ICS 45.060
CCS S 70

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 28029.8-2020

Electronic railway equipment - Train communication network (TCN) - Part 2-7: Radio based Wireless Train Backbone (WLTB)

Issued on: March 6, 2020 **Implemented on: October 1, 2020**

Issued by: State Administration for Market Regulation, China National Standardization Administration

Table of Contents

Foreword

GB/T 28029 `` Train Communication Network (TCN) for Electronic Equipment of Rail Transit '' is divided into the following 12 parts.

--- Part 1. Basic structure;

--- Part 2-1. Stranded Train Bus (WTB);

--- Part 2-2. Twisted Train Bus (WTB) conformance test;

--- Part 2-3. TCN communication protocol;

--- Part 2-4. TCN application protocol;

--- Part 2-5. Ethernet Train Backbone Network (ETB);

--- Part 2-6. Vehicle-ground communication;

--- Part 2-7. Radio-based Wireless Train Backbone Network (WLTB);

--- Part 3-1. Multifunctional Vehicle Bus (MVB);

--- Part 3-2. Multifunctional Vehicle Bus (MVB) conformance test;

--- Part 3-3. CANopen Marshalling Network (CCN);

--- Part 3-4. Ethernet grouping network (ECN).

This part is part 2-7 of GB/T 28029.

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

This part uses the redrafting method to modify and adopt IEC TR61375-2-7..2014 "railway electronic equipment train communication network

(TCN) Part 2-7. Wireless Train Backbone Network (WLTB).

Compared with IEC TR61375-2-7..2014, this part is structurally adjusted.Chapter 2 and 8.4.1 have been added, 4.4, 4.5, and attachments have been deleted.

Record A, the subsequent article numbers are changed in turn, Table 3 is added, and the serial numbers of subsequent tables are modified in turn. 9.3.3 ~ 9.3.8 are adjusted as Appendix A.

This section is technically different from IEC TR61375-2-7..2014, and the terms related to these differences have been passed on its outer page

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

--- Added normative references GB/T 28029.1, GB/T 28029.2, GB/T 28029.4, GB/T 28029.5,

GB/T 28029.6 (see Chapter 2);

--- Deleted some terms and definitions, which have been defined in GB/T 28029.1 and GB/T 28029.2 (see IEC TR61375-2-7.

2014 2.1.1 ~ 2.1.12, 2.1.14 ~ 2.1.20, 2.1.22, 2.1.23, 2.1.25, 2.1.26);

--- Added the term and definition of "node number" (see 3.1.7);

--- Removed the abbreviations of "CAN", "CN" and "TCP/IP" (see 2.2 of IEC TR61375-2-7..2014);

--- Removed the modulation, antenna and feeder to meet China's national conditions (see 4.4, 4.5 of IEC TR61375-2-7..2014);

--- Modify "5.1 Overview" to "5.1 Frequency", consistent with the content (see 5.1, 4.1 of IEC TR61375-2-7..2014);

--- Amended the radio transmission power regulations in 5.2 to meet China's national conditions (see 5.2, 4.2 of IEC TR61375-2-7..2014);

--- Modified the radio frequency regulations in 5.3 to meet China's national conditions (see 5.3, 4.3 of IEC TR61375-2-7..2014);

--- Modified the communication schedule of 7.1.1, according to the revised text description to modify Figure 4, in accordance with China's national conditions (see 7.1.1,

(IEC TR61375-2-7..2014 6.1.1);

--- Modified the 7.1.2 WNL sending instruction process to conform to China's national conditions, modify Figure 5 according to the process (see 7.1.2, IEC TR

61375-2-7..2014 6.1.2);

--- Modify "LTV and GTV" to "WNL and WNG" to make the context unified, and modify

Figure 6 according to the standard flowchart (see 7.1.3,

(IEC TR61375-2-7..2014 6.1.3);

--- Modified the PDU structure diagram of Figure 7 of 7.2, the description is not clear (see 7.2, 6.2 of IEC TR61375-2-7..2014);

--- Modified Table 2 of 7.2, the user data set is not only the initial run data set, but also the process data set.

"First Run PDU" changed to "PDU" (see 7.2, 6.2 of IEC TR61375-2-7..2014);

--- Added 8.4.1 "initial operation control code" and added Table 3 "initial operation control code definition" for easy understanding (see 8.4.1);

--- Added "8, DistanceofTV5, distance between traction locomotive 5 and traction locomotive 4, 2" in Table 5, and recalculated subsequent rows

To meet China's national conditions (see 8.4.3);

--- Modify the "decoder" in Figure 9 to "encoder/decoder" to meet China's national conditions (see 10.2, IEC TR61375-2-7..2014's

9.2.1);

--- Modify the title "Overview" of 10.3.1 to "Train Composition Configuration", the functional modules are listed according to the specific content in the text, which is convenient for bidding

Accurate understanding (see 10.3.1, 9.3.1 of IEC TR61375-2-7..2014);

--- Modify the "traction state" in 10.3.4.2 to the "original running state" to facilitate the understanding of the standard (see 10.3.4.2, IEC TR61375-

2-7..2014's 9.3.10.2).

The following editorial changes have also been made in this section.

--- Modify the standard name to "Train Electronic Network for Train Communication (TCN) Part 2-7. Radio Based on Radio

Train Backbone Network (WLTB);

--- Removed the introduction;

--- Adjusted some column item numbers (see 8.2);

--- Modified the error in IEC TR61375-2-7..2014.

* The last row of the offset column in Table 2 of 7.2 was modified. According to the length (bytes), "6" was changed to "8" (see 7.2, IEC TR61375-

2-7. 6.2 of.2014);

* Modified the offset column of Table 4 in 8.4.2 and rearranged according to the length of each parameter (see 8.4.2, IEC TR61375-2-7.

2014 7.4.1);

* Modified the offset column of Table 5 in 8.4.3 and rearranged according to the length of each parameter (see 8.4.3, IEC TR61375-2-7.

2014 7.4.2);

* Modified the offset column of Table 6 in 8.4.4 and rearranged according to the length of each parameter (see 8.4.4, IEC TR61375-2-7.

2014 7.4.3);

* Modified the offset column of Table 7 in 8.4.5 and rearranged according to the length of each parameter (see 8.4.5, IEC TR61375-2-7.

2014.7.4.4);

* Modified the offset column of Table 8 in 8.4.6 and rearranged according to the length of each parameter (see 8.4.6, IEC TR61375-2-7.

2014 7.4.5);

* Modified the offset column of Table 10 in 8.4.8 and rearranged according to the length of each parameter (see 8.4.8, IEC TR61375-2-7.

2014 7.4.7);

* Modified the offset column of Table 11 in 9.2, rearranged according to the length of each parameter (see 9.2, IEC TR61375-2-7.

2014 8.2);

* Modified the offset column of Table 12 in 9.3 and rearranged according to the length of each parameter (see 9.3, IEC TR61375-2-7.

8.3 of.2014);

* In 10.3.2, "When the parameters for GTV are input, the GTV enters the initial operation waiting state." Is modified to "Dang to

After the LTV parameter input is completed, the LTV enters the initial operation waiting state. "(See 10.3.2, IEC TR61375-2-7..2014

9.3.2).

Please note that some elements of this document may involve patents. The issuer of this document is not responsible for identifying these patents.

This section is proposed by the National Railway Administration.