IEC 62453-302

Edition 2.0 2016-06

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

IEC 62453-302:2016-06(en-fr)

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FIELD DEVICE TOOL (FDT) INTERFACE SPECIFICATION –

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FOREWORD

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International Standard 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.

This second edition cancels and replaces the first edition published in 2009. This edition constitutes a technical revision. The main changes are provided in order to provide improved support for Ethernet IP (see Clauses 9, 10, and 12), additional implementation hints (see Annex A) and to support introduction of the technology according to IEC TR 62453-42 [5][1] (see Clause 4).

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

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[1] Figures in square brackets refer to the Bibliography.

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

CDV	Report on voting
65E/336/CDV	65E/395A/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 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 publication will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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- withdrawn,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

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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.

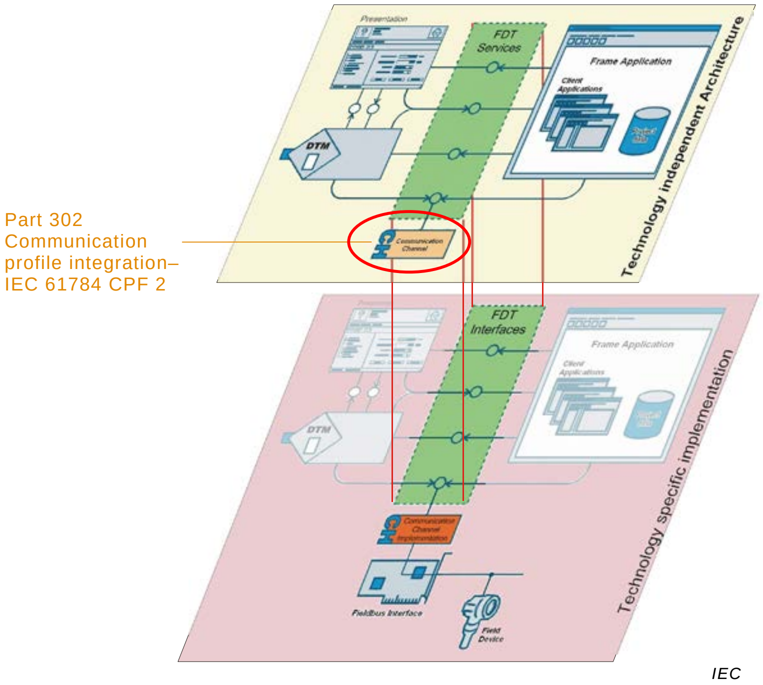

Figure 1 – Part 302 of the IEC 62453 series

FIELD DEVICE TOOL (FDT) INTERFACE SPECIFICATION –

Part 302: Communication profile integration – IEC 61784 CPF 2

1 Scope

Communication Profile Family 2 (commonly known as CIP™[2]) defines communication profiles based on IEC 61158-2 Type 2, IEC 61158-3-2, IEC 61158-4-2, IEC 61158-5-2, IEC 61158-6-2, and IEC 62026-3. The basic profiles CP 2/1 (ControlNet™[3]), CP 2/2 (EtherNet/IP™[4]), and CP 2/3 (DeviceNet™[2]) are defined in IEC 61784-1 and IEC 61784-2. An additional communication profile (CompoNet™[2]), also based on CIP™, is defined in [15].

This part of IEC 62453 provides information for integrating the CIP™ technology into the FDT interface specification (IEC 62453-2).

This part of IEC 62453 specifies communication and other services.

This specification neither contains the FDT specification nor modifies it.

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 61158-2, *Industrial communication networks – Fieldbus specifications – Part 2: Physical layer specification and service definition*

IEC 61158-3-2, *Industrial communication networks – Fieldbus specifications – Part 3-2: Data-link layer service definition – Type 2 elements*

IEC 61158-4-2, *Industrial communication networks – Fieldbus specifications – Part 4-2: Data-link layer protocol specification – Type 2 elements*

IEC 61158-5-2:2014, *Industrial communication networks – Fieldbus specifications – Part 5-2: Application layer service definition – Type 2 elements*

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[2] CIP™ (Common Industrial Protocol), DeviceNet™ and CompoNet™ are trade names of Open DeviceNet Vendor Association, Inc (ODVA). This information is given for the convenience of users of this document and does not constitute an endorsement by IEC of the trade name holder or any of its products. Compliance to this standard does not require use of the trade names CIP™, DeviceNet™ or CompoNet™. Use of the trade names CIP™, DeviceNet™ or CompoNet™ requires permission of Open DeviceNet Vendor Association, Inc.

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