American National Standard

American National Standard for Safe Use of Optical Fiber Communication Systems Utilizing Laser Diode and LED Sources

ANSI Z136.2-1997

ANSI American National Standards Institute
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American National Standard for Safe Use of Optical Fiber Communication Systems Utilizing Laser Diode and LED Sources

Secretariat

The Laser Institute of America

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American National Standards Institute, Inc.

American National Standard

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Foreword

(This foreword is not part of American National Standard Z136.2-1997)

This American National Standard provides guidance for the safe use of optical fiber communications systems (OFCS) utilizing laser diode and/or light emitting diode (LED) sources by defining control measures for each of four service group classifications. Once an OFCS is assigned the appropriate service group classification, there should be no need to carry out tedious measurements or calculations to meet the provisions of the standard. This standard provides the information necessary to assign a service group to unclassified OFCS, or modified OFCS requiring reclassification.

During normal system operation OFCS are completely enclosed, there is no accessible emission and, therefore, no hazard. During service, however, there may be accessible emission. Consequently, each OFCS is assigned a service group classification based on potential hazard. Service group determination is based solely on output characteristics regardless of the type of source, i.e., laser diode or LED.

Since this standard was first published, advances in technology have led to lasers used for OFCS that operate at power levels greater than 50 mW. Guidance is provided for higher power levels and is compatible with ANSI Z136.1.

This standard has been published as part of the American National Standard Z136 series. The basic document is American National Standard for the Safe Use of Lasers, ANSI Z136.1. In general, this standard may be used independently of ANSI Z136.1. Instances where additional guidance contained in ANSI Z136.1 is required are noted in this document.

Every effort has been made to make this standard compatible with ANSI Z136.1 and IEC 825-1 and 825-2-1993. The KX3A hazard level of IEC 825-2-1993 has not been adopted, however.

While there is considerable compatibility among existing laser safety standards, some requirements differ among state, federal and international standards, particularly with respect to signs, symbols and control measures.

Suggestions for improvement of this standard will be welcome. They should be sent to the American National Standards Institute, Inc., 11 West 42nd Street, New York, N.Y. 10036.

This standard was processed and approved for submittal to ANSI by Accredited Standards Committee Z136 on the Safe Use of Lasers, whose scope covers protection against hazards associated with the use of lasers and optically radiating diodes. Committee approval of the standard does not necessarily imply that all members voted for its approval. At the time it approved this standard, the Z136 Committee had the following members:

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