

<b>STN</b>	<b>Vysokofrekvenčné konektory</b> <b>Časť 59: Rámcová špecifikácia na závitové</b> <b>viacpólové vysokofrekvenčné konektory typu</b> <b>L32-4 a L32-5</b>	<b>STN</b> <b>EN 61169-59</b>  35 3811
------------	--	---

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

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 02/18

Obsahuje: EN 61169-59:2017, IEC 61169-59:2017

**126186**

---

Úrad pre normalizáciu, metrológiu a skúšobníctvo Slovenskej republiky, 2018  
Podľa zákona č. 264/1999 Z. z. o technických požiadavkách na výrobky a o posudzovaní zhody a o zmene a doplnení niektorých zákonov v znení neskorších predpisov sa slovenská technická norma a časti slovenskej technickej normy môžu rozmnožovať alebo rozširovať len so súhlasom slovenského národného normalizačného orgánu.

EUROPEAN STANDARD

**EN 61169-59**

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2017

ICS 33.120.30

English Version

**Radio-frequency connectors -Part 59: Sectional specification for  
type L32-4 and L32-5 threaded multi-pin radio-frequency  
connectors  
(IEC 61169-59:2017)**

Connecteurs pour fréquences radioélectriques Partie 59:  
Spécification intermédiaire relative aux connecteurs pour  
fréquences radioélectriques multicoaxiaux filetés L32-4 et  
L32-5  
(IEC 61169-59:2017)

Hochfrequenzsteckverbinder - Teil 59: Rahmenspezifikation  
für mehrpolige Hochfrequenzsteckverbinder mit Gewinde  
Typ L32-4 und L32-5  
(IEC 61169-59:2017)

This European Standard was approved by CENELEC on 2017-06-26. 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.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

## European foreword

The text of document 46F/351/CDV, future edition 1 of IEC 61169-59, prepared by SC 46F "RF and microwave passive components", of IEC/TC 46 "Cables, wires, waveguides, RF connectors, RF and microwave passive components and accessories" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61169-59:2017.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2018-03-26
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2020-06-26

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

## Endorsement notice

The text of the International Standard IEC 61169-59:2017 was approved by CENELEC as a European Standard without any modification.

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: [www.cenelec.eu](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61169-1	2013	Radio-frequency connectors -- Part 1: Generic specification - General requirements and measuring methods	EN 61169-1	2013
IEC 61726	-	Cable assemblies, cables, connectors and passive microwave components - Screening attenuation measurement by the reverberation chamber method	EN 61726	-
IEC 62037	series	Passive RF and microwave devices intermodulation level measurement	EN 62037	series



**IEC 61169-59**

Edition 1.0 2017-05

# **INTERNATIONAL STANDARD**



---

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





**THIS PUBLICATION IS COPYRIGHT PROTECTED**  
**Copyright © 2017 IEC, Geneva, Switzerland**

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

IEC Central Office  
 3, rue de Varembe  
 CH-1211 Geneva 20  
 Switzerland

Tel.: +41 22 919 02 11  
 Fax: +41 22 919 03 00  
[info@iec.ch](mailto:info@iec.ch)  
[www.iec.ch](http://www.iec.ch)

**About the IEC**

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

**About IEC publications**

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigenda or an amendment might have been published.

**IEC Catalogue - [webstore.iec.ch/catalogue](http://webstore.iec.ch/catalogue)**

The stand-alone application for consulting the entire bibliographical information on IEC International Standards, Technical Specifications, Technical Reports and other documents. Available for PC, Mac OS, Android Tablets and iPad.

**IEC publications search - [www.iec.ch/searchpub](http://www.iec.ch/searchpub)**

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee,...). It also gives information on projects, replaced and withdrawn publications.

**IEC Just Published - [webstore.iec.ch/justpublished](http://webstore.iec.ch/justpublished)**

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and also once a month by email.

**Electropedia - [www.electropedia.org](http://www.electropedia.org)**

The world's leading online dictionary of electronic and electrical terms containing 20 000 terms and definitions in English and French, with equivalent terms in 16 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

**IEC Glossary - [std.iec.ch/glossary](http://std.iec.ch/glossary)**

65 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

**IEC Customer Service Centre - [webstore.iec.ch/csc](http://webstore.iec.ch/csc)**

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: [csc@iec.ch](mailto:csc@iec.ch).



# INTERNATIONAL STANDARD



---

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

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

---

ICS 33.120.30

ISBN 978-2-8322-4398-5

**Warning! Make sure that you obtained this publication from an authorized distributor.**

## CONTENTS

FOREWORD.....	4
1 Scope.....	6
2 Normative references .....	6
3 Terms and definitions .....	6
4 Mating face and gauge information .....	7
4.1 Dimensions – General connectors – Grade 2 .....	7
4.1.1 Connector with pin contact.....	7
4.1.2 Connector with socket contact .....	9
4.1.3 Mating face of RF channel .....	12
4.2 Gauges.....	13
4.2.1 Gauge for socket centre contact .....	13
4.2.2 Gauge for type L32-5 connector with 5 pin contacts.....	14
4.2.3 Gauge for L32-4 connector with 4 pin contacts .....	15
4.2.4 Gauge for L32-5 connector with 5 socket contacts .....	16
4.2.5 Gauge for L32-4 connector with 4 socket contacts .....	17
5 Quality assessment procedure.....	19
5.1 General.....	19
5.2 Rating and characteristics.....	19
5.3 Test schedule and inspection requirements.....	21
5.3.1 Acceptance tests .....	21
5.3.2 Periodic tests.....	22
5.4 Procedures for the qualification approval .....	24
5.4.1 Quality conformance inspection .....	24
5.4.2 Qualification approval and its maintenance .....	24
5.4.3 Periodic tests.....	24
5.4.4 Procedures for quality conformance.....	24
6 Instructions for preparation of detail specifications .....	25
6.1 General.....	25
6.2 Identification of the component .....	25
6.3 Performance .....	25
6.4 Marking, ordering information and related matters .....	25
6.5 Selection of tests, test conditions and severities .....	25
6.6 Blank detail specification pro-forma for Type L32-4 and L32-5 threaded multi-pin radio frequency connectors.....	26
7 Marking .....	31
7.1 Marking of component.....	31
7.2 Marking and contents of package.....	31
Annex A (normative) Isolation test method .....	32
A.1 Preparation of test sample .....	32
A.2 Test procedure.....	32
Figure 1 – L32-5 connector with 5 pin contacts .....	7
Figure 2 – L32-4 connector with 4 pin contacts .....	8
Figure 3 – L32-5 connector with 5 socket contacts.....	9
Figure 4 – L32-4 connector with 4 socket contacts .....	11
Figure 5 – Mating face of RF channel .....	12



Figure 6 – Gauge for socket contact of RF channel.....	13
Figure 7 – Gauge for L32-5 connector with 5 pin contacts.....	14
Figure 8 – Gauge for L32-4 connector with 4 pin contacts.....	15
Figure 9 – Gauge for L32-5 connector with 5 socket contacts .....	16
Figure 10 – Gauge for L32-4 connector with 4 socket contacts .....	18
Table 1 – Dimensions of L32-5 connector with 5 pin contacts .....	8
Table 2 – Dimensions of L32-4 connector with 4 pin contacts.....	9
Table 3 – Dimensions of L32-5 connector with 5 socket contacts .....	10
Table 4 – Dimensions of L32-4 connector with 4 socket contacts .....	11
Table 5 – Dimensions of the mating face of RF channel.....	13
Table 6 – Dimensions of gauge for socket contact .....	14
Table 7 – Dimensions of gauge L32-5 connector with 5 pin contacts.....	15
Table 8 – Dimensions of gauge L32-4 connector with 4 pin contacts.....	16
Table 9 – Dimensions of gauge for L32-5 connector with 5 socket contacts .....	17
Table 10 – Dimensions of gauge for L32-4 connector with 4 socket contacts .....	18
Table 11 – Rating and characteristics .....	20
Table 12 – Acceptance tests .....	22
Table 13 – Periodic tests .....	23

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

## FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). 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. 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 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 IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

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
- amended.

A bilingual version of this publication may be issued at a later date.

**IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.**

## 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  $\Omega$  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.

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*

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**