
Radiofrekvenčni konektorji - 15. del: Področna specifikacija - Radiofrekvenčni (RF) koaksialni konektorji z notranjim premerom zunanjega vodnika 4,13 mm (0,163 in) z navojno sklopko - Karakteristična impedanca 50 ohm (tip SMA) (IEC 61169-15:2021)

Radio-frequency connectors. Part 15: Sectional specification - RF coaxial connectors with inner diameter of outer conductor 4,13 mm (0,163 in) with threaded coupling - Characteristic impedance 50 Ω (Type SMA) (IEC 61169-15:2021)

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Hochfrequenz-Steckverbinder – Teil 15: Koaxiale HF-Steckverbinder mit 4,13 mm (0,163 in) Innendurchmesser des Außenleiters und Schraubverriegelung – Wellenwiderstand 50 Ohm (Typ SMA) (IEC 61169-15:2021)

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Connecteurs pour fréquences radioélectriques. Quinzième partie: Connecteurs coaxiaux pour fréquences radioélectriques avec diamètre intérieur du conducteur extérieur de 4,13 mm (0,163 in) à verrouillage à vis - Impédance caractéristique 50 Ω (type SMA) (IEC 61169-15:2021)

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(RF)

SIST EN IEC 61169-15:2021 **en**

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EUROPEAN STANDARD

EN IEC 61169-15

NORME EUROPÉENNE

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English Version

Radio-frequency connectors - Part 15: Sectional specification -
RF coaxial connectors with inner diameter of outer conductor
4,13 mm (0,163 in) with threaded coupling - Characteristic
impedance 50 Ω (type SMA)
(IEC 61169-15:2021)

Connecteurs pour fréquences radioélectriques - Partie 15:
Spécification intermédiaire - Connecteurs coaxiaux pour
fréquences radioélectriques avec diamètre intérieur du
conducteur extérieur de 4,13 mm (0,163 in) à couplage
fileté - Impédance caractéristique 50 Ω (type SMA)
(IEC 61169-15:2021)

Hochfrequenz-Steckverbinder - Teil 15: Koaxiale HF-
Steckverbinder mit 4,13 mm (0,163 in) Innendurchmesser
des Außenleiters und Schraubverriegelung -
Wellenwiderstand 50 Ω (Typ SMA)
(IEC 61169-15:2021)

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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

EN IEC 61169-15:2021 (E)**European foreword**

The text of document 46F/528(F)/FDIS, future edition 1 of IEC 61169-15, prepared by SC 46F “RF and microwave passive components” of IEC/TC 46 “Cables, wires, waveguides, RF connectors, RF and microwave passive components and accessories” was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61169-15:2021.

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) 2021–11–23
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2024–02–23

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.

Endorsement notice

The text of the International Standard IEC 61169-15:2021 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

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IEC 61169-35 NOTE Harmonized as EN 61169-35
SIST EN IEC 61169-15:2021
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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 61169-1	2013	Radio frequency connectors - Part 1: Generic specification - General requirements and measuring methods	EN 61169-1	2013
IEC 62153-4-7	2015	Metallic communication cable test methods - Part 4-7: Electromagnetic compatibility (EMC) - Test method for measuring of transfer impedance Z_T and screening attenuation a_s or coupling attenuation a_c of connectors and assemblies up to and above 3 GHz	EN 62153-4-7	2016
		Triaxial tube in tube method		

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Radio-frequency connectors –
Part 15: Sectional specification – RF coaxial connectors with inner diameter of
outer conductor 4,13 mm (0,163 in) with threaded coupling – Characteristic
impedance 50 Ω (type SMA)**

[SIST EN IEC 61169-15:2021](https://standards.iteh.ai/catalog/standards/sist/f6560544-3010-4fd6-a3a3-923e7879f56a/iec-61169-15-2021)

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**Connecteurs pour fréquences radioélectriques –
Partie 15: Spécification intermédiaire – Connecteurs coaxiaux pour fréquences
radioélectriques avec diamètre intérieur du conducteur extérieur de 4,13 mm
(0,163 in) à couplage fileté – Impédance caractéristique 50 Ω (type SMA)**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

RADIO-FREQUENCY CONNECTORS –

Part 15: Sectional specification – RF coaxial connectors with inner diameter of outer conductor 4,13 mm (0,163 in) with threaded coupling – Characteristic impedance 50 Ω (type SMA)

FOREWORD

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International Standard IEC 61169-15 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.

This first edition cancels and replaces IEC 60169-15 published in 1979 and the amendment 1 published in 1996. This edition constitutes a technical revision.

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

FDIS	Report on voting
46F/528/FDIS	46F/541/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

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 will remain unchanged until the stability date indicated on the IEC website under "<http://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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RADIO-FREQUENCY CONNECTORS –

Part 15: Sectional specification – RF coaxial connectors with inner diameter of outer conductor 4,13 mm (0,163 in) with threaded coupling – Characteristic impedance 50 Ω (type SMA)

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 RF coaxial connectors with inner diameter of outer conductor 4,13 mm (0,163 in) with threaded coupling with a characteristic impedance of 50 Ω (type SMA).

This document specifies mating face dimensions for high performance connectors – grade 1, dimensional details of standard test connectors – grade 0, gauging information and tests selected from IEC 61169-1, applicable to all detail specifications relating to series SMA RF connectors.

This document indicates 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.

The SMA types RF coaxial connectors are used with all kinds of RF cables and microstrips in microwave transmission systems. The operating frequency is up to 18 GHz. These connectors can be intermated with 3,5 mm (IEEE 287-2007) and 2,92 mm (IEC 61169-35) connectors.

NOTE Metric dimensions are original dimensions. All undimensioned pictorial configurations are for reference purpose only.

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 62153-4-7:2015, *Metallic communication cable test methods – Part 4-7: Electromagnetic compatibility (EMC) – Test method for measuring of transfer impedance Z_T and screening attenuation a_s or coupling attenuation a_c of connectors and assemblies up to and above 3 GHz – Triaxial tube in tube method*

3 Terms and definitions

No terms and definitions are listed in this document.

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

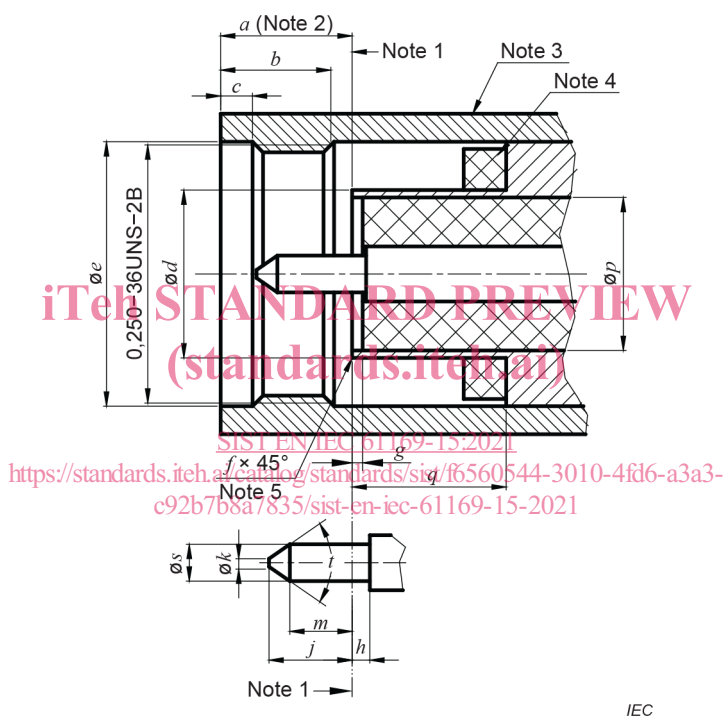
- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

4 Mating face and gauge information

4.1 Dimensions – High performance connectors – Grade 1

4.1.1 Connector with pin centre contact

The mating face of connector with pin centre contact is shown in Figure 1 and its dimensions are shown in Table 1.



NOTE 1 Mechanical and electrical reference plane.

NOTE 2 Coupling nut in forward position.

NOTE 3 Hex 7,85/8,00 mm (0,309/0,315 in) width across flats, 3,18 mm (0,125 in) min flat length. It can extend throughout the full length of the coupling nut. Other structures are also acceptable.

NOTE 4 Sealing ring.

NOTE 5 Spherical or chamfered.

Figure 1 – Connector with pin centre contact (for dimensions, see Table 1)