PRE-RELEASE VERSION (FDIS)

Connectors for electrical and electronic equipment – Product requirements – Part 3-126: Rectangular connectors – Detail specification for 5-way power connectors for industrial environments with push-pull locking

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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**SECRETARIAT:**  
United States of America

**SECRETARY:**  
Mr Jeffrey Toran

**OF INTEREST TO THE FOLLOWING COMMITTEES:**

- EMC
- ENVIRONMENT
- QUALITY ASSURANCE
- SAFETY

**HORIZONTAL STANDARD:**

☐

**FUNCTIONS CONCERNED:**

☐ EMF

**SUBMITTED FOR CENELEC PARALLEL VOTING**

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The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Final Draft International Standard (FDIS) is submitted for parallel voting.

The CENELEC members are invited to vote through the CENELEC online voting system.

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**TITLE:**

Connectors for electrical and electronic equipment - Product requirements – Part 3-126: Rectangular connectors - Detail specification for 5-way power connectors for industrial environments with push-pull locking

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FOREWORD

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IEC 61076-3-126 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.

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

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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/standardsdev/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.
# INTRODUCTION

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1 Scope

This document covers 5-pole rectangular connectors for electric power supply up to 16 A per pole. These connectors consist of fixed and free connectors, both either rewirable or non-rewirable. This document employs the general function principles of the push-pull connector housing system described in IEC 61076-3-117 with IP65/IP67 degree of protection according to IEC 60529 for harsh applications.

Male connectors have pin contacts with square cross-section with 1 mm side. Connectors according to this document are without breaking capacity COC according to IEC 61984, therefore they are not intended to be engaged or disengaged in normal use when live or under load.

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

IEC 60352-1, Solderless connections – Part 1: Wrapped connections – General requirements, test methods and practical guidance

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 60512-11-1, Connectors for electrical and electronic equipment – Tests and measurements – Part 11-1: Climatic tests – Test 11a: Climatic sequence


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


IEC 60512-11-10, Connectors for electronic equipment – Tests and measurements – Part 11-10: Climatic tests – Test 11j: Cold

IEC 60512-11-12, Connectors for electronic equipment – Tests and measurements – Part 11-12: Climatic tests – Test 11m: Damp heat, cyclic

IEC 60512-12-4, Connectors for electronic equipment – Tests and measurements – Part 12-4: Soldering tests – Test 12d: Resistance to soldering heat, solder bath method

IEC 60512-12-5, Connectors for electronic equipment – Tests and measurements – Part 12-5: Soldering tests – Test 12e: Resistance to soldering heat, soldering iron method


IEC 60512-14-7, Electromechanical components for electronic equipment – Basic testing procedures and measuring methods – Part 14: Sealing tests – Section 7: Test 14g: Impacting water


IEC 60512-16-5, Connectors for electronic equipment – Tests and measurements – Part 16-5: Mechanical tests on contacts and terminations – Test 16e: Gauge retention force (resilient contacts)

IEC 60512-17-3:2010, Connectors for electronic equipment – Tests and measurements – Part 17-3: Cable clamping tests – Test 17c: Cable clamp resistance to cable pull (tensile)
IEC 60512-17-4:2010, Connectors for electronic equipment – Tests and measurements – Part 17-4: Cable clamping tests – Test 17d: Cable clamp resistance to cable torsion

IEC 60512-19-3, Electromechanical components for electronic equipment – Basic testing procedures and measuring methods – Part 19: Chemical resistance tests – Section 3: Test 19c – Fluid resistance

IEC 60529:1989, Degrees of protection provided by enclosures (IP Code)
IEC 60529:1989/AMD1:1999

IEC 60664-1:2020, Insulation coordination for equipment within low-voltage supply systems – Part 1: Principles, requirements and tests

IEC 60998-2-1:2002, Connecting devices for low-voltage circuits for household and similar purposes – Part 2-1: Particular requirements for connecting devices as separate entities with screw-type clamping units

IEC 60999-1:1999, Connecting devices – Electrical copper conductors – Safety requirements for screw-type and screwless-type clamping units – Part 1: General requirements and particular requirements for clamping units for conductors from 0.2 mm² up to 35 mm² (included)

IEC 60999-2, Connecting devices – Electrical copper conductors – Safety requirements for screw-type and screwless-type clamping units – Part 2: Particular requirements for clamping units for conductors above 35 mm² up to 300 mm² (included)

IEC 61076-1:2006/AMD1:2019


IEC 61760-3:2021, Surface mounting technology – Part 3: Standard method for the specification of components for through-hole reflow (THR) soldering

IEC 61984:2008, Connectors – Safety requirements and tests

IEC 62197-1, Connectors for electronic equipment – Quality assessment requirements – Part 1: Generic specification

IEC 62430:2019, Environmentally conscious design (ECD) – Principles, requirements and guidance

IEC GUIDE 109, Environmental aspects – Inclusion in electrotechnical product standards


ISO 11469:2016, Plastics – Generic identification and marking of plastics products

ISO 14405 (all parts): Geometrical product specifications (GPS) – Dimensional tolerancing