

<b>STN</b>	<b>Špecifikácia rozhrania softvérových nástrojov na prácu s prevádzkovými prístrojmi (FDT) Časť 309: Integrácia komunikačného profilu – IEC 61784 CPF 9</b>	<b>STN EN IEC 62453-309</b>  18 4012
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Field device tool (FDT) interface specification - Part 309: Communication profile integration - IEC 61784 CPF 9

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 12/22

Obsahuje: EN IEC 62453-309:2022, IEC 62453-309:2022

Oznámením tejto normy sa od 07.10.2025 ruší  
STN EN 62453-309 (18 4012) z augusta 2018

136047



EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN IEC 62453-309**

October 2022

ICS 25.040.40; 35.100.05; 35.110

Supersedes EN 62453-309:2017

English Version

**Field device tool (FDT) interface specification - Part 309:  
Communication profile integration - IEC 61784 CPF 9  
(IEC 62453-309:2022)**

Spécification des interfaces des outils des dispositifs de terrain (FDT) - Partie 309: Intégration des profils de communication - CPF 9 de l'IEC 61784 (IEC 62453-309:2022)

Field Device Tool (FDT)-Schnittstellenspezifikation - Teil 309: Integration von Kommunikationsprofilen - Kommunikationsprofilfamilie (CPF) 9 nach IEC 61784 (IEC 62453-309:2022)

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**EN IEC 62453-309:2022 (E)****European foreword**

The text of document 65E/907/FDIS, future edition 3 of IEC 62453-309, 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 62453-309:2022.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2023-07-07
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IEC/TR 62453-42 NOTE Harmonized as CLC/TR IEC 62453-42

## 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](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61158-5-20	-	Industrial communication networks - Fieldbus specifications - Part 5-20: Application layer service definition - Type 20 elements	EN 61158-5-20	-
IEC 61158-6-20	-	Industrial communication networks - Fieldbus specifications - Part 6-20: Application layer protocol specification - Type 20 elements	EN 61158-6-20	-
IEC 61784-1	-	Industrial communication networks - Profiles Part 1: Fieldbus profiles	EN IEC 61784-1	-
IEC 62453-1	-	Field device tool (FDT) interface specification - Part 1: Overview and guidance	EN 62453-1	-
IEC 62453-2	-	Field device tool (FDT) interface specification - Part 2: Concepts and detailed description	-	-



IEC 62453-309

Edition 3.0 2022-09

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



**Field device tool (FDT) interface specification –  
Part 309: Communication profile integration – IEC 61784 CPF 9**

**Spécification des interfaces des outils des dispositifs de terrain (FDT) –  
Partie 309: Intégration des profils de communication – CPF 9 de l'IEC 61784**



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IEC 62453-309

Edition 3.0 2022-09

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



**Field device tool (FDT) interface specification –  
Part 309: Communication profile integration – IEC 61784 CPF 9**

**Spécification des interfaces des outils des dispositifs de terrain (FDT) –  
Partie 309: Intégration des profils de communication – CPF 9 de l'IEC 61784**

INTERNATIONAL  
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INTERNATIONALE

ICS 25.040.40; 35.100.05; 35.110

ISBN 978-2-8322-5601-5

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

### FIELD DEVICE TOOL (FDT) INTERFACE SPECIFICATION –

#### **Part 309: Communication profile integration – IEC 61784 CPF 9**

#### FOREWORD

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IEC 62453-309 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 2016. This edition constitutes a technical revision.

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

- corrections in regard to accessing information in the respective device and
- corrections in regard to describing support for different protocol versions.

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

Draft	Report on voting
65E/907/FDIS	65E/936/RVD

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](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/standardsdev/publications](http://www.iec.ch/standardsdev/publications).

Each part of the IEC 62453-3xy series is intended to be read in conjunction with IEC 62453-2.

A list of all parts of the IEC 62453 series, under the general title *Field Device Tool (FDT) interface specification*, 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](http://webstore.iec.ch) in the data related to the specific document. At this date, the document will be

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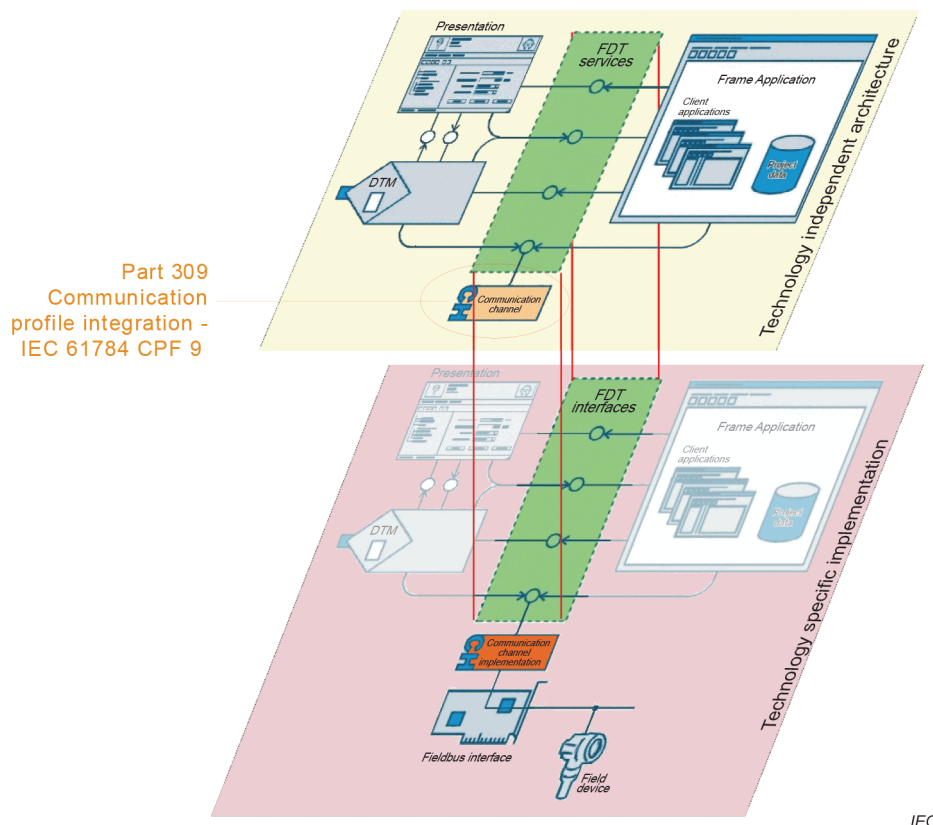
## INTRODUCTION

This part of IEC 62453 is an interface specification for developers of FDT<sup>1</sup> (Field Device Tool) components for function control and data access within a client/server architecture. The specification is a result of an analysis and design process to develop standard interfaces to facilitate the development of servers and clients by multiple vendors that need to interoperate seamlessly.

With the integration of fieldbuses into control systems, there are a few other tasks which need to be performed. In addition to fieldbus- and device-specific tools, there is a need to integrate these tools into higher-level system-wide planning or engineering tools. In particular, for use in extensive and heterogeneous control systems, typically in the area of the process industry, the unambiguous definition of engineering interfaces that are easy to use for all those involved is of great importance.

A device-specific software component, called DTM (Device Type Manager), is supplied by the field device manufacturer with its device. The DTM is integrated into engineering tools via the FDT interfaces defined in this specification. The approach to integration is in general open for all kind of fieldbuses and thus meets the requirements for integrating different kinds of devices into heterogeneous control systems.

Figure 1 shows how IEC 62453-309 is aligned in the structure of the IEC 62453 series.



**Figure 1 – Part 309 of the IEC 62453 series**

<sup>1</sup> FDT® is a trademark of products supplied by FDT Group AISBL. This information is given for convenience of users of this document and does not constitute an endorsement by IEC of the product named. Equivalent products may be used if they can be shown to lead to the same results.

## FIELD DEVICE TOOL (FDT) INTERFACE SPECIFICATION –

### Part 309: Communication profile integration – IEC 61784 CPF 9

#### 1 Scope

Communication Profile Family 9 (commonly known as HART®<sup>2</sup>) defines communication profiles based on IEC 61158-5-20 and IEC 61158-6-20. The basic profile CP 9/1 is defined in IEC 61784-1.

This part of IEC 62453 provides information for integrating the HART® technology into the FDT standard (IEC 62453-2).

This part of the IEC 62453 specifies communication and other services.

This document neither contains the FDT specification nor modifies it.

#### 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 61158-5-20, *Industrial communication networks – Fieldbus specifications – Part 5-20: Application layer service definition – Type 20 elements*

IEC 61158-6-20, *Industrial communication networks – Fieldbus specifications – Part 6-20: Application layer protocol specification – Type 20 elements*

IEC 61784-1, *Industrial communication networks – Profiles – Part 1: Fieldbus profiles*

IEC 62453-1:–<sup>3</sup>, *Field device tool (FDT) interface specification – Part 1: Overview and guidance*

IEC 62453-2:–<sup>3</sup>, *Field device tool (FDT) interface specification – Part 2: Concepts and detailed description*

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<sup>2</sup> HART® and WirelessHART® are trade names of products supplied by FieldComm Group. This information is given for convenience of users of this document and does not constitute an endorsement by IEC of the product named. Equivalent products may be used if they can be shown to lead to the same results.

<sup>3</sup> Under preparation. Respective stage at the time of publication: IEC/CCDV 62453-1:2022 and IEC/RFDIS 62453-2:2022.