C22.2 No. 205-17

Signal equipment

REVISED MAY 2020

Legal Notice for Standards

Canadian Standards Association (operating as "CSA Group") develops standards through a consensus standards development process approved by the Standards Council of Canada. This process brings together volunteers representing varied viewpoints and interests to achieve consensus and develop a standard. Although CSA Group administers the process and establishes rules to promote fairness in achieving consensus, it does not independently test, evaluate, or verify the content of standards.

Disclaimer and exclusion of liability

This document is provided without any representations, warranties, or conditions of any kind, express or implied, including, without limitation, implied warranties or conditions concerning this document's fitness for a particular purpose or use, its merchantability, or its non-infringement of any third party's intellectual property rights. CSA Group does not warrant the accuracy, completeness, or currency of any of the information published in this document. CSA Group makes no representations or warranties regarding this document's compliance with any applicable statute, rule, or regulation.

IN NO EVENT SHALL CSA GROUP, ITS VOLUNTEERS, MEMBERS, SUBSIDIARIES, OR AFFILIATED COMPANIES, OR THEIR EMPLOYEES, DIRECTORS, OR OFFICERS, BE LIABLE FOR ANY DIRECT, INDIRECT, OR INCIDENTAL DAMAGES, INJURY, LOSS, COSTS, OR EXPENSES, HOWSOEVER CAUSED, INCLUDING BUT NOT LIMITED TO SPECIAL OR CONSEQUENTIAL DAMAGES, LOST REVENUE, BUSINESS INTERRUPTION, LOST OR DAMAGED DATA, OR ANY OTHER COMMERCIAL OR ECONOMIC LOSS, WHETHER BASED IN CONTRACT, TORT (INCLUDING NEGLIGENCE), OR ANY OTHER THEORY OF LIABILITY, ARISING OUT OF OR RESULTING FROM ACCESS TO OR POSSESSION OR USE OF THIS DOCUMENT, EVEN IF CSA GROUP HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, INJURY, LOSS, COSTS, OR EXPENSES.

In publishing and making this document available, CSA Group is not undertaking to render professional or other services for or on behalf of any person or entity or to perform any duty owed by any person or entity to another person or entity. The information in this document is directed to those who have the appropriate degree of experience to use and apply its contents, and CSA Group accepts no responsibility whatsoever arising in any way from any and all use of or reliance on the information contained in this document.

CSA Group is a private not-for-profit company that publishes voluntary standards and related documents. CSA Group has no power, nor does it undertake, to enforce compliance with the contents of the standards or other documents it publishes.

Intellectual property rights and ownership

As between CSA Group and the users of this document (whether it be in printed or electronic form), CSA Group is the owner, or the authorized licensee, of all works contained herein that are protected by copyright, all trade-marks (except as otherwise noted to the contrary), and all inventions and trade secrets that may be contained in this document, whether or not such inventions and trade secrets are protected by patents and applications for patents. Without limitation, the unauthorized use, modification, copying, or disclosure of this document may violate laws that protect CSA Group's and/or others' intellectual property and may give rise to a right in CSA Group and/or others to seek legal redress for such use, modification, copying, or disclosure. To the extent permitted by licence or by law, CSA Group reserves all intellectual property rights in this document.

Patent rights

Attention is drawn to the possibility that some of the elements of this standard may be the subject of patent rights. CSA Group shall not be held responsible for identifying any or all such patent rights. Users of this standard are expressly advised that determination of the validity of any such patent rights is entirely their own responsibility.

Authorized use of this document

This document is being provided by CSA Group for informational and non-commercial use only. The user of this document is authorized to do only the following:

If this document is in electronic form:

- load this document onto a computer for the sole purpose of reviewing it;
- search and browse this document; and
- print this document if it is in PDF format.

Limited copies of this document in printed or paper form may be distributed only to persons who are authorized by CSA Group to have such copies, and only if this Legal Notice appears on each such copy.

In addition, users may not and may not permit others to

- alter this document in any way or remove this Legal Notice from the attached standard;
- sell this document without authorization from CSA Group; or
- make an electronic copy of this document.

If you do not agree with any of the terms and conditions contained in this Legal Notice, you may not load or use this document or make any copies of the contents thereof, and if you do make such copies, you are required to destroy them immediately. Use of this document constitutes your acceptance of the terms and conditions of this Legal Notice.

Revision History

C22.2 No. 205-17, Signal equipment

Errata — May 2020	**Revision symbol (in margin)**
Figures 1, 2, 3, 4, and 5	Δ

Errata — December 2017	**Revision symbol (in margin)**
Subcommittee on Standard Signal Equipment	Δ

Errata — June 2017	**Revision symbol (in margin)**
Subcommittee on Standard Signal Equipment Clause B.4.8	Δ

Standards Update Service

C22.2 No. 205-17
May 2017

Title: *Signal equipment*

To register for e-mail notification about any updates to this publication
- go to **store.csagroup.org**
- click on **Product Updates**

The **List ID** that you will need to register for updates to this publication is **24254**.

If you require assistance, please e-mail **techsupport@csagroup.org** or call 416-747-2233.

Visit CSA Group's policy on privacy at **www.csagroup.org/legal** to find out how we protect your personal information.

C22.2 No. 205-17
Signal equipment

Published in May 2017 by CSA Group
A not-for-profit private sector organization
178 Rexdale Boulevard, Toronto, Ontario, Canada M9W 1R3

*To purchase standards and related publications, visit our Online Store at **store.csagroup.org***
or call toll-free 1-800-463-6727 or 416-747-4044.

ISBN 978-1-4883-0875-8

Contents

Preface

This is the third edition of CSA C22.2 No. 205, *Signal equipment*, one of a series of Standards issued by CSA Group under Part II of the *Canadian Electrical Code*. It supersedes the previous editions published in 2012 and 1983.

This edition updates the 2012 edition of CSA C22.2 No. 205. The updates include the expanded scope to cover components that monitor and control activity and the equipment powered by an energy limited Class 2 power supply.

The updates are intended to provide clarification for many new signal applications that are now [illegible]us This edition also incorporates the new requirements for ozone, toxic gas and radon detectors.

For general information on the Standards of the *Canadian Electrical Code, Part II*, see the Preface of the latest edition 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 the Subcommittee on Standard Signal Equipment, under the jurisdiction of the Technical Committee on Consumer and Commercial 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 CSA 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 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 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.*

   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****.*
5) *This Standard is subject to review within 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@csagroup.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.*

C22.2 No. 205-17
Signal equipment

1 Scope

1.1

This Standard covers the electrical, fire, and shock hazard requirements for all permanently and cord-connected signal equipment intended for household, commercial and industrial use operating at

a) nominal system voltage of 120 V for household use;
b) nominal system voltages up to 600 V for commercial and industrial use; and
c) double insulated equipment up to 240 V.

in non-hazardous locations in accordance with the rules of the *Canadian Electrical Code, Part I*.

1.2

The requirements are not intended to replace other requirements that are mandated by provincial, federal, or authorities having jurisdiction for aspects other than electrical fire and shock hazards, nor do they specify the performance of signal equipment.

Notes:

1) *While this document does not address the performance aspects of signaling equipment it does specify requirements for the electrical safety of these devices, including functional safety.*
2) *Devices that generate radio frequency signals may also be subject to the requirements of Industry Canada.*

1.3

This Standard covers equipment that performs a sensing and/or signaling function to convey alarm, trouble, status, or event-based information to the user and any subsequent associated activation function. The signal equipment may be stand-alone or a part of a larger system. Signaling may employ wired or wireless means.

Note: *The equipment can employ audible, visual, motion, or other signaling means such as chimes, gongs, lights, and displays.*

1.4

This Standard applies to energy management equipment including sensing, monitoring, and actuation devices. The requirements also apply to home automation systems. The signal sensing components meeting the requirement of this Standard can be included in a smart grid application for energy management, other than for industrial applications.

1.5

This Standard applies to components that monitor and control activity, and which are:

a) that are inter-connected in a wireless sensor network (WSN) in a local network;
b) that communicate with local devices that are either wired or wireless.

1.6

This Standard also applies to equipment powered by an energy limited Class 2 power supply.

