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INTERNATIONAL STANDARD

NORME INTERNATIONALE

Field device integration (FDI®) – Part 100: Profiles – Generic Protocols

Intégration des appareils de terrain (FDI®) – Partie 100: Profils – Protocoles Génériques



IEC 62769-100:2023-04(en-fr)



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Field device integration (FDI®) – Part 100: Profiles – Generic Protocols

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FIELD DEVICE INTEGRATION (FDI®) –

Part 100: Profiles – Generic Protocols

FOREWORD

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IEC 62769-100 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 second edition cancels and replaces the first 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) added ExtendedDeviceRevision implementing the FDI® Version scheme and the method ScanExtended.

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

Draft	Report on voting
65E/865/CDV	65E/922/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- withdrawn,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 100: Profiles – Generic Protocols

1 Scope

This part of IEC 62769 specifies an FDI®[1] profile of IEC 62769 for Generic Protocols. That means that all interfaces are defined and a host can add support for more protocols without changing its implementation. Nevertheless, there are some protocol specific definitions (PSD) that need to be specified per protocol using this profile. Annex C specifies what PSD need to be defined per protocol so that FDI® Device Packages, FDI® Communication Packages for Gateways and FDI® Communication Servers, FDI® Communication Server, Gateways and Devices supporting such a protocol can work together in a host not aware about this specific protocol.

NOTE A host not using FDI® Communication Server but a proprietary mechanism for communication needs to define its own means to deal with this profile to support several protocols without changing its implementation. This is specific to the proprietary way how the communication driver is bound to the host.

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), *Devices and integration in enterprise systems − Function blocks (FB) for process control and Electronic Device Description Language (EDDL)*

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 62541-100:2015, *OPC Unified Architecture – Part 100: Device Interface*

IEC 62769-1*, Field Device Integration (FDI®) – Part 1: Overview*

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: FDI® Information Model*

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

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[1] FDI® is a registered trademark of the non-profit organization Fieldbus Foundation, Inc. This information is given for the convenience of users of this document and does not constitute an endorsement by IEC of the trademark holder or any of its products. Compliance does not require use of the trade name. Use of the trade name requires permission of the trade name holder.

IEC 62769-151-1, *Field Device Integration (FDI®) – Part 151-1: Profiles – OPC UA*

3 Terms, definitions, abbreviated terms and acronyms

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 61804 series, IEC 62541-100, IEC 62769-2, IEC 62769-3, IEC 62769-4, IEC 62769-5, and IEC 62769-7 apply.

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

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

3.2 Abbreviated terms and acronyms

EDD	Electronic Device Description
EDDL	Electronic Device Description Language (see IEC 61804 series)
FDI®	Field Device Integration
FCG	FieldComm Group
PSD	Protocol-specific definitions
XML	Extensible markup language (see REC-xml-20081126)

4 Conventions

4.1 EDDL syntax

This part of IEC 62769 specifies content for the EDD component that is part of FDI® Communication Packages. The specification content using EDDL syntax uses the font `Courier New`. The EDDL syntax is used for method signature, variable, data structure and component declarations.

4.2 XML syntax

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

Example: `<xs:simpleType name="ExampleType">`

4.3 Capitalizations

Capitalization of the first letter of words is used in the IEC 62769 series to emphasize an FDI® defined term.

EDD language elements are written with all letters in uppercase.

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

- FDI® Client, or
- FDI® Server.

Some of these terms are compound terms such as:

- Communication Servers, or