SVENSK STANDARD SS-EN IEC 62769-1

Utgåva 2

2021-04-21

REDLINE VERSION

Industriell processtyrning – Integration av fältenheter (FDI) – Del 1: Översikt

Field device integration (FDI) – Part 1: Overview

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IEC 62769-1

Edition 2.0 2021-02
REDLINE VERSION

INTERNATIONAL STANDARD

colour inside

Field device integration (FDI) – Part 1: Overview

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FIELD DEVICE INTEGRATION (FDI) –

Part 1: Overview

FOREWORD

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This redline version of the official IEC Standard allows the user to identify the changes made to the previous edition IEC 62769-1:2015. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.

International Standard IEC 62769-1 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 includes the following significant technical changes with respect to the previous edition:

a) support for generic protocol extension for faster adoption of other technologies;
b) digital signature now include trusted timestamping for long term validation of FDI Package;
c) support of new protocols.

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

FDIS	Report on voting
65E/758/FDIS	65E/768/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 in the IEC 62769 series, published under the general title *Field Device Integration (FDI)*, 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,
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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

The IEC ~~62657~~ 62769 series has the general title *Field Device Integration (FDI)* and the following parts:

– Part 1: Overview
– Part 2: FDI Client
– Part 3: FDI Server
– Part 4: FDI Packages
– Part 5: FDI Information Model
– Part 6: FDI Technology Mapping
– Part 7: FDI Communication Devices
– Part 100: Profiles – Generic Protocol Extensions
– Part 101-1: Profiles – Foundation Fieldbus H1
– Part 101-2: Profiles – Foundation Fieldbus HSE
– Part 103-1: Profiles – PROFIBUS
– Part 103-4: Profiles – PROFINET
– Part 109-1: Profiles – HART and WirelessHART
– Part 115-2: Profiles – Protocol-specific Definitions for Modbus RTU
– Part 150-1: Profiles – ISA 100.11a

~~The International Electrotechnical Commission (IEC) draws attention to the fact that it is claimed that compliance with this document may involve the use of patents concerning~~

~~a) method for the supplying and installation of device-specific functionalities, see Patent Family DE10357276;~~

~~b) method and device for accessing a functional module of automation system, see Patent Family EP2182418;~~

~~c) methods and apparatus to reduce memory requirements for process control system software applications, see Patent Family US2013232186;~~

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~~Germany~~

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FIELD DEVICE INTEGRATION (FDI) –

Part 1: Overview

1 Scope

This part of IEC 62769 describes the concepts and overview of the Field Device Integration (FDI) specifications. The detailed motivation for the creation of this technology is also described (see 4.1). Reading this document is helpful to understand the other parts of this multi-part standard.

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 61804 (all parts), *Function blocks (FB) for process control and Electronic Device Description Language (EDDL)*~~

~~*IEC 62453 (all parts), Field device tool (*FDT®*) interface specification*~~

~~IEC 62541 (all parts), *OPC Unified Architecture*~~

IEC TR 62541-1, *OPC Unified Architecture – Part 1: Overview and concepts*

IEC 62541-3, *OPC Unified Architecture – Part 3: Address Space Model*

IEC 62541-4, *OPC Unified Architecture – Part 4: Services*

IEC 62541-5, *OPC Unified Architecture – Part 5: Information Model*

IEC 62541-100, *OPC Unified Architecture – Part 100: Device Interface*

~~IEC 62769-2, *Field Device Integration (FDI) – Part 2: FDI Client*~~

~~NOTE IEC 62769-2 is technically identical to FDI-2022[4].~~ [1]

~~IEC 62769-3, *Field Device Integration (FDI) – Part 3: FDI Server*~~

~~NOTE IEC 62769-3 is technically identical to FDI-2023. [5]~~

~~IEC 62769-4:2015, *Field Device Integration (FDI) – Part 4: FDI Packages*~~

~~NOTE IEC 62769-4 is technically identical to FDI-2024. [6]~~

~~IEC 62769-5:2015, *Field Device Integration (FDI) – Part 5: FDI Information Model*~~

~~NOTE IEC 62769-5 is technically identical to FDI-2025. [7]~~

_____

~~1 Numbers in square brackets refer to the Bibliography.~~

~~IEC 62769-6:2015, *Field Device Integration (FDI) – Part 6: FDI Technology Mapping*~~

~~NOTE IEC 62769-6 is technically identical to FDI-2026. [8]~~

~~IEC 62769-7, *Field Device Integration (FDI) – Part 7: FDI Communication Devices*~~

~~NOTE IEC 62769-7 is technically identical to FDI-2027. [9]~~

~~ISO/IEC 11578, *Information technology – Open Systems Interconnection – Remote Procedure Call (RPC)*~~

SVENSK STANDARD SS-EN IEC 62769-1

Fastställd	Utgåva	Sida	Ansvarig kommitté
2021-04-21	2	1 (1+31)	SEK TK 65

Industriell processtyrning – Integration av fältenheter (FDI) – Del 1: Översikt

Field device integration (FDI) – Part 1: Overview

Som svensk standard gäller europastandarden EN IEC 62769-1:2021. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 62769-1:2021.

Nationellt förord

Europastandarden EN IEC 62769-1:2021

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 62769-1, Second edition, 2021 - Field device integration (FDI) - Part 1: Overview**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 62769-1, utgåva 1, 2016, gäller ej fr o m 2024-03-12.

ICS 25.040.40; 35.100.05

Denna standard är fastställd av SEK Svensk Elstandard,
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EUROPEAN STANDARD

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EN IEC 62769-1

March 2021

ICS 35.100; 25.040.40; 35.100.05

Supersedes EN 62769-1:2015 and all of its amendments and corrigenda (if any)

English Version

Field Device Integration (FDI) - Part 1: Overview (IEC 62769-1:2021)

Intégration des appareils de terrain (FDI) - Partie 1: Vue d'ensemble (IEC 62769-1:2021)

Feldgeräteintegration (FDI) - Teil 1: Überblick (IEC 62769-1:2021)

This European Standard was approved by CENELEC on 2021-03-12. 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.

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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 62769-1:2021 E

European foreword

The text of document 65E/758(F)/FDIS, future edition 2 of IEC 62769-1, 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 62769-1:2021.

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) 2021-12-12
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2024-03-12

This document supersedes EN 62769-1:2015 and all of its amendments and corrigenda (if any).

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The text of the International Standard IEC 62769-1:2021 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 61804-3	NOTE Harmonized as EN IEC 61804-3
IEC 61804-4	NOTE Harmonized as EN IEC 61804-4
IEC 61804-5	NOTE Harmonized as EN IEC 61804-5
IEC 62443 series	NOTE Harmonized as EN IEC 62443 series
IEC 62453 series	NOTE Harmonized as EN 62453 series
IEC 62541 series	NOTE Harmonized as EN IEC 62541 series
IEC 62769-2	NOTE Harmonized as EN 62769-2
IEC 62769-3	NOTE Harmonized as EN 62769-3
IEC 62769-4	NOTE Harmonized as EN 62769-4
IEC 62769-5	NOTE Harmonized as EN 62769-5
IEC 62769-6	NOTE Harmonized as EN 62769-6
IEC 62769-7	NOTE Harmonized as EN 62769-7

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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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/TR 62541-1	-	OPC Unified Architecture - Part 1: Overview and concepts	CLC/TR 62541-1	-
IEC 62541-3	-	OPC Unified Architecture - Part 3: Address Space Model	EN IEC 62541-3	-
IEC 62541-4	-	OPC Unified Architecture - Part 4: Services	EN IEC 62541-4	-
IEC 62541-5	-	OPC Unified Architecture - Part 5: Information Model	EN IEC 62541-5	-
IEC 62541-100	-	OPC Unified Architecture - Part 100: Device Interface	EN 62541-100	-

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IEC 62541-3, *OPC Unified Architecture – Part 3: Address Space Model*

IEC 62541-4, *OPC Unified Architecture – Part 4: Services*

IEC 62541-5, *OPC Unified Architecture – Part 5: Information Model*

IEC 62541-100, *OPC Unified Architecture – Part 100: Device Interface*