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SINGAPORE STANDARD

Enterprise-control system integration

– Part 4 : Object model attributes for manufacturing operations management integration

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National Foreword

This Singapore Standard was prepared by the Working Group on Smart Manufacturing Readiness Level set up by the Technical Committee on Smart Manufacturing under the purview of MSC.

This standard is identical with IEC 62264-4:2015, "Enterprise-control system integration – Part 4: Object model attributes for manufacturing operations management integration", published by the International Electrotechnical Commission

NOTE – Reference to International Standards are replaced by applicable Singapore Standards and Technical References.

This standard is expected to be used by system integrators, government agencies, testing, inspection and certification bodies, professional institutions, institutes of higher learning and training providers.

Attention is drawn to the possibility that some of the elements of this Singapore Standard may be the subject of patent rights. Enterprise Singapore shall not be held responsible for identifying any or all of such patent rights.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ENTERPRISE-CONTROL SYSTEM INTEGRATION –

Part 4: Object model attributes for manufacturing operations management integration

FOREWORD

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International Standard IEC 62264-4 has been prepared by subcommittee 65E: Devices and integration in enterprise systems, of IEC technical committee 65: Industrial-process measurement, control and automation.

The text of this standard is based on the following documents:

FDIS	Report on voting
65E/479/FDIS	65E/488/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62264 series, published under the general title *Enterprise-control system integration*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

This part of IEC 62264 defines the interfaces between enterprise activities and control activities and is to be used in conjunction with IEC 62264-3.

The scope of this part of IEC 62264 is limited to defining the details of the information content of interfaces within manufacturing operations management. The scope is limited to the definition of object models and attributes for the information defined in IEC 62264-3. The goal is to reduce the effort, cost, and errors associated with implementing these interfaces.

The standard may be used to reduce the effort associated with implementing new product offerings. The goal is to have enterprise systems and control systems that interoperate and easily integrate.

This part of IEC 62264 further defines the object models and attributes involved in data exchange between activities of manufacturing operations management defined in 62264-3. The models and terminology defined in IEC 62264-3 and this part of IEC 6226

- a) emphasize good manufacturing operations management integration practices during the entire life cycle of the systems;
- b) can be used to improve existing integration capability of manufacturing operations management systems; and
- c) can be applied regardless of the degree of automation.

Specifically, IEC 62264-3 and this part of IEC 62264 provide a standard terminology and a consistent set of concepts and models for integrating manufacturing operations management systems that will improve communications between all parties involved. Benefits produced will

- d) reduce the user's time to reach full production levels for new products;
- e) enable vendors to supply appropriate tools for implementing integration of manufacturing operations management systems;
- f) enable users to better identify their needs;
- g) reduce the cost of automating manufacturing processes;
- h) optimize supply chains; and
- i) reduce life-cycle engineering efforts.

IEC 62264-3 and this part of IEC 62264 may be used to reduce the effort associated with implementing new product offerings. The goal is to have manufacturing operations management systems that interoperate and easily integrate.

It is not the intent of the standards to

- 1) suggest that there is only one way of implementing integration of manufacturing operations management systems;
- 2) force users to abandon their current way of handling integration; or
- 3) restrict development in the area of integration of manufacturing operations management systems.

ENTERPRISE-CONTROL SYSTEM INTEGRATION –

Part 4: Object model attributes for manufacturing operations management integration

1 Scope

This part defines object models and attributes exchanged between Level 3 manufacturing operations management activities defined in IEC 62264-3.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 62264-1:2013, *Enterprise-control system integration – Part 1: Models and terminology*

IEC 62264-2:2013, *Enterprise-control system integration – Part 2: Object and attributes for enterprise-control system integration*

IEC 62264-3, *Enterprise-control system integration – Part 3: Activity models of manufacturing operations management*

IEC 61512-1, *Batch control – Part 1: Models and terminology*

IEC 61512-4:2009, *Batch control – Part 4: Batch production records*

IEC 62682, *Management of alarm systems for the process industries*

ISO/IEC 19501, *Information technology – Open Distributed Processing – Unified Modelling Language (UML) Version 1.4.2*

ISO/IEC 19505-1, *Information technology – Object Management Group Unified Modelling Language (OMG UML) – Part 1: Infrastructure*

ISO/IEC 19505-2, *Information technology – Object Management Group Unified Modelling Language (OMG UML) – Part 2: Superstructure*

ISO 8601, *Data elements and interchange formats – Information interchange – Representation of dates and times*