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Industrial automation systems and integration — Parts library —

Part 101: Geometrical view exchange protocol by parametric program

*Systèmes d'automatisation industrielle et intégration — Bibliothèque de
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*Partie 101: Protocole d'échange de vues géométriques par programme
paramétré*



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Contents	Page
1	Scope 1
2	Normative references 2
3	Terms, definitions, and abbreviations 3
4	Identification of the <i>basic_geometry</i> representation 8
4.1	Concepts 8
4.2	Standardized dictionary entries 9
4.2.1	View logical name 9
4.2.2	View control variables 10
4.3	Rules for the shapes to be provided in the <i>basic_geometry</i> representation category 10
4.3.1	Geometry level 10
4.3.2	Detail level 11
4.3.3	Side 11
4.3.4	Variant 12
4.3.5	Unregistered variant 12
5	Exchange format 12
5.1	FORTTRAN SUBROUTINE name 13
5.2	FORTTRAN restrictions 14
5.2.1	Excluded statements 14
5.2.2	Obsolete features 15
5.2.3	Exchange of a FORTTRAN program unit 15
5.2.4	Character encoding 15
5.3	Status of the program 16
6	Conformance requirements 16
6.1	Implementation resources 16
6.2	Implementation methods 17
6.3	Constraints on a library delivery file for referencing this view exchange protocol 17
6.3.1	Conformance class specification table 19
6.3.2	Constraints on a library delivery file referencing <i>basic_geometry</i> 20
6.3.2.1	ISO13584_101_side_and_geometry_level_compatibility_rule rule 20
6.3.2.2	ISO13584_101_variant_and_unregistered_variant_compatibility_rule rule 22
6.3.3	Constraints on a library delivery file for referencing conformance class 1, 2 and 3 24
6.3.3.1	ISO13584_101_allowed_reference_to_conformance_class_1_2_and_3_rule rule 25
6.3.3.2	ISO13584_101_protocol_compliant_to_cc_1_or_2_or_3 function 27
6.3.3.3	ISO13584_101_item_names_compliant_to_cc_1_or_2_or_3 function 28
6.3.3.4	ISO13584_101_organization_compliant_to_cc_1_or_2_or_3 function 28
6.3.4	Constraints on a library delivery file for referencing conformance class 1E, 2E and 3E 29
6.3.4.1	ISO13584_101_allowed_reference_to_conformance_class_1E_2E_and_3E_rule rule 29
6.3.4.2	ISO13584_101_protocol_compliant_to_cc_1E_or_2E_or_3E function 31
Annex A (normative)	Information object registration 32
Annex B (informative)	Physical file example 33
Bibliography 39
Index 40

This is a preview of "ISO 13584-101:2003". [Click here to purchase the full version from the ANSI store.](#)

Figures

Figure 1 — Side view control variable meaning 12

Tables

Table 1 — View logical name description..... 10
Table 2 — View control variables of the *basic_geometry* functional view class..... 11
Table 3 — The special characters of the FORTRAN language 16
Table 4 — ISO 13584-101 conformance class specification..... 19

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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.

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 13584-101 was prepared by Technical Committee ISO/TC 184, *Industrial 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 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*

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

- Parts 10 to 19 specify the conceptual descriptions;
- 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 protocols.

Should further parts of ISO 13584 be published, they will follow the same numbering pattern.

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: conceptual descriptions, logical resources, implementation resources, description methodology, conformance testing, view exchange protocol, and standardized content. The series are described in ISO 13584-1. This part of ISO 13584 is a member of the view exchange protocol series.

A view exchange protocol specifies how a particular representation category of the items described in a parts library may be exchanged in a library exchange context. It defines the identification of the representation category, the means to be used to exchange representations that belong to this representation category, the implementation resources that shall be available on any implementation that claims conformance to this view exchange protocol, and the standard data that shall be recognized by any implementation that claims conformance to this view exchange protocol.

This part of ISO 13584 specifies how geometric representations of the items described in a parts library may be exchanged by means of parametric FORTRAN programs based on the application programming interface specified in ISO 13584-31:1999, or, by case of separate agreement between the sender and the receiver, by means of non-standardized parametric formats.