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**CSA C22.2 No. 61010-2-011:19**
**Safety requirements for electrical equipment for measurement, control, and laboratory use — Part 2-011: Particular requirements for refrigerating equipment**
(IEC 61010-2-011:2019, MOD)

**CSA C22.2 nº 61010-2-011:19**
**Exigences de sécurité pour appareils électriques de mesurage, de régulation et de laboratoire — Partie 2-011 : Exigences particulières pour appareils de réfrigération**
(IEC 61010-2-011:2019, MOD)



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# *Standards Update Service*

## *CSA C22.2 No. 61010-2-011:19*
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**Title:** *Safety requirements for electrical equipment for measurement, control, and laboratory use — Part 2-011: Particular requirements for refrigerating equipment*

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# IEC 61010-2-011

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GROUP SAFETY PUBLICATION
PUBLICATION GROUPÉE DE SÉCURITÉ

## Safety requirements for electrical equipment for measurement, control, and laboratory use –
## Part 2-011: Particular requirements for REFRIGERATING EQUIPMENT

## Exigences de sécurité pour appareils électriques de mesurage, de régulation et de laboratoire –
## Partie 2-011: Exigences particulières pour APPAREILS DE REFRIGERATION



IEC 61010-2-011:2019(en-fr)

CONTENTS

# SAFETY REQUIREMENTS FOR ELECTRICAL EQUIPMENT FOR MEASUREMENT, CONTROL, AND LABORATORY USE –

## Part 2-011: Particular requirements for REFRIGERATING EQUIPMENT

## 1 Scope and object

This clause of Part 1 is applicable, except as follows:

### 1.1.1 Equipment included in scope

*Replacement:*

*Replace the second paragraph by the following:*

This Part 2 of IEC 61010 specifies particular safety requirements for the following types a) to c) of electrical equipment and their accessories, wherever they are intended to be used, whenever that equipment incorporates REFRIGERATING SYSTEMS as an integral part of, or separate from, the equipment and the equipment is in direct control of the REFRIGERATING SYSTEM.

This document details all the requirements when up to 150 g of FLAMMABLE REFRIGERANT are used per stage of a REFRIGERATING SYSTEM. Additional requirements beyond the current scope of this document apply if a REFRIGERANT charge of FLAMMABLE REFRIGERANT exceeds this amount.

*Addition:*

*Add the following text after the last paragraph:*

NOTE 101 Examples for REFRIGERATING EQUIPMENT include, but are not limited to, laboratory equipment such as laboratory refrigerators, freezers, refrigerated display cabinets.

It is possible that all or part of the equipment falls within the scope of one or more other Part 2 standards of IEC 61010 as well as within the scope of this standard. In that case, the requirements of those other Part 2 standards will also apply. In particular, if equipment is intended to be used as a centrifuge, the requirements of IEC 61010-2-020 apply. However, when the equipment incorporates a refrigerating system and a heating function where the combination of the two introduces additional or more severe HAZARDS than if treated separately, then it is possible that IEC 61010-2-012 is applicable instead of this Part 2-011.

See further information in the flow chart (Figure 102) for the selection process and guidance in the Introduction.

### 1.2 Equipment excluded from scope

*Addition:*

*Add the following new item after item j):*

or equipment incorporating:

aa) a transcritical REFRIGERANT SYSTEM (system that uses $CO_2$) or a system that uses ammonia ($NH_3$) as the REFRIGERANT.