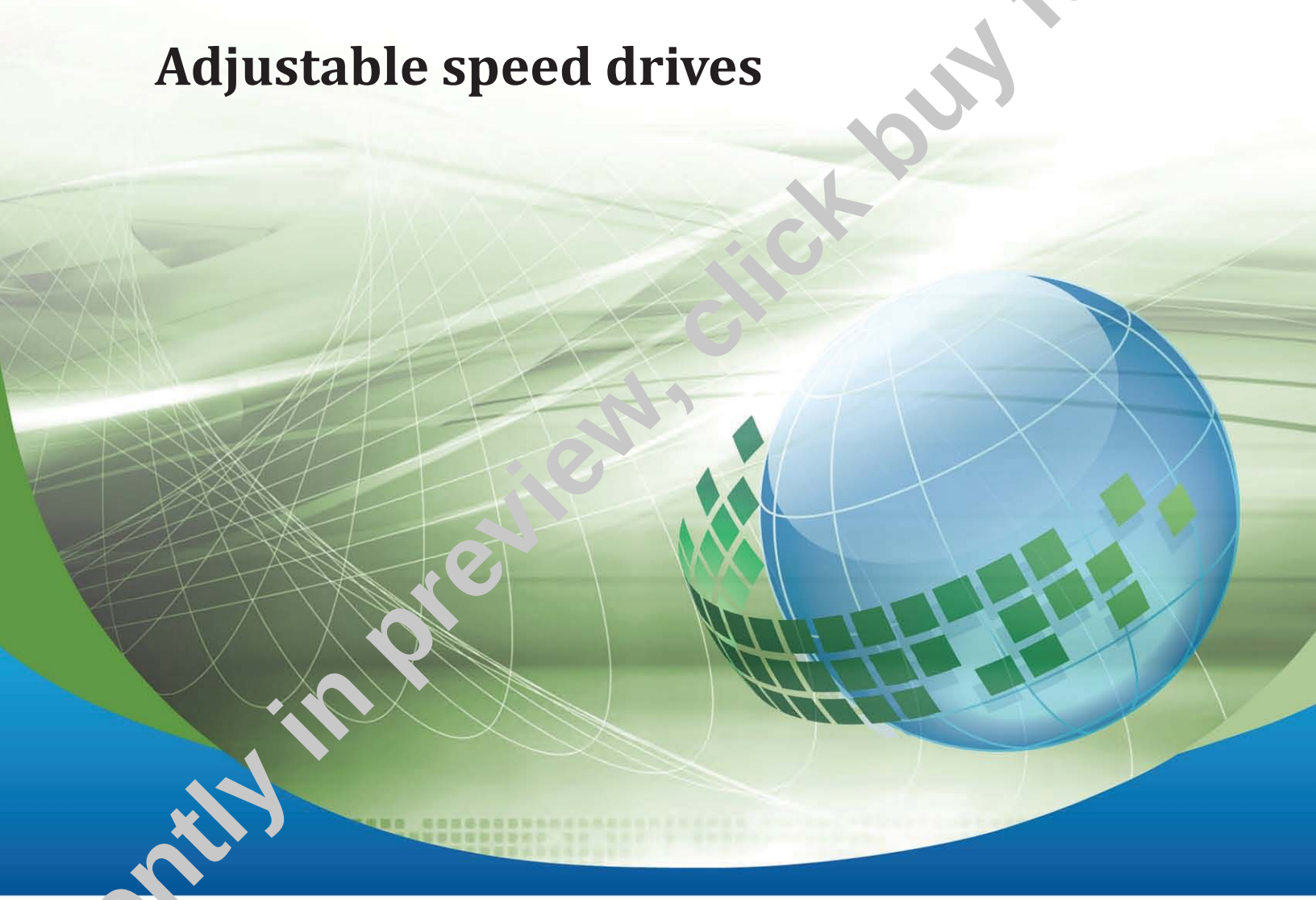
CSA Group

C22.2 No. 274-13

Adjustable speed drives



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Adjustable speed drives

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Preface

This is the first edition of CSA C22.2 No. 274, *Adjustable Speed Drives*, one of a series of Standards issued by CSA Group under Part II of the *Canadian Electrical Code*.

Prior to the release of this Standard, adjustable speed drives were certified by using CSA C22.2 No. 14 for industrial controls in conjunction with other CSA Group standards and bulletins so as to verify and test all drive related safety requirements. This Standard puts all of the relevant requirements into one document to facilitate this review. This Standard was written so as to mirror the requirements found in standard C22.2 No. 14 where applicable to maintain as much continuity as possible with existing standard practice for this type of equipment. Many of the tables contained in this Standard have been reproduced from C22.2 No. 14 and have retained their original table numbers so as to facilitate comparisons.

Although this Standard follows traditional North American practices for evaluating adjustable speed drives, the international requirements described in IEC 61800-5-1 were reviewed in detail and accommodated within this Standard whenever possible.

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 Adjustable Drives, 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.”

C22.2 No. 274-13
Adjustable speed drives

1 Scope

1.1
This Standard specifies requirements for adjustable speed drives with respect to electrical, thermal, and energy safety considerations. It applies to adjustable speed a.c. and d.c. electric drives connected to line voltages up to 34.5 kV, 50 Hz, or 60 Hz.

1.2
This Standard applies to the following:
a) power conversion, drive control equipment and interface circuits; and
b) servo drives and integral servo drive/motor combinations.

1.3
The equipment covered by this Standard is for use in ordinary locations in accordance with the *Canadian Electrical Code, Part I* (CEC, Part I).

1.4
The adjustable speed drives covered by this Standard are intended for use in an ambient temperature range of 0 to 40 °C.

Note: *This Standard does not include requirements for equipment intended for use in an ambient temperature outside of this range. Additional investigation of the equipment is needed when equipment is to be used in ambient temperatures outside of this range.*

1.5
Equipment intended for special applications can be subject to additional requirements not included in this Standard.

1.6
This Standard does not apply to solid state, single phase motor speed controls rated 300 V and less, 20A and less that are covered by CSA C22.2 No. 156.

1.7
This Standard does not apply to
a) traction and electric vehicle drives;
b) motors as covered by CSA C22.2 No. 100;
c) driven equipment;
d) cord connected drives; and
e) integrated ASDs (adjustable speed drives) where the motor and ASD are mechanically integrated into a single unit.

1.8
General requirements applicable to this Standard are given in the latest edition of CAN/CSA-C22.2 No. 0.