IEC 61800-2

Edition 3.0 2021-03

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Adjustable speed electrical power drive systems – Part 2: General requirements – Rating specifications for adjustable speed AC power drive systems

Entraînements électriques de puissance à vitesse variable – Partie 2: Exigences générales – Spécifications de dimensionnement pour entraînements électriques de puissance à vitesse variable en courant alternatif

IEC 61800-2:2021-03(en-fr)

IEC Central Office
3, rue de Varembé
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
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 corrigendum or an amendment might have been published.

IEC publications search - webstore.iec.ch/advsearchform
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 It also gives information on projects, replaced and withdrawn publications.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 once a month by email.

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: sales@iec.ch.

IEC online collection - oc.iec.ch
Discover our powerful search engine and read freely all the publications previews. With a subscription you will always have access to up to date content tailored to your needs.

Electropedia - www.electropedia.org
The world's leading online dictionary on electrotechnology, containing more than 22 000 terminological entries in English and French, with equivalent terms in 18 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

A propos de l'IEC
La Commission Electrotechnique Internationale (IEC) 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 IEC
Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

Recherche de publications IEC - webstore.iec.ch/advsearchform
La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études, …). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

IEC Just Published - webstore.iec.ch/justpublished
Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et une fois par mois par email.

Service Clients - webstore.iec.ch/csc
Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: sales@iec.ch.

IEC online collection - oc.iec.ch
Découvrez notre puissant moteur de recherche et consultez gratuitement tous les aperçus des publications. Avec un abonnement, vous aurez toujours accès à un contenu à jour adapté à vos besoins.

Electropedia - www.electropedia.org
Le premier dictionnaire d'électrotechnologie en ligne au monde, avec plus de 22 000 articles terminologiques en anglais et en français, ainsi que les termes équivalents dans 16 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

IEC 61800-2

Edition 3.0 2021-03

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Adjustable speed electrical power drive systems – Part 2: General requirements – Rating specifications for adjustable speed AC power drive systems

Entraînements électriques de puissance à vitesse variable – Partie 2: Exigences générales – Spécifications de dimensionnement pour entraînements électriques de puissance à vitesse variable en courant alternatif

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

ICS 29.160.30; 29.200

ISBN 978-2-8322-9450-5

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

_____

ADJUSTABLE SPEED ELECTRICAL POWER DRIVE SYSTEMS –

Part 2: General requirements – Rating specifications for adjustable speed AC power drive systems

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 61800-2 has been prepared by subcommittee 22G: Adjustable speed electric power drive systems (PDS), of IEC technical committee 22: Power electronic systems and equipment.

This third edition cancels and replaces the second edition published in 2015. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) the requirements from IEC 61800-4 for high-voltage PDS are now merged with requirements from IEC 61800-2:2015, and IEC 61800-4:2002 will be withdrawn upon release of this document;
b) Clause 1 has been updated to introduce the new concept of Clause 4;

c) terms and definitions in Table 1 to Table 4 have been classified in logical order; classification in low voltage and high voltage has been considered in Table 5, and Figure 3 clarifies boundaries within *BDM/CDM/PDS*.

d) Clause 4 is new and creates the methods for evaluating a product to this document;

e) Clause 5 has been updated with respect to:

   1) specific content for high-voltage *BDM/CDM/PDS*;

   2) description of the basic topology for *BDM/CDM/PDS* (5.2);

   3) ratings and performance (5.3 and 5.4);

   4) reference to applicable standards within the IEC 61800 series with respect to EMC (IEC 61800-3), electrical safety (IEC 61800-5-1), functional safety (IEC 61800-5-2), load duty aspects (IEC TR 61800-6), communication profiles (IEC 61800-7 series), *power interface* voltage (IEC TS 61800-8), and ecodesign (IEC 61800-9 series) to avoid conflicting requirements (5.5, 5.6, 5.7, 5.10, 5.11, 5.12);

   5) update of requirement for ecodesign (5.8);

   6) update of requirement for environmental evaluation (5.9);

   7) implementation of requirement for explosive atmosphere (5.14);

f) Clause 6 has been updated with test requirement in order to provide a clear link between design requirement and test requirement;

g) Clause 7 has been updated to harmonize the marking and documentation requirement within IEC 61800 (all parts);

h) existing Annex A and Annex B have been updated to include specific detail pertaining to *high voltage BDM/CDM/PDS*.

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

FDIS	Report on voting
22G/432/FDIS	22G/435/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 in the IEC 61800 series, published under the general title *Adjustable speed electrical power drive systems*, can be found on the IEC website.

In this document, the terms in *italics* are defined in Clause 3.

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.