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## **Elektronikutrustningar – Mekaniska byggmått i 482,6 mm (19 tum)-serien – Del 3-110: Bostadsplacerade stativ och skåp för smarta hus**

*Mechanical structures for electrical and electronic equipment –  
Dimensions of mechanical structures of the 482,6 mm (19 in) series –  
Part 3-110: Residential racks and cabinets for smart houses*

Som svensk standard gäller europastandarden EN IEC 60297-3-110:2018. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 60297-3-110:2018.

### **Nationellt förord**

Europastandarden EN IEC 60297-3-110:2018

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 60297-3-110, First edition, 2018 - Mechanical structures for electrical and electronic equipment - Dimensions of mechanical structures of the 482,6 mm (19 in) series - Part 3-110: Residential racks and cabinets for smart houses**

utarbetad inom International Electrotechnical Commission, IEC.

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English Version

**Mechanical structures for electrical and electronic equipment -  
Dimensions of mechanical structures of the 482,6 mm (19 in)  
series - Part 3-110: Residential racks and cabinets for smart  
houses  
(IEC 60297-3-110:2018)**

Structures mécaniques pour équipements électriques et  
électroniques - Dimensions des structures mécaniques de  
la série 482,6 mm (19 pouces) - Partie 3-110: Bâti et baies  
domestiques pour maisons intelligentes  
(IEC 60297-3-110:2018)

Mechanische Bauweisen für elektrische und elektronische  
Einrichtungen - Maße der 482,6-mm-(19-in-)Bauweise - Teil  
3-110: Gestelle und Schränke im Wohnbereich für  
intelligente Häuser  
(IEC 60297-3-110:2018)

This European Standard was approved by CENELEC on 2018-09-19. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



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

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

## **European foreword**

The text of document 48D/668/FDIS, future edition 1 of IEC 60297-3-110, prepared by SC 48D "Mechanical structures for electrical and electronic equipment" of IEC/TC 48 "Electrical connectors and mechanical structures for electrical and electronic equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60297-3-110:2018.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2019-06-19
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2021-09-19

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

## **Endorsement notice**

The text of the International Standard IEC 60297-3-110:2018 was approved by CENELEC as a European Standard without any modification.

## Annex ZA

(normative)

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

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: [www.cenelec.eu](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60297-3-100	-	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	-
IEC 60917-1	-	Modular order for the development of mechanical structures for electronic equipment practices - Part 1: Generic standard	EN 60917-1	-
IEC 60917-2-5	-	Modular order for the development of mechanical structures for electronic equipment practices - Part 2-5: Sectional specification - Interface co-ordination dimensions for the 25 mm equipment practice - Cabinet interface dimensions for miscellaneous equipment	EN 60917-2-5	-
IEC 61587-1	-	Mechanical structures for electronic equipment - Tests for IEC 60917 and IEC 60297 series - Part 1: Environmental requirements, test set-up and safety aspects for cabinets, racks, subracks and chassis under indoor condition use and transportation	EN 61587-1	-
IEC 61587-2	-	Mechanical structures for electronic equipment - Tests for IEC 60917 and 60297 - Part 2: Seismic tests for cabinets and racks	EN 61587-2	-
IEC 61587-3	-	Mechanical structures for electronic equipment - Tests for IEC 60917 and IEC 60297 - Part 3: Electromagnetic shielding performance tests for cabinets and subracks	EN 61587-3	-

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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**MECHANICAL STRUCTURES FOR  
ELECTRICAL AND ELECTRONIC EQUIPMENT –  
DIMENSIONS OF MECHANICAL STRUCTURES  
OF THE 482,6 MM (19 IN) SERIES –****Part 3-110: Residential racks and cabinets for smart houses****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 60297-3-110 has been prepared by subcommittee 48D: Mechanical structures for electrical and electronic equipment, of IEC technical committee 48: Electrical connectors and mechanical structures for electrical and electronic equipment.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
48D/668/FDIS	48D/665/RVD

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

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

A list of all parts in the IEC 60297-3 series, published under the general title *Mechanical structures for electrical and electronic equipment – Dimensions of mechanical structures of the 482,6 mm (19 in) series*, can be found on the IEC website.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

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

**IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.**

## INTRODUCTION

As a result of increasing worldwide environmental awareness, there are significant requirements for effective management of electricity supply between consumers, distributors and generators. The smart grid is considered one of the most important key technologies to realize an effective electricity supply channel. In the grid, smart meters connected with IP/cloud networking will be used to provide demand-response communication between suppliers and consumers.

In the residential sector, a movement similar to that for the management of electricity is ongoing also for other utility lines, and for such demands, many efforts for the development of specifications for smart houses have been proceeding, in the framework of the current development of smart cities. We can see such activities e.g. in SHR/HEMS program<sup>1</sup>. In the near future, smart cities will require the deployment of smart houses, that by suitable adoption of platforms and technologies (e.g. cloud-based services, Internet of Things, etc.) will provide various services for residents, which are not only utility management, but also e.g. health care, security, entertainment and other services. The electronic equipment for the providing of public utility management and of these services apply broadband IP/cloud networking for their interactive data communication. In future, residential buildings will be equipped with such gateways, servers and home networks. This equipment has to be secured to be operated in a trouble-free environment, the same as telecommunication and internet access, to protect it from unsuitable environmental conditions in the residences.

This document defines 486,2 mm (19 in) residential racks and cabinets based on IEC 60297-3-100, suitable for installing equipment for smart houses in proper conditions<sup>2</sup>.

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<sup>1</sup> SHR/HEMS (Smart House Roadmap/Home Energy Management System): Projects for development of international standards for smart houses, based on activities at ISO/IEC JTC 1/SC 25/WG 1: "Interconnection of information technology equipment".

<sup>2</sup> In actual applications, based on the volume of the equipment for the smart house and the applicable space in the residential building, rack or cabinet with smaller dimensions may be applied as subset of this standard.

# **MECHANICAL STRUCTURES FOR ELECTRICAL AND ELECTRONIC EQUIPMENT – DIMENSIONS OF MECHANICAL STRUCTURES OF THE 482,6 MM (19 IN) SERIES –**

## **Part 3-110: Residential racks and cabinets for smart houses**

### **1 Scope**

This part of IEC 60297 specifies dimensions, specification for installation, environmental aspects and safety aspect of residential racks and cabinets based on IEC 60297 series, for smart houses, likely to be part of smart cities.

### **2 Normative references**

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 60297-3-100, *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*

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

IEC 60917-2-5, *Modular order for the development of mechanical structures for electronic equipment practices – Part 2-5: Sectional specification – Interface co-ordination dimensions for the 25 mm equipment practice – Cabinet interface dimensions for miscellaneous equipment*

IEC 61587-1, *Mechanical structures for electronic equipment – Tests for IEC 60917 and IEC 60297 series – Part 1: Environmental requirements, test set-up and safety aspects for cabinets, racks, subracks and chassis under indoor condition use and transportation*

IEC 61587-2, *Mechanical structures for electronic equipment – Tests for IEC 60917 and 60297 series – Part 2: Seismic tests for cabinets and racks*

IEC 61587-3, *Mechanical structures for electronic equipment – Tests for IEC 60917 and IEC 60297 – Part 3: Electromagnetic shielding performance tests for cabinets and subracks*