



**NSAI**  
Standards

Irish Standard  
I.S. EN IEC 60309-5:2019

Plugs, socket-outlets and couplers for industrial purposes - Part 5: Dimensional compatibility and interchangeability requirements for plugs, socket-outlets, ship connectors and ship inlets for low-voltage shore connection systems (LVSC)

**I.S. EN IEC 60309-5:2019**

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## National Foreword

I.S. EN IEC 60309-5:2019 is the adopted Irish version of the European Document EN IEC 60309-5:2019, Plugs, socket-outlets and couplers for industrial purposes - Part 5: Dimensional compatibility and interchangeability requirements for plugs, socket-outlets, ship connectors and ship inlets for low-voltage shore connection systems (LVSC)

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**EUROPEAN STANDARD**

**EN IEC 60309-5**

**NORME EUROPÉENNE**

**EUROPÄISCHE NORM**

December 2019

ICS 29.120.30

English Version

**Plugs, socket-outlets and couplers for industrial purposes - Part  
5: Dimensional compatibility and interchangeability requirements  
for plugs, socket-outlets, ship connectors and ship inlets for low-  
voltage shore connection systems (LVSC)  
(IEC 60309-5:2017)**

Prises de courant pour usages industriels - Partie 5:  
Exigences dimensionnelles de compatibilité et  
d'interchangeabilité pour les prises de courant et  
connecteurs de navire pour les systèmes basse tension de  
raccordement des navires à quai  
(IEC 60309-5:2017)

Stecker, Steckdosen und Kupplungen für industrielle  
Anwendungen - Teil 5: Anforderungen und Hauptmaße für  
die Austauschbarkeit von Steckern, Steckdosen,  
Schiffskupplungen und Schiffssteckern für  
Niederspannungs-Landanschlussysteme (LVSC)  
(IEC 60309-5:2017)

This European Standard was approved by CENELEC on 2019-11-13. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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Europäisches Komitee für Elektrotechnische Normung

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

**EN IEC 60309-5:2019 (E)**

**European foreword**

The text of document 23H/368/FDIS, future edition 1 of IEC 60309-5, prepared by SC 23H "Plugs, Socket-outlets and Couplers for industrial and similar applications, and for Electric Vehicles" of IEC/TC 23 "Electrical accessories" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60309-5:2019.

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) 2020-06-20
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2022-12-20

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

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## Annex ZA

(normative)

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

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: [www.cenelec.eu](http://www.cenelec.eu).

***Annexes ZA of EN 60309-1:1999, EN 60309-1:1999/A1:2007, EN 60309-1:1999/A2:2012 and Clause 2 of IEC/IEEE 80005-3:— apply with the following additions:***

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ISO 9227	2012	Corrosion tests in artificial atmospheres - Salt spray tests	-	-
ISO 15510	2014	Stainless steels - Chemical composition	-	-
IEC/IEEE 80005-3	-	Utility connections in port - Part 3: Low Voltage Shore Connection (LVSC) Systems - General requirements	-	-

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**IEC 60309-5**

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# **INTERNATIONAL STANDARD**

## **NORME INTERNATIONALE**

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**Plugs, socket-outlets and couplers for industrial purposes –  
Part 5: Dimensional compatibility and interchangeability requirements for plugs,  
socket-outlets, ship connectors and ship inlets for low-voltage shore connection  
systems (LVSC)**

**Prises de courant pour usages industriels –  
Partie 5: Exigences dimensionnelles de compatibilité et d'interchangeabilité  
pour les prises de courant et connecteurs de navire pour les systèmes basse  
tension de raccordement des navires à quai**



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**IEC 60309-5**

Edition 1.0 2017-01

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

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**Plugs, socket-outlets and couplers for industrial purposes –  
Part 5: Dimensional compatibility and interchangeability requirements for plugs,  
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tension de raccordement des navires à quai**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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**PLUGS, SOCKET-OUTLETS AND COUPLERS  
FOR INDUSTRIAL PURPOSES –**
**Part 5: Dimensional compatibility and interchangeability  
requirements for plugs, socket-outlets, ship connectors and  
ship inlets for low-voltage shore connection systems (LVSC)**
**FOREWORD**

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International Standard IEC 60309-5 has been prepared by subcommittee 23H: Plugs, socket-outlets and couplers for industrial and similar applications, and for electric vehicles, of IEC technical committee 23: Electrical accessories.

The text of this standard is based on the following documents:

FDIS	Report on voting
23H/368/FDIS	23H/371/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 the parts in the IEC 60309 series, under the general title *Plugs, socket-outlets and couplers for industrial purposes* can be found on the IEC website.

This part of IEC 60309 is to be read in conjunction with IEC 60309-1. The clauses of the particular requirements of this document supplement or modify the corresponding clauses of IEC 60309-1. Where the text indicates an "addition" to or a "replacement" of the relevant requirement, test specification or explanation of IEC 60309-1, these changes are made to the relevant text of IEC 60309-1, which then becomes part of the standard. Where no change is necessary, the words "Clause X of IEC 60309-1:1999 + A1:2005 + A2:2012 applies" are used.

Subclauses, figures, tables or notes which are additional to those in IEC 60309-1 are numbered starting from 501.

In this standard, the following print types are used:

- requirements proper: in roman type;
- *test specifications: in italic type*;
- notes: in smaller roman type.

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.

## INTRODUCTION

International Standard IEC 60309-5 has been written to address the needs in terms of plugs, socket-outlets and ship couplers (ship connectors and ship inlets), herein referred to as “accessories”, of IEC/IEEE 80005-3<sup>1</sup>. The purpose of IEC/IEEE 80005-3 is to define requirements that allow compliant ships to connect to compliant low-voltage shore power supplies through standardized shore-to-ship connection accessories.

Ships that do not require connecting with standardized low-voltage shore power supplies as above may use accessories that are not covered by the standard sheets of IEC 60309-5 but they may find it impossible to connect to these shore supplies.

Other low-voltage plugs, socket-outlets, ship connectors and ship inlets used for the connection of certain ship types to low-voltage shore power supplies may be found in the IEC 60309 series.

International Standard IEC 60309 is divided into several parts: IEC 60309-1 is entitled *General requirements*, and comprises clauses of a general nature. The subsequent parts address requirements dealing with particular devices.

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<sup>1</sup> Under preparation. Stage at the time of publication: IEC/IEEE CDV 80005-3:2016.

## PLUGS, SOCKET-OUTLETS AND COUPLERS FOR INDUSTRIAL PURPOSES –

### Part 5: Dimensional compatibility and interchangeability requirements for plugs, socket-outlets, ship connectors and ship inlets for low-voltage shore connection systems (LVSC)

#### 1 Scope

This part of 60309 applies to a single type of plug, socket-outlet, ship connector and ship inlet, hereinafter referred to as accessories, intended to connect ships to dedicated shore supply systems described in IEC/IEEE 80005-3.

This part of IEC 60309 applies to three-phase accessories with an earth contact and with four pilot contacts.

NOTE 1 In the following countries the term “ground” is used instead of “earth”: US.

These accessories have a maximum rated current of 350 A and a maximum rated operating voltage not exceeding 690 V 50/60 Hz.

NOTE 2 The various operating currents, voltages and frequencies required for various types of ship are set by the shore supply system described in IEC/IEEE 80005-3.

These accessories are intended to be installed and operated by instructed persons (IEC 60050-195:1998, Amendment 1:2001, 195-04-02) or skilled persons (IEC 60050-195:1998, Amendment 1:2001, 195-04-01) only.

This standard applies to accessories for primary use outdoors in a seawater environment when the ambient temperature is normally within the range of –25 °C to +40 °C.

NOTE 3 In some countries, other ambient temperatures may prevail and may need to be taken into account.

These accessories are intended to be connected to cables of copper or copper alloy only.

Socket-outlets or ship inlets incorporated in or fixed to electrical equipment which is part of the shore connection system are within the scope of this standard.

In locations where special conditions prevail, for example where explosions are liable to occur, additional requirements may be necessary.

#### 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.

Clause 2 of IEC/IEEE 80005-3:— and Clause 3 of IEC 60309-1:1999 + A1:2005 + A2:2012 apply with the following additions:

ISO 9227:2012, *Corrosion tests in artificial atmospheres – Salt spray tests*



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