IEC 62807-2

Edition 1.0 2026-07

INTERNATIONAL STANDARD

Hybrid communication cables -
Part 2: Indoor hybrid cables - Sectional specification

ICS 29.060.20

ISBN 978-2-8327-1357-0

IEC 62807-2:2026-07(en)

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Hybrid communication cables - Part 2: Indoor hybrid cables - Sectional specification

FOREWORD

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IEC 62807-2 has been prepared by subcommittee 46C: Wires and symmetric cables, of IEC technical committee 46: Cables, wires, waveguides, RF connectors, RF and microwave passive components and accessories. It is an International Standard.

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

Draft	Report on voting
46C/1332/FDIS	46C/1335/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.

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/publications.

A list of all parts in the IEC 62807 series, published under the general title *Hybrid communication cables*, can be found on the IEC website.

Future documents in this series will carry the new general title as cited above. Titles of existing documents in this series will be updated at the time of the next edition.

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– withdrawn, or
– revised.

1 Scope

This part of IEC 62807 is a sectional specification for hybrid communication cables used for indoor applications. It specifies terms, definitions, and abbreviated terms, the design and construction, rated values and characteristics, performance requirements and test methods, packaging and quality assurance.

Hybrid cables are designed for networks and customer premises cabling that transmit data, control and signalling services over optical fibres, copper conductors, for example coaxial element, wire/pair/quad element, and can have the option of supplying electrical current to remote equipment.

In the IEC 62807 series, the current carrying elements are used only to supply power to the equipment within the communication network. They are not used for electricity distribution or transmission, nor for power supply domestic appliances. The specific uses are defined in the relevant specification.

The MICE classifications specified in ISO/IEC 11801-1 are fully considered when determining the performance requirements and test methods for a hybrid cable application.

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 60050-461, *International Electrotechnical Vocabulary (IEV) - Part 461: Electric cables*

IEC 60050-726, *International Electrotechnical Vocabulary (IEV) - Part 726: Transmission lines and waveguides*

IEC 60050-731, *International Electrotechnical Vocabulary (IEV) - Part 731: Optical fibre communication*

IEC 60189-1, *Low-frequency cables and wires with PVC insulation and PVC sheath - Part 1: General test and measuring methods*

IEC 60227 (all parts), *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V*

IEC 60227-1, *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V - Part 1: General requirements*

IEC 60228, *Conductors of insulated cables*

IEC 60332-1-2, *Tests on electric and optical fibre cables under fire conditions - Part 1-2: Test for vertical flame propagation for a single insulated wire or cable - Procedure for 1 kW pre-mixed flame*

IEC 60332-3 (all parts), *Tests on electric and optical fibre cables under fire conditions - Part 3: Test for vertical flame spread of vertically-mounted bunched wires or cables*

IEC 60754-1, *Test on gases evolved during combustion of materials from cables - Part 1: Determination of the halogen acid gas content*

IEC 60754-2, *Test on gases evolved during combustion of materials from cables - Part 2: Determination of acidity (by pH measurement) and conductivity*

IEC 60754-3, *Test on gases evolved during combustion of materials from cables - Part 3: Measurement of low level of halogen content by ion chromatography*

IEC 60793-1-40, *Optical fibres - Part 1-40: Attenuation measurement methods*

IEC 60793-1-44, *Optical fibres - Part 1-44: Measurement methods and test procedures - Cut-off wavelength*

IEC 60793-1-46, *Optical fibres - Part 1-46: Measurement methods and test procedures - Monitoring of changes in attenuation*

IEC 60794-1-1, *Optical fibre cables - Part 1-1: Generic specification - General*

IEC 60794-1-21:2015, *Optical fibre cables - Part 1-21: Generic specification - Basic optical cable test procedures - Mechanical tests methods*

IEC 60794-1-101, *Optical fibre cables - Part 1-101: Generic specification - Basic optical cable test procedures - Mechanical tests methods - Tensile, method E1*

IEC 60794-1-104, *Optical fibre cables - Part 1-104: Generic specification - Basic optical cable test procedures - Mechanical tests methods - Impact, method E4*

IEC 60794-1-107, *Optical fibre cables - Part 1-107: Generic specification - Basic optical cable test procedures - Mechanical test methods - Torsion, method E7*

IEC 60794-1-111, *Optical fibre cables - Part 1-111: Generic specification - Basic optical cable test procedures - Mechanical tests methods - Bend, method E11*

IEC 60794-1-201, *Optical fibre cables - Part 1-201: Generic specification - Basic optical cable test procedures - Environmental test methods - Temperature cycling, method F1*

IEC 60794-1-214, *Optical fibre cables - Part 1-214: Generic specification - Basic optical cable test procedures - Environmental test methods - Cable UV resistance test, Method F14*

IEC 60794-2, *Optical fibre cables - Part 2: Indoor optical fibre cables - Sectional specification*

IEC 61034-2, *Measurement of smoke density of cables burning under defined conditions - Part 2: Test procedure and requirements*

IEC 61156 (all parts), *Multicore and symmetrical pair/quad cables for digital communications*

IEC 61156-1, *Multicore and symmetrical pair/quad cables for digital communications - Part 1: Generic specification*

IEC 61196 (all parts), *Coaxial communication cables*

IEC 61196-1, *Coaxial communication cables - Part 1: Generic specification - General, definitions and requirements*

IEC 61196-1-101, *Coaxial communication cables - Part 1-101: Electrical test methods - Test for conductor DC resistance of cable*

IEC 61196-1-102, *Coaxial communication cables - Part 1-102: Electrical test methods - Test for insulation resistance of cable dielectric*

IEC 61196-1-105, *Coaxial communication cables - Part 1-105: Electrical test methods - Test for withstand voltage of cable dielectric*

IEC 61196-1-108, *Coaxial communication cables - Part 1-108: Electrical test methods - Test for phase, phase constant, phase and group delay, propagation velocity, electrical length, and mean characteristic impedance*

IEC 61196-1-112, *Coaxial communication cables - Part 1-112: Electrical test methods - Test for return loss and voltage standing wave ratio*

IEC 61196-1-113, *Coaxial communication cables - Part 1-113: Electrical test methods - Test for attenuation constant*

IEC 61196-1-201:2009, *Coaxial communication cables - Part 1-201: Environmental test methods - Test for cold bend performance of cable*

IEC TR 61931, *Optical fibre - Terminology*

IEC 62153-4-3, *Metallic communication cable test methods - Part 4-3: Electromagnetic compatibility (EMC) - Surface transfer impedance - Triaxial method*

IEC 62153-4-4, *Metallic communication cable test methods - Part 4-4: Electromagnetic compatibility (EMC) - Test method for measuring of the screening attenuation as up to and above 3 GHz, triaxial method*

IEC 62153-4-9, *Metallic communication cable test methods - Part 4-9: Electromagnetic compatibility (EMC) - Coupling attenuation of screened balanced cables, triaxial method*

IEC 62807-1, *Hybrid telecommunication cables - Part 1: Generic specification*

IEC 62807-3, *Hybrid communication cables - Part 3: Outdoor hybrid cables - Sectional specification*

IEC 62821 (all parts), *Electric cables - Halogen-free, low smoke, thermoplastic insulated and sheathed cables of rated voltages up to and including 450/750 V*

IEC 62821-1, *Electric cables - Halogen-free, low smoke, thermoplastic insulated and sheathed cables of rated voltages up to and including 450/750 V - Part 1: General requirements*

IEC 63294, *Test methods for electric cables with rated voltages up to and including 450/750 V*

3 Terms and definitions

For the purpose of this document, the terms, definitions given in IEC 60050-461, IEC 60050-726, IEC 60050-731, IEC 60227-1, IEC 60794-1-1, IEC 61156-1, IEC 61196-1, IEC TR 61931, IEC 62807-1, IEC 62807-3, IEC 62821-1 and the following apply.

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

– IEC Electropedia: available at https://www.electropedia.org/

– ISO Online browsing platform: available at https://www.iso.org/obp