

INTERNATIONAL STANDARD



Lead-acid starter batteries – Part 4: Dimensions of batteries for heavy vehicles





THIS PUBLICATION IS COPYRIGHT PROTECTED
Copyright © 2021 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
3, rue de Varembe
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 It also gives information on projects, replaced and withdrawn publications.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.



IEC 60095-4

Edition 3.0 2021-07

INTERNATIONAL STANDARD



Lead-acid starter batteries – Part 4: Dimensions of batteries for heavy vehicles

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 29.220.20; 43.040.10

ISBN 978-2-8322-1001-0

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

CONTENTS

FOREWORD.....	4
1 Scope.....	6
2 Normative references	6
3 Terms and definitions	6
4 Common features	7
4.1 Labelling	7
4.2 Marking of polarity.....	7
4.2.1 General	7
4.2.2 Marking of positive terminals	7
4.2.3 Marking of negative terminals.....	7
4.2.4 Design and dimensions of marking	7
4.3 Marking of plastic material.....	7
4.4 Dimensions and design	8
4.5 Dimensions of terminals	8
4.6 Recommendation for new development.....	9
5 European types	9
5.1 General.....	9
5.2 Fastening.....	9
5.3 Dimensions	9
6 North American types	11
6.1 General.....	11
6.1.1 Overview	11
6.1.2 Fastening.....	11
6.1.3 Terminal configuration, polarity	11
6.1.4 Terminal dimensions	11
6.2 Dimensions	12
7 East Asian types.....	15
7.1 General.....	15
7.1.1 Overview	15
7.1.2 Fastening.....	15
7.1.3 Terminal configuration, polarity	15
7.1.4 Terminal dimensions	15
7.2 Dimensions	15
Bibliography	17
Figure 1 – Marking of polarity.....	7
Figure 2 – Marking of polypropylene-polyethylene copolymer battery components.....	8
Figure 3 – Dimensions of positive (on the right) and negative (on the left) terminal.....	9
Figure 4 – EU series – Type D2	10
Figure 5 – EU series – Types A, B, C	11
Figure 6 – AM series – Type 4D	12
Figure 7 – AM series – Type 8D	13
Figure 8 – AM series – Type 31T.....	13
Figure 9 – Dimensions of stud terminal.....	14

Figure 10 – AM series – Type 31A 14

Figure 11 – AS series – Type E 41 16

Figure 12 – AS series – Types F51, G51 and H52 16

Table 1 – EU series – Dimensions of batteries..... 10

Table 2 – AM series – Dimensions of batteries 12

Table 3 – AS series – Dimensions of batteries..... 15

INTERNATIONAL ELECTROTECHNICAL COMMISSION

LEAD-ACID STARTER BATTERIES –**Part 4: Dimensions of batteries for heavy vehicles**

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 60095-4 has been prepared by IEC technical committee 21: Secondary cells and batteries.

This third edition cancels and replaces the second edition published in 2008. This edition constitutes a technical revision.

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

- a) values of "tolerance", in particular for European batteries;
- b) update of figures for USA and Asian batteries.

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

FDIS	Report on voting
21/1087/FDIS	21/1091/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

A list of all parts in the IEC 60095 series, published under the general title *Lead-acid starter batteries*, 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 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.