



CSA C22.2 No. 223:15
National Standard of Canada
(reaffirmed 2020)



Power supplies with extra-low-voltage Class 2 outputs



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Revision History

CSA C22.2 No. 223:15, Power supplies with extra-low-voltage Class 2 outputs

Update No. 1 — June 2017	Revision symbol (in margin)
Clauses 4.2.8 , 4.4.8.1 , 4.4.8.2 , 4.4.9.3 , 4.4.9.7 , 4.6.2.7 , 4.12.9 , 4.19 , 6.2.3 , 6.3.3 , 6.3.4.2.1 , 6.3.4.2.3 , 6.3.4.3 , 6.3.4.4 , 6.3.4.5 , 6.7.3 , 6.7.6 , 6.7.7 , 6.15.1 , 6.16.1 , 6.16.2 , 6.19.2 , and Tables 4 and 5 Figures 5 and 6	①
National Standard of Canada — November 2020	
Outside front cover, National Standard of Canada text, title page, and preface.	

Standards Update Service

CSA C22.2 No. 223:15 December 2015

Title: *Power supplies with extra-low-voltage Class 2 outputs*

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CSA C22.2 No. 223:15
Power supplies with extra-low-voltage Class 2 outputs



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*Published in December 2015 by CSA Group
A not-for-profit private sector organization
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*ICS 29.200
ISBN 978-1-4883-0091-2*

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Preface

This is the third edition of CSA C22.2 No. 223, *Power supplies with extra-low-voltage Class 2 outputs*, one of a series of Standards issued by the CSA Group under Part II of the *Canadian Electrical Code*. It supersedes the previous editions published in 1991 and 1987.

This edition also incorporates CSA Technical Information Letter (TIL) No. I-42; *Interim Certification Requirements for Direct Plug-in and Cord-Connected Power Supplies with Extra-Low-Voltage Class 2 Output for Outdoor Use*.

For general information on Standards of the *Canadian Electrical Code, Part II*, see the preface of CAN/CSA-C22.2 No. 0, *General Requirements — Canadian Electrical Code, Part II*.

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

This Standard was prepared by a Subcommittee on Extra-Low Voltage Direct Plug-in and Cord Connected Transformers and Rectifiers under the jurisdiction of the Technical Committee on Industrial Products and the Standards Steering Committee on *Canadian Electrical Code, Part II* and has been formally approved by the Technical Committee.

This Standard has been developed in compliance with Standards Council of Canada requirements for National Standards of Canada. It has been published as a National Standard of Canada by CSA Group.

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 Group’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 user 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 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@csa-group.org and include “Request for interpretation” in the subject line:*
 - a) *describe 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*
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.

This Standard is subject to within review 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@csa-group.org and include “Proposal for change” in the subject line:

 - a) *Standard designation (number);*

- b) *relevant clause, table, and/or figure number;*
- c) *wording of the proposed change; and*
- d) *rationale for the change.*

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CSA C22.2 No. 223:15

Power supplies with extra-low-voltage Class 2 outputs

1 Scope

1.1

This Standard applies to

- a) indoor and outdoor use Class 2 power supplies with input power of 660 W or less. These units are of both the direct plug-in and cord-connected types that utilize a step-down, isolating transformer and that may incorporate rectifiers and other components to provide an ac or dc output;
 - b) Class 2 power supplies as in Item a) employed as battery chargers for rechargeable batteries; and
- Note:** For convenience, the term “power supply” may be used throughout this Standard.
- c) identified Class 2 outputs or extra-low voltage outputs of products covered by other standards. For example, permanently connected units covered by CSA C22.2 No. 107.1.

This Standard also provides direct plug-in requirements for products covered by other standards.

1.2

This Standard applies to power supplies intended for use in non-hazardous locations in accordance with the Rules of the *Canadian Electrical Code, Part I*, when connected to a nominal system voltage of 120 V or 240 V supply. In addition, this Standard applies to permanently connected power supplies intended for use in Class 2 lighting systems for a nominal system voltage up to 600 V.

1.3

These requirements do not cover the effect that a power unit may have on the equipment or system to which it is connected. A product marked for a specific end-use involving additional considerations may be subject to additional requirements found in the applicable end-product standard.

1.4

This Standard does not include requirements for batteries.

1.5

This Standard does not apply to

- a) nonautomotive battery chargers that do not have a Class 2 output;
- b) automotive battery chargers;
- c) transformerless, non-isolated battery chargers for charging special purpose battery packs; or
- d) the functional charging requirements of non-automotive battery chargers with Class 2 outputs.

Note: These categories are covered by CAN/CSA-C22.2 No. 107.2 or CAN/CSA-E60335-2-29.

1.6

This Standard does not apply to products that do not have an identified Class 2 output.