



**SLOVENSKI STANDARD**  
**SIST EN 61535:2009**

**01-september-2009**

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**Inštalacijske spojke za trajni spoj v fiksnih napeljavah (inštalacijah) (IEC 61535:2009)**

Installation couplers intended for permanent connection in fixed installations (IEC 61535:2009)

Installationssteckverbinder für dauernde Verbindung in festen Installationen (CEI 61535:2009)

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

Coupleurs d'installation pour connexions permanentes dans les installations fixes (IEC 61535:2009)

[SIST EN 61535:2009](https://standards.iteh.ai/catalog/standards/sist/0cbb65d1-5752-4dd7-8aa3-5f96597099a1/sist-en-61535-2009)

[https://standards.iteh.ai/catalog/standards/sist/0cbb65d1-5752-4dd7-8aa3-](https://standards.iteh.ai/catalog/standards/sist/0cbb65d1-5752-4dd7-8aa3-5f96597099a1/sist-en-61535-2009)

[5f96597099a1/sist-en-61535-2009](https://standards.iteh.ai/catalog/standards/sist/0cbb65d1-5752-4dd7-8aa3-5f96597099a1/sist-en-61535-2009)

**Ta slovenski standard je istoveten z: EN 61535:2009**

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**ICS:**

29.120.30	Vtiči, vtičnice, spojke	Plugs, socket-outlets, couplers
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**en,fr**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 61535**

July 2009

ICS 29.120.99

English version

**Installation couplers  
intended for permanent connection  
in fixed installations  
(IEC 61535:2009)**

Coupleurs d'installation  
pour connexions permanentes  
dans les installations fixes  
(CEI 61535:2009)

Installationssteckverbinder  
für dauernde Verbindung  
in festen Installationen  
(IEC 61535:2009)

**iTeh STANDARD PREVIEW**

This European Standard was approved by CENELEC on 2009-05-01. 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.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

**CENELEC**

European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

**Central Secretariat: Avenue Marnix 17, B - 1000 Brussels**

## Foreword

The text of document 23/466/FDIS, future edition 1 of IEC 61535, prepared by IEC TC 23, Electrical accessories, was submitted to the IEC-CENELEC parallel vote.

A draft amendment, prepared by the CENELEC Reporting Secretariat SR 23, including a normative CENELEC annex to the future standard, was submitted to the formal vote.

The combined texts were approved by CENELEC as EN 61535 on 2009-05-01.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2010-05-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2012-05-01

In this standard, the following print types are used:

- requirements proper: in roman type.
- *test specifications: in italic type.*
- explanatory matter: in smaller roman type.

For this European Standard, any text concerning particular conditions in certain European countries – which are included in the main body of the International Standard – shall be disregarded and has been replaced by the normative Annex ZA, *Special national conditions*.

Annexes ZA and ZB have been added by CENELEC.

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## Endorsement notice

The text of the International Standard IEC 61535:2009 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60309	NOTE Harmonized in EN 60309 series (partially modified).
IEC 60320	NOTE Harmonized in EN 60320 series (not modified).
IEC 60364-4-41	NOTE Harmonized as HD 60364-4-41:2007 (modified).
IEC 61995	NOTE Harmonized in EN 61995 series (partially modified).

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Add the following annexes:

## **Annex ZA** (normative)

### **Special national conditions**

**Special national condition:** National characteristic or practice that cannot be changed even over a long period, e.g. climatic conditions, electrical earthing conditions.

NOTE If it affects harmonization, it forms part of the European Standard.

For the countries in which the relevant special national conditions apply these provisions are normative, for other countries they are informative.

<u>Clause</u>	<u>Special national condition</u>
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<b>1</b>	<b>Germany and United Kingdom</b>
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Add the following text to the scope:

Where installation couplers have more than five wires, they shall meet the requirements of EN 61535 as though they were included in the scope and shall be tested in such a way that all of the mains voltage pins are subjected to the same level of testing.

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## Annex ZB (normative)

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

The following referenced documents are indispensable for the application 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 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 60068-2-31	2008	Environmental testing - Part 2-31: Tests - Test Ec: Rough handling shocks, primarily for equipment-type specimens	EN 60068-2-31	2008
IEC 60112	2003	Method for the determination of the proof and the comparative tracking indices of solid insulating materials	EN 60112	2003
IEC 60364 (mod)	Series	Low-voltage electrical installations	HD 60364	Series
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr. May	1991 1993
A1	1999		A1	2000
IEC 60664-1	2007	Insulation coordination for equipment within low-voltage systems - Part 1: Principles, requirements and tests	EN 60664-1	2007
IEC 60695-2-11	2000	Fire hazard testing - Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end-products	EN 60695-2-11	2001
IEC 60998-2-3 (mod)	2002	Connecting devices for low-voltage circuits for household and similar purposes - Part 2-3: Particular requirements for connecting devices as separate entities with insulation- piercing clamping units	EN 60998-2-3	2004
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 mm <sup>2</sup> up to 35 mm <sup>2</sup> (included)	EN 60999-1	2000
IEC 61032	1997	Protection of persons and equipment by enclosures - Probes for verification	EN 61032	1998



IEC 61535

Edition 1.0 2009-02

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

Installation couplers intended for permanent connection in fixed installations

Coupleurs d'installation pour connexions permanentes dans les installations fixes

[SIST EN 61535:2009](https://standards.iteh.ai/catalog/standards/sist/0cbb65d1-5752-4dd7-8aa3-5f96597099a1/sist-en-61535-2009)

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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**INSTALLATION COUPLERS INTENDED FOR PERMANENT  
CONNECTION IN FIXED INSTALLATIONS**
**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.
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International Standard IEC 61535 has been prepared by technical committee 23: Electrical accessories.

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

FDIS	Report on voting
23/466/FDIS	23/471/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.

In this standard the following print types are used:

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

The committee has decided that the contents of this publication will remain unchanged until the maintenance result 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.

## iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN 61535:2009](#)

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## INSTALLATION COUPLERS INTENDED FOR PERMANENT CONNECTION IN FIXED INSTALLATIONS

### 1 Scope

This standard applies to two up to five wire installation couplers including earth, if provided, with a rated voltage up to and including 500 V a.c. and a rated connecting capacity up to and including 10 mm<sup>2</sup> for permanent connection in indoor electrical installations. Installation couplers with additional contacts for voltages other than mains voltages are outside the scope of this standard.

NOTE 1 Installation couplers according to this standard are used e.g. in prefabricated buildings, installation cavities, such as suspended floors and ceilings, or cable tray systems, cable ladder systems, cable ducting systems and cable trunking systems or in commercial show rooms, in partition walls and in any similar application or in furniture complying with IEC 60364-7-713.

NOTE 2 This standard may be used as a guide for installation couplers with additional contacts for voltages other than mains voltages.

NOTE 3 In the UK, where installation couplers have more than 5 wires, they shall meet the requirements of IEC 61535 as though they were included in the scope and shall be tested in such a way that all of the mains voltage pins are subjected to the same level of testing.

NOTE 4 In the USA, these installation couplers are not permitted to be used where they will not be visible after installation.

An installation coupler consists of an installation female connector and an installation male connector for permanent connection not intended to be engaged or disengaged under load nor to be engaged or disengaged other than during first installation or during reconfiguration or maintenance of the wiring system in which installation couplers have been installed. This means that installation couplers are only intended for infrequent use.

Installation couplers are not suitable for use in place of socket-outlet systems. Installation couplers are not suitable for use in place of devices for connecting luminaires (DCLs) according to IEC 61995 or luminaire supporting couplers (LSCs).

NOTE 5 For lower limits of in-service temperatures the necessary information is given in the manufacturer's installation instructions.

In locations where special conditions prevail, as in ships, vehicles and the like and in hazardous locations, for example where explosions are liable to occur, special constructions may be required.

NOTE 6 Particular requirements for installation couplers e.g. for use at higher ambient temperatures, with higher mechanical durability (e.g. metal housings), with higher fire resistance and for use in control circuits (e.g. SELV), are under consideration.

NOTE 7 National rules may have requirements concerning the accessibility of installation couplers.

NOTE 8 Installation couplers are intended to be installed by instructed or skilled persons.

NOTE 9 National rules may specify who is allowed to carry out the connection and disconnection of installation couplers.

### 2 Normative references

The following referenced documents are indispensable for the application 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 60068-2-31:2008, *Environmental testing – Part 2-31: Tests - Test Ec: Rough handling shocks, primarily for equipment-type specimens*

IEC 60112:2003, *Method for the determination of the proof and the comparative tracking indices of solid insulating materials*

IEC 60364 (all parts), *Electrical installations of buildings*

IEC 60529:2001, *Degrees of protection provided by enclosures (IP Code)*

IEC 60664-1:2007, *Insulation co-ordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests*

IEC 60695-2-11:2000, *Fire hazard testing – Part 2-11: Glowing/hot-wire based test methods – Glow-wire flammability test method for end-products*

IEC 60998-2-3:2002, *Connecting devices for low-voltage circuits for household and similar purposes – Part 2-3: Particular requirements for connecting devices as separate entities with insulation-piercing 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 mm<sup>2</sup> up to 35 mm<sup>2</sup> (included)*

IEC 61032:1997, *Protection of persons and equipment by enclosures – Probes for verification*

### 3 Terms and definitions

[SIST EN 61535:2009](https://standards.iteh.ai/catalog/standards/sist/0cbb65d1-5752-4dd7-8aa3-5f96597099a1/sist-en-61535-2009)

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For the purposes of this document, the following terms and definitions apply.

Where the terms "voltage" and "current" are used in this standard, they are r.m.s. values, unless otherwise specified.

#### 3.1

##### **rated voltage**

voltage assigned to the installation coupler by the manufacturer

#### 3.2

##### **rated current**

maximum current assigned to the installation coupler by the manufacturer

NOTE Rated current refers to the installation coupler itself and not to an electric circuit.

#### 3.3

##### **rated connecting capacity**

cross-sectional area of the largest conductor(s) to be connected as stated by the manufacturer of the installation coupler

#### 3.4

##### **permanent connection**

connecting method in an installation which is only opened for maintenance or wiring system re-configuration

NOTE The expression "permanent connection" is to be understood as a connection which is maintained as long as an installation exists.

### 3.5

#### **installation coupler**

connecting device consisting of an installation female connector and an installation male connector provided with retaining means for permanent connection not intended to be engaged or disengaged under load nor to be engaged or disengaged other than during first installation, during maintenance of the wiring system or during re-configuration of the wiring system

#### 3.5.1

##### **installation male connector**

load side portion of an installation coupler which contains the male contacts

#### 3.5.2

##### **installation female connector**

supply side portion of an installation coupler which contains the female contacts

### 3.6

#### **installation coupler system**

family of installation couplers consisting of one or more installation female connectors compatible by mechanical coding features with one or more installation male connectors, with the same ratings produced according to the specification of one manufacturer

### 3.7

#### **wiring system**

assembly made up of a cable or cables or busbars and the parts which secure and if necessary enclose the cables or busbars

NOTE See IEC 60364-5-52.

### 3.8

#### **rewirable installation coupler**

installation coupler so constructed that the cable can be replaced

### 3.9

#### **non-rewirable installation coupler**

installation coupler so constructed that it forms a complete unit with the cable after connection and assembly by the manufacturer

NOTE See also 12.15.

#### 3.9.1

##### **non-rewirable moulded-on installation coupler**

non-rewirable installation coupler so constructed that the contacts, terminals or connections and the attached cable end are surrounded by insulating material manufactured by a moulding process

#### 3.9.2

##### **non-rewirable non-moulded-on installation coupler**

non-rewirable installation coupler so constructed that the contacts, terminals or connections and the attached cable end are surrounded by separate parts of insulating material

### 3.10

#### **distribution block**

device intended for branching of circuits

### 3.11

#### **retaining means**

arrangement by which an installation female connector and an installation male connector are held in position when they are properly engaged and prevents unintentional disengagement

NOTE The disengagement may be made by hand or by the use of a tool.

### 3.12

#### cap

removable barrier to prevent ready accessibility to an unused installation female connector

### 3.13

#### routine test

test to which each device is subjected during and/or after manufacture to ascertain whether it complies with certain criteria

### 3.14

#### type test

test of one or more devices made to a certain design to show that the design meets certain requirements

### 3.15

#### readily accessible

accessibility to touch extending from any point on a surface where persons usually stand or move about to the limits which a person can reach with the hand, in any direction without assistance

NOTE See IEC 60364-4-41 Annex B.

### 3.16

#### terminal

part of an accessory to which a conductor is attached, providing a reusable connection

### 3.17

#### termination

part of an accessory to which a conductor is permanently attached

[IEV 442-06-06]

## 4 General requirements

Installation couplers shall be so designed and constructed that, in normal use, their performance is reliable and without danger to the user or damage to the surroundings.

*Compliance is checked by carrying out all the relevant tests specified.*

## 5 General notes on tests

**5.1** Tests shall be carried out to check compliance with the relevant requirements of this standard.

Tests are as follows:

- type tests shall be made on representative specimens of each type of installation coupler;
- routine tests shall be made on each installation coupler as required in this standard.

Tests of 5.2 to 5.6 are applicable to type tests and 5.7 to routine tests.

**5.2** Unless otherwise specified, the tests shall be carried out on specimens as delivered and under conditions of normal use at an ambient temperature between 15 °C and 35 °C.