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Fifth edition
2005-10

Safety of machinery – Electrical equipment of machines –

Part 1: General requirements

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Part 1: General requirements

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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SAFETY OF MACHINERY – ELECTRICAL EQUIPMENT OF MACHINES –

Part 1: General requirements

FOREWORD

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International Standard IEC 60204-1 has been prepared by technical committee 44: Safety of machinery – Electrotechnical aspects.

This fifth edition cancels and replaces the fourth edition issued in 1997 and Ammendment 1 (1999). This edition constitutes a technical revision. It incorporates material from the fourth edition, amended to provide general requirements for machines, including mobile machines and complex (for example large) machine installations.

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

FDIS	Report on voting
44/494/FDIS	44/502/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.

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

The following differences exist in some countries:

4.3.1: The voltage characteristics of electricity supplied by public distribution systems in Europe are given in EN 50160:1999.

5.1: Exception is not allowed (USA).

5.1: TN-C systems are not permitted in low-voltage installations in buildings (Norway).

5.2: Terminals for the connection of the protective earthing conductors may be identified by the colour green, the letters “G” or “GR” or “GRD” or “GND”, or the word “ground” or “grounding”, or with the graphical symbol IEC 60417-5019 (DB: 2002-10) or any combination (USA).

6.3.3 b), 13.4.5 b), 18.2.1: TT power systems are not allowed (USA).

7.2.3: Disconnection of the neutral conductor is mandatory in a TN-S system (France and Norway).

7.2.3: Third paragraph: distribution of a neutral conductor with an IT system is not allowed (USA and Norway).

9.1.2: Maximum nominal a.c. control circuit voltage is 120 V (USA).

12.2: Only stranded conductors are allowed on machines, except for 0,2 mm^2 solid conductors within enclosures (USA).

12.2: The smallest power circuit conductor allowed on machines is 0,82 mm^2 (AWG 18) in multiconductor cables or in enclosures (USA).

Table 5: Cross-sectional area is specified in ANSI/NFPA 79 using American Wire Gauge (AWG) (USA). See Annex G.

13.2.2: For the protective conductor, the colour identification GREEN (with or without YELLOW stripes) is used as equivalent to the bicolour combination GREEN-AND-YELLOW (USA and Canada).

13.2.3: The colour identification WHITE or GREY is used for earthed neutral conductors instead of the colour identification BLUE (USA and Canada).

15.2.2: First paragraph: Maximum value between conductors 150 V (USA).

15.2.2: 2nd paragraph, 5th bullet: The full load current rating of lighting circuits does not exceed 15 A (USA).

16.4: Nameplate marking requirements (USA).

IEC 60204 consists of the following parts, under the general title *Safety of machinery – Electrical equipment of machines*:

Part 1: General requirements

Part 11: Requirements for HV equipment for voltages above 1 000 V a.c. or 1 500 V d.c. and not exceeding 36 kV

Part 31: Particular safety and EMC requirements for sewing machines, units and systems

Part 32: Requirements for hoisting machines

Part 33: Particular requirements for semiconductor manufacturing equipment[1]

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.

1 Under consideration.

IEC 60204-1 Ed. 5.0 Safety of machinery - Electrical equipment of machines - Part 1: General requirements