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Industrial automation systems and integration — Parts library

Part 35: Implementation resources: Spreadsheet interface for parts library

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National foreword

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Contents

Page

1 Scope 1

2 Normative references 3

3 Terms and definitions 4

4 Use scenario for spreadsheet interface 9

4.1 Spreadsheet representation of dictionary or library 9
4.2 Use scenario of dictionary parcelling format 11
4.3 Use scenario of library parcelling format 11

5 Structure of the spreadsheet interface 12

5.1 Meta-dictionary approach 12
5.2 Identification structure 13
5.3 Structure of a parcelling sheet 15
5.4 File name extension 15
5.5 Library use of parcelling format 16
5.6 Header section 17
5.6.1 Categories of instructions 17
5.6.2 Mandatory 17
5.6.3 Optional - functional 17
5.6.4 Reserved - informative 17
5.6.5 Comment line 18
5.6.6 Reserved words 18
5.7 Instruction column 18
5.7.1 General rule 18
5.7.2 Class ID 18
5.7.3 Preferred name of the class 19
5.7.4 Definition of the class 19
5.7.5 Note of the class 20
5.7.6 Alternate class ID 20
5.7.7 Source language 20
5.7.8 Parcel identifier 21

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5.7.9 Parcel conformance class identifier 21
5.7.10 Default supplier 22
5.7.11 Property ID 22
5.7.12 Preferred name of the property 23
5.7.13 Definition 24
5.7.14 Note 25
5.7.15 Data type 26
5.7.16 Unit of measurement 27
5.7.17 Requirement 27
5.7.18 Alternative units of measurement 28
5.7.19 IDs of alternative units of measurement 29
5.7.20 Alternate property ID 29
5.7.21 ID for the unit of measurement 30
5.7.22 Property value format 31
5.7.23 Identifier encoding 31
5.7.24 Default ID encoding 32
5.8 Data section for instances 33
5.8.1 General 33
5.8.2 Enumeration types, or non quantitative types 33
5.8.3 Level type 34
5.8.4 String type 34
5.8.5 Translatable string type 34
5.8.6 Boolean type 35
5.8.7 Class instance type (Class reference type) 35
5.8.8 Aggregate type 36
5.8.9 Named type 39
5.8.10 Entity instance type 39
5.9 Dictionary use of parcelling format 40
5.9.1 Dictionary as an instance of meta-dictionary 40
5.9.2 Identification of conjunctive parcels 42
5.9.3 Roles and definition of dictionary parcels 42
5.9.4 Properties of meta-dictionary 44

6 Mechanism for structural extension 56

6.1 General 56
6.2 Example 56

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7 Conformance classes for parcelling spreadsheet 56

Annex A (normative) Information object registration 59

Annex B (normative) Meta-dictionary file 60

Annex C (normative) Reserved words 61

Annex D (normative) Description examples of data types 65

Annex E (normative) Meta-properties of normative meta-classes 67

Annex F (informative) Meta-properties of optional meta-classes 114

Annex G (informative) Meta-class properties mapped with DIN 4002 126

Annex H (informative) Meta-dictionary updates 140

Bibliography 141

Index 143

Figures

Figure 1 — Parcel use scenario 10
Figure 2 — Schematic diagram of meta-dictionary approach 13
Figure 3 — Structure of a parcelling sheet 15
Figure 4 — Display example of property ID 23
Figure 5 — Display example of preferred name 24
Figure 6 — Display example of definition 25
Figure 7 — Display example of data type 26
Figure 8 — Display example of unit of measurement 27
Figure 9 — Display example of key 28
Figure 10 — Display example of unit of measurement 28
Figure 11 — Display example of unit of measurement 29
Figure 12 — Display example of alternate property ID 30
Figure 13 — Display example of ID for the unit of measurement 30
Figure 14 — Display example of value format 31
Figure 15 — Display example of ID encoding specification 31
Figure 16 — Display example of ID encoding specification 32

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Figure 17 — Display example of ENUM_INT_TYPE or ENUM_CODE_TYPE 33
Figure 18 — Display example of LEVEL_TYPE 34
Figure 19 — Display example of TRANSLATABLE_STRING_TYPE 34
Figure 20 — Display example of BOOLEAN_TYPE 35
Figure 21 — Display example of CLASS_INSTANCE_TYPE 35
Figure 22 — Display example of SET OF STRING_TYPE 36
Figure 23 — Display example of LIST OF STRING_TYPE 37
Figure 24 — Display example of LIST OF TRANSLATABLE_STRING_TYPE 37
Figure 25 — Display example of SET OF LEVEL OF INT_MEASURE_TYPE 38
Figure 26 — Display example of SET OF SET OF STRING_TYPE 39
Figure 27 — Configuration of a dictionary parcel 40

Tables

Table 1 — Description of the property code 23
Table 2 — Example of correspondence within multiple languages 38
Table 3 — Meta-classes that constitute a meta-dictionary 43
Table 4 — Conformance classes for ISO 13584-35 58
Table C.1 — Key words for instruction in class header 61
Table C.2 — Key words for instruction in schema header 63
Table D. 1 — Description examples of data types 65
Table E.1 — Meta-properties of dictionary meta-class 68
Table E.2 — Meta-properties of class meta-class 74
Table E.3— Meta-properties of property meta-class 84
Table E.4 — Meta-properties of supplier meta-class 93
Table E.5 — Meta-properties of enumeration meta-class 97
Table E.6 — Meta-properties of datatype meta-class 102
Table E.7 — Meta-properties of document meta-class 107
Table F.1 — Meta-properties of object meta-class 115
Table F.2 — Meta-properties of UoM meta-class 116
Table F.3 — Meta-properties of terminology meta-class 121
Table G.1 — Meta-properties for the definition of a class, mapped with DIN 4002 127
Table G.2 — Meta-properties for the definition of a property, mapped with DIN 4002 130
Table G.3 — Meta-properties for the definition of an enumeration, mapped with DIN 4002 133
Table G.4 — Meta-properties for the definition of a data type, mapped with DIN 4002 135
Table G.5 — Meta-properties for the definition of a UoM, mapped with DIN 4002 138

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Foreword

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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;

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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.

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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;

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— 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>

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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.

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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;

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— 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.

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