

<b>STN</b>	<b>Vysokofrekvenčné konektory Časť 23: Kolíkový a dutinkový konektor na použitie s presnými pevnými 3,5 mm koaxiálnymi vodičmi s vnútorným priemerom vonkajšieho vodiča 3,5 mm (0,1378 palca)</b>	<b>STN EN IEC 61169-23</b>  35 3811
------------	---	---

Radio-frequency connectors - Part 23: Pin and socket connector for use with 3,5 mm rigid precision coaxial lines with inner diameter of outer conductor of 3,5 mm (0,1378 in)

Táto norma obsahuje anglickú verziu európskej normy.

This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 12/25

Obsahuje: EN IEC 61169-23:2025, IEC 61169-23:2025

Oznámením tejto normy sa od 31.10.2028 ruší

STN EN 60169-23 (35 3810) z júla 2001

**141651**

Úrad pre normalizáciu, metrológiu a skúšobníctvo Slovenskej republiky, 2026

Slovenská technická norma a technická normalizačná informácia je chránená zákonom č. 60/2018 Z. z. o technickej normalizácii v znení neskorších predpisov.



EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN IEC 61169-23**

October 2025

ICS 33.120.30

Supersedes EN 60169-23:1993

English Version

**Radio-frequency connectors - Part 23: Pin and socket connector  
for use with 3,5 mm rigid precision coaxial lines with inner  
diameter of outer conductor of 3,5 mm (0,1378 in)  
(IEC 61169-23:2025)**

Connecteurs pour fréquences radioélectriques - Partie 23:  
Connecteur mâle et connecteur femelle pour lignes  
coaxiales rigides de précision de 3,5 mm avec diamètre  
intérieur du conducteur extérieur de 3,5 mm (0,1378 in)  
(IEC 61169-23:2025)

Hochfrequenz-Steckverbinder - Teil 23: Stift- und  
Buchsenstecker zur Verwendung mit starren 3,5-mm-  
Präzisionskoaxialleitungen mit einem Innendurchmesser  
des Außenleiters von 3,5 mm (0,1378 in)  
(IEC 61169-23:2025)

This European Standard was approved by CENELEC on 2025-10-01. 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.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.



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 61169-23:2025 (E)****European foreword**

The text of document 46F/715/FDIS, future edition 1 of IEC 61169-23, 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 61169-23:2025.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2026-10-31 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2028-10-31 document have to be withdrawn

This document supersedes EN 60169-23:1993 and all of its amendments and corrigenda (if any).

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.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

**Endorsement notice**

The text of the International Standard IEC 61169-23:2025 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 standard indicated:

IEC 60457-5 NOTE Approved as HD 351.5 S1

IEC 61169-15 NOTE Approved as EN IEC 61169-15

IEC 61169-35 NOTE Approved as EN 61169-35

## 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.cencenelec.eu](http://www.cencenelec.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	-	Metallic cables and other passive components 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 - Triaxial tube in tube method	EN IEC 62153-4-7	-
IEC 62037-3	-	Passive RF and microwave devices, intermodulation level measurement - Part 3: Measurement of passive intermodulation in coaxial connectors	EN IEC 62037-3	-



IEC 61169-23

Edition 1.0 2025-08

# INTERNATIONAL STANDARD

---

**Radio-frequency connectors -  
Part 23: Pin and socket connector for use with 3,5 mm rigid precision coaxial  
lines with inner diameter of outer conductor of 3,5 mm (0,1378 in)**

**THIS PUBLICATION IS COPYRIGHT PROTECTED****Copyright © 2025 IEC, Geneva, Switzerland**

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

IEC Secretariat  
3, rue de Varembe  
CH-1211 Geneva 20  
Switzerland

Tel.: +41 22 919 02 11  
[info@iec.ch](mailto:info@iec.ch)  
[www.iec.ch](http://www.iec.ch)

**About the IEC**

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

**About IEC publications**

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigendum or an amendment might have been published.

**IEC publications search -**

[webstore.iec.ch/advsearchform](http://webstore.iec.ch/advsearchform)

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee, ...). It also gives information on projects, replaced and withdrawn publications.

**IEC Just Published - [webstore.iec.ch/justpublished](http://webstore.iec.ch/justpublished)**

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and once a month by email.

**IEC Customer Service Centre - [webstore.iec.ch/csc](http://webstore.iec.ch/csc)**

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: [sales@iec.ch](mailto:sales@iec.ch).

**IEC Products & Services Portal - [products.iec.ch](http://products.iec.ch)**

Discover our powerful search engine and read freely all the publications previews, graphical symbols and the glossary. With a subscription you will always have access to up to date content tailored to your needs.

**Electropedia - [www.electropedia.org](http://www.electropedia.org)**

The world's leading online dictionary on electrotechnology, containing more than 22 500 terminological entries in English and French, with equivalent terms in 25 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

**Warning! Make sure that you obtained this publication from an authorized distributor.**

## IEC 61169-23:2025 © IEC 2025

## CONTENTS

FOREWORD.....	2
1 Scope.....	4
2 Normative references.....	4
3 Terms and definitions.....	4
4 Mating face and gauge information.....	5
4.1 Dimensions – High performance connectors – Grade1.....	5
4.1.1 Connector with pin-centre contact.....	5
4.1.2 Connector with socket-centre contact.....	6
4.2 Gauge pins for socket-centre contact.....	8
4.3 Dimensions – Standard test connectors – Grade 0.....	8
4.3.1 Connector with pin-centre contact.....	8
4.3.2 Connector with socket-centre contact.....	10
5 Quality assessment procedures.....	11
5.1 General.....	11
5.2 Ratings and characteristics (see IEC 61169-1:2013, Clause 5).....	11
5.3 Test schedule and inspection requirements.....	14
5.3.1 Acceptance tests.....	14
5.3.2 Periodic tests.....	14
5.3.3 Procedures for the quality conformance.....	16
6 Instructions for preparation of detail specifications.....	16
6.1 General.....	16
6.2 Identification of the component.....	17
6.3 Performances.....	17
6.4 Marking, ordering information and related matters.....	17
6.5 Selection of tests, test conditions and severities.....	17
6.6 Blank detail specification pro-forma for type 3,5 series connector.....	18
Bibliography.....	22
Figure 1 – Connector with pin-centre contact.....	5
Figure 2 – Connector with socket-centre contact.....	7
Figure 3 – Gauge pin for socket-centre contact.....	8
Figure 4 – Connector with pin-centre contact.....	9
Figure 5 – Connector with socket-centre contact.....	10
Table 1 – Dimensions of connector with pin-centre contact.....	6
Table 2 – Dimensions of connector with socket-centre contact.....	7
Table 3 – Dimensions of gauge pin for socket-centre contact.....	8
Table 4 – Dimensions of connector with pin-centre contact.....	9
Table 5 – Dimensions of connector with socket-centre contact.....	11
Table 6 – Preferred climatic categories.....	11
Table 7 – Rating and characteristics.....	12
Table 8 – Acceptance tests.....	14
Table 9 – Periodic tests.....	15



IEC 61169-23:2025 © IEC 2025

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

---

**Radio-frequency connectors -  
Part 23: Pin and socket connector for use with 3,5 mm rigid precision  
coaxial lines with inner diameter of outer conductor 3,5 mm (0,1378 in)**

## FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at <https://patents.iec.ch>. IEC shall not be held responsible for identifying any or all such patent rights.

IEC 61169-23 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 first edition cancels and replaces IEC 60169-23:1991. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to IEC 60169-23:1991:

- a) use of IEC 61169-1:2013 as its generic specification instead of using IEC 60169-1:1987;
- b) all the subclauses and test methods are in line with IEC 61169-1:2013;
- c) mating faces and dimensions have been revised;

## IEC 61169-23:2025 © IEC 2025

- d) necessary contents have been added into the text, including gauge pins for socket-centre contact, quality assessment procedures and instructions for preparation of detail specifications.

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

Draft	Report on voting
46F/715/FDIS	46F/720/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](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/publications](http://www.iec.ch/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 will remain unchanged until the stability date indicated on the IEC website under [webstore.iec.ch](http://webstore.iec.ch) in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

## IEC 61169-23:2025 © IEC 2025

## 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 pin and socket connector for use with 3,5 mm rigid precision coaxial lines with inner diameter of outer conductor 3,5 mm (0,137 8 in).

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 3,5 mm 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.

These connectors are constructed so as to affix on the 50  $\Omega$ , 3,5 mm rigid precision coaxial line described in IEC 60457-5, and to provide low reflection to 34 GHz. These connectors can be intermated with SMA (IEC 61169-15) and 2,92 mm (IEC 61169-35) connectors.

NOTE Metric dimension 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, *Metallic cables and other passive components 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 - Triaxial tube in tube method*

IEC 62037-3, *Passive RF and microwave devices, intermodulation level measurement - Part 3: Measurement of passive intermodulation in coaxial connectors*

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**