selected values	27
Table 8 – Creepage and clearance distances.....	28
Table 9 – Test group P	34
Table 10 – Test group AP	34
Table 11 – Test group BP	36
Table 12 – Test group CP	37
Table 13 – Test group DP	38
Table 14 – Test group EP	39
Table 15 – Test group FP	39
Table A.1 – Dimensions for Figure A.1	41
Table D.1 – Dimensions for Figure D.1	45
Table D.2 – Dimensions for Figure D.2	46
Table E.1 – Levels of compatibility and required parameters.....	48

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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.
- 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.

International Standard IEC 60603-7 has been prepared by subcommittee 48B: Electrical connectors, of IEC technical committee 48: Electrical connectors and mechanical structures for electrical and electronic equipment.

This fourth edition cancels and replaces the third edition, published in 2008, its Amendment 1:2011 and its Amendment 2:2019. It constitutes a technical revision.

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

- Revised the definitions for intermateability and interoperability; added new definitions.
- Corrected dimension line for dimension AZ2 in Figure 5.
- Corrected dimension line for dimension F1 in Figure A.1.
- Revised the reference to ISO/IEC 11801 to ISO/IEC 11801-1.

- Added lower limiting temperature and upper limiting temperature definitions.
- Revised Table 1 to Table 8 so the column order is Minimum-Nominal-Maximum dimensions (ascending order).
- Corrected Table 7: Climatic category and Upper temperature values to 90 °C (to be consistent with the graph in Figure 10 and Note 1 in Figure 10).
- Revised the wording in 8.2, contact resistance, for clarification.
- Revised Figure 11 and Figure 12 and the wording in the Key below for clarification.
- Removed the sentences under the figure in the Introduction.
- Added Annex E.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
48B/2832/FDIS	8B/2843/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document 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.

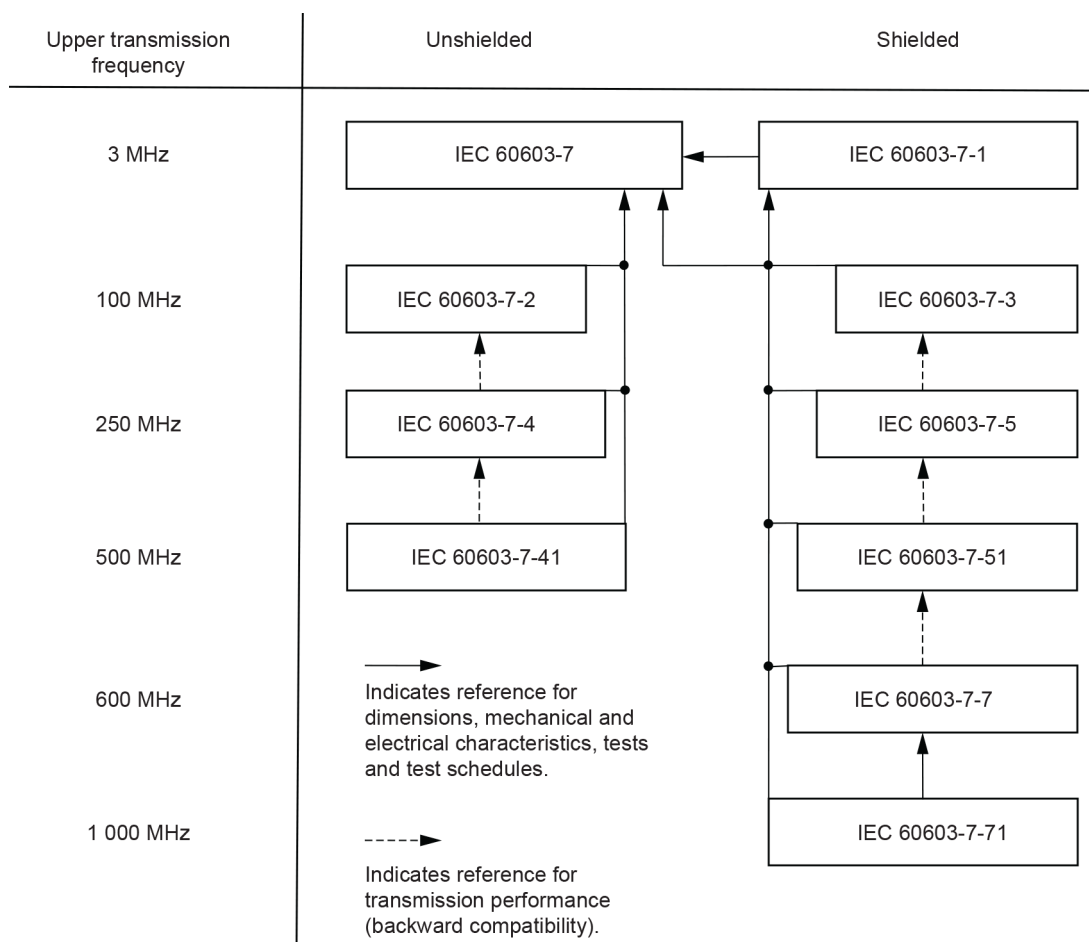
The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

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

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

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 specifications regarding a component of a higher numbered document, all lower numbered documents must be considered as well. Figure 1 shows the interrelation of the documents.



IEC

Figure 1 – IEC 60603-7 family document diagram

CONNECTORS FOR ELECTRONIC EQUIPMENT –

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

1 Scope

This part of IEC 60603-7 covers 8-way, unshielded, free and fixed connectors and is intended to specify the common dimensions (interface 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.

2 Normative references

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.

IEC 60050-581:2008, *International Electrotechnical Vocabulary (IEV) – Part 581: Electromechanical components for electronic equipment*

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

IEC 60068-2-38: *Environmental testing – 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: Accessible insulation displacement (ID) connections – General requirements, test methods and practical guidance*

IEC 60352-4, *Solderless connections – Part 4: Non-accessible insulation displacement (ID) 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 60512-1, *Connectors for electrical and electronic equipment – Tests and measurements – Part 1: Generic specification*

IEC 60512-1-1, *Connectors for electronic equipment – Tests and measurements – Part 1-1: General examination – Test 1a: Visual examination*

IEC 60512-1-2, *Connectors for electronic equipment – Tests and measurements – Part 1-2: General examination – Test 1b: Examination of dimensions and mass*

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

IEC 60512-2-1, *Connectors for electronic equipment – Tests and measurements – Part 2-1: Electrical continuity and contact resistance tests – Test 2a: Contact resistance – Millivolt level method*

IEC 60512-2-5, *Connectors for electronic equipment – Tests and measurements – Part 2-5: Electrical continuity and contact resistance tests – Test 2e: Contact disturbance*

IEC 60512-3-1, *Connectors for electronic equipment – Tests and measurements – Part 3-1: Insulation tests – Test 3a: Insulation resistance*

IEC 60512-4-1, *Connectors for electronic equipment – Tests and measurements – Part 4-1: Voltage stress tests – Test 4a: Voltage proof*

IEC 60512-5-2, *Connectors for electronic equipment – Tests and measurements – Part 5-2: Current-carrying capacity tests – Test 5b: Current-temperature derating*

IEC 60512-6-4, *Connectors for electronic equipment – Tests and measurements – Part 6-4: Dynamic stress tests – Test 6d: Vibration (sinusoidal)*

IEC 60512-9-1, *Connectors for electronic equipment – Tests and measurements – Part 9-1: Endurance tests – Test 9a: Mechanical operation*

IEC 60512-9-2, *Connectors for electronic equipment – Tests and measurements – Part 9-2: Endurance tests – Test 9b: Electrical load and temperature*

IEC 60512-11-4, *Connectors for electronic equipment – Tests and measurements – Part 11-4: Climatic tests – Test 11d: Rapid change of temperature*

IEC 60512-11-7, *Connectors for electronic equipment – Tests and measurements – Part 11-7: Climatic tests – Test 11g: Flowing mixed gas corrosion test*

IEC 60512-13-2, *Connectors for electronic equipment – Tests and measurements – Part 13-2: Mechanical operation tests – Test 13b: Insertion and withdrawal forces*

IEC 60512-15-6, *Connectors for electronic equipment – Tests and measurements – Part 15-6: Connector tests (mechanical) – Test 15f: Effectiveness of connector coupling devices*

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 61076-3, *Connectors for electronic equipment – Product requirements – Part 3: Rectangular connectors – Sectional specification*

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*

IEC 61156-5, *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, *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*

IEC 61760-3, *Surface mounting technology – Part 3: Standard method for the specification of components for through hole reflow (THR) soldering*

IEC TR 63040, *Guidance on clearances and creepage distances in particular for distances equal to or less than 2 mm – Test results of research on influencing parameters*

ISO/IEC 11801-1, *Information technology – Generic cabling for customer premises – Part 1: General requirements*

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

ITU-T Recommendation K.20:2000¹, *Resistibility of telecommunication equipment installed in a telecommunications centre to overvoltages and overcurrents*

ITU-T Recommendation K.44:2000², *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 document, the 2000 edition is cited.

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

SOMMAIRE

AVANT PROPOS	57
INTRODUCTION.....	59
1 Domaine d'application	60
2 Références normatives	60
3 Termes et définitions	63
4 Caractéristiques communes et paire de connecteurs type.....	65
4.1 Vue représentant les embases et les fiches types (voir Figure 2)	65
4.2 Informations relatives à l'accouplement	65
4.2.1 Généralités	65
4.2.2 Contacts – Conditions d'accouplement	66
4.2.3 Embase	68
4.2.4 Fiche	71
5 Sorties de câbles et connexions internes – Embases et fiches.....	72
5.1 Généralités	72
5.2 Types de sorties	73
5.2.1 Sorties à souder	73
5.2.2 Sorties sans soudure	73
6 Calibres.....	74
6.1 Embases.....	74
6.2 Fiches.....	76
7 Caractéristiques	79
7.1 Généralités	79
7.2 Affectation des broches et des paires	79
7.3 Classification en catégories climatiques	79
7.4 Caractéristiques électriques	80
7.4.1 Lignes de fuite et distances d'isolement.....	80
7.4.2 Tension de tenue	80
7.4.3 Taux de réduction de l'intensité en fonction de la température	80
7.4.4 Résistance de contact de l'interface – initiale seulement	81
7.4.5 Résistance entrée/sortie en courant continu	81
7.4.6 Déséquilibre de résistance d'entrée/sortie en courant continu.....	81
7.4.7 Résistance d'isolement initiale.....	82
7.4.8 Impédance de transfert	82
7.5 Caractéristiques de transmission	82
7.6 Caractéristiques mécaniques	82
7.6.1 Fonctionnement mécanique	82
7.6.2 Efficacité des dispositifs d'accouplement des connecteurs.....	82
7.6.3 Forces d'insertion et d'extraction	82
8 Essais et programme d'essais	82
8.1 Généralités	82
8.2 Montage pour l'essai de la résistance de contact de l'interface	83
8.3 Montage pour l'essai de vibration (phase d'essai CP1)	84
8.4 Procédures d'essai et méthodes de mesure	84
8.5 Préconditionnement	85
8.6 Câblage et montage des spécimens.....	85

8.6.1	Câblage	85
8.6.2	Montage	85
8.7	Programmes d'essais	85
8.7.1	Généralités	85
8.7.2	Programme d'essais de base (minimal)	85
8.7.3	Programme d'essais complet	85
Annexe A (normative)	Procédure d'évaluation de la continuité	95
A.1	Objet	95
A.2	Préparation des spécimens	95
A.3	Méthode d'essai	95
A.4	Mesures finales	95
A.5	Description du calibre de continuité	95
Annexe B (normative)	Fonctionnement mécanique du dispositif de verrouillage	98
B.1	Objet	98
B.2	Préparation des spécimens	98
B.3	Méthode d'essai	98
B.4	Mesures finales	98
Annexe C (normative)	Exigences relatives aux calibres	99
C.1	Embases	99
C.2	Fiches	99
Annexe D (normative)	Informations concernant le connecteur Keystone	100
D.1	Embase, contacts femelles de type Keystone – Type A, variante 03 dans l'édition précédente de la présente norme	100
D.2	Dimensions de montage pour le connecteur de type Keystone, type A, variante 03	101
Annexe E (normative)	Niveaux de compatibilité	102
E.1	Généralités	102
E.2	Compatibilité de montage	103
E.3	Compatibilité d'accouplement	104
E.4	Compatibilité de montage et d'accouplement	104
E.5	Interopérabilité	105
E.6	Interchangeabilité	105
E.7	Compatibilité ascendante	106
Bibliographie		107
Figure 1 – Schéma présentant les relations entre les documents de la série IEC 60603-7		59
Figure 2 – Vue représentant une embase et une fiche types		65
Figure 3 – Dimensions de l'interface de contact avec fiche équipée		66
Figure 4 – Détails de l'embase		69
Figure 5 – Vue de la fiche		71
Figure 6 – Calibre "Entre" de l'embase		74
Figure 7 – Calibres "N'entre pas" de l'embase		75
Figure 8 – Calibres "N'entre pas" de la fiche		77
Figure 9 – Calibre "Entre" de la fiche		78
Figure 10 – Affectation des broches et des paires d'une embase (vue de face du connecteur)		79

Figure 11 – Courbe du taux de réduction du connecteur	81
Figure 12 – Montage pour l'essai de la résistance de contact de l'interface	83
Figure 13 – Montage pour l'essai de vibrations	84
Figure A.1 – Calibre de continuité	97
Figure A.2 – Insertion du calibre de continuité	97
Figure D.1 – Connecteur Keystone	100
Figure D.2 – Représentation schématique du panneau	101
Tableau 1 – Dimensions pour Figure 3	67
Tableau 2 – Dimensions pour Figure 4	70
Tableau 3 – Dimensions pour Figure 5	72
Tableau 4 – Dimensions pour la Figure 6 et Figure 7	76
Tableau 5 – Dimensions pour Figure 8	77
Tableau 6 – Dimensions pour Figure 9	78
Tableau 7 – Catégories climatiques – valeurs choisies	79
Tableau 8 – Lignes de fuite et distances d'isolement	80
Tableau 9 – Groupe d'essais P	86
Tableau 10 – Groupe d'essais AP	87
Tableau 11 – Groupe d'essais BP	89
Tableau 12 – Groupe d'essais CP	91
Tableau 13 – Groupe d'essais DP	92
Tableau 14 – Groupe d'essais EP	93
Tableau 15 – Groupe d'essais FP	94
Tableau A.1 – Dimensions pour Figure A.1	96
Tableau D.1 – Dimensions pour Figure D.1	100
Tableau D.2 – Dimensions pour la Figure D.2	101
Tableau E.1 – Niveaux de compatibilité ^{b) c)} et paramètres exigés ^{b)}	103

COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

CONNECTEURS POUR ÉQUIPEMENTS ÉLECTRONIQUES –

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

AVANT PROPOS

- 1) La Commission Electrotechnique Internationale (IEC) est une organisation mondiale de normalisation composée de l'ensemble des comités électrotechniques nationaux (Comités nationaux de l'IEC). L'IEC a pour objet de favoriser la coopération internationale pour toutes les questions de normalisation dans les domaines de l'électricité et de l'électronique. A cet effet, l'IEC – entre autres activités – publie des Normes internationales, des Spécifications techniques, des Rapports techniques, des Spécifications accessibles au public (PAS) et des Guides (ci-après dénommés "Publication(s) de l'IEC"). Leur élaboration est confiée à des comités d'études, aux travaux desquels tout Comité national intéressé par le sujet traité peut participer. Les organisations internationales, gouvernementales et non gouvernementales, en liaison avec l'IEC, participent également aux travaux. L'IEC collabore étroitement avec l'Organisation Internationale de Normalisation (ISO), selon des conditions fixées par accord entre les deux organisations.
- 2) Les décisions ou accords officiels de l'IEC concernant les questions techniques représentent, dans la mesure du possible, un accord international sur les sujets étudiés, étant donné que les Comités nationaux de l'IEC intéressés sont représentés dans chaque comité d'études.
- 3) Les Publications de l'IEC se présentent sous la forme de recommandations internationales et sont agréées comme telles par les Comités nationaux de l'IEC. Tous les efforts raisonnables sont entrepris afin que l'IEC s'assure de l'exactitude du contenu technique de ses publications; l'IEC ne peut pas être tenue responsable de l'éventuelle mauvaise utilisation ou interprétation qui en est faite par un quelconque utilisateur final.
- 4) Dans le but d'encourager l'uniformité internationale, les Comités nationaux de l'IEC s'engagent, dans toute la mesure possible, à appliquer de façon transparente les Publications de l'IEC dans leurs publications nationales et régionales. Toutes divergences entre toutes Publications de l'IEC et toutes publications nationales ou régionales correspondantes doivent être indiquées en termes clairs dans ces dernières.
- 5) L'IEC elle-même ne fournit aucune attestation de conformité. Des organismes de certification indépendants fournissent des services d'évaluation de conformité et, dans certains secteurs, accèdent aux marques de conformité de l'IEC. L'IEC n'est responsable d'aucun des services effectués par les organismes de certification indépendants.
- 6) Tous les utilisateurs doivent s'assurer qu'ils sont en possession de la dernière édition de cette publication.
- 7) Aucune responsabilité ne doit être imputée à l'IEC, à ses administrateurs, employés, auxiliaires ou mandataires, y compris ses experts particuliers et les membres de ses comités d'études et des Comités nationaux de l'IEC, pour tout préjudice causé en cas de dommages corporels et matériels, ou de tout autre dommage de quelque nature que ce soit, directe ou indirecte, ou pour supporter les coûts (y compris les frais de justice) et les dépenses découlant de la publication ou de l'utilisation de cette Publication de l'IEC ou de toute autre Publication de l'IEC, ou au crédit qui lui est accordé.
- 8) L'attention est attirée sur les références normatives citées dans cette publication. L'utilisation de publications référencées est obligatoire pour une application correcte de la présente publication.
- 9) L'attention est attirée sur le fait que certains des éléments de la présente Publication de l'IEC peuvent faire l'objet de droits de brevet. L'IEC ne saurait être tenue pour responsable de ne pas avoir identifié de tels droits de brevets et de ne pas avoir signalé leur existence.

La Norme internationale IEC 60603-7 a été établie par le sous-comité 48B: Connecteurs électriques, du comité d'études 48 de l'IEC: Connecteurs électriques et structures mécaniques pour les équipements électriques et électroniques.

Cette quatrième édition annule et remplace la troisième édition publiée en 2008, l'Amendement 1:2011 et l'Amendement 2:2019. Cette édition constitue une révision technique.

Cette édition inclut les modifications techniques majeures suivantes par rapport à la précédente édition:

- Révision des définitions de la compatibilité d'accouplement et de l'interopérabilité; ajout de nouvelles définitions.
- Correction de la ligne de cote AZ2 à la Figure 5.

- Correction de la ligne de cote F1 à la Figure A.1.
- Révision de la référence à l'ISO/IEC 11801, devenant ISO/IEC 11801-1.
- Ajout des définitions de la température limite inférieure et de la température limite supérieure.
- Révision des Tableau 1 à Tableau 8 de sorte que l'ordre des colonnes corresponde à l'ordre croissant des valeurs, soit "Minimales", "Nominales", "Maximales".
- correction du Tableau 7: correction de la colonne "Catégorie climatique" et de la colonne "Température supérieure", qui spécifie désormais une valeur de 90 °C (à des fins de cohérence avec le graphique de la Figure 10 et la Note 1 de la Figure 10).
- Révision, à des fins de clarification, de la formulation en 8.2, Disposition pour l'essai de la résistance de contact.
- Révision de la Figure 11 et de la Figure 12, et de la formulation dans les légendes correspondantes, à des fins de clarification.
- Suppression des phrases présentes sous la figure, dans l'Introduction.
- Ajout de l'Annexe E.

Le texte de cette Norme internationale est issu des documents suivants:

FDIS	Rapport de vote
48B/2832/FDIS	8B/2843/RVD

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à l'approbation de cette Norme internationale.

Ce document a été rédigé selon les Directives ISO/IEC, Partie 2.

Une liste de toutes les parties de la série IEC 60603-7, sous le titre général *Connecteurs pour équipements électroniques*, est disponible sur le site web de l'IEC.

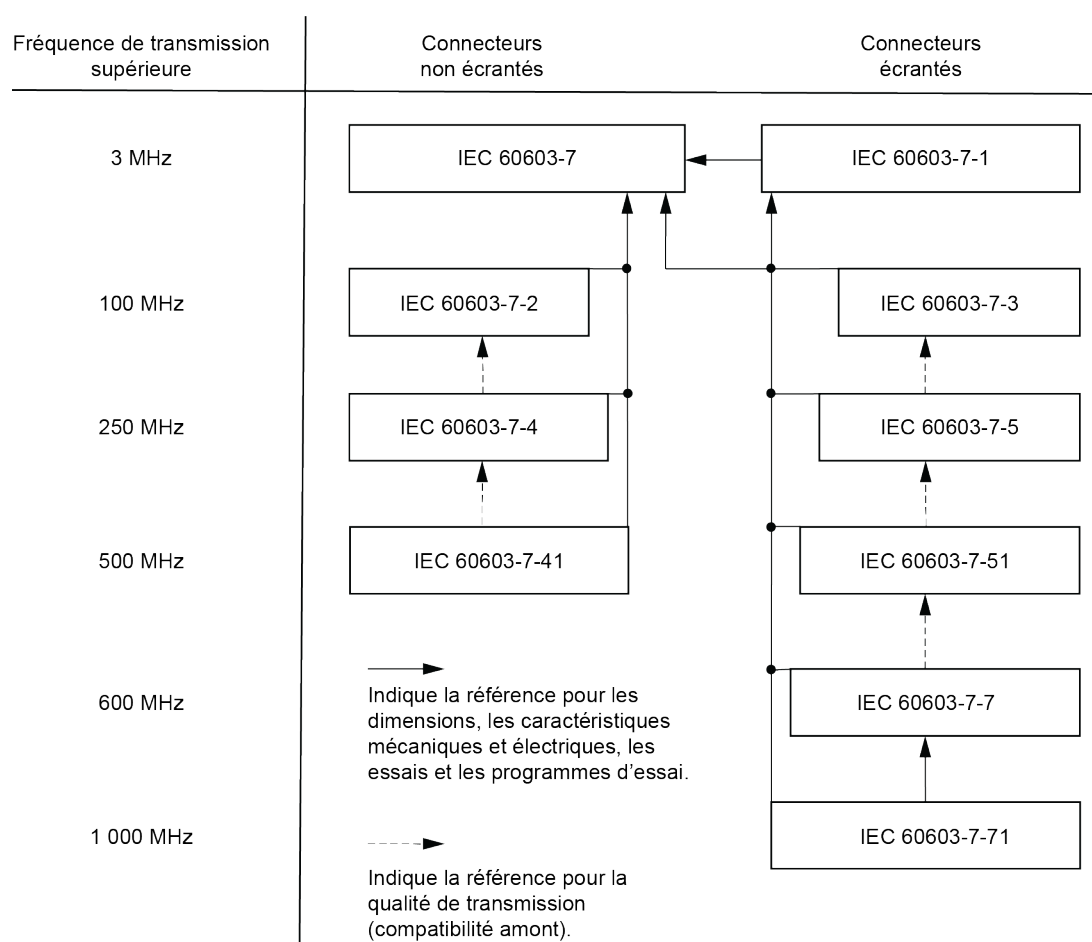
Le comité a décidé que le contenu de ce document ne sera pas modifié avant la date de stabilité indiquée sur le site web de l'IEC sous "<http://webstore.iec.ch>" dans les données relatives à la publication recherchée. A cette date, le document sera

- reconduit,
- supprimé,
- remplacé par une édition révisée, ou
- amendé.

IMPORTANT – Le logo "colour inside" qui se trouve sur la page de couverture de cette publication indique qu'elle contient des couleurs qui sont considérées comme utiles à une bonne compréhension de son contenu. Les utilisateurs devraient, par conséquent, imprimer cette publication en utilisant une imprimante couleur.

INTRODUCTION

L'IEC 60603-7 est la spécification de base pour toute la série. Les spécifications qui en découlent ne redonnent pas les informations fournies dans le document de base mais elles stipulent uniquement les exigences supplémentaires. Pour avoir les spécifications complètes d'un composant donné lorsque le numéro du document est élevé, il faut également prendre en compte tous les documents de numérotation inférieure. La Figure 1 montre l'interrelation des documents.



IEC

Figure 1 – Schéma présentant les relations entre les documents de la série IEC 60603-7

CONNECTEURS POUR ÉQUIPEMENTS ÉLECTRONIQUES –

Partie 7: Spécification particulière pour les fiches et les embases non écrantées à 8 voies

1 Domaine d'application

La présente partie de l'IEC 60603-7 couvre les fiches et les embases non écrantées à 8 voies; elle est destinée à spécifier les dimensions communes (dimensions de l'interface), les caractéristiques mécaniques, électriques et environnementales ainsi que les essais pour la famille des connecteurs IEC 60603-7-x.

Ces connecteurs sont accouplables (conformes à l'IEC 61076-1 niveau 2) et interoperables avec les autres connecteurs de la série IEC 60603-7.

2 Références normatives

Les documents suivants cités dans le texte constituent, pour tout ou partie de leur contenu, des exigences du présent document. Pour les références datées, seule l'édition citée s'applique. Pour les références non datées, la dernière édition du document de référence s'applique (y compris les éventuels amendements).

IEC 60050-581:2008, *Vocabulaire Electrotechnique International (IEV) – Partie 581: Composants électromécaniques pour équipements électroniques*

IEC 60068-1, *Essais d'environnement – Partie 1: Généralités et lignes directrices*

IEC 60068-2-38: *Essais d'environnement – Partie 2-38: Essais – Essai Z/AD: Essai cyclique composite de température et d'humidité*

IEC 60352-2, *Connexions sans soudure – Partie 2: Connexions serties – Exigences générales, méthodes d'essai et guide pratique*

IEC 60352-3, *Connexions sans soudure – Partie 3: Connexions autodénudantes accessibles – Règles générales, méthodes d'essai et guide pratique*

IEC 60352-4, *Connexions sans soudure – Partie 4: Connexions autodénudantes (CAD) non accessibles – Règles générales, méthodes d'essai et guide pratique*

IEC 60352-5, *Connexions sans soudure – Partie 5: Connexions insérées à force – Exigences générales, méthodes d'essai et guide pratique*

IEC 60352-6, *Connexions sans soudure – Partie 6: Connexions à percement d'isolant – Règles générales, méthodes d'essai et guide pratique*

IEC 60352-7, *Connexions sans soudure – Partie 7: Connexions à ressort – Règles générales, méthodes d'essai et guide pratique*

IEC 60512-1, *Connecteurs pour équipements électriques et électroniques – Essais et mesures – Partie 1: Spécification générique*

IEC 60512-1-1, *Connecteurs pour équipements électroniques – Essais et mesures – Partie 1-1: Examen général – Essai 1a: Examen visuel*

IEC 60512-1-2, *Connecteurs pour équipements électroniques – Essais et mesures – Partie 1-2: Examen général – Essai 1b: Examen de dimensions et masse*

IEC 60512-1-100, *Connecteurs pour équipements électroniques – Essais et mesures – Partie 1-100: Généralités – Publications applicables*

IEC 60512-2-1, *Connecteurs pour équipements électroniques – Essais et mesures – Partie 2-1: Essais de continuité électrique et de résistance de contact – Essai 2a: Résistance de contact – Méthode du niveau des millivolts*

IEC 60512-2-5, *Connecteurs pour équipements électroniques – Essais et mesures – Partie 2-5: Essais de continuité électrique et de résistance de contact – Essai 2e: Perturbation de contact*

IEC 60512-3-1, *Connecteurs pour équipements électroniques – Essais et mesures – Partie 3-1: Essais d'isolement – Essai 3a: Résistance d'isolement*

IEC 60512-4-1, *Connecteurs pour équipements électroniques – Essais et mesures – Partie 4-1: Essais de contrainte diélectrique – Essai 4a: Tension de tenue*

IEC 60512-5-2, *Connecteurs pour équipements électroniques – Essais et mesures – Partie 5-2: Essais de courant limite – Essai 5b: Taux de réduction de l'intensité en fonction de la température*

IEC 60512-6-4, *Connecteurs pour équipements électroniques – Essais et mesures – Partie 6-4: Essais de contraintes dynamiques – Essai 6d: Vibrations (sinusoïdales)*

IEC 60512-9-1, *Connecteurs pour équipements électroniques – Essais et mesures – Partie 9-1: Essais d'endurance – Essai 9a: Fonctionnement mécanique*

IEC 60512-9-2, *Connecteurs pour équipements électroniques – Essais et mesures – Partie 9-2: Essais d'endurance – Essai 9b: Charge électrique et température*

IEC 60512-11-4, *Connecteurs pour équipements électroniques – Essais et mesures – Partie 11-4: Essais climatiques – Essai 11d: Variations rapides de température*

IEC 60512-11-7, *Connecteurs pour équipements électroniques – Essais et mesures – Partie 11-7: Essais climatiques – Essai 11g: Essai de corrosion dans un flux de mélange de gaz*

IEC 60512-13-2, *Connecteurs pour équipements électroniques – Essais et mesures – Partie 13-2: Essais de fonctionnement mécanique – Essai 13b: Forces d'insertion et d'extraction*

IEC 60512-15-6, *Connecteurs pour équipements électroniques – Essais et mesures – Partie 15-6: Essais (mécaniques) des connecteurs – Essai 15f: Efficacité des dispositifs d'accouplement des connecteurs*

IEC 60603-7 (toutes les parties), *Connecteurs pour équipements électroniques*

IEC 60664-1, *Coordination de l'isolement des matériels dans les systèmes (réseaux) à basse tension – Partie 1: Principes, exigences et essais*

IEC 61076-1:2006, *Connecteurs pour équipements électroniques – Exigences de produit – Partie 1: Spécification générique*

IEC 61076-3, *Connecteurs pour équipements électroniques – Exigences de produit – Partie 3: Connecteurs rectangulaires – Spécification intermédiaire*

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* (disponible en anglais seulement)

IEC 61156-3, *Multicore and symmetrical pair/quad cables for digital communications – Part 3: Work area cable – Sectional specification* (disponible en anglais seulement)

IEC 61156-4, *Multicore and symmetrical pair/quad cables for digital communications – Part 4: Riser cables – Sectional specification* (disponible en anglais seulement)

IEC 61156-5, *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* (disponible en anglais seulement)

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* (disponible en anglais seulement)

IEC 61156-7, *Câbles multiconducteurs à paires symétriques et quartes pour transmissions numériques – Partie 7: Câbles à paires symétriques avec caractéristiques de transmission jusqu'à 1 200 MHz – Spécification intermédiaire pour câbles de transmissions numériques et analogiques*

IEC 61760-3, *Technique du montage en surface – Partie 3: Méthode normalisée relative à la spécification des composants pour le brasage par refusion à trous traversants (THR, Through Hole Reflow)*

IEC TR 63040, *Guidance on clearances and creepage distances in particular for distances equal to or less than 2 mm – Test results of research on influencing parameters* (disponible en anglais seulement)

ISO/IEC 11801-1, *Information technology – Generic cabling for customer premises – Part 1: General requirements* (disponible en anglais seulement)

ISO 1302, *Spécification géométrique des produits (GPS) – Indication des états de surface dans la documentation technique de produits*

Recommandation UIT-T K.20:2000¹, *Immunité des équipements de télécommunication des centres de télécommunication aux surtensions et aux surintensités*

Recommandation UIT-T K.44:2000², *Essais d'immunité des équipements de télécommunication exposés aux surtensions et aux surintensités – Recommandation fondamentale*

¹ Ce document a été remplacé par une nouvelle édition (2003), mais pour les besoins du présent document, l'édition de 2000 est citée.

² Ce document a été remplacé par une nouvelle édition (2003), mais pour les besoins du présent document, l'édition de 2000 est citée.