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

GB/T 28026.1-2018

Replacing GB/T 28026.1-2011

**Railway applications -- Fixed installations -- Electrical safety,
earthing and the return circuit -- Part 1: Protective provisions
against electric shock**

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Foreword

GB/T 28026 "Electrical safety, grounding and reflow of rail transit ground devices" is divided into three parts.

--- Part 1. Electric shock protection measures;

---Part 2. Protective measures for stray currents in DC traction power supply systems;

--- Part 3. Interaction of AC and DC traction power systems.

This part is the first part of GB/T 28026.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part replaces GB/T 28026.1-2011 "railway ground equipment - Part 1. Electrical safety and grounding related safety

Sexual Measures, compared with GB/T 28026.1-2011, the main technical changes are as follows.

---Modified protective measures (see Chapter 5, Chapter 6, Chapters 4 and 5 of the.2011 edition);

--- Revised the normative reference document (see Chapter 2, Chapter 2 of the.2011 edition);

--- Revised terms and definitions (see Chapter 3, Chapter 3 of the.2011 edition);

--- Increased use of voltage limiting devices (VLD) (see Appendix D).

This section uses the redrafting method to modify the electrical safety, grounding and return of IEC 62128-1.2013 "railway ground devices".

Flow Part 1. Electric Shock Protection Measures.

This section has structural differences compared to IEC 62128-1.2013, and the appendix number has been revised, in accordance with the order mentioned in the article.

Arrangement, Appendix A is adjusted to Appendix B, Appendix B is adjusted to Appendix A, Appendix C is adjusted to Appendix G, Appendix D is adjusted to Appendix E, Appendix E

The adjustments are as Appendix F, Appendix F is adjusted to Appendix D, Appendix I is adjusted to Appendix C, and Appendix G and Appendix H are deleted.

There are technical differences in this section compared to IEC 62128-1.2013, and the terms involved in these differences have been passed on the outside margins.

The vertical single line (|) of the position is marked. The specific technical differences and their causes are as follows.

---About the normative reference documents, this part has made technical adjustments to adapt to China's technical conditions, adjustments

The situation is reflected in Chapter 2, "Regulatory Citations", and the specific adjustments are as follows.

* Replace IEC 60913.2013 with GB/T 32578-2016 modified to international standards (see 4.1, 4.3, 5.3.1, 10.5.1);

* Replace IEC 60529.1989 with GB/T 4208-2017 equivalent to the international standard IEC 60529.2013 (see 5.3.2.1, Figure 7, 5.3.2.2, Figure 8, Figure 10, 5.3.4);

* Replace IEC 60850 with GB/T 1402 modified to international standards (see 5.6.3.1);

* Replace IEC 62128-2 with GB/T 28026.2 modified to international standards (see 6.2.2.1, 6.2.3.3, 6.3.1.1, 7.2, 7.3.1, 9.3.2.4, 10.1, 10.3.1);

* Replace IEC 62305 (all parts) with GB/T 21714 (all parts) equivalent to the international standard (see 7.1, 10.6);

* Replace IEC 60898-1.2002 with GB/T 10963.1 equivalent to the international standard (see 7.4.4.1, 7.4.4.2);

* Replace IEC 62497-1.2010 with GB/T 32350.1 modified with international standards (see 10.5.1);

* Replace ISO 3864-1.2011 with GB/T 2893.1-2013 modified with international standards (see Appendix A);

* Replace ISO 7010.2011 with GB/T 31523.1-2015 modified with international standards (see Appendix A);

* Replace IEC 61936-1.2010 with dated references with IEC 61936-1, which is not dated (see 10.3.1, 10.1, 9.1.2);

* Removed IEC 60050-101, IEC /T S60479-1.2005, adjusted for reference;

* Added GB/T 2900.1-2008 and GB/T 21413.1 (see 9.1.2, 10.1);

---Modified the requirements for the spacing between the electrified parts of the railway OCS and the branches and bushes, in accordance with the provisions of GB 50061-2011

Line modification (see 5.2.6);

---Modified "DC3kV and below" to "DC1.5kV and below" to make it uniform with GB/T 1402-2010 (see 6.2.2.2);

--- Revised the warning sign, consistent with the warning signs used in China (see Appendix A);

--- Removed the special national conditions of Appendix G, Appendix HA-deviation, not applicable to China.

This section has made the following editorial changes.

--- Increased the note of the electrical receiving area, that is, according to the custom of our country, the electrical receiving area can be called the pantograph area or the receiver area (see 3.5.10);

--- Revised references.

1 Scope

This part of GB/T 28026 gives the ground device of the AC/DC electric traction power supply system and may be affected by the traction power supply system.

The electrical safety and protective measures required for the ground facilities.

This section applies to the electrical safety requirements of the ground unit maintenance work of the electric traction power supply system.

This section applies to all new lines and existing lines to upgrade the electric traction power supply system, including.

---railway;

---guided public transport systems, such as. trams, elevated and underground railways, mountain railways, trolleybus systems and installations

Contact system or contact rail magnetic levitation system;

--- Material transportation system.

This section does not apply to.

--- Underground mine traction power supply system;

---Cable cranes, rail transport platforms and similar transport equipment, temporary

buildings (eg exhibition structure), because such facilities are currently not available

The precedent for powering the net, they are not affected by the traction power supply system;

--- Suspension cable car;

--- Funicular railway.

This section does not stipulate maintenance procedures.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only the dated version applies to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 1402 rail transit traction power supply system voltage (GB/T 1402-2010, IEC 60850.2007, MOD)

GB/T 2893.1-2013 Graphical symbols - Safety colours and safety signs - Part 1

Then (ISO 3864-1.2011, MOD)

GB/T 2900.1-2008 basic terminology of electrical terminology

GB/T 4208-2017 enclosure protection class (IP code) (IEC 60529..2013, IDT)

GB/T 10963.1 Electrical accessories - Protection against overcurrent protection for household and similar applications - Part 1

(GB/T 10963.1-2005, IEC 60898-1.2002, IDT)

GB/T 16895.21-2011 Low-voltage electrical installations - Part 4-41. Protection against electric shock (IEC 60364-4-41.

2005, IDT)

GB/T 17045-2008 General part of electric shock protection devices and equipment (IEC 61140.2001, IDT)

GB/T 21413.1 Railway rolling stock -- Electrical equipment - Part 1 . General conditions of use and general rules

(GB/T 21413.1-2018, IEC 60077-1.2017, MOD)

GB/T 21414-2008 Regulations for the protection of electrical hazards of rolling stock for railway applications (IEC 61991.2000, IDT)

GB/T 21714 (all parts) Lightning protection [IEC 62305 (all parts)]