C22.2 No. 14-18

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Industrial control equipment

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Preface

This is the thirteenth edition of CSA C22.2 No. 14, *Industrial control equipment*, 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 2013, 2010, 2005, 1995, 1991, 1987, 1985, 1973, 1966, 1953, 1942, and 1935.

This edition incorporates numerous revisions. The major revisions include adding a section for the construction requirements of accessible circuits, a section for the construction requirements of wireless controls and a section for leakage current testing. In addition, numerous tables were updated, a number of new definitions introduced, a new figure added and a host of other minor updates made to various clauses throughout. The requirements of CSA LTR M-003 have also been incorporated in this edition.

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

This Standard was prepared by the Integrated Committee on Industrial Control, 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 majority, but not necessarily unanimity". It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this Standard.*
4) *To submit a request for interpretation of this Standard, please send the following information to inquiries@csagroup.org and include "Request for interpretation" in the subject line:*
   a) *define the problem, making reference to the specific clause, and, where appropriate, include an illustrative sketch;*
   b) *provide an explanation of circumstances surrounding the actual field condition; and*
   c) *where possible, phrase the request in such a way that a specific "yes" or "no" answer will address the issue.*

   Committee interpretations are processed in accordance with the CSA Directives and guidelines governing standardization *and are available on the* Current Standards Activities *page at standardsactivities.csa.ca.*
5) *This Standard is subject to review within five years from the date of publication. Suggestions for its improvement will be referred to the appropriate committee. To submit a proposal for change, please send the following information to inquiries@csagroup.org and include "Proposal for change" in the subject line:*
   a) *Standard designation (number);*
   b) *relevant clause, table, and/or figure number;*

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c) *wording of the proposed change; and*
d) *rationale for the change.*

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C22.2 No. 14-18
Industrial control equipment

1 Scope

1.1

This Standard applies to control and protective devices, and accessory devices, rated at not more than 1500 V, for starting, stopping, regulating, controlling, or protecting electric motors, generators, heating apparatus, or other equipment used to control an industrial process that is intended to be installed and used in non-hazardous locations in accordance with CSA C22.1, *Canadian Electrical Code, Part I*.

Notes:

1) *Examples of the industrial control devices covered by this Standard are manual and magnetic starters and controllers; thermal and magnetic overload relays; push-button stations (including selector switches and pilot lights); control circuit switches and relays; float-, flow-, pressure-, and vacuum-operated switches; resistors and rheostats; proximity switches; time-delay relays and switches; resistors and rheostats intended for heating and lighting, including those for motor generator fields; and control devices intended for heating and lighting.*
2) *The term "control" as used throughout this Standard applies to both starters and controllers.*
3) *Electrical instruments, such as meters, that can be included as part of control equipment are not covered by this Standard.*

1.2

This Standard also applies to assemblies of industrial control and protective devices rated 750 V or less, and includes assemblies of automatic control and process equipment.

1.3

Certain equipment intended for use with electric elevators, air-conditioning and refrigeration equipment, cranes and hoists, electronic and solid-state control equipment, and "TV"-rated relays, etc., can be subject to additional requirements not included in this Standard.

1.4

This Standard does not apply to equipment covered by other CSA Standards, such as power supplies, programmable logic controllers, assemblies of equipment intended solely for the distribution of power, assemblies for controlling power factor, switches other than manual motor controllers, and electrical components intended to protect circuits other than motor branch-circuits.

1.5

The industrial control equipment covered by this Standard is intended for use in an ambient temperature of 0 to 40 °C.

1.6

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.

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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 (non-mandatory) to define their application.

2 Reference publications

This Standard refers to the following publications, and where such reference is made, it shall be to the edition listed below:

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C22.1-18
Canadian Electrical Code, Part I

CAN/CSA-C22.2 No. 0-10 (R2015)
General requirements — Canadian Electrical Code, Part II

C22.2 No. 0.1-M1985 (R2017)
General requirements for double-insulated equipment

C22.2 No. 0.4-17
Bonding of electrical equipment

C22.2 No. 0.5-16
Threaded conduit entries

C22.2 No. 0.15-15
Adhesive labels

CAN/CSA-C22.2 No. 0.17-00 (R2009)
Evaluation of properties of polymeric materials

C22.2 No. 4-16
Enclosed and dead-front switches

C22.2 No. 5-16
Molded-case circuit breakers, molded-case switches and circuit-breaker enclosures

C22.2 No. 31-14
Switchgear assemblies

C22.2 No. 65-13
Wire connectors

C22.2 No. 94.2-15
Enclosures for electrical equipment, environmental considerations

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