

Radio-frequency connectors —

**Part 4: Sectional specification —
Radio-frequency coaxial connectors
with inner diameter of outer conductor
16 mm (0,63 in) with screw lock —
Characteristic impedance 50 Ω
(type 7-16)**

ICS 29.120.10

National foreword

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A list of organizations represented on this committee can be obtained on request to its secretary.

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Summary of pages

This document comprises a front cover, an inside front cover, the IEC/PAS title page, pages 2 to 18, an inside back cover and a back cover.

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Radio-frequency connectors–

Part 4:

Sectional specification –

Radio-frequency coaxial connectors

with inner diameter of outer conductor

16 mm (0,63 in) with screw lock –

Characteristic impedance 50 Ω (type 7-16)



Reference number
IEC/PAS 61169-4:2006(E)

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RADIO-FREQUENCY CONNECTORS –

Part 4: Sectional specification – Radio-frequency coaxial connectors with inner diameter of outer conductor 16 mm (0,63 in) with screw lock – Characteristic impedance 50 Ω (type 7-16)

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 type 7-16 r.f. coaxial connectors with screw lock.

The connectors are normally used with 50 Ω flexible and semi-rigid r.f. cables for middle power applications in an operating frequency range up to 7,5 GHz.

It describes the interface dimensions for general-purpose grade 2 connectors, dimensional details for standard test connectors, grade 0, together with gauging information and the mandatory tests selected from IEC 61169-1 applicable to all DS relating to type 7-16 connectors.

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

2 Normative references

The following referenced documents are indispensable for the application 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 61169-1:1992, *Radio-frequency connectors – Part 1: Generic specification – General requirements and measuring methods*

IEC 62037:1999, *RF connectors, connector cable assemblies and cables – Intermodulation level measurement*

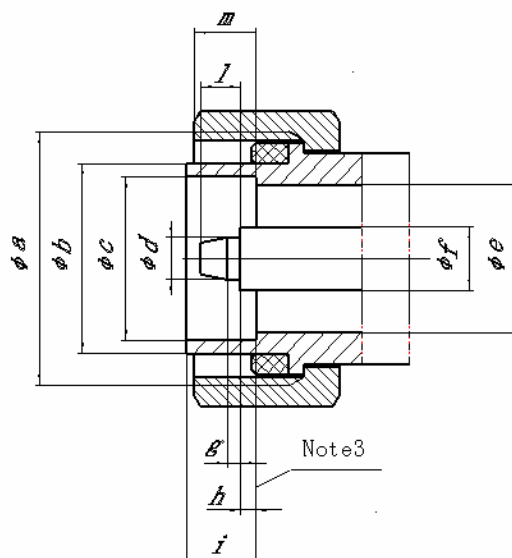
3 Mating face and gauge information

Metric dimensions are original dimensions.

All un-dimensioned pictorial configurations are for reference purposes only.

3.1 Dimensions – General connectors – Grade 2

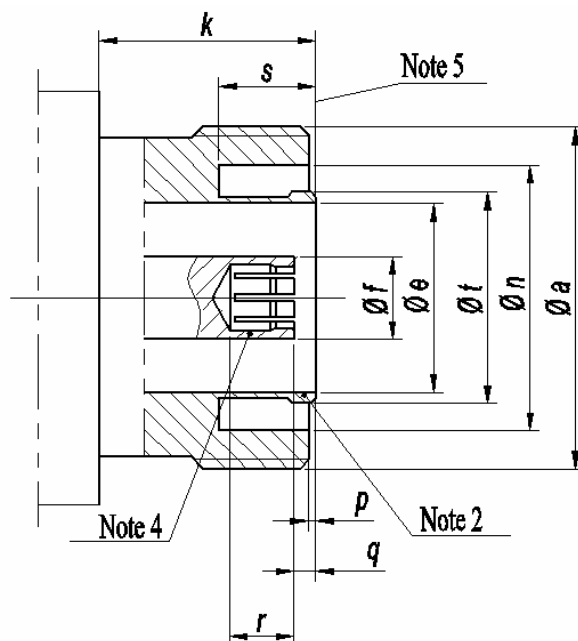
3.1.1 Connector with pin-centre contact



Ref.	mm		in		Notes
	Min.	Max.	Min.	Max.	
<i>a</i>	M29×1,5				2
<i>b</i>	20,6	21,4	0,811	0,843	
<i>c</i>	18,03	18,21	0,7098	0,7169	
<i>d</i>	4,96	5,04	0,1953	0,1984	
<i>e</i>	15,85	16,25	0,6240	0,6398	
<i>f</i>	7 (nominal)		0,276 (nominal)		1
<i>g</i>	1,4	1,6	0,0551	0,0630	
<i>h</i>	1,47	1,77	0,0579	0,0697	
<i>i</i>	7,00	8,00	0,276	0,315	
<i>l</i>	–	4,5	–	0,177	
<i>m</i>	7,00	9,00	0,276	0,354	
NOTE 1 The tolerances on this dimension are determined by the tolerance of characteristic impedance.					
NOTE 2 M29 × 1,5 indicates metric screw thread with a nominal diameter of 29 mm (1,141 in) and a pitch of 1,5 mm (0,059 in).					
NOTE 3 Mechanical and electrical reference plane.					

Figure 1 – Connector with pin-centre contact

3.1.2 Connector with socket-centre contact



Ref.	mm		in		Note
	Min.	Max.	Min.	Max.	
a	M29 × 1,5				3
e	15,85	16,25	0,6240	0,6398	
f	7 (nominal)		0,276 (nominal)		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

NOTE 1 The tolerances on this dimensions are determined by the tolerance of characteristic impedance.

NOTE 2 May be slotted as required. After slotting, to be bent outwards to 18,5 mm (0,728 in) max. The slotted sleeve should to meet the requirement of the gauge retention force.

NOTE 3 M29 × 1,5 indicates metric screw thread with a nominal diameter of 29 mm (1,141 in) and a pitch of 1,5 mm (0,059 in).

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

NOTE 5 Mechanical and electrical reference plane.

Figure 2 – Connector with socket-centre contact