



CSA E60825-1:15

Safety of laser products — Part 1: Equipment classification and requirements
(IEC 60825-1:2014, MOD)

CSA E60825-1:15

Sécurité des appareils à laser — Partie 1 : Classification des matériels et exigences
(IEC 60825-1:2014, MOD)



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CSA E60825-1:15
November 2015

Title: *Safety of laser products — Part 1: Equipment classification and requirements*

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CSA E60825-1:15

Safety of laser products — Part 1: Equipment classification and requirements (IEC 60825-1:2014, MOD)

Prepared by
International Electrotechnical Commission



Reviewed by



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Published in November 2015 by CSA Group
A not-for-profit private sector organization
178 Rexdale Boulevard, Toronto, Ontario, Canada M9W 1R3

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ICS 13.110; 31.260
ISBN 978-1-4883-0102-5

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CSA E60825-1:15

Safety of laser products — Part 1: Equipment classification and requirements (IEC 60825-1:2014, MOD)

CSA Preface

This is the second edition of CAN/CSA-E60825-1, *Safety of laser products — Part 1: Equipment classification and requirements*, which is an adoption, with Canadian deviations, of the identically titled IEC (International Electrotechnical Commission) Standard 60825-1 (third edition, 2014-01). It supersedes the previous edition, published in 2003 as CAN/CSA-E60825-1 (adopted IEC 60825-1:1993+A1:1997+A2:2001) under the title *Safety of laser products — Part 1: Equipment classification, requirements, and user's guide*.

For brevity, this Standard will be referred to as “CAN/CSA-E60825-1” throughout.

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

This Standard was reviewed for Canadian adoption by the CSA Technical Committee on International Standards, under the jurisdiction of the CSA Strategic Steering Committee on Requirements for Electrical Safety, and has been formally approved by the Technical Committee.

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**Safety of laser products –
Part 1: Equipment classification and requirements**

**Sécurité des appareils à laser –
Partie 1: Classification des matériels et exigences**



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**Safety of laser products –
Part 1: Equipment classification and requirements**

**Sécurité des appareils à laser –
Partie 1: Classification des matériels et exigences**

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SAFETY OF LASER PRODUCTS –

Part 1: Equipment classification and requirements

1 Scope and object

IEC 60825-1 is applicable to safety of laser products emitting laser radiation in the wavelength range 180 nm to 1 mm.

Although lasers exist which emit at wavelengths less than 180 nm (within the vacuum ultraviolet), these are not included in the scope of the standard since the laser beam normally has to be enclosed in an evacuated enclosure, and, therefore, the potential optical radiation hazards are inherently minimal.

A laser product may consist of a single laser with or without a separate power supply or may incorporate one or more lasers in a complex optical, electrical, or mechanical system. Typically, laser products are used for demonstration of physical and optical phenomena, materials processing, data reading and storage, transmission and display of information, etc. Such systems have found use in industry, business, entertainment, research, education, medicine and consumer products.

Laser products that are sold to other manufacturers for use as components of any system for subsequent sale are not subject to IEC 60825-1, since the final product will itself be subject to this standard. Laser products that are sold by or for manufacturers of end products for use as repair parts for the end products are also not subject to IEC 60825-1. However, if the laser system within the laser product is operable when removed from the end product, the requirements of this Part 1 apply to the removable laser system.

NOTE 1 Operable equipment does not require a tool to prepare for operation.

Any laser product is exempt from all further requirements of this Part 1 if classification by the manufacturer of that product according to Clauses 4 and 5 shows that the emission level does not exceed the AEL (accessible emission limit) of Class 1 under all conditions of operation, maintenance, service and failure. Such a laser product may be referred to as an exempt laser product.

NOTE 2 The above exemption is to ensure that inherently safe laser products are exempt from Clauses 6,7,8 and 9.

In addition to the adverse effects potentially resulting from exposure to laser radiation, some laser equipment may also have other associated hazards, such as electricity, chemicals and high or low temperatures. Laser radiation may cause temporary visual impairment, such as dazzle and glare. Such effects depend on the task and ambient lighting level and are beyond the scope of this Part 1. The classification and other requirements of this standard are intended to address only the laser radiation hazards to the eyes and skin. Other hazards are not included within its scope.

This Part 1 describes the minimum requirements. Compliance with this Part 1 may not be sufficient to achieve the required level of product safety. Laser products may also be required to conform to the applicable performance and testing requirements of other applicable product safety standards.

NOTE 3 Other standards may contain additional requirements. For example, a Class 3B or Class 4 laser product may not be suitable for use as a consumer product.