



**SLOVENSKI STANDARD**  
**SIST EN 60728-11:2018/A11:2019**

**01-julij-2019**

---

**Kabelska omrežja za televizijske in zvokovne signale ter interaktivne storitve - 11.  
del: Varnost**

Cable networks for television signals, sound signals and interactive services - Part 11:  
Safety

Kabelnetze für Fernsehsignale, Tonsignale und interaktive Dienste - Teil 11:  
Sicherheitsanforderungen

Réseaux de distribution par câbles pour signaux de télévision, signaux de radiodiffusion  
sonore et services interactifs - Partie 11: Sécurité

<https://standards.iteh.ai/catalog/standards/sist/452bdf89-c22d-4909-9db3-c418e461e029/sist-en-60728-11:2018/a11:2019>

**Ta slovenski standard je istoveten z: EN 60728-11:2017/A11:2018**

---

**ICS:**

33.060.40      Kabelski razdelilni sistemi      Cabled distribution systems

**SIST EN 60728-11:2018/A11:2019**      en,fr

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

[SIST EN 60728-11:2018/A11:2019](https://standards.iteh.ai/catalog/standards/sist/452bdf89-c22d-4909-9db3-c418a461e029/sist-en-60728-11-2018-a11-2019)

<https://standards.iteh.ai/catalog/standards/sist/452bdf89-c22d-4909-9db3-c418a461e029/sist-en-60728-11-2018-a11-2019>

EUROPEAN STANDARD

EN 60728-11:2017/A11

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2018

ICS 33.060.40

English Version

## Cable networks for television signals, sound signals and interactive services - Part 11: Safety

Réseaux de distribution par câbles pour signaux de télévision, signaux de radiodiffusion sonore et services interactifs - Partie 11: Sécurité

Kabelnetze für Fernsehsignale, Tonsignale und interaktive Dienste - Teil 11: Sicherheitsanforderungen

This amendment A1 modifies the European Standard EN 60728-11:2017; it was approved by CENELEC on 2018-07-30. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 CEN-CENELEC Management Centre or to any CENELEC member.

This amendment 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 CEN-CENELEC Management Centre has the same status as the official versions.

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

<https://standards.iteh.ai/catalog/standards/sist/452bd89-c22d-4909-9db3-c418a461e029/sist-en-60728-11-2018-a11-2019>



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

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

<b>Contents</b>	<b>Page</b>
European foreword	3
1 Modifications to Clause 1, Scope	4
2 Modifications to Clause 2, Normative references	4
3 Modifications to 4.1, General	4
4 Modifications to 6.2, Equipotential bonding mechanisms	4
5 Modifications to 6.3.5, Measures	5
6 Modifications to 8.1.3, Current-carrying capacity and dielectric strength of the components	5
7 Modifications to 10.2.2, Fully isolated system outlet	5
8 Modifications to 10.3, Transfer point	5
9 Modifications to 11.2.2, Building equipped with a lightning protection system (LPS)	5
10 Modifications to 11.3.1.2, Protection by additional bonding conductors	6
11 Modifications to 11.3.2, Earthing conductors	6
12 Modifications to 11.3.3, Earth termination system	6
13 Modifications to Annex B.3, Protective measures against direct lightning strikes on underground cables	6
14 Modifications to Annex C.7.2, UK	6
15 Modifications to Annex ZA, Normative references to international publications with their corresponding European publications	7
16 Modifications to Annex ZB, A-Deviations	8
17 Modifications to Annex ZC.2.2.1, Installations in the vicinity of transformer stations	8
18 Modifications to Bibliography	8
19 Addition of a new Annex ZZ	8

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

[SIST EN 60728-11:2018/A11:2019](https://standards.iteh.ai/catalog/standards/sist/452bdf89-c22d-4909-9db3-c418a461e029/sist-en-60728-11-2018-a11-2019)

<https://standards.iteh.ai/catalog/standards/sist/452bdf89-c22d-4909-9db3-c418a461e029/sist-en-60728-11-2018-a11-2019>

## European foreword

This document (EN 60728-11:2017/A11:2018) has been prepared by CLC/TC 209 “Cable networks for television signals, sound signals and interactive services”.

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2019-05-09
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2021-11-09

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.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of this document.

Compliance with the normative clauses of this document given in Table ZZ.1 confers, within the limits of the scope of this document, a presumption of conformity with the corresponding safety objectives of the Directive 2014/35/EU and associated EFTA regulations.

[SIST EN 60728-11:2018/A11:2019](https://standards.iteh.ai/catalog/standards/sist/452bdf89-c22d-4909-9db3-c418a461e029/sist-en-60728-11-2018-a11-2019)

<https://standards.iteh.ai/catalog/standards/sist/452bdf89-c22d-4909-9db3-c418a461e029/sist-en-60728-11-2018-a11-2019>

## 1 Modifications to Clause 1, Scope

Replace the 2<sup>nd</sup> paragraph to read:

This standard is intended to provide requirements specifically for the safety of the system, personnel working on it, subscribers and subscriber equipment. It deals only with safety aspects and is not intended to define a standard for the protection of the equipment used in the system.

## 2 Modifications to Clause 2, Normative references

Replace EN 50164-1 and EN 50164-2 with:

EN 62561-1:2017, *Lightning protection system components (LPSC) – Part 1: Requirements for connection components (IEC 62561-1:2017)*

EN 62561-2:2012, *Lightning protection system components (LPSC) – Part 2: Requirements for conductors and earth electrodes (IEC 62561-2:2012)*

## 3 Modifications to 4.1, General

Replace the last paragraph with:

The above does not apply to service persons (according to 3.1.43) working on the equipment, who are exposed to live parts of the equipment by the removal of protective covers. Service persons shall have minimum protection against contact with live parts.

Equipment intended to be installed in a cable network shall provide the following information:

- a) The name of the manufacturer or supplier, or the brand name or trade mark, shall be clearly printed on the electrical equipment or, where that is not practicable, on its packaging. If appropriate, there shall also be marking to identify the date and place of manufacture.  
<https://standards.iteh.ai/catalog/standards/sist/452bd89-c22d-4909-9db3->
- b) Information provided with the equipment shall also include instructions for safe installation (assembly), maintenance, cleaning, operation and storage.
- c) Where risks remain despite all the measures adopted, or in the case of potential risks which are not evident, appropriate warnings shall be provided.
- d) The essential characteristics, the recognition and observance of which will ensure that equipment will be used safely and in applications for which it was intended and for which it can reasonably be foreseen, shall be marked legibly and indelibly on the equipment or, if this is not possible, in the accompanying instructions for use.
- e) Information provided either by marking or in the instructions for use which is essential for the safe use of the equipment shall be easily understandable by the intended user.

## 4 Modifications to 6.2, Equipotential bonding mechanisms

In list item f), replace the 2<sup>nd</sup> paragraph with:

Improperly designed fully isolated transfer points can radiate or pick up inadmissible high-frequency energy.

NOTE 3 EN 50083-2 contains relevant requirements.

Renumber existing NOTES 3 to 6 accordingly.

In the key to Figure 4, amend item 3a to read:

3a Equipotential bonding bar (optional bonding if the entering and leaving coaxial cables are not included in the equipotential bonding system via the subscriber tap (no. 18))

*In the key to Figure 5, amend item 3a to read:*

3a Equipotential bonding bar (optional bonding if the entering and leaving coaxial cables are not included in the equipotential bonding system via the wall-mounted subscriber tap (no. 18a))

*In list item h), replace the 2<sup>nd</sup> paragraph with:*

Improperly designed fully isolated transfer points can radiate or pick up inadmissible high-frequency energy.

NOTE 8 EN 50083-2 contains relevant requirements.

*Renumber existing NOTES 7 to 9 accordingly.*

*In the key to Figure 7, amend item 16a to read:*

16a Equipotential bonding clamp (optional bonding if the entering coaxial cable is not included in the equipotential bonding system via the transfer point (no. 21))

## 5 Modifications to 6.3.5, Measures

*In list item c), replace the 3<sup>rd</sup> paragraph with:*

Improperly designed fully isolated transfer points can radiate or pick up inadmissible high-frequency energy.

NOTE 1 EN 50083-2 contains relevant requirements.

NOTE 2 For requirements in Norway, see C.2.2.

## 6 Modifications to 8.1.3, Current-carrying capacity and dielectric strength of the components

*Amend the 1st paragraph to read:*

The heating caused by operating and short-circuit currents (in case of failure) of the components used shall not cause any danger. Particularly components like cables, plugs and screw connections shall meet these requirements. With respect to the current-carrying capacity and dielectric strength, only coaxial cables specified for the current and operating voltage according to Table 1 shall be used in the absence of specific values provided by the manufacturer.

## 7 Modifications to 10.2.2, Fully isolated system outlet

*Renumber the NOTE after the 1<sup>st</sup> paragraph into NOTE 1 and replace the 2<sup>nd</sup> paragraph with:*

Improperly designed fully isolated transfer points can radiate or pick up inadmissible high-frequency energy.

NOTE 2 EN 50083-2 contains relevant requirements.

## 8 Modifications to 10.3, Transfer point

*Replace the 2<sup>nd</sup> paragraph with:*

Improperly designed fully isolated transfer points can radiate or pick up inadmissible high-frequency energy.

NOTE EN 50083-2 contains relevant requirements.

## 9 Modifications to 11.2.2, Building equipped with a lightning protection system (LPS)

*In footnote a to Figure 10, amend the 1<sup>st</sup> sentence to read:*

An assessment shall be made of the risk of lightning strike  $R$ .

## 10 Modifications to 11.3.1.2, Protection by additional bonding conductors

Amend the 1<sup>st</sup> paragraph to read:

To achieve a sufficient bonding current capability, the sum of all cable shield cross-sections has to result in a value according to 6.2 c). This can be achieved by the installation of additional bonding conductors 4d as shown in Figure 17. To avoid inductive loops between the coaxial cable to be protected and the conductor 4d, it is recommended to lead these conductors parallel and near to the coaxial cable.

## 11 Modifications to 11.3.2, Earthing conductors

Replace the 1<sup>st</sup> paragraph with:

In accordance with EN 62561-1:2012 and EN 62561-2:2012 terminals and wires shall be so designed to withstand lightning currents.

## 12 Modifications to 11.3.3, Earth termination system

Replace figure caption 18a with:

**Figure 18a — Earthing conductor in building foundation**

## 13 Modifications to Annex B.3, Protective measures against direct lightning strikes on underground cables

Replace the formula below Table B.2 with the following:

$$K_p = \frac{\lg \frac{r_{12}}{r_{22}}}{\lg \frac{r_{12}^2}{r_{11} \times r_{22}}}$$

ITh STANDARD PREVIEW  
(standards.iteh.ai)

SIST EN 60728-11:2018/A11:2019

<https://standards.iteh.ai/catalog/standards/sist/452bdf89-c22d-4909-9db3-c418a461e029/sist-en-60728-11-2018-a11-2019>

## 14 Modifications to Annex C.7.2, UK

Replace the text with:

In the UK the use of fully isolated system outlets is obligatory except where back-powering to a network or to outdoor equipment such as preamplifiers, low-noise converters, polarizers, transmitters in antenna installations is necessary then requirements of 8.2 apply.



## 15 Modifications to Annex ZA, Normative references to international publications with their corresponding European publications

Amend the table in Annex ZA as follows:

Publication	Year	Title	EN/HD	Year
-	-	Coaxial cables	EN 50117	Series
-	-	Information technology - Cabling installation - Part 2: Installation planning and practices inside buildings	EN 50174-2	2009
-	-	+ A1		2011
-	-	+ A2		2014
-	-	Telecommunications bonding networks for buildings and other structures	EN 50310	2016
IEC 60065 (mod)	2014	Audio, video and similar electronic apparatus - Safety requirements	EN 60065	2014
IEC 60364-1 (mod)	2005	Low-voltage electrical installations - Part 1: Fundamental principles, assessment of general characteristics, definitions	HD 60364-1	2008
IEC 60364-4-44 (mod)	2007	Low-voltage electrical installations - Part 4-44: Protection for safety - Protection against voltage disturbances and electromagnetic disturbances	HD 60364-4-442 HD 60364-4-443 HD 60364-4-444	2012 2016 2010
IEC 60364-5-52 (mod)	2009	Low-voltage electrical installations - Part 5-52: Selection and erection of electrical equipment - Wiring systems	HD 60364-5-52	2011
IEC 60364-5-54	2011	Low-voltage electrical installations - Part 5-54: Selection and erection of electrical equipment Earthing arrangements and protective conductors	HD 60364-5-54	2011
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529 + A1 + A2	1991 2000 2013
IEC 60825-1	2014	Safety of laser products - Part 1: Equipment classification and requirements	EN 60825-1 + AC	2014 2017
IEC 60825-2	2004	Safety of laser products - Part 2: Safety of optical fibre communication systems (OFCS)	EN 60825-2 + A1 +A2	2004 2007 2010
IEC 60950-1 (mod)	2005	Information technology equipment - Safety - Part 1: General requirements	EN 60950-1 +A11 +A12 +AC	2006 2009 2011 2011
IEC 60990	2016	Methods of measurement of touch current and protective conductor current	EN 60990	2016
IEC 61140	2016	Protection against electric shock - Common aspects for installation and equipment	EN 61140	2016
IEC 62305	Series	Protection against lightning	EN 62305	Series
IEC 62305-2 (mod)	2010	Protection against lightning - Part 2: Risk management	EN 62305-2	2012
IEC 62305-3 (mod)	2010	Protection against lightning - Part 3: Physical damage to structures and life hazard	EN 62305-3	2011
IEC 62305-4	2010	Protection against lightning - Part 4: Electrical and electronic systems within structures	EN 62305-4 + AC	2011 2016
ISO 3864-1	2011	Graphical symbols - Safety colours and safety signs - Part 1: Design principles for safety signs and safety markings	-	-