

**Industrial-process measurement, control and
automation - Digital Factory framework - Part 2: Model
elements**

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English Version

**Industrial-process measurement, control and automation - Digital
factory framework - Part 2: Model elements
(IEC 62832-2:2020)**

Mesure, commande et automation dans les processus
industriels - Cadre de l'usine numérique (digital factory) -
Partie 2: Éléments de modèles
(IEC 62832-2:2020)

Industrielle Leittechnik - Grundstruktur der digitalen Fabrik -
Teil 2: Modellelemente
(IEC 62832-2:2020)

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European foreword

The text of document 65/830/FDIS, future edition 1 of IEC 62832-2, prepared by IEC/TC 65 "Industrial-process measurement, control and automation" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62832-2:2020.

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IEC 61360 (series)	NOTE	Harmonized as EN 61360 (series)
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IEC 61987-10:2009	NOTE	Harmonized as EN 61987-10:2009 (not modified)
IEC 62569-1	NOTE	Harmonized as EN 62569-1
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IEC 81346 (series)	NOTE	Harmonized as EN IEC 81346 (series)

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 62832-1	2020	Industrial-process measurement, control and automation - Digital factory framework - Part 1: General principles	EN IEC 62832-1	2020
ISO/IEC 6523	series	Information technology - Structure for the identification of organizations and organization parts	-	-
ISO/TS 29002-5	2009	Industrial automation systems and integration - Exchange of characteristic data – Part 5: Identification scheme	-	-
IETF RFC 3986	-	Uniform Resource Identifier (URI): Generic Syntax	-	-

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Industrial-process measurement, control and automation – Digital factory
framework –
Part 2: Model elements**

**Mesure, commande et automation dans les processus industriels – Cadre de
l'usine numérique (digital factory) –
Partie 2: Éléments de modèles**



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INTRODUCTION

IEC 62832 provides a framework used for establishing and maintaining the digital representations of production systems, including the representation of the elements of the production systems and of the relationships between these elements. The framework is intended also to support the exchange of information about these elements.

The framework aims at reducing the interoperability barriers for exchange of information for the various activities related to production systems. The main advantages of this method are that all information related to a production system is described in a standardized manner, and it can be used and modified through its entire life cycle. The method defined in IEC 62832 is kept as generic as possible in order to enable its use in several industrial sectors.

While IEC 62832-1 describes the general principles of the DF reference model together with its most important model elements, this part of IEC 62832 provides a technology-independent definition of all model elements of the DF reference model.

The intention of this document is to provide a common base for implementation of the DF framework using different technologies (for example different dictionary technologies and different engineering data formats). Proposals for such implementations are provided in Annex C.

The data type specification provided with this document is intended to allow mapping of the DF framework to different dictionaries.

Two types of templates for representation, namely for specific DataElementTypes and for model elements, are described in 3.3. Based on these templates, definitions of specific DataElementTypes are given in Clause 4, and definitions of model elements, using the DataElementTypes are given in Clause 5.

To allow broad use of the framework, the requirements for these two sets of definitions are kept as minimal as possible.

If the concepts of DF framework are applied to provide model elements for different engineering domains, domain-specific data specifications will be used (for example based on IEC 62656-1).

INDUSTRIAL-PROCESS MEASUREMENT, CONTROL AND AUTOMATION – DIGITAL FACTORY FRAMEWORK –

Part 2: Model elements

1 Scope

This part of IEC 62832 specifies detailed requirements for model elements of the Digital Factory framework. It defines the nature of the information provided by the model elements, but not the format of this information.

NOTE General requirements for the main model elements of the DF reference model are specified in IEC 62832-1.

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.

IEC 62832-1:2020, *Industrial-process measurement, control and automation – Digital Factory framework – Part 1: General principles*

ISO/IEC 6523 (all parts), *Information technology – Structure for the identification of organizations and organization parts*

ISO TS 29002-5:2009, *Industrial automation systems and integration – Exchange of characteristic data – Part 5: Identification scheme*

IETF RFC 3986, *Uniform Resource Identifier (URI): Generic Syntax*, available at <<http://www.ietf.org>> [viewed 2020-07-28]

3 Terms, definitions, symbols, abbreviated terms and conventions

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 62832-1 apply.

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

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.2 Abbreviated terms

For the purposes of this document, the following abbreviated terms apply.

CDEL	Collection of Data Elements
DER	Data Element Relationship
DET	Data Element Type (see IEC 62832-1)
DF	Digital Factory (as qualifier)