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**Transportation – Coding Rules
of Identification of Internet of Things**

交通运输 物联网标识规则

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Transportation – Coding Rules of Identification of Internet of Things

1 Scope

This Standard specifies the identification rules for the Internet of Things in transportation, including the design principles, structure, and parsing of the identification code.

This Standard is applicable to the identification code for the objects, such as personnel in the fields of highway and water transportation, business vehicles, infrastructure, informatization and intelligent code equipment, etc. The identification codes of other objects in the transportation industry can refer to.

2 Normative References

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) are applicable to this document.

GB/T 2260-2007 Codes for the Administrative Divisions of the Peoples Republic of China

GB/T 4657 Code for the names of the Central Party and State Organs Peoples Communities and the other State Organizations

GB/T 16263.1-2006 Information Technology - ASN.1 Encoding Rules - Part 1: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER)

GB/T 26231-2017 Information Technology - Open Systems Interconnection - National Numbering System and Operation Code for Object Identifier (OID)

GB/T 35299-2017 Information Technology - Open Systems Interconnection - Object Identifier Resolution System

GB/T 35300-2017 Information Technology - Open Systems Interconnection - Procedures for the Object Identifier Resolution System Operational Agency

performed through multiple parsing methods such as websites, clients, etc.; so that acquire various attribute information of the object.

4 Design Principle of Identification Coding System

4.1 Compatibility and scalability

The identification coding system shall have good compatibility, be compatible with the current relevant coding standards; meanwhile, it shall have flexible scalability to accommodate new areas and objects that may appear in the future.

4.2 Controllability and openness

The identification coding system shall adopt an open, loosely coupled parsing and management of identification registration. The transportation industry can carry out distributed registration, parsing and management according to the specified conditions of the industry; to achieve autonomous controllability within the industry, and to interconnect and interoperate with the outside industries.

4.3 Comprehensiveness and uniqueness

The identification coding system shall comprehensively cover various objects in the transportation industry; can uniquely identify different physical entities and logical objects in the transportation industry.

4.4 Integrity and security

The identification coding system shall cover the contents of object classification, identification allocation, system parsing, management agency, and management regulations, etc. in the transportation industry; meanwhile, it shall have necessary security mechanisms to ensure the information security during the registration, parsing process of the identification coding objects.

4.5 Mutual independence

The identification coding system and information carrier shall be independent of each other. The identification coding system is closed integrated with the actual application; it is based on the business needs of the transportation industry; establishes coding scheme independent of various carriers; may select appropriate information carrier according to the application and management needs.

4.6 Operability of identification

The identification coding system shall meet the rapid response requirements for rapid identifying, parsing, and information acquiring against the various business object

transportation object; it is indicated by the numbers 1, 2, 3 and 4, which means the object belongs to the management at the ministerial, provincial, municipal and county levels.

Example 1:

“348.X1” indicates that the transportation object is directly under the management at the ministerial level; and the provincial and municipal agencies do not have the management right of the object identification code.

Example 2:

“348.X2” indicates that the transportation object is under the management at the provincial level.

- c) The provincial (regional) level code shall be 2-digit codes, the specific requirements of which include:
- 1) If the first digit of identification code of affiliation is in the field of road transportation, it is the code of province, autonomous region, municipality, or special administrative region. Select the first and second digits of China's administrative division code as the provincial code according to the provisions of Table 1 in GB/T 2260-2007.
 - 2) If the first digit of the identification code of affiliation is in the field of water transportation, then it is the regional code.
- d) The municipal level code is 2-digit code, which is the summary code of municipal, regional, autonomous region, league, municipality directly under the Central Government/county; and the summary code of provincial (autonomous region), county level administrative division. Select the third and fourth digits of China's administrative division code as the municipal level code according to the provisions of Tables 2~32 in GB/T 2260-2007.
- e) The county level code is 2-digit code, which is the agency code for county, autonomous county, county-level city, banner, autonomous banner, forest area, special zone. Select the fifth and sixth digits of China's administrative division code as the county level code according to the provisions of Tables 2~32 in GB/T 2260-2007.
- f) The object classification code is 5-digit code. The first two digits are the basic classification codes, while the last three digits are the category scalability code, which is used to compile or be compatible with the detailed category of the transportation object. Category scalability code and value can refer to GB/T 37377. If the sum of the digits for the large and small categories digitals in GB/T 37377 exceeds the 3 digits, then only take the 3 digits as the category scalability code.

prefix for the stored hexadecimal code of transportation industry identification code is 0x825c.

5.7.2 Carrying technology coding structure without restrictions on the length of the identification code

For length-insensitive storage carrier, complete coding shall be used. The prefix of transportation industry identification code is “1.2.156.348”. According to the basic encoding rule (BER) in GB/T 16263.1-2006, the prefix of the stored hexadecimal code of transportation industry identification code is 0x2a811c825c.

6 Identification Code Resolution

6.1 Identification code resolution system

The transportation industry identification code resolution system shall establish the hierarchy resolution system in the transportation industry. The subordinate resolution system shall submit the resolution address information to the superior resolution system; the superior resolution system shall maintain corresponding information and performs distributed resolution.

6.2 Requirements for the construction of identification code resolution system

The construction of the transportation industry identification code resolution system shall meet the requirements of GB/T 35299-2017 and GB/T 35300-2017.

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