

**Solderless connections - Part 5: Press-in connections -  
General requirements, test methods and practical  
guidance**

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English version

**Solderless connections -  
Part 5: Press-in connections -  
General requirements, test methods and practical guidance  
(IEC 60352-5:2012)**

Connexions sans soudure -  
Partie 5: Connexions insérées à force -  
Exigences générales, méthodes d'essai et  
guide pratique  
(CEI 60352-5:2012)

Lötfreie Verbindungen -  
Teil 5: Einpressverbindungen -  
Allgemeine Anforderungen, Prüfverfahren  
und Anwendungshinweise  
(IEC 60352-5:2012)

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Comité Européen de Normalisation Electrotechnique  
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**Management Centre: Avenue Marnix 17, B - 1000 Brussels**

## Foreword

The text of document 48B/2276/FDIS, future edition 4 of IEC 60352-5, prepared by SC 48B, "Connectors", of IEC TC 48, "Electromechanical components and mechanical structures for electronic equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60352-5:2012.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2012-12-28
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2015-03-28

This document supersedes EN 60352-5:2008

EN 60352-5:2012 includes the following significant technical changes with respect to EN 60352-5:2008:

- a) Enhancement of Annex A and further application remarks are added.
- b) Editorial changes throughout the standard to prevent the document from being misunderstood as specification for establishing press-in connection in total.
- c) Deletion of all tables with hole dimensions. Historically the hole dimensions were constrained because of the dimensions of the wire wrap and clip connections posts. Since these connection technologies are no longer commonly used, the design requirements are no longer practical.
- d) Inclusion of additional figures and one table in 4.4.4 to define tolerance ranges for holes in test-boards and to illustrate them.
- e) Inclusion of a requirement for the thickness of the test-board in 4.4.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

## Endorsement notice

The text of the International Standard IEC 60352-5:2012 was approved by CENELEC as a European Standard without any modification.

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050-581	2008	International Electrotechnical Vocabulary - Part 581: Electromechanical components for electronic equipment	-	-
IEC 60068-1 + corr. October + A1	1988 1988 1992	Environmental testing - Part 1: General and guidance	EN 60068-1 <sup>1)</sup>	1994
IEC 60352-1 + corr. October	1997 1998	Solderless connections - Part 1: Wrapped connections - General requirements, test methods and practical guidance	EN 60352-1	1997
IEC 60512	Series	Connectors for electronic equipment - Tests and measurements	EN 60512	Series
IEC 60512-1-100	-	Connectors for electronic equipment - Tests and measurements - Part 1-100: General - Applicable publications	EN 60512-1-100	-
IEC 61188-5-1	-	Printed boards and printed board assemblies - Design and use - Part 5-1: Attachment (land/joint) considerations - Generic requirements	EN 61188-5-1	-
IEC 61249	Series	Materials for printed boards and other interconnecting structures	EN 61249	Series
IEC 62326-4	1996	Printed boards - Part 4: Rigid multilayer printed boards with interlayer connections - Sectional specification	EN 62326-4	1997

<sup>1)</sup> EN 60068-1 includes A1 to IEC 60068-1 + corr. October.

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## INTRODUCTION

This part of IEC 60352 includes requirements, tests and practical guidance information.

Two test schedules are provided.

- a) The qualification test schedule applies to individual press-in connections (press-in zone).  
They are tested to the specification provided by the manufacturer of the press-in termination (see 4.6) taking into account the requirements of Clause 4.  
The qualification is independent of the application of the press-in zone in a component.
- b) The application test schedule applies to press-in connections which are part of a component and are already qualified to the qualification test schedule.  
Test sequences focus on the performance of the press-in connection which is affected by the implementation in a component.

As the manufacturer of the press-in termination has to provide the main part of the information needed for qualification, the word "manufacturer" is used throughout this standard for simplicity.

IEC Guide 109 advocates the need to minimise the impact of a product on the natural environment throughout the product life cycle.



## **SOLDERLESS CONNECTIONS –**

### **Part 5: Press-in connections – General requirements, test methods and practical guidance**

#### **1 Scope and object**

This part of IEC 60352 is applicable to solderless press-in connections for use in telecommunication equipment and in electronic devices employing similar techniques.

The press-in connection consists of a termination having a suitable press-in zone which is inserted into a plated-through hole of a double-sided or multilayer printed board.

Information on materials and data from industrial experience is included in addition to the test procedures to provide electrically stable connections under prescribed environmental conditions.

The object of this part of IEC 60352 is to determine the suitability of press-in connections under mechanical, electrical and atmospheric conditions as specified by the manufacturer of the press-in termination and to provide a means of comparing test results when the tools used to make the connections are of different designs or manufacture.

#### **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 60050(581):2008, *International Electrotechnical Vocabulary (IEV) – Part 581: Electromechanical components for electronic equipment*

IEC 60068-1:1988, *Environmental testing – Part 1: General and guidance*  
Amendment 1 (1992)

IEC 60352-1:1997, *Solderless connections – Part 1: Wrapped connections – General requirements, test methods and practical guidance*

IEC 60512 (all parts), *Connectors for electronic equipment – Tests and measurements*

IEC 60512-1-100, *Connectors for electronic equipment – Tests and measurements – Part 1-100: General – Applicable publications*

IEC 61188-5-1: *Printed boards and printed board assemblies – Design and use – Part 5-1: Attachment (land/joint) considerations – Generic requirements*

IEC 61249 (all parts), *Materials for printed boards and other interconnecting structures*

IEC 62326-4:1996, *Printed boards – Part 4: Rigid multilayer printed boards with interlayer connections – Sectional specification*