



SLOVENSKI STANDARD SIST EN 3660-001:2009

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Aerospace series - Cable outlet accessories for circular and rectangular electrical and optical connectors - Part 001: Technical specification

Luft- und Raumfahrt - Endgehäuse für elektrische und optische Rund- und Rechtecksteckverbinder Teil 001: Technische Lieferbedingungen

Série aérospatiale - Accessoires arrières pour connecteurs circulaires et rectangulaires électriques et optiques - Partie 001 : Spécification technique

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ICS:

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

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 3660-001

August 2006

ICS 49.060

English Version

**Aerospace series - Cable outlet accessories for circular and
rectangular electrical and optical connectors - Part 001:
Technical specification**

Série aérospatiale - Accessoires arrières pour connecteurs
circulaires et rectangulaires électriques et optiques - Partie
001 : Spécification technique

Luft- und Raumfahrt - Endgehäuse für elektrische und
optische Rund- und Rechtecksteckverbinder - Teil 001:
Technische Lieferbedingungen

This European Standard was approved by CEN on 20 April 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, 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 United Kingdom.

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Foreword

This European Standard (EN 3660-001:2006) 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 February 2007, and conflicting national standards shall be withdrawn at the latest by February 2007.

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, 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 3660-001:2006 (E)**1 Scope**

This specification defines cable outlet accessories for use with circular and rectangular, electrical and optical connectors on aerospace equipment. These may be sealed or unsealed and include accessories suitable for the suppression of radio frequency and electromagnetic interference.

This standard is used in conjunction with circular and rectangular electrical and optical connectors for varying temperature ranges, environmental conditions, fire resistant and non-fire resistant applications as designated in the product standards.

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.

ISO 261, *ISO general purpose metric screw threads — General plan.*

ISO 263, *ISO inch screw threads — General plan and selection for screws, bolts and nuts — Diameter range 0,06 to 6 in.*

ISO 965-1, *ISO general-purpose metric screw threads — Tolerances — Part 1: Principles and basic data.*

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

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

EN 9100, *Aerospace series — Quality management systems — Requirements (based on ISO 9001:2000) and Quality systems — Model for quality assurance in design, development, production, installation and servicing (based on ISO 9001:1994).*

EN 9133, *Aerospace series — Quality management systems — Qualification Procedure for Aerospace Standard Parts.*

IEC 60050-581, *International Electrotechnical Vocabulary — Electromechanical components for electronic equipment.*

MIL-HDBK-454A, *General Guidelines for Electronic Equipment.* ¹⁾

* All parts quoted in this standard.

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

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in IEC 60050-581 apply together with the following.

3.1

backshell

non-preferred term, use cable outlet accessory

3.2

cable screen termination

a device for terminating the cable screen to the cable outlet and giving electrical continuity

3.3

cable tie

a flexible strap or cord for securing a cable bundle to a cable outlet

3.4

coupling nut

an accessory or part of a component which secures the cable outlet to the body of the connector

4 Conditions of use

4.1 General

In accordance with the individual the product standard, refer to EN 3660-002.

4.2 Accessory styles

See Table 1.

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Table 1

Style	Description
A	Cable outlet, unsealed
B	Cable outlet, sealed
C	Cable outlet, shielded, unsealed
D	Cable outlet, shielded, sealed
E	Conduit adapter, unsealed
F	Conduit adapter, sealed
G	Adaptor (misc. incl. rectangular), unsealed
H	Adaptor (misc. incl. rectangular), sealed
J	Cable outlet, for heat shrinkable boot, sealed
K	Cable outlet, for heat shrinkable boot, shielded, sealed

4.3 Material/finish classes

See Table 2.

Table 2

Class	Temperature range	Material/finish
A	– 65 °C to 200 °C	Aluminium/black anodised
J	– 65 °C to 175 °C	Non-metallic/olive drab cadmium plated
K	– 65 °C to 260 °C	Stainless steel/passivated
M	– 65 °C to 200 °C	Non-metallic/electroless nickel plated
N	– 65 °C to 200 °C	Aluminium/electroless nickel plated
P	– 65 °C to 200 °C	Non-metallic/unplated
W	– 65 °C to 175 °C	Aluminium/olive drab cadmium plated

5 Design and description

5.1 Design

Cable outlet accessories shall be designed and constructed to withstand normal handling incident to installation and maintenance in service. They shall be capable of being fitted to and removed from connectors by use of hand only unless otherwise specified in the product standard. The cable outlet accessory product standard shall contain outline drawings relating to general installation and interchangeability.

5.2 Materials

Materials shall be suitable for the purpose intended and as specified in the product standard. When a definite material is not specified, a material shall be used which will enable the accessory to meet the performance requirements specified in the product standard.

When dissimilar materials are employed in intimate contact with each other, protection against corrosion shall be used to ensure that the differential electromotive potential does not exceed 0,25 V.

5.3 Finish

The finish shall be in accordance with the product standard.

5.4 Threads

The threads shall conform to either ISO 261, ISO 263 or ISO 965-1 where applicable.

6 Dimensions and mass

The dimensions of cable outlets and their mass shall be as defined in the product standard.

7 Operation

Installation instructions and tooling, where necessary, shall be defined in the product standard.

8 Tests

Tests from the parts of EN 2591-100 applicable to cable outlet accessories are detailed in Table 3.

All tests shall be carried out with the cable outlet accessory fitted to a connector or simulation thereof unless otherwise specified in the product standard.

Table 3

EN 2591-	Designation of the test	Details
101	Visual inspection	Initial examination. Details to be examined: identification of materials in accordance with the product standard. – identification; – appearance; – marking; – surface finish. Final examination. No loosening of parts, cracks, excessive wear, detached part, etc. shall be observed.
102	Examination of dimensions and mass	In accordance with the product standard. NOTE In the case of an approved inspection system, piece parts (without relation to manufacturing batches of finished products) can be used for dimensional inspection.
205	Housing (shell) electrical continuity	In accordance with the product standard
212	Surface transfer impedance (from 100 MHz to 1 GHz) ^a	In accordance with the product standard
301	Endurance at temperature	In accordance with the product standard
305	Rapid change of temperature	In accordance with the product standard
306	Mould growth	Unless otherwise required by the product standard Method A. Duration 28 days. Nil Growth. No prior washing. No surface etching.
307	Salt mist	In accordance with the product standard
308	Sand and dust	In accordance with the product standard
314	Immersion at low air pressure	In accordance with the product standard
315	Fluid resistance	In accordance with the product standard
316	Ozone resistance	In accordance with the product standard
317	Flammability	In accordance with the product standard
318	Fire-resistance	In accordance with the product standard
402	Shock	In accordance with the product standard
403	Sinusoidal and random vibration	In accordance with the product standard
406	Mechanical endurance	In accordance with the product standard
408	Mating and unmating forces	In accordance with the product standard
420	Mechanical strength of rear accessories	In accordance with the product standard
422	Locking wire hole strength	In accordance with the product standard
513	Magnetic permeability	In accordance with the product standard
515	Hydrolytic stability	In accordance with the product standard
^a 1 GHz to 10 GHz under consideration		