IEC 62453-301

Edition 1.1 2016-05

CONSOLIDATED VERSION

VERSION CONSOLIDÉE

colour inside

Field device tool (FDT) interface specification – Part 301: Communication profile integration – IEC 61784 CPF 1

Spécification des interfaces des outils des dispositifs de terrain (FDT) – Partie 301: Intégration des profils de communication – IEC 61784 CPF 1

IEC 62453-301:2009-06+AMD1:2016-05 CSV(en-fr)

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FOREWORD

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This Consolidated version of IEC 62453-301 bears the edition number 1.1. It consists of the first edition (2009-06) [documents 65E/125/FDIS and 65E/138/RVD] and its amendment 1 (2016-05) [documents 65E/336/CDV and 65E/395A/RVC]. The technical content is identical to the base edition and its amendment.

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

International Standard IEC 62453-301 has been prepared by subcommittee 65E: Devices and integration in enterprise systems, of IEC technical committee 65: Industrial-process measurement, control and automation.

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

The French version of this standard has not been voted upon.

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 the base publication and its amendment will remain unchanged until the stability 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- withdrawn,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.

IMPORTANT – The 'colour inside' logo on the cover page of this publication 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 62453-301 is aligned in the structure of the IEC 62453 series.

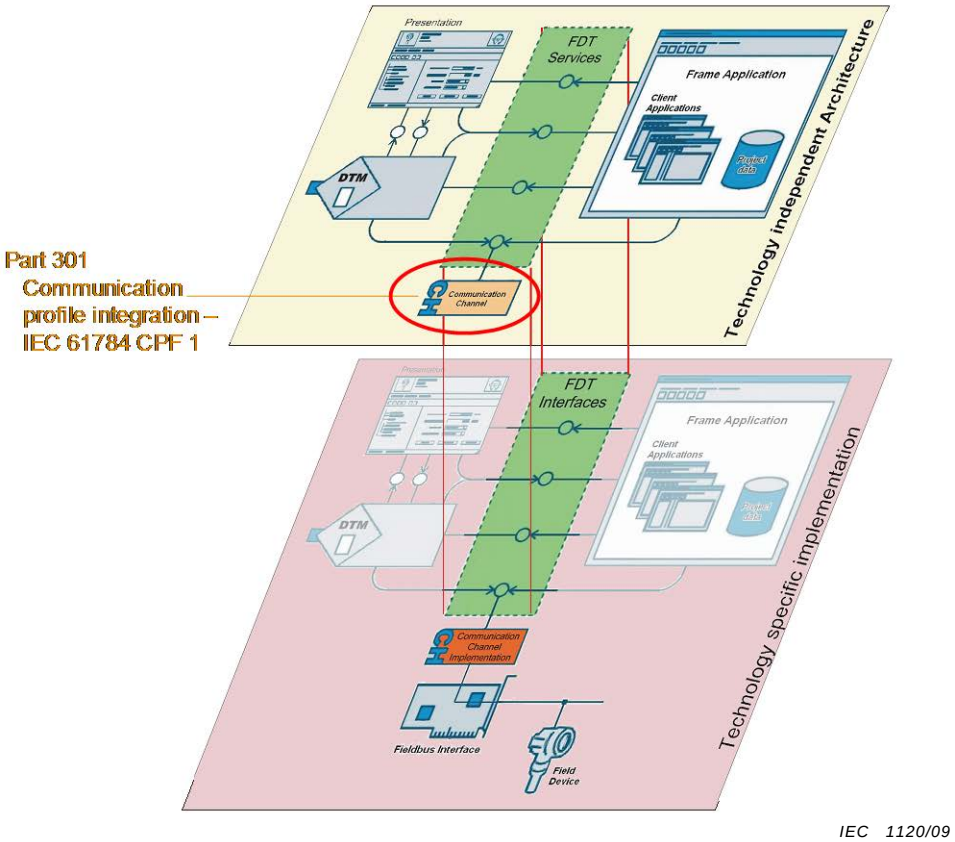

Figure 1 – Part 301 of the IEC 62453 series

FIELD DEVICE TOOL (FDT) INTERFACE SPECIFICATION –

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1 Scope

Communication Profile Family 1 (commonly known as FOUNDATION™ Fieldbus[1]) defines communication profiles based on IEC 61158-2, Type 1, IEC 61158-3-1, IEC 61158-4-1, IEC 61158-5-5, IEC 61158-5-9, IEC 61158-6-5, and IEC 61158-6-9. The basic profiles CP 1/1 (FF H1) and CP 1/2 (FF HSE) are defined in IEC 61784-1.

This part of IEC 62453 provides information for integrating the FOUNDATION™ Fieldbus (FF) protocol into the FDT standard (IEC 62453-2).

The standard describes communication definitions, protocol specific extensions and the means for block (e.g. transducer, resource or function blocks) representation.

The new protocol specific definitions are based on FF-specifications for H1 and HSE protocols. Furthermore, the definitions contain information that is needed by systems to configure FF devices.

The scope is limited to FOUNDATION™ Fieldbus device and system specific definitions.

2 Normative references

The following referenced documents are indispensable for the application of this specification. 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 61158-3-1, *Industrial communication networks – Fieldbus specifications – Part 3-1: Data-link layer service definition – Type 1 elements*

IEC 61158-4-1:2007, *Industrial communication networks – Fieldbus specifications – Part 4-1 Data-link layer protocol specification – Type 1 elements*

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

IEC 61158-5-9, *Industrial communication networks – Fieldbus specifications – Part 5-9: Application layer service definition – Type 9 elements*

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1 FOUNDATION™ Fieldbus is a trade name of the non-profit organization Fieldbus Foundation. This information is given for the convenience of users of this International Standard 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 name Foundation Fieldbus™. Use of the trade name FOUNDATION™ Fieldbus requires permission of Fieldbus Foundation.