



CSA C22.2 No. 100:14 *(reaffirmed 2019)*

Motors and generators



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Preface

This is the seventh edition of CSA C22.2 No. 100, *Motors and generators*, one of a series of Standards issued by the Canadian Standards Association under Part II of the *Canadian Electrical Code*. It supersedes the previous editions published in 2004, 1995, 1992, 1985, 1982, and 1974.

This Standard is considered suitable for use for conformity assessment within the stated scope of the Standard.

Significant changes from the previous edition are as follows:

- a) Updates 1, 2, and 3 from the previous edition incorporated;
- b) Clause 3: Definitions — added “Stabilization temperature”;
- c) Clause 4.5 added;
- d) Clause 7.2.1c) added;
- e) Clause 7.4.7 added;
- f) Clause 10.4.3.2 second paragraph added to clarify temperature;
- g) Requirements for protection and control of generators removed from Clause 12.2.7 and added to new Clause 12.2.8;
- h) Clause 12.2.9 added: Inverters integral with portable generators;
- i) Clause 12.2.10 added: Portable generator output circuits;
- j) Clause 13.2.2 rewritten for clarity;
- k) Note added to Clause 13.3.2 for clarity;
- l) Notes 1 and 2 added to Clause for clarity;
- m) Table 3: second note added;
- n) Table 4: Note 3 updated for clarity;
- o) Table 10: Note 4 added;
- p) Table 11: Note 4 added;
- q) Table 11: Note 3 added; and
- r) Figures 5, 6, and 7 updated for clarity.

For general information on the standards of the *Canadian Electrical Code, Part II*, see the Preface of CAN/CSA-C22.2 No. 0.

This Standard was prepared by the Subcommittee on Motors and Generators, under the jurisdiction of the Technical Committee on Industrial Products and the Strategic Steering Committee on Requirements for Electrical Safety, and has been formally approved by the Technical Committee.

Interpretations: The Strategic Steering Committee on Requirements for Electrical Safety has provided the following direction for the interpretation of standards under its jurisdiction: “The literal text shall be used in judging compliance of products with the safety requirements of this Standard. When the literal text cannot be applied to the product, such as for new materials or construction, and when a relevant committee interpretation has not already been published, CSA’s procedures for interpretation shall be followed to determine the intended safety principle”.

Notes:

- 1) *Use of the singular does not exclude the plural (and vice versa) when the sense allows.*
- 2) *Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.*
- 3) *This Standard was developed by consensus, which is defined by CSA Policy governing standardization — Code of good practice for standardization as “substantial agreement. Consensus implies much more than a simple*

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CSA C22.2 No. 100:14

Motors and generators

1 Scope

1.1

This Standard applies to electric motors and generators for installation and use, in accordance with the Rules of the *Canadian Electrical Code, Part I*, in non-hazardous locations.

Note: The term “machine” throughout this Standard should be assumed to mean “motor” and “generator”.

1.2

Clauses 2 to 7 are general in nature and apply, unless otherwise noted, to the motors and generators covered by Clauses 8 to 13 as follows:

- a) Clause 8 — DC machines and AC machines (including universal motors) in IEC frame size 80 and smaller;
- b) Clause 9 — AC machines (including universal motors) in IEC frame sizes 90 to 280 and rated 750 V ac and less;
- c) Clause 10 — AC machines rated over 750 V ac or in IEC frame size 315 and larger;
- d) Clause 11 — DC machines in IEC frame size 90 and larger;
- e) Clause 12 — portable and standby generators; and
- f) Clause 13 — inverter-duty AC machines.

1.3

This Standard provides basic requirements for machines and does not exclude any additional requirements given in other Standards of the *Canadian Electrical Code, Part II*.

1.4

This Standard does not apply to

- a) sealed- (hermetic-) type motors such as those used in refrigerant compressors; or
- b) electric machines for use in aircraft, marine service installations, drives for land transportation equipment, or machines used in underground mining.

1.5

In this Standard, “shall” is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the standard; “should” is used to express a recommendation or that which is advised but not required; and “may” is used to express an option or that which is permissible within the limits of the standard.

Notes accompanying clauses do not include requirements or alternative requirements; the purpose of a note accompanying a clause is to separate from the text explanatory or informative material.

Notes to tables and figures are considered part of the table or figure and may be written as requirements.

Annexes are designated normative (mandatory) or informative (nonmandatory) to define their application.