



BSI Standards Publication

Field device Integration (FDI)®

Part 101-1: Profiles — Foundation Fieldbus H1

National foreword

This British Standard is the UK implementation of EN IEC 62769-101-1:2023. It is identical to IEC 62769-101-1:2023. It supersedes BS EN IEC 62769-101-1:2021, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee GEL/65/5, Devices and integration in enterprise systems.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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Published by BSI Standards Limited 2023

ISBN 978 0 539 19846 1

ICS 25.040.40; 35.100.01; 35.100.05

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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 June 2023.

Amendments/corrigenda issued since publication

Date	Text affected
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English Version

Field device Integration (FDI)® - Part 101-1: Profiles -
Foundation Fieldbus H1
(IEC 62769-101-1:2023)

Intégration des appareils de terrain (FDI)® - Partie 101-1:
Profils - Foundation Fieldbus H1
(IEC 62769-101-1:2023)

Feldgeräteintegration (FDI)® - Teil 101-1: Profile -
Foundation Fieldbus H1
(IEC 62769-101-1:2023)

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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

European foreword

The text of document 65E/860/CDV, future edition 3 of IEC 62769-101-1, 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 62769-101-1:2023.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2024-02-19 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2026-05-19 document have to be withdrawn

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In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 62769 (series) NOTE Approved as EN IEC 62769 (series)

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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61158-5-9	2014	Industrial communication networks - Fieldbus specifications - Part 5-9: Application layer service definition - Type 9 elements	EN 61158-5-9	2014
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 61784-3	2021	Industrial communication networks - Profiles - Part 3: Functional safety fieldbuses - General rules and profile definitions	EN IEC 61784-3	2021
IEC 61804	series	Function blocks (FB) for process control and electronic device description language (EDDL)	EN IEC 61804	series
IEC 62541-100	2015	OPC Unified Architecture - Part 100: Device Interface	EN 62541-100	2015
IEC 62769-2	-	Field Device Integration (FDI®) - Part 2: Client	EN IEC 62769-2	-
IEC 62769-3	-	Field Device Integration (FDI®) - Part 3: Server	EN IEC 62769-3	-
IEC 62769-4	-	Field Device Integration (FDI®) - Part 4: FDI Packages	-	-
IEC 62769-5	-	Field Device Integration (FDI®) - Part 5: FDI Information Model	-	-
IEC 62769-6	-	Field Device Integration (FDI®) - Part 6: FDI Technology Mappings	EN IEC 62769-6	-
IEC 62769-7	-	Field Device Integration (FDI®) - Part 7: Communication Devices	EN IEC 62769-7	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIELD DEVICE INTEGRATION (FDI®) –

Part 101-1: Profiles – Foundation Fieldbus H1

FOREWORD

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IEC 62769-101-1 has been prepared by subcommittee 65E: Devices and integration in enterprise systems, of IEC technical committee 65: Industrial-process measurement, control and automation. It is an International Standard.

This third edition cancels and replaces the second edition published in 2020. This edition constitutes a technical revision.

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

- a) updated Transfer service;
- b) added OPERATION “GETOD” and “GETDEVICETYPEINFO”;
- c) added DeviceTag and Block_Index to FoundationIdentificationT and Target;
- d) removed arguments “BlockTag” and “ServiceId”;
- e) changed content type of CFF file to application/vnd.ff.cff.

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

Draft	Report on voting
65E/860/CDV	65E/917/RVC

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

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

FIELD DEVICE INTEGRATION (FDI®) –

Part 101-1: Profiles – Foundation Fieldbus H1

1 Scope

This part of IEC 62769 specifies an FDI®¹ profile of IEC 62769 for IEC 61784-1_CP 1/1 (FOUNDATION™ Fieldbus H1)².

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 61158-5-9:2014, *Industrial communication networks – Fieldbus specifications – Part 5-9: Application layer service definition – Type 9 elements*

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 8802-3*

IEC 61784-3:2021, *Industrial communication networks – Profiles – Part 3: Functional safety fieldbuses – General rules and profile definitions*

IEC 61804 (all parts), *Devices and integration in enterprise systems – Function blocks (FB) for process control and electronic device description language (EDDL)*

IEC 62541-100:–2015, *OPC unified architecture – Part 100: Device Interface*

IEC 62769-2, *Field device integration (FDI®) – Part 2: Client*

IEC 62769-3, *Field device integration (FDI®) – Part 3: Server*

IEC 62769-4, *Field device integration (FDI®) – Part 4: FDI® Packages*

IEC 62769-5, *Field device integration (FDI®) – Part 5: Information Model*

IEC 62769-6, *Field device integration (FDI®) – Part 6: Technology Mapping*

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3 Terms, definitions, abbreviated terms and acronyms

3.1 Terms and definitions

For the purposes of this document, the terms and definitions listed in the normative references given in Clause 2 apply.

ISO and IEC maintain terminology 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 and acronyms

For the purposes of this document, the following abbreviations apply:

CFF	common file format
CP	communication profile (see IEC 61784-1 or IEC 61784-2)
CPF	communication profile family (see IEC 61784-1 or IEC 61784-2)
EDD	Electronic Device Description (see IEC 61804 series)
EDDL	Electronic Device Description Language (see IEC 61804 series)
FB	function block
IM	Information Model
SMIB	system management information base
VFD	virtual field device

4 Conventions

4.1 EDDL syntax

This document specifies content for the EDD component that is part of an FDI® Communication Package. EDDL syntax uses the font `Courier New`. EDDL syntax is used for method signature, variable, data structure and component declarations.

4.2 XML syntax

XML syntax examples use the font `Courier New`. The XML syntax is used to describe XML document schema.

Example: `<xsd:simpleType name="Example">.`

4.3 Capitalizations

The IEC 62769 series uses capitalized terms to emphasize that these terms have an FDI® specific meaning.

Some of these terms use an acronym as a prefix for example