

INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Mechanical structures for electronic equipment – Dimensions of mechanical structures of the 482,6 mm (19 in) series –
Part 3-106: Adaptation dimensions for subracks and chassis applicable to metric cabinets or racks in accordance with IEC 60917-2-1**

**Structures mécaniques pour équipements électroniques – Dimensions des structures mécaniques de la série 482,6 mm (19 pouces) –
Partie 3-106: Dimensions d'adaptation des bacs et des châssis, applicables aux baies ou aux bâtis dimensionnés selon le système métrique, conformément à la CEI 60917-2-1**



THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2010 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester.

If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de la CEI ou du Comité national de la CEI du pays du demandeur.

Si vous avez des questions sur le copyright de la CEI ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de la CEI de votre pays de résidence.

IEC Central Office
3, rue de Varembe
CH-1211 Geneva 20
Switzerland
Email: inmail@iec.ch
Web: www.iec.ch

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigenda or an amendment might have been published.

- Catalogue of IEC publications: www.iec.ch/searchpub

The IEC on-line Catalogue enables you to search by a variety of criteria (reference number, text, technical committee,...). It also gives information on projects, withdrawn and replaced publications.

- IEC Just Published: www.iec.ch/online_news/justpub

Stay up to date on all new IEC publications. Just Published details twice a month all new publications released. Available on-line and also by email.

- Electropedia: www.electropedia.org

The world's leading online dictionary of electronic and electrical terms containing more than 20 000 terms and definitions in English and French, with equivalent terms in additional languages. Also known as the International Electrotechnical Vocabulary online.

- Customer Service Centre: www.iec.ch/webstore/custserv

If you wish to give us your feedback on this publication or need further assistance, please visit the Customer Service Centre FAQ or contact us:

Email: csc@iec.ch
Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00

A propos de la CEI

La Commission Electrotechnique Internationale (CEI) est la première organisation mondiale qui élabore et publie des normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications CEI

Le contenu technique des publications de la CEI est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

- Catalogue des publications de la CEI: www.iec.ch/searchpub/cur_fut-f.htm

Le Catalogue en-ligne de la CEI vous permet d'effectuer des recherches en utilisant différents critères (numéro de référence, texte, comité d'études,...). Il donne aussi des informations sur les projets et les publications retirées ou remplacées.

- Just Published CEI: www.iec.ch/online_news/justpub

Restez informé sur les nouvelles publications de la CEI. Just Published détaille deux fois par mois les nouvelles publications parues. Disponible en-ligne et aussi par email.

- Electropedia: www.electropedia.org

Le premier dictionnaire en ligne au monde de termes électroniques et électriques. Il contient plus de 20 000 termes et définitions en anglais et en français, ainsi que les termes équivalents dans les langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International en ligne.

- Service Clients: www.iec.ch/webstore/custserv/custserv_entry-f.htm

Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions, visitez le FAQ du Service clients ou contactez-nous:

Email: csc@iec.ch
Tél.: +41 22 919 02 11
Fax: +41 22 919 03 00

INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Mechanical structures for electronic equipment – Dimensions of mechanical structures of the 482,6 mm (19 in) series –
Part 3-106: Adaptation dimensions for subracks and chassis applicable to metric cabinets or racks in accordance with IEC 60917-2-1**

**Structures mécaniques pour équipements électroniques – Dimensions des structures mécaniques de la série 482,6 mm (19 pouces) –
Partie 3-106: Dimensions d'adaptation des bacs et des châssis, applicables aux baies ou aux bâtis dimensionnés selon le système métrique, conformément à la CEI 60917-2-1**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

PRICE CODE
CODE PRIX

P

CONTENTS

FOREWORD.....	3
INTRODUCTION.....	5
1 Scope and object.....	6
2 Normative references	6
3 Arrangement overview (Figure 1) and definitions	6
4 Dimensions for flanges of 19 in subracks or chassis applicable for mounting on metric cabinets or racks.....	7
4.1 General.....	7
4.2 Dimensions for mounting holes arrangements on the flanges, mounting-layout referred to the pitch lines of the 19 in subracks, or chassis	7
4.3 Dimensions for mounting holes arrangements on the flanges, mounting layout referred to the unit centre lines of the 19 in subracks or chassis	10
4.4 Dimensions for flanges of 19 in subracks applicable for metric cabinets or racks with 515 mm mounting hole dimension	13
Bibliography.....	15
Figure 1 – Arrangement overview – Adaptation of subracks of the IEC 60297-3-101 series into cabinets of the IEC 60917-2-1 series	7
Figure 2 – Mounting hole arrangements on the flanges, mounting layout referred to the bottom pitch lines of the 19 in subracks or chassis.....	8
Figure 3 – Dimensions of mounting hole positions of the flanges, mounting layout referred to the bottom pitch lines of the 19 in subracks or chassis	9
Figure 4 – Mounting hole arrangements on the flanges, mounting layout referred to the unit centre lines of the 19 in subracks or chassis	11
Figure 5 – Dimensions of mounting holes positions of the flanges, mounting layout referred to the unit centre lines of the 19 in subracks or chassis	12
Figure 6 – Dimensions for flanges of 19 in subracks that are applicable for metric cabinets with 515 mm mounting hole dimension.....	14
Table 1 – Dimensions of mounting holes positions of the flange, mounting layout referred to the bottom pitch lines of the 19 in subracks or chassis	10
Table 2 – Dimensions of mounting holes positions of the flange, mounting layout referred to the unit centre lines of the 19 in subracks or chassis	13

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

**Part 3-106: Adaptation dimensions for subracks and chassis applicable
to metric cabinets or racks in accordance with IEC 60917-2-1**

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.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60297-3-106 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/419/FDIS	48D/423/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, 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 stability 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.

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.

This document is a preview generated by EVS

INTRODUCTION

The IEC 60297 series of standards provides definitions on mechanical structure and dimensions for 19 in cabinets and racks and their compatible subracks and chassis. The combination of 19 in based cabinets or racks and subracks and chassis are broadly applied for all industrial electronic fields in the world.

The IEC 60917 series of standards are based on metric modular ordered dimensions, and also define structures and interface dimensions for metric cabinets, racks, subracks and chassis. The IEC 60917 series, developed later compared to IEC 60297, provides for more logical subrack and chassis design practices based on metric dimensioning.

Requests for combined applications of both mechanical structures, the IEC 60297 series (19 in standard) and the IEC 60917 series (metric standard), resulted in requirements to mount 19 in subracks or chassis into metric standard cabinets or racks and, vice versa, metric subracks or chassis into 19 in cabinets or racks.

To cope with the requirements and needs, it is required to develop definitions for appropriate interface dimensions of flange mounting positions for cabinets or racks mounting of 19 in or metric subracks or chassis. And the definitions bring economical solutions for installations of electronic equipment into existing cabinets or racks. Further, they provide guidance to electro-mechanical designers to develop systems suitable to be mounted into both IEC standard series flexibly.

To meet such market needs, this standard defines dimensions for 19 in subracks or chassis applicable for metric cabinets or racks. (Dimensions for the applications, where metric subracks or chassis to be mounted into 19 in cabinets or racks, are defined in a separate standard , i.e. IEC 60917-2-4.)

Standard Preview generated by EVS

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

Part 3-106: Adaptation dimensions for subracks and chassis applicable to metric cabinets or racks in accordance with IEC 60917-2-1

1 Scope and object

This part of IEC 60297 specifies dimensions for mounting flanges of 19 in subracks or chassis that are to be mounted into metric cabinets or racks.

Additional dimensions for subracks or chassis are according to the IEC 60297 series, and for metric cabinets or racks to the IEC 60917 series.

EMC, seismic, climatic and environmental requirements and tests, are defined in the IEC 61587 series.

The drawings used in this standard are not intended to indicate product design, only the specific dimensions that should be used.

The terminology used complies with IEC 60917-1.

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 60297 (all parts): *Mechanical structures for electronic equipment – Dimensions of mechanical structures of the 482,6 mm (19in) series*

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 (all parts): *Modular order for the development of mechanical structures for electronic equipment practice*

IEC 60917-2-1, *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 60917-2-4, *Modular order for the development of mechanical structures for electronic equipment practices – Part 2-4: Sectional specification – Interface co-ordination dimensions for the 25 mm equipment practice – Adaptation dimensions for subracks or chassis applicable in cabinets or racks in accordance with IEC 60297-3-100 (19 in)*

3 Arrangement overview (Figure 1) and definitions

This standard defines dimensions for flanges of 19 in subracks or chassis that are applicable for mounting on metric cabinets or racks. Dimensions for applications where metric subracks