SVENSK STANDARD

SS-EN IEC 60728-115, utg 1:2022

Fastställd	Sida	Ansvarig kommitté
2022-06-15	1 (1+69)	SEK TK 100

Kabelnät för television, ljudradio och interaktiva tjänster – Del 115: Optiska system för TV och rundradio i byggnader

Cable networks for television signals, sound signals and interactive services – Part 115: In-building optical systems for broadcast signal transmissions

Som svensk standard gäller europastandarden EN IEC 60728-115:2022. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 60728-115:2022.

Nationellt förord

Europastandarden EN IEC 60728-115:2022

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 60728-115, First edition, 2022 - Cable networks for television signals, sound signals and interactive services - Part 115: In-building optical systems for broadcast signal transmissions**

utarbetad inom International Electrotechnical Commission, IEC.

ICS 33.160.01; 33.180.01; 33.060.20

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 60728-115

March 2022

ICS 33.160.01; 33.180.01; 33.060.40

English Version

Cable networks for television signals, sound signals and interactive services - Part 115: In-building optical systems for broadcast signal transmissions (IEC 60728-115:2022)

Réseaux de distribution par câbles pour signaux de télévision, signaux de radiodiffusion sonore et services interactifs - Partie 115: Systèmes optiques internes aux immeubles pour la transmission de signaux de diffusion (IEC 60728-115:2022)

Kabelnetze für Fernsehsignale, Tonsignale und interaktive Dienste - Teil 115: Optische In-Haus-Anlagen zur Übertragung von Rundfunksignalen (IEC 60728-115:2022)

This European Standard was approved by CENELEC on 2022-03-10. 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 CEN-CENELEC Management Centre 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 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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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

Ref. No. EN IEC 60728-115:2022 E

European foreword

The text of document 100/3705/FDIS, future edition 1 of IEC 60728-115, 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 60728-115:2022.

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) 2022-12-10
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2025-03-10

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.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 60728-115:2022 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 60068-1:2013 NOTE Harmonized as EN 60068-1:2014 (not modified)

IEC 60728-1:2014 NOTE Harmonized as EN 60728-1:2014 (not modified)

IEC 60728-3 NOTE Harmonized as EN IEC 60728-3

IEC 61755-1 NOTE Harmonized as EN 61755-1

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.

Publication	Year	Title	EN/HD	Year
IEC 60728-6	2011	Cable networks for television signals, sound signals and interactive services - Part 6: Optical equipment	EN 60728-6	2011
IEC 60728-101	2016	Cable networks for television signals, sound signals and interactive services - Part 101: System performance of forward paths loaded with digital channels only	EN 60728-101	2017
			AC	2017-07
IEC 60728-113	2018	Cable networks for television signals, sound signals and interactive services – Part 113: Optical systems for broadcast signal transmissions loaded with digital channels only	EN IEC 60728-113	2018
IEC 60728-13-1	2017	Cable networks for television signals, sound signals and interactive services - Part 13-1: Bandwidth expansion for broadcast signal over FTTH system	EN 60728-13-1	2017
IEC 60825-1	-	Safety of laser products - Part 1: Equipment classification and requirements	EN 60825-1	-
IEC 60825-2	-	Safety of laser products - Part 2: Safety of optical fibre communication systems (OFCSs)	EN 60825-2	-
IEC 60825-12	-	Safety of laser products - Part 12: Safety of free space optical communication systems used for transmission of information	EN IEC 60825-12	-
IEC 61280-1-1	-	Fibre optic communication subsystem basic test procedures - Part 1-1: Test procedures for general communication subsystems - Transmitter output optical power measurement for single-mode optical fibre cable	EN 61280-1-1	-

IEC 61280-1-3	-	Fibre optic communication subsystem test procedures - Part 1-3: General communication subsystems - Measurement of central wavelength, spectral width and additional spectral characteristics	EN IEC 61280-1-3	-

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Cable networks for television signals, sound signals and interactive services – Part 115: In-building optical systems for broadcast signal transmissions

Réseaux de distribution par câbles pour signaux de télévision, signaux de radiodiffusion sonore et services interactifs – Partie 115: Systèmes optiques internes aux immeubles pour la transmission de signaux de diffusion

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 115: In-building optical systems for broadcast signal transmissions

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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IEC 60728-115 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.

The text of this International Standard is based on the following documents:

Draft	Report on voting
100/3705/FDIS	100/3721/RVD

Full information on the voting for its approval 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.

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

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

Part 115: In-building optical systems for broadcast signal transmissions

1 Scope

This part of IEC 60728 is applicable to in-building optical transmission systems for broadcast signal transmission that consist of optical transmitters, optical amplifiers, splitters, V-ONUs, etc. These systems are primarily intended for television and sound signals using digital transmission technology. This document specifies the basic system parameters and methods of measurement for in-building optical distribution systems between building network interfaces (BNI) and home network interfaces (HNI) in order to assess the system's performance and its performance limits.

This document is also applicable to broadcast signal transmission using a telecommunication network if it satisfies the requirements of the optical portion of this document. This document describes RF transmission for fully digitalized broadcast and narrowcast (limited area distribution of broadcast) signals over an FTTH network and introduces the X-PON system as a physical layer media. The detailed description of the physical layer is out of the scope of this document. The scope is limited to RF signal transmission over optical networks; thus, it does not include IP transport technologies, such as IP multicast and associated protocols.

This document specifies the required system performance of all-optical building networks in order to establish connections with FTTH networks, which are defined by IEC 60728-113 and IEC 60728-13-1. Use of in-building optical networks is very effective for saving costs (installation and maintenance) and enabling future network upgrades, especially in huge apartment buildings.

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 60728-6:2011, *Cable networks for television signals, sound signals and interactive services – Part 6: Optical equipment*

IEC 60728-101:2016, *Cable networks for television signals, sound signals and interactive services – Part 101: System performance of forward paths loaded with digital channels only*

IEC 60728-113:2018, *Cable networks for television signals, sound signals and interactive services – Part 113: Optical systems for broadcast signal transmissions loaded with digital channels only*

IEC 60728-13-1:2017, *Cable networks for television signals, sound signals and interactive services – Part 13-1: Bandwidth expansion for broadcast signal over FTTH system*

IEC 60825-1, *Safety of laser products – Part 1: Equipment classification and requirements*

IEC 60825-2, *Safety of laser products – Part 2: Safety of optical fibre communication systems (OFCSs)*

IEC 60825-12, *Safety of laser products – Part 12: Safety of free space optical communication systems used for transmission of information*

IEC 61280-1-1, *Fibre optic communication subsystem basic test procedures – Part 1-1: Test procedures for general communication subsystems – Transmitter output optical power measurement for single-mode optical fibre cable*

IEC 61280-1-3, *Fibre optic communication subsystem test procedures – Part 1-3: General communication subsystems – Measurement of central wavelength, spectral width and additional spectral characteristics*