SVENSK STANDARD SS-EN IEC 62832-3

Fastställd	Utgåva	Sida	Ansvarig kommitté
2021-01-27	1	1 (1+28)	SEK TK 65

Industriell processtyrning och automation – Ramverk för digitala fabriker – Del 3: Användning av digital fabrik för livscykelhantering av produktionssystem

Industrial-process measurement, control and automation – Digital factory framework – Part 3: Application of Digital Factory for life cycle management of production systems

Som svensk standard gäller europastandarden EN IEC 62832-3:2020. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 62832-3:2020.

Nationellt förord

Europastandarden EN IEC 62832-3:2020

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 62832-3, First edition, 2020 - Industrial-process measurement, control and automation - Digital factory framework - Part 3: Application of Digital Factory for life cycle management of production systems**

utarbetad inom International Electrotechnical Commission, IEC.

ICS 25.040.40

Denna standard är fastställd av SEK Svensk Elstandard,
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Standarder underlättar utvecklingen och höjer elsäkerheten

Det finns många fördelar med att ha gemensamma tekniska regler för bl a mätning, säkerhet och provning och för utförande, skötsel och dokumentation av elprodukter och elanläggningar.

Genom att utforma sådana standarder blir säkerhetsfordringar tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

Många standarder inom elområdet beskriver tekniska lösningar och metoder som åstadkommer den elsäkerhet som föreskrivs av svenska myndigheter och av EU.

SEK är Sveriges röst i standardiseringsarbetet inom elområdet

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Stora delar av arbetet sker internationellt

Utformningen av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

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Arbetet i de tekniska kommittéerna är öppet för alla svenska organisationer, företag, institutioner, myndigheter och statliga verk. Den årliga avgiften för deltagandet och intäkter från försäljning finansierar SEKs standardiseringsverksamhet och medlemsavgift till IEC och CENELEC.

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Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 62832-3

December 2020

ICS 25.040.40

English Version

Industrial-process measurement, control and automation - Digital factory framework - Part 3: Application of Digital Factory for life cycle management of production systems (IEC 62832-3:2020)

Mesure, commande et automation dans les processus industriels - Cadre de l'usine numérique (Digital Factory) - Partie 3: Application de l'usine numérique pour la gestion du cycle de vie de systèmes de production (IEC 62832-3:2020)

Industrielle Leittechnik - Grundstruktur der digitalen Fabrik - Teil 3: Anwendung der Digitalen Fabrik für das Lebenszyklusmanagement von Produktionssystemen (IEC 62832-3:2020)

This European Standard was approved by CENELEC on 2020-12-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. EN IEC 62832-3:2020 E

European foreword

The text of document 65/831/FDIS, future edition 1 of IEC 62832-3, 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 62832-3:2020.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2021-09-01
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2023-12-01

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

Endorsement notice

The text of the International Standard IEC 62832-3:2020 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 61987 (series)	NOTE	Harmonized as EN IEC 61987 (series)
IEC 62424	NOTE	Harmonized as EN 62424
IEC 62264-2	NOTE	Harmonized as EN 62264-2
IEC 62541-100	NOTE	Harmonized as EN 62541-100
IEC 62714 (series)	NOTE	Harmonized as EN IEC 62714 (series)
ISO/IEC Guide 2:2004	NOTE	Harmonized as EN 45020:2006 (not modified)

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 62832-1	2020	Industrial-process measurement, control and automation - Digital factory framework - Part 1: General principles	EN IEC 62832-1	2020
IEC 62832-2	2020	Industrial-process measurement, control and automation - Digital factory framework - Part 2: Model elements	EN IEC 62832-2	2020
ISO/IEC 6523	series	Information technology -- Structure for the identification of organizations and organization parts -- Part 1: Identification of organization identification schemes	-	-

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 3: Application of Digital Factory for life cycle management of production systems

FOREWORD

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International Standard IEC 62832-3 has been prepared by IEC technical committee 65: Industrial-process measurement, control and automation.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
65/831/FDIS	65/842/RVD

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

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

A list of all parts of the IEC 62832 series, published under the general title, *Industrial-process measurement, control and automation – Digital Factory framework*, can be found on the IEC website.

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

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.

Manufacturers and suppliers provide information about available PS asset types by using electronic catalogues, which are based on commonly agreed data definitions (for instance IEC CDD, eCl@ss[1] and eOTD[2]). Such data definitions can be provided by standard organizations (like IEC CDD), by consortia (like eCl@ss e.V.) or by companies (like eOTD dictionaries).

The DF Framework provides a standardized approach, by defining the concepts of Libraries (i.e. SupplierLibraries and DFlibraries) and by defining basic rules for such Libraries.

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

IEC 62832-1 describes the general principles of the DF reference model together with its most important model elements. IEC 62832-2 specifies detailed requirements for model elements of the DF reference model. This part of IEC 62832 specifies the rules for using the DF framework.

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

Part 3: Application of Digital Factory for life cycle management of production systems

1 Scope

This part of IEC 62832 specifies rules of the Digital Factory framework for managing information of a production system throughout its life cycle. It also defines how information will be added, deleted or changed in the DigitalFactory by the various activities during the life cycle of the production system.

These rules include:

– rules to represent a production system with a DigitalFactory;
– rules to represent a PS asset or a role with a DFasset;
– rules to represent a relationship between PS assets with a DFassetLink;
– rules to represent a relationship between roles with a DFassetLink;
– rules to represent the hierarchy of PS assets in a production system;
– rules to check the compatibility between associated PS assets.

NOTE 1 "PS" and "DF" are used in IEC 62832 (all parts) as qualifiers, they are part of the concept names. See IEC 62832-1:2020, Clause 3.

NOTE 2 Common rules are the base for the exchange of data between and within enterprises, between engineering tools, and between departments.

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*

IEC 62832-2:2020, *Industrial-process measurement, control and automation – Digital Factory framework – Part 2: Model elements*

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