

SLOVENSKI STANDARD

SIST EN 4652-311:2016

01-februar-2016

Aeronavtika - Konektorji, koaksialni, radiofrekvenčni - 311. del: Tip 3, vmesnik N - Izvedba z objemno matico - Pravokotni vtič - Standard za proizvod

Aerospace series - Connectors, coaxial, radio frequency - Part 311: Type 3, N interface - Clamp nut assembly version - Right angle plug - Product standard

Luft- und Raumfahrt - Hochfrequenz Steckverbinder, koaxial - Teil 311: Typ 3 N - Klemmverbindung - Rechtwinkliger Kabelverbinder - Produktnorm

Série aérospatiale - Connecteurs coaxiaux pour radio fréquences - Partie 311 : Type 3, interface N - Version à presse étoupe - Fiche coudée - Norme de produit

<https://standards.iteh.ai/catalog/standards/sist/20fc1d16-b7d5-4198-9090-02b3980dfa63/sist-en-4652-311-2016>

Ta slovenski standard je istoveten z: EN 4652-311:2015

ICS:

31.220.10	Vtiči in vtičnice, konektorji	Plug-and-socket devices. Connectors
49.060	Letalska in vesoljska električna oprema in sistemi	Aerospace electric equipment and systems

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 4652-311

December 2015

ICS 49.060

English Version

**Aerospace series - Connectors, coaxial, radio frequency -
Part 311: Type 3, N interface - Clamp nut assembly version
- Right angle plug - Product standard**

Série aérospatiale - Connecteurs coaxiaux pour radio
fréquences - Partie 311 : Type 3, interface N - Version à
presse étoupe - Fiche coudée - Norme de produit

Luft- und Raumfahrt - Koaxiale Hochfrequenz-
Steckverbinder - Teil 311: Typ 3, N-Anschluss -
Klemmverbindung - freier Steckverbinder, 90°
abgewinkelt - Produktnorm

This European Standard was approved by CEN on 6 June 2015.

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COMITÉ EUROPÉEN DE NORMALISATION
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European foreword

This document (EN 4652-311:2015) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this European Standard has received the approval of the National Associations and the Official Services of the member countries of ASD, prior to its presentation to CEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2016, and conflicting national standards shall be withdrawn at the latest by June 2016.

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

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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EN 4652-311:2015 (E)

1 Scope

This European Standard specifies the characteristics of screwed on coupling (N interface) coaxial right angle plugs – 50 ohms. The cable to connector assembly is a clamp technology.

2 Normative references

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.

EN 2591 ¹⁾, *Aerospace series — Elements of electrical and optical connection — Test methods*

EN 2812, *Aerospace series — Stripping of electric cables*

EN 4652-001, *Aerospace series — Connectors, coaxial, radio frequency — Part 001: Technical specification*

EN 4652-312, *Aerospace series — Connectors, coaxial, radio frequency — Part 312: Type 3, N interface — Clamp nut assembly version — Square flange receptacle — Product standard*

EN 4652-313, *Aerospace series — Connectors, coaxial, radio frequency — Part 313: Type 3, N interface — Clamp nut assembly version — Bulkhead receptacle — Product standard*

EN 9133, *Aerospace series — Quality management systems — Qualification procedure for aerospace standard parts*

TR 6058, *Aerospace series — Cable code identification list* ²⁾

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3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 4652-001 apply.

4 Required characteristics

- The connection technology shall comply to required tests described in Clause 5.
- Interface shall comply to EN 4652-001.
- A self-locking device on plugs shall be proposed if holes for lockwire do not exist.
- Water ingress resistance is required in mated conditions for all cable groups.
- Water ingress resistance is required in unmated condition for cable group A.

1) All parts quoted in this standard.

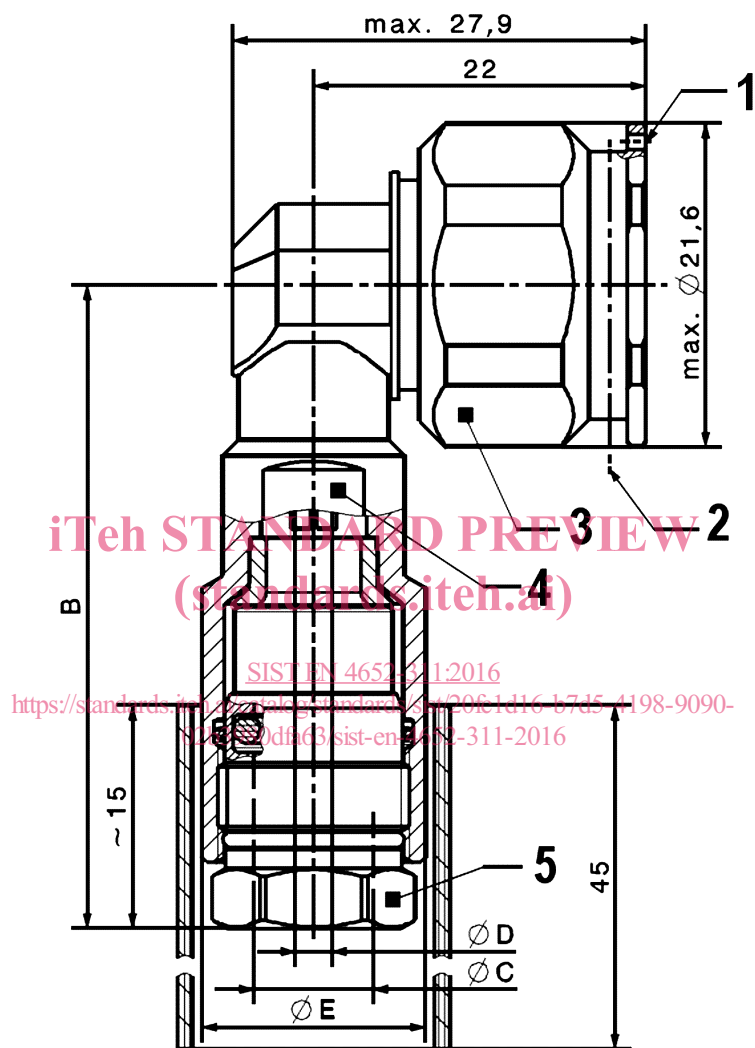
2) Published as ASD-STAN Technical Report at the date of publication of this standard. <http://www.asd-stan.org/>

4.1 Configuration, dimension and mass

Mass without heat shrink tubing.

See Figure 1 and Table 1.

Dimensions in millimetres



Key

- 1 3 holes for locking $\varnothing 1$
- 2 Marking
- 3 HEX. 20
- 4 Flat 10
- 5 HEX. F

Figure 1 — N right angle plug

Marking: see Clause 9.

Table 1 — N right angle plug dimensions and mass

Cable group	B max.	$\varnothing C$ (cable jacket) max.	$\varnothing D$ (cable conductor)	$\varnothing E$ max.	HEX. F	Mass g max.
A	43,0	7,8	2,3	15	12	59,5
B	33,8	5,55	1,4	13	8	47,7

4.2 Materials and finish

Centre contact : Copper alloy gold plated over nickel undercoat

Insulators : PTFE

Sealings : Silicone rubber or silicone fluoride

Body : Copper alloy, nickel plated

Heat shrink tube : Polyolefin

Coupling nut, rear screw and other parts' materials shall have mechanical and electrical characteristics consistent with the requirements of this product standard.

4.3 Temperature

Operating temperature shall be between -65°C and 165°C .

4.4 Electrical characteristics

Impedance : $50\ \Omega$

Maximum operating frequency : 6 GHz

VSWR : 1,15 max. from DC to 3 GHz
1,20 max. from 3 GHz to 6 GHz

Insertion loss : $0,07\sqrt{f}$ dB max., f in GHz

Contact resistance (initial centre contact) : $2,5\ \text{m}\Omega$ max.

Insulation resistance : 5 000 $\text{M}\Omega$ min.

Withstand voltage : 1 500 Veff (at sea level)

4.5 General characteristics

Tightening torque of coupling nut : $4\ \text{Nm} \pm 0,4\ \text{Nm}$

Force to engage or disengage : 0,68 Nm max.

Service life : 500 cycles

Retention of centre contact : 27 N min

Retention of cable : see Table 2.

Table 2 — Retention of cable

Cable group	Retention of cable N min.
A	180
B	180

4.6 Admissible cables, tools and stripping lengths

See Table 3 to Table 5.

Table 3 — Stripping lengths

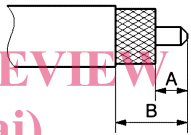
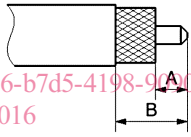
Cable group	Cable code (see TR 6058)	Stripping lengths mm
A	KW	
B	KX	

Table 4 — Stripping lengths cable group A

A		B	
min. mm	max. mm	min. mm	max. mm
3,6	4,4	8,6	9,4

Table 5 — Stripping lengths cable group B

A		B	
min. mm	max. mm	min. mm	max. mm
3,6	4,4	7,6	8,4

For stripping, see EN 2812.