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**Aeronavtika - Konektorji, koaksialni, radiofrekvenčni - 222. del: Tip 2, vmesnik TNC - Izvedba s stisljivimi priključki - Vtičnica s pravokotno prirobnico - Standard za proizvod**

Aerospace series - Connectors, coaxial, radio frequency - Part 222: Type 2, TNC interface - Crimp version - Square flange receptacle - Product standard

Luft- und Raumfahrt - Koaxiale Hochfrequenz-Steckverbinder - Teil 222: Typ 2, TNC-Schnittstelle, Crimpverbindung - fester Steckverbinder mit quadratischem Montageflansch - Produktnorm (standards.iteh.ai)

Série aérospatiale - Connecteurs coaxiaux pour radio fréquences - Partie 222 : Type 2, interface TNC - Version à sertir - Embase à collerette carrée - Norme de produit

**Ta slovenski standard je istoveten z: EN 4652-222:2017**

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**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

**SIST EN 4652-222:2018**

**en,fr,de**

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SIST EN 4652-222:2018

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EUROPEAN STANDARD

EN 4652-222

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2017

ICS 49.060

English Version

## Aerospace series - Connectors, coaxial, radio frequency - Part 222: Type 2, TNC interface - Crimp version - Square flange receptacle - Product standard

Série aérospatiale - Connecteurs coaxiaux pour radio  
fréquences - Partie 222 : Type 2, interface TNC -  
Version à sertir - Embase à collerette carrée - Norme  
de produit

Luft- und Raumfahrt - Koaxiale Hochfrequenz-  
Steckverbinder - Teil 222: Typ 2, TNC-Schnittstelle,  
Crimpverbindung - fester Steckverbinder mit  
quadratischem Montageflansch - Produktnorm

This European Standard was approved by CEN on 18 September 2017.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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

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## European foreword

This document (EN 4652-222:2017) 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 May 2018, and conflicting national standards shall be withdrawn at the latest by May 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 4652-222:2017 (E)****1 Scope**

This European Standard specifies the characteristics of screwed on coupling (TNC interface) coaxial square flange receptacle – 50 ohms. The cable to connector assembly is crimp technology.

**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.

EN 2424, *Aerospace series — Marking of aerospace products*

EN 2591 \*, *Aerospace series — Elements of electrical and optical connection — Test methods* <sup>1)</sup>

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

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

EN 4652-220, *Aerospace series — Connectors, coaxial, radio frequency — Part 220: Type 2 TNC interface — Crimp version — Straight plug — Product standard*

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

TR 6058, *Aerospace series — Cable code identification list* <sup>2)</sup>

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**3 Required characteristics**

- The connection technology shall comply to all required tests described in Clause 4.
- All interface shall comply to EN 4652-001.
- 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.

**3.1 Configuration, dimension and mass**

Mass without heatshrink tubing.

See Figure 1 and Table 1.

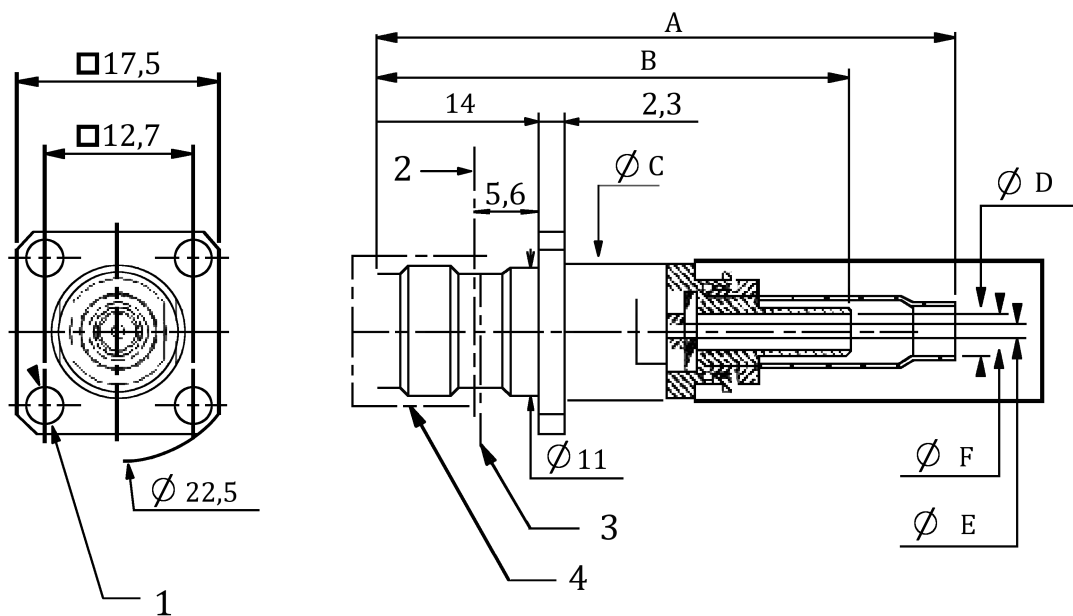
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\* All parts quoted in this standard.

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

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

Dimensions in millimetres



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Centre contact = Socket

### Key

- 1 4 holes 3-56 UNF-2B
- 2 REF. Plane
- 3 Marking axis
- 4 Prospective cap
- 5 12/2 Flats

Marking: see Clause 8.

Figure 1 — TNC square flange receptacle dimensions

Table 1 — TNC square flange receptacle dimensions and mass

Cable code (see TR 6058)	Cable group	A	B	$\varnothing C$	$\varnothing D$	$\varnothing E$	$\varnothing F$	Mass g
		max.	max.	max.				
WM	C	49,9	30,5	11,45	4,2	1,15	2,92	18,9
WZ	D	49,9	30,5	11,45	3,7	1,05	2,55	18,9
WD	E	51	30,8	13,95	8,4	2,5	6,3	30,6
WN	F	51	30,8	13,95	8,4	2,5	6,3	30,6

## EN 4652-222:2017 (E)

**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
Body .....	Copper alloy nickel plated
Heat shrink tube.....	Polyolefin

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

**3.3 Temperature**

Operating temperature shall be between – 65 °C to 135 °C (polyolefin temperature limited).

**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

The VSWR requirement is applicable for connector alone.

Insertion loss .....	0,06 $\sqrt{f}$ 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 V rms (at sea level)

**3.5 Mechanical characteristics**

Tightening torque of coupling nut.....	Not applicable
Force to engage or disengage .....	0,23 Nm max.
Tightening torque of back nut .....	3 Nm $\leq T \leq$ 3,7 Nm
Service life.....	500 cycles
Retention of centre contact .....	27 N min.
Retention of cable.....	See Table 3



Table 3 — Retention of cable

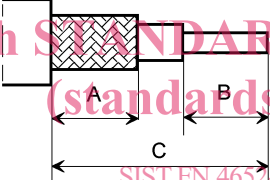
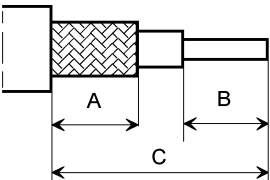
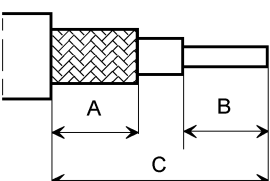
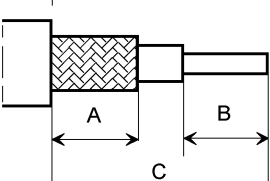
Cable code (see TR 6058)	Cable group	Retention of cable
WD	E	400 N min.
WN	F	400 N min.
WM	C	140 N min.
WZ	D	110 N min.

### 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 — Admissible cables and tools

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