SVENSK STANDARD SS-EN IEC 61804-4

| Fastställd | Utgåva | Sida | Ansvarig kommitté |
|---|---|---|---|
| 2021-03-17 | 2 | 1 (1+141) | SEK TK 65 |



# Industriell processtyrning – Enheter och integration i företagssystem – Funktionsblock (FB) och EDDL – Del 4: EDD-tolkning

*Devices and integration in enterprise systems – Function blocks (FB) for process control and electronic device description language (EDDL) – Part 4: EDD interpretation*

Som svensk standard gäller europastandarden EN IEC 61804-4:2020. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 61804-4:2020.

**Nationellt förord**

Europastandarden EN IEC 61804-4:2020

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 61804-4, Second edition, 2020 - Devices and integration in enterprise systems - Function blocks (FB) for process control and electronic device description language (EDDL) - Part 4: EDD interpretation**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 61804-4, utgåva 1, 2016, gäller ej fr o m 2023-07-29.

ICS 35.240.50; 25.040.40

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EUROPEAN STANDARD

NORME EUROPÉENNE

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# EN IEC 61804-4

August 2020

ICS 25.040.40; 35.240.50

Supersedes EN 61804-4:2016 and all of its amendments and corrigenda (if any)

English Version

# Devices and integration in enterprise systems - Function blocks (FB) for process control and electronic device description language (EDDL) - Part 4: EDD interpretation (IEC 61804-4:2020)

Les dispositifs et leur intégration dans les systèmes de l'entreprise - Blocs fonctionnels (FB) pour les procédés industriels et le langage de description électronique de produit (EDDL) - Partie 4: Interprétation EDD (IEC 61804-4:2020)

Funktionsbausteine für die Prozessautomation und elektronische Gerätebeschreibungssprache - Teil 4: Interpretation von Gerätebeschreibungen (IEC 61804-4:2020)

This European Standard was approved by CENELEC on 2020-07-29. 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.

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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 61804-4:2020 E

# European foreword

The text of document 65E/633/CDV, future edition 2 of IEC 61804-4, prepared by SC 65E "Devices and integration in enterprise systems" of IEC/TC 65 "Industrial-process measurement, control and automation" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61804-4:2020.

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) 2021-04-29
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2023-07-29

This document supersedes EN 61804-4:2016 and all of its amendments and corrigenda (if any).

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 61804-4:2020 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 61804-2:2018 | NOTE | Harmonized as EN IEC 61804-2:2018 (not modified) |
| IEC 62769-100[1] | NOTE | Harmonized as EN IEC 62769-100[2] |
| IEC 62769-115-2 | NOTE | Harmonized as EN IEC 62769-115-2[3] |

[1] To be published. Stage at the time of publication: IEC AFDIS 62769-100:2020.

[2] To be published. Stage at the time of publication: FprEN IEC 62769-100:2020.

[3] To be published. Stage at the time of publication: FprEN IEC 62769-115-2:2020.

# 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 61784-1 | - | Industrial communication networks - Profiles Part 1: Fieldbus profiles | EN IEC 61784-1 | - |
| IEC 61784-2 | - | Industrial communication networks - Profiles - Part 2: Additional fieldbus profiles for real-time networks based on ISO/IEC/IEEE 8802-3 | EN IEC 61784-2 | - |
| IEC 61804-3 | - | Devices and integration in enterprise systems - Function blocks (FB) for process control and electronic device description language (EDDL) - Part 3: EDDL syntax and semantics | EN IEC 61804-3 | - |
| IEC 61804-5 | - | Devices and intergration in enterprise systems - Function blocks (FB) for process control and electronic device description language (EDDL) - Part 5: EDDL Builtin library | EN IEC 61804-5 | - |
| IEC 62734 | - | Industrial networks - Wireless communication network and communication profiles - ISA 100.11a | EN 62734 | - |
| IEC 62769-4[4] | - | Field Device Integration (FDI) - Part 4: FDI Packages | EN 62769-4[5] | - |
| IEC 62769-7[6] | - | Field Device Integration (FDI) - Part 7: FDI Communication Devices | EN 62769-7[7] | - |

[4] To be published. Stage at the time of publication: IEC RFDIS 62769-4:2020.

[5] To be published. Stage at the time of publication: prEN 62769-4:2018.

[6] To be published. Stage at the time of publication: IEC RFDIS 62769-7:2020.

[7] To be published. Stage at the time of publication: prEN 62769-7:2018.

# CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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# DEVICES AND INTEGRATION IN ENTERPRISE SYSTEMS – FUNCTION BLOCKS (FB) FOR PROCESS CONTROL AND ELECTRONIC DEVICE DESCRIPTION LANGUAGE (EDDL) –

## Part 4: EDD interpretation

## FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 61804-4 has been prepared by subcommittee 65E: Devices and integration in enterprise systems, of IEC technical committee 65: Industrial-process measurement, control and automation.

This second edition cancels and replaces the first edition published in 2015. This edition constitutes a technical revision.

This edition was developed by merging material from multiple variants of existing EDDL specifications including those from FieldComm Group (Foundation™ Fieldbus[1], HART®[2]), PROFIBUS™[3] Nutzerorganisation e.V. (PNO), and ISA100_Wireless™[4] Compliance Institute (ISA100 WCI). When a profile deviation exists, it is now indicated in the context where the related deviation is found. As a result, the formatting and numbering of this edition may be different from any of the individual specifications from which this edition was derived.

This edition includes the following significant technical changes with respect to the previous edition:

- communication profiles ISA100 and GPE were added;
- description of rules for optimized-column-width layout have been added;
- description of the concatenation of labels and help was added;
- color banding for meter type charts was added.

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

| CDV | Report on voting |
|---|---|
| 65E/633/CDV | 65E/690/RVC |

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

A list of all parts in the IEC 61804 series, published under the general title *Devices and integration in enterprise systems – Function blocks (FB) for process control and Electronic Device Description Language (EDDL)*, can be found on the IEC website.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

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The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on IEC web site 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.

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# INTRODUCTION

This part of IEC 61804

- contains an overview of the use of EDDL;
- provides examples demonstrating the use of the EDDL constructs;
- shows how the use cases are fulfilled; and
- shows the proper EDD application interpretation for each example.

This part of IEC 61804 is not an EDDL tutorial and is not intended to replace the EDDL specification.

Instructions are provided for the EDD application, which describe what will be performed without prescribing the technology used in the host implementation. For example, the FILE construct describes data that is stored by the EDD application on behalf of the EDD. The FILE construct does not specify how the data is stored. The EDD application can use a database, a flat file, or any other implementation it chooses.

EDDL features are limited by profile for each of the communication technologies. The descriptions in this part of IEC 61804 refer to these features in a general sense and not all communication technologies will support all of the features described. The profile definitions in IEC 61804-3 are referred to in order to understand the features supported by each communication technology.

# DEVICES AND INTEGRATION IN ENTERPRISE SYSTEMS – FUNCTION BLOCKS (FB) FOR PROCESS CONTROL AND ELECTRONIC DEVICE DESCRIPTION LANGUAGE (EDDL) –

## Part 4: EDD interpretation

## 1 Scope

This part of IEC 61804 specifies EDD interpretation for EDD applications and EDDs to support EDD interoperability. This document is intended to ensure that field device developers use the EDDL constructs consistently and that the EDD applications have the same interpretations of the EDD. It supplements the EDDL specification to promote EDDL application interoperability and improve EDD portability between EDDL applications.

## 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 61784-1, *Industrial communication networks – Profiles – Part 1: Fieldbus profiles*

IEC 61784-2, *Industrial communication networks – Profiles – Part 2: Additional fieldbus profiles for real-time networks based on ISO/IEC/IEEE 8802-3*

IEC 61804-3, *Devices and integration in enterprise systems – Function blocks (FB) for process control and electronic device description language (EDDL) – Part 3: EDDL syntax and semantics*

IEC 61804-5, *Devices and integration in enterprise systems – Function blocks (FB) for process control and electronic device description language (EDDL) – Part 5: EDDL Builtin library*

IEC 62734, *Industrial networks – Wireless communication network and communication profiles – ISA 100.11a*

IEC 62769-4[5], *Field Device Integration (FDI) – Part 4: FDI Packages*

IEC 62769-7[6], *Field Device Integration (FDI) – Part 7: FDI Communication devices*

[5] Under preparation. Stage at the time of publication: IEC RFDIS 62769-4:2020.

[6] Under preparation. Stage at the time of publication: IEC RFDIS 62769-7:2020.