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REDLINE VERSION

colour inside

Rotating electrical machines –
Part 5: Degrees of protection provided by the integral design of rotating electrical machines (IP code) – Classification

INTERNATIONAL
ELECTROTECHNICAL
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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ROTATING ELECTRICAL MACHINES –

Part 5: Degrees of protection provided by the integral design of rotating electrical machines (IP code) – Classification

FOREWORD

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This Redline version provides you with a quick and easy way to compare all the changes between this standard and its previous edition. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.

International Standard IEC 60034-5 has been prepared by IEC technical committee 2: Rotating machinery.

This fifth edition cancels and replaces the fourth edition, published in 2000, and its Amendment 1:2006. This edition constitutes a technical revision.

The main technical changes with respect to the previous edition are:

- the inclusion of an additional second numeral 9 including its test method,
- an additional note for clarification in Table 3,
- a clarification on the term open drain hole,
- a clarification on the ingress of dust in Table 4,
- pressure values given now in Pa only,
- a clarification in the scope on the applicability of this standard for (Ex) motors,
- a new Clause 3 with definitions,

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

CDV	Report on voting
2/1960/CDV	2/1972A/RVC

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

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

A list of all parts in the IEC 60034 series, published under the general title *Rotating electrical machines*, 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 "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

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ROTATING ELECTRICAL MACHINES –

Part 5: Degrees of protection provided by the integral design of rotating electrical machines (IP code) – Classification

1 Scope ~~and object~~

This part of IEC 60034 applies to the classification of degrees of protection provided by enclosures for rotating electrical machines. It defines the requirements for protective enclosures that are in all other respects suitable for their intended use and which, from the point of view of materials and workmanship, ensure that the properties dealt with in this document are maintained under normal conditions of use.

~~This standard does not specify:~~

- ~~degrees of protection against mechanical damage of the machine, or conditions such as moisture (produced for example by condensation), corrosive vapours, fungus or vermin;~~
- ~~types of protection of machines for use in an explosive atmosphere;~~
- ~~the requirements for barriers external to the enclosure which have to be provided solely for the safety of personnel.~~

This document does not specify degrees of protection against mechanical damage of the machine, or conditions such as moisture (produced for example by condensation), corrosive dust and vapour, fungus or vermin.

This document is also applicable to explosion proof machines, but it does not specifiy the types of protection for use in a potentially explosive (dust, gas) environment. Those are defined in the IEC 60079 series of standards.

In certain applications (such as agricultural or domestic appliances), more extensive precautions against accidental or deliberate contact may be specified.

This document gives definitions for standard degrees of protection provided by enclosures applicable to rotating electrical machines as regards the:

a) protection of persons against contacts with or approach to live parts and against contact with moving parts (other than smooth rotating shafts and the like) inside the enclosure and protection of the machine against ingress of solid foreign objects;

b) protection of machines against the harmful effects due to ingress of water;

c) protection of machines against the harmful effects due to ingress of dust.

It gives designations for these protective degrees and tests to be performed to check that the machines meet the requirements of this document.

2 Normative references

~~The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 60034. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of IEC 60034 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative~~

~~document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.~~

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 60034-1, *Rotating electrical machines – Part 1: Rating and performance*~~[*]

IEC 60034-6, *Rotating electrical machines – Part 6: Methods of cooling (IC code)*

~~[*] A consolidated edition 10.2 (1999) was issued comprising IEC 60034-1 (1996) and its amendments 1 (1997) and 2 (1999).~~

IEC 60034-5

Edition 5.0 2020-04

INTERNATIONAL STANDARD

Rotating electrical machines –
Part 5: Degrees of protection provided by the integral design of rotating electrical machines (IP code) – Classification



IEC 60034-5:2020-04(en)

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IEC 60034-6, *Rotating electrical machines – Part 6: Methods of cooling (IC code)*