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Industrial automation systems and integration — Integration of life-cycle data for process plants including oil and gas production facilities —

Part 6: Rules for the development and validation of reference data of ISO/TS 15926-4

Systèmes d'automatisation industrielle et intégration — Intégration de données de cycle de vie pour les industries de "process", y compris les usines de production de pétrole et de gaz —

Partie 6: Règles relatives à l'élaboration et à la validation des données de référence de l'ISO/TS 15926-4

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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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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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 first edition cancels and replaces the first edition of ISO/TS 15926-6:2013, which has been technically revised.

The main changes are:

— update of the normative references;

— deletion of Clause 8 on the administration of a reference data library;

— deletion of rules for external reference data libraries;

— grouping of all rules under one clause with the subclause numbers in the order of the attributes to improve readability;

— improvement of the separation between the factual rule for an attribute and the options that would exist to choose from;

— improvement of Clause 4 for providing the general principles of the attributes to navigate the user;

— deletion of pieces of text that would be more appropriate in a separate knowledge document.

A list of all parts in the ISO 15926 series can be found on the ISO website.

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.

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Introduction

The ISO 15926 series provides a representation process of industry facility life-cycle information. This representation is specified by a generic, conceptual data model that is suitable as the basis for implementation in a shared database or data warehouse. The data model is designed to be used in conjunction with reference data, i.e. standard instances that represent information common to a number of users, production facilities, or both.

Most reference data are in ISO/TS 15926-4. This document specifies the rules that are required for the development and validation of reference data items of ISO/TS 15926-4. This document also contains examples of reference data items.

Some reference data are in ISO/TS 15926-11, ISO/TS 15926-12, or ISO 15926-13. The support for a specific life-cycle activity depends on the use of appropriate reference data in conjunction with the data model.

NOTE A reference data library used with the ISO 15926 series can be standardized or proprietary. A reference data library which is initially proprietary can subsequently be submitted for standardization. Classes contained within a reference data library can be more or less generic. Generic core classes and commodity classes are likely to be standardized, but specific manufactured product classes are unlikely to be standardized.

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Industrial automation systems and integration — Integration of life-cycle data for process plants including oil and gas production facilities —

Part 6: Rules for the development and validation of reference data of ISO/TS 15926-4

1 Scope

This document specifies technical requirements for the structure and content of a reference data library for ISO/TS 15926-4.

NOTE This document can also be applied to reference data libraries other than ISO/TS 15926-4.

The following are within the scope of this document:

— identification of a reference data item as specified in ISO/TS 15926-4;

— information that defines a reference data item;

— the way identifying and defining information is recorded using ISO 15926-2;

— the reference data library that contains the reference data items necessary to record identification and defining information;

— the representation of the reference data library that is defined by this document as a spreadsheet.

The following are outside the scope of this document:

— administrative information about the source, the history of changes, and the current status of a reference data item and a reference data library;

— the way administrative information is recorded using ISO 15926-2;

— the reference data library that contains the reference data items necessary to record administrative information;

— defining the scope of reference data libraries within the ISO 15926 series;

— methods and guidelines for implementing ISO 15926-2;

— procedures for maintaining reference data libraries;

— requirements for the representation of a proprietary reference data library.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes the requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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ISO 15926-2, *Industrial automation systems and integration — Integration of life-cycle data for process plants including oil and gas production facilities — Part 2: Data model*

ISO 80000-1:2022, *Quantities and units — Part 1: General*

3 Terms, definitions, symbols and abbreviated terms

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1 Terms and definitions

3.1.1
administrative information
information (3.1.5) about the administration of an item in a *reference data library* (3.1.17)

EXAMPLE Creation date, last change date, origin, change description, explanatory comment.

[SOURCE: ISO/IEC 11179-3:2023, 3.2.67, modified — The domain has been removed and "registry" has been replaced by "reference data library".]

3.1.2
attribute
data (3.1.4) element for the computer-sensible description of a *property* (3.1.10), a relation or a *class* (3.1.3)

Note 1 to entry: An attribute describes only one detail of a property, class, or relation.

EXAMPLE The name of a property, the code of a class, the measure unit in which values of a property are provided.

[SOURCE: ISO 13584-42:2010, 3.3]

3.1.3
class
category or division of *things* (3.1.22) based on one or more criteria for inclusion and exclusion

Note 1 to entry: A class need not have any members (things that satisfy its criteria for membership).

Note 2 to entry: Because a spatio-temporal paradigm is used to define individuals in this document, all classes are non-well-founded sets. These are explained in ISO 15926-2:2003, D.2.4.

[SOURCE: ISO 15926-1:2004, 3.1.1]

3.1.4
data
representation of *information* (3.1.5) in a formal manner suitable for communication, interpretation, or processing by human beings or computers

[SOURCE: ISO 10303-2:2024, 3.1.207]

3.1.5
information
facts, concepts, or instructions

[SOURCE: ISO 10303-2:2024, 3.1.227]

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