



INTERNATIONAL STANDARD



**Radio-frequency connectors –
Part 11: Sectional specification for RF coaxial connectors with inner diameter of
outer conductor 9,5 mm with threaded coupling – Characteristic impedance 50 Ω
(type 4,1-9,5)**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 33.120.30

ISBN 978-2-8322-4129-5

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

CONTENTS

FOREWORD.....	4
1 Scope.....	6
2 Normative references	6
3 Mating face and gauge information	6
3.1 Dimensions – General connectors – Grade 2	6
3.1.1 Connector with pin centre contact.....	6
3.1.2 Connector with socket centre contact	8
3.2 Gauges.....	9
3.2.1 Gauge pin for socket centre contact.....	9
3.2.2 Connector with pin centre contact.....	10
3.3 Dimensions – Standard test connectors – Grade 0	10
3.3.1 Connector with pin centre contact.....	10
3.3.2 Connector with socket centre contact	11
4 Quality assessment procedures	12
4.1 General.....	12
4.2 Ratings and characteristics (see Clause 5 of IEC 61169-1:2013)	12
4.3 Test schedule and inspection requirements.....	15
4.3.1 Acceptance tests	15
4.3.2 Periodic tests.....	15
4.4 Procedures for the quality conformance	18
4.4.1 Quality conformance inspection	18
4.4.2 Qualification approval and its maintenance.....	18
5 Instructions for preparation of detail specifications	18
5.1 General.....	18
5.2 Identification of the component	18
5.3 Performances	18
5.4 Marking, ordering information and related matters	19
5.5 Selection of tests, test conditions and severities	19
5.6 Blank detail specification pro-forma for type 4,1-9,5 connector.....	19
6 Marking	23
6.1 Marking of component.....	23
6.2 Marking and contents of package.....	24
Figure 1 – Connector with pin centre contact (for dimensions, see Table 1)	7
Figure 2 – Connector with socket centre contact (for dimensions, see Table 2).....	8
Figure 3 – Gauge pin for socket centre contact (for dimensions, see Table 3).....	9
Figure 4 – Connector with pin centre contact (for dimensions, see Table 4)	11
Figure 5 – Connector with socket in centre contact (for dimensions, see Table 5).....	11
Table 1 – Dimensions of connector with pin centre contact	7
Table 2 – Dimensions of connector with socket centre contact.....	9
Table 3 – Dimensions of gauge pin for socket centre contact.....	10
Table 4 – Dimensions of connector with pin centre contact	11
Table 5 – Dimensions of connector with socket centre contact.....	12

Table 6 – Rating and characteristics	13
Table 7 – Acceptance tests	16
Table 8 – Periodic tests	17

INTERNATIONAL ELECTROTECHNICAL COMMISSION

RADIO-FREQUENCY CONNECTORS –

Part 11: Sectional specification for RF coaxial connectors with inner diameter of outer conductor 9,5 mm with threaded coupling – Characteristic impedance 50 Ω (type 4,1-9,5)

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) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61169-11 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.

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

CDV	Report on voting
46F/322A/CDV	46F/336/RVC

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.

A bilingual version of this publication may be issued at a later date.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

RADIO-FREQUENCY CONNECTORS –

Part 11: Sectional specification for RF coaxial connectors with inner diameter of outer conductor 9,5 mm with threaded coupling – Characteristic impedance 50 Ω (type 4,1-9,5)

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 threaded coupling, typically for use in 50 Ω cable networks (type 4,1-9,5).

This document prescribes mating face dimensions for general purpose connectors – grade 2, 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 4,1-9,5 RF connectors.

This specification 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 4,1-9,5 types RF coaxial connectors with nominal impedance 50 Ω are threaded coupling units which are used with all kinds of RF cables and microstrips in microwave transmission systems. And the working frequency is up to 14 GHz.

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

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 62037-3, *Passive RF and microwave devices, intermodulation level measurement – Part 3: Measurement of passive intermodulation in coaxial connectors*