IEC 61076-3-106

Edition 2.0 2023-07

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Connectors for electrical and electronic equipment – Product requirements – Part 3-106: Rectangular connectors – Detail specification for protective housings for use with 8-way shielded and unshielded connectors for industrial environments incorporating the IEC 60603-7 series interface

Connecteurs pour équipements électriques et électroniques – Exigences de produit – Partie 3-106: Connecteurs rectangulaires – Spécification particulière pour boîtiers de protection utilisés avec des connecteurs blindés et non blindés 8 voies pour des environnements industriels incorporant l'interface série IEC 60603-7

IEC 61076-3-106:2023 (en-fr)

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IEC 61076-3-106 has been prepared by subcommittee 48B: Electrical connectors, of IEC technical committee 48: Electrical connectors and mechanical structures for electrical and electronic equipment. It is an International Standard.

This second edition cancels and replaces the first edition published in 2006. This edition constitutes a technical revision.

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

a) improvement of drawings and addition of dimensions.

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

Draft	Report on voting
48B/3034/FDIS	48B/3045/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in the IEC 61076 series, published under the general title *Connectors for electrical and electronic equipment – Product requirements*, can be found on the IEC website.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under 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 document 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

This document, originally issued in 2006 and including 10 variants, describes now 5 variants of connector housing with different geometries (rectangular or circular) and locking systems (locking lever, snap-in, bayonet coupling) suitable for all the connector interfaces of the IEC 60603-7 series, either shielded or unshielded.

The purpose of this set of variants, now reduced to reflect their market relevance, is to provide several competing ways to upgrade the degree of protection of the resulting data transmission connectors, to IP65/IP67, mainly in view of their use in industrial environments, while maintaining all the original performance of the housed IEC 60603-7 compliant connectors, which can be of different source than these 5 variants of connector housings.

Each variant may be available on the market by multiple sources and based on different materials (i.e. either metallic or thermoplastic insulating, particularly for the main part of the housing, but also regarding the locking means) to suit the needs of various industrial applications.

Some of these variants have been endorsed by other IEC technical committees and/or by external consortia as the reference interface for specific applications.

Being the basic interface of series IEC 60603-7 a rectangular one, this standard document was originally issued as a Part 106 detail product specifications under the IEC 61076-3 sectional specification covering rectangular connectors for electrical and electronic equipment, although half of the original variants described in this document (variants 01, 03, 08, 09 and 10), currently only variant 01 is included in this document – own a circular connector interface, all the variants having nonetheless in common the purpose to upgrade the IP degree of protection to IP65/IP67, and the incorporated IEC 60603-7 series connector interface.

NOTE It is worthwhile to inform users of this document that further variants 11 through 14 referring this document were successively published from 2007 to 2009 as IEC 61076-3-114 trough IEC 61076-3-117. Among these variants, for which reference should be made to the relevant publication (see Bibliography), variants 11 and 12 have circular geometry, while variants 13 and 14 have square (rectangular geometry).

CONNECTORS FOR ELECTRICAL AND ELECTRONIC EQUIPMENT – PRODUCT REQUIREMENTS –

Part 3-106: Rectangular connectors – Detail specification for protective housings for use with 8-way shielded and unshielded connectors for industrial environments incorporating the IEC 60603-7 series interface

1 Scope

This part of IEC 61076 constitutes a detail product specification for 8-way connectors for data transmission with frequencies up to 600 MHz.

It covers protective housings for upgrading existing 8-way shielded and unshielded connectors utilizing the interface described in the IEC 60603-7 series to IP65/IP67 rating according to IEC 60529, for use in industrial environments.

The housings cover a variety of different locking mechanisms according to this document and a variety of different mounting configurations and termination types which are detailed in the IEC 60603-7 series.

Common mating configurations for all variants are defined in IEC 60603-7. The mating dimensions for the housings under Clause 3 allow the mating conditions under IEC 60603-7 to be fulfilled.

The fully assembled variants (connectors) described in this document incorporate fully compliant IEC 60603-7 series fixed and free 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 60068-1, *Environmental testing – Part 1: General and guidance*

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

IEC 60068-2-30, *Environmental testing – Part 2-30: Tests – Test Db: Damp heat, cyclic (12 h + 12 h cycle)*

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 dimension and mass*

IEC 60512-2-1:2002, *Connectors for electronic equipment – Tests and measurements – Part 2-1: Electrical continuity and contact resistance tests – Test 2a: Contact resistance – Millivolt level method*