TECHNICAL SPECIFICATION

ISO/TS 13584-35

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Industrial automation systems and integration — Parts library —

Part 35: Implementation resources: Spreadsheet interface for parts library

Systèmes d'automatisation industrielle et intégration — Bibliothèque de composants —

Partie 35: Ressources de mise en application: Interface de tableur pour bibliothèque de composants

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

In other circumstances, particularly when there is an urgent market requirement for such documents, a technical committee may decide to publish other types of normative document:

— an ISO Publicly Available Specification (ISO/PAS) represents an agreement between technical experts in an ISO working group and is accepted for publication if it is approved by more than 50 % of the members of the parent committee casting a vote;

— an ISO Technical Specification (ISO/TS) represents an agreement between the members of a technical committee and is accepted for publication if it is approved by 2/3 of the members of the committee casting a vote.

An ISO/PAS or ISO/TS is reviewed after three years in order to decide whether it will be confirmed for a further three years, revised to become an International Standard, or withdrawn. If the ISO/PAS or ISO/TS is confirmed, it is reviewed again after a further three years, at which time it must either be transformed into an International Standard or be withdrawn.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO/TS 13584-35 was prepared by Technical Committee ISO/TC 184, *Automation systems and integration*, Subcommittee SC 4, *Industrial data*.

ISO 13584 consists of the following parts under the general title *Industrial automation systems and integration — Parts library*:

— *Part 1: Overview and fundamental principles*

— *Part 20: Logical resource: Logical model of expressions*

— *Part 24: Logical resource: Logical model of supplier library*

— *Part 25: Logical resource: Logical model of supplier library with aggregate values and explicit content*

— *Part 26: Logical resource: Information supplier identification*

— *Part 31: Implementation resources: Geometric programming interface*

— *Part 32: Implementation resources: OntoML: Product ontology markup language*

— *Part 35: Implementation resources: Spreadsheet interface for parts library* [Technical Specification]

— *Part 42: Description methodology: Methodology for structuring part families*

— *Part 101: Geometrical view exchange protocol by parametric program*

— *Part 102: View exchange protocol by ISO 10303 conforming specification*

— *Part 501: Reference dictionary for measuring instruments — Registration procedure*

— *Part 511: Mechanical systems and components for general use — Reference dictionary for fasteners*

The structure of ISO 13584 is described in ISO 13584-1. The numbering of the parts of ISO 13584 reflects its structure:

— Parts 20 to 29 specify the logical resources;

— Parts 30 to 39 specify the implementation resources;

— Parts 40 to 49 specify the description methodology;

— Parts 100 to 199 specify the view exchange protocol;

— Parts 500 to 599 specify the reference dictionaries.

A complete list of parts of ISO 13584 is available from the Internet:

<http://www.tc184-sc4.org/titles/PLIB_Titles.htm>

Introduction

ISO 13584 is an International Standard for the computer-interpretable representation and exchange of parts library data. The objective is to provide a neutral mechanism capable of transferring parts library data, independent of any application that is using a parts library data system. The nature of this description makes it suitable not only for the exchange of files containing parts, but also as a basis for implementing and sharing databases of parts library data.

ISO 13584 is organized as a series of parts, each published separately. The parts of ISO 13584 fall into one of the following series: logical resources, implementation resources, description methodology, view exchange protocol, and reference dictionaries. The series are described in ISO 13584-1.

This part of ISO 13584 specifies the standard spreadsheet structure for parts library, used either for the definition and transfer of a reference dictionary, or for the definition and interchange of a set of instance data belonging to a class of a reference dictionary conforming to the ISO 13584 series of standards.

This part of ISO 13584 also establishes the standard mapping between the data carrying a reference dictionary represented in the spreadsheet format defined in this part of ISO 13584 and the data represented in the ISO 13584-25 compliant EXPRESS model for the exchange of reference dictionary.

Industrial automation systems and integration — Parts library —

Part 35: Implementation resources: Spreadsheet interface for parts library

1 Scope

This part of ISO 13584 specifies the standard spreadsheet interface structure for parts library, used either for the definition and exchange of a reference dictionary, or for the definition and exchange of the instance data belonging to a class of library.

This part of ISO 13584 also establishes the standard mapping between the data carrying a dictionary represented in the spreadsheet format conforming to this part of ISO 13584 and the data represented in the ISO 13584-25 compliant EXPRESS model for dictionary exchange. A set of spreadsheets whose semantics conform to the specification given in this part of ISO 13584, where the physical file structure of the spreadsheets is based on the CSV (Comma Separated Values) format, is typically used in a popular commercial spreadsheet application, or any other tabular formats compatible or convertible to the CSV format. Such a set of spreadsheets supporting a conformance class specified in this part of ISO 13584 may be used additionally for data translation between the CSV format and the ISO 10303-21 physical file structure based on the mapping specified in this part of ISO 13584.

The spreadsheet interface structure defined in this part of ISO 13584 contains the following:

— definition and specification of the basic structure and layout of the spreadsheet interface for parts library, independent of the data content carried by the structure;

— method of specification of instance data belonging to a class of reference dictionary described by a set of spreadsheets conformant to this part of ISO 13584;

— definition and specification of the meta-dictionary that enables the definition and transfer of a reference dictionary as a set of instance data conforming to the meta dictionary;

— specification of the mapping between the dictionary data expressed in the spreadsheet format and the EXPRESS model specified by ISO 13584-25;

— description of the basic semantic mapping between the dictionary data expressed in the spreadsheet formats defined in this part of ISO 13584 and that of DIN 4002.

The following items are outside the scope of this part of ISO 13584:

— specification of the CSV format *per se*, used in a spreadsheet tool;

— specification of the presentation layout details, such as colouring and sizing of the spreadsheet interface, conformant to this part of ISO 13584;

— specification of the dictionary EXPRESS model conformant to the ISO 13584 series of standards;

— normative definition of the mappings between an ISO 13584 compliant dictionary and another that is based upon other standards;

— specification of the maintenance method of this part of ISO 13584.