IEC/TR 60909-2

Edition 2.0 2008-11

TECHNICAL REPORT

Short-circuit currents in three-phase a.c. systems – Part 2: Data of electrical equipment for short-circuit current calculations

INTERNATIONAL ELECTROTECHNICAL COMMISSION

PRICE CODE X

ICS 17.220.01; 29.240.20

ISBN 978-2-88910-327-0

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

SHORT-CIRCUIT CURRENTS IN THREE-PHASE AC SYSTEMS –

Part 2: Data of electrical equipment for short-circuit current calculations

FOREWORD

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The main task of IEC technical committees is to prepare International Standards. However, a technical committee may propose the publication of a technical report when it has collected data of a different kind from that which is normally published as an International Standard, for example "state of the art".

IEC 60909-2, which is a technical report, has been prepared by IEC technical committee 73: Short-circuit currents.

This technical report is to be read in conjunction with IEC 60909-0 and IEC 60909-3.

This second edition cancels and replaces the first edition published in 1992. This edition constitutes a technical revision.

The significant technical changes with respect to the previous edition are as follows:

- Subclause 2.5 gives equations and examples for the calculation of the positive-, the negative and the zero-sequence impedances and reduction factors for high-, medium and low-voltage cables with sheaths and shields earthed at both ends.
- Subclause 2.7 gives equations and figures for the calculation of the positive-sequence impedances of busbar configurations.

The text of this technical report is based on the following documents:

Enquiry draft	Report on voting
73/142/DTR	73/145/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 the IEC 60909, published under the general title *Short-circuit currents in three-phase a.c. systems*, 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- withdrawn,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.

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

SHORT-CIRCUIT CURRENTS IN THREE-PHASE AC SYSTEMS –

Part 2: Data of electrical equipment for short-circuit current calculations

1 General

1.1 Scope and object

This part of IEC 60909 comprises data of electrical equipment collected from different countries to be used when necessary for the calculation of short-circuit currents in accordance with IEC 60909-0.

Generally, electrical equipment data are given by the manufacturers on the name plate or by the electricity supplier.

In some cases, however, the data may not be available. The data in this report may be applied for calculating short-circuit currents in low-voltage networks if they are in accordance with typical equipment employed in the user's country. The collected data and their evaluation may be used for medium- or high-voltage planning purposes and also for comparison with data given by manufacturers or electricity suppliers. For overhead lines and cables the electrical data may in some cases also be calculated from the physical dimensions and the material following the equations given in this report.

Thus this technical report is an addition to IEC 60909-0. It does not, however, change the basis for the standardized calculation procedure given in IEC 60909-0 and IEC 60909-3.

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 60909-0:2001, *Short-circuit currents in three-phase a.c. systems – Part 0: Calculation of currents*

IEC 60909-3:-[1], *Short-circuit currents in three-phase a.c. systems – Part 3: Currents du-ring two separate simultaneous line-to-earth short-circuit currents and partial short-circuit currents flowing through earth*

[1] To be published.