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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 46999-2025

General specification for the digital identity and authentication of road traffic management and control facilities

道路交通管控设施数字身份及认证通用规范

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Standardization Administration of the PRC

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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. Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed by the Ministry of Public Security of the People's Republic of China. This document is under the jurisdiction of the National Technical Committee on Standardization of Road Traffic Management (SAC/TC576). This document was drafted by: Traffic Management Science Research Institute of the Ministry of Public Security, China Mobile Communications Group Co., Ltd., Wuxi Municipal Public Security Bureau, and Wuxi Hua... Tong Intelligent Transportation Technology Development Co., Ltd., Qingdao Hisense Network Technology Co., Ltd., Nanjing LES Information Technology Co., Ltd. Anhui Keli Information Industry Co., Ltd., Duolun Technology Co., Ltd., and Hangzhou Hikvision Digital Technology Co., Ltd. The main drafters of this document are. He Guangjin, Liu Dongbo, Xu Leng, Zhu Yuanjian, Xu Xindong, Zheng Yinxiang, Yang Hao, Yang Guang, Yu Lei, Chen Xiaoming, and Cheng Jian. Song Zhihong, Tao Gang, and Yu Lei. Digital identity and authentication for road traffic

control facilities General Specifications

1 Scope

GB/T 46999-2025 is the Chinese national standard covering giving every traffic light, camera and sign a cryptographic identity - so that a control centre knows the device it is talking to is the device it installed, and a device knows the instruction came from the centre and not from someone with a laptop at the cabinet. First edition, 20,500 words. It was issued on 31 December 2025 and has been in force since 1 July 2026, as a first edition. The document is under the responsibility of the Ministry of Public Security. This page is published from the official record of the 2025 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document specifies the digital identity coding and authentication requirements for road traffic control facilities, and describes the corresponding verification methods. This document applies to the design and application of digital identities for road traffic control facilities.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 2260 Administrative Division Codes of the People's Republic of China

GB/T 16262.1 Abstract Syntax Notation for Information Technology (ASN.1) Part

3 Terms and Definitions

The terms and definitions defined in GB/T 25069, GB/T 31418 and GB/T 37092, as well as the following terms and definitions, apply to this document.

3.1 Facilities installed on roads for traffic control, traffic information collection and dissemination. Note

1.This includes road traffic signal controllers, traffic management edge computing terminals, etc. Note

2.Traffic control edge computing terminal refers to computing equipment installed on the roadside to work with other traffic control facilities to collect and process traffic information.

3.2 In the Internet of Vehicles (IoV) environment, the attribute information of road traffic

control facilities is associated with a unique combination of numbers and letters.

4.Abbreviations The following abbreviations apply to this document.