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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB 13961-2008

Replacing GB/T 13961-2008

Electrical supply track systems for luminaires

灯具用电源导轨系统

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document replaces GB/T 13961-2008 "Power Rail Systems for Luminaires". Compared with GB/T 13961-2008, the only changes are structural adjustments.

Aside from editorial changes, the main technical changes are as follows.

- a) The scope of application has been changed (see Chapter 1, Chapter 1 of the 2008 edition);
- b) Increased requirements for samples of guide rail systems with control circuitry (see 5.3);

- c) Added markings for rails using other circuits and for rails suitable for powering emergency lighting fixtures (see 6.9 and 6.10);
- e) The testing requirements for luminaire system suspension devices have been changed (see 8.7, 8.6 in the 2008 edition);
- f) The requirements for interchangeability of guide rail systems have been changed (see 8.12, 8.11 in the 2008 edition);
- g) Additional requirements have been added for rail systems designed to power emergency lighting fixtures to prevent any accidental disconnection (see 8.13);
- h) Additional requirements for creepage distances and clearances for Class I guide rail systems have been added (see 9.4);
- i) The requirements for external and internal wiring tests have been changed (see Chapter 11, Chapter 11 of the 2008 edition);
- j) The requirements for electric shock protection testing have been changed (see Chapter 13, Chapter 13 of the 2008 edition);
- k) The guide rail system has been modified to comply with the requirements of 10.3 in GB/T 7000.1-2023 (see 15.3, 15.2 of the 2008 edition);
- l) The measurement position diagram for a typical Class I guide rail has been modified (see Figure 3, Figure 3 in the 2008 version);
- m) A measurement location diagram of a typical Class III connector contact with a protruding contact has been added (see Figure 4).

This document is modified to adopt IEC 60570:2019 "Power rail systems for luminaires".

The technical differences between this document and IEC 60570:2019, and the reasons therefor, are as follows.

---IEC 60598-1 (see Chapters 3, 4, 6, and 7) has been replaced by the normatively referenced GB/T 7000.1-2023.

Chapters 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, and...

Chapters 18 and Annex A, Chapters 3, 4, 6, 7, 8, 9, and 10 of IEC 60570:2019.

Chapters 11, 12, 13, 14, 15, 16, 17, 18 and Appendix A) are provided to facilitate Application of a series of standards;

---IEC 60598-2-22:2014 A1:2017 (see 8.13, IEC) has been replaced by the normatively referenced GB/T 7000.222-2023.

(8.12 of 60570.2019), to facilitate the application of the series of standards;

---The informative appendix "Testing of Power Rail Systems for Luminaires Providing

Control Signals" has been changed to a normative appendix (see appendix).

The following editorial changes have been made to this document.

---IEC 60598-1 has been replaced by GB/T 7000.1 (see note 2 in Chapter 1), which is used for informational reference.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China National Light Industry Council.

This document is under the jurisdiction of the National Technical Committee on Standardization of Lighting Appliances (SAC/TC224).

1 Scope

This document applies to the following DIN rail systems that connect luminaires to the power supply using two-pole or multi-pole conductors.

---With grounding device (Class I), rated current of each conductor not exceeding 16A, and rated voltage between electrodes (live conductors) not exceeding 440V rail system, or

--- Rail systems without protective grounding (Class III) and with a rated current of no more than 25A per conductor, or

---The combination of the two rail systems described above can be connected to mains power supplies for lighting fixtures (Class I or Class II) and extra-low voltage (SELV) power supplies.

The guide rail system can provide mechanical support for the lighting fixtures.

This document applies to guide rail systems designed for general indoor use, where the guide rails are installed, embedded, or suspended on walls and ceilings.

These guide rail systems are not intended for use in places where special conditions frequently occur, such as ships and automobiles, nor are they intended for use in harsh environments.

For example, dangerous locations where explosions may occur.

This document does not address the compatibility of operation or performance between different guide rail systems. This document covers unsafe conditions between Class I and Class III circuits.

Compatible protection.

In addition to providing power, the guide rail system can also provide auxiliary circuitry for control or audio signals.

Note 1: The following types of control systems are currently available on the market.

---Control signals are essentially isolated from low-voltage (LV) power supplies (e.g., digitally addressable lighting interfaces and DC 1V~10V control signals);

---Control signals are isolated from the LV power supply by SELV/protective extra-low voltage (PELV) (e.g., DMX);

---Control signals that are not isolated from the LV power supply (e.g., push-button control/phase cutting/step dimming).

The rail system can also provide conductors specifically designed for emergency lighting fixtures.

Note 2: Requirements for PELV are under consideration and will be revised in GB/T 7000.1.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

GB/T 7000.1-2023 Luminaires - Part 1: General requirements and tests (IEC 60598-1:2020, MOD) GB/T 7000.222-2023 Luminaires - Part 2-22.Particular requirements for emergency lighting fixtures (IEC 60598-2-22:2021)

3 Terms and Definitions

The terms and definitions defined in GB/T 7000.1-2023, as well as the following terms and definitions, apply to this document.

Note: The term "luminaire" as used below in this document (see GB/T 7000.1-2023) also includes components in luminaire rail systems.