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Second edition
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Industrial automation systems and integration — Product data representation and exchange —

Part 1: Overview and fundamental principles

*Systèmes d'automatisation industrielle et intégration —
Représentation et échange de données de produits —*

Partie 1: Aperçu et principes fondamentaux



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Contents

	Page
Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	2
3 Terms, definitions and abbreviated terms	2
3.1 Terms and definitions.....	2
3.2 Abbreviated terms.....	8
4 Overview of ISO 10303	9
4.1 Purpose.....	9
4.2 Scope of ISO 10303.....	9
4.3 Fundamental principles.....	9
4.3.1 General.....	9
4.3.2 Integrated resources.....	9
4.3.3 Support for applications.....	10
4.3.4 Implementation methods.....	10
4.3.5 Implementations.....	10
4.3.6 Conformance testing.....	10
5 Architecture of ISO 10303	11
5.1 Concepts behind the architecture.....	11
5.2 Elaborations of the architecture.....	11
5.2.1 General.....	11
5.2.2 Sharing interpretations in the initial architecture.....	12
5.2.3 Sharing interpretations in the Modular architecture.....	12
6 Structure of ISO 10303	13
6.1 Series of parts.....	13
6.2 Description methods.....	13
6.2.1 Purpose.....	13
6.2.2 The EXPRESS and EXPRESS-G modeling languages (ISO 10303-11).....	14
6.2.3 The EXPRESS-X language.....	14
6.3 Implementation methods.....	14
6.3.1 Purpose.....	14
6.3.2 Use of formal language.....	14
6.3.3 Mapping from EXPRESS to implementation method.....	14
6.3.4 Exchange structures for product data (implementation).....	14
6.3.5 Standard data access interface specification.....	15
6.3.6 EXPRESS to OMG XMI binding.....	15
6.3.7 BO Model implementation.....	16
6.4 Application interpreted construct.....	16
6.4.1 Purpose.....	16
6.4.2 Characteristics.....	16
6.5 Application modules.....	16
6.5.1 Purpose.....	16
6.5.2 Characteristics.....	16
6.5.3 Business benefits.....	17
6.6 Business object models.....	17
6.6.1 Purpose.....	17
6.6.2 EXPRESS Model of the Business Object.....	17
6.6.3 An API Signature for a Business Object.....	17
6.6.4 A UML Model of the Business Object.....	18
6.7 Application protocols.....	18
6.7.1 Purpose.....	18
6.7.2 Definition of information requirements.....	18

This is a preview of "ISO 10303-1:2021". [Click here to purchase the full version from the ANSI store.](#)

6.7.3	Information representation	18
6.7.4	Implementation methods.....	18
6.7.5	Conformance requirements	18
6.8	Usage guides.....	18
6.8.1	Purpose.....	18
6.8.2	Characteristics	19
6.8.3	Document structure	19
6.8.4	Content.....	19
6.9	Conformance testing methodology and framework.....	19
6.9.1	Purpose.....	19
6.9.2	Procedures for conformance testing	19
6.9.3	Abstract test methods	20
6.10	Abstract test suites	20
7	Information object registration scheme.....	20
Annex A (normative)	Information object registration	22
Bibliography	23

This is a preview of "ISO 10303-1:2021". [Click here to purchase the full version from the ANSI store.](#)

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 184, *Automation systems and integration*, Subcommittee SC 4, *Industrial data*.

This second edition cancels and replaces the first edition (ISO 10303-1:1994), which has been technically revised.

The main changes compared to the previous edition are as follows:

- inclusion of application interpreted constructs;
- inclusion of application modules;
- inclusion of business object models;
- inclusion of additional implementation methods;
- inclusion of modular architecture as a preferred alternative to the initial architecture of ISO 10303-1:1994;
- permission for integrated resources to reference constructs written using EXPRESS from other International Standards;
- corrections to part numbering scheme;
- extension of information object registration to be usable on other standards;
- inclusion of usage guides;
- additional definitions.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

A list of all parts in the ISO 10303 series can be found on the ISO website.

Introduction

ISO 10303 is an International Standard for the computer-interpretable representation of product information and for the exchange of product data. The objective is to provide a neutral mechanism capable of describing products throughout their life cycle. This mechanism is suitable not only for neutral file exchange, but also as a basis for implementing and sharing product databases, and as a basis for archiving. The information generated about a product during its design, manufacture, use, maintenance, and disposal is used for many purposes. The use can involve many computer systems, including some that can be located in different organizations. In order to support such uses, organizations need to be able to represent their product information in a common computer-interpretable form that is required to remain complete and consistent when exchanged among different computer systems.

This document is an overview of ISO 10303. It specifies the overall scope of ISO 10303 and describes the ISO 10303 architectures and structure. It describes the various series of parts of ISO 10303 and the relationships among them.

ISO 10303 is organized as a series of parts, each published separately. The structure of ISO 10303 is described in this document.

Each part of ISO 10303 is a member of one of the following series: description methods, implementation methods, conformance testing methodology and framework, integrated generic resources, integrated application resources, application protocols, abstract test suites, application interpreted constructs, application modules and business object models.

A list of all parts in the ISO 10303 series is available from the following URL:

http://standards.iso.org/iso/10303/tech/step_titles.htm.