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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 composants —

Partie 101: Protocole d'échange de vues géométriques par programme paramétré

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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.

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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 13854 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.