



**International
Standard**

ISO 16400-3

**Automation systems and
integration — Equipment behaviour
catalogues for virtual production
system —**

**Part 3:
Requirements and
recommendations for construction
of an equipment instance model**

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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 document 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).

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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 5, *Interoperability, integration, and architectures for enterprise systems and automation applications*.

A list of all parts in the ISO 16400 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.

Introduction

The ISO 16400 series introduces a concept of an equipment behaviour catalogue (EBC), addresses the requirements of an EBC and provides requirements and recommendations to generate an executable model representing the dynamic behaviour of a nominal or a physical instance of an equipment. An equipment instance model is implemented, such as a software agent. Such an executable model plays a vital role when configuring virtual production systems used for simulation and verification of a future process as well as monitoring of a current process. Therefore, EBCs will constitute an important part in the development of smart manufacturing.

An EBC enables an efficient and standardized way for a provider of equipment to communicate its dynamic behaviour.

The ISO 16400 series consists of the following parts, under the general title “Automation systems and integration — Equipment behaviour catalogues for virtual production system”:

Part 1: *Overview*

Part 2: *Formal description of a catalogue template*

Part 3 (this document): *Requirements and recommendations for construction of an equipment instance model*

Automation systems and integration — Equipment behaviour catalogues for virtual production system —

Part 3:

Requirements and recommendations for construction of an equipment instance model

1 Scope

This document provides requirements and recommendations on how to construct an equipment instance model using an equipment behaviour catalogue (EBC) item.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes 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.

ISO 16400-1:2020, *Automation systems and integration — Equipment behaviour catalogues for virtual production system — Part 1: Overview*

ISO 16400-2:2024, *Automation systems and integration — Equipment behaviour catalogues for virtual production systems — Part 2: Formal description of a catalogue template*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 16400-1 and the following 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

construction processor

software tool to construct an equipment instance model from an equipment behaviour catalogue (EBC) item referring to construction requirements

3.2

equipment instance model

executable model corresponding to a specification of an equipment behaviour catalogue (EBC) item

4 Abbreviated terms

XML	eXtensible Markup Language
XSL	eXtensible Stylesheet Language
XSLT	eXtensible Stylesheet Language Transformations