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

GA/T 701-2024

Replacing GA 701-2007

**Security protection - Fingerprint recognition applications -
General specification for access control fingerprint recognition
modules**

安全防范 指纹识别应用 出入口控制指纹识别模块通用规范
(English Translation)

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document replaces GA 701-2007 "General Technical Requirements for Fingerprint Anti-theft Locks". Compared with GA 701-2007, in addition to structural adjustments and compilation in addition to logical changes, the main technical changes are as follows.

- a) The scope has been changed (see Chapter 1, Chapter 1 of the 2007 edition);
- b) The normative references have been changed and the contents related to anti-theft locks have been deleted (see Chapter 2, Chapter 2 of the 2007 edition);
- c) Changed "Terms and Definitions" (see Chapter 3, Chapter 3 of the 2007 edition); added GB/T 37078-2018, GA/T 625-2010 and GB/T 41786-2022 terms and definitions (see 3.1); deleted fingerprint anti-theft lock, independent fingerprint recognition module, fingerprint features, fingerprint login, fingerprint matching, time, false recognition rate, false rejection rate (see 3.1~2007 edition) 3.8); Added access control fingerprint recognition module, equipment main control unit, independent module, integrated module, fingerprint template, fingerprint feature generation time, fingerprint confirmation time, fingerprint recognition time (see 3.1.1~3.1.8); added abbreviations (see 3.2);
- d) Added module overview and deleted composition (see Chapter 4, Chapter 4 of the 2007 edition);
- e) Added classification and labeling, and deleted product safety classification (see Chapter 5, Chapter 5 of the 2007 edition);
- f) The technical requirements (see Chapter 6, Chapter 6 of the 2007 edition) and their test

methods (see Chapter 7, Chapter 7 of the 2007 edition) have been changed.

Chapter); the content related to the anti-theft lock body was deleted (see 6.1, 6.2, 7.1, 7.2 of the 2007 edition); basic requirements and basic Requires testing (see 6.1, 7.2); Changed functional requirements and functional tests (see 6.2, 7.3, 6.3, 7.3 of the 2007 edition); Changed Performance requirements and performance tests (see 6.3, 7.4, 6.4, 7.4 of the 2007 edition); deleted the power supply and power supply test (see 2007 edition 6.5 and 7.5 of the 2007 edition); safety requirements and safety tests have been changed (see 6.4 and 7.5, 6.8 and 7.8 of the 2007 edition); the environment Adaptability requirements and environmental adaptability tests (see 6.5, 7.6, 6.6, 7.6 of the 2007 edition); Changed the electromagnetic compatibility adaptability requirements and electromagnetic compatibility adaptability test (see 6.6, 7.7, 6.7, 7.7 of the 2007 edition); reliability requirements and reliability tests have been added (see 6.7, 7.8); Stability and stability test were deleted (see 6.9, 7.9 of the 2007 edition);

g) The inspection rules have been deleted (see Chapter 8 of the 2007 edition);

h) Deleted the "false acceptance rate" and "false rejection rate" test methods (see Appendix A of the 2007 edition);

i) Deleted the communication API interface function definition (see Appendix B of the 2007 edition);

j) Added test link library interface function requirements (see Appendix A);

k) Added functional verification software implementation requirements (see Appendix B);

l) Added fingerprint recognition algorithm test method (see Appendix C).

1 Scope

This document specifies the technical requirements for fingerprint recognition modules for access control and describes the test methods.

This document is applicable to the design, production, and inspection of fingerprint recognition modules used in access control equipment in security and protection applications.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

GB 5080.7-1986 Equipment reliability test - Verification test of failure rate and mean time between failures under the assumption of constant failure rate plan GB/T 15211-2013 Environmental adaptability requirements and test methods for security alarm equipment GB/T 17626.2-2018 Electromagnetic compatibility test and measurement technology Electrostatic discharge immunity test GB/T 17626.3-2023 Electromagnetic compatibility test and measurement technology Part 3: Radio frequency electromagnetic field radiation immunity test GB/T 35735-2017 General technical requirements for public security fingerprint recognition application collection equipment GB/T 35736-2017 Technical requirements for images used in public security fingerprint recognition applications GB/T 37078-2018 Technical requirements for access control systems GB/T 41786-2022 Terminology of public security biometric identification GA/T 625-2010 Technical Specification for Live Fingerprint Image Collection GA/T 774-2019 Specification for fingerprint characteristics GA/T 1011-2012 General technical requirements for fingerprint collectors for resident identity cards

3.1 Terms and Definitions

The terms and definitions defined in GB/T 37078-2018, GA/T 625-2010 and GB/T 41786-2022 and the following terms and definitions apply this document.

3.1.1

Software and hardware used for fingerprint image acquisition, feature extraction, template storage, comparison and result output in access control equipment.

Note: For fingerprint recognition modules used for access control, the acquisition window is generally not less than 9.6mmx9.6mm.

3.1.2

Entrance and exit control equipment main control unit module control unit the hardware unit in the access control equipment that handles human-computer interaction, executes process logic, and implements control over the access control points.