



BSI Standards Publication

**Aerospace series —
Connectors, electrical, circular,
coupled by threaded ring,
fire-resistant or non fire-resistant,
operating temperatures — 65 °C
to 175 °C continuous, 200 °C
continuous, 260 °C peak**
Part 003: Square flange receptacle —
Product standard

National foreword

This British Standard is the UK implementation of EN 2997-003:2012. It supersedes BS EN 2997-003:2006 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee ACE/6, Aerospace avionic electrical and fibre optic technology.

A list of organizations represented on this committee can be obtained on request to its secretary.

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EUROPEAN STANDARD

EN 2997-003

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May 2012

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English Version

Aerospace series - Connectors, electrical, circular, coupled by threaded ring, fire-resistant or non fire-resistant, operating temperatures - 65 °C to 175 °C continuous, 200 °C continuous, 260 °C peak - Part 003: Square flange receptacle - Product standard

Série aérospatiale - Connecteurs électriques circulaires à accouplement par bague fileté, résistant au feu ou non, températures d'utilisation - 65 °C à 175 °C continu, 200 °C continu, 260 °C en pointe - Partie 003: Embase à fixation par collerette carrée - Norme de produit

Luft- und Raumfahrt - Elektrische Rundsteckverbinder mit Schraubkupplung, feuerbeständig oder nicht feuerbeständig, Betriebstemperaturen - 65 °C bis 175 °C konstant, 200 °C konstant, 260 °C Spitze - Teil 003: Fester Steckverbinder mit quadratischem Montageflansch - Produktnorm

This European Standard was approved by CEN on 11 February 2012.

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Foreword

This document (EN 2997-003:2012) 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of an identical text or by endorsement, at the latest by November 2012, and conflicting national standards shall be withdrawn at the latest by November 2012.

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.

This document supersedes EN 2997-003:2006.

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1 Scope

This European Standard specifies the characteristics of square flange mounted receptacles in the family of circular electrical connectors coupled by threaded ring.

It applies to class defined in Table 3.

For contacts, sealing plugs and rear associated cable outlets with this receptacle, see EN 2997-002. For plugs and protective covers, see EN 2997-008 and EN 2997-009 respectively.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 2997-001, *Aerospace series — Connectors, electrical, circular, coupled by threaded ring, fire-resistant or non fire-resistant, operating temperatures – 65 °C to 175 °C continuous, 200 °C continuous, 260 °C peak — Part 001: Technical specification*

EN 2997-002, *Aerospace series — Connectors, electrical, circular, coupled by threaded ring, fire-resistant or non fire-resistant, operating temperatures – 65 °C to 175 °C continuous, 200 °C continuous, 260 °C peak — Part 002: Specification of performance and contact arrangements*

EN 2997-008, *Aerospace series — Connectors, electrical, circular, coupled by threaded ring, fire-resistant or non fire-resistant, operating temperatures – 65 °C to 175 °C continuous, 200 °C continuous, 260 °C peak — Part 008: Plug — Product standard*

EN 2997-009, *Aerospace series — Connectors, electrical, circular, coupled by threaded ring, fire-resistant or non fire-resistant, operating temperatures – 65 °C to 175 °C continuous, 200 °C continuous, 260 °C peak — Part 009: Protective cover for receptacle — Product standard*

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

3 Terms and definitions

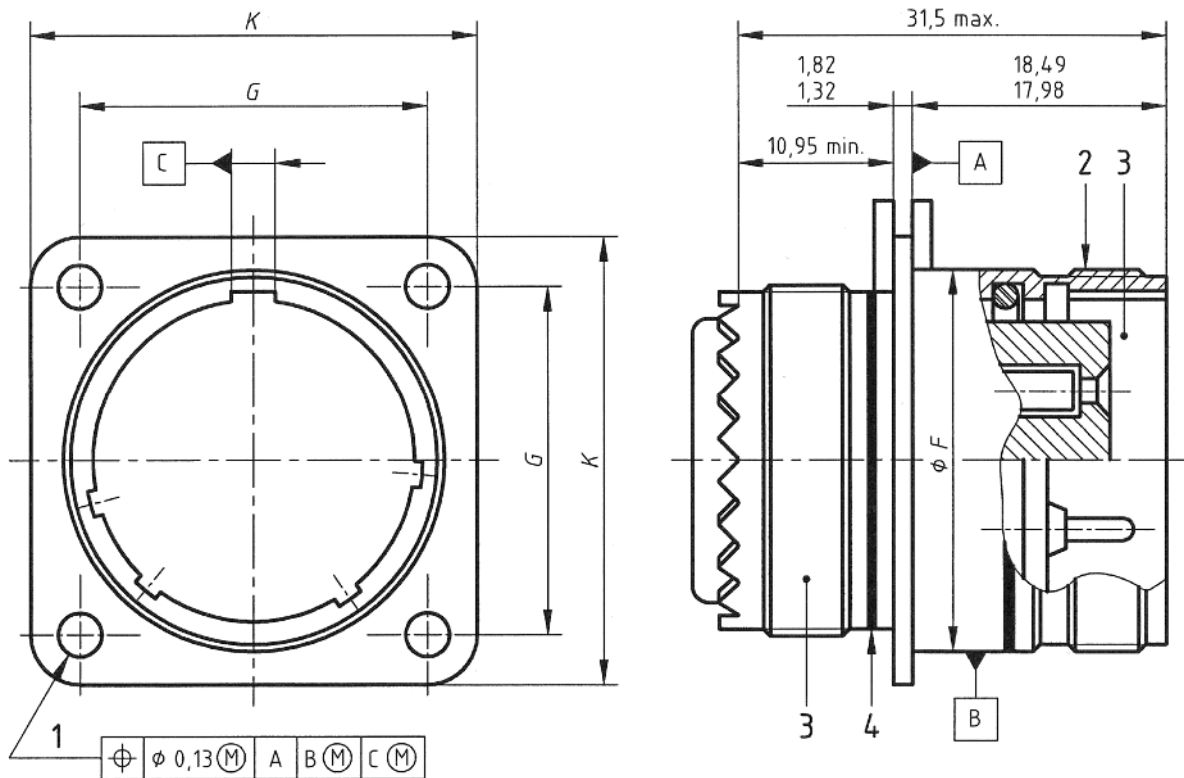
For the purposes of this standard, the terms and definitions given in EN 2997-001 apply.

4 Required characteristics

4.1 Dimensions and mass

See Figure 1 and Table 1.

Dimensions and tolerances are in millimetres; they apply after surface treatment.



Key

- 1 four holes $\begin{matrix} \phi 3,30 \\ \phi 3,10 \end{matrix}$ shell sizes 8 to 22
- four holes $\begin{matrix} \phi 3,91 \\ \phi 3,68 \end{matrix}$ shell sizes 24 to 28
- 2 thread
- 3 see EN 2997-001
- 4 blue colour band minimum width 0,64

Figure 1

Table 1

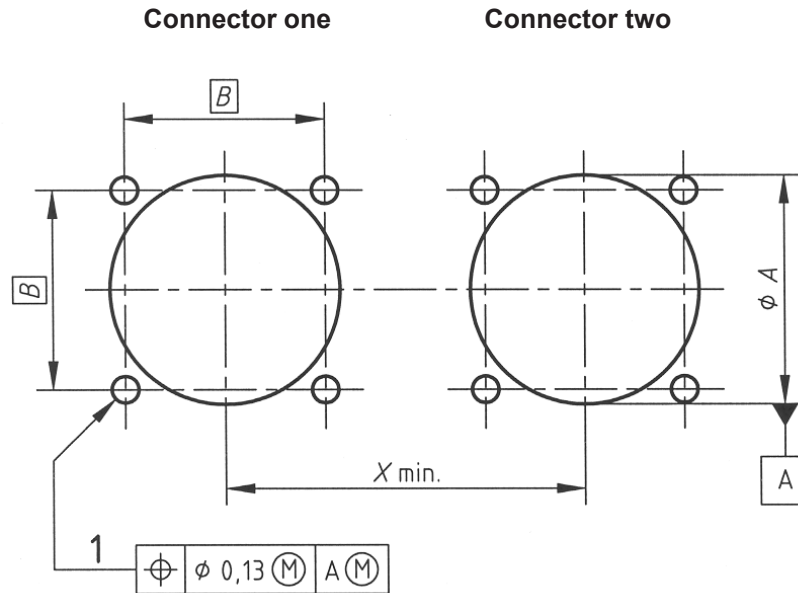
Housing size	<i>F</i> max.	<i>G</i>	<i>K</i>		Mass ^a g max.	
			max.	min.	Stainless steel	Aluminium alloy
08	14,27	15,09	20,75	20,49	19	11
10	17,67	18,26	23,93	23,67	28	16
12	22,22	20,62	26,32	26,06	39	27
14	23,77	23,01	28,71	28,45	51	30
16	26,97	24,61	31,88	31,62	62	34
18	30,15	26,97	34,24	33,98	73	36
20	33,32	29,36	36,63	36,37	82	40
22	36,49	31,75	39,80	39,54	90	51
24	39,67	34,92	43,39	43,13	105	58
28	46,02	39,67	50,93	50,67	126	88

^a Mass without accessory and without contacts.

4.2 Panel cut-out and mounting of connectors

See Figure 2 and Table 2 for panel cut-out and Figure 3 for mounting of connectors.

Dimensions and tolerances are in millimetres.



Key

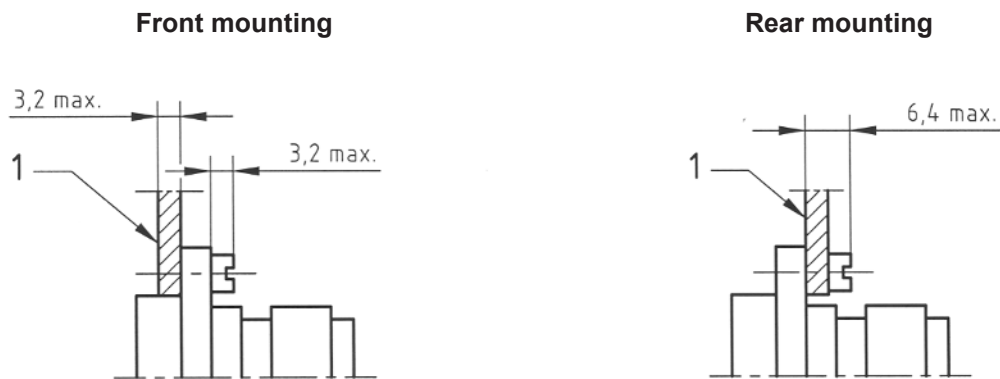
1 four holes $\text{⌀ } C$

$X \text{ min.}$ value is calculated as follows: $D/2$ connector one + $D/2$ connector two. (See Table 2 for value D)

Figure 2

Table 2

Housing size	A min.	B	C	D min.
08	15,80	15,09	3,30 3,10	31,70
10	18,70	18,26		34,90
12	23,40	20,62		39,60
14	24,90	23,01		41,25
16	28,30	24,61		44,45
18	31,10	26,97		47,35
20	34,50	29,36		51,90
22	37,50	31,75	3,91 3,68	54,10
24	40,60	34,92		57,25
28	48,00	39,67		65,25



Key

1 panel

Figure 3

4.3 Material, surface treatment

See Table 3.

4.4 Main general characteristics

See EN 2997-002.

4.5 Possible combinations of plugs and receptacles

See EN 2997-002.

5 Designation

EXAMPLE

Description block	Identity block
ELECTRICAL CONNECTOR, RECEPTACLE	EN2997RS01814M7
Number of the basic standard _____	EN
Class (see Table 3) _____	2997
Square-flange mounted receptacle (see EN 2997-002) _____	RS
Housing size and contact arrangement (see EN 2997-002) _____	01814
Type of contact (see Table 4) _____	M7
Polarization (see EN 2997-002) _____	

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

Table 3 — Class and model connector

Class	Model description
WS	Sealed receptacle with housing (shell) in olive-green cadmium-plated aluminium alloy, conducting finish, 500 h resistance to salt mist, crimp contacts, maximum operating temperature 175 °C continuous
RS	Sealed receptacle with housing (shell) in nickel-plated aluminium alloy, 48 h resistance to salt mist, crimp contacts, maximum operating temperature 200 °C continuous
S	Sealed receptacle with housing (shell) in passivated stainless steel, 500 h resistance to salt mist, crimp contacts, fire-resistant, maximum operating temperature 200 °C continuous
SE	Sealed receptacle with housing (shell) in passivated stainless steel, 500 h resistance to salt mist, crimp contacts, fire-resistant, maximum operating temperature 260 °C peak

Table 4 — Types of contacts and delivery

Contacts	Delivered without contact	Delivered with contacts with standard barrels ^a EN 3155-XXXX2020 EN 3155-XXXX1616 EN 3155-XXXX1212	Delivered with specific contacts size 20 with special barrel ^a EN 3155-XXXX2018 ^b
Male	A	M	C
Female	B	F	D

^a See EN 3155-002.

^b Only affects size 20 contact arrangements.

6 Marking

Unless there are other specific contractual requirements, the marking shall include:

- the identity block as defined in Clause 5, except for the 13th or 14th character which shall be marked according to Table 5;
- the date of manufacture (year, week);
- the manufacturer's name or trade mark.

Table 5

13th or 14th character of the identity block	
For A, M, C ^a	M
For B, F, D ^a	F

^a See Table 4.

7 Technical specification

See EN 2997-001.

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