
Radio frequency and coaxial cables assemblies - Part 2-4: Detail specification for cable assemblies for radio and TV receivers - Frequency range 0 to 3 000 MHz, IEC 61169-2 connectors (IEC 60966-2-4:2003)

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English version

**Radio frequency and coaxial cables assemblies
Part 2-4: Detail specification for cable assemblies
for radio and TV receivers -
Frequency range 0 to 3 000 MHz, IEC 61169-2 connectors
(IEC 60966-2-4:2003)**

Ensemble de cordons coaxiaux et de
cordons pour fréquences radioélectriques
Partie 2-4: Spécification particulière
pour cordons de connexion
de récepteurs TV ou radio -
Bande de fréquences de 0 à 3 000 MHz,
connecteurs CEI 61169-2
(CEI 60966-2-4:2003)

Konfektionierte Koaxial- und
Hochfrequenzkabel
Teil 2-4: Bauartspezifikation für
konfektionierte Kabel für Ton- und
Fernsehrundfunkempfänger -
Frequenzbereich 0 bis 3 000 MHz,
IEC 60169-2 Steckverbinder
(IEC 60966-2-4:2003)

[SIST EN 60966-2-4:2004](https://standards.iteh.ai/catalog/standards/sist/825fb1a3-69b3-4a3e-a378-f579fe6ad6b9/sist-en-60966-2-4-2004)

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This European Standard was approved by CENELEC on 2003-05-01. 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 46A/508/FDIS, future edition 2 of IEC 60966-2-4, prepared by SC 46A, Coaxial cables, of IEC TC 46, Cables, wires, waveguides, r.f. connectors, r.f. and microwave passive components and accessories, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60966-2-4 on 2003-05-01.

This European Standard supersedes EN 60966-2-4:1997.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2004-02-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2006-05-01

Endorsement notice

The text of the International Standard IEC 60966-2-4:2003 was approved by CENELEC as a European Standard without any modification.

In the official version, for the Introduction, the following notes have to be added for the standards indicated:

IEC 60966-1	NOTE	Harmonized as EN 60966-1:1999 (not modified).
IEC 60966-2-1	NOTE	Harmonized as EN 60966-2-1:1995 (not modified).
IEC 60966-2-2	NOTE	Harmonized as EN 60966-2-2:1994 (not modified).
IEC 61169-2	NOTE	Harmonized as EN 61169-2:2001 (not modified).

INTERNATIONAL STANDARD

IEC 60966-2-4

Second edition
2003-03

Radio frequency and coaxial cable assemblies –

Part 2-4:

Detail specification for cable assemblies for radio and TV receivers – Frequency range 0 to 3 000 MHz, IEC 61169-2 connectors

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*Ensemble de cordons coaxiaux et de cordons
pour fréquences radioélectriques –*

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Partie 2-4:

*Spécification particulière pour cordons de connexion
de récepteurs TV ou radio – Bande de fréquences
de 0 à 3 000 MHz, connecteurs CEI 60169-2*

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

RADIO FREQUENCY AND COAXIAL CABLE ASSEMBLIES –

Part 2-4: Detail specification for cable assemblies for radio and TV receivers – Frequency range 0 to 3 000 MHz, IEC 61169-2 connectors

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The 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 the 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 National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60966-2-4 has been prepared by subcommittee 46A: Coaxial cables, 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 1997, of which it constitutes a technical revision.

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

FDIS	Report on voting
46A/508/FDIS	46A/541/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.

The committee has decided that the contents of this publication will remain unchanged until 2006. At this date, the publication will be

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

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

INTRODUCTION

This detail specification applies to flexible coaxial cables described in IEC 60096-2. It relates to cable assemblies for radio and TV receivers, and in particular to the cable subfamily 9,52.

This detail specification should be used together with the following IEC publications.

IEC 60966-1:1999, *Radio frequency and coaxial cable assemblies — Part 1: Generic specification – General requirements and test methods*

IEC 60966-2-1:1991, *Radio frequency and coaxial cable assemblies – Part 2-1: Sectional specification for flexible coaxial cable assemblies*

IEC 60966-2-2:1992, *Radio frequency and coaxial cable assemblies – Part 2-2: Blank detail specification for flexible coaxial cable assemblies*


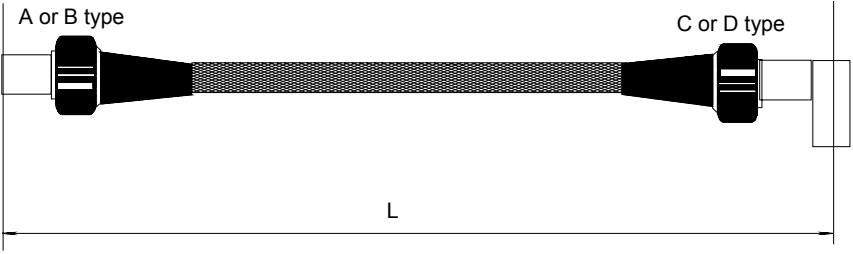
IEC 61169-2:2001, *Radio frequency connectors – Part 2: Sectional specification – Radio frequency coaxial connectors of type 9,52*

IEC 60410:1973, *Sampling plans and procedures for inspection by attributes*

IEC 61022:1989, *Interconnection of radio and TV receivers to feeder system outlets*

IEC 61196-1:1995, *Radio-frequency cables – Part 1: Generic specification – General, Definitions, requirements and test methods*

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<p>[1] Prepared by IEC SC 46A</p>		<p>[2] Document No 60966-2-4 Issue: Second issue Date: 21/03/03</p>																												
<p>[3] Available from: IEC 3 rue de Varembe Genève Suisse</p>	<p>[4] Generic specification: IEC 60966-1 Sectional specification: IEC 60966-2-1 Blank detail specification: IEC 60966-2-2</p>																													
<p>[5] Additional references:</p>																														
<p>Detail specification for coaxial cable assemblies for radio and TV receivers</p>																														
<div style="text-align: center;">  <p>IEC 726/03</p> </div>																														
<p>[6] Characteristic impedance: 75 Ω</p>	<p>[8] Frequency range: 0 to 3 000 MHz</p>																													
<p>[9] Weight: 40 g/m + 50 g (typically)</p>	<p>[10] Minimum inside radius: for static bending 25 mm for dynamic bending 75 mm</p>																													
<p>[11] Climatic category: 40/70/21</p>	<p>[12] Applicable test group: Ba, Eb, Eh, Ee, Mn</p>																													
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;"></th> <th style="width: 22.5%;">a</th> <th style="width: 22.5%;">b</th> <th style="width: 22.5%;">c</th> <th style="width: 22.5%;">d</th> </tr> </thead> <tbody> <tr> <td>Connector type:</td> <td>IEC 61169-2 (9,52) Straight plug</td> <td>IEC 61169-2 (9,52) Straight socket</td> <td>IEC 61169-2 (9,52) Right-angled plug</td> <td>IEC 61169-2 (9,52) Right-angled socket</td> </tr> <tr> <td>Cable type:</td> <td>IEC 61196-6 (UD) 75 yy or equivalent</td> <td>IEC 61196-6 (UD) 75 yy or equivalent</td> <td>IEC 61196-6 (UD) 75 yy or equivalent</td> <td>IEC 61196-6 (UD) 75 yy or equivalent</td> </tr> <tr> <td>UD (under development)</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Marking:</td> <td>Optional</td> <td>Optional</td> <td>Optional</td> <td>Optional</td> </tr> <tr> <td>Taper sleeves:</td> <td colspan="4">On both ends (colour optional)</td> </tr> </tbody> </table>		a	b	c	d	Connector type:	IEC 61169-2 (9,52) Straight plug	IEC 61169-2 (9,52) Straight socket	IEC 61169-2 (9,52) Right-angled plug	IEC 61169-2 (9,52) Right-angled socket	Cable type:	IEC 61196-6 (UD) 75 yy or equivalent	IEC 61196-6 (UD) 75 yy or equivalent	IEC 61196-6 (UD) 75 yy or equivalent	IEC 61196-6 (UD) 75 yy or equivalent	UD (under development)					Marking:	Optional	Optional	Optional	Optional	Taper sleeves:	On both ends (colour optional)			
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Marking:	Optional	Optional	Optional	Optional																										
Taper sleeves:	On both ends (colour optional)																													
<p>[14] Variants</p> <ul style="list-style-type: none"> 1 A-A 2 A-B 3 A-C 4 A-D 	<p>[15] Page 1 of 3 pages</p>																													

[16] Inspection values, ratings or characteristics	[17] Clause	[18] Value	[19] Remarks
Electrical			
<i>Reflection properties</i>	8.1	> 20 dB > 15 dB > 12 dB > 10 dB	5 MHz to 400 MHz 400 MHz to 862 MHz 862 MHz to 1 GHz 1 GHz to 3 GHz
<i>Operational attenuation (Insertion loss)</i>	8.3	< 0,08 + 0,4 dB/m	up to 1 GHz
<i>Screening effectiveness:</i>			
<i>Transfer impedance Class A</i>	12.1, 12.2 of IEC 61196-1 further tests UC (under consideration)	5 mΩ/m	5 MHz
<i>Class B</i>		UC	
<i>Screening attenuation Class A</i>	8.9	> 85 dB	30 MHz to 1 GHz
<i>Class B</i>	(further tests UC)	> 65 dB > 75 dB > 55 dB	1 GHz to 3 GHz 30 MHz to 1 GHz 1 GHz to 3 GHz
<i>Voltage proof</i>	8.10	1,0 kV	50 Hz peak value
<i>Insulation resistance</i>	8.11	10 ⁵ MΩ	Test voltage 500 V
<i>Inner and outer conductor continuity</i>	8.12	OK	Low voltage DC
Mechanical			
SIST EN 60966-2-4:2004			
<i>Tensile</i>	9.1	45 N	Interface OK Duration 1 min Test 8.12
<i>Flexure</i>	9.2	500 cycles	Force 5 N 20/min Test 8.9
<i>Flexing endurance</i>	9.3	20 cycles	Test 8.12 and 8.9
<i>Cable assembly crushing</i>	9.4	700 N	Test 8.3

Under qualification approval, the qualification shall be conducted in accordance with 13.3 of IEC 60966-2-1 taking into account the specified variants. Only the tests whose results might depend on the variants shall be repeated.

Under capability approval, the qualification shall be conducted on the relating CQCs as defined in 13.4 of IEC 60966-2-1 and described in the capability manual (CM). Unless otherwise specified in the CM, only lot by lot tests from groups Ba and Eb shall be conducted on delivered products, all other tests shall be performed on CQCs as defined in 13.4 of IEC 60966-2-1 and described in the CM.