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

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 60728-11:2023 sisaldab Euroopa standardi EN IEC 60728-11:2023 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 60728-11:2023 consists of the English text of the European standard EN IEC 60728-11:2023.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
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English Version

Cable networks for television signals, sound signals and
interactive services - Part 11: Safety
(IEC 60728-11:2023)

Réseaux de distribution par câbles pour signaux de
télévision, signaux de radiodiffusion sonore et services
interactifs - Partie 11: Sécurité
(IEC 60728-11:2023)

Kabelnetze für Fernsehsignale, Tonsignale und interaktive
Dienste - Teil 11: Sicherheitsanforderungen
(IEC 60728-11:2023)

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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

European foreword

The text of document 100/3866/FDIS, future edition 5 of IEC 60728-11, prepared by IEC/TC 100 "Audio, video and multimedia systems and equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60728-11:2023.

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) 2024-02-23
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2026-05-23

This document supersedes EN 60728-11:2017 and all of its amendments and corrigenda (if any).

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

IEC 60364 (series) NOTE Approved as HD 60364 (series)

IEC 60728-1 NOTE Approved as EN 60728-1

INTERNATIONAL STANDARD

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



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

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CONTENTS

FOREWORD.....	6
INTRODUCTION.....	8
1 Scope.....	9
2 Normative references	9
3 Terms, definitions, symbols and abbreviated terms.....	10
3.1 Terms and definitions.....	10
3.2 Symbols.....	18
3.3 Abbreviated terms.....	18
4 Fundamental requirements	19
4.1 General.....	19
4.2 Mechanical requirements	20
4.2.1 General	20
4.2.2 Equipment design and construction	20
4.2.3 Accessible parts	20
4.3 Radiation	20
4.4 Electromagnetic radiation.....	20
4.5 Thermal protection.....	20
4.6 Safety in case of fire and fire reaction.....	20
5 Protection against environmental influences	21
6 Equipotential bonding and earthing.....	21
6.1 General requirements	21
6.2 Equipotential bonding mechanisms.....	21
6.3 Equipotential bonding in meshed systems.....	32
6.3.1 References to other standards.....	32
6.3.2 General on AC mains.....	32
6.3.3 AC power distribution and connection of the protective conductor.....	32
6.3.4 Dangers and malfunction	32
6.3.5 Measures.....	33
7 Mains-supplied equipment	33
8 Remote power feeding in cable networks.....	34
8.1 Remote power feeding	34
8.1.1 Maximum allowed voltages	34
8.1.2 General requirements for equipment.....	34
8.1.3 Current-carrying capacity and dielectric strength of the components.....	34
8.2 Remote powering from subscriber premises.....	35
9 Segregation distances and protection against indirect contact to electric power distribution systems	35
9.1 General.....	35
9.2 Overhead lines.....	35
9.2.1 Overhead lines up to 1 000 V.....	35
9.2.2 Overhead lines above 1 000 V.....	35
9.3 House installations up to 1 000 V.....	35
10 System outlets and transfer points.....	36
10.1 General.....	36
10.2 System outlet.....	36
10.2.1 Types of system outlets	36

10.2.2	Fully isolated system outlet.....	37
10.2.3	Semi-isolated system outlet.....	37
10.2.4	Non-isolated system outlet with protective element.....	37
10.2.5	Non-isolated system outlet without protective element.....	37
10.2.6	Fully-isolated system outlet provided by means of a FTTH system.....	37
10.3	Transfer point	39
11	Protection against atmospheric overvoltages and elimination of potential differences	40
11.1	General.....	40
11.2	Protection of the antenna system	41
11.2.1	Selection of appropriate methods for protection of antenna systems	41
11.2.2	Building equipped with a lightning protection system (LPS).....	42
11.2.3	Building not equipped with an LPS.....	49
11.3	Earthing and bonding of the antenna system.....	52
11.3.1	Internal protection system.....	52
11.3.2	Earthing conductors.....	53
11.3.3	Earth termination system	55
11.4	Overvoltage protection.....	59
12	Mechanical stability	60
12.1	General requirements	60
12.2	Bending moment.....	60
12.3	Wind-pressure values	62
12.4	Mast construction.....	62
12.5	Data to be published	63
Annex A (normative)	Earth loop impedance	64
A.1	General.....	64
A.2	Earthing for fault conditions	64
A.3	Earthing to protect against hazardous touch voltage	65
A.4	Temporary safety measures.....	66
Annex B (informative)	Use of shield wires to protect installations with coaxial cables.....	67
B.1	General.....	67
B.2	Soil quality determines shield-wiring necessity.....	67
B.3	Protective measures against direct lightning strikes on underground cables.....	67
Annex C (informative)	Differences in some countries	70
C.1	Subclause 6.1	70
C.1.1	France	70
C.1.2	Japan	70
C.2	Subclause 6.2.....	70
C.2.1	France	70
C.2.2	Norway	70
C.2.3	Japan and Poland.....	70
C.3	Subclause 6.3 – Norway	70
C.3.1	Justification	70
C.3.2	Equipotential bonding mechanism for cable networks	71
C.3.3	Use of galvanic isolation in a cable network with remote power feeding.....	76
C.3.4	Use of voltage dependent protective device in a cable network.....	77
C.4	Subclause 8.1.1 – Japan.....	78
C.5	Subclause 9.1 – France	79

C.6	Subclause 9.2 – Japan.....	79
C.7	Subclause 10.1	79
C.7.1	Sweden	79
C.7.2	UK.....	79
C.8	Subclause 10.2 – Japan.....	79
C.9	Subclause 11.1 – Japan.....	79
C.10	Subclause 11.2	80
C.10.1	Germany.....	80
C.10.2	Japan	80
C.11	Subclause 11.3.2 – Japan.....	81
C.12	Subclause 11.3.3 – Japan.....	81
C.13	Subclause 12.2 – Japan.....	82
C.14	Subclause 12.3 – Finland.....	82
	Bibliography.....	83
	Figure 1 – Example of equipotential bonding and earthing of a metal enclosure inside a non-conductive cabinet for outdoor-use	23
	Figure 2 – Example of equipotential bonding of a building installation	24
	Figure 3 – Example of equipotential bonding and indirect earthing of a metal enclosure inside a non-conductive cabinet for outdoor-use	25
	Figure 4 – Example of equipotential bonding and earthing of a building installation (underground connection)	27
	Figure 5 – Example of equipotential bonding and earthing of a building installation (above ground connection)	28
	Figure 6 – Example of equipotential bonding with a galvanic isolated cable entering a building (underground connection)	29
	Figure 7 – Example of maintaining equipotential bonding whilst a unit is removed	31
	Figure 8 – MDU building installed with FTTH technology.....	39
	Figure 9 – Areas of antenna-mounting in or on buildings, where earthing is not mandatory.....	41
	Figure 10 – Flow chart for selection of the appropriate method for protecting the antenna system against atmospheric overvoltages.....	44
	Figure 11 – Example of equipotential bonded headends and antennas in a protected volume of the building LPS	45
	Figure 12 – Example of equipotential bonded headends and antennas in a protected volume of an external horizontally isolated ATS	46
	Figure 13 – Example of equipotential bonded headends and antennas in a protected volume of an external vertically isolated ATS	47
	Figure 14 – Example of equipotential bonded antennas (not installed in a protected volume) and headend with direct connection to building LPS	48
	Figure 15 – Example of equipotential bonded headend and earthed antennas (building without LPS)	51
	Figure 16 – Example of bonding for antennas and headend (building without LPS and lightning risk lower than or equal to the tolerable risk)	52
	Figure 17 – Example of protecting an antenna system (not installed in a protected volume) by additional bonding conductors ($R > R_T$).....	55
	Figure 18 – Examples of earthing mechanisms	58
	Figure 19 – Example of an overvoltage protective device for single dwelling unit	59
	Figure 20 – Example of bending moment of an antenna mast	61

Figure A.1 – Systematic of earth loop resistance	65
Figure B.1 – Principle of single shield wire	68
Figure B.2 – Principle of two shield wires	69
Figure C.1 – IT power distribution system in Norway	71
Figure C.2 – Example of installations located farther than 20 m away from a transforming station	72
Figure C.3 – Example of installations located closer than 20 m from a transforming station	72
Figure C.4 – Example of cabinets for cable network with locally fed equipment and mains placed less than 2 m apart	73
Figure C.5 – Example of cabinets for cable network with remotely fed equipment and mains placed less than 2 m apart	74
Figure C.6 – Example of cabinets for cable network with locally fed equipment and mains placed more than 2 m apart	75
Figure C.7 – Example of cabinets for cable network with remotely fed equipment and mains placed more than 2 m apart	76
Figure C.8 – Example of an installation placing the amplifier in front of the galvanic isolator	77
Figure C.9 – Example of protection using a voltage depending device on network installations on poles	78
Figure C.10 – Example of the installation of a safety terminal in Japan	80
Figure C.11 – Examples of installation of a lightning protection system in Japan	81
Table 1 – Maximum allowed operation voltages and maximum recommended currents for coaxial cables	34
Table 2 – Solutions for protection of antenna systems against atmospheric overvoltage	42
Table B.1 – Conductivity of different types of soil	67
Table B.2 – Protection factors (K_p) of protection measures against direct lightning strokes for buried cables	68

INTERNATIONAL ELECTROTECHNICAL COMMISSION

CABLE NETWORKS FOR TELEVISION SIGNALS, SOUND SIGNALS AND INTERACTIVE SERVICES –

Part 11: Safety

FOREWORD

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IEC 60728-11 has been prepared by technical area 5: Cable networks for television signals, sound signals and interactive services, of IEC technical committee 100: Audio, video and multimedia systems and equipment. It is an International Standard.

This fifth edition cancels and replaces the fourth edition published in 2016. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition.

- a) Replacement of references to IEC 60065 and IEC 60950-1 with references to IEC 62368-1.
- b) Addition of subclauses 4.4 to 4.6.
- c) Revised definition of class I equipment, class II equipment, main earthing terminal, see 3.1.6, 3.1.8 and 3.1.31.
- d) Addition of definitions for harm, hazard, ordinary person, instructed person, skilled person, see 3.1.22, 3.1.23, 3.1.39, 3.1.40 and 3.1.41.

- e) Additional requirement to provide details on the equipment installed, see 4.1.
- f) Additional mechanical, design and construction requirements, see 4.2.2.
- g) Changes to the accessible part requirements, see 4.2.3.
- h) The current carrying capacity and dielectric strength of components is now obligatory, see 8.1.3.
- i) The assessment of the risk of lightning strike is now obligatory, see Figure 10.
- j) Extension of remote feeding voltage on subscriber feeder, see Table 1.

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

Draft	Report on voting
100/3866/FDIS	100/3882/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.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

The list of all the parts of the IEC 60728 series, under the general title *Cable networks for television signals, sound signals and interactive services*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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INTRODUCTION

Standards and other deliverables of the IEC 60728 series deal with cable networks including equipment and associated methods of measurement for headend reception, processing and distribution of television and sound signals and for processing, interfacing and transmitting all kinds of data signals for interactive services using all applicable transmission media. These signals are typically transmitted in networks by frequency-multiplexing techniques.

This includes for instance:

- regional and local broadband cable networks,
- extended satellite and terrestrial television distribution networks and systems,
- individual satellite and terrestrial television receiving systems,

and all kinds of equipment, systems and installations used in such cable networks, distribution and receiving systems.

The extent of this standardization work is from the antennas and/or special signal source inputs to the headend or other interface points to the network up to the terminal input of the customer premises equipment.

The standardization work will consider coexistence with users of the RF spectrum in wired and wireless transmission systems.

The standardization of any user terminals (i.e. tuners, receivers, decoders, multimedia terminals, etc.) as well as of any coaxial, balanced and optical cables and accessories thereof is excluded.

CABLE NETWORKS FOR TELEVISION SIGNALS, SOUND SIGNALS AND INTERACTIVE SERVICES –

Part 11: Safety

1 Scope

This part of IEC 60728 deals with the safety requirements applicable to fixed sited systems and equipment. As far as applicable, it is also valid for mobile and temporarily installed systems, for example, caravans.

Additional requirements may be applied, for example, referring to:

- electrical installations of buildings and overhead lines,
- other telecommunication services distribution systems,
- water distribution systems,
- gas distribution systems,
- lightning systems.

This document 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 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.

IEC 60364-1:2005, *Low-voltage electrical installations – Part 1: Fundamental principles, assessment of general characteristics, definitions*

IEC 60364-4-44:2007, *Low-voltage electrical installations – Part 4-44: Protection for safety – Protection against voltage disturbances and electromagnetic disturbances*

IEC 60364-4-44:2007/AMD1:2015

IEC 60364-4-44:2007/AMD2:2018

IEC 60364-5-52:2009, *Low-voltage electrical installations – Part 5-52: Selection and erection of electrical equipment – Wiring systems*

IEC 60364-5-54:2011, *Low-voltage electrical installations – Part 5-54: Selection and erection of electrical equipment – Earthing arrangements and protective conductors*

IEC 60364-5-54:2011/AMD1:2021

IEC 60529:1989, *Degrees of protection provided by enclosures (IP Code)*

IEC 60529:1989/AMD1:1999

IEC 60529:1989/AMD2:2013

IEC 60990:2016, *Methods of measurement of touch current and protective conductor current*

IEC 62305-2:2010, *Protection against lightning – Part 2: Risk management*

IEC 62305-3:2010, *Protection against lightning – Part 3: Physical damage to structures and life hazard*

IEC 62368-1:2018, *Audio/video, information and communication technology equipment – Part 1: Safety requirements*

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

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

ISO 7010, *Graphical symbols – Safety colours and safety signs – Registered safety signs*

ISO/IEC 30129:2015, *Information technology – Telecommunications bonding networks for buildings and other structures*

ISO/IEC 30129:2015/AMD1:2019

EN 50575:2014, *Power, control and communication cables – Cables for general applications in construction works subject to reaction to fire requirements*

3 Terms, definitions, symbols and abbreviated terms

3.1 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>.

3.1.1

air-termination system

part of an external LPS using metallic elements such as rods, mesh conductors or catenary wires intended to intercept lightning flashes

[SOURCE: IEC 62305-3:2010, 3.6]

3.1.2

amplifier

device to compensate for attenuation

3.1.3

attenuation

ratio of the input power to the output power

Note 1 to entry: The ratio is expressed in decibels.