

Modular order for the development of mechanical structures for electronic equipment practices —

**Part 2: Sectional specification —
Interface co-ordination dimensions for
the 25 mm equipment practice —**

**Section 2: Detail specification —
Dimensions for subracks, chassis,
backplanes, front panels and plug-in
units**

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- Federation of the Electronics Industry

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National foreword

This British Standard has been prepared by Subcommittee EPL/48/4 and is the English language version of EN 60917-2-2:1995 *Modular order for the development of mechanical structures for electronic equipment practices — Part 2: Sectional specification — Interface co-ordination dimensions for the 25 mm equipment practice — Section 2: Detail specification — Dimensions for subracks, chassis, backplanes, front panels and plug-in units*, published by the European Committee for Electrotechnical Standardization (CENELEC). It is identical with IEC 917-2-2:1994, published by the International Electrotechnical Commission (IEC).

Cross-references

Publication referred to	Corresponding British Standard
HD 550 S1:1989 (IEC 916:1988)	BS 7728:1994 <i>Mechanical structures for electronic equipment. Terminology</i>
EN 60917 (IEC 917)	BS EN 60917 <i>Modular order for the development of mechanical structures for electronic equipment practices</i>
EN 60917-0:1992 (IEC 917-0:1989)	Part 0:1992 <i>Guide for the users of IEC Publication 917</i>
EN 60917-2:1994 (IEC 917-2:1992)	Part 2:1994 <i>Sectional specification. Interface co-ordination dimensions for the 25 mm equipment practice</i>
EN 60917-2-1:1995 (IEC 917-2-1:1993)	Section 1:1997 <i>Detail specification — Dimensions for cabinets and racks</i>

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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, the EN title page, pages 2 to 32, 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.

Descriptors: Interface co-ordination dimensions, 25 mm equipment practice, subracks, chassis, backplanes, front panels and plug-in units

English version

Modular order for the development of mechanical structures for electronic equipment practices

Part 2: Sectional specification — Interface co-ordination dimensions for the 25 mm equipment practice

Section 2: Detail specification — Dimensions for subracks, chassis, backplanes, front panels and plug-in units

(IEC 917-2-2:1994)

Ordre modulaire pour le développement des
structures mécaniques pour les
infrastructures électroniques
Partie 2: Spécification intermédiaire
Dimensions de coordination pour les
interfaces des infrastructures au pas
de 25 mm
Section 2: Spécification particulière
Dimensions pour bacs, châssis, fonds de
paniers, faces avant et unités enfichables
(CEI 917-2-2:1994)

Modulordnung für die Entwicklung von
Bauweisen für elektronische Einrichtungen
Teil 2: Strukturnorm
Schnittstellen-Koordinationsmaße für
die 25-mm-Bauweise
Hauptabschnitt 2: Maßnorm
Maße für Baugruppenträger, Einschübe,
Rückplatten, Frontplatten und steckbare
Baugruppen
(IEC 917-2-2:1994)

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC 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 CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B-1050 Brussels

Foreword

The text of the International Standard IEC 917-2-2:1994, prepared by SC 48D, Mechanical structures for electronic equipment, of IEC TC 48, Electromechanical components and mechanical structures for electronic equipment, was submitted to the formal vote and was approved by CENELEC as EN 60917-2-2 on 1995-11-28 without any modification.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1996-12-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1996-12-01

Annexes designated “normative” are part of the body of the standard.

In this standard, Annex ZA is normative.

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 917-2-2:1994 was approved by CENELEC as a European Standard without any modification.

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1 Scope

This section of IEC 917-2 is a detail specification which is to be used in whole or in part in all fields of electronics where devices and systems are designed according to the sectional specification IEC 917-2.

The purpose of this publication is the specification of dimensions which will ensure mechanical interchangeability of subracks, chassis, plug-in units, backplanes and front panels.

The sectional specification IEC 917-2 has embodied within it a number of subrack systems based on 25 mm three-dimensional modularity and the binary additive principle for subrack heights.

The dimensions in the tables of this detail specification are based on one of the subrack systems taken from the sectional specification IEC 917-2. However, all subrack systems within the sectional specification are valid in this detail specification, provided the relationship between the dimensions is maintained, i.e. the dimensional difference between the co-ordination dimensions H_S , W_S and D_S and dimensions H_{S0} , etc.; W_{S0} , etc., and D_{S0} , etc., shown in Table 1, Table 2 and Table 3 are to be maintained.

The subrack dimensions are related to certain cabinet/rack dimensions, see IEC 917-2-1.

The front panel dimensions are related to the mounting dimensions of certain cabinets and racks, see IEC 917-2-1.

Plug-in units are mounted in subracks. They serve as supports for electrical, electronic and mechanical components. The electrical connection between plug-in units and subracks is based on the use of connectors.

All dimensions are given in millimetres and the drawings are first angle projections.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this section of IEC 917-2. At the time of publication, the editions indicated were valid. All normative documents are subject to revision and parties to agreements based on this section of IEC 917-2 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 249-2, *Base materials for printed circuits — Part 2: Specifications.*

IEC 916:1988, *Mechanical structures for electronic equipment — Terminology.*

IEC 917:1988, *Modular order for the development of mechanical structures for electronic equipment practices.* Amendment 1:1993

IEC 917-0:1989, *Modular order for the development of mechanical structures for electronic equipment practices — Part 0: Guide for the users of IEC Publication 917.*

IEC 917-2:1992, *Modular order for the development of mechanical structures for electronic equipment practices — Part 2: Sectional specification — Interface co-ordination dimensions for the 25 mm equipment practice.*

IEC 917-2-1:1993, *Modular order for the development of mechanical structures for electronic equipment practices — Part 2: Sectional specification — Interface co-ordination dimensions for the 25 mm equipment practice — Section 1: Detail specification — Dimensions for cabinets and racks.*

IEC 1076, *Connector standards related to this 25 mm equipment practice.* (in preparation)

3 Terminology

For the purposes of this section of IEC 917-2, the following terminology applies.

3.1

aperture dimensions

dimensions used to define space between structural parts

3.2

co-ordination dimension

reference dimension used to co-ordinate mechanical interfaces, see IEC 917

3.3 mounting pitch

Pitch used to arrange parts or assemblies in a given space.

3.3.1

mounting pitch for cabinets/racks and subracks

$mp1 = 25 \text{ mm}$

3.3.2

mounting pitch for subracks and plug-in units

$mp2 = 5 \text{ mm}$

3.3.3

mounting pitch for subracks and plug-in units

$mp3 = 2,5 \text{ mm}$

3.3.4

grid for backplane

$mp4 = 0,5 \text{ mm}$

3.4

grid

two-dimensional or three-dimensional arrangement of pitch used to co-ordinate position;
see also IEC 917, **6.1**, modular grid

3.5

n

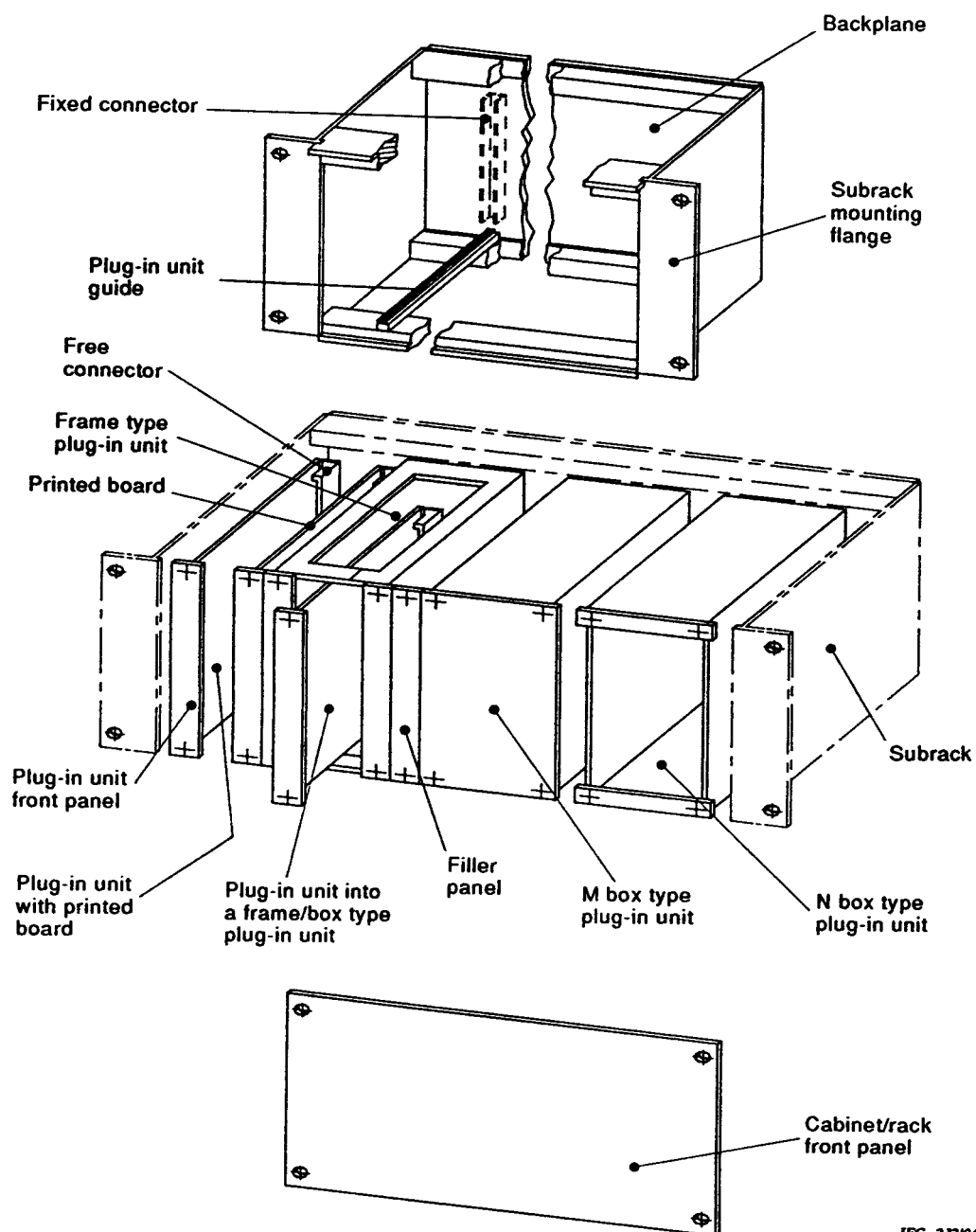
integer

3.6

reference plane

theoretical plane without thickness or tolerance, used to define spaces. See IEC 917 and IEC 917-0

4 Equipment arrangement



IEC 232/94

Figure 1 — Examples of subracks, backplanes, plug-in units and cabinet or rack front panels

5 Dimensions

The subrack, chassis, backplane, front panel and plug-in unit dimensions for height, width and depth have been taken from the relevant tables in IEC 917-2 (see **5.1.1.1**). The subracks, chassis, plug-in units, backplanes and front panels do not need to conform with the figures illustrated; only the specified dimensions have to be applied. In the case of unspecified dimensions and tolerances the manufacturer is free to choose according to his requirements.

5.1 Subracks

The detail specification standardizes three types of subracks with interchangeability of all types of plug-in units as shown in Figure 1.

5.1.1 *Type A subrack, connector application with backplane*

Subracks designed according to type A shall be used for connector applications with a subrack mounted backplane.

5.1.1.1 If other co-ordination dimensions are used then they shall be taken from IEC 917-2. In such cases, the relationship between co-ordination dimensions H_S , W_S and D_S and dimensions H_{S0} , etc., W_{S0} , etc., and D_{S0} , etc., shown in Table 1a, Table 1b, Table 2a, Table 2b and Table 3 shall be maintained. See IEC 917-2-1, subclause **4.1.4**.

5.1.1.2 Other or additional mounting flange positions are to be on pitches of 25 mm ($n \times mp1$).