

SLOVENSKI STANDARD

SIST EN 3372-002:2009

01-julij-2009

Aeronavtika - Konektorji, električni, okrogli, zaščiteni kontakt, z bajonetnim sklapljanjem, stalna delovna temperatura med -65 °C in 175 °C ali 200 °C - 002. del: Specifikacija lastnosti in razporeditev kontaktov

Aerospace series - Connectors, electrical, circular, medium and high contact density, scoop-proof with bayonet coupling, operating temperatures - 65 °C to 175 °C or 200 °C continuous - Part 002: Specification of performance and contact arrangements

Luft- und Raumfahrt - Elektrische Rundsteckverbinder, kontaktgeschützt, Bajonettkupplung, Betriebstemperatur -65 °C bis 175 °C oder 200 °C konstant - Teil 002: Leistungsdaten und Kontaktanordnungen

Série aérospatiale - Connecteurs électriques circulaires, scoop-proof à accouplement par baïonnettes, température d'utilisation - 65 °C à 175 °C ou 200 °C continu - Partie 002 : Spécification de performances et arrangements des contacts

Ta slovenski standard je istoveten z: EN 3372-002:2007

ICS:

49.060

Letalska in vesoljska
električna oprema in sistemi

Aerospace electric
equipment and systems

SIST EN 3372-002:2009

en,de

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 3372-002

July 2007

ICS 49.060

English Version

**Aerospace series - Connectors, electrical, circular, medium and
high contact density, scoop-proof with bayonet coupling,
operating temperatures - 65 °C to 175 °C or 200 °C continuous -
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arrangements**

Série aérospatiale - Connecteurs électriques circulaires
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: Spécification de performances et arrangements des
contacts

Luft- und Raumfahrt - Elektrische Rundsteckverbinder,
kontaktgeschützt, Bajonettkupplung, Betriebstemperatur -
65 °C bis 175 °C oder 200 °C konstant - Teil 002:
Leistungsdaten und Kontaktanordnungen

This European Standard was approved by CEN on 24 June 2006.

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 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 Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Foreword

This document (EN 3372-002:2007) 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 January 2008, and conflicting national standards shall be withdrawn at the latest by January 2008.

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, 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 and the United Kingdom.

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Introduction

This family of connectors is similar to MIL-DTL-38999K series I, with which it is not intermateable or interchangeable.

1 Scope

This standard defines the performance and contact arrangements of circular electrical connectors coupled by bayonet ring.

2 Normative references

The following referenced documents are indispensable for the application 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 2591-209, *Aerospace series — Elements of electrical and optical connection — Test methods — Part 209: Current temperature derating*

EN 3155-001, *Aerospace series — Electrical contacts used in elements of connection — Part 001: Technical specification*¹⁾

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

EN 3155-008, *Aerospace series — Electrical contacts used in elements of connection — Part 008: Contacts, electrical, male, type A, crimp, class S — Product standard*

EN 3155-009, *Aerospace series — Electrical contacts used in elements of connection — Part 009: Contacts, electrical, female, type A, crimp, class S — Product standard*

EN 3155-012, *Aerospace series — Electrical contacts used in elements of connection — Part 012: Contacts, electrical, triaxial, size 8, male, type D, solder, class R — Product standard*

EN 3155-013, *Aerospace series — Electrical contacts used in elements of connection — Part 013: Contacts, electrical, triaxial, size 8, female, type D, solder, class R — Product standard*

EN 3155-024, *Aerospace series — Electrical contacts used in elements of connection — Part 024: Contacts, electrical, triaxial, size 8, male, type D, crimp, class S — Product standard*

EN 3155-025, *Aerospace series — Electrical contacts used in elements of connection — Part 025: Contacts, electrical, triaxial, size 8, female, type D, crimp, class S — Product standard*

EN 3197, *Aerospace series — Installation of aircraft electrical and optical interconnection systems*¹⁾

EN 3372-001, *Aerospace series — Connectors, electrical, circular, medium and high contact density, scoop-proof with bayonet coupling, operating temperatures – 65 °C to 175 °C or 200 °C continuous — Part 001: Technical specification*

EN 3372-003, *Aerospace series — Connectors, electrical, circular, medium and high contact density, scoop-proof with bayonet coupling, operating temperatures – 65 °C to 175 °C or 200 °C continuous — Part 003: Square flange receptacle — Product standard*

EN 3372-004, *Aerospace series — Connectors, electrical, circular, medium and high contact density, scoop-proof with bayonet coupling, operating temperatures – 65 °C to 175 °C or 200 °C continuous — Part 004: Receptacle, hermetic, square flange mounting — Product standard*²⁾

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

EN 3372-005, Aerospace series — Connectors, electrical, circular, medium and high contact density, scoop-proof with bayonet coupling, operating temperatures – 65 °C to 175 °C or 200 °C continuous — Part 005: Receptacle, hermetic, round flange, solder mounting — Product standard

EN 3372-006, Aerospace series — Connectors, electrical, circular, medium and high contact density, scoop-proof with bayonet coupling, operating temperatures – 65 °C to 175 °C or 200 °C continuous — Part 006: Protective cover for receptacle — Product standard

EN 3372-007, Aerospace series — Connectors, electrical, circular, medium and high contact density, scoop-proof with bayonet coupling, operating temperatures – 65 °C to 175 °C or 200 °C continuous — Part 007: Protective cover for plug — Product standard

EN 3372-008, Aerospace series — Connectors, electrical, circular, medium and high contact density, scoop-proof with bayonet coupling, operating temperatures – 65 °C to 175 °C or 200 °C continuous — Part 008: Free plug with grounding spring — Product standard

EN 3372-009, Aerospace series — Connectors, electrical, circular, medium and high contact density, scoop-proof with bayonet coupling, operating temperatures – 65 °C to 175 °C or 200 °C continuous — Part 009: Receptacle, jam nut mounting — Product standard

EN 3372-010, Aerospace series — Connectors, electrical, circular, medium and high contact density, scoop-proof with bayonet coupling, operating temperatures – 65 °C to 175 °C or 200 °C continuous — Part 010: Receptacle, hermetic, round flange, jam nut mounting — Product standard

EN 3372-011, Aerospace series — Connectors, electrical, circular, medium and high contact density, scoop-proof with bayonet coupling, operating temperatures – 65 °C to 175 °C or 200 °C continuous — Part 011: Dummy receptacle — Product standard

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 products standards

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3 Terms and definitions

For the purposes of this standard, the terms and definitions given in EN 3372-001 apply.

²⁾ In preparation at the date of publication of this standard

EN 3372-002:2007 (E)

4 Description and codification of class

See Table 1.

Table 1 — Description and codification of class

Class		Description
Connector	W	Receptacles and plugs, cadmium-plated aluminium alloy, olive drab — 500 h salt spray — Plug with grounding spring — Crimp, removable contacts — Maximum operating temperature 175 °C continuous
	F	Receptacles and plugs, nickel-plated aluminium alloy — 48 h salt spray — Plug with grounding spring — Crimp, removable contacts — Maximum operating temperature 200 °C continuous
	Y	Hermetic receptacle, passivated stainless steel, solder contact — 48 h salt spray — Maximum operating temperature 200 °C continuous
Protective cover	W	Protective cover for receptacle or plug in olive-green cadmium-plated aluminium alloy — Maximum operating temperature 175 °C continuous
	F	Protective cover in nickel plated aluminium alloy — Maximum operating temperature 200 °C continuous
Dummy receptacle	W	Dummy receptacle in olive-green cadmium-plated aluminium alloy — Maximum operating temperature 175 °C continuous
	F	Dummy receptacle in nickel-plated aluminium alloy — Maximum operating temperature 200 °C continuous

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5 Operating conditions

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5.1 Combinations of plugs and receptacles

Table 2 shows the combinations marked by (X) which achieve the characteristics specified for each model.

For other combinations, the characteristics of the pair of connectors are those of the component with the lowest performance.

Table 2 — Combinations of plugs and receptacles

Receptacle class	Plug class	
	W	F
W	X	—
F	—	X
Y	—	X

5.2 Combinations of protective covers and connectors

See Table 3.

Table 3 — Combinations of protective covers and connectors

Protective cover for receptacle	Receptacle class	Dummy receptacle Protective cover for plug	Plug class
W	W	W	W
F	Y	—	—
F	F	F	F

5.3 Permissible cables

The sealing performance of these connectors is achieved with the cables of dimensions given in Table 4, using the accessories and tools specified.

See Table 4.

Table 4 — Permissible cables

Contact size	Outer diameters of cables	
	mm	
	min.	max.
22	0,75	1,37
20	1,01	2,11
16	1,65	2,77
12	2,47	3,61
8	^a The cables for size 8 contacts are specified in the contact product standard. Sealing plugs see EN 4529-002.	

NOTE The use of cables exceeding the maximum diameter indicated is prohibited.

5.4 Operating characteristics

5.4.1 Electrical conditions

5.4.1.1 Withstand voltage

See Table 5.

Table 5 — Operating characteristics

Pressure	Rating M		Rating N		Rating I		Rating II	
	Mated V_{rms}	Unmated V_{rms}	Mated V_{rms}	Unmated V_{rms}	Mated V_{rms}	Unmated V_{rms}	Mated V_{rms}	Unmated V_{rms}
Sea level	1 300	1 300	1 000	1 000	1 800	1 800	2 300	2 300
12,1 kPa (15 000 m)	800	550	600	400	1 000	600	1 000	800
4,7 kPa (21 000 m)	800	350	600	260	1 000	400	1 000	500
1,1 kPa (30 000 m)	800	200	600	200	1 000	200	1 000	200

5.4.1.2 Insulation resistance

At ambient temperature the insulation resistance shall be $\geq 5\,000\text{ M}\Omega$.

5.4.1.3 Maximum permissible current

The maximum current for hermetic connectors is shown in Table 6.

The maximum current for crimp removable contacts shall be in accordance with EN 3155 standard for the contacts.

The heating caused by passage of the current shall not cause the maximum temperature to be exceeded. Test EN 2591-209 shall be taken into account. [SIST EN 3372-002:2009](https://standards.iteh.ai/catalog/standards/sist/b1dbc54b-0968-4b9e-a8a2-001c605ccf39/sist-en-3372-002-2009)

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Table 6 — Test current for contacts fitted to hermetic connectors as a function of the cables

Size		Cable size		Current A
Contact	Barrel	AECMA Code EN 2083	AWG ^a	
22	22	004	22	3
		002	24	3
		001	26	2
20	20	006	20	5
		004	22	5
		002	24	3
16	16	012	16	10
		010	18	10
		006	20	7,5
12	12	030	12	17
		020	14	10

^a AWG = American Wire Gauge.

5.4.1.4 Housing electrical continuity

See Table 7.

Table 7 — Housing electrical continuity

Class	Maximum resistance mΩ
F	1,0
W	2,5
Class Y with plug Class F	10,0

5.4.1.5 Shielding effectiveness from 100 MHz to 1 GHz

See Table 8.

Table 8 — Shielding effectiveness

Frequency MHz	Minimum attenuation Class F and Class W dB
100	65
200	60
300	55
400	55
800	45
1 000	45

5.4.2 Climatic conditions

Operating temperatures:

- minimum temperature: – 65 °C;
- maximum temperature: see Table 1. Furthermore, the connector operating temperature shall be limited to the maximum operating temperature indicated in the product standards for contacts.

Corrosion resistance and fluid resistance: see EN 3372-001.

5.4.3 Mechanical conditions

Mechanical endurance:

- 500 cycles for all models and classes;

6 Model codes

See Table 9.