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

GB/T 28029.14-2026

**Electronic railway equipment - Train communication network
(TCN) - Part 2-8: Ethernet conformance testing**

轨道交通电子设备 列车通信网络 (TCN) 第2-8部分：以太网一致性测试
(English Translation)

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References

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 Parts 2-8 of GB/T 28029 "Railway Electronic Equipment - Train Communication Network (TCN)".

The following sections have been released.

---Part 1: Basic Structure (GB/T 28029.1-2020);

---Part 2-1.Stranded Train Bus (WTB) (GB/T 28029.2-2020);

---Part 2-2.Conformity testing of stranded train bus (WTB) (GB/T 28029.3-2020);

---Parts 2-3.TCN Communication Protocol (GB/T 28029.4-2020);

---Parts 2-4.TCN Application Specification (GB/T 28029.5-2020);

---Parts 2-5.Ethernet Train Backbone (ETB) (GB/T 28029.6-2020);

---Parts 2-6.Vehicle-to-ground communication (GB/T 28029.7-2020);

- Parts 2-7.Radio-based Wireless Train Backbone (WLTB) (GB/T 28029.8-2020);
- Part 3-1.Multifunctional Vehicle Bus (MVB) (GB/T 28029.9-2020);
- Part 3-2.Multifunction Vehicle Bus (MVB) Conformance Testing (GB/T 28029.10-2020);
- Part 3-3.CANopen Marshalling Network (CCN) (GB/T 28029.11-2020);
- Parts 3-4.Ethernet Organizing Networks (ECN) (GB/T 28029.12-2020);
- Part 4-1.Test methods for train communication networks based on twisted-wire train bus (WTB) (GB/T 28029.13-2025).

This document is modified to adopt IEC 61375-2-8:2021 "Railway electronic equipment - Train communication networks (TCN) - Part 2-8.

TCN conformance test.

This document has undergone the following structural adjustments compared to IEC 61375-2-8:2021.

- Added versions 7.3.2.16 and 7.4.18.

The technical differences between this document and IEC 61375-2-8:2021, and the reasons therefor, are as follows.

- ISO/IEC 9646-1 and ISO/IEC 9646-7 have been replaced by the normatively referenced GB/T 17178.1 and GB/T 17178.7, respectively.

(See 4.1.1) to adapt to my country's technological conditions;

- ISO/IEC 11801 (all parts) has been replaced with the normatively referenced GB/T 18233 (all parts) (see Tables 30 and 69).

To adapt to my country's technological conditions;

- The consistency between PIXIT and PICS has been changed (see 4.1.3.2). Domestic requirements stipulate that PIXIT should be consistent with PICS.

- The reference standards for Ethernet signal waveform testing methods and their judgment have been changed (see 5.4.6), and the normative reference IEEE has been removed.

802.3az, to adapt to the domestic situation;

- Changes have been made to the Ethernet self-crossing and auto-sensing tests, basic communication protocol tests, and SDSINK---secure data sink tests.

The test methods have been supplemented (see 5.4.8, 5.5.2~5.5.5, 10.4.2.2, 10.4.3.2, 10.4.4.2, 10.4.5.2, 10.4.6.2, 10.4.7.2).

10.4.8.2), to adapt to the domestic situation;