IEC 60297-3-100

Edition 1.0 2008-11

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Mechanical structures for electronic equipment – Dimensions of mechanical structures of the 482,6 mm (19 in) series – Part 3-100: Basic dimensions of front panels, subracks, chassis, racks and cabinets

Structures mécaniques pour équipements électroniques – Dimensions des structures mécaniques de la série 482,6 mm (19 pouces) – Partie 3-100: Dimensions de base des panneaux avant, des bacs, des châssis, des bâtis et des baies

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MECHANICAL STRUCTURES FOR ELECTRONIC EQUIPMENT – DIMENSIONS OF MECHANICAL STRUCTURES OF THE 482,6 mm (19 in) SERIES –

Part 3-100: Basic dimensions of front panels, subracks, chassis, racks and cabinets

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International Standard IEC 60297-3-100 has been prepared by subcommittee 48D: Mechanical structures for electronic equipment, of IEC technical committee 48: Electromechanical components and mechanical structures for electronic equipment.

This standard cancels and replaces IEC 60297-1 and IEC 60297-2.

The text of this standard is based on the following documents:

FDIS	Report on voting
48D/380/FDIS	48D/386/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of IEC 60297 series, published under the general title *Mechanical structures for electronic equipment – Dimensions of mechanical structures of the 482,6 mm (19 in) series,* can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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- withdrawn,
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INTRODUCTION

This part of IEC 60297 has been developed by merging IEC 60297-1 and IEC 60297-2 into one document. Both parts are reworked in order to meet the latest market requirements of the electronics industry. The purpose is also to create an updated documentation and to improve the drawings and descriptions of the contents. Some parts of this standard contain dimensions of IEC 60917-2-1 and ETSI EN 300119. The merge of the two parts into one updates the scope and improves the overview of the modular order, describing the relationship between front panels, subracks, chassis, racks and cabinets.

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MECHANICAL STRUCTURES FOR ELECTRONIC EQUIPMENT – DIMENSIONS OF MECHANICAL STRUCTURES OF THE 482,6 mm (19 in) SERIES –

Part 3-100: Basic dimensions of front panels, subracks, chassis, racks and cabinets

1 Scope

This part of IEC 60297 specifies the basic dimensions of front panels, subracks, chassis, racks and cabinets of the 482,6 mm (19 in) series. Subsequent standards of the associated IEC 60297-3 series provides detail dimensions for specific parts of the equipment practice, where the basic dimensions are used as interface to other associated parts.

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.

IEC 60050-581, *International Electrotechnical Vocabulary – Chapter 581: Electromechanical components for electronic equipment*

IEC 60297-3-101, *Mechanical structures for electronic equipment – Dimensions of mechanical structures of the 482,6 mm (19 in) series – Part 3-101: Subracks and associated plug-in units*

IEC 60917-1, *Modular order for the development of mechanical structures for electronic equipment practices – Part 1: Generic standard*

ETSI EN 300119-3, *Equipment engineering (EE)-European telecommunication standard for equipment practice – Part 3: Engineering requirements for miscellaneous racks and cabinets*

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3 Terms and definitions

For the purposes of this document, the terms and definitions of IEC 60917-1 and IEC 60050-581 apply, as well as the following.

3.1
plinth/base
additional structure or an integrated structure of the cabinet/rack to be used for transport, cable feed, (seismic) anchoring, or provide a safety or convenience distance to the floor level

3.2
vertical member
structural part of a rack/cabinet providing mounting holes for front panels, chassis and subracks

4 Arrangement overview

Figure 1 illustrates the relationship of front panels, subracks, chassis, racks and cabinets. The cabinet is usually assembled with vertical members which are the mounting parts for the

assembly of front panels, subracks and chassis. Racks as defined in IEC 60917-1 are open structures of pairs of vertical members without any covers (see 6.1).

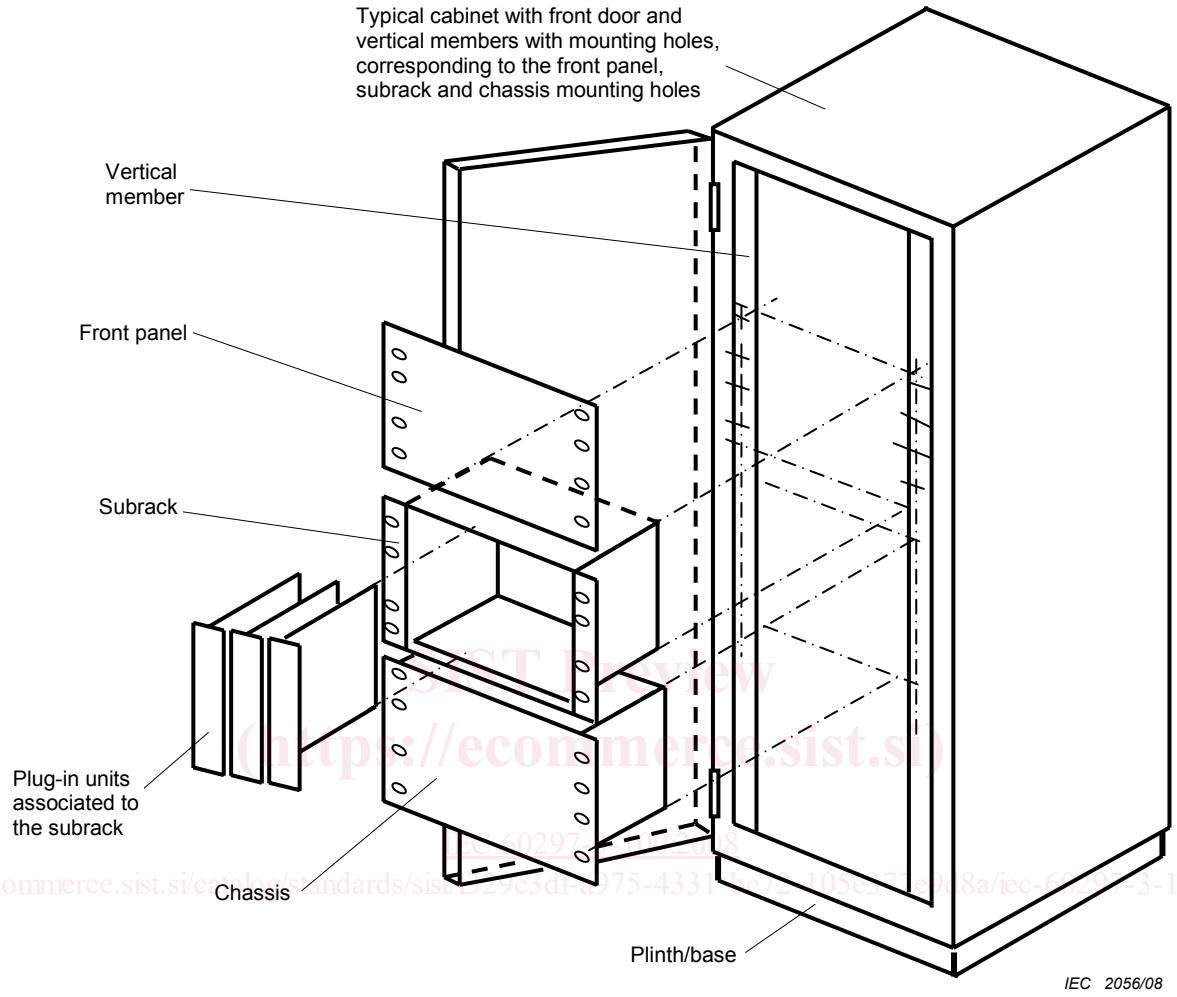


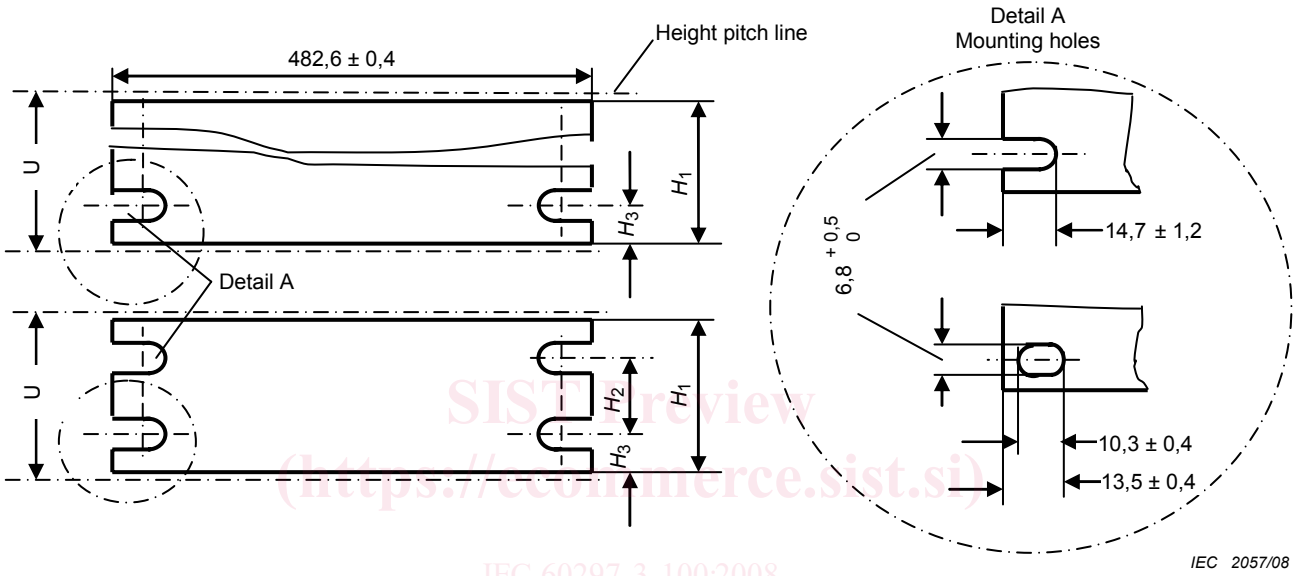
Figure 1 – Arrangement overview

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5 Front panels

5.1 Front panel dimensions

The height increment of a front panel is 1U, equal to 44,45 mm. There are two mounting hole types as shown in detail “A”. The front panel thickness is not defined by this standard. As shown in Figures 2 and 3 and Tables 1 and 2, front panels of 1U, 2U and 6U heights may be provided with different number of mounting holes. The higher number of mounting holes may be used in case of high load applied to the front panel or other stability requirements. For 6U front panels two types of hole spacing are possible (see Table1 and Table 2). The front panel dimensions apply also to chassis and subracks.



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Dimensions in millimetres

Figure 2 – Front panel dimensions for 1U up to 6U

Table 1 – Front panel dimensions for 1U up to 6U

Height units $n \times$ **U**	H_1 **± 0,4**	H_2 **± 0,4**	H_3 **± 0,4**
1U (44,45)	43,65	–	21,83
		31,75	5,95
2U (88,90)	88,10	44,45	21,83
		76,20	5,95
3*U* (133,35)	132,55	57,15	37,70
4U (177,80)	177,00	101,60	37,70
5U (222,25)	221,45	146,05	37,70
6U (266,70)	265,90	190,50	37,70

Dimensions are in millimetres and the tolerances are non-cumulative.

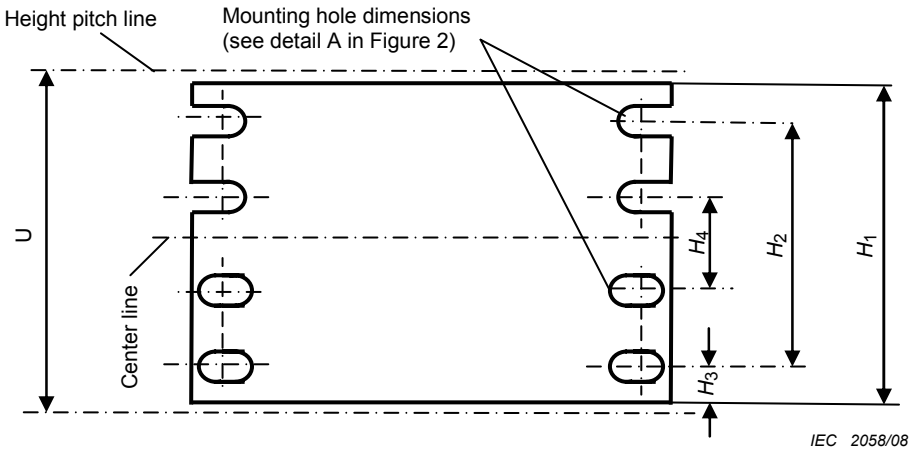


Figure 3 – Front panel dimensions for 6U up to 12U

Table 2 – Front panel dimensions for 6U up to 12U

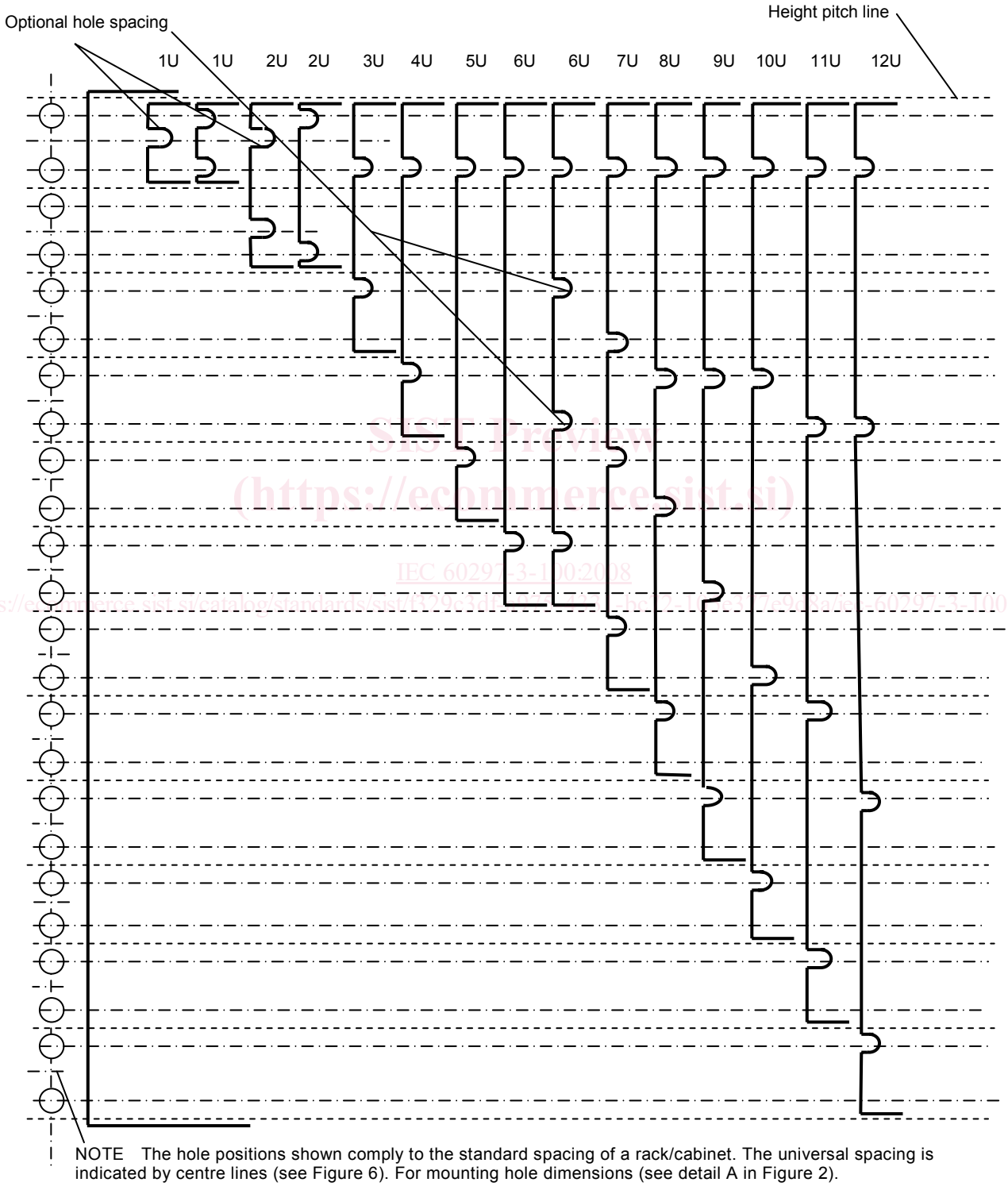
Height units $n \times$ U	H_1 ± 0,4	H_2 ± 0,4	H_3 ± 0,4	H_4 ± 0,4
6U (266,70)	265,90	190,50	37,70	76,20
7U (311,15)	310,35	234,95	37,70	57,15
8U (355,60)	354,80	279,40	37,70	76,20
9U (400,05)	399,25	323,85	37,70	120,65
10U (444,50)	443,70	368,30	37,70	165,10
11U (488,95)	488,15	412,75	37,70	146,05
12U (533,40)	532,60	457,20	37,70	190,50

Dimensions are in millimetres and tolerances are non-cumulative.

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5.2 Front panel mounting hole positions.

Figure 4 shows the front panel, subrack and chassis incremental U height and their corresponding mounting holes. 1U, 2U and 6U front panels mounting hole spacing may be chosen from two optional versions. The number of available mounting positions for front panels, subracks of the IEC 60297-3-101 series and chassis products may depend on environmental and/or application specific requirements.



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Figure 4 – Front panel mounting hole positions