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Replacing GB 7247.1-2012

**Safety of Laser Products – Part 1: Equipment Classification
and Requirements**

(IEC 60825-1:2014, IDT)

激光产品的安全 第 1 部分：设备分类和要求

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Foreword

This Document was drafted as per the rules specified in GB/T 1.1-2020 *Directives for Standardization – Part 1: Rules for the Structure and Drafting of Standardizing Documents*.

This Document is Part 1 of GB/T 7247 *Safety of Laser Products*. GB/T 7247 consists of the following parts:

- Part 1: Equipment classification and requirements;
- Part 2: Safety of optical fiber communication systems (OFCS);
- Part 3: Guidance for laser display and shows;
- Part 4: Laser shields;
- Part 5: Manufacturer's checklist for GB/T 7247.1;
- Part 9: Maximum allowable exposure to incoherent optical radiation;
- Part 13: Measurements for classification of laser products;
- Part 14: A users guide.

This Document replaces GB 7247.1-2012 *Safety of Laser Products – Part 1: Equipment Classification and Requirements*. Compared with GB 7247.1-2012, this Document has the major technical changes as follows besides the structural adjustments and editorial modifications:

- Add the provisions on the applicability of vacuum ultraviolet wavelength, temporary visual impairment caused by laser radiation, and laser products designed for traditional lighting (see Clause 1 of this Edition);
- Delete the terms and definitions: α minimum value, protective enclosure (see 3.5 and 3.65 of the 2012 Edition);
- Add the terms and definitions: angle of subtend, Class 1C laser products, contact mode, eye safety (see 3.6, 3.19, 3.27 and 3.37 of this Edition);
- Change the terms and definitions: angular subtense of the apparent source, apparent source, beam diameter, beam divergence, Classes 3R and 3B laser products, Class 4 laser products, demonstration laser products, embedded laser products, emission duration, extended source observation, fail-safe safety interlock, beam internal view, laser hazard zone, maximum angle of subtend, maximum allowable exposure, protective cover (see 3.7, 3.10, 3.13, 3.14, 3.23, 3.24, 3.30, 3.32, 3.33, 3.36, 3.39, 3.42, 3.47, 3.57, 3.59 and 3.68 of this Edition; 3.7, 3.10, 3.13, 3.14, 3.22, 3.23, 3.28, 3.30, 3.33, 3.34, 3.36, 3.39, 3.44, 3.54, 3.56 and 3.66 of the 2012 Edition);

- Change classification to classification rules and change the content (see Clause 4 of this Edition; Clause 8 of the 2012 Edition);
- Change determination of achievable emission levels to determination of achievable emission levels and product classification; and change the content (see Clause 5 of this Edition; Clause 9 of the 2012 Edition);
- Change the requirements to engineering protection requirements and change the content (see Clause 6 of this Edition; Clause 4 of the 2012 Edition);
- Change the marking content (see Clause 7 of this Edition; Clause 5 of the 2012 Edition);
- Change the content of user information (see Clause 8 of this Edition; Clause 6 of the 2012 Edition).

This Document equivalently adopts IEC 60825-1:2014 *Safety of Laser Products – Part 1: Equipment Classification and Requirements*.

This Document made the following minimum editorial modifications:

- Incorporate the interpretation contents of IEC 60825-1:2014/ISH1:2017 and IEC 60825-1:2014/ISH2:2017 as informative appendix NA “Interpretation of Relevant Parts of IEC 60825”.

Please note some contents of this Document may involve patents. The issuing agency of this Document shall not assume the responsibility to identify these patents.

This Document was proposed by China Machinery Industry Federation.

This Document shall be under the jurisdiction of National Technical Committee on Optical Radiation Safety and Laser Equipment of Standardization Administration of China (SAC/TC 284).

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