



# SLOVENSKI STANDARD SIST EN 3733-003:2008

01-julij-2008

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Aerospace series - Connector, optical, circular, single channel, coupled by self-locking ring, operating temperature 150 °C continuous - Part 003: Plug connector for cable according to EN 4532, product standard

**STANDARD PREVIEW**  
(standardizacija)

Luft- und Raumfahrt - Optischer Rundsteckverbinder einpolig, Schraubkupplung, Betriebstemperatur 150 °C konstant - Teil 003: Loser Steckverbinder für Kabel nach EN 4532, Produktnorm

[SIST EN 3733-003:2008](#)

<https://standards.itih.ai/catalog/standards/sist/20099172-4417-40af-bf11-400000000000>

Série aérospatiale - Connecteur optique circulaire monovoie, à accouplement par bague fileté, température d'utilisation 150 °C continu - Partie 003: Fiche connecteur pour câble EN 4532 - Norme de produit

**Ta slovenski standard je istoveten z: EN 3733-003:2008**

**ICS:**

49.060 Š^cp \ æš Á^•[ |b \ æ Aerospace electric  
^|\ dā } æ] !^ { æš Á ā c^ { ā equipment and systems

**SIST EN 3733-003:2008 en**

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ICS 49.060

English Version

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coupled by self-locking ring, operating temperature 150 °C  
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Série aérospatiale - Connecteur optique circulaire  
monovoie, à accouplement par bague fileté, température  
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pour câble EN 4532 - Norme de produit

Luft- und Raumfahrt - Optischer Rundsteckverbinder  
einpolig, Schraubkupplung, Betriebstemperatur 150 °C  
konstant - Teil 003: Loser Steckverbinder für Kabel nach  
EN 4532, Produktnorm

This European Standard was approved by CEN on 16 September 2007.

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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.

[SIST EN 3733-003:2008](https://standards.iteh.ai/catalog/standards/sist/20099172-4417-40af-b611-341f60000000/en-3733-003-2008)

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**Management Centre: rue de Stassart, 36 B-1050 Brussels**

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## Foreword

This document (EN 3733-003:2008) 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 October 2008, and conflicting national standards shall be withdrawn at the latest by October 2008.

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## 1 Scope

This standard specifies the characteristics of plug connectors in the family of circular single channel fibre optic connectors incorporating ferrules for aerospace series single core optical cable in accordance with EN 4532.

Connector interface dimensions, table of tests and qualification approval requirements, are contained in the Technical Specification EN 3733-001. EN 3733-002, List of product standards, includes the listings of product types, codification and applicable combinations of product types.

## 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, *Aerospace series — Elements of electrical and optical connection — Test methods — General*<sup>1)</sup>

EN 2591-100, *Aerospace series — Elements of electrical and optical connection — Test methods — Part 100: General*

EN 3733-001, *Aerospace series — Connector, optical, circular, single channel, coupled by self-locking ring, operating temperature 150 °C continuous — Part 001: Technical specification*<sup>2)</sup>

EN 3733-002, *Aerospace series — Connector, optical, circular, single channel, coupled by self-locking ring, operating temperature 150 °C continuous — Part 002: List of product standards*<sup>2)</sup>

EN 3733-004, *Aerospace series — Connector, optical, circular, single channel, coupled by self-locking ring, operating temperature 150 °C continuous — Part 004: Receptacle, connector, four hole fixing for cable according to EN 4532, product standard*<sup>2)</sup>

EN 3733-005, *Aerospace series — Connector, optical, circular, single channel, coupled by self-locking ring, operating temperature 150 °C continuous — Part 005: Receptacle, connector, two hole fixing for cable according to EN 4532, product standard*<sup>2)</sup>

EN 3733-006, *Aerospace series — Connector, optical, circular, single channel, coupled by self-locking ring, operating temperature 150 °C continuous — Part 006: Receptacle, connector, jam nut fixing for cable according to EN 4532, product standard*<sup>2)</sup>

EN 3733-007, *Aerospace series — Connector, optical, circular, single channel, coupled by self-locking ring, operating temperature 150 °C continuous — Part 007: Ferrule (optical contact) for cable according to EN 4532 (200 µm/280 µm fibre), product standard*<sup>2)</sup>

EN 3733-008, *Aerospace series — Connector, optical, circular, single channel, coupled by self-locking ring, operating temperature up to 150 °C continuous — Part 008: Plug sub-assembly for cable to EN 4532 (200 µm/280 µm fibre) — Product standard*

EN 4532, *Aerospace series — Cables, optical, single core — 200/280 µm fibre, 2,5 mm outer jacket — Technical specification*<sup>2)</sup>

MIL-STD-810F, *Environmental Engineering Considerations and Laboratory Tests*<sup>3)</sup>

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1) All parts quoted in Table 2.

2) Published as AECMA prestandard at the date of publication of this standard.

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

### 3 Terminology

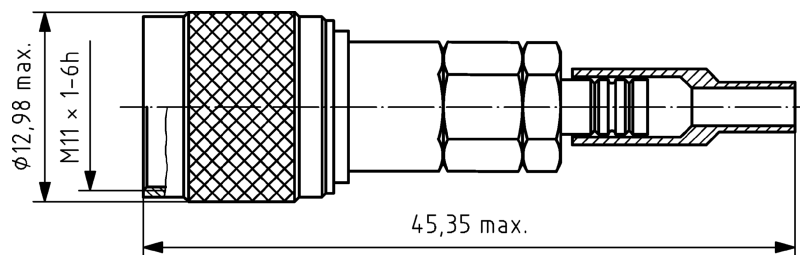
See EN 2591-100.

### 4 Required characteristics

#### 4.1 Dimensions and mass

Dimensions shall be as shown in Figure 1.

Dimensions in millimetres



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Mass: 18,2 g max.

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NOTE Terminated overall length assumes a maximum gap of 1 mm between crimp sleeve and rear nut.

Figure 1

#### 4.2 Materials

Nickel-copper alloy connector shell.

#### 4.3 Main general characteristics

See EN 3733-002.

#### 4.4 Possible combinations of plugs and receptacles

Compatibility shall be in accordance with Table 1 for combinations of connector and deliverable spares. Connectors terminated with cable to EN 4532 are only compatible with similarly terminated mating connectors.

Table 1 — Compatible connectors and spare parts

Subject connector		Compatible mating connector		
Product standard EN 3733–	Product type	Product standard EN 3733–	Product type	
003	Plug connector	004	Receptacle, connector, four hole fixing	
		005	Receptacle, connector, two hole fixing	
		006	Receptacle, connector, jam nut fixing	
		Spare parts for 003		
		Product standard EN 3733–	Product type	
		007	Ferrule	
		008	Plug sub-assembly	

See also EN 3733-002 for combination of protective covers and connectors.

### 5 Designation

EXAMPLE:



NOTE 1 Part number spacing as shown is for better readability only.

NOTE 2 If necessary, the code I9005 may be placed between the description block and the identity block.

### 6 Marking





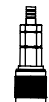

See EN 3733-001.

### 7 Technical specification

See EN 3733-001 for technical requirements common to all product standards. See Table 2 for additional testing applicable to this product standard (when mated with compatible connector terminated with cable in accordance with EN 4532).



Table 2 — Additional test requirements applicable to this product standard

EN 2591–	Designation of the test	Details																												
6321	Optical elements – Damp heat, cyclic test	Number of cycles: 10 At the end of the seventh cycle, with connectors mated and subjected to humidity, insertion loss (EN 2591-601) shall be measured $\leq 0,85$ dB.																												
6402	Optical elements – Shock	Severity: 300 g, Method A Number of shocks: Three shocks in each of two axes Optical discontinuity threshold shall be set at 0,85 dB with a minimum discontinuity of 20 ns.  <div style="display: flex; align-items: center; justify-content: center;"> <div style="text-align: center; margin-right: 20px;"> <p>Direction of shock application</p>  </div> <div style="text-align: center; margin-right: 20px;">  </div> <div style="text-align: center; margin-right: 20px;">  </div> </div> <p style="text-align: center;">Vertical and horizontal test axes</p>																												
6403	Optical elements – Vibration	Method B modified as follows: Duration 8 h in two axes Figure 2, level J, except that the curve shall be altered to start with a value of 0,04 g <sup>2</sup> /Hz at 15 Hz and join the maximum PSD value at 50 Hz with a straight line. Optical discontinuity (EN 2591-602) Method B shall be monitored during the test with the discontinuity threshold set at 0,85 dB.  <div style="display: flex; align-items: center; justify-content: center;"> <div style="text-align: center; margin-right: 20px;"> <p>Direction of random vibration application</p>  </div> <div style="text-align: center; margin-right: 20px;">  </div> <div style="text-align: center; margin-right: 20px;">  </div> </div> <p style="text-align: center;">Vertical and horizontal test axes</p>																												
See EN 3733-001	High level vibration e.g. gunfire	MIL-STD-810F Method 519.3, Procedure 1, test spectra Figure 519.3-1 modified as follows:  <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">T<sub>1</sub> (g<sup>2</sup>/Hz)</td> <td style="text-align: right;">0,050</td> </tr> <tr> <td>T<sub>2</sub></td> <td style="text-align: right;">0,911</td> </tr> <tr> <td>T<sub>3</sub></td> <td style="text-align: right;">2,803</td> </tr> <tr> <td>Overall g<sub>RMS</sub></td> <td style="text-align: right;">40,08</td> </tr> <tr> <td colspan="2"> </td> </tr> <tr> <td>F<sub>1</sub> (Hz)</td> <td style="text-align: right;">28,3</td> </tr> <tr> <td>F<sub>2</sub> (Hz)</td> <td style="text-align: right;">56,5</td> </tr> <tr> <td>F<sub>3</sub> (Hz)</td> <td style="text-align: right;">84,9</td> </tr> <tr> <td>F<sub>4</sub> (Hz)</td> <td style="text-align: right;">113,2</td> </tr> <tr> <td colspan="2"> </td> </tr> <tr> <td>P<sub>1</sub> (g<sup>2</sup>/Hz)</td> <td style="text-align: right;">1,624</td> </tr> <tr> <td>P<sub>2</sub></td> <td style="text-align: right;">1,764</td> </tr> <tr> <td>P<sub>3</sub></td> <td style="text-align: right;">2,087</td> </tr> <tr> <td>P<sub>4</sub></td> <td style="text-align: right;">2,806</td> </tr> </table> <p>Test duration shall be 26,5 min per axis (two axes). Optical discontinuity (EN 2591-602) Method B shall be monitored during conditioning with the discontinuity threshold set at 0,85 dB.</p>	T <sub>1</sub> (g <sup>2</sup> /Hz)	0,050	T <sub>2</sub>	0,911	T <sub>3</sub>	2,803	Overall g <sub>RMS</sub>	40,08			F <sub>1</sub> (Hz)	28,3	F <sub>2</sub> (Hz)	56,5	F <sub>3</sub> (Hz)	84,9	F <sub>4</sub> (Hz)	113,2			P <sub>1</sub> (g <sup>2</sup> /Hz)	1,624	P <sub>2</sub>	1,764	P <sub>3</sub>	2,087	P <sub>4</sub>	2,806
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