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

GB/T 19114.42-2008

**Industrial automation systems and integration -- Industrial
manufacturing management data -- Part 42: Time model**

工业自动化系统与集成 工业制造管理数据 第42部分：时间模型

(English Translation)

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References

Foreword

GB/T 19114 "Industrial automation systems and integration - Industrial manufacturing management data" contains the following sections.

Part 1. Industrial manufacturing management data. Survey (ISO 15531-1);

Part 21. Specification external expression product data exchange (ISO 15531-21);

Article 31-33 parts. Expression manufacturing resource data management application (ISO 15531-31-33);

The first section 41-44. Manufacturing Process Management expression data (ISO 15531-41-44).

Part 1,31,32 which has been transformed into China's national standard.

This part of GB/T 19114 of Part 42. This part identical with ISO 15531-42:2005, prepared the technical content and format on the ISO 15531-42:2005 consistent. Prepared pursuant to the requirements of national standards, made some editorial changes, mainly.

--- For each entity name for EXPRESS blackbody English language to describe underlined, in order to maintain both its intent and easy English Learn the name of the representative of the meaning, in this section, mainly in English. Increase the informative appendix NA, collecting entity blackbody English Name and gives Chinese translation.

--- ISO 15531, ISO 13584, ISO 10303 and IEC 61360 standards each has the same or equivalent portions are converted into China's national standards, national standards corresponding numbers are GB/T 19114, GB/T 17645, GB/T 16656 and GB/T 17564 in all parts, both in technology and the use of the like. However, taking into account the ISO 15531, ISO 13584, ISO 10303 and IEC 61360 matching EXPRESS description, and application software for each model, entities, properties, property, Expression of functions, and so, in order to support the application software does not occur in the practical application of international standards due to the replacement name and asked to bring all Questions, in this section for all of the EXPRESS description and automatically generated by STEP development tools, documentation and EX-PRESS-G diagram international standard code remains the same, only in the title of this section and discuss the text with the number of national standards for Change the original international standard number.

Appendix A of this section is normative appendix, Appendix B, Appendix C 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.

Introduction

Factory or production-related software applications (such as. scheduling software, manufacturing management software, cost estimating software, maintenance management software, Procurement software, logistics software) the urgent need for a reference image point in time (date) and duration (time interval) features associated with this time. need to

these references to determine the necessary time (the relationship between application processing between events related).

For (in the manufacturing process is usually encountered in this environment) complex applications with multi-process environment, with reference to the relevant valid Time is very important.

In most standards, the time characteristics are not independent events and manufacturing management data associated with it. When the time-related events or Data itself has the time and expression, which would lead to some difficulty in dealing with this time. In these times, the feature can be time can depend on the object or event handling, and their expression may change as the environment changes, there is no a simple tool You can identify the relationship between them. When simultaneously perform different processes simultaneously use many similar or related software tools, it is Critical.

This method conforms section "System Theory", as it is the time constraint system environment to identify and provide time model including complete Wholly independent of the manufacturing system characteristic time event handling. Any time of making such model is completely independent of the software used in manufacturing applications Management data.

NOTE: In order to further explain the system theory and concepts related to time, refer to GB/T 19114.31 Appendix D.

Also, the time-domain use the domain property model, this domain is one-dimensional, it is usually sufficient separation time special attributes.

In addition, in order to ensure better compatibility with the 16656 GB/T , the expression of this part-time model with the EXPRESS language.

NOTE: Background This section is derived from the German professor Dangelmaier HansNixdorf Institute of the University of Paderborn in JWG8 to do original work.

GB/T 19114.42-2008/ISO 15531-42:2005 Industrial automation systems and integration Industrial manufacturing management data Part 42. Time Model

1 Scope

GB/T 19114 This part provides a general framework that can be used to describe the topological properties of a wide range of one-dimensional domain.

Considering the need to GB/T 19114 in other parts of this section focuses on the development of time domain. This section provides a general-purpose, self-coordination the model, which is independent of any events that may occur or have occurred on a given point in time.

Time model specified in this software can be thought that any single event or sequence of

time-related events provide accurate time, both past and present, or future. We need to involve any event, activity or event sequences (and there are associated with the point in time or time intervals System) applications can use this time model.

This section applies to.

- Description of the one-dimensional topological properties of the domain;
- Description Time Model and related definitions;
- EXPRESS definition entities comply with ISO 10303-11 (EXPRESS language reference manual), the characteristics and patterns;
- Compliance with ISO 10303-11 EXPRESS-G diagram model.

This section does not apply to.

- Any measurement theory or description of measurement methods;
- More than one-dimensional elements and domains;
- Any event modeling ISO 10303-41 described.

Example. Because square, rectangular, triangular, and the domain dimension cube and sphere of greater than one, so they are not within the scope of this section.

2 Normative references

The following documents contain provisions which, through reference GB/T 19114 in this section constitute provisions of this section. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB/T 16262.1 Information technology - Abstract Syntax Notation One (ASN.1) - Part 1. Specification of basic notation (GB/T 16262.1-2006, ISO/IEC 8824-1:2002, IDT) GB/T 19114.1 Industrial automation systems and integration - Industrial manufacturing management data - Part 1. Review (GB/T 19114.1-2003, ISO 15531-1:2002, IDT) ISO 10303-11:1994 Industrial automation systems and integration - Product data representation and exchange - Part 11. Description methods. EX-PRESS Language Reference Manual ISO 10303-41:2000 Industrial automation systems and integration - Product data representation and exchange Part 41. Integrated generic resources.

Product description and base of support