

SLOVENSKI STANDARD
SIST EN 2997-002:2012**01-september-2012****Nadomešča:****SIST EN 2997-002:2009**

Aeronavtika - Konektorji, električni, okrogli, priključeni z navojnim obročkom, odporni ali neodporni proti ognju, s stalno delovno temperaturo med –65 °C in 175 °C, stalno 200 °C, najvišjo 260 °C - 002. del: Specifikacija lastnosti in razporeditev kontaktov

Aerospace series - Connectors, electrical, circular, coupled by threaded ring, fire-resistant or non fire-resistant, operating temperatures – 65 °C to 175 °C continuous, 200 °C continuous, 260 °C peak - Part 002: Specification of performance and contact arrangements

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Luft- und Raumfahrt - Elektrische Rundsteckverbinder mit Schraubkupplung, feuerbeständig oder nicht feuerbeständig, Betriebstemperaturen – 65 °C bis 175 °C konstant, 200 °C konstant, 260 °C Spitze - Teil 002: Leistungsdaten und Kontaktanordnungen

Série aérospatiale - Connecteurs électriques circulaires à accouplement par bague filetée, résistant au feu ou non, températures d'utilisation – 65 °C à 175 °C continu, 200 °C continu, 260 °C en pointe - Partie 002: Spécification de performances et d'arrangements des contacts

Ta slovenski standard je istoveten z: EN 2997-002:2012

ICS:

49.060	Letalska in vesoljska električna oprema in sistemi	Aerospace electric equipment and systems
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EUROPEAN STANDARD

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This European Standard was approved by CEN on 20 August 2011.

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Foreword

This document (EN 2997-002:2012) 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of an identical text or by endorsement, at the latest by September 2012, and conflicting national standards shall be withdrawn at the latest by September 2012.

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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, 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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Introduction

This family of connectors is derived from MIL-DTL-83723 series III, type T with which it is intermateable.

1 Scope

This European Standard defines the performance and contact arrangements of circular electrical connectors, coupled by threaded ring. It also lists the product standards and models available for selection in this series.

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 2591-202, *Aerospace series — Elements of electrical and optical connection — Test methods — Part 202: Contact resistance at rated current*

EN 2591-209, *Aerospace series — Elements of electrical and optical connection — Test methods — Part 209: Current temperature derating*

EN 2997-001, *Aerospace series — Connectors, electrical, circular, coupled by threaded ring, fire-resistant or non fire-resistant, operating temperatures – 65 °C to 175 °C continuous, 200 °C continuous, 260 °C peak — Part 001: Technical specification*

EN 2997-003, *Aerospace series — Connectors, electrical, circular, coupled by threaded ring, fire-resistant or non fire-resistant, operating temperatures – 65 °C to 175 °C continuous, 200 °C continuous, 260 °C peak — Part 003: Square flange receptacle — Product standard*

EN 2997-004, *Aerospace series — Connectors, electrical, circular, coupled by threaded ring, fire-resistant or non fire-resistant, operating temperatures – 65 °C to 175 °C continuous, 200 °C continuous, 260 °C peak — Part 004: Jam-nut mounted receptacle — Product standard*

EN 2997-005, *Aerospace series — Connectors, electrical, circular, coupled by threaded ring, fire-resistant or non fire-resistant, operating temperatures – 65 °C to 175 °C continuous, 200 °C continuous, 260 °C peak — Part 005: Hermetic square flange receptacle — Product standard*

EN 2997-006, *Aerospace series — Connectors, electrical, circular, coupled by threaded ring, fire-resistant or non fire-resistant, operating temperatures – 65 °C to 175 °C continuous, 200 °C continuous, 260 °C peak — Part 006: Hermetic jam-nut mounted receptacle — Product standard*

EN 2997-007, *Aerospace series — Connectors, electrical, circular, coupled by threaded ring, fire-resistant or non fire-resistant, operating temperatures – 65 °C to 175 °C continuous, 200 °C continuous, 260 °C peak — Part 007: Hermetic receptacle with round flange attached by welding or brazing — Product standard*

EN 2997-008, *Aerospace series — Connectors, electrical, circular, coupled by threaded ring, fire-resistant or non fire-resistant, operating temperatures – 65 °C to 175 °C continuous, 200 °C continuous, 260 °C peak — Part 008: Plug — Product standard*

EN 2997-009, *Aerospace series — Connectors, electrical, circular, coupled by threaded ring, fire-resistant or non fire-resistant, operating temperatures – 65 °C to 175 °C continuous, 200 °C continuous, 260 °C peak — Part 009: Protective cover for receptacle — Product standard*

EN 2997-010, Aerospace series — Connectors, electrical, circular, coupled by threaded ring, fire-resistant or non fire-resistant, operating temperatures – 65 °C to 175 °C continuous, 200 °C continuous, 260 °C peak — Part 010: Protective cover for plug — Product standard

EN 2997-011, Aerospace series — Connectors, electrical, circular, coupled by threaded ring, fire-resistant or non fire-resistant, operating temperatures – 65 °C to 175 °C continuous, 200 °C continuous, 260 °C peak — Part 011: Dummy receptacle — Product standard

EN 2997-012, Aerospace series — Connectors, electrical, circular, coupled by threaded ring, fire-resistant or non fire-resistant, operating temperatures – 65 °C to 175 °C continuous, 200 °C continuous, 260 °C peak — Part 012: Nut — Product standard

EN 2997-013, Aerospace series — Connectors, electrical, circular, coupled by threaded ring, fire-resistant or non fire-resistant, operating temperatures – 65 °C to 175 °C continuous, 200 °C continuous, 260 °C peak — Part 013: O-ring seal — Product standard

EN 2997-014, Aerospace series — Connectors, electrical, circular, coupled by threaded ring, fire-resistant or non fire-resistant, operating temperatures – 65 °C to 175 °C continuous, 200 °C continuous, 260 °C peak — Part 014: Square flange receptacle with integral accessory — Product standard

EN 2997-015, Aerospace series — Connectors, electrical, circular, coupled by threaded ring, fire-resistant or non fire-resistant, operating temperatures – 65 °C to 175 °C continuous, 200 °C continuous, 260 °C peak — Part 015: Jam-nut mounted receptacle with integral accessory — Product standard

EN 2997-016, Aerospace series — Connectors, electrical, circular, coupled by threaded ring, fire-resistant or non fire-resistant, operating temperatures – 65 °C to 175 °C continuous, 200 °C continuous, 260 °C peak — Part 016: Plug with integral accessory — Product standard

EN 2997-017, Aerospace series — Connectors, electrical, circular, coupled by threaded ring, fire-resistant or non fire-resistant, operating temperatures – 65 °C to 175 °C continuous, 200 °C continuous, 260 °C peak — Part 017: Square flange receptacle with captive self locking nut and integrated accessory — Product standard
1)

EN 3155-002, Aerospace series — Electrical contacts used in elements of connection — Part 002: List and utilization of contacts

EN 3155-004, Aerospace series — Electrical contacts used in elements of connection — Part 004: Contacts, electrical, male, type A, crimp, class T — Product standard

EN 3155-005, Aerospace series — Electrical contacts used in elements of connection — Part 005: Contacts, electrical, female, type A, crimp, class T — Product standard

EN 3155-018, Aerospace series — Electrical contacts used in elements of connection — Part 018: Contacts, electrical, male, type A, crimp, class S — Product standard

EN 3155-019, Aerospace series — Electrical contacts used in elements of connection — Part 019: Contacts, electrical, female, type A, crimp, class S — Product standard

EN 3155-080, Aerospace series — Electrical contacts used in elements of connection — Part 080: Contacts, size 22 for EN 2997, electrical, male, type A, crimp, class T — Product standard¹⁾

EN 3155-081, Aerospace series — Electrical contacts used in elements of connection — Part 081: Contacts, size 22 for EN 2997, electrical, female, type A, crimp, class T — Product standard¹⁾

¹⁾ In preparation at the date of publication of this standard.

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EN 3197, *Aerospace series — Installation of aircraft electrical and optical interconnection systems* ²⁾

EN 3660-002, *Aerospace series — Cable outlet accessories for circular and rectangular electrical and optical connectors — Part 002: Index of product standards*

EN 4529-002, *Aerospace series — Elements of electrical and optical connection — Sealing plugs — Part 002: Index of product standards*

MIL-DTL-83723, *Connectors, electrical, (circular, environment resisting), receptacles and plugs, general specification for* ³⁾

3 Model description and codification of models

See Table 1.

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²⁾ Published as ASD Prestandard at the date of publication of this standard.

³⁾ Published by : Department of Defense (DOD), the Pentagon, Washington, D.C. 20301 USA.

Table 1

Class	Model description
Connectors	
W	Sealed plug with housing (shell) in olive-green cadmium-plated aluminium alloy, conductive finish, 500 h resistance to salt mist, crimp contacts, maximum operating temperature 175 °C continuous
WS	Sealed plug and receptacle with housing (shell) in olive-green cadmium-plated aluminium alloy, conductive finish, 500 h resistance to salt mist, crimp contacts, plug with grounding-spring-system, maximum operating temperature 175 °C continuous
K	Sealed plug with housing (shell) in passivated stainless steel, 500 h resistance to salt mist, crimp contacts, fire-resistant, maximum operating temperature 200 °C continuous
KV	Sealed plug with housing (shell) in passivated stainless steel, 500 h resistance to salt mist, crimp contacts, fire-resistant, High vibrations, maximum operating temperature 260 °C peak
SV	Sealed plug and receptacle with housing (shell) in passivated stainless steel, 500 h resistance to salt mist, crimp contacts, fire-resistant, High vibrations, plug with grounding-spring-system, maximum operating temperature 260 °C peak
R	Sealed plug with housing (shell) in nickel-plated aluminium alloy, 48 h resistance to salt mist, crimp contacts, maximum operating temperature 200 °C continuous
RS	Sealed plug and receptacle with housing (shell) in nickel-plated aluminium alloy, 48 h resistance to salt mist, crimp contacts, plug with grounding-spring-system, maximum operating temperature 200 °C continuous
S	Sealed plug and receptacle with housing (shell) in passivated stainless steel, 500 h resistance to salt mist, crimp contacts, fire-resistant, plug with grounding-spring-system, maximum operating temperature 200 °C continuous
Y	Hermetic receptacle with housing (shell) in passivated stainless steel, 500 h resistance to salt mist, solder contacts, maximum operating temperature 200 °C continuous
KE	Sealed plug with housing (shell) in passivated stainless steel, 500 h resistance to salt mist, crimp contacts, fire-resistant, maximum operating temperature 260 °C peak
SE	Sealed plug and receptacle with housing (shell) in passivated stainless steel, 500 h resistance to salt mist, crimp contacts, fire-resistant, plug with grounding-spring-system, maximum operating temperature 260 °C peak
YE	Hermetic receptacle with housing (shell) in passivated stainless steel, 500 h resistance to salt mist, solder contacts, maximum operating temperature 260 °C peak
Protective covers	
K	Protective cover for plug in passivated corrosion resisting steel, 500 h resistance to salt mist – Maximum operating temperature 200 °C continuous
R	Protective cover for receptacle or plug in nickel-plated aluminium alloy, 48 h resistance to salt mist – Maximum operating temperature 200 °C continuous
W	Protective cover for receptacle or plug in olive-green cadmium-plated aluminium alloy, 500 h resistance to salt mist – Maximum operating temperature 175 °C continuous
KE	Protective cover for receptacle or plug in passivated corrosion resisting steel, 500 h resistance to salt mist – Maximum operating temperature 260 °C peak
Dummy receptacles	
K	Dummy receptacle in passivated stainless steel, 500 h resistance to salt mist – Maximum operating temperature 200 °C continuous
R	Dummy receptacle in nickel-plated aluminium alloy, 48 h resistance to salt mist – Maximum operating temperature 200 °C continuous
W	Dummy receptacle in olive-green cadmium-plated aluminium alloy, 500 h resistance to salt mist – Maximum operating temperature 175 °C continuous
KE	Dummy receptacle in passivated corrosion resisting steel, 500 h resistance to salt mist – Maximum operating temperature 260 °C peak

EN 2997-002:2012 (E)

4 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 2997-001 apply.

5 Operating conditions

5.1 General

Tables 2 and 3 show: replace:

- Combinations marked by “yes” achieve the characteristics specified for the two classes.
- Combinations marked by “yes*” achieve the characteristics of the lower of the two classes.
- All other combinations are under the responsibility of the user.

5.2 Combinations of plugs and receptacles

See Table 2.

Table 2

Receptacle class	Plug class									
	W	WS	K	R	RS	S	KE	KV	SE	SV
WS	yes	yes	—	—	—	—	—	—	—	—
RS	—	—	—	yes	yes	—	—	—	—	—
S	—	—	yes	—	yes	yes*	yes*	yes*	yes*	yes*
Y	—	—	yes	—	—	yes	yes*	yes*	Yes*	yes*
SE	—	—	yes*	—	—	yes*	yes	yes	yes	yes
YE	—	—	yes*	—	—	yes*	yes	yes	yes	yes
SV	—	—	yes*	—	—	yes*	Yes*	yes	yes*	yes

5.3 Combinations of protective covers and connectors

See Table 3.

Table 3

Protective cover class	Plug class										Receptacle class						
	W	WS	K	R	RS	S	KE	KV	SE	SV	WS	RS	S	Y	SE	SV	YE
R	–	–	–	yes	yes	–	–	–	–	–	–	yes	–	–	–	–	–
W	yes	yes	–	–	–	–	–	–	–	–	yes	–	–	–	–	–	–
K	–	–	yes	–	–	yes	–	–	–	–	–	–	yes	yes	–	–	–
KE	–	–	–	–	–	–	yes	yes	yes	yes	–	–	yes	yes	yes	yes	yes

5.4 Permissible cables

The performance of these connectors is achieved with the cables of the dimensions given in Table 4 and using the cable outlets and wiring tools specified. The use of cables exceeding the maximum diameter indicated is prohibited. Cables smaller than the minimum diameter may be used, subject to a concession, provided that the requirements of EN 3197 are observed.

Dimensions are in millimetres.

Table 4
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Contact size	Outer diameter of cables	
	min	max
22	0,85	1,80
20	0,85	2,11
16	1,22	2,77
12	1,9	3,61

5.5 Operating characteristics

5.5.1 Electrical conditions

- For operating temperature including self heating from electrical operation see EN 2591-209
- For rated test current refer to the relevant contact standard for removable contacts. For solder contacts refer to EN 2997-001 test requirements listed against test EN 2591-202 requirements.
- Insulation resistance at ambient temperature: 5 000 MΩ
- Withstand voltage at sea level: 1 500 V r.m.s.
- Withstand voltage from 15 000 m to 30 000 m: 1 000 V r.m.s (connector mated).