UL 4248-19

STANDARD FOR SAFETY

Fuseholders – Part 19: Photovoltaic Fuseholders

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UL Standard for Safety for Fuseholders – Part 19: Photovoltaic Fuseholders, UL 4248-19

Second Edition, Dated March 31, 2021

Summary of Topics

This revision of ANSI/UL 4248-19 dated November 25, 2024 includes changes in requirements to the Scope and the requirements to include the maximum voltage rating for PV systems: 1.2, 5.1, 6.1, 7.2, and 8.1.

As noted in the Commitment for Amendments statement located on the back side of the title page, ULSE, CSA, and ANCE are committed to updating this harmonized standard jointly.

Text that has been changed in any manner or impacted by ULSE's electronic publishing system is marked with a vertical line in the margin.

The requirements are substantially in accordance with Proposal(s) on this subject dated March 29, 2024 and August 13, 2024.

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This ANSI/UL Standard for Safety consists of the Second Edition including revisions through November 25, 2024. The most recent designation of ANSI/UL 4248-19 as an American National Standard (ANSI) occurred on November 25, 2024. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, Title Page (front and back), or the Preface.

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PREFACE

This is the harmonized ANCE, CSA Group, and ULSE standard for Fuseholders – Part 19: Photovoltaic Fuseholders. It is the second edition of NMX-J-009/4248/19-ANCE, the second edition of CSA-C22.2 No. 4248.19, and the second edition of UL 4248-19. This edition of NMX-J-009/4248/19-ANCE cancels the previous edition published on November 13, 2015. This edition of CSA C22.2 No. 4248.19 supersedes the previous edition published on November 13, 2015. This edition of UL 4248-19 supersedes the previous edition published on November 13, 2015. This harmonized standard has been jointly revised on November 25, 2024. For this purpose, CSA Group and ULSE are issuing revision pages dated November 25, 2024, and ANCE is issuing a new edition dated November 25, 2024.

This harmonized standard was prepared by the Association of Standardization and Certification, (ANCE), CSA Group, and ULSE. The efforts and support of the Technical Harmonization Subcommittee, 32B, Fuses, Fuseholders, on the Harmonization of Electrotechnical Standards of the Nations of the Americas (CANENA), are gratefully acknowledged.

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

The present Mexican standard was developed by the CT 32 “Fusibles” from the Comite de Normalizacion de la Asociacion de Normalizacion y Certificacion, A.C., CONANCE, with the collaboration of the manufacturers and users of fuseholders.

This standard was reviewed by the CSA Subcommittee on Fuses and Fuseholders, under the jurisdiction of the CSA Technical Committee on Industrial Products and the CSA Strategic Steering Committee on requirements for Electrical Safety, and has been formally approved by the CSA 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.

Application of Standard

Where reference is made to a specific number of samples to be tested, the specified number is to be considered a minimum quantity.

NOTE: 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.

Level of Harmonization

This standard is published as an identical standard for ANCE, CSA Group and ULSE.

An identical standard is a standard that is exactly the same in technical content except for national differences resulting from conflicts in codes and governmental regulations. Presentation is word for word except for editorial changes.

Interpretations

The interpretation by the standards development organization of an identical or equivalent standard is based on the literal text to determine compliance with the standard in accordance with the procedural rules of the standards development organization. If more than one interpretation of the literal text has been identified, a revision is to be proposed as soon as possible to each of the standards development organizations to more accurately reflect the intent.

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Fuseholders – Part 19: Photovoltaic Fuseholders

1 Scope

1.1 This Part is intended to be read together with the Standard for Fuseholders – Part 1: General Requirements, hereafter referred to as Part 1. The titles of the Clauses in this Part correspond to the similarly titled Clauses in Part 1. The requirements of Part 1 apply unless modified by this Part. For the Part 1 requirements, refer to the Standard for Fuseholders – Part 1: General Requirements, NMX-J-009-4248/1-ANCE / CSA C22.2 No. 4248.1 / UL 4248-1.

1.2 This Part applies to Fuseholders for Photovoltaic (PV) Systems rated up to 2000 Vdc.

1.3 This Part applies to PV fuseholders that accommodate PV fuses as described in the Standard for Low-Voltage Fuses – Part 19: Photovoltaic Fuses, NMX-J-009/248/19-ANCE / CSA C22.2 No. 248.19 / UL 248-19 to be employed in Photovoltaic (PV) systems and that are intended to be used in accordance with the Canadian Electrical Code, Part I, CSA C22.1, the National Electrical Code, NFPA 70, and the Mexican Electrical Code, NOM-001.

1.4 Fuseholders that meet another Part also need to comply with those requirements of that Part.

2 Referenced Publications

2.1 Any undated reference to a code or standard appearing in the requirements of this Standard shall be interpreted as referring to the latest edition of that code or standard.

2.2 When a reference is made to a code or standard, the product shall comply with the code or standard of the country in which the product is intended to be used.

2.3 Throughout this Standard, the CSA standard references apply to products intended for use in Canada, the ANCE NMX standard references apply to products intended for use in Mexico, and the UL standard references apply to products intended for use in the United States. Combined references are separated by a slash (“ / ”) to denote the difference between the applicable requirements specified for use in Canada, Mexico, and the United States.

2.4 The following publications are referenced in this Standard:

United States	Canada	Mexico
NFPA 70, National Electrical Code	CSA C22.1, Canadian Electrical Code, Part I CSA C22.2 No. 0, General Requirements – Canadian Electrical Code, Part II	NOM – 001, Mexican Electrical Code
UL 248-19, Low-Voltage Fuses – Part 19: Photovoltaic Fuses *(Trinational)*	CSA C22.2 No. 248.19, Low-Voltage Fuses – Part 19: Photovoltaic Fuses *(Trinational)*	NMX-J-009/248/19-ANCE, Low-Voltage Fuses – Part 19: Photovoltaic Fuses *(Trinational)*
UL 746C, Polymeric Materials – Use in Electrical Equipment Evaluations	CSA C22.2 No. 0.17, Evaluation of Properties of Polymeric Materials	
UL 4248-1, Fuseholders – Part 1: General Requirements *(Trinational)*	CSA C22.2 No. 4248.1, Fuseholders – Part 1: General Requirements *(Trinational)*	NMX-J-009-4248/1-ANCE, Fuseholders – Part 1: General Requirements *(Trinational)*
UL 6703, Connectors for Use in Photovoltaic Systems	CSA C22.2 No. 182.5, Photovoltaic Connectors	

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3 Units of Measurement

3.1 The values given in SI (metric) shall be normative. Any other values given shall be for information purposes only.

4 General

4.1 In Canada, general requirements applicable to this Standard are given in CSA C22.2 No. 0, General Requirements – Canadian Electrical Code, Part II.

5 Classification

5.1 Fuseholders for use with photovoltaic (PV) fuses shall have a minimum short-circuit withstand rating of 10 kA and shall be rated 2000 Vdc maximum.

6 Ratings

6.1 Fuseholders for use with photovoltaic (PV) fuses may be rated 2000 Vdc maximum, and the preferred ratings are 600 V, 750 V, 1000 V, 1250 V, 1500 V, and 2000 V. Fuseholders having a latching or locking type PV connector shall not be rated greater than 1500 Vdc.

6.2 Fuseholders for use with photovoltaic (PV) fuses shall have a minimum short-circuit withstand rating of 10 kA.

7 Markings

7.1 Fuseholders for use with photovoltaic (PV) fuses shall be marked in accordance with Part 1.

In the United States and Mexico, the French markings are not required.

In Canada and the United States, the Spanish markings are not required.

7.2 The information on a fuseholder shall be legible and include the following:

a) "Use Photovoltaic (PV) Fuses” or equivalent and « Utiliser des fusibles photovoltaïques » or the equivalent and “Utilizar fusibles fotovoltaicos (PV)” or equivalent;

b) “Line” and “Load” for panel mount and in-line fuseholders and « Secteur » et « Charge » and “Línea” y “Carga”;

c) "DO NOT OPEN or REMOVE UNDER LOAD" or equivalent and « NE PAS UTILISER SOUS CHARGE » or the equivalent and “NO ABRIR O QUITAR BAJO CARGA” or equivalent (intended for modular design photovoltaic (PV) fuseholders such that the fuse is inserted or removed by use of a carrier);

d) "Do Not Connect or Disconnect under Load" or equivalent and « NE PAS BRANCHER OU DÉBRANCHER SOUS CHARGE » or the equivalent and “No conectar o desconectar bajo carga” or equivalent (intended for photovoltaic (PV) fuseholders that include a wire connector feature); and

e) Fuseholders with voltage ratings higher than 1500 Vdc shall be marked with the following or equivalent: “DANGER: Risk of Electric Shock. Disconnect circuit before replacing fuses” and « DANGER: Risque de choc électrique. Débranchez le circuit avant de remplacer les fusibles » and “PELIGRO: Riesgo de descarga eléctrica. Desconecte el circuito antes de reemplazar los fusibles”.

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