
**Aeronavtika - Konektorji, koaksialni, radiofrekvenčni - 220. del: Tip 2, vmesnik TNC
- Izvedba s stisljivimi priključki - Ravni vtič - Standard za proizvod**

Aerospace series - Connectors, coaxial, radio frequency - Part 220: Type 2, TNC interface - Crimp version - Straight plug - Product standard

Luft- und Raumfahrt - HF-Steckverbinder, koaxial - Teil 220: Typ 2, crimpbar, TNC-Schnittstelle, freier Steckverbinder, gerade Ausführung - Produktnorm

Série aérospatiale - Connecteurs coaxiaux pour radio fréquences - Partie 220: Type 2, interface TNC - Version à sertir - Fiche droite - Norme de produit

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Ta slovenski standard je istoveten z: EN 4652-220:2017

ICS:

33.120.30	Radiofrekvenčni konektorji (RF)	RF connectors
49.060	Letalska in vesoljska električna oprema in sistemi	Aerospace electric equipment and systems

SIST EN 4652-220:2017**en,fr,de**

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EUROPEAN STANDARD

EN 4652-220

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ICS 49.060

English Version

Aerospace series - Connectors, coaxial, radio frequency - Part 220: Type 2, TNC interface - Crimp version - Straight plug - Product standard

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Luft- und Raumfahrt - Koaxiale Hochfrequenz-
Steckverbinder - Teil 220: Typ 2, TNC-Schnittstelle,
Crimpverbindung - freier Steckverbinder, gerade -
Produktnorm

This European Standard was approved by CEN on 12 June 2017.

CEN 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 CEN 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 CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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COMITÉ EUROPÉEN DE NORMALISATION
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European foreword

This document (EN 4652-220:2017) 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 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 February 2018, and conflicting national standards shall be withdrawn at the latest by February 2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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EN 4652-220:2017 (E)**1 Scope**

This European Standard specifies the characteristics of screwed on coupling (TNC interface) coaxial straight plugs – 50 ohms.

These connectors are foreseen for light weight coaxial cables; so, appropriate sealing have to be achieved.

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 2424, *Aerospace series — Marking of aerospace products*

EN 2591-1¹⁾, *Aerospace series — Cables, electrical, aircraft use — Test methods*

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

EN 3155-001, *Aerospace series — Electrical contacts used in elements of connections — Part 001: Technical specification*

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

EN 4652-222, *Aerospace series — Connectors coaxial radio frequency — Part 222: Type 2, TNC interface — Square flange receptacle — Product standard* ²⁾

EN 9133, *Aerospace series — Quality Management Systems — Qualification Procedure for Aerospace Standard Products* ³⁾

TR 6058, *Aerospace series — Cable code identification list* ³⁾

3 Required characteristics

- The connection technology shall comply to all required tests described in Clause 5.
- All interface shall comply to EN 4652-001.
- Holes for lockwire shall exist in case of no self-locking device on the product.
- Water ingress resistance is required in mated conditions for all cable groups.
- Water ingress resistance is also required in unmated conditions for cable group A.

1) All parts quoted in this standard.

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

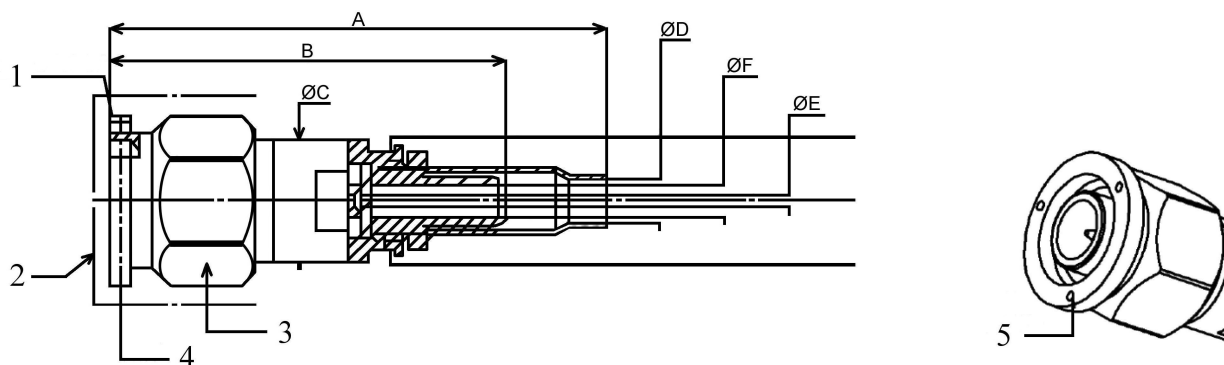
3) Published as ASD-STAN Technical Report at the date of publication of this standard. (<http://www.asd-stan.org/>)

3.1 Configuration, dimension and mass

3.1.1 TNC, straight plug

See Figure 1 and Table 1.

Dimensions in millimetres



Key

- 1 3 holes $\varnothing 0,95 \times 120^\circ$
- 2 Protective cap
- 3 Hex 14 / flats
- 4 Marking axis
- 5 3 holes $\varnothing 0,95$

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Marking: See Clause 8.

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Figure 1 — TNC, straight plug

Table 1 — TNC, straight plug dimensions and mass

Cable code (see TR 6058)	<i>A</i> max.	<i>B</i> max.	$\varnothing C$	$\varnothing D$	$\varnothing E$	$\varnothing F$	Mass g
WM	47	37,5	11,45	4,2	1,15	3	20,63
WZ	42	37,5	11,45	3,7	1,05	2,55	21,10
WD	49,7	46,5	13,95	8,4	2,5	6,3	33,25
WN	49,7	46,5	13,95	8,4	2,5	6,3	33,25

3.2 Materials and finish

Center contact (front active part).....: copper alloy gold plated over nickel undercoat

Ferrule (if existing).....: copper alloy

Insulators.....: PTFE

Seals: Silicone rubber or fluoride

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Body of connector, coupling nut, rear screw materials of these parts shall have mechanical and electrical characteristics consistent with the required use.

Adhesive lined heatshrink tubing shall have suitable material to meet the temperature requirement of the connector.

3.3 Temperature

Operating temperature range from – 65 °C to 165 °C.

3.4 Electrical characteristics

Impedance: 50 Ω

Maximum operating frequency.....: 6 GHz

VSWR: see Table 2

Table 2 — Electrical characteristics

Frequency (MHz)	VSWR max.
150	1,10
1 200	1,15
6 000	1,20

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The VSWR requirement is applicable for connector alone.

Insertion loss: 0,06 √*f* dB max. *f* in GHz

Contact resistance (initial central contact).....: 1,5 mΩ max.

Insulation resistance: 5 000 MΩ min.

Maximum operating voltage: 1 000 Vrms (at see level)

3.5 Mechanical characteristics

Tightening torque of coupling nut.....: 2,6 Nm + 0,3 Nm

Force to engage or disengage: 0,23 Nm max.

Coupling proof torque.....: 3 Nm ≤ *T* ≤ 3,7 Nm

Service life.....: 500 cycles

Retention of centre contact: 27 N

Retention of cable.....: see Table 3

Table 3 — Retention of cable

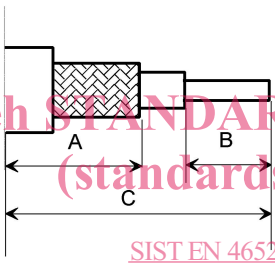
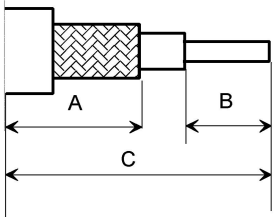
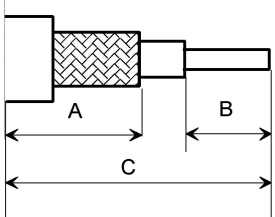
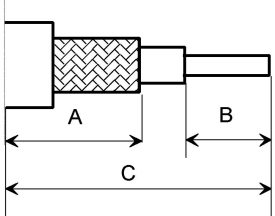
Cable code (see TR 6058)	Retention of cable
WD, WN	400 N min.
WM	140 N min.
WZ	110 N min.

3.6 Admissible cables, tools and stripping lengths

3.6.1 Admissible cables, tools

The connector shall accept the cables listed in Table 4 with associated tools.

Table 4 — Tools and stripping lengths

Cable group	Cable code (see TR 6058)	Stripping length mm	Tools for crimping	
			Center contact	Ferrule
C	WM		Tool M22520/1-01 Locator M22520/1-13 (red) Selection 7	Tool M22520/5-01 Die M22520/5-05
D	WZ		Tool M22520/1-01 Locator M22520/1-13 (red) Selection 7	Tool M22520/5-01 Die M22520/5-05
E	WD		Tool M22520/1-01 Locator M22520/1-13 (red) Selection 7	Tool M22520/5-01 Die M22520/5-61
F	WN		Tool M22520/1-01 Locator M22520/1-13 (red) Selection 7	Tool M22520/5-01 Die M22520/5-61