# SLOVENSKI STANDARD
## SIST EN IEC 62453-302:2024

**01-april-2024**

**Specifikacija vmesnika orodja procesne naprave (FDT) - 302. del: Integracija komunikacijskih profilov - IEC 61784 CPF 2 (IEC 62453-302:2023)**

Field device tool (FDT) interface specification - Part 302: Communication profile integration - IEC 61784 CPF 2 (IEC 62453-302:2023)

Field Device Tool (FDT)-Schnittstellenspezifikation - Teil 302: Integration von Kommunikationsprofilen - Kommunikationsprofilfamilie (CPF) 2 nach IEC 61784 (IEC 62453-302:2023)

Spécification des interfaces des outils des dispositifs de terrain (FDT) - Partie 302: Intégration des profils de communication - CPF 2 de l'IEC 61784 (IEC 62453-302:2023)

**Ta slovenski standard je istoveten z: EN IEC 62453-302:2023**

**ICS:**

| | | |
|---|---|---|
| 25.040.40 | Merjenje in krmiljenje industrijskih postopkov | Industrial process measurement and control |
| 35.240.50 | Uporabniške rešitve IT v industriji | IT applications in industry |

**SIST EN IEC 62453-302:2024**          **en,fr,de**

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

**EN IEC 62453-302**

December 2023

ICS 35.100.05; 25.040.40; 35.110

Supersedes EN 62453-302:2017

English Version

## Field device tool (FDT) interface specification - Part 302: Communication profile integration - IEC 61784 CPF 2 (IEC 62453-302:2023)

Spécification des interfaces des outils des dispositifs de terrain (FDT) - Partie 302: Intégration des profils de communication - CPF 2 de l'IEC 61784 (IEC 62453-302:2023)

Field Device Tool (FDT)-Schnittstellenspezifikation - Teil 302: Integration von Kommunikationsprofilen - Kommunikationsprofilfamilie (CPF) 2 nach IEC 61784 (IEC 62453-302:2023)

This European Standard was approved by CENELEC on 2023-12-13. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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**CENELEC**

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

Ref. No. EN IEC 62453-302:2023 E

**EN IEC 62453-302:2023 (E)**

## European foreword

The text of document 65E/1031/FDIS, future edition 3 of IEC 62453-302, 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 62453-302:2023.

The following dates are fixed:

• latest date by which the document has to be implemented at national (dop) 2024-09-13 level by publication of an identical national standard or by endorsement

• latest date by which the national standards conflicting with the (dow) 2026-12-13 document have to be withdrawn

This document supersedes EN 62453-302:2017 and all of its amendments and corrigenda (if any).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

### Endorsement notice

The text of the International Standard IEC 62453-302:2023 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 62453 (series) NOTE Approved as EN 62453 (series)

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EN IEC 62453-302:2023 (E)

# 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.cencenelec.eu.

| Publication | Year | Title | EN/HD | Year |
|---|---|---|---|---|
| IEC 61158-2 | - | Industrial communication networks - Fieldbus specifications - Part 2: Physical layer specification and service definition | EN IEC 61158-2 | - |
| IEC 61158-3-2 | - | Industrial communication networks - Fieldbus specifications - Part 3-2: Data-link layer service definition - Type 2 elements | EN 62258-3-2 | - |
| IEC 61158-4-2 | - | Industrial communication networks - Fieldbus specifications - Part 4-2: Data-link layer protocol specification - Type 2 elements | EN IEC 61158-4-2 | - |
| IEC 61158-5-2 | 2019 | Industrial communication networks - Fieldbus specifications - Part 5-2: Application layer service definition - Type 2 elements | EN IEC 61158-5-2 | 2019 |
| IEC 61158-6-2 | 2019 | Industrial communication networks - Fieldbus specifications - Part 6-2: Application layer protocol specification - Type 2 elements | EN IEC 61158-6-2 | 2019 |
| IEC 61784-1 | - | Industrial communication networks - Profiles Part 1: Fieldbus profiles | EN IEC 61784-1 | - |
| IEC 61784-2 | - | Industrial communication networks - Profiles - Part 2: Additional fieldbus profiles for real-time networks based on ISO/IEC/IEEE 8802-3 | EN IEC 61784-2 | - |
| IEC 61784-3-2 | 2021 | Industrial communication networks - Profiles - Part 3-2: Functional safety fieldbuses - Additional specifications for CPF 2 | EN IEC 61784-3-2 | 2021 |
| IEC 62026-3 | - | Low-voltage switchgear and controlgear - Controller-device interfaces (CDIs) - Part 3: DeviceNet | EN 62026-3 | - |

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| IEC 62026-7 | - | Low-voltage switchgear and controlgear - Controller-device interfaces (CDIs) - Part 7: CompoNet | EN 62026-7 | - |
|---|---|---|---|---|
| IEC 62453-1 | —[1] | Field device tool (FDT) interface specification - Part 1: Overview and guidance | EN IEC 62453-1 | —[2] |
| IEC 62453-2 | 2022 | Field device tool (FDT) interface specification - Part 2: Concepts and detailed description | EN IEC 62453-2 | 2022 |
| ISO 15745-2 | 2003 | Industrial automation systems and integration - Open systems application integration framework - Part 2: Reference description for ISO 11898-based control systems | - | - |
| ISO 15745-3 | 2003 | Industrial automation systems and integration - Open systems application integration framework - Part 3: Reference description for IEC 61158 based control systems | - | - |

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[1] Under preparation. Stage at time of publication: IEC/RPUB 62453-1:2022.

[2] Under preparation. Stage at time of publication: prEN IEC 62453-1:2022.

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**IEC 62453-302**

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# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

colour
inside

Field device tool (FDT) interface specification –
Part 302: Communication profile integration – IEC 61784 CPF 2

Spécification des interfaces des outils des dispositifs de terrain (FDT) –
Partie 302: Intégration des profils de communication – CPF 2 de l'IEC 61784

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ICS 25.040.40, 35.100.05, 35.110

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## FIELD DEVICE TOOL (FDT) INTERFACE SPECIFICATION –

## Part 302: Communication profile integration –
## IEC 61784 CPF 2

### FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.

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IEC 62453-302 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:

a) improved support for Ethernet IP (see 9.3, Clause 10, and 12.4).

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

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

| Draft | Report on voting |
|---|---|
| 65E/1031/FDIS | 65E/1032/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. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

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 in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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IMPORTANT – The "colour inside" logo on the cover page of this document indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

## INTRODUCTION

This part of IEC 62453 is an interface specification for developers of FDT (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 fieldbusses 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 kinds of fieldbusses and thus meets the requirements for integrating different kinds of devices into heterogeneous control systems.

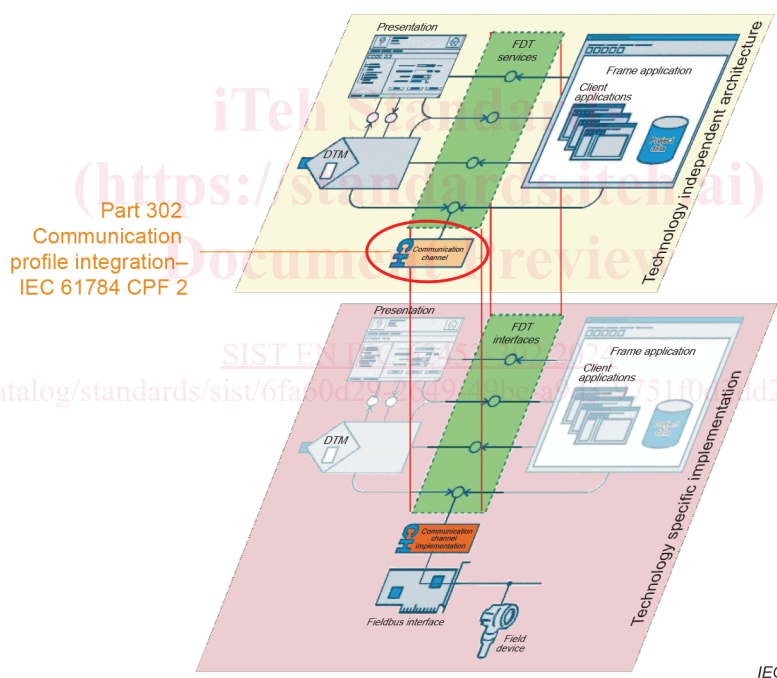Figure 1 shows how IEC 62453-302 is aligned in the structure of the IEC 62453 series [1].



**Figure 1 – Part 302 of the IEC 62453 series**

NOTE   For an example for the technology specific implementation of this document, see [2].