



# Photovoltaic combiners and recombiners



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# Preface

This is the second edition of CSA C22.2 No. 290, *Photovoltaic combiners and recombiners*, one of a series of Standards issued by CSA Group under Part II of the *Canadian Electrical Code*. It replaces the previous edition published in 2015 under the title, *Photovoltaic combiners*.

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

This Standard was prepared by Working Group 290 on Photovoltaic Combiners and Recombiners — C22.2 No. 290, 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.

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 CSA committee interpretation has not already been published, CSA Group’s procedures for interpretation shall be followed to determine the intended safety principle.”

**Notes:**

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  - 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](mailto: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.*
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    - a) *Standard designation (number);*
    - b) *relevant clause, table, and/or figure number;*
    - c) *wording of the proposed change; and*
    - d) *rationale for the change.*

# CSA C22.2 No. 290:19

## Photovoltaic combiners and recombiners

### 1 Scope

#### 1.1

This Standard applies to photovoltaic (re)combiners rated up to 2000 V dc or 750 V ac, for use on photovoltaic (PV) systems installed in nonhazardous locations in accordance with CSA C22.1, *Canadian Electrical Code, Part I*.

#### 1.2

(Re)combiners for use in photovoltaic systems that are ungrounded, positive grounded, and/or negative grounded are within the scope of this Standard.

#### 1.3

This Standard does not cover panelboards, switchgear assemblies, and switchboards as covered by CSA C22.2 No. 29, CSA C22.2 No. 31, and CSA C22.2 No. 244.

#### 1.4

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 (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, including all amendments published thereto.

#### CSA Group

C22.1-18

*Canadian Electrical Code, Part I*

CAN/CSA-C22.2 No. 0-10 (R2015)

*General Requirements — Canadian Electrical Code, Part II*