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

GB/T 16656.21-2008

Replacing GB/T 16656.21-1997

**Industrial automation systems and integration -- Product data
representation and exchange -- Part 21: Implementation
methods: Clear text encoding of the exchange structure**

工业自动化系统与集成-产品数据的表达与交换 第21部分: 实现方法: 交换文件结构的纯正文编码

(English Translation)

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Foreword

GB/T 16656 (ISO 10303) "Industrial automation systems and integration - Product data representation and exchange" is a portion of a plurality of groups A standard, each part published separately. GB/T 16656 and the relevant portions of the composition of a plurality of sub-series, namely.

- Part 1 - Part 19 specifies the method described;
- Part 20 - Part 29 provides for implementation;
- Part 30 - Part 39 specifies conformance testing methodology and framework;
- Part 40 - Part 59 specifies Integrated generic resources;
- Part 100 - Section 199 provides integrated application resources;
- Part 200 - Section 299 specifies the application protocol;
- Part 300 - Section 399 defines the abstract test suite;
- Part 400 - Section 499 specifies the application module;
- Part 500 - Section 599 provides for the application interpreted construct;
- Part 1000 - the first part of 1999 provides for the application modules.

GB/T 16656 "Industrial automation systems and integration - Product data representation and exchange" has been released following 26 sections.

- Part 1. Overview and fundamental principles;
- Part 11. Description methods EXPRESS language reference manual;
- Part 21. Implementation exchange text encoding structure;
- Part 31. Conformance testing methodology and framework of basic concepts;
- Part 32. Conformance testing methodology and framework testing laboratory requirements with the customer;
- Part 34. Conformance testing methodology and framework abstract test method

application protocol implementation;

- Part 41. Integrated generic resources, product description and support principles;
- Part 42. Integrated generic resources geometric and topological representation;
- Part 43. Integrated generic resource expression structure;
- Part 44. Integrated generic resource product structure configuration;
- Part 45. Integrated generic resource materials;
- Part 46. Integrated generic resource visualization;
- Part 47. Integrated generic resource strain tolerance;
- Part 49. Integrated generic resource structure and process characteristics;
- Part 101. Integrated application resource mapping;
- Part 105. Integrated application resource kinematics;
- Part 201. Application protocol explicitly drawing;
- Part 202. Application protocol-dependent drawing;
- Part 203. Application protocol configuration control design;
- Part 501. Application interpreted construct based wireframe edges;
- Part 502. Application interpreted construct housing on the frame;
- Part 503. Application interpreted construct 2D wireframe geometry boundary;
- Part 513. Application interpreted construct basic boundary representation;
- Part 520. Application interpreted construct related drawing elements;
- Part 1001. Application module appearance assignment;

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- Part 1006. Application module basal expression.

This section is GB/T Part of 2,116,656. This section is equivalent to using the ISO 10303-21:2001 "Industrial automation systems and Integrated Products Part 21 data representation and exchange. the exchange of text encoding implementation structure "(in English), technical content and programming Write format ISO 10303-21:2001 is consistent.

This Part replaces GB/T 16656.21-1997 "Industrial automation systems and integration - Product Part 21 data representation and exchange.

Achieve text encoding method of the switch fabric. " Compared with GB/T 16656.21-1998

main changes are as follows.

- Exchange current structure may comprise a plurality of data segments;
- Header codes currently available for the switch fabric in the data segment entity instance string attribute identifies the default language;
- Switch fabric header identification currently used to describe the semantics of information environment, an entity instance data block can be encoded in the Application of semantic environment;
- If the short name is available, you can use the short name of the currently encoded enumeration values.

This section of the Appendix A, Appendix B, Appendix C, Appendix D, Appendix E Appendix F and normative appendix.

This part of the Appendix G, Appendix H and Appendix NA informative appendices.

This part is proposed by China Machinery Industry Federation.

This part of the National Industrial automation systems and integration Standardization Technical Committee (SAC/TC159) centralized.

This section drafted by. China National Institute of Standardization.

This part drafters. Liwen Wu, Liu Shouhua, Zhan Junfeng.

This part of the standard replaces the previous editions are.

--- GB/T 16656.21-1997.

GB/T 16656.21-2008/ISO 10303-21:2001 Industrial automation systems and integration - Product data Representation and exchange - Part 21. Implementation Clear text encoding of the exchange structure

1 Scope

This section GB/T 16656 specifies the product data [using EXPRESS language (GB/T 16656.11) defines the conceptual model for Type] Clear text encoding of the exchange structure format. This file format is suitable for transmission of product data between computer systems.

This section provides mapping from EXPRESS language to language syntax of the switch fabric. EXPRESS diagram can be mapped to any post Change the structure of the system.