

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Railway applications – Electric equipment for rolling stock –
Part 2: Electrotechnical components – General rules**

**Applications ferroviaires – Equipements électriques du matériel roulant –
Partie 2: Composants électrotechniques – Règles générales**



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**RAILWAY APPLICATIONS –
ELECTRIC EQUIPMENT FOR ROLLING STOCK –****Part 2: Electrotechnical components – General rules****FOREWORD**

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International Standard IEC 60077-2 has been prepared by IEC technical committee 9: Electrical equipment and systems for railways.

This second edition cancels and replaces the first edition of IEC 60077-2, issued in 1999. It constitutes a technical revision.

This edition includes the following main technical changes with regard to the previous edition:

- a) Short circuit breaking capacity;
- b) Rated short-time withstand current;
- c) Critical currents range;
- d) Climatic conditions are specified.

This standard is to be read in conjunction with IEC 60077-1.

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

FDIS	Report on voting
9/2267/FDIS	9/2279/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.

A list of all parts in the IEC 60077 series, published under the general title *Railway applications – Electric equipment for rolling stock*, can be found on the IEC website.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website 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- withdrawn,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.

RAILWAY APPLICATIONS – ELECTRIC EQUIPMENT FOR ROLLING STOCK –

Part 2: Electrotechnical components – General rules

1 Scope

In addition to the rules given in IEC 60077-1, this part of IEC 60077 provides general rules for all electrotechnical components installed in power circuits, auxiliary circuits, control and indicating circuits, etc., on railway rolling stock.

The purpose of this document is to adapt the general rules given in IEC 60077-1 to all electrotechnical components for rolling stock, in order to obtain uniformity of requirements and tests for the corresponding range of components.

Electrotechnical components are mainly switchgear and controlgear, including also relays, valves, resistors, fuses, etc., irrespective of the nature of their control.

The incorporation of electronic components or electronic subassemblies into electrotechnical components is now common practice. Although this document is not applicable to electronic equipment, the presence of electronic components does not give grounds to exclude such electrotechnical components from the scope of this document.

Electronic subassemblies comply with the relevant standard.

Some of these rules, after agreement between the user and the manufacturer, are used for electrotechnical components installed on vehicles other than railway rolling stock, such as mine locomotives, trolleybuses, etc.

This document states:

- a) the characteristics of the components;
- b) the service conditions with which components have to comply;
- c) the tests intended to confirm compliance of the components with these characteristics under these service conditions, and the methods to be adopted for these tests;
- d) the information to be marked on, or given with, the apparatus.

This document does not cover industrial electrotechnical components which comply with their own product standard. In order to ensure satisfactory operation of these components for rolling stock, this document is used to specify only the particular requirements for railway application. In that case, a specific document would state the additional requirements with which the industrial components are to comply, e.g.:

- to be adapted (for example for control voltage, environmental conditions, etc.); or
- to be installed and used so as not to have to endure specific railway conditions; or
- to be additionally tested to prove that these components can satisfactorily withstand railway conditions.

In the event of there being a difference in requirements between this document and a railway rolling stock relevant product standard, then the product standard requirements take precedence.