



IEC 61169-24

Edition 2.0 2009-02

INTERNATIONAL STANDARD

**Radio-frequency connectors –
Part 24: Sectional specification – Radio frequency coaxial connectors with screw
coupling, typically for use in 75 Ω cable networks (type F)**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

PRICE CODE

S

ICS 31.220.10

ISBN 2-8318-1031-2

CONTENTS

FOREWORD.....	4
1 Scope.....	6
2 Normative references	6
3 Interface dimensions	6
3.1 Dimensions	6
3.1.1 Connector “F” type female socket (indoor) physical dimensions.....	7
3.1.2 Connector “F” type male plug (indoor) physical dimensions	8
3.2 Mechanical gauges.....	9
3.2.1 Mating socket centre conductor acceptance diameter test	9
3.2.2 Mating port centre conductor acceptance electrical test.....	10
3.2.3 Reference plane electrical contact.....	10
4 Quality assessment procedures	10
4.1 General.....	10
4.2 Ratings and characteristics	10
4.3 Environmental characteristics for outdoor sockets (see Annex A)	12
4.4 Test schedule and inspection requirements	12
4.4.1 Acceptance tests	12
4.4.2 Periodic tests	13
4.5 Procedures.....	14
4.5.1 Quality conformance inspection	14
4.5.2 Qualification approval and its maintenance.....	14
5 Instructions for preparation of detail specifications	14
5.1 General.....	14
5.2 Identification of the detail specification	15
5.3 Identification of the component.....	15
5.4 Performance.....	15
5.5 Marking, ordering information and related matters	15
5.6 Selection of tests, test conditions and severities.....	15
5.7 Blank detail specification pro-forma for type F connector.....	16
Annex A (informative) Recommended outdoor “F” type socket / Plug physical dimensions	21
Figure 1 – Connector “F” type female socket (indoor) (for dimensions, see Table 1)	7
Figure 2 – Connector “F” type male plug (indoor) (for dimensions, see Table 2).....	8
Figure 3 – Gauge for the centre socket conductor.....	9
Figure A.1 – Outdoor female “F” socket (for dimensions, see Table A.1).....	21
Figure A.2 – Outdoor “F” type male plug (for dimensions, see Table A.2).....	22

Table 1 – Connector “F” type female socket (indoor).....	7
Table 2 – Connector “F” type male plug (indoor).....	8
Table 3 – Test sequence for the centre socket conductor.....	9
Table 4 – Ratings and characteristics	10
Table 5 – Acceptance tests.....	12
Table 6 – Periodic tests	13
Table A.1 – Outdoor female “F” socket dimensions	21
Table A.2 – Outdoor “F” type male plug dimensions.....	22

INTERNATIONAL ELECTROTECHNICAL COMMISSION

RADIO-FREQUENCY CONNECTORS –

Part 24: Sectional specification – Radio frequency coaxial connectors with screw coupling, typically for use in 75 Ω cable networks (type F)

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 provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with an IEC Publication.
- 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 61169-24 has been prepared by subcommittee 46F: RF and microwave passive components, of IEC technical committee 46: Cables, wires, waveguides, R.F. connectors, R.F. and microwave passive components and accessories.

This second edition cancels and replaces the first edition published in 2001. It constitutes a technical revision.

This second edition differs from the first edition in that all drawings have been reworked and improved to allow frequency extension up to 3 GHz.

The text of this standard is based on the following documents:

FDIS	Report on voting
46F/108/FDIS	46F/128/RVD

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

This publication 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 publication will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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

RADIO-FREQUENCY CONNECTORS –

Part 24: Sectional specification – Radio frequency coaxial connectors with screw coupling, typically for use in 75 Ω cable networks (type F)

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 screw coupling, typically for use in 75 Ω cable networks (type F).

It describes the interface dimensions with gauging information and the mandatory tests selected from IEC 61169-1, applicable to all DS relating to type F connectors.

This specification indicates the recommended performance characteristics to be considered when writing a DS and covers test schedules and inspection requirements.

2 Normative references

The following referenced documents are indispensable for the application 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 61169-1:1992, *Radio-frequency connectors – Part 1: Generic specification – General requirements and measuring methods*

Amendment 1 (1996)

Amendment 2 (1997)

EN 60068-2-52, *Environmental testing – Test methods. Tests. Test Kb. Salt mist cyclic (sodium chloride solution)*