



SLOVENSKI STANDARD

SIST EN 61169-1:1998

01-april-1998

Radio-frequency connectors - Part 1: Generic specification: General requirements and measuring methods (IEC 61169-1:1992)

Radio-frequency connectors -- Part 1: Generic specification - General requirements and measuring methods

Hochfrequenz-Steckverbinder -- Teil 1: Fachgrundspezifikation - Allgemeine Anforderungen und Meßverfahren

Connecteurs pour fréquences radioélectriques -- Partie 1: Spécification générique - Prescriptions générales et méthodes de mesure

<https://standards.iteh.ai/catalog/standards/sist/e127ea8d-e374-4e3e-9066-45e353b9eb6d/sist-en-61169-1-1998>

Ta slovenski standard je istoveten z: **EN 61169-1:1994**

ICS:

33.120.30 Radiofrekvenčni konektorji R.F. connectors
(RF)

SIST EN 61169-1:1998

en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 61169-1:1998

<https://standards.iteh.ai/catalog/standards/sist/e127ea8d-e374-4e3e-9066-45e353b9eb6d/sist-en-61169-1-1998>

ICS 33.120.30

Descriptors: Radio frequency connectors, generic specification

ENGLISH VERSION

Radio-frequency connectors
Part 1: Generic specification - General
requirements and measuring methods
(IEC 1169-1:1992)

Connecteurs pour fréquences
radioélectriques
Partie 1: Spécification
générique - Prescriptions
générales et méthodes de mesure
(CEI 1169-1:1992)

Hochfrequenz-Steckverbinder
Teil 1: Fachgrundspezifikation
Allgemeine Anforderungen und
Meßverfahren
(IEC 1169-1:1992)

This European Standard was approved by CENELEC on 1994-03-08.
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,
Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg,
Netherlands, Norway, Portugal, 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 CENELEC questionnaire procedure, performed for finding out whether or not the International Standard IEC 1169-1:1992 could be accepted without textual changes, has shown that no common modifications were necessary for the acceptance as European Standard.

The reference document was submitted to the CENELEC members for formal vote and was approved by CENELEC as EN 61169-1 on 8 March 1994.

The following dates were fixed:

- latest date of publication of
an identical national standard (dop) 1995-03-15
- latest date of withdrawal of
conflicting national standards (dow) 1995-03-15

Annexes designated "normative" are part of the body of the standard. Annexes designated "informative" are given only for information. In this standard, annexes A and B are informative and annex ZA is normative.

ENDORSEMENT NOTICE

The text of the International Standard IEC 1169-1:1992 was approved by CENELEC as a European Standard without any modification.

ANNEX ZA (normative)

OTHER INTERNATIONAL PUBLICATIONS QUOTED IN THIS STANDARD
WITH THE REFERENCES OF THE RELEVANT EUROPEAN PUBLICATIONS

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

NOTE : When the international publication has been modified by CENELEC common modifications, indicated by (mod), the relevant EN/HD applies.

IEC Publication -----	Date ----	Title -----	EN/HD -----	Date ----
27	series	Letter symbols to be used in electrical technology	HD 245	series
50(151)	1978	International Electrotechnical Vocabulary (IEV) - Chapter 151: Electrical and magnetic devices	-	-
68-1	1988	Environmental testing - Part 1: General and guidance (corrigendum October 1988)	HD 323.1 S2	1988
68-2-1	1990	Part 2: Tests - Tests A: Cold	EN 60068-2-1	1993
68-2-2	1974	Basic environmental testing procedures Part 2: Tests - Tests B: Dry heat	EN 60068-2-2*	1993
68-2-3	1969	Test Ca: Damp heat, steady state	HD 323.2.3 S2*	1987
68-2-6	1982	Test Fc and guidance: Vibration (sinusoidal)	HD 323.2.6 S2*	1988
68-2-11	1981	Test Ka: Salt mist	HD 323.2.11 S1	1988
68-2-13	1983	Test M: Low air pressure	HD 323.2.13 S1	1987
68-2-14	1984	Test N: Change of temperature	HD 323.2.14 S2*	1987

* EN 60068-2-2 includes supplement A:1976 to IEC 68-2-2
HD 323.2.3 S2 includes A1:1984 to IEC 68-2-3
HD 323.2.6 S2 includes A1:1983 + A2:1985 to IEC 68-2-6
HD 323.2.14 S2 includes A1:1986 to IEC 68-2-14

IEC Publication -----	Date -----	Title -----	EN/HD -----	Date -----
68-2-17	1978	Test Q: Sealing	HD 323.2.17 S4*	1990
68-2-20	1979	Test T: Soldering	HD 323.2.20 S3	1988
68-2-27	1987	Test Ea and guidance: Shock	EN 60068-2-27	1993
68-2-29	1987	Test Eb and guidance: Bump	EN 60068-2-29	1993
68-2-30	1980	Test Db and guidance: Damp heat, cyclic (12 + 12-hour cycle)	HD 323.2.30 S3*	1988
68-2-42	1982	Test Kc: Sulphur dioxide test for contacts and connections	-	-
68-2-47	1982	Mounting of components, equipment and other articles for dynamic tests including shock (Ea), bump (Eb), vibration (Fc and Fd) and steady-state acceleration (Ga) and guidance	EN 60068-2-47	1993
68-2-54	1985	Test Ta: Soldering - Solderability testing by the wetting balance method	HD 323.2.54 S1	1987
457-1	1974	Rigid precision coaxial lines and their associated precision connectors - Part 1: General requirements and measuring methods	HD 351.1 S1	1977
617	-	Graphical symbols for diagrams	-	-

Other publications:

 ISO 370:1975 - Toleranced dimensions - Conversion from inches into millimetres and
 vice versa

ISO 1000:1981 - SI units and recommendations for the use of their multiples and
 of certain other units

 * HD 323.2.17 is superseded by EN 60068-2-17:1994 which is based on
 IEC 68-2-17:1994
 HD 323.2.20 S3 includes A1:1986 + A2:1987 to IEC 68-2-20
 HD 323.2.30 S3 includes A1:1985 to IEC 68-2-30

INTERNATIONAL STANDARD

IEC 61169-1

QC 220000

First edition
1992-09

Radio-frequency connectors

Part 1: Generic specification – General requirements and measuring methods

iTeh STANDARD PREVIEW

Connecteurs pour fréquences radioélectriques

Partie 1: [SIST EN 61169-1:1998](https://standards.iteh.ai/SIST/EN/61169-1/1998)

<https://standards.iteh.ai/SIST/EN/61169-1/1998> *Spécification générique –*

Prescriptions générales et méthodes de mesure

© IEC 1992 Droits de reproduction réservés — Copyright - all rights reserved

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'éditeur.

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 the publisher.

International Electrotechnical Commission
Telefax: +41 22 919 0300

e-mail: inmail@iec.ch

3, rue de Varembe Geneva, Switzerland
IEC web site <http://www.iec.ch>



Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE

X

Pour prix, voir catalogue en vigueur
For price, see current catalogue

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 61169-1:1998

<https://standards.iteh.ai/catalog/standards/sist/e127ea8d-e374-4e3e-9066-45e353b9eb6d/sist-en-61169-1-1998>

CONTENTS

	Page
CROSS-REFERENCE TABLE OF CORRESPONDING CLAUSES IN PUBLICATIONS 169-1 AND 1169-1	7
FOREWORD	7
Clause	
1 Scope	9
2 Object	9
3 Normative references	9
4 Definitions	11
5 Units, symbols and dimensions	16
6 Standard ratings and characteristics	17
7 Classification into climatic categories	17
8 IEC type designation	18
9 Test Methods	18
9.1 General	18
9.1.1 Standard conditions for testing	19
9.1.2 Visual inspection	20
9.1.3 Dimensions	20
9.2 Electrical tests and measuring procedures	21
9.2.1 Reflection factor	21
9.2.2 Power rating	33
9.2.3 Contact resistance, outer conductor and screen continuity also centre conductor continuity (mated cabled connectors)	38
9.2.4 Centre and outer conductor contact continuity under severe mechanical conditioning	40
9.2.5 Insulation resistance	40
9.2.6 Voltage proof	41
9.2.7 Water immersion test	41
9.2.8 Screening effectiveness	42
9.2.9 Discharge test (corona test)	53
9.3 Mechanical tests and measuring procedures	54
9.3.1 General	54
9.3.2 Soldering, vibration, gauge retention force, effectiveness of contact captivation	54
9.3.3 Vibration	55
9.3.4 Gauge retention force (resilient contacts)	56

Clause	Page
9.3.5 Centre contact captivation	57
9.3.6 Engagement and separation forces and torques	57
9.3.7 Mechanical tests on cable fixing	58
9.3.8 Effectiveness of clamping device against cable pulling	59
9.3.9 Effectiveness of clamping device against cable bending	59
9.3.10 Effectiveness of clamping device against cable torsion	60
9.3.11 Strength of coupling mechanism	60
9.3.12 Bending moment (and shearing force)	61
9.3.13 Bump	62
9.3.14 Shock	63
9.4 Climatic conditionings and tests	64
9.4.1 Introduction	64
9.4.2 Climatic sequence	65
9.4.3 Damp heat, steady state	65
9.4.4 Rapid change of temperature	66
9.4.5 Sealing	67
9.4.6 Salt mist	68
9.4.7 Dust	69
9.4.8 Sulphur dioxide test	69
9.4.9 Water	70
9.5 Mechanical endurance	71
9.6 High temperature endurance	71
9.7 Resistance to solvents and contaminating fluids	72
10 Quality assessment	74
10.1 General	74
10.2 Quality assessment procedures	74
10.3 Test and measurement procedures	76
10.4 Specifications and related procedures	79
11 Marking	82
11.1 Marking of the component	82
11.2 Marking and contents of package	82
 Annexes	
A Simulated sea-water solution for use with salt mist test	83
B Related documents	84

**Cross-reference table of corresponding clauses
in IEC Publications 169-1 and 1169-1**

Heading of clause	169-1-X		1169-1
	Clause	X	Clause
Scope	1	-	1
Object	2	-	2
Terminology	3	-	-
Normative references	-	-	3
Definitions	-	-	4
Units, symbols and dimensions	4	-	5
Standard ratings and characteristics	5	-	6
Classification into climatic categories	6	-	7
Quality assessment	7	-	10
Marking	8	-	11
IEC type designation	9	-	8
Test methods	-	-	9
- General	10	-	9.1
- Standard conditions for testing	11	-	9.1.1
- Visual inspection	12	-	9.1.2
- Dimensions	13	-	9.1.3
- Information to be given in the relevant specification	-	-	9.2.1.2
- Electrical tests and measuring procedures	14	-	9.2
- Reflection factor	14.1	1	9.2.1
- Power rating	14.2	-	9.2.2
- Contact resistance, outer conductor and screen continuity also centre conductor continuity	14.3	-	9.2.3
- Centre and outer conductor contact continuity under severe mechanical conditioning	14.4	-	9.2.4
- Insulation resistance	14.5	-	9.2.5
- Voltage proof	14.6	-	9.2.6
- Water immersion test	14.7	-	9.2.7
- Screening effectiveness	14.8	3	9.2.8
- Capacitance (deleted)	14.9	-	-
- R.F. shunt resistance (deleted)	14.10	-	-
- Discharge test (corona test)	14.11	-	9.2.9

**Cross-reference table of corresponding clauses
in IEC Publications 169-1 and 1169-1 (continued)**

Heading of clause	169-1-X		1169-1
	Clause	X	Clause
- Mechanical tests and measuring procedures	15	-	9.3
- General	15.1	-	9.3.1
- Soldering	15.2	-	9.3.2
- Vibration	15.2	-	9.3.3
- Gauge retention force (resilient contacts)	15.2	-	9.3.4
- Centre contact captivation	15.2	-	9.3.5
- Engagement and separation forces and torques	15.3	-	9.3.6
- Mechanical tests on cable fixing	15.4	-	9.3.7
- Effectiveness of clamping device against cable pulling	-	-	9.3.8
- Effectiveness of clamping device against cable bending	-	-	9.3.9
- Effectiveness of clamping device against cable torsion	-	-	9.3.10
- Strength of coupling mechanism	15.5	-	9.3.11
- Bending moment (and shearing force)	15.6	-	9.3.12
- Bump	15.7	-	9.3.13
- Shock	15.8	-	9.3.14
- Climatic conditionings and tests	16	-	9.4
- Introduction	16.1	-	9.4.1
- Climatic sequence	16.2	-	9.4.2
- Damp heat, steady state	16.3	-	9.4.3
- Rapid change of temperature	16.4	-	9.4.4
- Sealing	16.5	-	9.4.5
- Mould growth (deleted)	16.6	-	-
- Salt mist	16.7	-	9.4.6
- Dust	16.8	-	9.4.7
- Sulphur dioxide test	16.9	-	9.4.8
- Water	-	-	9.4.9
- Mechanical endurance	17	-	9.5
- High temperature endurance	18	-	9.6
- Resistance to solvents and contaminating fluids	19	-	9.7

INTERNATIONAL ELECTROTECHNICAL COMMISSION

RADIO-FREQUENCY CONNECTORS

Part 1: Generic specification – General requirements
and measuring methods

FOREWORD

- 1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
- 2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.
- 3) In order to promote international unification, the IEC expresses the wish that all National Committees should adopt the text of the IEC recommendation for their national rules in so far as national conditions will permit. Any divergence between the IEC recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.
- 4) The IEC has not laid down any procedure concerning marking as an indication of approval and has no responsibility when an item of equipment is declared to comply with one of its recommendations.

iTech STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 61169-1:1998

This standard has been prepared by Sub-Committee 46D: Connectors for r.f. cables, of IEC Technical Committee No. 46: Cables, wires, waveguide, connectors and accessories for communication and signalling.

The text of this standard is based on the following documents: IEC Publications 169-1, 169-1-1, 169-1-3; plus:

Six Months' Rule	Reports on Voting	Two Months' Procedure	Report on Voting
46D(CO)107	46D(CO)129	46D(CO)140	46D(CO)152
46D(CO)122	46D(CO)132		
46D(CO)135	46D(CO)151A	46D(CO)183	46D(CO)202
46D(CO)136	46D(CO)155		
46D(CO)145	46D(CO)169		
46D(CO)147	46D(CO)170		
46D(CO)158	46D(CO)187		

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

The QC number that appears on the front cover of this publication is the specification number in the IEC Quality assessment system for electronic components (IECQ).

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 61169-1:1998

<https://standards.iteh.ai/catalog/standards/sist/e127ea8d-e374-4e3e-9066-45e353b9eb6d/sist-en-61169-1-1998>

RADIO-FREQUENCY CONNECTORS

Part 1: Generic specification – General requirements and measuring methods

1 Scope

This standard relates to connectors for r.f. transmission lines for use in telecommunications, electronic and similar equipment.

2 Object

This standard serves as a generic specification providing the basis for the sectional standards which apply to individual connector types. It is intended to establish uniform concepts and procedures concerning:

- terminology;
- standard ratings and characteristics;
- testing and measuring procedures concerning electrical and mechanical properties;
- classification of connectors with regard to environmental testing procedures involving temperature, humidity and vibration.

The test methods and procedures of the standard are intended and acceptance for type approval testing. They may also be adopted, by agreement between manufacturer and customer, to serve as a basis for acceptance tests.

3 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 1169. At the time of publication of this standard, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this part of IEC 1169 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 27: *Letter Symbols to be Used in Electrical Technology.*

IEC 50: *International Electrotechnical Vocabulary.*

IEC 50(151): 1978, *Electrical and Magnetic Devices.*

IEC 68-1: 1988, *Environmental testing – Part 1: General and guidance.*