ICS 31.260
CCS L51

# NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA



# GB/T 10320-2011

Replacing GB 10320-1995

## Electrical safety of laser equipment and installatins

激光设备和设施的电气安全

**Issued on: December 30, 2011** **Implemented on: May 1, 2012**

**Issued by: General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China;**
**Standardization Administration of China**

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## Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules. This standard replaces GB 10320-1995 "electrical safety of laser equipment and facilities", compared with GB 10320-1995, in addition to editorial repair Change outside the main technical changes are as follows:

--- Modify the term "class I equipment" define the content (see 31, 1995 version 3.1.);

--- Modify the term "II type of equipment" is defined contents (see 32, 1995 version 3.2.);

--- Modify the term "III type of equipment" is defined contents (see 33, 1995 version 3.3.);

--- Modify the term "safety extra low voltage" is defined contents (see 328, 1995 edition 3.28.);

--- Deleted the term "factory inspection" (see the 1995 edition 3.32);

--- Deleted the term "type test" (see the 1995 edition 3.33);

--- Content "type test" and "factory inspection" incorporated "test methods" (see Chapter 5, Chapter 5 and Chapter 6 of the 1995 edition). Please note that some of the content of this document may involve patents. Release mechanism of the present document does not assume responsibility for the identification of these patents. The standard proposed by China Machinery Industry Federation. This standard by the National Optical radiation safety and laser equipment Standardization Technical Committee (SAC/TC284) centralized. This standard was drafted. Beijing Optoelectronics Technology Institute, The 11th Institute of China Electronics Technology Group Corporation. The main drafters of this standard. Wu Aiping, Lu Yonghong, Li Jianzhong, Luo Zhijun, Zhao Hong. This standard replaces the standards previously issued as follows:

--- GB 10320-1988, GB 10320-1995. Electrical safety of laser equipment and facilities

## 1 Scope

GB/T 10320-2011 is the Chinese national standard on electrical safety of laser equipment and installatins, in the field of electronics. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 30 December 2011 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 May 2012. Classification: ICS 31.260, CCS L51. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the requirements for laser safety facilities and equipment and related electrical part test methods, given the pre-basic electrical safety Directory of preventive measures. This standard applies to the safety requirements of laser equipment and facilities as defined herein and the relevant test methods in line with the purpose of the following Respect for the user equipment to provide reliable protection.

a) direct and indirect contact;

b) high temperature effects (fire hazard);

c) burst and implosion;

d) the role of toxic or corrosive substances. This standard does not apply to laser equipment and facility work at safety extra low voltage electrical hazards of electrical part of the direct and indirect Reach protection; it does not apply to the entire apparatus containing a laser components (such as medical equipment, office machines and provided for use in hazardous environments Standby). These devices should be subject to the other electrical safety standards. However, if the laser is removed from the device is still working out the demolition of the laser Shall comply with the requirements of this standard. This standard does not apply to the development or in the design of laser equipment and facilities. This standard does not apply to the use of the laser radiation generated by laser equipment; nor does it explain radiation protection measures. But anti-laser radiation When connected to the protection device and electrical equipment, according to the test shall be specified in this standard to estimate its electrical safety.



## 2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 4776-2008 term electrical safety

GB 4793.1 measurement, control and laboratory safety requirements for electrical equipment - Part 1. General requirements

GB 7247.1 Safety of laser products - Part 1. Equipment Classification, Requirements and User's Guide

## 3 Terms and Definitions

GB/T 4776-2008 and defined the following terms and definitions apply to this document. For ease of use, repeat the following list GB/T in 4776-2008 of certain terms and definitions.

3.1 Class I equipment classIequipment Not rely on basic insulation for anti shock protection, but also includes an additional safety measure, that is connected to the

conductive portion is easy to shock To secure the wiring protective (grounding) conductor, make accessible conductive parts when the basic insulation failure, should not be a live part equipment. [GB/T 4776-2008, the definition 3.3.3.2]