SLOVENSKI STANDARD
SIST EN 50261:1999

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Železniške naprave – Vgradnja elektronske opreme

Railway applications - Mounting of electronic equipment

Bahnanwendungen - Einbau von elektronischen Einrichtungen

Applications ferroviaires - Montage des équipements électroniques

Ta slovenski standard je istoveten z: **EN 50261:1999**

ICS:

29.280	Električ na vleč na oprema	Electric traction equipment
45.060.01	Železniška vozila na splošno	Railway rolling stock in general

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English version

Railway applications
Mounting of electronic equipment

Applications ferroviaires
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Bahnanwendungen
Einbau von elektronischen Einrichtungen

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CENELEC

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

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Foreword

This European Standard was prepared by the Technical Committee CENELEC TC 9X, Electrical and electronic applications for railways.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50261 on 1999-01-01.

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) 2000-01-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2000-01-01

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1 General

1.1 Scope

This standard applies to the mechanical design features for the installation of all electronic equipment as defined in EN 50155 and complying with HD 493.

For individual or specialised equipment not complying with HD 493, no specified dimensions are defined; this type of equipment shall be designed to meet the particular requirements.

These requirements for racks and enclosures do not exclude other solutions (e.g. single board mounting within an equipment box, future developments, etc.)

This standard also covers particular requirements for the interconnection to the vehicle wiring.

1.2 Normative references

This European standard incorporates by dated or undated references, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 50155	Railway Applications - Electronic equipment used on rolling stock
HD 493 (series)	Dimensions of mechanical structures of the 482,6 mm (19 in) series *(IEC 60297 series)*
HD 550	Mechanical structures for electronic equipment - Terminology *(IEC 60916)*

1.3 Definitions

The definitions of EN 50155 and HD 550 apply, in particular the following ones :

1.3.1 **subrack**

A structural unit for housing printed board assemblies and/or plug-in units.

1.3.2 **rack**

A free-standing or fixed structure for supporting electrical or electronic equipment (e.g. subracks).

2 Mounting

2.1 Cubicles

The degree of sealing against water and dust ingress for the cubicle is dependent on the location within the vehicle and shall be agreed between the user and the manufacturer.
For cooling and ventilation, reference shall be made to EN 50155 (7.10).

2.2 Racks

Dimensions of racks and frames shall be taken from HD 493 (series) unless otherwise specified in this standard.

2.2.1 Subracks

The following dimensions, taken from those specified in HD 493, are preferred:
- height of 3U;
- height of 6U.

Tolerances related to the front panel height, given in figure 1, figure 2, figure 5 and figure 6, are different from those specified in HD 493, but recommended to allow the mounting of subracks in worst case conditions.

The dimensions given in 2.2.1.1 and 2.2.1.2 shall be taken as the maximum values for the subracks.

NOTE 1: Equipment with the height of 1U may be used for special purposes (e.g. ventilation subrack).

NOTE 2 : Closed slots (fixing holes) to fix the subrack to the rack are preferred. Slot is detailed in HD 493.1, figure 4.

NOTE 3 : The number of slots for 6U may depend on the application, following HD 493. Exceptions are allowed for equipments which have to meet former designs.

Sufficient clearance between the subrack and the enclosure shall be provided for purposes of EMC, cooling, etc.
In addition, sufficient space shall be taken into account for the routing of cables to the equipment connectors (e.g. cable size, minimum bending radius, etc).

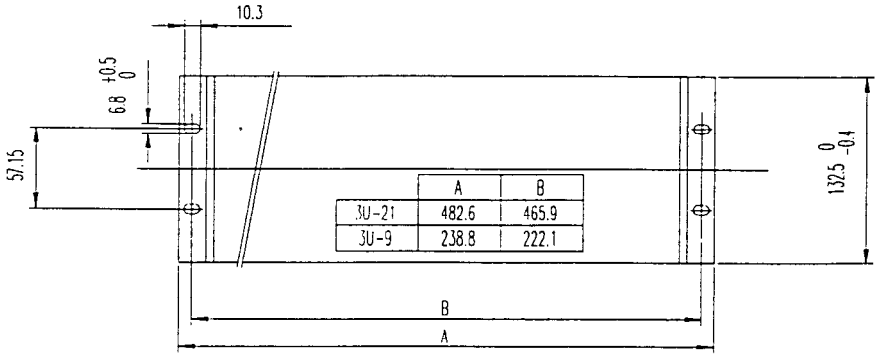


Figure 1 – Subrack assembly – 3U (Rear view)

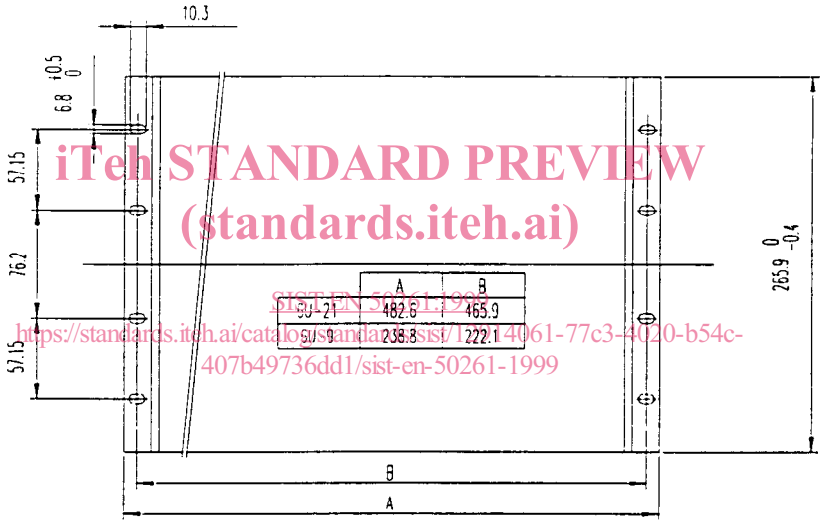


Figure 2 – Subrack assembly – 6U (Rear view)

Note :
- Tolerances are non-cumulative
- Where not specified, tolerances are ±0.4
- Units in mm

2.2.1.1 Fixed subracks

The dimensions of the mounting grid of the subrack are given in HD 493 (series).

For dimensioning of the depth of the cubicle, see figure 3.

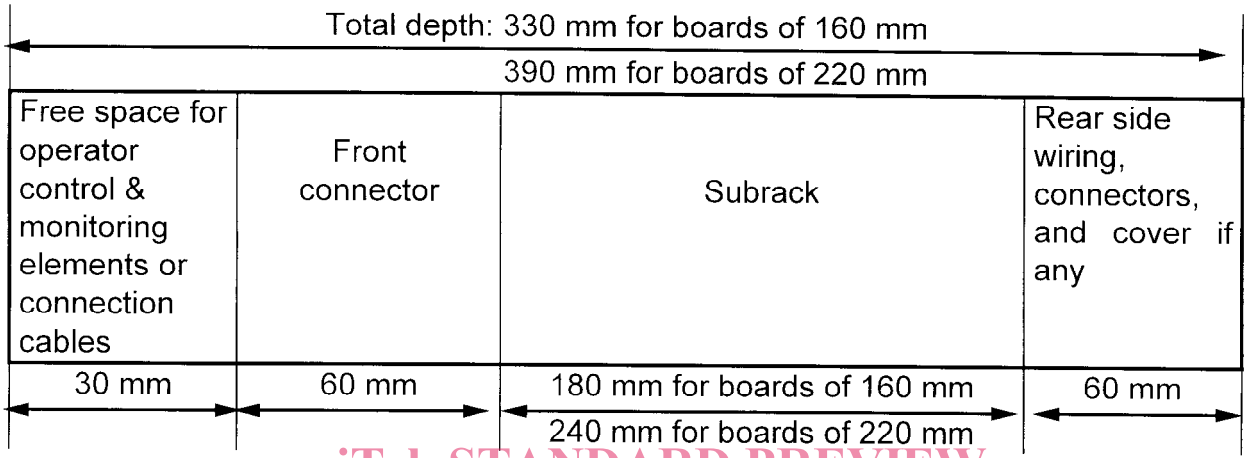
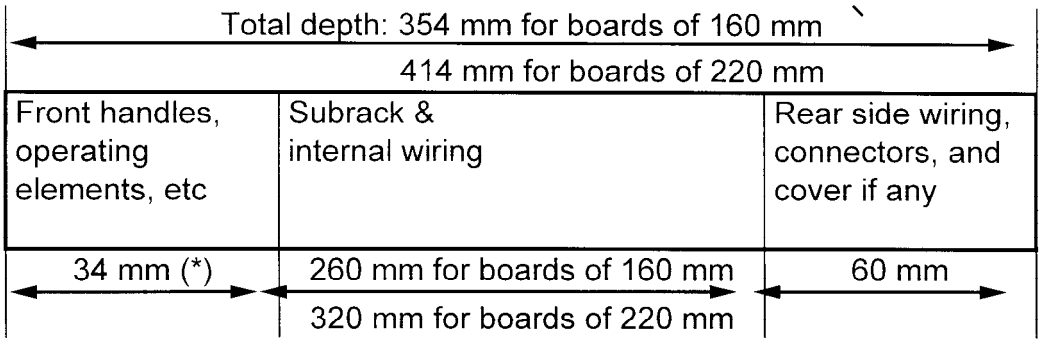


Figure 3: Fixed subracks - Depth of the cubicle

2.2.1.2 Plug-in subracks

A plug-in subrack is a subrack which plugs into a rack and is supported by guides.
It is composed of a subrack with two handles on the front panel, two side guides and a rear assembly for the plug-in connector system. The fixed part of the plug-in connector system is part of the rack/cubicle.

For dimensioning of the depth of the cubicle see figure 4.



(*) In the case where additional wiring is connected to the front of the subrack, this dimension shall be not less than 90 mm (30 mm + 60 mm).

Figure 4: Plug-in subracks - Depth of the cubicle.