



# SLOVENSKI STANDARD SIST EN 60297-3-105:2009

01-april-2009

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Mechanical structures for electronic equipment - Dimensions of mechanical structures of the 482,6 mm (19 in) series - Part 3-105: Dimensions and design aspects for 1U chassis (IEC 60297-3-105:2008)

Bauweisen für elektronische Einrichtungen - Maße der 482,6-mm-(19-Zoll-)Bauweise - Teil 3-105: Maße und Ausführungen (von 1U-Einschüben) (IEC 60297-3-105:2008)

Structures mécaniques pour équipements électroniques - Dimensions des structures mécaniques de la série 482,6 mm (19 in) - Partie 3-105: Dimensions et aspects de conception pour les châssis d'une hauteur de 1U (CEI 60297-3-105:2008)

**Ta slovenski standard je istoveten z: EN 60297-3-105:2009**

## **ICS:**

31.240	Mehanske konstrukcije za elektronsko opremo	Mechanical structures for electronic equipment
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**SIST EN 60297-3-105:2009**

**en,fr**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 60297-3-105**

January 2009

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English version

**Mechanical structures for electronic equipment -  
Dimensions of mechanical structures of the 482,6 mm (19 in) series -  
Part 3-105: Dimensions and design aspects for 1U high chassis  
(IEC 60297-3-105:2008)**

Structures mécaniques  
pour équipements électroniques -  
Dimensions des structures mécaniques  
de la série 482,6 mm (19 pouces) -  
Partie 3-105: Dimensions et aspects  
de conception pour les châssis  
d'une hauteur de 1U  
(CEI 60297-3-105:2008)

Bauweisen für  
elektronische Einrichtungen -  
Maße der 482,6-mm-(19-Zoll-)Bauweise -  
Teil 3-105: Maße und Ausführungen  
von 1U-Einschüben  
(IEC 60297-3-105:2008)

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**CENELEC**

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

**Central Secretariat: avenue Marnix 17, B - 1000 Brussels**

## Foreword

The text of document 48D/381/FDIS, future edition 1 of IEC 60297-3-105, 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 IEC-CENELEC parallel vote and was approved by CENELEC as EN 60297-3-105 on 2008-12-01.

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) 2009-09-01
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 2011-12-01

Annex ZA has been added by CENELEC.

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## Endorsement notice

The text of the International Standard IEC 60297-3-105:2008 was approved by CENELEC as a European Standard without any modification.

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## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050-581	- <sup>1)</sup>	International Electrotechnical Vocabulary (IEV) - Part 581: Electromechanical components for electronic equipment	-	-
IEC 60297-3-100	- <sup>1)</sup>	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	EN 60297-3-100	2009 <sup>2)</sup>
IEC 60917-1	- <sup>1)</sup>	Modular order for the development of mechanical structures for electronic equipment practices - Part 1: Generic standard	EN 60917-1	1998 <sup>2)</sup>
IEC 61587-1	- <sup>1)</sup>	Mechanical structures for electronic equipment - Tests for IEC 60917 and IEC 60297 - Part 1: Climatic, mechanical tests and safety aspects for cabinets, racks, subracks and chassis	EN 61587-1	2007 <sup>2)</sup>
IEC 61587-2	- <sup>1)</sup>	Mechanical structures for electronic equipment - Tests for IEC 60917 and IEC 60297 - Part 2: Seismic tests for cabinets and racks	EN 61587-2	2001 <sup>2)</sup>
IEC 61587-3	- <sup>1)</sup>	Mechanical structures for electronic equipment - Tests for IEC 60917 and IEC 60297 - Part 3: Electromagnetic shielding performance tests for cabinets, racks and subracks	EN 61587-3	2006 <sup>2)</sup>

<sup>1)</sup> Undated reference.

<sup>2)</sup> Valid edition at date of issue.

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# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

**Mechanical structures for electronic equipment – Dimensions of mechanical structures of the 482,6 mm (19 in) series – Part 3-105: Dimensions and design aspects for 1U high chassis**

**Structures mécaniques pour équipements électroniques – Dimensions des structures mécaniques de la série 482,6 mm (19 pouces) – Partie 3-105: Dimensions et aspects de conception pour les châssis d'une hauteur de 1U**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

**Part 3-105: Dimensions and design aspects for 1U high chassis**

## FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 60297-3-105 has been prepared by subcommittee 48D: Mechanical structures for electronic equipment, of IEC technical committee 48: Electromechanical components and mechanical structures for electronic equipment.

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

FDIS	Report on voting
48D/381/FDIS	48D/387/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

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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## INTRODUCTION

Electronic systems based on 1U chassis design have become one of the most important platforms used for servers, industrial electronics, information technology (IT) and telecommunication equipment. 1U chassis are sometimes referred to as “Pizza Boxes”.

Applications for 1U chassis designs are wide spread and solutions are found in every segment of the electronics industry.

IEC 60297-3-100 defines the dimensional rack/cabinet details such as the available aperture and the front panel mounting dimensions. However, IEC 60297-3-100 falls short of providing guidance or dimensional requirements for assembling 1U chassis designs into these IEC 60297 conforming racks/cabinets either in singles or in multiples (stacked in  $n \times 1U$ ).

This part of IEC 60297 will give guidance and provide for dimensional requirements for 1U chassis based on weight loading, physical size and service accessibility.

In this standard, various chassis types are identified according to application needs.

The defined interface dimensions of the various chassis types permit the development of common mounting accessories. Due to this clarification and the application specific chassis type choice, the serviceability and airflow aspects of the chosen 1U chassis can be addressed by the designer.

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Similar attributes for multiple unit high equipment may be derived from this standard. The economical value of this standard lies in the predefined interface dimensions of chassis for which suitable accessories may be developed. In addition, as a consequence of the chosen mounting support, the cooling possibilities are indicated.

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