BS IEC 61196-1-108:2025

BSI Standards Publication

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

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National foreword

This British Standard is the UK implementation of IEC 61196-1-108:2025.

The UK participation in its preparation was entrusted to Technical Committee EPL/46, Cables, wires and waveguides, radio frequency connectors and accessories for communication and signalling.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

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IEC 61196-1-108 has been prepared by subcommittee 46A: Coaxial cables, of IEC technical committee 46: Cables, wires, waveguides, RF connectors, RF and microwave passive components and accessories. It is an International Standard.

This third edition cancels and replaces the second edition published in 2011. This edition constitutes a technical revision.

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

a) Change of title, "phase and phase constant" was added.
b) Clause 6, "Preparation of test sample (TS)" was added.

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c) Clause 7, "Test procedure" was added.

d) Clause 8, "Failure criterion" was added.

e) Clause 9, "Information to be given in the relevant specification" was added.

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

Draft	Report on voting
46A/1705/FDIS	46A/1717/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.

This document is to be read in conjunction with IEC 61196-1:2005.

A list of all the parts in the IEC 61196 series, published under the general title *Coaxial communication cables*, 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, or
- revised.

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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

1 Scope

This part of IEC 61196 applies to coaxial communications cables. It specifies test methods for determining the phase, phase constant, phase and group delay, propagation velocity, electrical length, and mean characteristic impedance of coaxial cables for use in communications systems.

A procedure to measure phase dispersion of coaxial cable is included as Annex A.

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 61196-1:2005, *Coaxial communication cables – Part 1: Generic specification – General, definitions and requirements*

IEC 61196-1-103, *Coaxial communication cables – Part 1-103: Electrical test methods – Test for capacitance of cable*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 61196-1 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

4 Parameters

From the phase constant β of a cable, one can derive several parameters:

phase constant

$$\beta = \frac{\pi}{180°} \times \frac{\Phi}{l} \tag{1}$$

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