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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

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- **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.

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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.

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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 100/3705/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

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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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
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 -

INTERNATIONAL STANDARD

NORME INTERNATIONALE



**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**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**CABLE NETWORKS FOR TELEVISION SIGNALS,
SOUND SIGNALS AND INTERACTIVE SERVICES –****Part 115: In-building optical systems for broadcast signal transmissions****FOREWORD**

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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.

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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*