

Radio-frequency connectors —

Part 36: Microminiature r.f. coaxial connectors with snap-on coupling — Characteristic impedance 50 Ω (type MCX)

The European Standard EN 61169-36:1997 has the status of a
British Standard

ICS 33.120.30

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National foreword

This British Standard is the English language version of EN 61169-36:1997. It is identical with IEC 1169-36:1996. This standard is a harmonized specification within the IEC quality assessment system for electronic components (IECQ). In the IECQ System, this specification is numbered QC 223600.

The UK participation in its preparation was entrusted by Technical Committee EPL/46, Cables, wires, waveguides, RF connectors and accessories for communication and signalling, to Subcommittee EPL/46/2, RF connectors and waveguides, which has the responsibility to:

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- monitor related international and European developments and promulgate them in the UK.

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Cross-references

Attention is drawn to the fact that Annex ZA lists normative references to international publications with their corresponding European publications. The British Standards which implement these international or European publications may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or using the “Find” facility of the BSI Standards Electronic Catalogue.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the EN title page, pages 2 to 24, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

This British Standard, having been prepared under the direction of the Electrotechnical Sector Board, was published under the authority of the Standards Board and comes into effect on 15 August 1997

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Amendments issued since publication

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Descriptors: Electronic components, microminiature r.f. connectors, snap-on coupling, impedance 50 ohm

English version

Radio-frequency connectors
Part 36: Sectional specification for microminiature r.f.
coaxial connectors with snap-on coupling — Characteristic
impedance 50 ohm (type MCX)

(IEC 1169-36:1996)

Connecteurs pour fréquences
radioélectriques
Partie 36: Spécification intermédiaire
pour les connecteurs microminiatures
coaxiaux pour fréquences
radioélectriques à accouplement par
encliquetage — Impédance
caractéristique 50 ohm (type MCX)
(CEI 1169-36:1996)

Hochfrequenz-Steckverbinder
Teil 36: Rahmenspezifikation für
Microminiatur HF-Koaxialsteckverbinder
mit Einrastkupplung —
Wellenwiderstand 50 Ohm (Typ MCX)
(IEC 1169-36:1996)

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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.

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

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Foreword

The text of the International Standard IEC 1169-36:1996, 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 Unique Acceptance Procedure and was approved by CENELEC as EN 61169-36 on 1997-03-11 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) 1998-03-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1998-03-01

This part 36 of EN 61169 is to be used in conjunction with EN 61169-1:1994 and its amendment A1:1996.

Endorsement notice

The text of the International Standard IEC 1169-36:1996 was approved by CENELEC as a European Standard without any modification.

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1 General

1.1 Scope

This part of IEC 1169 concerns microminiature coaxial connectors for use with flexible and semi-rigid r.f. cables (96 IEC 50-1-... and 96 IEC 50-2-...). These connectors have a snap-on coupling mechanism, $50\ \Omega$ impedance, an operating frequency range of 3 GHz and are known commercially as MCX connectors.

1.2 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, 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 96-2:1988, *Radio-frequency cables — Part 2: Relevant cable specifications*.

IEC 1169-1:1992, *Radio-frequency connectors — Part 1: Generic specification — General requirements and measuring methods*.

IEC QC 001005, *Register of firms, products and services approved under the IECQ System, including ISO 9000*.

1.3 IEC type designation

Connectors conforming to this standard shall be designated by:

- a) The reference to this standard: 1169-36 IEC.
- b) Number of the grade:
 - grade 0 = standard test connector = G0;
 - grade 2 = general purpose connector = G2.
- c) A group of figures specifying the climatic category.

Example: 1169-36 IEC G2 (55/155/21) denotes a grade 2 connector, with coupling details as indicated in Figure 1 and Figure 2, climatic category 55/155/21.

2 Mating face and gauge information

2.1 Dimensions for general purpose connectors

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

2.1.1 Plug

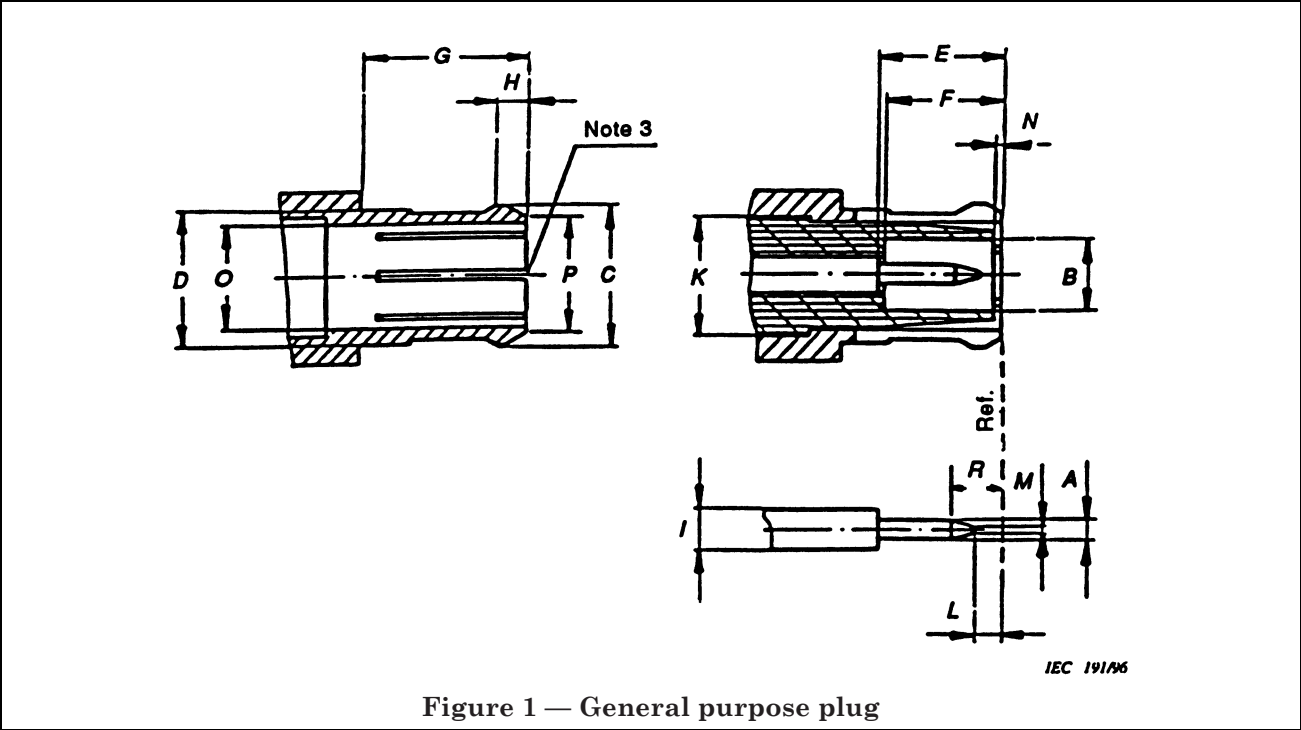


Table 1 — Dimensions of plug

Reference	mm		in		Note
	min.	max.	min.	max.	
A	0,48	0,53	0,019	0,021	Diameter
B	2,00	—	0,079	—	Diameter
C	—	—	—	—	4 Diameter
D	—	3,40	—	0,134	Diameter
E	2,80	3,20	0,110	0,126	
F	2,80	—	0,110	—	
G	4,15	—	0,163	—	
H	—	—	—	—	1
I	—	—	—	—	2 Diameter
K	3,05 nominal		0,120 nominal		2 Diameter
L	0,15	—	0,006	—	
M	—	0,25	—	0,010	Diameter
N	0,00	0,30	0,000	0,012	
O	—	3,00	—	0,118	5 Diameter
P	—	3,60	—	0,142	6 Diameter
R	—	1,20	—	0,047	

1 Form and dimension of outer contact detent to meet electrical and mechanical requirements.

2 Diameter of centre conductor and of uniform transmission line to give required characteristic impedance of 50 Ω.

3 Number and dimensions of slots to meet electrical and mechanical requirements.

4 Opened to 3,8 mm (0,15 in) diameter maximum to meet gauge requirements.

5 Diameter chosen to meet mechanical and electrical requirements and to compensate for electrical effect of slots.

6 Prior to slotting and flaring.

2.1.2 Socket

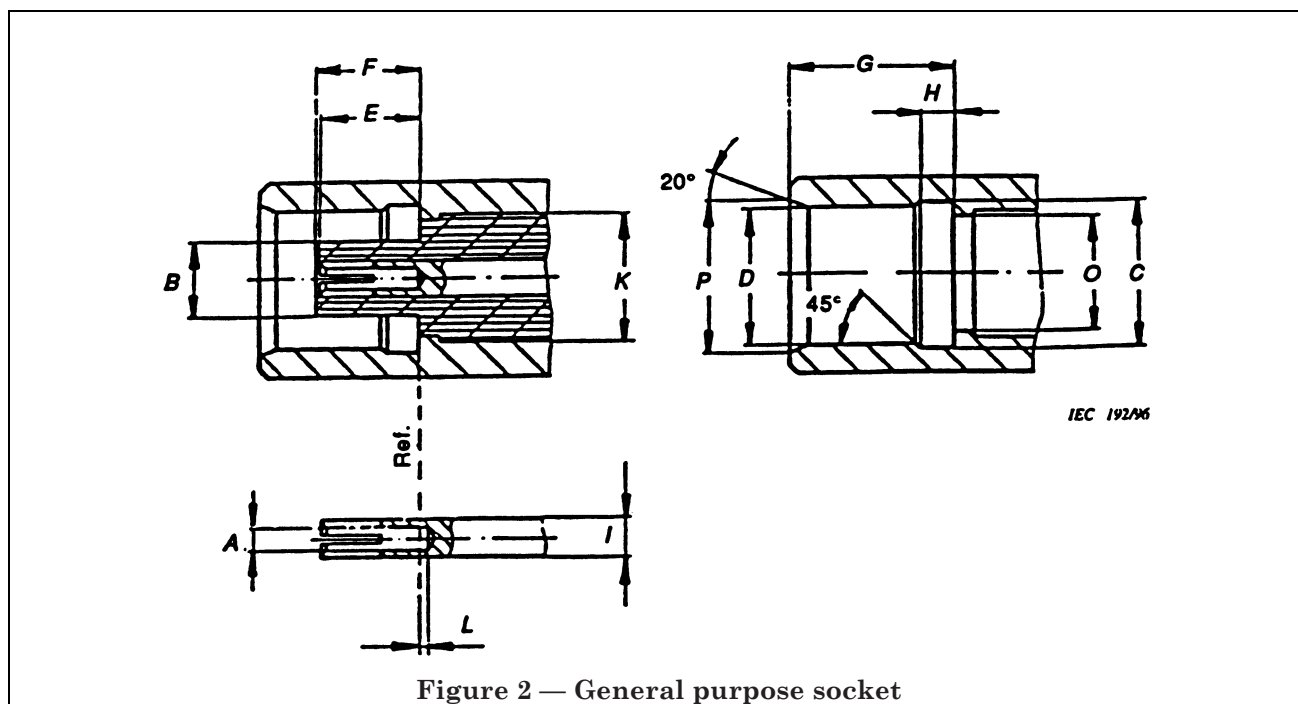


Figure 2 — General purpose socket

Table 2 — Dimensions of socket

Reference	mm		in		Note
	min.	max.	min.	max.	
A	—	—	—	—	2 Diameter Diameter Diameter Diameter
B	—	1,98	—	0,078	
C	3,60	3,75	0,142	0,148	
D	3,42	3,48	0,135	0,137	
E	2,30	2,80	0,091	0,110	
F	2,60	2,80	0,102	0,110	
G	4,00	4,12	0,157	0,162	
H	0,75	0,85	0,030	0,033	
I	—	—	—	—	1 Diameter
K	3,05 nominal		0,120 nominal		1 Diameter
L	0,00	—	0,000	—	Diameter Diameter
O	—	3,00	—	0,118	
P	3,80	—	0,150	—	
1 Diameter of centre conductor and of uniform section of transmission line to give required characteristic impedance of 50 Ω.					
2 Bore diameter and closure to meet electrical and mechanical requirements.					
3 Angular tolerances ± 2°.					

2.2 Gauges for general purpose connectors

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