

SLOVENSKI STANDARD

SIST EN 4640-002:2009

01-maj-2009

Aeronavtika - Konektorji, optični, pravokotni, s stojalom in ploščo, večkontaktni, s premerom kapice 1,25, s snemljivo centrirno pučo - 002. del: Seznam standardov za proizvod

Aerospace series - Connectors, optical, rectangular, rack and panel, multicontact, 1,25 diameter ferrule, with removable alignment sleeve holder - Part 002: List of product standards

Luft- und Raumfahrt - Optischer Rechtecksteckverbinder, Gehäuse, Einschub, Steckverbinder, Multipin, Ferrulendurchmesser 1,25 mm, demontierbarer Zentrierhülsenhafter - Teil 002: Übersicht über die Einzelnormen

[SIST EN 4640-002:2009](https://standards.iteh.ai/catalog/standards/sist/08e6ef79-2fc5-4d60-8cc3-3382240c312a/en-4640-002:2009)

Série aérospatiale - Connecteurs optiques rectangulaires, à contacts multiples, rackables, ferrule diamètre 1,25, équipés d'un porte sleeve démontable - Partie 002: Liste des normes de produit

Ta slovenski standard je istoveten z: EN 4640-002:2009

ICS:

49.060

Letalska in vesoljska
električna oprema in sistemi

Aerospace electric
equipment and systems

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 4640-002

February 2009

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English Version

Aerospace series - Connectors, optical, rectangular, rack and panel, multicontact, 1,25 diameter ferrule, with removable alignment sleeve holder - Part 002: List of product standards

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This European Standard was approved by CEN on 11 July 2008.

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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COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This document (EN 4640-002:2009) 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 August 2009, and conflicting national standards shall be withdrawn at the latest by August 2009.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] 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, 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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EN 4640-002:2009 (E)**1 Scope**

This standard defines the performance and contact arrangements of ARINC Specification 600 rectangular rack and panel optical connectors.

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 4639-003, *Aerospace series — Connectors, optical, rectangular, modular, multicontact, 1,25 mm diameter ferrule, with removable alignment sleeve holder — Part 003: Male optical module — Product standard*

EN 4639-101, *Aerospace series — Connectors, optical, rectangular, modular, multicontact, 1,25 mm diameter ferrule, with removable alignment sleeve holder — Part 101: Optical contact for cable EN 4641-100 — Operating temperature between – 65 °C and 125 °C — Product standard*

EN 4639-102, *Aerospace series — Connectors, optical, rectangular, modular, multicontact, 1,25 mm diameter ferrule, with removable alignment sleeve holder — Part 102: Optical contact for cable EN 4641-102 — Operating temperatures between – 55 °C and 100 °C — Product standard*

EN 4640-001, *Aerospace series — Connectors, optical, rectangular, rack and panel, multicontact, 1,25 diameter ferrule, with removable alignment sleeve holder — Part 001: Technical specification*

EN 4640-003, *Aerospace series — Connectors, optical, rectangular, rack and panel, multicontact, 1,25 diameter ferrule, with removable alignment sleeve holder — Part 003: Plug optical connector — Product standard*

EN 4640-004, *Aerospace series — Connectors, optical, rectangular, rack and panel, multicontact, 1,25 diameter ferrule, with removable alignment sleeve holder — Part 004: Receptacle optical connector — Product standard*

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

EN 4641-101, *Aerospace series — Cables, optical, 125 µm diameter cladding — Part 101: 62,5 µm-125 µm GI fibre 0,9 outside diameter — Product standard*¹

EN 4641-102, *Aerospace series — Cables, optical, 125 µm diameter cladding — Part 102: Semi loose 62,5 µm-125 µm GI fibre 1,8 outside diameter — Product standard*²

ARINC Specification 600, *Air Transport Avionics Equipment Interfaces*³

MIL-I-81969/14, *Installing and removal tools, connector electrical contact, type III, class 2, composition B*⁴

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 4640-001 apply.

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

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

³ Published by: AERONAUTICAL RADIO, INC. 2551 Riva road, Annapolis, Maryland 21401-7435 USA.

⁴ Published by: Department of Defence (DOD), the Pentagon, Washington, D.C. 20301 USA.

4 Product type and codification

See Table 1.

Table 1 — Product type and codification

Connector type	Shell size	Arrangement		Standard	Optical contact		
		Type	Code		Cable (B) EN 4641-100	Cable (A) EN 4641-101	Cable (C) EN 4641-102
Plug	2 or 3	20F12Q8	F20	EN 4640-003	EN 4639-101	EN 4639-003	EN 4639-102
	2 or 3	36F36	F36		EN 4639-101	EN 4639-003	EN 4639-102
	2 or 3	17F12Q2	F17		EN 4639-101	EN 4639-003	EN 4639-102
	1	12F12	F12		EN 4639-101	EN 4639-003	EN 4639-102
Receptacle	2 or 3	20F12Q8	F20	EN 4640-004	EN 4639-101	EN 4639-003	EN 4639-102
	2 or 3	36F36	F36		EN 4639-101	EN 4639-003	EN 4639-102
	2 or 3	17F12Q2	F17		EN 4639-101	EN 4639-003	EN 4639-102
	1	12F12	F12		EN 4639-101	EN 4639-003	EN 4639-102
	All	Sleeve holder	F00		N.A.	N.A.	N.A.

5 Operating conditions

5.1 Climatic conditions

Operating temperatures:

— Depending of the cable.

Corrosion and fluid resistance:

— Salt mist: 48 h;

— Fluid resistance: EN 4640-001.

5.2 Mechanical conditions

Mechanical endurance: see ARINC Specification 600.

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6 Permissible cables

The sealing performance of these connectors is achieved with cables of outside jacket dimensions given in Table 2.

Table 2

Cable designation	Fiber	Outer diameter cable	EN Designation cable
A	62,5 µm/125 µm	0,9 mm	EN 4641-101
B	62,5 µm/125 µm	1,8 mm (tight structure)	EN 4641-100
C	62,5 µm/125 µm	1,8 mm (semi loose structure)	EN 4641-102
D	9 µm/125 µm	xxx	xxx
E	50 µm/125 µm	xx	xx

7 Material of the alignment sleeves

See Table 3.

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Table 1

Sleeve material code	Recommendation	Material of the sleeves
01	Singlemode silica fibre Multimode silica fibre 50 µm/125 µm, 62,5 µm/125 µm, 100 µm/140 µm	Zirconia ceramic or similar

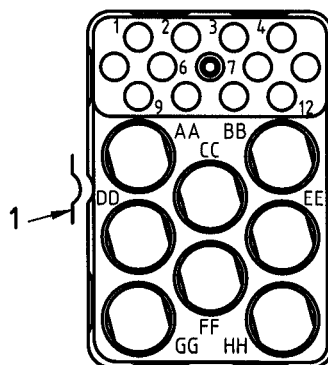
8 Contact arrangements

Male insert is specified in EN 4640-003.

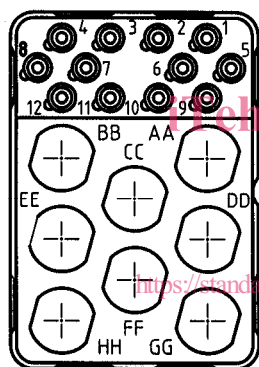
Sub assembly female insert is composed by one female module and one removable sleeve holder specified in EN 4640-004.

See Figures 1 to 4.

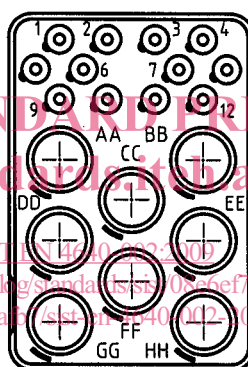
Layout 20F12Q8: see Figure 1.



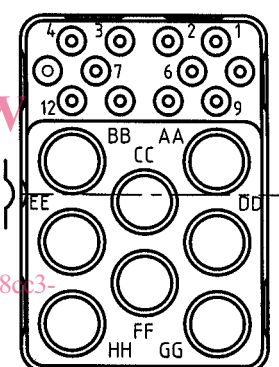
Receptacle front face (without sleeve holder)



Receptacle rear face



Plug rear face



Plug front face

Key

1 Keyway

Number of contacts	Contact size	Insert cavity location
12	Optical contact RR/RR	1 thru 12
8	8 (Quadrax) FR/FR (Receptacle side) RR/RR (Plug side)	AA thru HH
NOTE RR/RR = Contacts are REAR RELEASE / REAR REMOVABLE FR/FR = Contacts are FRONT RELEASE / FRONT REMOVABLE		

Figure 1