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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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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.