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

GB/T 16656.1-2008

Replacing GB/T 16656.1-1998

**Industrial automation systems and integration -- Product data
representation and exchange -- Part 1: Overview and
fundamental principles**

工业自动化系统与集成 产品数据表达与交换 第1部分: 概述与基本原理

(English Translation)

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Foreword

GB/T 16656 (ISO 10303) "Industrial automation systems and integration - Product data representation and exchange" is a multi-part 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;
- Part 1006. Application module basal expression.

This section GB/T Part of 116,656.

This part of the revised adoption 10303-1 international standard ISO .1994 Part 1 Industrial automation and integration - Product data representation and exchange. " Score. Overview and fundamental principles. " this section (as amended) and ISO 10303-1:1994 as compared to the presence of the technical differences are as follows.

- Increasing the foreword;
- Preface to the ISO informative annex B, and its contents were large update;
- Modify the original introduction of some places was supplemented and improved;
- The term "product" with a new definition, also increased the "Application interpreted construct", "application modules" and "modules explanatory model" 3 A term;
- Increased Chapters 12 and 13;
- Appendix B to the original information appendix C.

According to GB/T 1.1-2000 rules, make the following editorial changes.

- All of the EXPRESS description and automatically generated by STEP development tools, documentation and EXPRESS-G diagram international standards Registration code remains unchanged, this standard title and discusses the text, replace the original with a number of international standards National standard only.

This Part replaces GB/T 16656.1-1998 section "Industrial automation and integration - Product data representation and exchange - Part 1. Overview and Fundamental".

This portion of the GB/T 16656.1-1998 main changes are as follows.

- Re-write the foreword;
- Removed ISO foreword;
- Modify the original introduction of some places was supplemented and improved;
- Normative references cited in the standard has been adjusted;
- The term "product" with a new definition, also increased the "Application interpreted construct", "application modules" and "modules explanatory model" 3 A term;
- Increase in Chapter 12 and Chapter 13;
- Some translate the rest of the conflict of this standard where the original standard, the wording allowed, missing words between modified and supplement;
- Add an informative annex B, and the contents of a larger update.

Appendix A of this section is normative appendix, Appendix B is an informative annex.

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.

Introduction

GB/T 16656 (ISO 10303) is a technical standard for computer interpretable expression product information and product data exchange.

Its purpose is to provide a product life cycle is independent of any particular system can describe the mechanism of neutral product data. Which describes work can not only suitable for neutral file exchange, but also to achieve the foundation and sharing product databases and archiving.

GB/T 16656 in this section is to GB/T 16656 overview. In this part of GB/T 16656 for each sub-series was it describes and illustrates the relationship between the GB/T 16656 series of each sub-function and between.

Industrial automation systems and integration Product data representation and exchange
Part 1. Overview and fundamental principles

1 Scope

GB/T 16656 in this section provides an overview of the basic principles and GB/T 16656 of.

GB/T 16656 provides an expression product information and product data can make the necessary mechanisms and definition of exchange. This product number Data exchange occurs between different computer systems, as well as product lifecycle (including product design, manufacture, use, maintenance and disposal of the Set) related environment.

The following content in the range of GB/T 16656 of the.

- Expression product information, including parts and assemblies;
- Product Data Exchange, including storage, access, transmission and archiving.

This section defines the GB/T 16656 and the expression product information for the basic principles of exchange, the provisions of the GB/T 16656 faculties Feature columns and the relationships between them.

This section presents the following.

- GB/T 16656 Overview;
- GB/T 16656 construction;
- GB/T 16656 used terms and definitions;
- Summary for GB/T 16656 describes a method of data, including data description