STN

Mechanické konštrukcie pre elektronické zariadenia Skúšky pre súbory IEC 60917 a IEC 60297 Časť 6: Hľadiská zabezpečenia pre vnútorné skrine

STN EN 61587-6

18 8003

Mechanical structures for electrical and electronic equipment - Tests for IEC 60917 and IEC 60297 series - Part 6: Security aspects for indoor cabinets

Táto norma obsahuje anglickú verziu európskej normy. This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 12/17

Obsahuje: EN 61587-6:2017, IEC 61587-6:2017

125821

EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM EN 61587-6

August 2017

ICS 31.240

English Version

Mechanical structures for electrical and electronic equipment -Tests for IEC 60917 and IEC 60297 series - Part 6: Security aspects for indoor cabinets (IEC 61587-6:2017)

Structures mécaniques pour équipement électrique et électronique - Essais pour les séries IEC 60917 et IEC 60297 - Partie 6 : Aspects de sécurité pour les baies d'intérieur (IEC 61587-6:2017)

Mechanische Bauweisen für elektrische und elektronische Einrichtungen - Prüfungen für die Reihen IEC 60917 und IEC 60297 - Teil 6: Sicherheitsaspekte für Innenraumschränke (IEC 61587-6:2017)

This European Standard was approved by CENELEC on 2017-06-23. 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: Avenue Marnix 17, B-1000 Brussels

© 2017 CENELEC All rights of exploitation in any form and by any means reserved worldwide for CENELEC Members.

Ref. No. EN 61587-6:2017 E

European foreword

The text of document 48D/634/FDIS, future edition 1 of IEC 61587-6, 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 61587-6:2017.

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)	2018-03-23
•	latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2020-06-23

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 61587-6:2017 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC27001 NOTE Harmonized as EN 27001.

Annex ZA

(normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When 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				
<u>Publication</u>	<u>Year</u>	<u>Title</u>	EN/HD	<u>Year</u>
IEC 60297	series	Dimensions of mechanical structures of the 482,6 mm (19 in) series	9-	series
IEC 60529	-	Degrees of protection provided by enclosures (IP Code)	-	-
IEC 60917	series	Modular order for the development of mechanical structures for electronic equipment practices	EN 60917	series
IEC 60917-1	-	Modular order for the development of mechanical structures for electronic equipment practices Part 1: Generic standard	EN 60917-1	-
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 IEC 60297 Part 2: Seismic tests for cabinets and racks	EN 61587-2	-



IEC 61587-6

Edition 1.0 2017-05

INTERNATIONAL STANDARD



Mechanical structures for electrical and electronic equipment – Tests for IEC 60917 and IEC 60297 series – Part 6: Security aspects for indoor cabinets





THIS PUBLICATION IS COPYRIGHT PROTECTED Copyright © 2017 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.

IEC Central Office Tel.: +41 22 919 02 11 3, rue de Varembé Fax: +41 22 919 03 00

CH-1211 Geneva 20 info@iec.ch Switzerland 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.

IEC Catalogue - webstore.iec.ch/catalogue

The stand-alone application for consulting the entire bibliographical information on IEC International Standards, Technical Specifications, Technical Reports and other documents. Available for PC, Mac OS, Android Tablets and iPad.

IEC publications search - www.iec.ch/searchpub

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

IEC Just Published - webstore.iec.ch/justpublished

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

Electropedia - www.electropedia.org

The world's leading online dictionary of electronic and electrical terms containing 20 000 terms and definitions in English and French, with equivalent terms in 16 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC Glossary - std.iec.ch/glossary

65 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

IEC Customer Service Centre - webstore.iec.ch/csc

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: csc@iec.ch.



IEC 61587-6

Edition 1.0 2017-05

INTERNATIONAL STANDARD



Mechanical structures for electrical and electronic equipment – Tests for IEC 60917 and IEC 60297 series –

Part 6: Security aspects for indoor cabinets

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ISBN 978-2-8322-4303-9

Warning! Make sure that you obtained this publication from an authorized distributor.

CONTENTS

FOREWORD	3
INTRODUCTION	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	6
4 Security aspects for indoor cabinets	8
4.1 General	8
4.2 Access security level of the cabinet	9
5 Security performance levels of cabinets	9
5.1 General	
5.2 Security performance levels of cabinet mechanical components	
5.2.1 Handle and associated mechanical lock	
5.2.2 Key	
Annex A (normative) Mechanical performance and test methods for handles	
A.1 Mechanical strengths of levers of handles	
A.1.1 General	
A.1.2 Static loading test, push/pull performance	
A.1.3 Static loading test, turn performance	15
Bibliography	16
Figure 1 – Typical mechanical components for security provision of the cabinet	8
Figure 2 – Concept of access protection within buildings or premises	
Figure 3 – Static loading test for handle and associated mechanical lock	
Figure A.1 – Lever handles push/pull performance	
Figure A.2 – Lever handles turn performance	
Table 1 – Access security levels of indoor cabinet installation sites	0
Table 2 – Security performance levels of cabinets	
Table 3 – Security performance levels of handle and associated mechanical lock	
• •	
Table 4 – Test procedures for operation of handle and mechanical lock	
Table 6 – Security performance levels of key Table 6 – Security performance level of cabinet floor anchoring	
rable 0 - Security performance level of Cabinet moof anchoring	

INTERNATIONAL ELECTROTECHNICAL COMMISSION

MECHANICAL STRUCTURES FOR ELECTRICAL AND ELECTRONIC EQUIPMENT – TESTS FOR IEC 60917 AND IEC 60297 SERIES –

Part 6: Security aspects for indoor cabinets

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 61587-6 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/634/FDIS	48D/641/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.

IEC 61587-6:2017 © IEC 2017

– 4 –

A list of all parts in the IEC 61587 series, published under the general title *Mechanical structures for electrical and electronic equipment – Tests for IEC 60917 and IEC 60297 series*, can be found on the IEC website.

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.

A bilingual version of this publication may be issued at a later date.

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.

- 5 -

INTRODUCTION

The security of electrical and electronic equipment or systems, which nowadays is being applied in many electronic equipment or systems in the fields of ICT (information and communication technology) and of industrial/infrastructure control systems, is becoming a critical issue.

In general, security is achieved by restrictions and protections against improper or unauthorized accesses from both hardware and software sides of the systems.

Considering the security of the hardware of electronic equipment or systems, which are built up in the mechanical structures such as cabinets based on IEC 60297 series and IEC 60917 series, it depends on conditions of their installation sites, on the security level of system hardware which provides access protection at the installation sites, and on the robustness of the mechanical structures and of their mechanical locks both at the access gates/doors of the installation sites and of the mechanical structures.

Therefore, a classification of the installation conditions and of the levels of security measures for hardware is very important for design and practices of various electronic equipment or systems, which are used in the field of ICT, industrial control, transportation and others.

From this point of view, this document intends to clarify the relationship between the installation conditions and the security requirements for indoor cabinets, and to provide the required performances and test methods on mechanical components related with security provisions for indoor cabinets which are in accordance with IEC 60297 series and IEC 60917 series.

Vandalism protection aspect is applied by user-specific requirements in general. Therefore, this document has no definition of vandalism.

MECHANICAL STRUCTURES FOR ELECTRICAL AND ELECTRONIC EQUIPMENT – TESTS FOR IEC 60917 AND IEC 60297 SERIES –

Part 6: Security aspects for indoor cabinets

1 Scope

This part of IEC 61587 specifies security aspects and security performance levels of indoor cabinets in accordance with IEC 60917 and IEC 60297.

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

IEC 60529, Degrees of protection provided by enclosures (IP Code)

IEC 60917 (all parts), Modular order for the development of mechanical structures for electronic equipment practices

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

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

koniec náhľadu – text ďalej pokračuje v platenej verzii STN