

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Connectors for electrical and electronic equipment – Product requirements –  
Part 8-102: Power connectors – Detail specification for 2-pole or 3-pole power  
plus 2-pole signal shielded and sealed connectors with plastic housing for rated  
current of 150 A**

**Connecteurs pour équipements électriques et électroniques –  
Exigences de produit –**

**Partie 8-102: Connecteurs électriques – Spécification particulière pour  
connecteurs blindés étanches à 2 pôles ou 3 pôles pour la transmission de  
puissance et à 2 pôles pour la transmission de données avec boîtier plastique  
pour courant assigné de 150 A**



## THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2020 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

IEC Central Office  
3, rue de Varembe  
CH-1211 Geneva 20  
Switzerland

Tel.: +41 22 919 02 11  
[info@iec.ch](mailto:info@iec.ch)  
[www.iec.ch](http://www.iec.ch)

### About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

### About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigendum or an amendment might have been published.

#### IEC publications search - [webstore.iec.ch/advsearchform](http://webstore.iec.ch/advsearchform)

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee,...). It also gives information on projects, replaced and withdrawn publications.

#### IEC Just Published - [webstore.iec.ch/justpublished](http://webstore.iec.ch/justpublished)

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and once a month by email.

#### IEC Customer Service Centre - [webstore.iec.ch/csc](http://webstore.iec.ch/csc)

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: [sales@iec.ch](mailto:sales@iec.ch).

#### Electropedia - [www.electropedia.org](http://www.electropedia.org)

The world's leading online dictionary on electrotechnology, containing more than 22 000 terminological entries in English and French, with equivalent terms in 16 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

#### IEC Glossary - [std.iec.ch/glossary](http://std.iec.ch/glossary)

67 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

### A propos de l'IEC

La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

### A propos des publications IEC

Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

#### Recherche de publications IEC -

[webstore.iec.ch/advsearchform](http://webstore.iec.ch/advsearchform)

La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études,...). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

#### IEC Just Published - [webstore.iec.ch/justpublished](http://webstore.iec.ch/justpublished)

Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et une fois par mois par email.

#### Service Clients - [webstore.iec.ch/csc](http://webstore.iec.ch/csc)

Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: [sales@iec.ch](mailto:sales@iec.ch).

#### Electropedia - [www.electropedia.org](http://www.electropedia.org)

Le premier dictionnaire d'électrotechnologie en ligne au monde, avec plus de 22 000 articles terminologiques en anglais et en français, ainsi que les termes équivalents dans 16 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

#### Glossaire IEC - [std.iec.ch/glossary](http://std.iec.ch/glossary)

67 000 entrées terminologiques électrotechniques, en anglais et en français, extraites des articles Termes et Définitions des publications IEC parues depuis 2002. Plus certaines entrées antérieures extraites des publications des CE 37, 77, 86 et CISPR de l'IEC.

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Connectors for electrical and electronic equipment – Product requirements –  
Part 8-102: Power connectors – Detail specification for 2-pole or 3-pole power  
plus 2-pole signal shielded and sealed connectors with plastic housing for rated  
current of 150 A**

**Connecteurs pour équipements électriques et électroniques –  
Exigences de produit –  
Partie 8-102: Connecteurs électriques – Spécification particulière pour  
connecteurs blindés étanches à 2 pôles ou 3 pôles pour la transmission de  
puissance et à 2 pôles pour la transmission de données avec boîtier plastique  
pour courant assigné de 150 A**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

ICS 31.220.10

ISBN 978-2-8322-8071-3

**Warning! Make sure that you obtained this publication from an authorized distributor.  
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.**

## CONTENTS

|                                                              |    |
|--------------------------------------------------------------|----|
| FOREWORD.....                                                | 5  |
| 1 Scope.....                                                 | 8  |
| 2 Normative references .....                                 | 8  |
| 3 Terms and definitions .....                                | 11 |
| 4 Technical information .....                                | 11 |
| 4.1 Recommended method of termination .....                  | 11 |
| 4.1.1 General .....                                          | 11 |
| 4.1.2 Number of contacts and contact cavities .....          | 11 |
| 4.2 Ratings and characteristics .....                        | 11 |
| 4.3 Systems of levels .....                                  | 12 |
| 4.3.1 Performance levels .....                               | 12 |
| 4.3.2 Compatibility levels .....                             | 12 |
| 4.4 Classification into climatic categories .....            | 12 |
| 4.5 Clearance and creepage distance .....                    | 12 |
| 4.6 Current-carrying capacity .....                          | 12 |
| 4.7 Marking.....                                             | 12 |
| 5 Dimensional information .....                              | 12 |
| 5.1 General.....                                             | 12 |
| 5.2 Isometric view and common features .....                 | 13 |
| 5.2.1 General .....                                          | 13 |
| 5.2.2 Isometric view of free connectors.....                 | 13 |
| 5.2.3 Isometric view of fixed connectors .....               | 13 |
| 5.3 Engagement (mating) information .....                    | 13 |
| 5.3.1 Engagement (mating) direction .....                    | 13 |
| 5.3.2 Perpendicular to the engaging (mating) direction ..... | 13 |
| 5.3.3 Inclination.....                                       | 13 |
| 5.4 Fixed connectors .....                                   | 14 |
| 5.4.1 General .....                                          | 14 |
| 5.4.2 Dimensions.....                                        | 14 |
| 5.4.3 Terminations.....                                      | 18 |
| 5.5 Free connectors .....                                    | 18 |
| 5.5.1 General .....                                          | 18 |
| 5.5.2 Dimensions.....                                        | 18 |
| 5.5.3 Terminations.....                                      | 22 |
| 5.6 Accessories .....                                        | 22 |
| 5.7 Mounting information .....                               | 22 |
| 5.8 Gauges – Sizing gauges and retention force gauges.....   | 22 |
| 6 Technical characteristics .....                            | 22 |
| 6.1 Classification into climatic categories.....             | 22 |
| 6.2 Electrical characteristics .....                         | 23 |
| 6.2.1 Clearance and creepage distance.....                   | 23 |
| 6.2.2 Voltage proof.....                                     | 23 |
| 6.2.3 Contact resistance .....                               | 23 |
| 6.2.4 Housing (shell) electrical continuity.....             | 23 |
| 6.2.5 Insulation resistance.....                             | 23 |
| 6.2.6 Temperature rise .....                                 | 24 |

|       |                                                                   |    |
|-------|-------------------------------------------------------------------|----|
| 6.2.7 | Electrical load and temperature .....                             | 24 |
| 6.3   | Mechanical characteristics .....                                  | 24 |
| 6.3.1 | Mechanical operation.....                                         | 24 |
| 6.3.2 | Effectiveness of connector coupling devices .....                 | 25 |
| 6.3.3 | Gauge retention force (resilient contact) .....                   | 25 |
| 6.3.4 | Engaging and separating forces.....                               | 25 |
| 6.3.5 | Contact retention in insert.....                                  | 25 |
| 6.3.6 | Polarizing and keying method .....                                | 25 |
| 6.4   | Dynamic stress test.....                                          | 26 |
| 6.4.1 | Vibration (sine) .....                                            | 26 |
| 6.4.2 | Shock .....                                                       | 26 |
| 6.4.3 | Free fall (repeated).....                                         | 26 |
| 6.4.4 | IP degree of protection .....                                     | 26 |
| 6.4.5 | Glow-wire flammability test method for end-products (GWEPT) ..... | 26 |
| 6.5   | Climatic test.....                                                | 27 |
| 6.5.1 | Damp heat, steady state .....                                     | 27 |
| 6.5.2 | Rapid change of temperature.....                                  | 27 |
| 6.5.3 | Corrosion, salt mist.....                                         | 27 |
| 6.5.4 | Dry heat .....                                                    | 27 |
| 6.5.5 | Cold.....                                                         | 27 |
| 6.5.6 | Low air pressure .....                                            | 27 |
| 6.6   | Environmental aspects.....                                        | 28 |
| 6.6.1 | Marking of insulation material (plastic).....                     | 28 |
| 6.6.2 | Design/use of material .....                                      | 28 |
| 7     | Test schedule .....                                               | 28 |
| 7.1   | General.....                                                      | 28 |
| 7.2   | Test schedules.....                                               | 28 |
| 7.2.1 | Basic (minimum) test schedule .....                               | 28 |
| 7.2.2 | Full test schedule .....                                          | 28 |
| 7.3   | Test procedures and measurement methods.....                      | 38 |
| 7.4   | Pre-conditioning.....                                             | 38 |
| 7.5   | Wiring and mounting of test specimens .....                       | 38 |
| 7.5.1 | Wiring.....                                                       | 38 |
| 7.5.2 | Mounting .....                                                    | 38 |
|       | Figure 1 – 2-pole and 3-pole free connectors .....                | 13 |
|       | Figure 2 – 2-pole and 3-pole fixed connectors.....                | 13 |
|       | Figure 3 – 2-pole 150 A fixed connector .....                     | 14 |
|       | Figure 4 – 3-pole 150 A fixed connector.....                      | 15 |
|       | Figure 5 – Fixed connector codings .....                          | 17 |
|       | Figure 6 – 2-pole 150 A free connector .....                      | 18 |
|       | Figure 7 – 3-pole 150 A free connector .....                      | 19 |
|       | Figure 8 – Free connector codings.....                            | 21 |
|       | Figure 9 – Gauge for signal contacts.....                         | 22 |
|       | Figure 10 – Gauge for power contacts .....                        | 22 |
|       | Table 1 – Climatic categories.....                                | 12 |

|                                                         |    |
|---------------------------------------------------------|----|
| Table 2 – 2-pole 150 A fixed connector dimensions ..... | 14 |
| Table 3 – 3-pole 150 A fixed connector dimensions ..... | 16 |
| Table 4 – Fixed connector codings dimensions .....      | 17 |
| Table 5 – 2-pole 150 A free connector dimensions .....  | 18 |
| Table 6 – 3-pole 150 A free connector dimensions .....  | 20 |
| Table 7 – Free connector codings dimensions .....       | 21 |
| Table 8 – Gauge dimensions .....                        | 22 |
| Table 9 – Voltage proof .....                           | 23 |
| Table 10 – Vibration .....                              | 26 |
| Table 11 – Number of test specimens .....               | 28 |
| Table 12 – Test group P .....                           | 29 |
| Table 13 – Test group AP .....                          | 29 |
| Table 14 – Test group BP .....                          | 32 |
| Table 15 – Test group CP .....                          | 33 |
| Table 16 – Test group DP .....                          | 34 |
| Table 17 – Test group EP .....                          | 35 |
| Table 18 – Test group GP .....                          | 36 |
| Table 19 – Test group JP .....                          | 36 |
| Table 20 – Test group KP .....                          | 37 |

Document is a preview generated by EVS

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**CONNECTORS FOR ELECTRICAL AND ELECTRONIC EQUIPMENT –  
PRODUCT REQUIREMENTS –****Part 8-102: Power connectors – Detail specification for 2-pole or 3-pole  
power plus 2-pole signal shielded and sealed connectors with plastic  
housing for rated current of 150 A**

## 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 61076-8-102 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/2785/FDIS | 48B/2800/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.

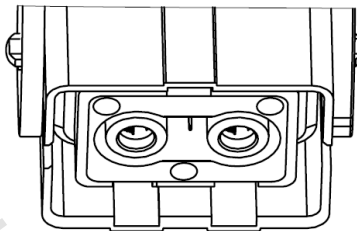
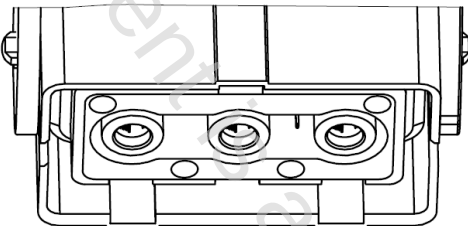
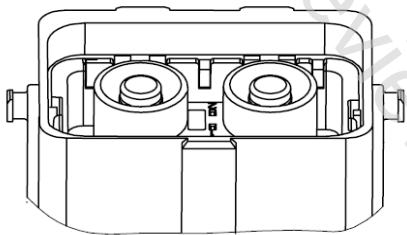
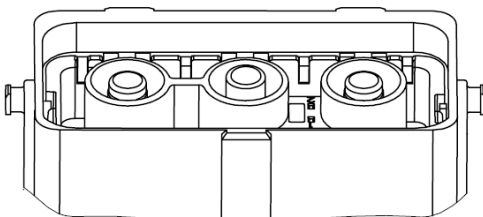
This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts 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 publication will remain unchanged until the stability date indicated on the IEC web site 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.

| The International Electrotechnical Commission<br>IEC SC 48B — Electrical connectors |                                                                                                                         | IEC 61076-8-102 Ed. 1                                                                                                                                                                                                                 |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Detail specification in accordance with IEC 61076-1                                 |                                                                                                                         |                                                                                                                                                                                                                                       |
| Free connector                                                                      |  <p>2-pole 150 A free connector</p>    | <p>For rated current of 150 A d.c.;</p> <p>2-pole;</p> <p>Female contacts for power;</p> <p>First break last make male contacts for signal;</p> <p>Straight insertion and withdrawal;</p> <p>360° shielding;</p> <p>Four codings.</p> |
|                                                                                     |  <p>3-pole 150 A free connector</p>    | <p>For rated current of 150 A a.c.;</p> <p>3-pole;</p> <p>Female contacts for power;</p> <p>First break last make male signal contacts;</p> <p>Straight insertion and withdrawal;</p> <p>360° shielding;</p> <p>Four codings.</p>     |
| Fixed connector                                                                     |  <p>2-pole 150 A fixed connector</p> | <p>For rated current of 150 A d.c.;</p> <p>2-pole;</p> <p>Female contacts for signal;</p> <p>Male contacts for power;</p> <p>Straight insertion and withdrawal;</p> <p>360° shielding;</p> <p>Four codings.</p>                       |
|                                                                                     |  <p>3-pole 150 A fixed connector</p> | <p>For rated current of 150 A a.c.;</p> <p>3-pole;</p> <p>Female contacts for signal;</p> <p>Male contacts for power;</p> <p>Straight insertion and withdrawal;</p> <p>360° shielding;</p> <p>Four codings.</p>                       |

## CONNECTORS FOR ELECTRICAL AND ELECTRONIC EQUIPMENT – PRODUCT REQUIREMENTS –

### Part 8-102: Power connectors – Detail specification for 2-pole or 3-pole power plus 2-pole signal shielded and sealed connectors with plastic housing for rated current of 150 A

#### 1 Scope

This part of IEC 61076 describes 2-pole or 3-pole power plus 2-pole signal shielded and sealed connectors with plastic housing (hereinafter referred to as a connector) for electrical and electronic equipment, including overall dimensions, interface dimensions, technical characteristics, performance requirements and test methods.

This document is applicable to electrical connectors with sealing and shielding requirements meeting this document, with a rated voltage up to and including 750 V a.c. or 1 000 V d.c., and a current rating of 150 A, for applications in the field of electrical and electronic equipment.

#### 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 60228:2004, *Conductors of insulated cables*

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

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

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 60512-2-2, *Connectors for electronic equipment – Tests and measurements – Part 2-2: Electrical continuity and contact resistance tests – Test 2b: Contact resistance – Specified test current 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 60512-2-6, *Connectors for electronic equipment – Tests and measurements – Part 2-6: Electrical continuity and contact resistance tests – Test 2f: Housing (shell) electrical continuity*

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 60512-5-1, *Connectors for electronic equipment – Tests and measurements – Part 5-1: Current-carrying capacity tests – Test 5a: Temperature rise*

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

IEC 60512-6-3, *Connectors for electronic equipment – Tests and measurements – Part 6-3: Dynamic stress tests – Test 6c: Shock*

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

IEC 60512-7-1, *Connectors for electronic equipment – Tests and measurements – Part 7-1: Impact tests (free connectors) – Test 7a: Free fall (repeated)*

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

IEC 60512-11-3, *Connectors for electronic equipment – Tests and measurements – Part 11-3: Climatic tests – Test 11c: Damp heat, steady state*

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

IEC 60512-11-6, *Connectors for electronic equipment – Tests and measurements – Part 11-6: Climatic tests – Test 11f: Corrosion, salt mist*

IEC 60512-11-9, *Connectors for electronic equipment – Tests and measurements – Part 11-9: Climatic tests – Test 11i: Dry heat*

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

IEC 60512-11-11, *Connectors for electronic equipment – Tests and measurements – Part 11-11: Climatic tests – Test 11k: Low air pressure*

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

IEC 60512-13-1, *Connectors for electronic equipment – Tests and measurements – Part 13-1: Mechanical operation tests – Test 13a: Engaging and separating forces*

IEC 60512-13-5, *Connectors for electronic equipment – Tests and measurements – Part 13-5: Mechanical operation tests – Test 13e: Polarizing and keying method*

IEC 60512-15-1, *Connectors for electronic equipment – Tests and measurements – Part 15-1: Connector tests (mechanical) – Test 15a: Contact retention in insert*

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 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 60529:1989, *Degrees of protection provided by enclosures (IP code)*

IEC 60695-2-11:2014, *Fire hazard testing – Part 2-11: Glowing/hot-wire based test methods – Glow-wire flammability test method for end-products (GWEPT)*

IEC 60999-1, *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 mm<sup>2</sup> up to 35 mm<sup>2</sup> (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 mm<sup>2</sup> up to 300 mm<sup>2</sup> (included)*

IEC 61076-1:2006, *Connectors for electronic equipment – Part 1: Generic specification*

IEC 61984:2008, *Connectors – Safety requirements and tests*

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

IEC Guide 109, *Environmental aspects – Inclusion in electrotechnical product standards*

ISO 1302:2002, *Geometrical Product Specifications (GPS) – Indication of surface texture in technical product documentation*

ISO 6508-1:2015, *Metallic materials – Rockwell hardness test – Part 1: Test method*

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

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-581 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

### 4 Technical information

#### 4.1 Recommended method of termination

##### 4.1.1 General

According to IEC 60352.

##### 4.1.2 Number of contacts and contact cavities

Number of contacts: 2-pole 150 A connector: power contacts: 2, signal contacts: 2.

3-pole 150 A connector: power contacts: 3, signal contacts: 2.

Number of contact cavities : 2-pole 150 A connector: 4, 3-pole 150 A connector: 5.

Suitable wire: cross-sectional area for power contacts: 35 mm<sup>2</sup>, cross-sectional area for signal contacts: 0,5 mm<sup>2</sup>.

#### 4.2 Ratings and characteristics

Connectors according this specification are connectors 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, if not otherwise specified by the manufacturer.

Rated voltage: power contacts: 750 V a.c. (1 000 V d.c.), signal contacts: 48 V d.c.

Voltage proof of power contacts: 4 kV, voltage proof of signal contacts: 1 kV.

Pollution degree: 2.

Rated current: power contacts: 150 A, signal contacts: 3 A.

Insulation resistance: 5 000 MΩ min.

Climatic categories : 55/125/10.