

Specification for

Type 2 terminal junction systems

UDC 629.7.064.5:621.316.541

NO COPYING WITHOUT BSI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW



Document Sharing Hub

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Aerospace Standards Policy Committee (ACE/-) to Technical Committee ACE/6, upon which the following bodies were represented:

- British Airways
- British Cable Makers' Confederation
- British Rubber Manufacturers' Association
- Civil Aviation Authority (Airworthiness Division)
- Electronic Components Industries Federation
- Ministry of Defence
- Society of British Aerospace Companies Ltd.

This British Standard, having been prepared under the direction of the Aerospace Standards Policy Committee, was published under the authority of the Standards Board and comes into effect on 15 March 1994

© BSI 01-2000

The following BSI references relate to the work on this standard:
Committee reference ACE/6
Draft for comment 92/72823 DC

ISBN 0 580 22866 5

Amendments issued since publication

Amd. No.	Date	Comments

Contents

	Page
Committees responsible	Inside front cover
National foreword	ii
1 Scope	1
2 Normative references	1
3 Definitions	1
4 Designation	1
5 Characteristics	3
6 Tooling	23
7 Production testing and quality surveillance	23
Figure 1 — Feedback modules	3
Figure 2 — Feedthrough modules	4
Figure 3 — Monolithic frames (code 1 M)	5
Figure 4 — Double frames (code 1 N)	6
Figure 5 — Double frames (code 2 N)	10
Figure 6 — Spacers (code ER)	13
Figure 7 — Spacers (code ET)	13
Figure 8 — Contact, size 22	14
Figure 9 — Contact, size 20	14
Figure 10 — Detail of the crimping shank of the size 16 contact	15
Figure 11 — Detail of the crimping shank of the size 16 contact	15
Figure 12 — Sealing plug	16
Figure 13 — Assembly diagram	17
Figure 14 — Size A modules	18
Figure 15 — Size B modules	19
Figure 16 — Size C modules	20
Figure 17 — Size D modules	21
Figure 18 — Hybrid interconnection diagrams sizes B, C and D modules	22
Table 1 — Code for resistance to fluids	1
Table 2 — Code for protection of frames	2
Table 3 — Feedback modules	3
Table 4 — Feedthrough modules	4
Table 5 — Monolithic frames for feedback modules (code 1 M)	7
Table 6 — Double frames for feedback modules (code 1 N)	7
Table 7 — Monolithic frames (code 1 M) and doubles frames (code 1 N) for feedback modules — Length code and possible module combinations	7
Table 8 — Double frames for feedthrough modules (code 2 N)	11
Table 9 — Double frames for feedthrough modules (code 2 N) — Length code and possible module combinations	11
Table 10 — Contacts	16
Table 11 — Sealing plugs	17
Table 12 — Size A modules	18
Table 13 — Size B modules	19
Table 14 — Size C modules	20
Table 15 — Size D modules	21
Table 16 — Hybrid interconnections	22
Table 17 — Connection wires	22
List of references	Inside back cover

National foreword

This British Standard has been prepared under the direction of the Aerospace Standards Policy Committee. It is identical with ISO 8668-4:1993 *Aircraft — Terminal junction systems — Part 4: Detail specification for type 2 system*, published by the International Organization for Standardization (ISO).

Cross-references. The Technical Committee has reviewed the provisions of ISO 8668-1:1986, ISO 8668-2:1986 and MIL-I-81969:1982, to which normative reference is made in the text, and has decided that they are acceptable for use in conjunction with this standard.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 24, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 Scope

1.1 This part of ISO 8668 specifies the particular characteristics of a terminal junction system (TJS), designated as type 2, and intended for use at temperatures from -55°C to $+155^{\circ}\text{C}$.

1.2 The junction system covered by this part of ISO 8668 comprises:

- a) feedback modules in four sizes;
- b) feedthrough modules in four sizes;
- c) frames adapted to these modules: monolithic frame and double frame for feedback modules, and double frame for feedthrough modules;
- d) spacers;
- e) removable male crimp contacts of sizes 22, 20, 16 and 12;
- f) sealing plugs.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 8668. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 8668 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 8668-1:1986, *Aircraft — Terminal junction systems — Part 1: Characteristics*.

ISO 8668-2:1986, *Aircraft — Terminal junction systems — Part 2: Tests*.

MIL-I-81969:1982, *Connector and electrical contact — General specification for installing and removal tools*.

3 Definitions

For the purposes of this part of ISO 8668, the definitions given in ISO 8668-1 and the following definition apply. [See also IEC 50(581):1978, *International Electrotechnical Vocabulary — Chapter 581: Electromechanical components for electronic equipment*.]

3.1

spacer

a removable part used, for certain combinations of module in a frame, to adapt the length of the stacked modules to the available space between the two module clamps of the frame

4 Designation

4.1 Modules

The modules shall be designated as follows:

- a) reference to this part of ISO 8668;
- b) separated by a space, a figure indicating the type of module:
 - 1 = feedback module,
 - 2 = feedthrough module;
- c) a letter indicating the size of module: A, B, C or D (see Figure 1 and Figure 2);
- d) two figures indicating the interconnection diagram (see 5.2);
- e) a letter defining resistance to fluids (see Table 1).

Table 1 — Code for resistance to fluids

Fluid	Code
Synthetic oil for turbine aero engines	A
Mineral oil for turbine aero engines	
Kerosene for turbine aero engines	

EXAMPLE

The designation of a size A feedback module with 10 contacts of size 22, arranged according to interconnection diagram 12 and resistant to fluids defined by code A, is as follows:

Feedback module ISO 8668-4 1 A 12 A

4.2 Frames

The frames shall be designated as follows:

- a) reference to this part of ISO 8668;
- b) separated by a space, a figure indicating the type of module for which the frame is designated:
 - 1 = feedback modules,
 - 2 = feedthrough modules;
- c) a letter indicating the type of frame:
 - M = monolithic frame,
 - N = double frame;
- d) three-figure code indicating the length of the frame (see Table 7 and Table 9);
- e) separated by a hyphen, a figure indicating the nature of the protection of the frame (see Table 2).

Table 2 — Code for protection of frames

Protection	Code
White cadmium plating	1
Colourless anodic oxidation	2
Black anodic oxidation	3
Yellow anodic oxidation	4

EXAMPLE

The designation of a double frame for feedback modules of length 100,3 mm, protected by black anodic oxidation is as follows:

Double frame ISO 8668-4 1 N 100 – 3

4.3 Spacers

Spacers shall be designated as follows:

- a) reference to this part of ISO 8668;
- b) separated by a space, two letters indicating the type of spacer:
 - ER = spacer for feedback modules,
 - ET = spacer for feedthrough modules.

EXAMPLE

The designation of a spacer for a feedback module is as follows:

Spacer ISO 8668-4 ER

4.4 Contacts

The contacts shall be designated as follows:

- a) reference to this part of ISO 8668;
- b) separated by a space, the two-figure code indicating the size of contact: 22, 20, 16 or 12.

EXAMPLE

The designation of a contact of size 22 is as follows:

Contact ISO 8668-4 22

4.5 Sealing plugs

Sealing plugs shall be designated as follows:

- a) reference to this part of ISO 8668;
- b) separated by a space, a two-figure code: 01, 02, 03 or 04 (see Table 11).

EXAMPLE

The designation of a sealing plug for size 22 contact cavities is as follows:

Sealing plug ISO 8668-4 01

5 Characteristics**5.1 Dimensions**

The dimensions are given in millimetres. In the figures and in certain tables, values in inches are additionally given in parentheses. Drawings are shown using the first angle projection method.

5.1.1 Feedback modules (code 1)

See Figure 1 and Table 3.

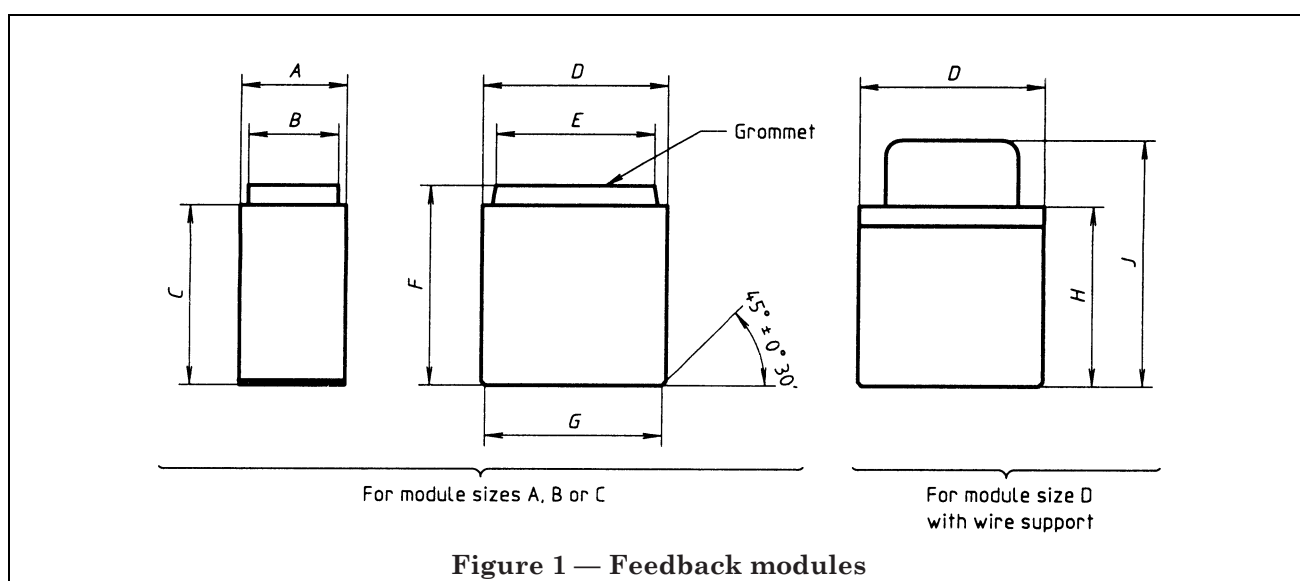


Figure 1 — Feedback modules

Table 3 — Feedback modules

Dimensions in millimetres									
Module size	A ± 0,13	B ± 0,15	C max.	D ± 0,13	E ± 0,25	F max.	G +0,35 0	H max.	J max.
A	10,01	8,48	16,94	17,53	14,76	20,65	16,76	—	—
B	10,01	8,48	16,94	17,53	14,76	19,6	16,76	—	—
C	24,89	21,05	16,94	17,53	13,87	20,4	16,76	—	—
D	32,38	28,45	—	17,53	13,56	24,05	16,76	16,94	23,22
Dimensions in inches									
Module size	A ± 0,005	B ± 0,006	C max.	D ± 0,005	E ± 0,01	F max.	G +0,014 0	H max.	J max.
A	0,394	0,334	0,667	0,69	0,581	0,813	0,66	—	—
B	0,394	0,334	0,667	0,69	0,581	0,752	0,66	—	—
C	0,98	0,829	0,667	0,69	0,546	0,803	0,66	—	—
D	1,274	1,12	—	0,69	0,534	—	0,66	0,667	0,914

5.1.2 Feedthrough modules (code 2)

See Figure 2 and Table 4.

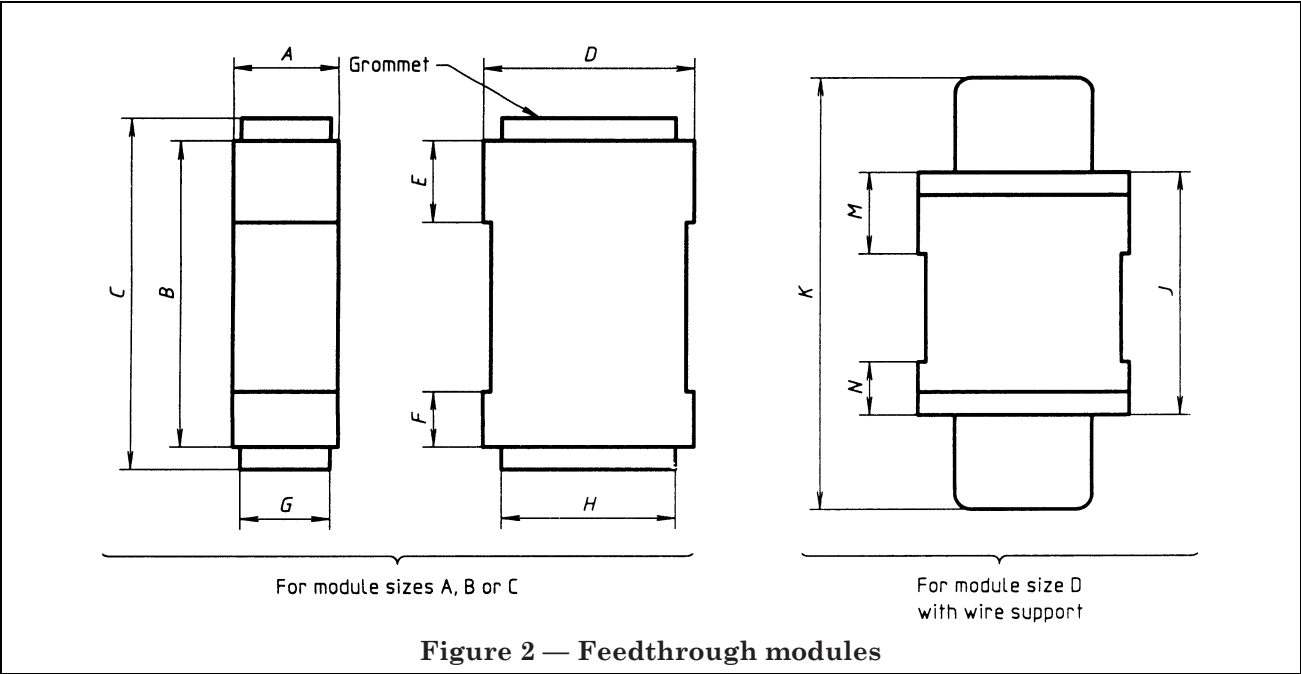


Figure 2 — Feedthrough modules

Table 4 — Feedthrough modules

Dimensions in millimetres												
Module size	A ± 0,13	B max.	C max.	D ± 0,13	E ± 0,13	F ± 0,13	G ± 0,15	H ± 0,25	J max.	K max.	M ± 0,13	N ± 0,13
A	10,01	28,96	33,3	20,12	7,75	5,21	8,48	16,08	—	—	—	—
B	10,01	28,96	33,55	20,12	7,75	5,21	8,48	16,08	—	—	—	—
C	24,89	29,16	38,6	20,12	7,75	5,21	21,05	13,92	—	—	—	—
D	32,38	—	—	20,12	—	—	28,45	14,22	23,16	41,3	7,75	5,21
Dimensions in inches												
Module size	A ± 0,005	B max.	C max.	D ± 0,005	E ± 0,005	F ± 0,005	G ± 0,006	H ± 0,01	J max.	K max.	M ± 0,005	N ± 0,005
A	0,394	1,14	1,311	0,792	0,305	0,205	0,334	0,656	—	—	—	—
B	0,394	1,14	1,311	0,792	0,305	0,205	0,334	0,656	—	—	—	—
C	0,98	1,148	1,52	0,792	0,305	0,205	0,829	0,548	—	—	—	—
D	1,274	—	—	0,792	—	—	1,12	0,56	1,148	1,626	0,305	0,205

5.1.3 Frames

5.1.3.1 Monolithic frames for feedback modules (code 1 M)

The monolithic frame is composed of a single U-shaped element and two module clamps. See Figure 3 and Table 5 and Table 7.

NOTE 1 Dimensions of A and A₁ are given in Table 7.

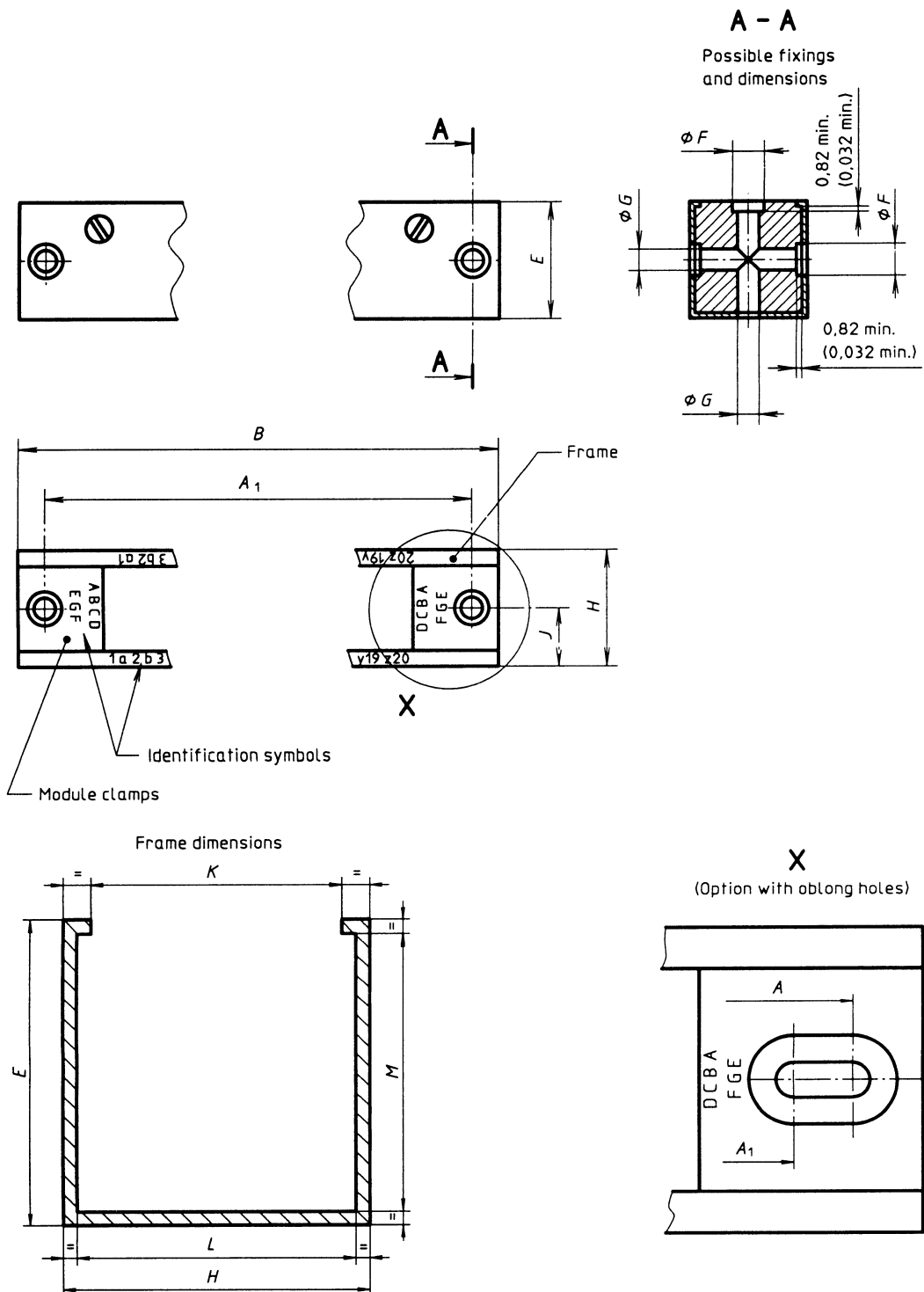


Figure 3 — Monolithic frames (code 1 M)