IEC 61169-54

Edition 2.1 2026-11

INTERNATIONAL STANDARD

CONSOLIDATED VERSION

Radio-frequency connectors -
Part 54: Sectional specification for coaxial connectors with 10 mm inner diameter of outer conductor, nominal characteristic impedance 50 Ω, series 4,3-10

ICS 33.120.30

ISBN 978-2-8327-1619-9

IEC 61169-54:2021-08+AMD1:2026-11 CSV (en)

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This consolidated version of the official IEC Standard and its amendment has been prepared for user convenience.

IEC 61169-54 edition 2.1 contains the second edition (2021-08) [documents 46F/574/FDIS and 46F/577/RVD] and its amendment 1 (2026-11) [documents 46F/748/FDIS and 46F/750/RVD].

In this Redline version, a vertical bar appears in the margin wherever the technical content has been modified by amendment 1. Additions are shown in green text, and deletions are shown in red strikethrough text. A separate Final version with all changes accepted is included in this publication.

IEC 61169-54 has been prepared by subcommittee 46F: RF and microwave passive components, of IEC technical committee 46: Cables, wires, waveguides, RF connectors, RF and microwave passive components and accessories. It is an International Standard.

This second edition cancels and replaces the first 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) updated patent statement,

b) Table 8: some values changed.

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

FDIS	Report on voting
46F/574/FDIS	46F/577/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/standardsdev/publications.

A list of all parts of the IEC 61169 series, under the general title: *Radio-frequency connectors*, can be found on the IEC website.

The committee has decided that the contents of this document and its amendment 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.

INTRODUCTION

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INTRODUCTION to Amendment 1

Manufacturers of these connectors received complaints from their customers, that connections of screw type connectors would loosen under the influence of tower vibrations if coupling torque would be limited to 5 N m. Tests validated that the coupling torque of 10 N m instead of 5 N m would solve the problem. A brief survey with manufacturers confirmed that 10 N m would not require any change in their designs.

1 Scope

This part of IEC 61169, which is a sectional specification (SS), provides information and rules for the preparation of detail specifications (DS) for coaxial connectors with 10 mm inner diameter of outer conductor, characteristic impedance 50 Ω, series 4,3-10 with screw type, hand screw type or quick-lock type coupling, for an upper operating frequency limit of 6 GHz, for use in wireless telecommunication and wireless network applications in conjunction with appropriate transmission line types for these applications.

It also describes mating face dimensions for general purpose connectors, gauging information and tests selected from IEC 61169-1, applicable to all detail specifications relating to 4,3-10 series connectors.

This specification indicates the recommended performance characteristics to be considered when writing a detail specification and it covers test schedules and inspection requirements for assessment levels M and H.

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 61169-1:2013, *Radio-frequency connectors – Part 1: Generic specification – General requirements and measuring methods*

IEC 62037-1:2012, *Passive RF and microwave devices, intermodulation level measurement – Part 1: General requirements and measuring methods*