

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Radio-frequency connectors –  
Part 63: Sectional specification – RF coaxial connectors with inner diameter of  
outer conductor 6,5 mm (0,256 in) with bayonet lock – Characteristic  
impedance 75  $\Omega$  (type BNC75)**

**Connecteurs pour fréquences radioélectriques –  
Partie 63: Spécification intermédiaire – Connecteurs coaxiaux pour fréquences  
radioélectriques avec diamètre intérieur du conducteur extérieur de 6,5 mm  
(0,256 in) à verrouillage à baïonnette – Impédance caractéristique 75  $\Omega$   
(type BNC75)**



## THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2020 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.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

IEC Central Office  
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).

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

The world's leading online dictionary on electrotechnology, containing more than 22 000 terminological entries in English and French, with equivalent terms in 16 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

#### IEC Glossary - [std.iec.ch/glossary](http://std.iec.ch/glossary)

67 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

---

### A propos de l'IEC

La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

### A propos des publications IEC

Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

#### Recherche de publications IEC -

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

La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études,...). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

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

Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et une fois par mois par email.

#### Service Clients - [webstore.iec.ch/csc](http://webstore.iec.ch/csc)

Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: [sales@iec.ch](mailto:sales@iec.ch).

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

Le premier dictionnaire d'électrotechnologie en ligne au monde, avec plus de 22 000 articles terminologiques en anglais et en français, ainsi que les termes équivalents dans 16 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

#### Glossaire IEC - [std.iec.ch/glossary](http://std.iec.ch/glossary)

67 000 entrées terminologiques électrotechniques, en anglais et en français, extraites des articles Termes et Définitions des publications IEC parues depuis 2002. Plus certaines entrées antérieures extraites des publications des CE 37, 77, 86 et CISPR de l'IEC.

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

---

**Radio-frequency connectors –  
Part 63: Sectional specification – RF coaxial connectors with inner diameter of  
outer conductor 6,5 mm (0,256 in) with bayonet lock – Characteristic  
impedance 75  $\Omega$  (type BNC75)**

**Connecteurs pour fréquences radioélectriques –  
Partie 63: Spécification intermédiaire – Connecteurs coaxiaux pour fréquences  
radioélectriques avec diamètre intérieur du conducteur extérieur de 6,5 mm  
(0,256 in) à verrouillage à baïonnette – Impédance caractéristique 75  $\Omega$   
(type BNC75)**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

---

ICS 33.120.30

ISBN 978-2-8322-8221-2

**Warning! Make sure that you obtained this publication from an authorized distributor.  
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.**

## CONTENTS

FOREWORD.....	4
1 Scope.....	6
2 Normative references .....	6
3 Terms and definitions .....	6
4 IEC type designation.....	7
5 Interface dimensions – General purpose connectors.....	7
5.1 Pin connector.....	7
5.2 Socket connector .....	9
6 Mechanical gauges and standard test connectors .....	11
6.1 Mechanical gauges .....	11
6.1.1 Connectors with pin-centre contact .....	11
6.1.2 Connectors with socket-centre contact.....	12
6.1.3 Gauge for outer contacts, coupling mechanism and mating face dimensions .....	13
6.2 Standard test connectors .....	14
6.2.1 General .....	14
6.2.2 Standard test connector with pin contact.....	14
6.2.3 Standard test connector with socket contact .....	15
7 Outline dimensions .....	17
8 Quality assessment procedures .....	17
8.1 General.....	17
8.2 Ratings and characteristics .....	17
8.3 Test schedule and inspection requirements .....	20
8.3.1 Acceptance tests .....	20
8.3.2 Periodic tests.....	21
8.4 Procedures for quality conformance .....	22
8.4.1 Quality conformance inspection .....	22
8.4.2 Qualification approval and its maintenance .....	22
9 Instructions for preparation of detail specifications .....	22
9.1 General.....	22
9.2 Identification of the component .....	23
9.3 Performance .....	23
9.4 Marking, ordering information and related matters .....	23
9.5 Selection of tests, test conditions and severities .....	23
9.6 Blank detail specification pro-forma for type BNC connector .....	23
Bibliography.....	29
Figure 1 – Connector with pin-centre contact.....	7
Figure 2 – Details of bayonet lock .....	7
Figure 3 – Details of alternative coupling grooves .....	8
Figure 4 – Details of alternative coupling grooves .....	8
Figure 5 – Details of pin-centre contact.....	8
Figure 6 – Connector with socket-centre contact.....	10
Figure 7 – Details of socket-centre contact.....	10
Figure 8 – Gauge for outer contact of pin connector .....	11

Figure 9 – Gauge pin for socket-centre contact ..... 12

Figure 10 – Dimensions of gauge for performance test ..... 13

Figure 11 – Dimensions of connector ..... 14

Figure 12 – Dimensions of centre contact ..... 15

Figure 13 – Dimensions of connector ..... 16

Figure 14 – Dimensions of centre contact ..... 16

  

Table 1 – Dimensions for connector with pin-centre contact ..... 9

Table 2 – Dimensions for connector with socket-centre contact ..... 10

Table 3 – Dimensions for gauges for outer contact of pin connector ..... 12

Table 4 – Dimensions for gauge pin for socket-centre contact ..... 13

Table 5 – Dimensions of gauge for performance test ..... 14

Table 6 – Dimensions of centre contact ..... 15

Table 7 – Dimensions for standard test connector ..... 17

Table 8 – Preferred climatic categories (see IEC 60068-1) ..... 18

Table 9 – Ratings and characteristics ..... 18

Table 10 – Acceptance tests ..... 21

Table 11 – Periodic tests ..... 21

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**RADIO-FREQUENCY CONNECTORS –****Part 63: Sectional specification – RF coaxial connectors with inner diameter of outer conductor 6,5 mm (0,256 in) with bayonet lock – Characteristic impedance 75  $\Omega$  (type BNC75)**

## 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 61169-63 has been prepared by subcommittee 46F: RF and microwave passive components, of IEC technical committee 46: Cables wires, waveguides, RF connectors, RF microwave passive components and accessories.

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

FDIS	Report on voting
46F/501/FDIS	46F/506/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, published 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.

## RADIO-FREQUENCY CONNECTORS –

### Part 63: Sectional specification – RF coaxial connectors with inner diameter of outer conductor 6,5 mm (0,256 in) with bayonet lock – Characteristic impedance 75 $\Omega$ (type BNC75)

#### 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 which can preferably be used with RF cables 60096 IEC 50-3 of IEC 60096-2. These connector patterns are for low power, quick connect/disconnect applications using a bayonet type coupling mechanism and are commonly known as type "BNC" with characteristic impedance 75  $\Omega$ .

It describes the interface dimensions for general purpose connectors, dimensional details for standard test connectors together with gauging information and the mandatory tests selected from IEC 61169-1, applicable to all DS relating to type BNC connectors with characteristic impedance 75  $\Omega$ .

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

NOTE The original dimensions are in inches. All undimensioned pictorial configurations are for reference purposes 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 60068-1, *Environmental testing – Part 1: General and guidance*

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

#### 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>