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INTERNATIONAL STANDARD

NORME INTERNATIONALE

Field device integration (FDI)® – Part 109-1: Profiles – HART® and WirelessHART®

Intégration des appareils de terrain (FDI)® – Partie 109-1: Profils – HART® et WirelessHART®



IEC 62769-109-1:2023-04(en-fr)



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FIELD DEVICE INTEGRATION (FDI®) –

Part 109-1: Profiles – HART® and WirelessHART®

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IEC 62769-109-1 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) added content type for DeviceInfo files;
b) added mapping from HART standard parameters to PA DIM;

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

Draft	Report on voting
65E/864/CDV	65E/921/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/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 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- withdrawn,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 109-1: Profiles – HART® and WirelessHART®

1 Scope

This part of IEC 62769 specifies an FDI®[1] profile of IEC 62769 for IEC 61784-1_CP 9/1 (HART®)[2] and IEC 61784-1_CP 9/2 (WirelessHART®)[3].

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

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

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

IEC 62769-7, *Field device integration (FDI®) – Part 7: Communication devices*

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 62541-100, IEC 62769-4, IEC 62769-5 and IEC 62769-7 apply.

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

- IEC Electropedia: available at http://www.electropedia.org/
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3.2 Abbreviated terms and acronyms

For the purposes of this document, the following abbreviated terms and acronyms apply:

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 the IEC 61804 series)
EDDL Electronic device description language (see the IEC 61804 series)
FDI® Field device integration
FSK Frequency-Shift-Keying
HCF HART Communication Foundation
ID Identification
IM Information Model
IP Internet protocol
PDU Protocol data unit
PSK Phase-Shift-Keying
TCP Transmission Control Protocol (see IETF RFC 793)
UDP User Datagram Protocol (see IETF RFC 768)
XML Extended markup language

4 Conventions

4.1 EDDL syntax

This document specifies content for the EDD component that is part of FDI® Communication Packages. 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 font Courier New. The XML syntax is used to describe XML document schema.

Example: <xs:simpleType name="ExampleT">

4.3 Capitalizations

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

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:

- FDI® Communication Servers or
- Profile Package.

Parameter names or attributes are concatenated to a single term, where the original terms start in this term with a capital letter such as:

- ProtocolSupportFile or