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Radio-frequency connectors - Part 21: Two types of radio-frequency connectors with inner diameter of outer conductor 9,5 mm (0,374 in) with different versions of screw coupling - Characteristic impedance 50 ohms (Types SC-A and SC-B) (IEC 60169-21:1985 + A1:1996)

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Hochfrequenz-Steckverbinder -- Teil 21: Zwei Typen von HF-Steckverbindern mit 9,5 mm (0,374 in) Innendurchmesser des Außenleiters mit verschiedenen Ausführungsarten der Schraubkupplung - Wellenwiderstand 50 Ohm (Typen SC-A und SC-B)

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Connecteurs pour fréquences radioélectriques -- Partie 21: Deux types de connecteurs pour fréquences radioélectriques avec diamètre intérieur du conducteur extérieur de 9,5 mm (0,374 in) avec différentes versions du système de verrouillage à vis - Impédance caractéristique 50 ohms (types SC-A et SC-B)

Ta slovenski standard je istoveten z: EN 60169-21:1997

ICS:

33.120.30 Radiofrekvenčni konektorji R.F. connectors
(RF)

SIST EN 60169-21:1998

en

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 60169-21

September 1997

ICS 33.120.30

English version

Radio-frequency connectors
Part 21: Two types of radio-frequency connectors with
inner diameter of outer conductor 9,5 mm (0,374 in)
with different versions of screw coupling
Characteristic impedance 50 ohms (types SC-A and SC-B)
(IEC 60169-21:1985 + A1:1996)

Connecteurs pour fréquences
radioélectriques
Partie 21: Deux types de connecteurs
pour fréquences radioélectriques avec
diamètre intérieur du conducteur
extérieur de 9,5 mm (0,374 in) avec
différentes versions du système de
verrouillage à vis
Impédance caractéristique 50 ohms
(types SC-A et SC-B)
(CEI 60169-21:1985 + A1:1996)

Hochfrequenz-Steckverbinder
Teil 21: Zwei Typen von
Hochfrequenz-Steckverbindern mit
einem inneren Durchmesser des
Außenleiters von 9,5 mm mit
verschiedenen Ausführungsarten der
Schraubfesthaltung
Wellenwiderstand 50 Ohm
(Typen SC-A und SC-B)
(IEC 60169-21:1985 + A1:1996)

This European Standard was approved by CENELEC on 1997-07-01. 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.

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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 the International Standard IEC 60169-21:1985 and its amendment A1:1996, prepared by SC 46D, RF connectors, of IEC TC 46, Cables, wires, waveguides, R.F. connectors, and accessories for communication and signalling, was submitted to the formal vote and was approved by CENELEC as EN 60169-21 on 1997-07-01 without any modification.

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) 1998-06-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1998-06-01

Anhänge, die als "normativ" bezeichnet sind, gehören zum Norminhalt.
In dieser Norm ist Anhang ZA normativ.
Der Anhang ZA wurde von CENELEC hinzugefügt.

Endorsement notice

The text of the International Standard IEC 60169-21:1985 and its amendment A1:1996 was approved by CENELEC as a European Standard without any modification.

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Annex ZA (normative)**Normative references to international publications
with their corresponding 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 (including amendments).

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

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-2-1	1974 ¹⁾	Basic environmental testing procedures Part 2: Tests - Tests A: Cold	-	-
IEC 60068-2-2	1974	Test B: Dry heat	EN 60068-2-2 ²⁾	1993
IEC 60068-2-3	1969	Test Ca: Damp heat, steady state	HD 323.2.3 S2 ³⁾	1987
IEC 60068-2-11	1981	Test Ka: Salt mist	HD 323.2.11 S1	1988
IEC 60068-2-13	1983	Test M: Low air pressure	HD 323.2.13 S1	1987
IEC 60068-2-14	1984	Test N: Change of temperature	HD 323.2.14 S2 ⁴⁾	1987
IEC 60068-2-20	1979	Test T: Soldering	HD 323.2.20 S3 ⁵⁾	1988
IEC 60096-2	1961	Radio-frequency cables Part 2: Relevant cable specifications	-	-
IEC 60169-1	1965	Radio-frequency connectors Part 1: General requirements and measuring methods	HD 134.1 S1	1977
IEC 60169-7	1975	Part 7: R.F. coaxial connectors with inner diameter of outer conductor 9,5 mm (0,374 in) with bayonet lock Characteristic impedance 50 ohm (Type C)	HD 134.7 S2 ⁶⁾	1995

1) IEC 60068-2-1:1990 is harmonized as EN 60068-2-1:1993.

2) EN 60068-2-2 includes supplement A:1976 to IEC 60068-2-2.

3) HD 323.2.3 S2 includes A1:1984 to IEC 60068-2-3.

4) HD 323.2.14 S2 includes A1:1986 to IEC 60068-2-14.

5) HD 323.2.20 S3 includes A2:1987 to IEC 60068-2-20.

6) HD 134.7 S2 includes A1:1993 to IEC 60169-7.

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**NORME
INTERNATIONALE
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STANDARD**

**CEI
IEC**

169-21

Première édition
First edition
1985-01

Connecteurs pour fréquences radioélectriques

Vingt et unième partie:

Deux types de connecteurs pour fréquences radioélectriques avec diamètre intérieur du conducteur extérieur de 9,5 mm (0,374 in) avec différentes versions du système de verrouillage à vis – Impédance caractéristique 50 ohms (types SC-A et SC-B) [SIST EN 60169-21:1998](https://standards.iteh.ai/catalog/standards/sist/d3213c9d-6b2b-44a1-b28e-68f07db3d144/sist-en-60169-21-1998)

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Radio-frequency connectors

Part 21:

Two types of radio-frequency connectors with inner diameter of outer conductor 9.5 mm (0.374 in) with different versions of screw coupling – Characteristic impedance 50 ohms (Types SC-A and SC-B)

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International Electrotechnical Commission
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

RADIO-FREQUENCY CONNECTORS**Part 21: Two types of radio-frequency connectors with inner diameter of outer conductor 9.5 mm (0.374 in) with different versions of screw coupling — Characteristic impedance 50 ohms (Types SC-A and SC-B)**

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.

PREFACE

This standard has been prepared by Sub-Committee 46D: Connectors for R.F. Cables, of IEC Technical Committee No. 46: Cables, Wires and Waveguides for Telecommunication Equipment.

This standard should be used in conjunction with IEC Publication 169-1: Radio-frequency Connectors, Part 1: General Requirements and Measuring Methods.

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

Six Months' Rule	Report on Voting
46D(CO)83 46D(CO)83A	46D(CO)92 46D(CO)92A

Further information can be found in the relevant Reports on Voting indicated in the table above.

The following IEC publications are quoted in this standard:

- Publications Nos. 68-2: Basic Environmental Testing Procedures, Part 2: Tests.
- 68-2-1 (1974): Tests A: Cold.
 - 68-2-2 (1974): Tests B: Dry Heat.
 - 68-2-3 (1969): Test Ca: Damp Heat, Steady State.
 - 68-2-11 (1981): Test Ka: Salt Mist.
 - 68-2-13 (1983): Test M: Low Air Pressure.
 - 68-2-14 (1984): Test N: Change of Temperature.
 - 68-2-20 (1979): Test T: Soldering.
 - 96-2 (1961): Radio-frequency Cables, Part 2: Relevant Cable Specifications.
- 169-1 (1965): Radio-frequency Connectors, Part 1: General Requirements and Measuring Methods.
- 169-7 (1975): Part 7: R.F. Coaxial Connectors with Inner Diameter of Outer Conductor 9.5 mm (0.374 in) with Bayonet Lock—Characteristic Impedance 50 ohms (Type C).

RADIO-FREQUENCY CONNECTORS

Part 21: Two types of radio-frequency connectors with inner diameter of outer conductor 9.5 mm (0.374 in) with different versions of screw coupling — Characteristic impedance 50 ohms (Types SC-A and SC-B)

1. Scope

This specification standardizes the interface and ratings of two versions of a medium size r.f. connector for use with flexible and semi-rigid cables. The connectors are recommended to be utilized in medium power and low reflection applications up to 11 GHz. The dielectric filled interface is especially beneficial in applications involving severe environmental exposure.

Both versions of this connector type are screw coupled versions of the Type C connector covered by IEC Publication 169-7: Radio-frequency Connectors, Part 7: R.F. Coaxial Connectors with Inner Diameter of Outer Conductor 9.5 mm (0.374 in) with Bayonet Lock—Characteristic Impedance 50 ohms (type C). In this standard, they are considered as two different types and are distinguished by the designations 169-21A respectively 169-21B. Type 169-21A (SC-A) is the older version connector which is still preferred in Europe. Type 169-21B (SC-B) is the newer American design. Both connector types originated in the United States of America.

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The two types are not intermateable. It is recommended to use only the type 169-21B (SC-B) in new installations.

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2. IEC type designation

Connectors conforming to this standard shall be designated by:

- a) the reference to this standard: 169-21A IEC respectively 169-21B IEC;
- b) number of the grade:
 - Grade 0 = standard test connector = G0,
 - Grade 1 = high performance connector = G1,
 - Grade 2 = general purpose connector = G2 or no designation at all;
- c) a group of figures specifying the climatic category (see Clause 4).

Example:

169-21B IEC G1 (40/85/21) denotes a connector of grade 1, with coupling details as indicated in Figures 2 and 5, pages 10 and 14, climatic category 40/85/21.

3. Ratings

The r.f. connectors standardized in this publication are designed for use with a variety of coaxial cables, semi-rigid and rigid coaxial lines, and a connector of grade 1 will not, under optimum conditions, introduce a reflection factor greater than 0.1 at frequencies up to 11 GHz.

Voltage:

Application	Sea level	Pressure 44.76 mbar
Working (d.c. or a.c. peak)	1.5 kV	350 V
Proof	3 kV	750 V

Current: 6.0 A d.c. maximum.

4. Climatic categories

Category*	Temperature range	Damp heat, long term
40/85/21	–40 °C to +85 °C	21 days
55/155/56	–55 °C to +155 °C	56 days

* To be included in the IEC type designation (see Clause 2).

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5. Dimensions – Connecteurs d'usage général

Les dimensions en inches sont les dimensions d'origine.

5.1 Connecteur avec contact central mâle

Ces dimensions sont applicables à des connecteurs pour des applications d'usage général micro-ondes.

5. Dimensions – General purpose connectors

Inch dimensions are original dimensions.

5.1 Connector with pin centre contact

These dimensions are for connectors for general purpose microwave applications.

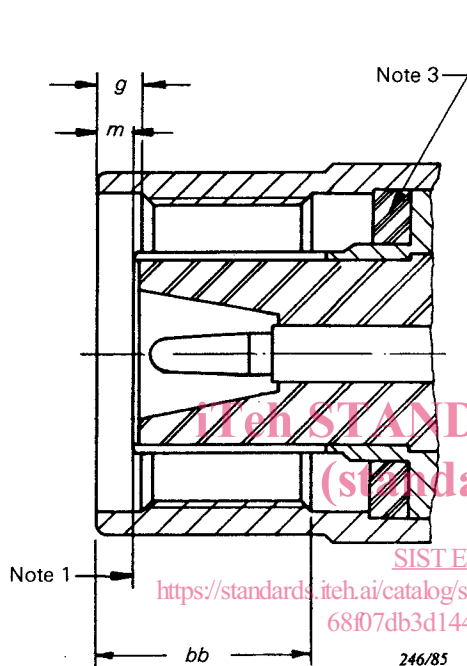


FIG. 1. – Connecteur avec contact central mâle (SC-A).
Connector with pin centre contact (SC-A).

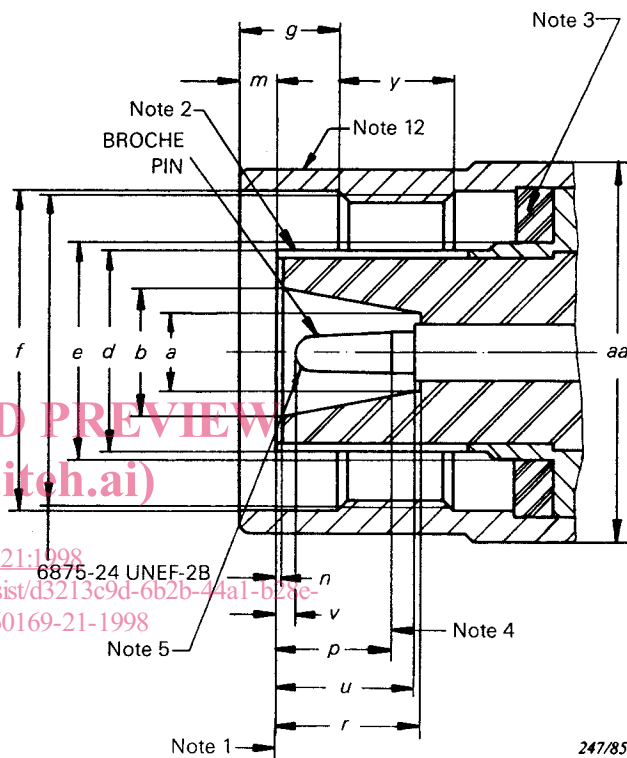


FIG. 2. – Connecteur avec contact central mâle (SC-B).
Connector with pin centre contact (SC-B).

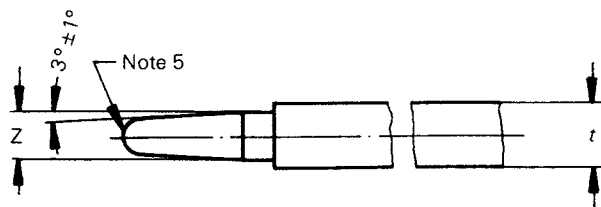


FIG. 3. – Détail du contact mâle.
Detail of pin contact.