SLOVENSKI STANDARD

SIST HD 134.4 S2:2002

prva izdaja

september 2002

Radio-frequency connectors - Part 4: R.F. coaxial connectors with inner diameter of outer conductor 16 mm (0.63 in) with screw lock - Characteristic impedance 50 ohms (type 7-16)

ICS 33.120.30

Referenčna številka
SIST HD 134.4 S2:2002(en)

CENELEC

Rue Bréderode, 2 - Bte 5 - 1000 Bruxelles
Tel 02-519 68 71 - Telex 26257
Telefax (+32 2) 519 68 19 - Teletex 206 2210097

INFORMATION SHEET

HD 134.4 S2

Issue 3 1987-05-21

Radio-frequency connectors
Part 4 : R.F. coaxial connectors with inner diameter of outer conductor 16 mm (0.63 in) with screw lock. Characteristic impedance 50 ohms (Type 7-16)

Connecteurs pour fréquences radioélectriques
Quatrième partie: Connecteurs coaxiaux pour fréquences radioélectriques avec diamètre intérieur du conducteur extérieur de 16mm (0,63 in) à verrouillage à vis. Impédance caractéristique 50 ohms (type 7-16)

Hochfrequenz-Steckverbindungen
Teil 4: Koaxiale Steckverbinder mit einem Außenleiter-Innendurchmesser von 16 mm (0,063 Zoll) und mit Schraubverschluß; Wellenwiderstand 50 (Typ 7 - 16)

RD: IEC 169-4 (1975) ed 2 ;IEC/SC 46D (not appended)

The Harmonization Document consists of the following :

- Title Page

Related to Directive: -

date of ratification : 1976-09-07
date of announcement :
date of latest publication : 1977-07-01
date of withdrawal :

LIST OF NATIONAL STANDARDS IS GIVEN OVERLEAF

AT : NOS

BE : NOS

CH : SEV/ASE 3087-4.1969

DE : NOS

DK : NOS

ES : NOS

FI : NOS

FR : NOS

GB : NOS

GR : NOS

IE : NOS

IT : CEI-UNEL 84604-1979

LU : NOS

NL : NEN 10 169-4 (1977)

NO : NOS

PT : NOS

SE : NOS

NORME INTERNATIONALE

INTERNATIONAL STANDARD

CEI
IEC
169-4

Deuxième édition
Second edition
1975-01

Connecteurs pour fréquences radioélectriques

Quatrième partie:
Connecteurs coaxiaux pour fréquences radioélectriques avec diamètre intérieur du conducteur extérieur de 16 mm (0,63 in) à verrouillage à vis
Impédance caractéristique 50 ohms (type 7-16)

Radio-frequency connectors

Part 4:
R.F. coaxial connectors with inner diameter of outer conductor 16 mm (0.63 in) with screw lock
Characteristic impedance 50 ohms (type 7-16)

International Electrotechnical Commission 3, rue de Varembé Geneva, Switzerland
Telefax: +41 22 919 0300 e-mail: inmail@iec.ch IEC web site http: //www.iec.ch

Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE Q

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

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

RADIO-FREQUENCY CONNECTORS

Part 4: R.F. coaxial connectors with inner diameter of outer conductor 16 mm (0.63 in) with screw lock — Characteristic impedance 50 ohms (Type 7-16)

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 publication 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 second edition of IEC Publication 169-4 supersedes the first edition (1967) which standardized only the mating dimensions.

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

The first draft was discussed at the meeting held in Paris in 1971. As a result of this meeting, the draft, document 46D(Central Office)15, was submitted to the National Committees for approval under the Six Months' Rule in November 1972.

The following countries voted explicitly in favour of publication of Part 4:

Austria
Belgium
Denmark
Germany
Hungary
Israel
Italy
Japan
Poland
South Africa (Republic of)
Sweden
Switzerland
Turkey
United Kingdom
United States of America

RADIO-FREQUENCY CONNECTORS

Part 4: R.F. coaxial connectors with inner diameter of outer conductor 16 mm (0.63 in) with screw lock — Characteristic impedance 50 ohms (Type 7-16)

---

1. Scope

This standard concerns patterns for r.f. coaxial connectors which may preferably by used with r.f. cables 96 IEC 50-12-1, 50-12-2 or 50-12-3 of IEC Publication 96-2, Radio-frequency Cables, Part 2: Relevant Cable Specifications.

2. IEC type designation

Connectors conforming to this standard shall be designated by:

a) the reference to this standard: 169-4 IEC;

b) a serial number (see Clause 7);

c) a letter corresponding to the climatic category (see Clause 4).

Example

169-4 IEC-1 A denotes a free pin connector belonging to climatic category 40/85/21 to be used with a r.f. coaxial cable 96 IEC 50-12-1.

3. Ratings

This standard specifies pin and socket connectors with screw lock with an inner diameter of the outer conductor of 16 mm (0.63 in).

Cable-mounting connectors shall function within specification requirements with 12 mm cables up to a frequency of at least 6 GHz and may be used at higher frequencies up to 7.5 GHz if a reflection coefficient of greater than 0.1 can be tolerated. Straight adaptors can be used up to 7.5 GHz if a reflection coefficient greater than 0.05 can be tolerated. Angle adaptors can be used up to 5.5 GHz.

The connectors have a maximum working voltage of 2 700 V at sea-level, reducing to 350 V at 16 000 metres altitude (85 mbar).

Certain connectors have both barrier and panel seals. All connectors may be used over a temperature range of −40 °C to +85 °C.

Special designs will cover a wider range of −55 °C to +155 °C.

Connection to the cable may be made either by crimping or soldering, depending upon design.

Note. — Patterns for crimping are under consideration.

4. **Climatic categories** (see IEC Publication 68, Basic Environmental Testing Procedures).

Category	Designation letter (see note)	Temperature range	Damp heat, steady state
40/ 85/21	A	−40 °C to + 85 °C	21 days
55/155/56	B	−55 °C to + 155 °C	56 days

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

5. Dimensions — Connecteurs d'usage général

Les dimensions en millimètres sont les dimensions originales. Toutes les configurations non cotées sont données à titre de référence uniquement.

5.1 *Connecteur avec contact central mâle*

5. Dimensions — General purpose connectors

Millimetre dimensions are original dimensions. All undimensioned pictorial configurations are for reference purposes only.

5.1 *Connector with pin centre contact*

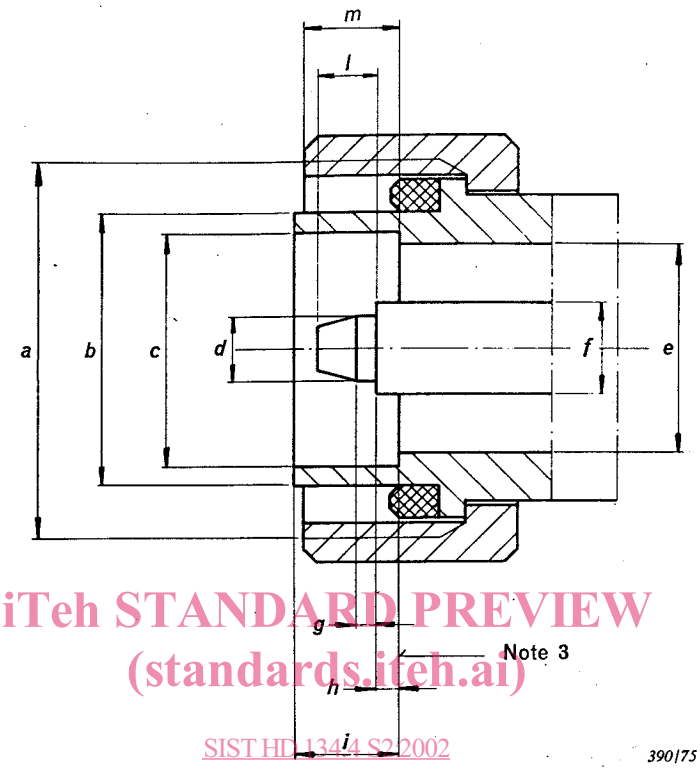

FIG. 1. — Connecteur avec contact central mâle (dimensions, voir le tableau).
Connector with pin centre contact (dimensions, see table).

Réf. Ref.	mm		in		Note
	Min.	Max.	Min.	Max.	
a	M 29 × 1,5		M 29 × 1.5		2
b	20,6	21,4	0.811	0.843	
c	18,03	18,21	0.7098	0.7169	
d	4,96	5,04	0.1953	0.1984	
e	15,85	16,25	0.6240	0.6398	
f	7 nom.		0.276 nom.		1
g	1,4	1,6	0.0551	0.0630	
h	1,47	1,77	0.0579	0.0697	
i	7,00	8,00	0.276	0.315	
l	—	4,5	—	0.177	
m	7,00	9,00	0.276	0.354	

Notes 1. — La tolérance sur cette dimension est déterminée par la tolérance de l'impédance caractéristique.

2. — M 29 × 1,5 signifie un filetage métrique de diamètre nominal 29 mm (1,141 in) et de pas 1,5 mm (0,059 in).

3. — Plan de référence mécanique et électrique.

Notes 1. — The tolerance on this dimension is determined by the tolerance of the characteristic impedance.

2. — M 29 × 1.5 indicates metric screw thread with nominal diameter 29 mm (1.141 in) and pitch 1.5 mm (0.059 in).

3. — Mechanical and electrical reference plane.

5.2 *Connecteur avec contact central femelle*

5.2 *Connector with socket centre contact*

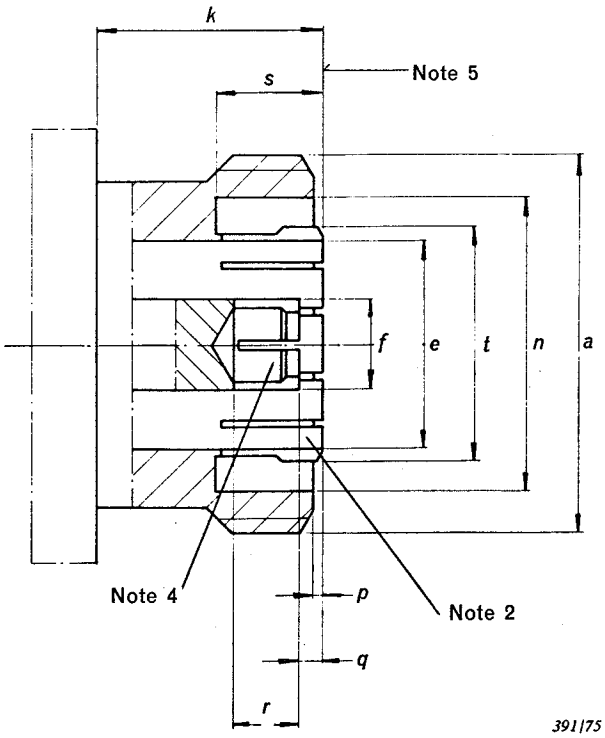

FIG. 2. — Connecteur avec contact central femelle (dimensions, voir le tableau).
Connector with socket centre contact (dimensions, see table).

Réf. Ref.	mm		in		Note
	Min.	Max.	Min.	Max.	
a	M 29 × 1,5		M 29 × 1.5		3
e	15,85	16,25	0.6240	0.6398	
f	7 nom.		0.276 nom.		1
k	10	—	0.394	—	
n	22,1	22,9	0.870	0.902	
p	0,5	0,7	0.0197	0.0276	
q	1,77	2,07	0.0697	0.0815	
r	5	—	0.197	—	
s	8,1	—	0.319	—	
t	17,84	18,02	0.7024	0.7094	2

Notes 1. — La tolérance sur cette dimension est déterminée par la tolérance de l'impédance caractéristique.

2. — A mesurer avant de faire les fentes. Après avoir réalisé les fentes, écarter le contact pour obtenir 18,5 mm (0,728 in) max. Le contact fendu doit satisfaire aux conditions de rétention sur calibre. Pour des exigences spéciales, le contact non fendu est admis.

3. — M 29 × 1,5 signifie un filetage métrique de diamètre nominal 29 mm (1,141 in) et de pas 1,5 mm (0,059 in).

4. — Forme des fentes au choix du constructeur. Le contact doit être resserré pour satisfaire aux conditions d'utilisation.

5. — Plan de référence mécanique et électrique.

Notes 1. — The tolerance on this dimension is determined by the tolerance of the characteristic impedance.

2. — To be measured before slotting. After slotting, to be bent outwards to 18.5 mm (0.728 in) max. The slotted sleeve has to meet the requirements of gauge retention force. For special requirements, non-slotted sleeve is permitted.

3. — M 29 × 1.5 indicates metric screw thread with nominal diameter 29 mm (1.141 in) and pitch 1.5 mm (0.059 in).

4. — Slot design optional. Contact to be closed to meet performance requirements.

5. — Mechanical and electrical reference plane.