SLOVENSKI STANDARD
SIST EN 4531-002:2009

01-julij-2009

Aeronavtika - Konektorji, optiļ ni, okrogli, z enim ali veļ zatiļ i, priključļ eni z navojnim obroļ kom - Izravnani kontakti - 002. del: Specifikacija lastnosti in razporeditev kontaktov

Aerospace series - Connectors, optical, circular, single and multipin, coupled by threaded ring - Flush contacts - Part 002: Specification of performance and contact arrangements

Luft- und Raumfahrt - Optische Rundsteckverbinder mit Schraubkupplung - Bündige Kontakte - Teil 002: Leistungsdaten und Kontaktanordnungen

Série aérospatiale - Connecteurs optiques circulaires à accouplement par bague filetée - Contacts affleurants - Partie 002 : Spécification de performances et arrangements des contacts

Ta slovenski standard je istoveten z: **EN 4531-002:2007**

ICS:

49.060	Letalska in vesoljska elektriļ na oprema in sistemi	Aerospace electric equipment and systems

SIST EN 4531-002:2009 **en,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 4531-002

June 2007

ICS 49.060

English Version

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

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Ref. No. EN 4531-002:2007: E

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Foreword

This document (EN 4531-002:2007) 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of an identical text or by endorsement, at the latest by December 2007, and conflicting national standards shall be withdrawn at the latest by December 2007.

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1 Scope

This standard defines the performance and contact arrangements of circular optical connectors, coupled by triple start threaded 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 4531-001, *Aerospace series — Connectors, optical, circular, single and multipin, coupled by threaded ring — Flush contacts — Part 001: Technical specification.*

EN 4531-003, *Aerospace series — Connectors, optical, circular, single and multipin, coupled by threaded ring — Flush contacts — Part 003: Square flange receptacle — Product standard.*

EN 4531-004, *Aerospace series — Connectors, optical, circular, single and multipin, coupled by threaded ring — Flush contacts — Part 004: Jam nut receptacle — Product standard.*

EN 4531-005, *Aerospace series — Connectors, optical, circular, single and multipin, coupled by threaded ring — Flush contacts — Part 005: Plug — Product standard.*

EN 4531-101, *Aerospace series — Connectors, optical, circular, single and multipin, coupled by threaded ring — Flush contacts — Part 101: Optical contact for EN 4641-100 cable – 55°C to 125 °C — Product standard.*

EN 4531-201, *Aerospace series — Connectors, optical, circular, single and multipin, coupled by threaded ring — Flush contacts — Part 201: Filler plug — Product standard.* [1)]

EN 4641-100, *Aerospace series — Cables, optical 125 µm diameter cladding — Part 100: Tight structure 62,5 µm - 125 µm GI fibre 1,8 mm outside diameter — Product standard.* [1)]

3 Description and codification of models

See Table 1.

Table 1

Environmental class	Description
J	Composite receptacles and plugs, cadmium plated, olive drab – 2 000 h salt spray
M	Composite receptacles and plugs, nickel-plated – 2 000 h salt spray
C	Composite receptacles and plugs, without plating, high corrosion resistance
B	Nickel-Bronze receptacles and plugs, high corrosion resistance
F	Aluminium receptacles and plugs, nickel plated – 48 h salt spray
W	Aluminium receptacles and plugs, cadmium plated – 500 h salt spray
O	Aluminium receptacles and plugs, hard anodic non conductive – 500 h salt spray
K	Stainless steel receptacles and plugs – 500 h salt spray
S	Stainless steel receptacles and plugs, nickel plated – 500 h salt spray

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

4 Definitions

See EN 4531-001.

5 Operating conditions

5.1 Optical performances

The optical performances are defined in the product standards in relationship with the used cable.

5.2 Combinations of plug and receptacle shells

Table 2 shows the combinations:

1) which achieve the characteristics specified for each model,
2) for the characteristics of the pair of connectors of the component with the lowest performance,
3) for other combinations subject to the approval of the Design Authority.

Table 2

Receptacle shell	Plug shell								
	J	**M**	**C**	**B**	**F**	**W**	**O**	**K**	**S**
J	1)	3)	2)	3)	3)	1)	2)	3)	3)
M	3)	1)	2)	3)	3)	3)	3)	3)	3)
C	2)	2)	1)	3)	3)	3)	3)	3)	3)
B	3)	3)	3)	1)	3)	3)	3)	3)	3)
F	3)	3)	3)	3)	1)	2)	2)	3)	3)
W	1)	3)	3)	3)	2)	1)	2)	3)	3)
O	2)	3)	3)	3)	2)	2)	1)	3)	3)
K	3)	3)	3)	3)	3)	2)	3)	1)	2)
S	3)	3)	3)	3)	3)	3)	3)	2)	1)

5.3 Permissible cables

The sealing performance of these connectors is achieved with cables of outside jacket dimensions given in Table 3.

Table 3

Cable designation	Description
A	900 µm diameter
B	1,5 mm to 1,9 mm
C	2 mm to 2,5 mm

5.4 Material of the sleeves

See Table 4.

Table 4

Sleeve code	Description	Material of the sleeves
00	Male insert	No sleeve
01	Single mode silica fibre Multimode silica fibre (50/125) µm, (62,5/125) µm, (100/140) µm	Zirconia ceramic or similar
02	Larger diameter than 140 µm fibre	Phosphor bronze or similar

5.5 Climatic conditions

Temperature range: refer to product standard.

Fluid resistance: see EN 4531-001.

Corrosion resistance: see Table 1.

5.6 Mechanical conditions

Mechanical endurance: refer to product standard.

6 Type codes

See Table 5.

Table 5

Type	EN 4531- Product standard	Description
0	003	Square flange receptacle
7	004	Jam nut receptacle
6	005	Plug

7 Polarization

See Table 6.

Table 6

Polarization position	Shell size					
	09	11	13	17	21	25
N	X	X	X	X	X	X
A	X	X	X	X	X	X
B	X	X	X	X	X	X
C	X	X	X	X	X	X
D	X	X	X	X	X	X
E	X	X	X	X	X	X

8 Housing sizes and contact arrangements

See Table 7 and Figures 1 to 7.

Table 7

Housing (shell) sizes	Contacts	
	Arrangement codes	Number
09	01	1
11	02	2
13	04	4
17	06	6
19	08	8
21	11	11
25	24	24

09-01
1 optical way

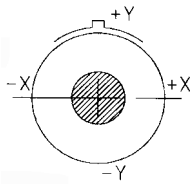

Figure 1

11-02
2 optical ways

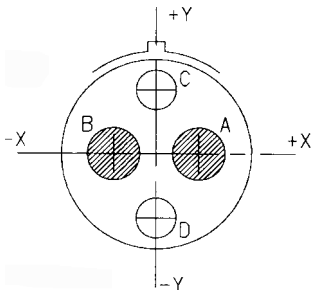

Figure 2

13-04
4 optical ways

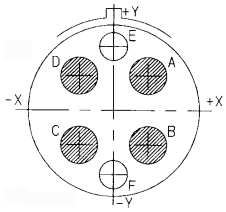

Figure 3