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

GB/T 25022.3-2023

Replacing GB/T 25022-2010

**Railway application-Electrical connectors for rolling stock-Part
3: Communication and control connectors**

轨道交通 机车车辆电连接器 第3部分：通信控制连接器

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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 is Part 3 of GB/T 25022 "Electrical Connectors for Rail Transit Rolling Stocks": GB/T 25022 has been released with Lower part:

- Part 3: Communication control connector:

This document replaces GB/T 25022-2010 "Rolling vehicle terminal electrical communication (control) connector" and is consistent with GB/T 25022-2010. In addition to structural adjustments and editorial changes, the main technical changes are as follows:

- a) The regulations on the use environment have been changed (see Chapter 4, Chapter 4 of the:2010 edition);
- b) The structural form has been changed (see 5:1, 5:3 of the:2010 version);
- c) Added provisions for EMU connector model definition (see 5:2:2);
- d) Changed the regulations on contact number arrangement (see 5:3:3, 5:4:1 of the:2010 edition);
- e) Changed the interchangeability requirements (see 6:1:3, 6:1:4, 6:1:4 of the:2010 version);
- f) Added requirements for the connector's anti-mismatching function (see 6:1:5);
- g) Changes to the requirements for fire and flame retardant properties of non-metallic materials (see 6:1:6, 6:1:5 of the:2010 edition);
- h) The regulations on the tensile strength requirements for cable terminal connections have been changed (see 6:1:7, 6:1:6 of the:2010 edition);
- i) The requirements and tests for electromagnetic compatibility are deleted (see 6:1:7 and 7:9 of the:2010 edition);
- j) The total pullout force requirements have been changed (see 6:2:2, 6:2:2 of the:2010 edition);
- k) The test voltage with changed dielectric strength value (see Table 1, Table 1 of the:2010 edition);
- l) Changed the ambient temperature requirements in the temperature rise requirements (see 6:5, 6:5 in the:2010 edition);
- m) Changed the humidity requirements in constant humid heat (see 6:9,:2010 version of 6:9);
- n) Changed the protective performance requirements of the enclosure (see 6:11, 6:10 of the:2010 edition);
- o) Delete the collision requirements and test methods (see 6:11 and 7:16 of the:2010 edition);
- p) Changed the shock and vibration requirements (see 6:12,:2010 version of 6:12);
- q) Changed the mechanical life requirements (see 6:13,:2010 version of 6:13);

- r) Changed the interchangeability test method (see 7:4, :2010 version of 7:4);
- s) Changed the standard version for the implementation of contact resistance measurement of radio frequency contact pairs (see 7:6, 7:6 of the:2010 version);
- t) Changed the test environment temperature requirements in the temperature rise test (see 7:9, 7:10 of the:2010 edition);
- u) Changed the standard version for protective performance test execution (see 7:15, :2010 version of 7:15);
- v) Changed the mechanical life test method (see 7:17, 7:18 of the:2010 edition);
- w) Changed the execution standard for wiring strength test (see 7:19, 7:20 of the:2010 edition);
- x) Changed the conditions for type inspection (see 8:2:1, :2010 version of 8:2:1);
- y) The technical parameters of commonly used connectors have been changed (see Appendix C, Appendix C of the:2010 version):

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Introduction

Electrical connectors are widely used in rail transit rolling stock for signal transmission and energy transmission: Their performance is critical to the safety of the entire electrical system:

Reliable operation is crucial: In order to provide unified design and selection principles for rolling stock electrical connectors, and to ensure the safety, durability and safety of electrical connectors To work reliably, GB/T 25022 "Electrical Connectors for Rail Transit Rolling Stocks" was formulated: GB/T 25022 is planned to consist of 3 parts:

- Part 1: Vehicle electrical connectors: The purpose is to stipulate the use environment,