



# SLOVENSKI STANDARD SIST EN 61935-1:2010

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SIST EN 61935-1:2006

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Testing of balanced communication cabling in accordance with ISO/IEC 11801 - Part 1: Installed cabling (IEC 61935-1:2009, modified)

Spezifikacija für die Prüfung der symmetrischen und koaxialen informationstechnischen Verkabelung - Teil 1: Installierte symmetrische Verkabelung nach EN 50173 und entsprechenden Normen (IEC 61935-1:2009, modifiziert)

SIST EN 61935-1:2010

Spécification relative aux essais de câblages symétriques et coaxiaux - propres aux technologies de l'information - Partie 1: Câblages symétriques installés selon la série de normes EN 50173 (CEI 61935-1:2009, modifiée)

**Ta slovenski standard je istoveten z: EN 61935-1:2009**

## ICS:

33.120.10 Koaksialni kabli. Valovodi Coaxial cables. Waveguides

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 61935-1**

December 2009

ICS 33.120.10

Supersedes EN 61935-1:2005

English version

**Specification for the testing of balanced  
and coaxial information technology cabling -  
Part 1: Installed balanced cabling as specified  
in the standards series EN 50173  
(IEC 61935-1:2009, modified)**

Spécification relative aux essais  
de câblages symétriques et coaxiaux  
propres aux technologies de l'information -  
Partie 1: Câblages symétriques installés  
selon la série de normes EN 50173  
(CEI 61935-1:2009, modifiée)

Spezifikation für die Prüfung  
der symmetrischen und koaxialen  
informationstechnischen Verkabelung -  
Teil 1: Installierte symmetrische  
Verkabelung nach EN 50173  
und entsprechenden Normen  
(IEC 61935-1:2009, modifiziert)

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SIST EN 61935-1:2010

This European Standard was approved by CENELEC on 2009-10-01. 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.

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**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 46/323/FDIS, future edition 3 of IEC 61935-1, prepared by IEC TC 46, Cables, wires, waveguides, R.F. connectors, R.F. and microwave passive components and accessories, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61935-1 on 2009-10-01 with common modifications prepared by the German national committee to have the standard refer to the relevant European Standards.

This European Standard supersedes EN 61935-1:2005.

This new edition includes test methods for exogenous (alien) crosstalk. It also includes a new annex for uncertainty and variability of field test results.

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) 2010-07-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2012-10-01

Annex ZA has been added by CENELEC.

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## Endorsement notice

The text of the International Standard IEC 61935-1:2009 was approved by CENELEC as a European Standard with agreed common modifications as given below.

### COMMON MODIFICATIONS

#### Title page

**Replace** "ISO/IEC 11801 and related standards" by "the standards series EN 50173".

#### General

**Replace** "ISO/IEC 11801" and "ISO/IEC 11801 (or equivalent)" by "EN 50173-1" in Subclauses 3.2, 4.2.5 (twice), 4.13.4.3, 5.3.1, 5.3.2.2, 5.3.3, 5.3.4 (twice), 5.3.5, 5.3.6, 5.3.8, 5.3.9, 5.3.10, 5.4.7.2, 5.4.7.3, 5.4.8.1, 5.5.5 and 6.2

**Replace** all other occurrences of "ISO/IEC 11801" and "ISO/IEC 11801 (or equivalent)" by "series EN 50173", i.e. in the introduction and in (Sub)Clauses 3, 3.1, and 6.11.1.

#### Clause 1, Scope

**Replace** the first paragraph by:

This part of EN 61935 specifies reference measurement procedures for cabling parameters and the requirements for field tester accuracy to measure cabling parameters identified in series EN 50173. This standard does not apply to EN 50173-4.

#### Clause 2, Normative references

**Replace** "ISO/IEC 11801" by:

EN 50173, series, *Information technology - Generic cabling systems*

**Replace** ISO/IEC/TR 14763-2 by:

EN 50174-1, *Information technology - Cabling installation - Part 1: Installation specification and quality assurance*

#### Subclause 5.4.8.1, Selection of disturbed links

**Replace** "ISO/IEC/TR 14763-2" by "EN 50174-1".

#### Subclause 5.1, General

**Replace** paragraphs 1 to 3 by:

This clause applies to field test specifications for post-installation performance measurements of installed cabling designed in accordance with series EN 50173.

The information contained in this clause uses the links defined in series EN 50173 and specifies parameters for field testers, test methods and interpretations of test results, leading to a practical solution to the issues related to field testing. Classes of twisted pair cabling links referred to herein correspond with those described in EN 50173-1.

Field test equipment is classified by performance level. Currently levels I, II, IIE, III, IIIE and IV are used in the industry. This clause specifies requirements for field test equipment used to certify class D, E, E<sub>A</sub>, F and F<sub>A</sub> cabling as defined in EN 50173-1.

Subclause 5.5.8, Administration system applicability

**Replace** "ISO/IEC 14763-1" by "EN 50174-1".

Bibliography

**Add** the following note under IEC 61935-3:

NOTE Harmonized as EN 61935-3:2009.

**Delete** reference to ISO/IEC 14763-1.

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## Annex ZA (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>
–	–	Information technology - Generic cabling systems	EN 50173	Series
–	–	Information technology - Cabling installation - Part 1: Installation specification and quality assurance	EN 50174-1	– <sup>1)</sup>
–	–	Communication cables - Specifications for test methods - Part 1-15: Electromagnetic performance - Coupling attenuation of links and channels (Laboratory conditions)	EN 50289-1-15	– <sup>1)</sup>
IEC 60169-22	– <sup>1)</sup>	Radio-frequency connectors - Part 22: R.F. two-pole bayonet coupled connectors for use with shielded balanced cables having twin inner conductors (Type BNO)	–	–
IEC 60512-25-9	– <sup>1)</sup>	Connectors for electronic equipment - Tests and measurements - Part 25-9: Signal integrity tests - Test 25i: Alien crosstalk	EN 60512-25-9	2008 <sup>2)</sup>
IEC 60603-7	– <sup>1)</sup>	Connectors for electronic equipment - Part 7: Detail specification for 8-way, unshielded, free and fixed connectors	EN 60603-7	2009
IEC 60603-7-X	Series	Connectors for electronic equipment - Part 7-X: Detail specification for 8-way, shielded free and fixed connectors	EN 60603-7-X	Series
IEC 60603-7-4	– <sup>1)</sup>	Connectors for electronic equipment - Part 7-4: Detail specification for 8-way, unshielded, free and fixed connectors, for data transmissions with frequencies up to 250 MHz	EN 60603-7-4	200X <sup>3)</sup>
IEC 60603-7-5	– <sup>1)</sup>	Connectors for electronic equipment - Part 7-5: Detail specification for 8-way, shielded, free and fixed connectors, for data transmissions with frequencies up to 250 MHz	EN 60603-7-5	2009

1) Undated reference.

2) Valid edition at date of issue.

3) To be published

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61076-3-104	- <sup>1)</sup>	Connectors for electronic equipment - Product requirements - Part 3-104: Detail specification for 8-way, shielded free and fixed connectors for data transmissions with frequencies up to 1 000 MHz	EN 61076-3-104	2006 <sup>2)</sup>
IEC 61076-3-110	- <sup>1)</sup>	Connectors for electronic equipment - Product requirements - Part 3-110: Rectangular connectors - Detail specification for shielded, free and fixed connectors for data transmission with frequencies up to 1 000 MHz	EN 61076-3-110	2008 <sup>2)</sup>
IEC 61156-1	- <sup>1)</sup>	Multicore and symmetrical pair/quad cables for digital communications - Part 1: Generic specification	-	-
IEC 61156-5	- <sup>1)</sup>	Multicore and symmetrical pair/quad cables for digital communications - Part 5: Symmetrical pair/quad cables with transmission characteristics up to 1 000 MHz - Horizontal floor wiring - Sectional specification	-	-
IEC 61156-6	- <sup>1)</sup>	Multicore and symmetrical pair/quad cables for digital communications - Part 6: Symmetrical pair/quad cables with transmission characteristics up to 1 000 MHz - Work area wiring - Sectional specification	-	-
IEC 61156-7	- <sup>1)</sup>	Multicore and symmetrical pair/quad cables for digital communications - Part 7: Symmetrical pair cables with transmission characteristics up to 1 200 MHz - Sectional specification for digital and analog communication cables	-	-
IEC 61156-8	- <sup>1)</sup>	Multicore and symmetrical pair/quad cables for digital communications - Part 8: Symmetrical pair/quad cables with transmission characteristics up to 1 200 MHz - Work area wiring - Sectional specification	-	-
ITU-T Recommendation G.117	1996	Transmission aspects of unbalance about earth	-	-
ITU-T Recommendation O.9	1999	Measuring arrangements to assess the degree of unbalance about earth	-	-





IEC 61935-1

Edition 3.0 2009-07

# INTERNATIONAL STANDARD

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**Specification for the testing of balanced and coaxial information technology cabling –  
Part 1: Installed balanced cabling as specified in ISO/IEC 11801 and related standards**

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<https://standards.iteh.ai/catalog/standards/sist/c298f925-4e52-4e74-a964-434e4cfeae74/sist-en-61935-1-2010>

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