SLOVENSKI STANDARD
SIST EN 61169-33:1998

01-april-1998

Radio-frequency connectors - Part 33: Sectional specification for series BMA r.f. connectors (IEC 61169-33:1996)

Radio-frequency connectors -- Part 33: Sectional specification for series BMA r.f. connectors

Hochfrequenz-Steckverbinder -- Teil 33: Rahmenspezifikation für HF-Steckverbinder der Baureihe BMA

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Connecteurs pour fréquences radioélectriques -- Partie 33: Spécification intermédiaire pour les connecteurs de type BMA h.f.

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Ta slovenski standard je istoveten z: **EN 61169-33:1997**

ICS:

33.120.30	Radiofrekvenčni konektorji (RF)	R.F. connectors

SIST EN 61169-33:1998 **en**

2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61169-33

May 1997

ICS 33.120.30

Descriptors: Electronic components, R.F. connectors, series BMA

English version

Radio-frequency connectors
Part 33: Sectional specification for series BMA r.f. connectors
(IEC 1169-33:1996)

Connecteurs pour fréquences radioélectriques
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(CEI 1169-33:1996)

Hochfrequenz-Steckverbinder
Teil 33: Rahmenspezifikation für HF-Steckverbinder der Baureihe BMA
(IEC 1169-33:1996)

SIST EN 61169-33:1998

This European Standard was approved by CENELEC on 1997-03-11. 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.

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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

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Foreword

The text of the International Standard IEC 1169-33:1996, 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 61169-33 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 33 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 1169-33:1996 was approved by CENELEC as a European Standard without any modification.

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NORME INTERNATIONALE

INTERNATIONAL STANDARD

CEI
IEC
61169-33

QC 222800

Première édition
First edition
1996-03

Connecteurs pour fréquences radioélectriques

Partie 33: Spécification intermédiaire pour les connecteurs de type BMA h.f.

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Radio-frequency connectors

Part 33: Sectional specification for series BMA r.f. connectors

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE U

Pour prix, voir catalogue en vigueur
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

RADIO-FREQUENCY CONNECTORS –

Part 33: Sectional specification for series BMA r.f. connectors

FOREWORD

1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international cooperation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.

2) The formal decisions or agreements of the IEC on technical matters, express as nearly as possible an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.

3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical reports or guides and they are accepted by the National Committees in that sense.

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6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 1169-33 has been prepared by sub-committee 46D: R.F. connectors, of IEC technical committee 46: Cables, wires, waveguides, r.f. connectors, and accessories for communication and signalling.

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

DIS	Report on voting	ADIS	Report on voting
46D(CO)180	46D(CO)198	46D(CO)206	46D(CO)210

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

This standard shall be read in conjunction with IEC 1169-1.

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).

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INTRODUCTION

The connector interface specified by this part of IEC 1169 includes patented matter which is contained in a United States patent assigned to the manufacturer.

The International Electrotechnical Commission calls attention to the fact that certain interface dimensions and features of the BMA connector are the subject of the United States patent no. 4,426,127 now issued and owned by M/A-Com Omni Spectra, Inc. The IEC takes no position with respect to patent validity. M/A-Com Omni Spectra has assured the IEC that it is willing to grant a licence under these patents on reasonable and non-discriminatory terms and conditions to anyone wishing to obtain such a licence.

M/A-Com Omni Spectra's undertakings (policy letter on licensing, the licence offer, and the form of licence) in this respect are on file with the International Electrotechnical Commission and are available for inspection by all interested parties at the IEC Central Office.

The licence details may be obtained from the legal department of M/A-Com Omni Spectra, Incorporated whose address is:

21 Continental Boulevard
Merrimack, NH 03054
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RADIO-FREQUENCY CONNECTORS –
Part 33: Sectional specification for series BMA r.f. connectors

1 Scope

Series BMA connectors have a characteristic impedance of 50 Ω and are normally used for blind-entry low-power microwave applications in conjunction with flexible and semi-rigid cables having a dielectric diameter of up to 3,00 mm. The connectors are usable up to a frequency of at least 18 GHz.

This sectional specification provides information and rules for the preparation of detail specifications for series BMA r.f. connectors together with the pro forma blank detail specification (BDS).

It also prescribes mating face dimensions for general purpose connectors, dimensional details of standard test connectors grade 0, gauging information and tests selected from QC 220000 (IEC 1169-1) applicable to all detail specifications relating to series BMA connectors.

This specification indicates recommended performance characteristics to be considered when writing a detail specification and it covers test schedules and inspection requirements for assessment levels M and H

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2 Mating face and gauge information

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2.1 *Dimensions – High-performance connectors – Grade 1*

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

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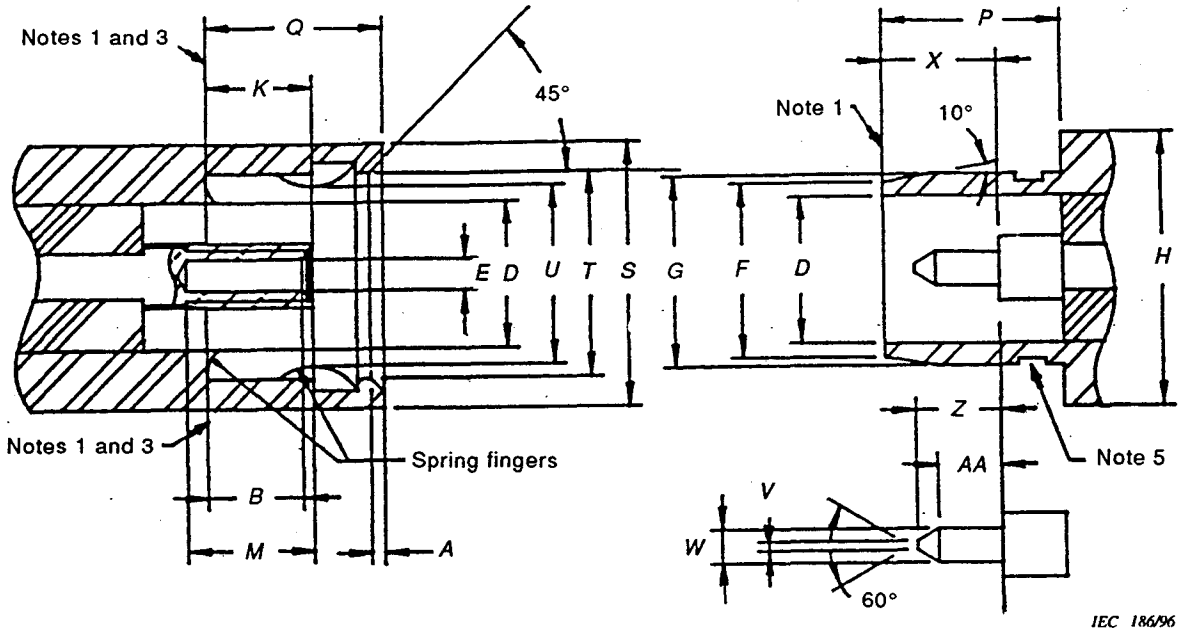

Figure 1a

Figure 1b

Table 1

Reference	mm		in		Notes
	Min.	Max.	Min.	Max.	
A	0,38	0,51	0,015	0,020	Chamfer
B	2,845	—	0,112	—	4, 6
D	4,090 nominal		0,161 nominal		Diameter
E	—	—	—	—	2 Diameter
F	4,880 nominal		0,192 nominal		Diameter
G	5,309	5,359	0,209	0,211	Diameter
H	7,620 nominal		0,300 nominal		Diameter
K	3,048	3,225	0,120	0,127	3
M	2,921	—	0,115	—	
P	5,055	—	0,199	—	
Q	—	5,029	—	0,198	
S	7,370	—	0,290	—	Diameter
T	5,720	—	0,225	—	Diameter
U	—	—	—	—	4 Diameter
V	—	0,380	—	0,015	Diameter
W	0,9017	0,9398	0,0355	0,0370	Diameter
X	3,252	3,429	0,128	0,135	
Z	2,159	2,413	0,085	0,095	
AA	1,346	—	0,053	—	

1 Reference plane, mechanical and electrical.

2 Bore diameter closed to meet electrical and mechanical requirements when mated with a 0,0355/0,0370 in (0,9017/0,9398 mm) diameter.

3 With spring finger bottomed.

4 To meet electrical and mechanical requirements.

5 Design and location of the sealing feature is optional but shall ensure the environmental performance requirements are met with up to 0,015 in (0,38 mm) interface separation.

6 Location of point of electrical and mechanical contact from the reference plane.

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2.2 *Gauges*

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

2.2.1 *Gauges for female center contact*

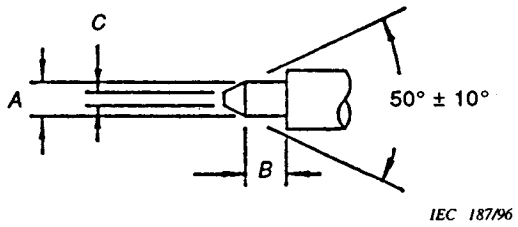

Figure 2 – Gauge pins for center contact of socket connectors

Table 2

Ref.	Gauge A – Maximum material for sizing purposes				Gauge B – Minimum material for sizing purposes Mass of gauge: 28 g min.			
	mm		in		mm		in	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
A	0,9398	0,9448	0,0370	0,0372	0,8967	0,9017	0,0353	0,0355
B	0,762	1,143	0,0300	0,045	1,270	1,905	0,050	0,0750
C	—	0,380	—	0,015	—	—	—	—
Material: polished steel. Surface roughness Ra: 0,4 µm (16 µin) maximum.								

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Test procedure

Gauge A shall be inserted once only into the female center contact. This is a sizing operation.

After this, gauge B shall be inserted into the female center contact. The contact shall support the mass of the gauge in a vertical downward position.

NOTE – The minimum diameter of gauge A corresponds to the maximum diameter of a male contact.

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2.2.2 *Gauges for female outer contacts*

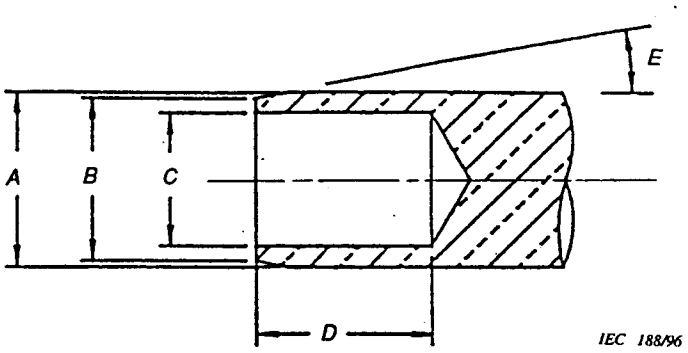

Figure 3 – Gauge for outer contact of socket connectors
(for dimensions see table 3)

Table 3

Ref.	Gauge C – Maximum material for sizing purposes				Gauge D – Minimum material for measurement of gauge retention force. Mass of gauge: 56 g min.			
	mm		in		mm		in	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
AØ	5,3594	5,3644	0,2110	0,2112	5,3036	5,3086	0,2088	0,2090
BØ	4,9124	4,9352	0,1934	0,1943	4,8133	4,8234	0,1895	0,1899
CØ	2,540	4,064	0,100	0,160	2,540	4,064	0,100	0,160
D	5,3086	5,6616	0,2090	0,2229	5,3086	5,3644	0,2090	0,2112
E	11° ± 30′				9° ± 30′			
Material: polished steel. Surface roughness Ra: 0,4 µm (16 µin) maximum.								

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Test procedure

The gauge C shall be placed once inside the outer contact. This is a sizing operation. The gauge D is placed inside the outer contact. The retention force of the gauge shall be 0,56 N minimum