

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Terms and nomenclature for cores made of magnetically soft ferrites –
Part 2: Reference of dimensions**

**Termes et nomenclature pour noyaux en matériaux ferrites magnétiquement
doux –
Partie 2: Références dimensionnelles**



THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2009 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 It also gives information on projects, withdrawn and replaced publications.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

**Terms and nomenclature for cores made of magnetically soft ferrites –
Part 2: Reference of dimensions**

**Termes et nomenclature pour noyaux en matériaux ferrites magnétiquement
doux –
Partie 2: Références dimensionnelles**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

PRICE CODE
CODE PRIX

J

ICS 29.100.10

ISBN 978-2-88910-184-9

CONTENTS

| | |
|--|---|
| FOREWORD..... | 3 |
| 1 Scope..... | 5 |
| 2 Normative references | 5 |
| 3 General specifications | 5 |
| 4 Dimension descriptions | 5 |
| 5 Core illustrations | 6 |
| Figure 1 – Toroid core | 6 |
| Figure 2 – E core | 6 |
| Figure 3 – ETD or EER core | 6 |
| Figure 4 – EC core..... | 6 |
| Figure 5 – Planar E core | 7 |
| Figure 6 – Planar EL core | 7 |
| Figure 7 – Planar ER core..... | 7 |
| Figure 8 – Plate core mating planar cores..... | 7 |
| Figure 9 – EFD core | 7 |
| Figure 10 – Drum core | 7 |
| Figure 11 – EP core..... | 8 |
| Figure 12 – PQ core | 8 |
| Figure 13 – Pot core and half pot core for inductive proximity switches..... | 8 |
| Figure 14 – PM core | 8 |
| Figure 15 – RM core | 8 |
| Figure 16 – U core | 8 |
| Figure 17 – UR core | 9 |
| Figure 18 – Balun core..... | 9 |
| Figure 19 – Multi-hole bead..... | 9 |
| Table 1 – Toroid core dimension designations | 5 |
| Table 2 – Ferrite shapes dimension designations..... | 6 |

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**TERMS AND NOMENCLATURE FOR CORES
MADE OF MAGNETICALLY SOFT FERRITES –****Part 2: Reference of dimensions**

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 provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with an IEC Publication.
- 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 60401-2 has been prepared by IEC technical committee 51: Magnetic components and ferrite materials.

This second edition cancels and replaces the first edition published in 2003. This edition constitutes a technical revision.

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

New ferrite core shapes "half pot core for inductive proximity switches and PM core" in accordance with IEC 62317 series have been added respectively as Figure 13 and Figure 14 in Clause 5: core illustrations.

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

| CDV | Report on voting |
|-------------|------------------|
| 51/943A/CDV | 51/959/RVC |

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 60401 series, under the general title *Terms and nomenclature for cores made of magnetically soft ferrites*, 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.

Sample Document

get full document from standards.iteh.ai

TERMS AND NOMENCLATURE FOR CORES MADE OF MAGNETICALLY SOFT FERRITES –

Part 2: Reference of dimensions

1 Scope

This part of IEC 60401 presents a method for defining the designation nomenclature for the major physical attributes of soft ferrite core shapes. The purpose of this standard is to facilitate uniform usage of dimensional characters by manufacturers, specifiers, and users when describing core dimensions on drawings, in tables, and on catalogue specification sheets.

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 62317 (all parts), *Ferrite cores – Dimensions*

3 General specifications

Only upper case alphabetic character assignments shall be used.

Only one character per dimension per ferrite piece shall be used.

Characters 2B and 2D shall be used for core sets such as EP, PQ, Pot and RM.

4 Dimension descriptions

Table 1 and Table 2 describe the alphabetic character assignments for the major dimensions of ferrite shapes. All other minor core dimensions designations are left to the discretion of the specifier.

Table 1 – Toroid core dimension designations

| Letter | Dimension description |
|--------|-------------------------|
| A | Toroid outside diameter |
| B | Toroid inside diameter |
| C | Toroid height |