AS/NZS IEC 60825.2:2011
IEC 60825-2, Ed.3.2 (2010)

AS/NZS IEC 60825.2:2011

Australian/New Zealand Standard™

Safety of laser products

Part 2: Safety of optical fibre communication systems (OFCS)

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee SF-019, Personal Protection Against Laser Radiation. It was approved on behalf of the Council of Standards Australia on 20 October 2011 and on behalf of the Council of Standards New Zealand on 25 October 2011.
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The following are represented on Committee SF-019:

Australasian Faculty of Occupational & Environmental Medicine
Australian Dental Association
Defence Materiel Organisation (Australia)
Defence Science & Technology Organisation
Electronics Industry Association
National Radiation Laboratory New Zealand
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This Standard was issued in draft form for comment as DR AS/NZS 60825.2.

Australian/New Zealand Standard™

Safety of laser products

Part 2: Safety of optical fibre communication systems (OFCS)

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee SF-019, Personal Protection Against Laser Radiation, to supersede AS/NZS 2211.2:2006, Part 2: *Safety of optical fibre communication systems (OFCS)*.

The objectives of this Standard are as follows:

(a) To protect people from optical radiation resulting from OFCS by introducing a system of hazard levels at accessible locations according to the degree of optical radiation hazard.

(b) To lay down requirements for manufacturers, installation organizations, service organisations and operating organizations in order to establish procedures and supply information so that proper precautions can be adopted.

(c) To ensure adequate warnings are provided to individuals regarding the hazards associated with OFCS through the use of signs, labels and instructions.

(d) To reduce the possibility of injury by providing specific guidance for the safe operation and maintenance of optical fibre communication systems (OFCS).

This Standard is identical with, and has been reproduced from IEC 60825-2, Ed.3.2 (2010), Part 2: *Safety of laser products—Safety of optical fibre communication systems (OFCS)*.

As this Standard is reproduced from an International Standard, the following applies:

(a) Its number appears on the cover and title page while the International Standard number appears only on the cover.

(b) In the source text ‘This Part 2 of IEC 60825’ should read ‘This Australian/New Zealand Standard’.

(c) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard		*Australian/New Zealand Standard*	
IEC		AS/NZS IEC	
60825	Safety of laser products	60825	Safety of laser products
60825-1	Part 1: Equipment classification and requirements	60825.1	Part 1: Equipment classification and requirements

The term ‘informative’ has been used in this Standard to define the application of the annex to which it applies. An ‘informative’ annex is only for information and guidance.

IEC 60825 series of standards may have been adopted as AS/NZS standards as either AS/NZS IEC 60825, e.g. IEC/TR 60825-14 has been adopted as AS/NZS IEC 60825.14, or AS/NZS 2211, e.g. IEC 60825-4 has been adopted as AS/NZS 2211.4.

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IEC FOREWORD

This consolidated version of IEC 60825-2 consists of the third edition (2004) [documents 76/288/FDIS and 76/293/RVD], its amendment 1 (2006) [documents 76/346/FDIS and 76/353/RVD] and its amendment 2 (2010) [documents 76/409/CDV and 76/419/RVC].

The technical content is therefore identical to the base edition and its amendments and has been prepared for user convenience.

It bears the edition number 3.2.

A vertical line in the margin shows where the base publication has been modified by amendments 1 and 2.

AUSTRALIAN/NEW ZEALAND STANDARD

Safety of laser products

Part 2:
Safety of optical fibre communication systems (OFCS)

1 Scope and object

This Part 2 of IEC 60825 provides requirements and specific guidance for the safe operation and maintenance of optical fibre communication systems (OFCS). In these systems optical power may be accessible outside the confinements of transmitting equipment or at great distance from the optical source.

This Part 2 requires the assessment of hazard levels at accessible locations as a replacement for classification according to IEC 60825-1. It applies to the complete installed end-to-end OFCS, including its components and subassemblies that generate or amplify optical radiation. Individual components and subassemblies that are sold only to OEM vendors for incorporation into a complete installed end-to-end OFCS need not be assessed to this standard, since the final OFCS should itself be assessed according to this standard.

NOTE 1 The above statement is not intended to prevent manufacturers of such components and subassemblies from using this standard if they wish to do so, or are required to do so by contract.

This standard does not apply to optical fibre systems primarily designed to transmit optical power for applications such as material processing or medical treatment.

In addition to the hazards resulting from laser radiation, OFCS may also give rise to other hazards, such as fire.

This standard does not address safety issues associated with explosion or fire with respect to OFCS deployed in explosive atmospheres.

Throughout this part of IEC 60825, a reference to ‘laser’ is taken to include light-emitting diodes (LEDs) and optical amplifiers.

NOTE 2 The optical hazard of light emerging from a fibre is determined by the wavelength and power emerging from the fibre and the optical characteristics of the fibre. (See Annex A.).

The objective of this Part 2 of IEC 60825 is to:

– protect people from optical radiation resulting from OFCS;
– provide requirements for manufacturers, installation organizations, service organizations and operating organizations in order to establish procedures and supply information so that proper precautions can be adopted;
– ensure adequate warnings are provided to individuals regarding the potential hazards associated with OFCS through the use of signs, labels and instructions.

Annex A gives a more detailed rationale for this part of IEC 60825.

The safety of an OFCS depends to a significant degree on the characteristics of the equipment forming that system. Depending on the characteristics of the equipment, it may be necessary to mark safety relevant information on the product or include it within the instructions for use.

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