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INTERNATIONAL STANDARD

colour inside

Field device integration (FDI) – Part 101-1: Profiles – Foundation Fieldbus H1

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FIELD DEVICE INTEGRATION (FDI) –

Part 101-1: Profiles – Foundation Fieldbus H1

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This redline version of the official IEC Standard allows the user to identify the changes made to the previous edition. 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 62769-101-1 has been prepared by subcommittee 65E: Devices and integration in enterprise systems, of IEC technical committee 65: Industrial-process measurement, control and automation.

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) support for Package developers to build EDDs targeted for today's EDD bases system under a single development tool.

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

CDV	Report on voting
65E/620/CDV	65E/683/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 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.

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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;

d) Extensible Device Object Model, see Patent Family US12/893,680.

IEC takes no position concerning the evidence, validity and scope of this patent right.

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Affolterstrasse 4
Zurich, 8050
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b) Phoenix Contact GmbH & Co KG
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Flachsmarktstrasse 8, 32825 Blomberg
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c) Fisher Controls International LLC
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FIELD DEVICE INTEGRATION (FDI) –

Part 101-1: Profiles – Foundation Fieldbus H1

1 Scope

This part of IEC 62769 specifies ~~an FDI profile of~~ the IEC 62769 profile for IEC 61784-1_CP 1/1 (FOUNDATION™ Fieldbus H1)[1].

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/IEEE 8802-3*

IEC 61784-3:~~2010~~2016, *Industrial communication networks – Profiles – Part 3: Functional safety fieldbuses – General rules and profile definitions*

IEC 61804 (all parts), *Function blocks (FB) for process control and electronic device description language (EDDL)*

IEC 62541-6, *OPC unified architecture – Part 6: Mappings*

IEC 62541-100:2015, *OPC Unified Architecture – Part 100: ~~OPC UA for Devices~~ Device Interface*

~~NOTE IEC 62769-1 is technically identical to FDI-2021.~~

IEC 62769-1, *Field device integration (FDI) – Part 1: Overview*

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

~~NOTE IEC 62769-2 is technically identical to FDI-2022.~~

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

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

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

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[1] FOUNDATION™ Fieldbus is the trade name of the non-profit consortium Fieldbus Foundation. 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.

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

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

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

IEC 62769-7~~:42015~~, *Field Device Integration (FDI) – Part 7: FDI Communication Devices*

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

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FIELD DEVICE INTEGRATION (FDI) –

Part 101-1: Profiles – Foundation Fieldbus H1

1 Scope

This part of IEC 62769 specifies the IEC 62769 profile for IEC 61784-1_CP 1/1 (FOUNDATION™ Fieldbus H1)[1].

2 Normative references

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

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

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

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INTÉGRATION DES APPAREILS DE TERRAIN (FDI) –

Partie 101-1: Profils – Foundation Fieldbus H1

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Cette deuxième édition annule et remplace la première édition parue en 2015. Cette édition constitue une révision technique.

Cette édition inclut les modifications techniques majeures suivantes par rapport à l'édition précédente:

a) prise en charge d'extensions de protocoles génériques, pour une adoption plus rapide d'autres technologies;
b) capacité offerte aux développeurs de Paquetages d'élaborer des EDD ciblant les systèmes actuels de bases EDD, en exploitant un seul outil de développement.

Le texte de cette Norme internationale est issu des documents suivants:

CDV	Rapport de vote
65E/620/CDV	65E/683/RVC

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à l'approbation de cette Norme internationale.

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INTÉGRATION DES APPAREILS DE TERRAIN (FDI) –

Partie 101-1: Profils – Foundation Fieldbus H1

1 Domaine d'application

La présente partie de l'IEC 62769 spécifie le profil de l'IEC 62769 pour le profil de communication CP 1/1 (FOUNDATION™ Fieldbus H1)[1] défini dans l'IEC 61784-1.

2 Références normatives

Les documents suivants cités dans le texte constituent, pour tout ou partie de leur contenu, des exigences du présent document. Pour les références datées, seule l'édition citée s'applique. Pour les références non datées, la dernière édition du document de référence s'applique (y compris les éventuels amendements).

IEC 61158-5-9:2014, *Réseaux de communication industriels – Spécifications des bus de terrain – Partie 5-9: Définition des services de la couche application – Eléments de type 9*

IEC 61784-1, *Réseaux de communication industriels – Profils – Partie 1: Profils de bus de terrain*

IEC 61784-2, *Réseaux de communication industriels – Profils – Partie 2: Profils de bus de terrain supplémentaires pour les réseaux en temps réel fondés sur l'ISO/IEC/IEEE 8802-3*

IEC 61784-3:2016, *Réseaux de communication industriels – Profils – Partie 3: Bus de terrain de sécurité fonctionnelle – Règles générales et définitions de profils*

IEC 61804 (toutes les parties), *Blocs fonctionnels (FB) pour les procédés industriels et langage de description électronique de produit (EDDL)*

IEC 62541-6, *Architecture unifiée OPC – Partie 6: Correspondances*

IEC 62541-100:2015, *Architecture unifiée OPC – Partie 100: Interface d'appareils*

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

IEC 62769-2, *Intégration des appareils de terrain (FDI) – Partie 2: Client FDI*

IEC 62769-4, *Intégration des appareils de terrain (FDI) – Partie 4: Paquetages FDI*

IEC 62769-5, *Intégration des appareils de terrain (FDI) – Partie 5: Modèle d'Information FDI*

IEC 62769-6, *Intégration des appareils de terrain (FDI) – Partie 6: Mapping de technologies FDI*

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IEC 62769-7, *Intégration des appareils de terrain (FDI) – Partie 7: Appareils de communication FDI*