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SPECIFICATION

IEC
PAS 60603-7-3

Pre-Standard

First edition
2004-11

Connectors for electronic equipment –

Part 7-3:

**Detail specification for 8-way, shielded,
free and fixed connectors, for data transmissions
with frequencies up to 100 MHz**

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International Electrotechnical Commission, 3, rue de Varembé, PO Box 131, CH-1211 Geneva 20, Switzerland
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

CONNECTORS FOR ELECTRONIC EQUIPMENT –

Part 7-3: Detail specification for 8-way, shielded, free and fixed connectors, for data transmissions with frequencies up to 100 MHz

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A PAS is a technical specification not fulfilling the requirements for a standard but made available to the public.

IEC-PAS 60603-7-3 has been processed by subcommittee 48B: Connectors, of IEC technical committee 48: Electromechanical components and mechanical structures for electronic equipment.

The text of this PAS is based on the following document:

This PAS was approved for publication by the P-members of the committee concerned as indicated in the following document

Draft PAS	Report on voting
48B/1394/PAS	48B/1450/RVN

Following publication of this PAS, which is a pre-standard publication, the technical committee or subcommittee concerned will transform it into an International Standard.

This PAS shall remain valid for an initial maximum period of three years starting from 2004. The validity may be extended for a single three-year period, following which it shall be revised to become another type of normative document or shall be withdrawn.

CONNECTORS FOR ELECTRONIC EQUIPMENT –

Part 7-3: Detail specification for 8-way, shielded, free and fixed connectors, for data transmissions with frequencies up to 100 MHz

1 General

1.1 Scope

This standard covers IEC 60603-7-3 connectors to be used up to 100 MHz when used with appropriate cables. These cables are specified in IEC 61156 and used in cabling systems specified in ISO/IEC 11801.

The connectors below are defined up to 100 MHz.

These connectors are intermateable, interoperable, and backward compatible with other IEC 60603-7 series connectors. While the definition of interoperable is being discussed within IEC, "interoperable" in this standard means the following: The fixed and the free connector are capable of interconnecting with any IEC 60603-7 series connector, and when they are interconnected, fully meet all requirements of the lower frequency IEC 60603-7 series standard.

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: Electro-mechanical components for electronic equipment*

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

IEC 60068-2-14, *Environmental testing – Part 2: Tests. Test N: Change of temperature*

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

IEC 60169-16, *Radio-frequency connectors – Part 16: R.F. coaxial connectors with inner diameter of outer conductor 7 mm (0,276 in) with screw coupling – Characteristic impedance 50 ohms (75 ohms) (Type N)*

IEC 60352-2, *Solderless connections – Part 2: Solderless 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 60512-1, *Connectors for electronic equipment – Tests and measurements – Part 1: General*

IEC 60512-2, *Electromechanical components for electronic equipment, basic testing procedures and measuring methods – Part 2: General examination, electrical continuity and contact resistance tests, insulation tests and voltage stress tests*

IEC 60512-3, *Electromechanical components for electronic equipment; basic testing procedures and measuring methods – Part 3: Current-carrying capacity tests*

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

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

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

IEC 60512-9, *Electromechanical components for electronic equipment; basic testing procedures and measuring methods – Part 9: Mechanical operation*

IEC 60512-11, *Electromechanical components for electronic equipment; basic testing procedures and measuring methods – Part 11: Climatic tests*

IEC 60512-13-2, *Electromechanical components for electronic equipment; basic testing procedures and measuring methods – Part 13-2: Mechanical operating tests – Insertion and withdrawal forces*

IEC 60512-15, *Electromechanical components for electronic equipment; basic testing procedures and measuring methods – Part 15: Mechanical tests on contacts and terminations*

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

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

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

IEC 61076-1, *Connectors with assessed quality, for use in d.c., low-frequency analogue and in digital high speed data applications – Part 1: Generic specification*

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

ISO 11801 *Information technology – Generic cabling for customer premises*

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

ITU-T K20, *Resistibility of telecommunication equipment installed in a telecommunications centre to overvoltages and overcurrents*

ITU-T K44, *Resistibility tests for telecommunication equipment exposed to overvoltages and overcurrents – Basic Recommendation*

ITU-T G.117: *Transmission aspects of unbalance about earth*

ITU-T O.9, *Measuring arrangements to assess the degree of unbalance about earth*

EN 50289-1-14, *Communication cables – Specification for test methods – Part 1-14 – Electrical test methods – Coupling attenuation or screening attenuation of connecting hardware*

2 Technical information

2.1 Terminology

The terminology used in and applicable to this specification is stated in 2.1 of IEC 61076-1. Some applicable terms are also covered in IEC 60512-1.

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

2.2 Interchangeability levels

2.2.1 General

The connectors described in this standard are intermateable, interoperable and backward compatible with all IEC 60603-7 series connectors.

2.2.2 Intermateability

Intermateability is ensured by applying the “GO” and “NO-GO” gauge requirements herein and adherence to dimensional requirements given herein.

2.2.3 Backward Compatibility

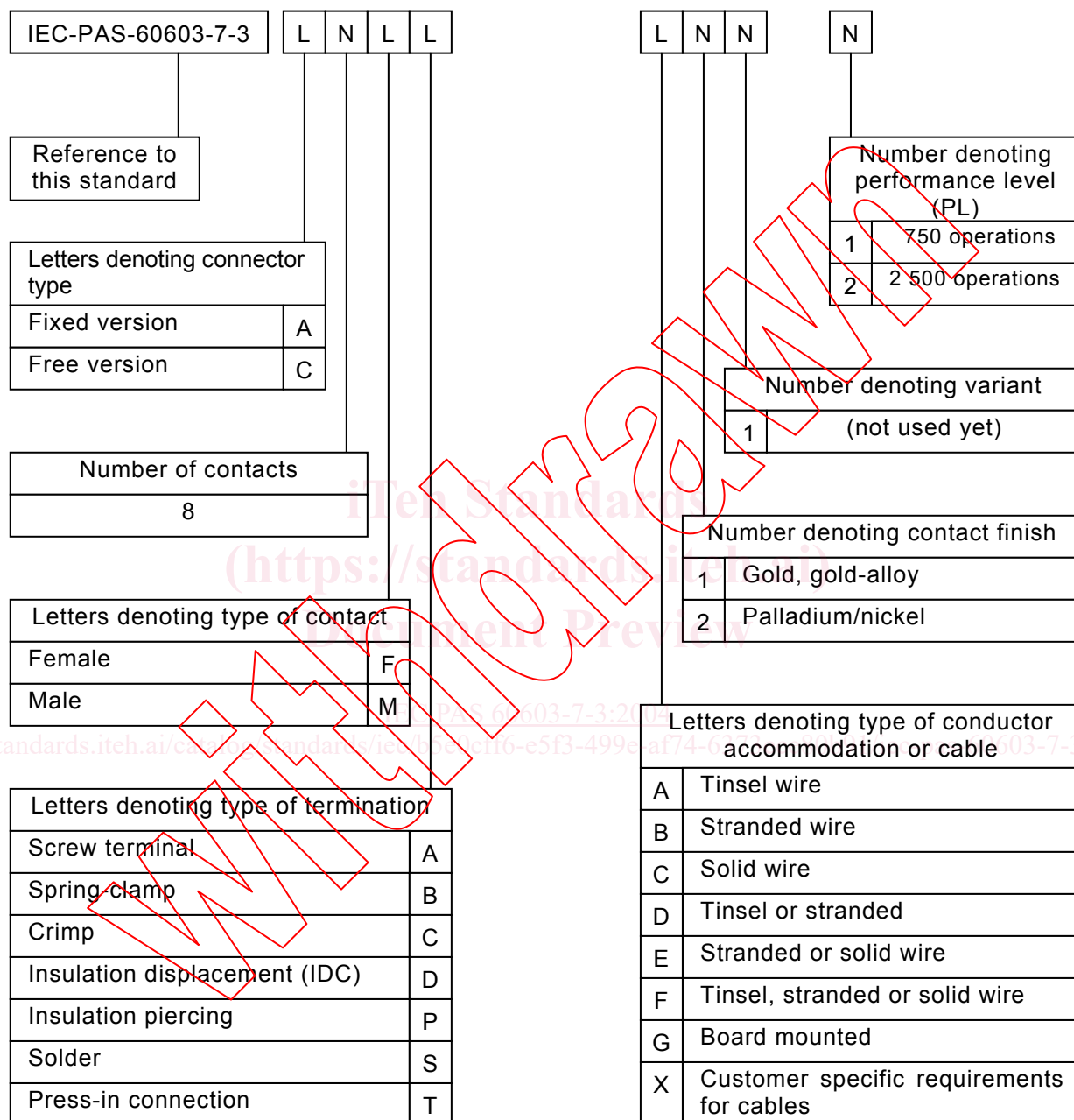
The backward compatibility requirement ensures that a plug or jack which is in compliance with this standard, mated with a jack or plug in compliance with any lower frequency IEC 60603-7 series connector, shall fully comply with the requirements of the lower frequency IEC 60603-7 series connector.

2.2.4 Interoperability

Interoperability of different IEC 60603-7-3 connectors is assured by compliance with all transmission requirements when the fixed connector is mated with a full range of “test” free connectors, or “test plugs”, as described herein.

2.3 IEC type designation

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



Note: "L" stands for letter
"N" stands for number

Example:

IEC-PAS 60603-7-3 A8FD-E11-1: Fixed connector having 8 female contacts with IDC termination for stranded and solid wire, gold plated, meeting performance level 1.

3 Common features and isometric view

3.1 Isometric view

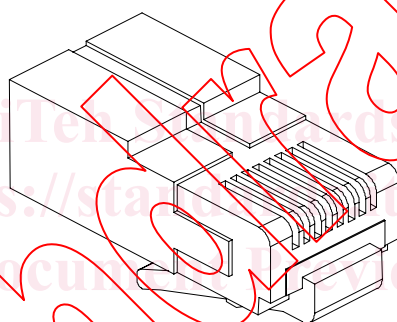
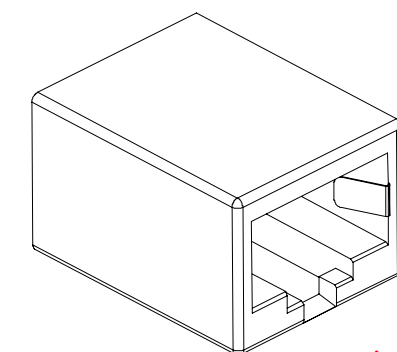


Figure 1

3.2 Mating information for connectors with cables attached

3.2.1 General

Dimensions are given in millimetres. Drawings are shown in third-angle projection. The shape of connectors may deviate from those shapes given in the following figures as long as the specified dimensions are not influenced.

3.2.2 Contacts

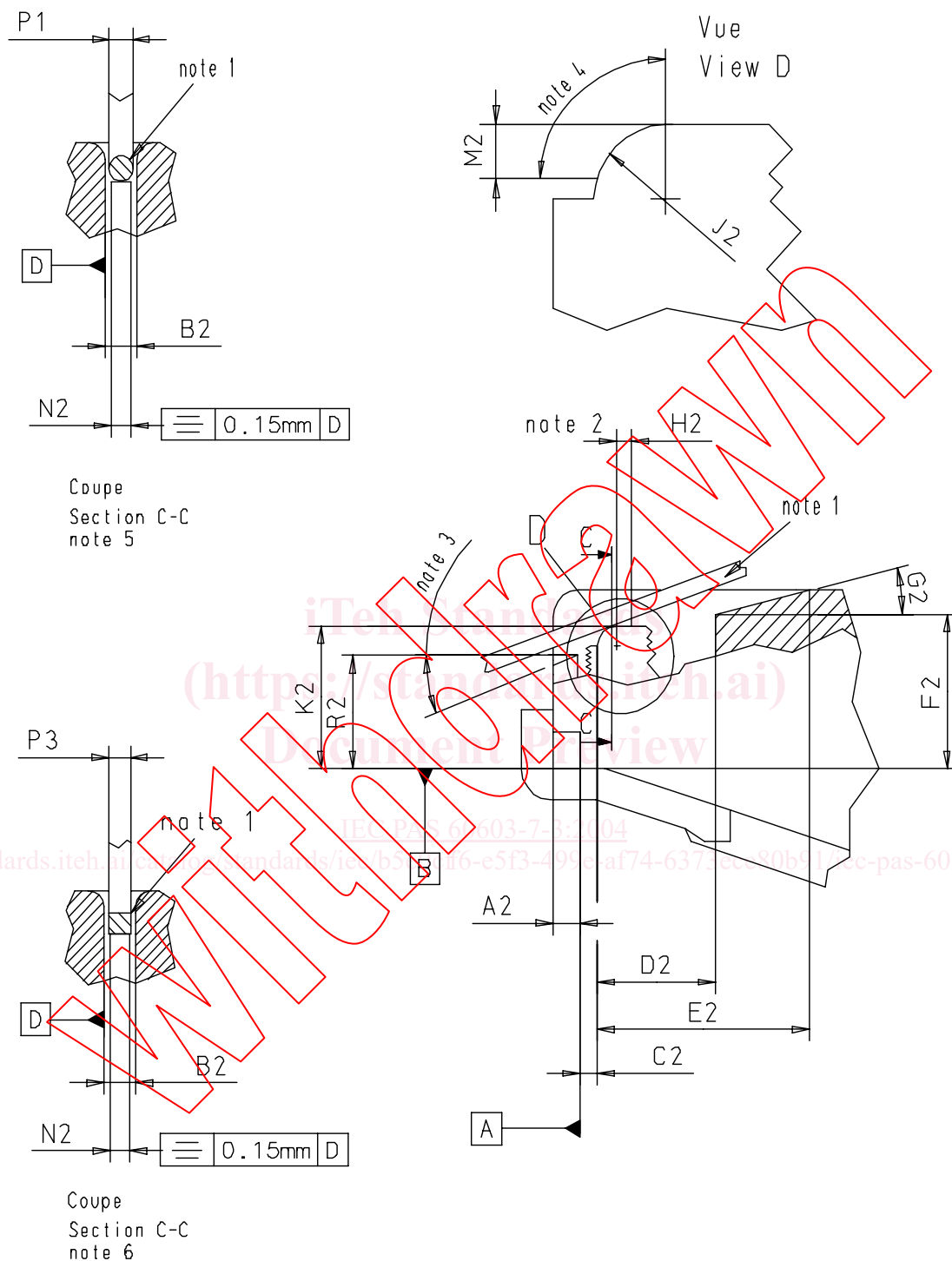


Figure 2 – Contact interface dimensions with terminated free connector

Notes:

- 1: Female contact of fixed connector
- 2: Burrs shall not project above top of contact in this area, since it may be a contact area
- 3: Optional angle
- 4: Preferred contact interface detail
- 5: Preferred contact configuration
- 6: Optional contact configuration