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**Radio-frequency connectors –
Part 59: Sectional specification for type L32-4 and L32-5 threaded multi-pin
radio-frequency connectors**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

RADIO-FREQUENCY CONNECTORS –

Part 59: Sectional specification for type L32-4 and L32-5
threaded multi-pin radio-frequency connectors

FOREWORD

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International Standard IEC 61169-59 has been prepared by subcommittee 46F: RF and microwave passive components, of IEC technical committee 46: Cables, wires, waveguides, RF connectors, RF and microwave passive components and accessories.

The text of this International Standard is based on the following documents:

CDV	Report on voting
46F/351/CDV	46F/362/RVC

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

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of the IEC 61169 series, under the general title: *Radio-frequency connectors*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
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RADIO-FREQUENCY CONNECTORS –

Part 59: Sectional specification for type L32-4 and L32-5 threaded multi-pin radio-frequency connectors

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 L32-4 and L32-5 threaded multi-pin radio frequency connectors with anti mismatching mechanism, 50 Ω nominal impedance. The operating frequency of each channel is up to 4 GHz. These connectors have been widely used in mobile communication system like TD-SCDMA and TD-LTE, and can also be used in some similar equipment.

It also prescribes mating face dimensions for general connectors-grade 2, gauging information and tests selected from IEC 61169-1, applicable to all detail specifications relating to type L32-4 and L32-5 multi-pin connectors.

This sectional specification provides information and rules for the preparation of detail specifications for type L32-4 and L32-5 multi-pin connectors together with the pro forma blank detail specification.

This specification indicates the 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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NOTE Metric dimension are original dimensions.

All undimensioned pictorial configurations are for reference purpose only.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 61169-1:2013, *Radio frequency connectors – Part 1: Generic specification – General requirements and measuring methods*

IEC 61726, *Cable assemblies, cables, connectors and passive microwave components – Screening attenuation measurement by the reverberation chamber method*

IEC 62037 (all parts), *Passive RF and microwave devices, intermodulation level measurement*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

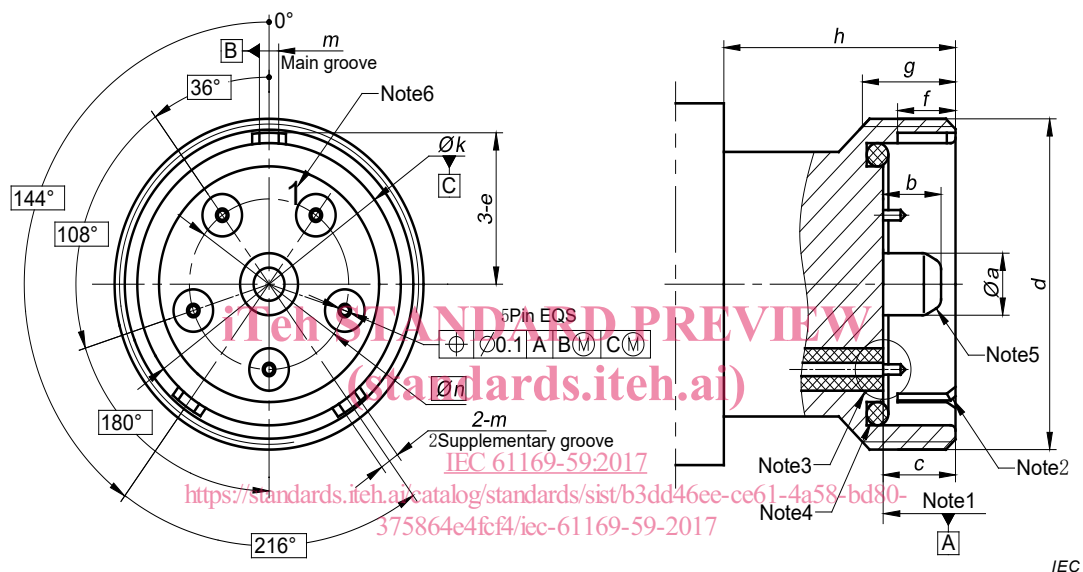
4 Mating face and gauge information

4.1 Dimensions – General connectors – Grade 2

4.1.1 Connector with pin contact

4.1.1.1 L32-5 connector with 5 pin contacts

The mating face of L32-5 connector with 5 pin contacts is shown in Figure 1 and its dimensions are shown in Table 1.



NOTE 1 Mechanical and electrical reference plane.

NOTE 2 Chamfer of three grooves is optional.

NOTE 3 The mating face of RF channel with pin contact is shown in Figure 5a) in 4.1.3 and its dimensions are shown in Table 5.

NOTE 4 The shape of seal ring is optional.

NOTE 5 Anti-mismatching pin.

NOTE 6 The initial position number of RF channel with pin contact and the other positions numbered clockwise.

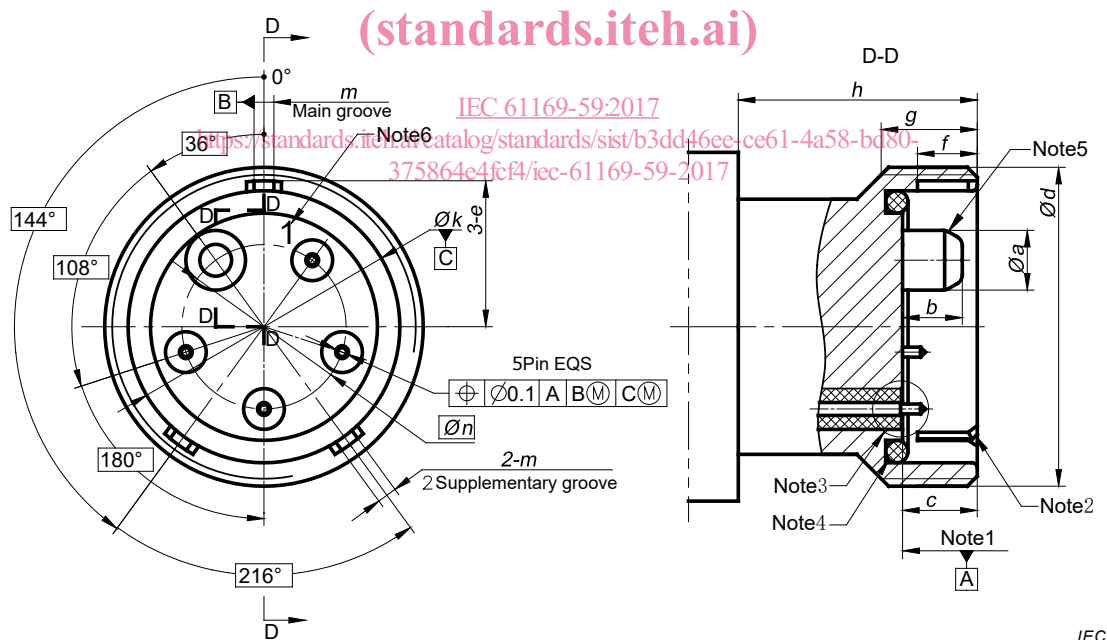
Figure 1 – L32-5 connector with 5 pin contacts

Table 1 – Dimensions of L32-5 connector with 5 pin contacts

Ref.	mm	
	Min.	Max.
a	6,0	6,1
b	6,0	6,2
c	7,5	7,6
d	M32X1,5-6g	
e	14,4	14,5
f	6,0	-
g	9,5	9,7
h	24,0	-
k	27,0	27,1
m	2,1	2,2
n	16,5	

4.1.1.2 L32-4 connector with 4 pin contacts

The mating face of L32-4 connector with 4 pin contacts is shown in Figure 2 and its dimensions are shown in Table 2.



- NOTE 1 Mechanical and electrical reference plane.
- NOTE 2 Chamfer of three grooves is optional.
- NOTE 3 The mating face of RF channel with pin contact is shown in Figure 5a) in 4.1.3 and its dimensions are shown in Table 5.
- NOTE 4 The shape of seal ring is optional.
- NOTE 5 Anti-mismatching pin.
- NOTE 6 The initial position number of RF channel with pin contact and the other positions numbered clockwise.

Figure 2 – L32-4 connector with 4 pin contacts

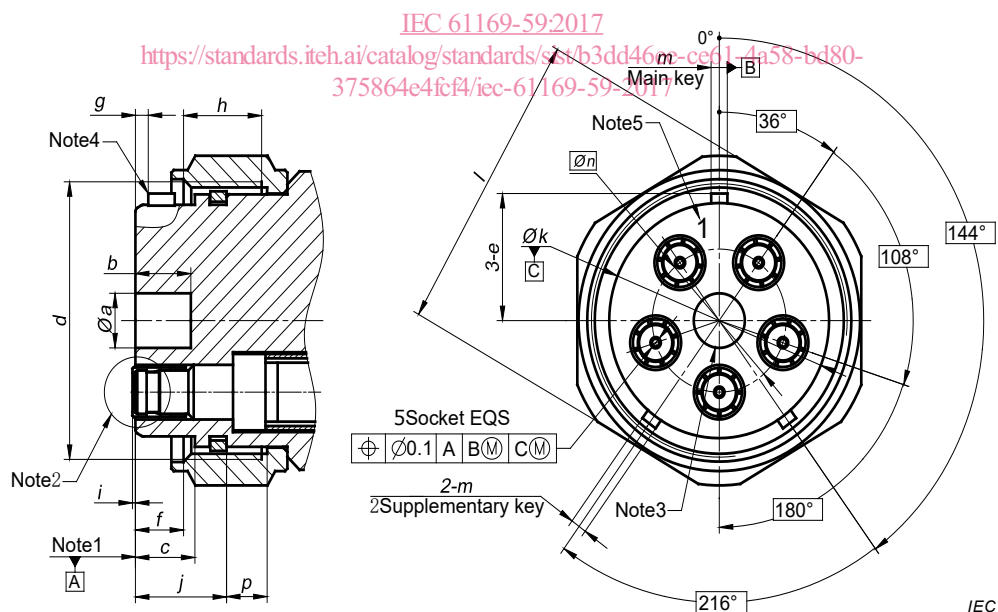
Table 2 – Dimensions of L32-4 connector with 4 pin contacts

Ref.	mm	
	Min.	Max.
<i>a</i>	6,0	6,1
<i>b</i>	6,0	6,2
<i>c</i>	7,5	7,6
<i>d</i>	M32X1,5-6g	
<i>e</i>	14,4	14,5
<i>f</i>	6,0	--
<i>g</i>	9,5	9,7
<i>h</i>	24,0	--
<i>k</i>	27,0	27,1
<i>m</i>	2,1	2,2
<i>n</i>	16,5 16,52	

4.1.2 Connector with socket contact

4.1.2.1 L32-5 connector with 5 socket contacts

The mating face of L32-5 connector with 5 socket contacts is shown in Figure 3 and its dimensions are shown in Table 3.



NOTE 1 Mechanical and electrical reference plane.

NOTE 2 The mating face of RF channel with socket contact is shown in Figure 5b) in 4.1.3 and its dimensions are shown in Table 5.

NOTE 3 Anti-mismatching socket.

NOTE 4 The shape of key of shell is optional.

NOTE 5 The initial position number of RF channel with socket contact and the other positions numbered anti-clockwise.

Figure 3 – L32-5 connector with 5 socket contacts

Table 3 – Dimensions of L32-5 connector with 5 socket contacts

Ref.	mm	
	Min.	Max.
<i>a</i>	6,25	6,35
<i>b</i>	7,0	--
<i>c</i>	7,7	7,8
<i>d</i>	M32X1,5-7H	
<i>e</i>	14,2	14,3
<i>f</i>	7,6	8,0
<i>g</i>	--	0,8
<i>h</i>	6,8	--
<i>i</i>	0,08	0,3
<i>j</i>	11,5	11,7
<i>k</i>	26,6	26,7
<i>l</i>	34,9	35,0
<i>m</i>	1,9	2,0
<i>n</i>	16,5 16,52	
<i>p</i>	5,8	6,1

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4.1.2.2 L32-4 connector with 4 socket contacts

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The mating face of L32-4 connector with 4 socket contacts is shown in Figure 4 and its dimensions are shown in Table 4.