

Australian/New Zealand Standard™

**Safety of laser products**

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



## **AS/NZS 2211.2:2006**

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 19 January 2006 and on behalf of the Council of Standards New Zealand on 3 February 2006.  
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The following are represented on Committee SF-019:

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Australian Radiation Laboratory  
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# Australian/New Zealand Standard™

## Safety of laser products

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

Originated as AS/NZS 2211.2:1997.  
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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 2211.2:1997, *Laser safety, Part 2: Safety of optical fibre communication systems*.

The Standard is identical with and has been reproduced from IEC 60825-2: Ed.3.0 2005, *Safety of laser products, Part 2: Safety of optical fibre communication systems (OFCS)*.

The objective of this Standard is to provide 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 equipments or at greater distance from the optical systems.

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.

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 should be substituted for a comma when referring to a decimal marker.

References to International Standards should be replaced by references Australian Standards, as follows:

<i>Reference to International Standard</i>		<i>Australian/New Zealand Standard</i>	
IEC		AS/NZS	
60825	Safety of laser products	2211	Safety of laser products
60825-1	Part 1: Equipment classification, requirements and user’s guide	2211.1	Part 1: Equipment classification, requirements and user’s guide (IEC 60825-1:2001, MOD)

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## 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 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.

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.