

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Connectors for electronic equipment –
Part 7-82: Detail specification for 8-way, 12 contacts, shielded, free and fixed
connectors, for data transmission with frequencies up to 2 000 MHz**

**Connecteurs pour équipements électroniques –
Partie 7-82: Spécification particulière pour les fiches et les embases écrantées à
8 voies et 12 contacts pour la transmission de données à des fréquences
jusqu'à 2 000 MHz**



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Table 1 – Test group EP15

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

CONNECTORS FOR ELECTRONIC EQUIPMENT –**Part 7-82: Detail specification for 8-way, 12 contacts, shielded,
free and fixed connectors, for data transmission
with frequencies up to 2 000 MHz**

FOREWORD

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International Standard IEC 60603-7-82 has been prepared by subcommittee 48B: Electrical connectors, of IEC technical committee 48: Electrical connectors and mechanical structures for electrical and electronic equipment.

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

FDIS	Report on voting
48B/2497/FDIS	48B/2510/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.

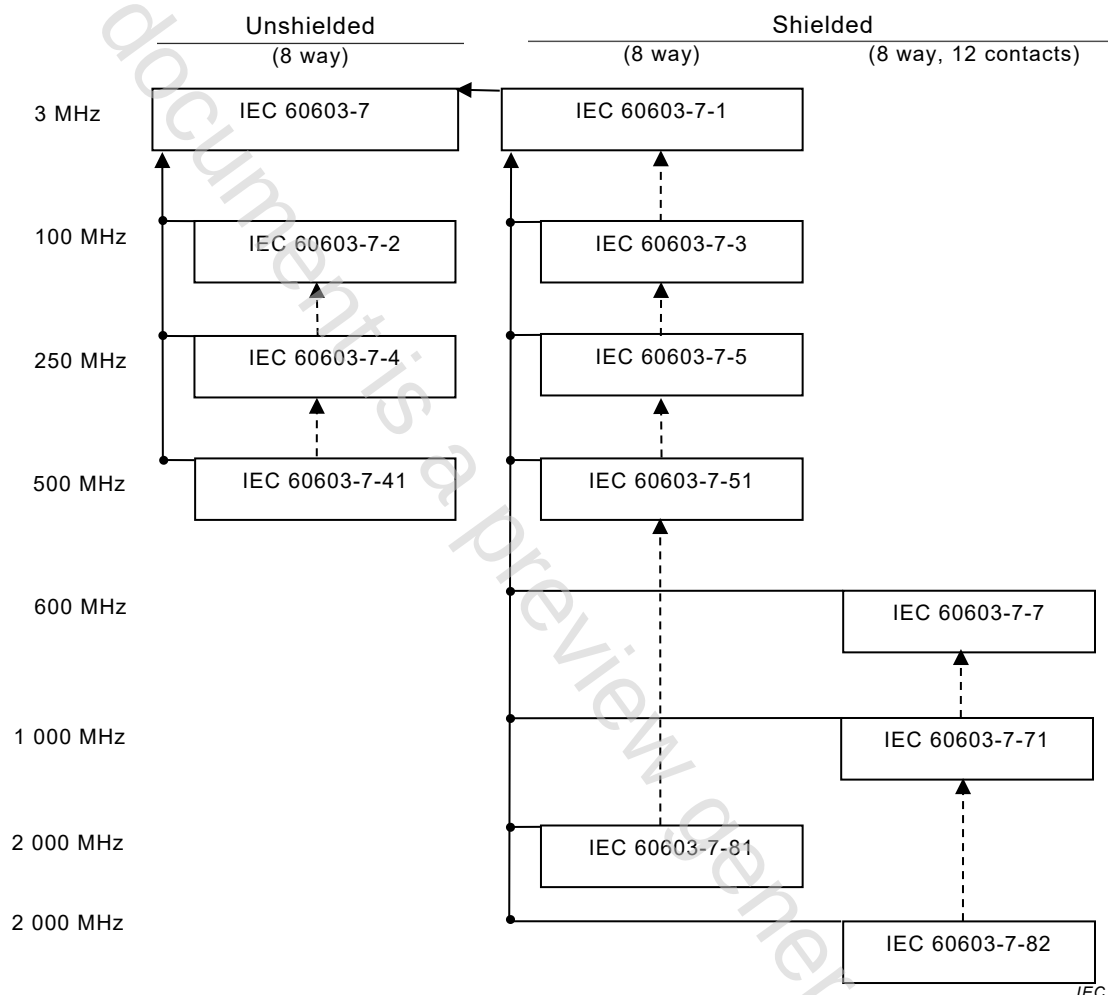
A list of all parts of the IEC 60603 series, under the general title *Connectors for electronic equipment*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website 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- withdrawn,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 shall be considered as well. The following diagram (Figure 1) shows the interrelation of the documents:



Key

- > Indicates reference for dimensions, mechanical and electrical characteristics, tests and test schedules
- > Indicates reference for transmission performance (backward compatibility)

Figure 1 – Diagram of the interrelation of the documents

CONNECTORS FOR ELECTRONIC EQUIPMENT –

Part 7-82: Detail specification for 8-way, 12 contacts, shielded, free and fixed connectors, for data transmission with frequencies up to 2 000 MHz

1 Scope

This part of IEC 60603 covers 8-way, 12 contacts, shielded, free and fixed connectors, references dimensional, mechanical, electrical and environmental characteristics and tests in IEC 60603-7-7, and specifies electrical transmission requirements, including power sum alien (exogenous) crosstalk, for frequencies up to 2 000 MHz.

These connectors are typically used as “category 8.2” connectors in “class II” cabling systems specified in ISO/IEC TR 11801-9901 and specified in ISO/IEC 11801-11.

These connectors are intermateable and interoperable with other IEC 60603-7 series connectors, i.e. as defined in IEC 60603-7-7 and IEC 60603-7-1.

These connectors are backward compatible with other IEC 60603-7 series connectors.

NOTE Transmission performance categories: in this IEC standard, the term “category”, when used in reference to transmission performance, refers to those categories defined by ISO/IEC 11801-1.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60512-25-9, *Connectors for electronic equipment – Tests and measurements – Part 25-9: Signal integrity tests – Test 25i: Alien crosstalk*

IEC 60512-26-100:2008, *Connectors for electronic equipment – Tests and measurements – Part 26-100: Measurement setup, test and reference arrangements and measurements for connectors according to IEC 60603-7 – Tests 26a to 26g*
IEC 60512-26-100:2008/AMD1:2011

IEC 60512-27-100, *Connectors for electronic equipment – Tests and measurements – Part 27-100: Signal integrity tests up to 500 MHz on IEC 60603-7 series connectors – Tests 27a to 27g*

IEC 60512-28-100, *Connectors for electronic equipment – Tests and measurements – Part 28-100: Signal integrity tests for 1 000 MHz and up, for IEC 60603-7 series connectors – Tests 28a to 28g²*

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

¹ Under consideration.

² The tests include frequencies up to 2 000 MHz.

IEC 60603-7-1:2011, *Connectors for electronic equipment – Part 7-1: Detail specification for 8-way, shielded, free and fixed connectors*

IEC 60603-7-7:2010, *Connectors for electronic equipment – Part 7-7: Detail specification for 8-way, shielded, free and fixed connectors, for data transmission with frequencies up to 600 MHz*

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

IEC 62153-4-15, *Metallic communication cable test methods – Part 4-15: Electromagnetic compatibility (EMC) – Test method for measuring transfer impedance and screening attenuation – or coupling attenuation with triaxial cell*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in Clause 2 of IEC 60603-7:2008, apply as well as the following.

3.1

backward compatibility

set of requirements which ensure that a free or fixed connector which is in compliance with this standard, when mated with a fixed or free connector in compliance with a lower frequency IEC 60603-7 series connector, fully complies with the transmission performance requirements of the lower frequency IEC 60603-7 series connector

Note 1 to entry: The complete specification of the categories and the backward compatibility system for the IEC 60603-7 series connectors, when used in standard balanced cabling systems, is specified in referenced ISO/IEC 11801-1.

[SOURCE: IEC 60603-7-81:2015, 3.1, modified – The definition has been updated, and the additional reference to Clause 3 of IEC 60603-7-1:2011 has been deleted.]

3.2

crosstalk loss

near-end-crosstalk (NEXT) and far-end-crosstalk (FEXT), commonly referred to as crosstalk loss, are the specific transmission characteristics associated with the reverse and forward crosstalk coupling attenuation between two pairs

4 Common features and isometric view

See Clause 3 of IEC 60603-7-7:2010 for dimensions, views and requirements.

5 Cable terminations and internal connections – Fixed and free connectors

See Clause 4 of IEC 60603-7-7:2010 for cable termination and internal connections types.

6 Gauges

The gauges as defined by IEC 60603-7 and IEC 60603-7-7 shall apply.