INTERNATIONAL STANDARD

ISO 8668-4

First edition
1993-10-15

Aircraft — Terminal junction systems —

Part 4:
Detail specification for type 2 system

Aéronefs — Systèmes de raccordement à modules amovibles —

Partie 4: Spécification détaillée pour le système du type 2

Reference number
ISO 8668-4:1993(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 8668-4 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Sub-Committee SC 1, *Aerospace electrical requirements*.

ISO 8668 consists of the following parts, under the general title *Aircraft — Terminal junction systems*:

— *Part 1: Characteristics*

— *Part 2: Tests*

— *Part 3: Detail specification for type 1 system*

— *Part 4: Detail specification for type 2 system*

— *Part 5: Detail specification for type 3 system*

— *Part 6: Detail specification for type 4 system*

International Organization for Standardization
Case Postale 56 • CH-1211 Genève 20 • Switzerland
Printed in Switzerland

Aircraft — Terminal junction systems —

Part 4:
Detail specification for type 2 system

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 °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 figures 1 and 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 Mineral oil for turbine aero engines Kerosene for turbine aero engines	A

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 tables 7 and 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.

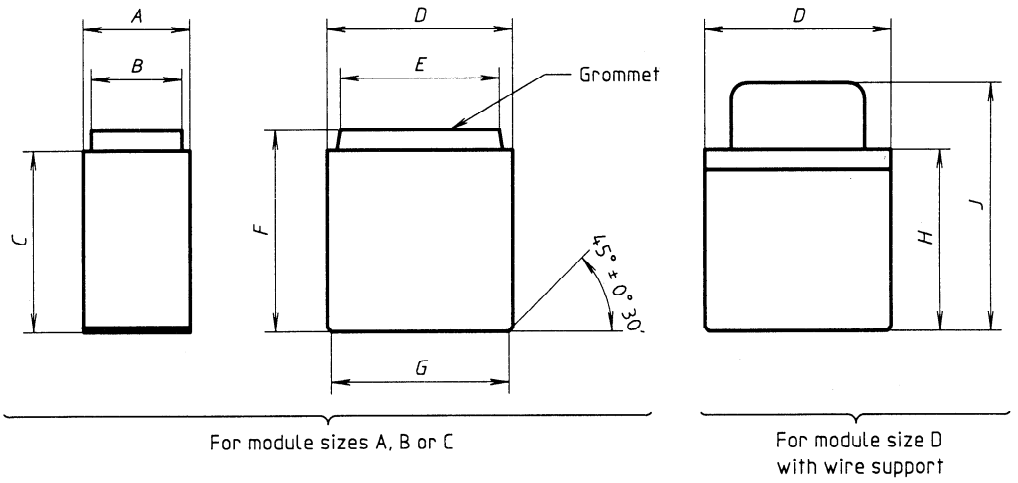


Figure 1 — Feedback modules

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.

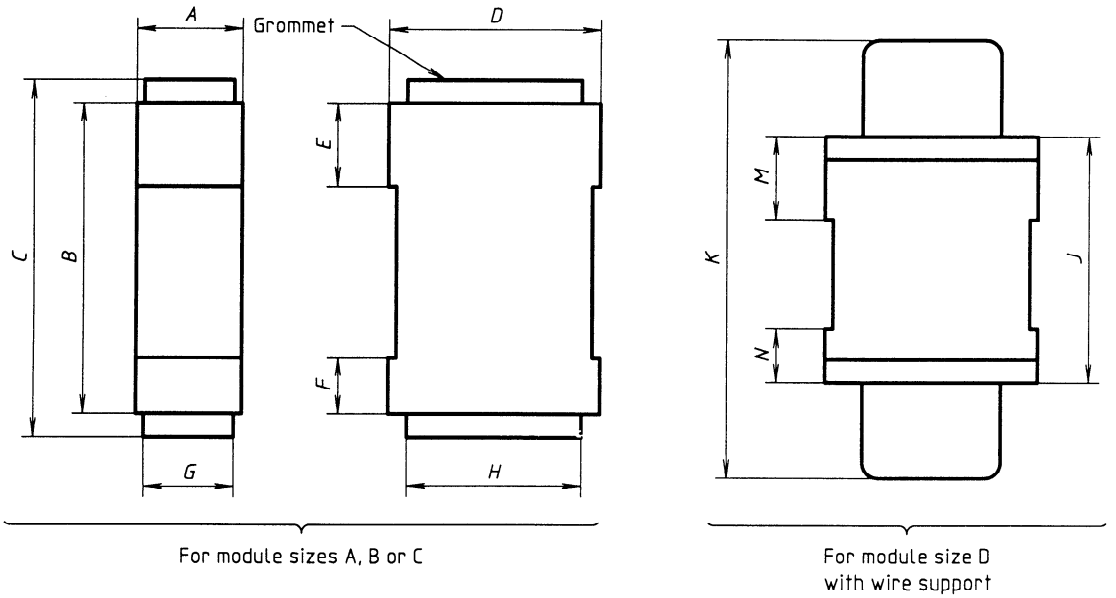


Figure 2 — Feedthrough modules

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 tables 5 and 7.

NOTE 1 Dimensions of A and A_1 are given in table 7.

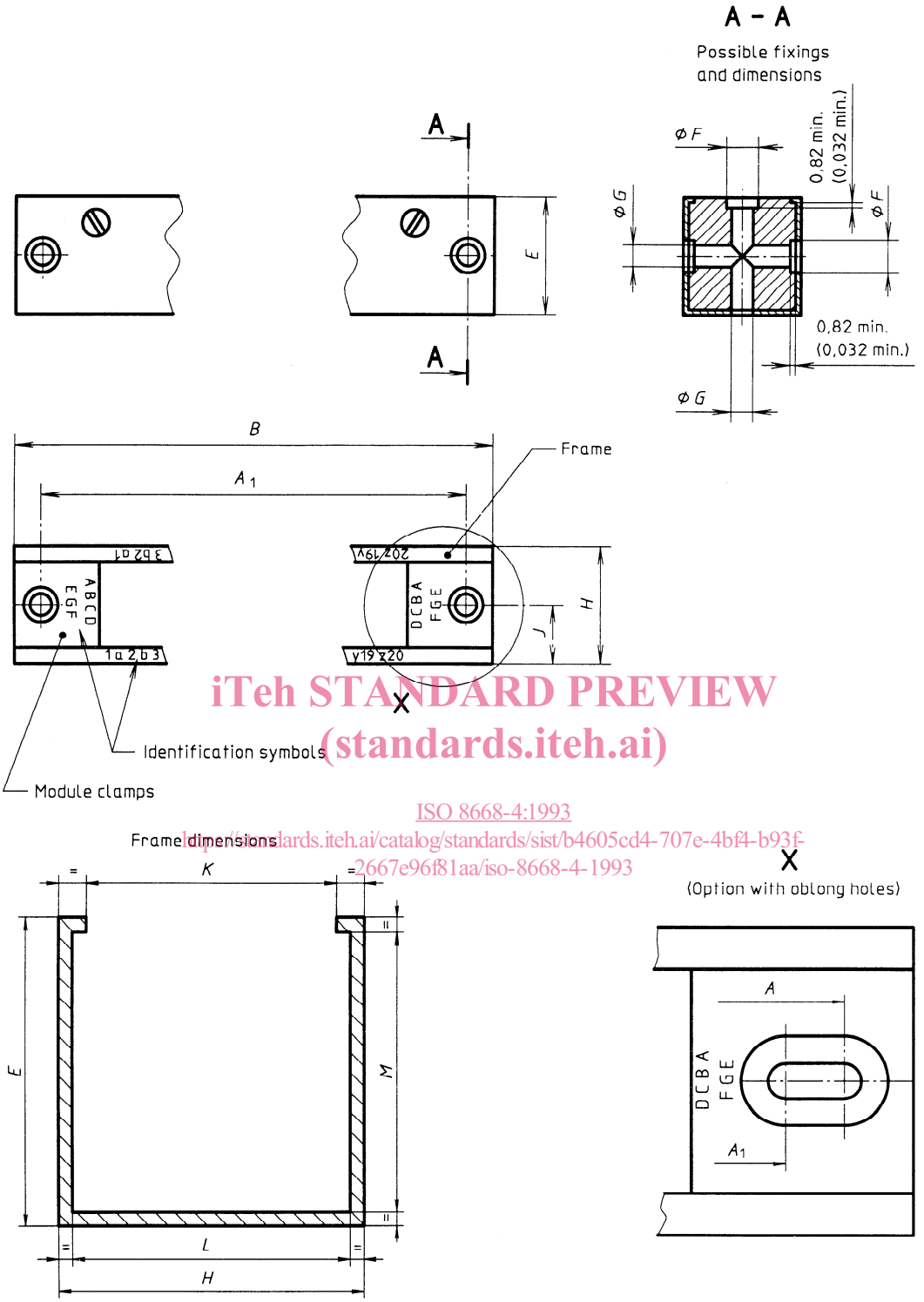
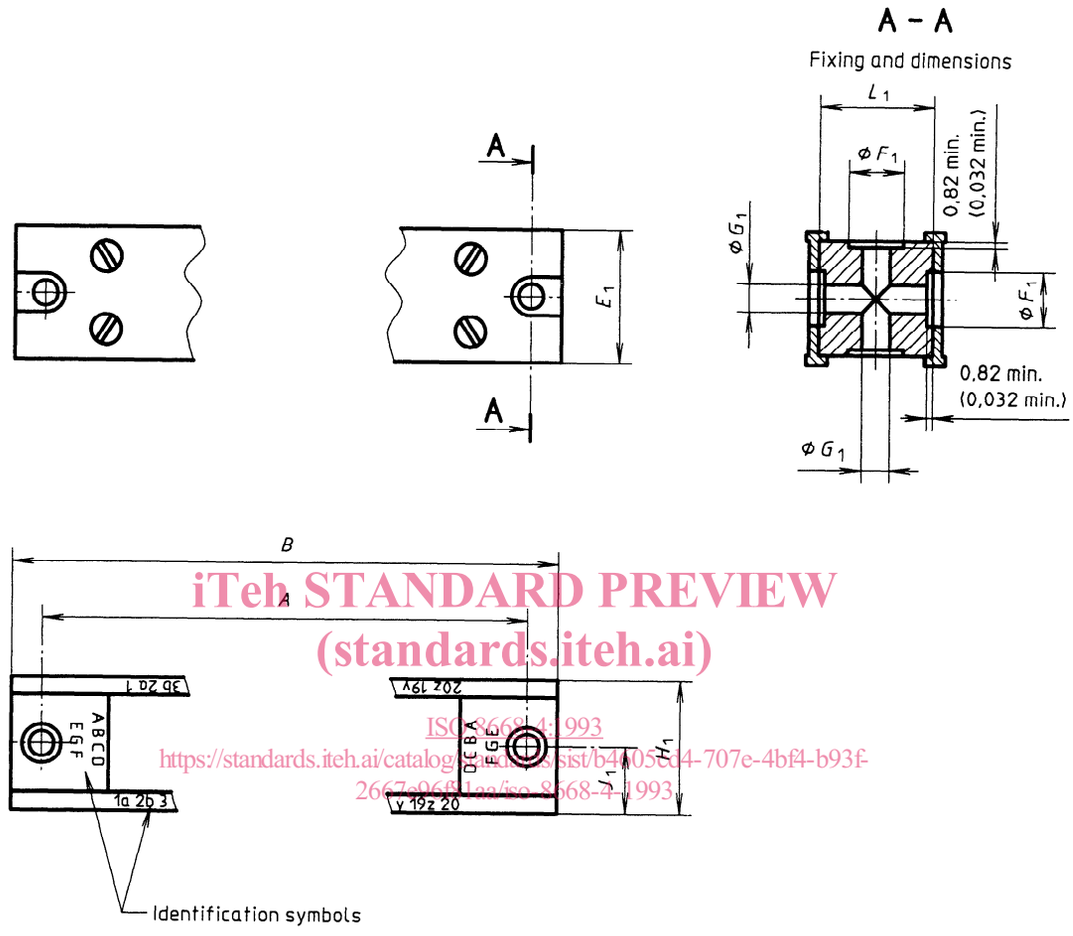


Figure 3 — Monolithic frames (code 1 M)

5.1.3.2 Double frames for feedback modules (code 1 N)

The double frame is composed of two elements and two module clamps. See figure 4 and tables 6 and 7.

NOTE 2 Dimensions of A and A_1 are given in table 7.



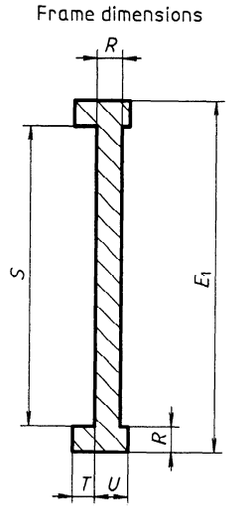


Figure 4 — Double frames (code 1 N)

Table 5 — Monolithic frames for feedback modules (code 1 M)

Dimensions in millimetres							
E ± 0,5	*F* ± 0,28	*G* ± 0,18	*H* ± 0,5	*J* ± 0,25	*K* ± 0,5	*L* ± 0,16	*M* ± 0,2
18,7	6,08	3,98	19,3	9,95	15,41	17,83	17,15
Dimensions in inches							
E ± 0,02	*F* ± 0,011	*G* ± 0,007	*H* ± 0,02	*J* ± 0,01	*K* ± 0,02	*L* ± 0,006	*M* ± 0,008
0,736	0,239	0,157	0,76	0,36	0,607	0,702	0,675

Table 6 — Double frames for feedback modules (code 1 N)

Dimensions in millimetres									
E_1 ± 0,25	F_1 ± 0,28	G_1 ± 0,18	H_1 ± 0,5	J_1 ± 0,25	L_1 ± 0,13	*R* ± 0,15	*S* ± 0,2	$T\ ^{0}_{-0,15}$	*U* ± 0,15
20,12	8,89	4,57	21,1	10,55	17,42	1,57	17,15	1,37	1,83
Dimensions in inches									
E_1 ± 0,01	F_1 ± 0,011	G_1 ± 0,007	H_1 ± 0,02	J_1 ± 0,01	L_1 ± 0,005	*R* ± 0,006	*S* ± 0,008	$T\ ^{0}_{-0,006}$	*U* ± 0,006
0,792	0,35	0,18	0,831	0,415	0,686	0,062	0,675	0,054	0,072