

INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Field device integration (FDI) –
Part 1: Overview**

**Intégration des appareils de terrain (FDI) –
Partie 1: Vue d'ensemble**



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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 25.040.40; 35.100

ISBN 978-2-8322-2622-3

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The text of this standard is based on the following documents:

CDV	Report on voting
65E/337/CDV	65E/421/RVC

Full information on the voting for the approval of this 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 62769 series, published under the general title *Field Device Integration (FDI)*, can be found on the IEC website.

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INTRODUCTION

The IEC 62657 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
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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, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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*

¹ Numbers in square brackets refer to the Bibliography.

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

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)*

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 TR 62541-1, IEC 62541-3, IEC 62541-4, IEC 62541-5, IEC 62541-100, as well as the following apply.

3.1.1

Field Device Integration

FDI

Device Integration and Device Management Technology, combining base concepts and technology aspects of the Electronic Device Description Language (EDDL) according to IEC 61804 and Field Device Tool (FDT[®]) according to IEC 62453, as well as in IEC 62541-1 (OPC UA)

Note 1 to entry: The combination of those different proven technologies ensures a secure life-cycle and the ability to address all challenges of Device Integration and Device Management in a scalable manner.

Note 2 to entry: This note applies to the French language only.

Note 3 to entry: This note applies to the French language only.

Note 4 to entry: This note applies to the French language only.

3.1.2

Action

procedure that requires collaboration between an FDI Client and an FDI Server

3.1.3

Business Logic

descriptive element of an FDI Package that specifies the device specific behavior and/or mapping logic for a Nested Communication

3.1.4

Business Logic Interface

interface through which Business Logic is integrated with the Information Model

3.1.5

Communication Device

physical device that provides access to networks and devices

Note 1 to entry: Gateways and routers are examples of Communication Devices.

3.1.6

Connection Point

logical representation of a connection of a communication end point to a communication network