Irish Standard
I.S. EN 62453-303-1:2009&A1:2018

Field device tool (FDT) interface specification - Part 303-1: Communication profile integration - IEC 61784 CP 3/1 and CP 3/2

I.S. EN 62453-303-1:2009&A1:2018

Incorporating amendments/corrigenda/National Annexes issued since publication:

EN IEC 62453-303-1:2009/A1:2018

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National Foreword

I.S. EN 62453-303-1:2009&A1:2018 is the adopted Irish version of the European Document EN 62453-303-1:2009, Field device tool (FDT) interface specification - Part 303-1: Communication profile integration - IEC 61784 CP 3/1 and CP 3/2

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 62453-303-1:2009/A1

February 2018

ICS 25.040; 35.100.05; 35.110

English Version

Field device tool (FDT) interface specification - Part 303-1: Communication profile integration - IEC 61784 CP 3/1 and CP 3/2 (IEC 62453-303-1:2009/A1:2016)

Spécification des interfaces des outils des dispositifs de terrain (FDT) - Partie 303-1: Intégration des profils de communication - CEI 61784 CP 3/1 et CP 3/2 (IEC 62453-303-1:2009/A1:2016)

Field Device Tool (FDT)-Schnittstellenspezifikation - Teil 303-1: Integration von Kommunikationsprofilen - Kommunikationsprofile (CP) 3/1 und 3/2 nach IEC 61784 (IEC 62453-303-1:2009/A1:2016)

This amendment A1 modifies the European Standard EN 62453-303-1:2009; it was approved by CENELEC on 2016-07-27. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

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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

European foreword

The text of document 65E/336/CDV, future edition IEC 62453-303-1:2009/A1, prepared subcommittee 65E: Devices and integration in enterprise systems, of IEC technical committee 65: Industrial-process measurement, control and automation was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62453-303-1:2009/A1:2018.

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)	2018-08-02
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2021-02-02

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Endorsement notice

The text of the International Standard IEC 62453-303-1:2009/A1:2018 was approved by CENELEC as a European Standard without any modification.

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62453-303-1

October 2009

ICS 25.040.40; 35.100.05; 35.110

English version

Field device tool (FDT) interface specification - Part 303-1: Communication profile integration - IEC 61784 CP 3/1 and CP 3/2

(IEC 62453-303-1:2009)

Spécification des interfaces des outils des dispositifs de terrain (FDT) - Partie 303-1: Intégration des profils de communication - CEI 61784 CP 3/1 et CP 3/2 (CEI 62453-303-1:2009)

Field Device Tool (FDT)-Schnittstellenspezifikation - Teil 303-1: Integration von Kommunikationsprofilen - Kommunikationsprofile (CP) 3/1 und 3/2 nach IEC 61784 (IEC 62453-303-1:2009)

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CENELEC

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

Central Secretariat: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 62453-303-1:2009 E

Foreword

The text of document 65E/127/FDIS, future edition 1 of IEC 62453-303-1, 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 was approved by CENELEC as EN 62453-303-1 on 2009-08-01.

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

The following dates were fixed:

– latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2010-05-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2012-08-01

Annex ZA has been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 62453-303-1:2009 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

[5] IEC 61158-6	NOTE Harmonized as EN 61158-6:2004 (not modified).
[7] IEC 61158-5	NOTE Harmonized as EN 61158-5:2004 (not modified).

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Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application 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 When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 61131-3	2003	Programmable controllers - Part 3: Programming languages	EN 61131-3	2003
IEC 61158	Series	Industrial communication networks - Fieldbus specifications	EN 61158	Series
IEC 61158-2	–[1)]	Industrial communication networks - Fieldbus specifications - Part 2: Physical layer specification and service definition	EN 61158-2	2008[2)]
IEC 61158-3-3	–[1)]	Industrial communication networks - Fieldbus specifications - Part 3-3: Data-link layer service definition - Type 3 elements	EN 61158-3-3	2008[2)]
IEC 61158-4-3	–[1)]	Industrial communication networks - Fieldbus specifications - Part 4-3: Data-link layer protocol specification - Type 3 elements	EN 61158-4-3	2008[2)]
IEC 61158-5-3	–[1)]	Industrial communication networks - Fieldbus specifications - Part 5-3: Application layer service definition - Type 3 elements	EN 61158-5-3	2008[2)]
IEC 61158-6-3	–[1)]	Industrial communication networks - Fieldbus specifications - Part 6-3: Application layer protocol specification - Type 3 elements	EN 61158-6-3	2008[2)]
IEC 61784-1	–[1)]	Industrial communication networks - Profiles - Part 1: Fieldbus profiles	EN 61784-1	2008[2)]
IEC 62453-1	2009	Field device tool (FDT) interface specification - Part 1: Overview and guidance	EN 62453-1	2009
IEC 62453-2	2009	Field device tool (FDT) interface specification - Part 2: Concepts and detailed description	EN 62453-2	2009

[1)] Undated reference.

[2)] Valid edition at date of issue.

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IEC 62453-303-1

Edition 1.0 2009-06

INTERNATIONAL STANDARD

Field device tool (FDT) interface specification – Part 303-1: Communication profile integration – IEC 61784 CP 3/1 and CP 3/2

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IEC 62453-303-1

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INTERNATIONAL STANDARD

Field device tool (FDT) interface specification – Part 303-1: Communication profile integration – IEC 61784 CP 3/1 and CP 3/2

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIELD DEVICE TOOL (FDT) INTERFACE SPECIFICATION –

Part 303-1: Communication profile integration – IEC 61784 CP 3/1 and CP 3/2

FOREWORD

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International Standard IEC 62453-303-1 been prepared by subcommittee 65E: Devices and integration in enterprise systems, of IEC technical committee 65: Industrial-process measurement, control and automation.

This part, in conjunction with the other parts of the first edition of the IEC 62453 series cancels and replaces IEC/PAS 62453-1, IEC/PAS 62453-2, IEC/PAS 62453-3, IEC/PAS 62453-4 and IEC/PAS 62453-5 published in 2006, and constitutes a technical revision.

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

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

FDIS	Report on voting
65E/127/FDIS	65E/140/RVD

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

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

A bilingual version of this publication may be issued at a later date.

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 62453–303-1 is aligned in the structure of the IEC 62453 series.

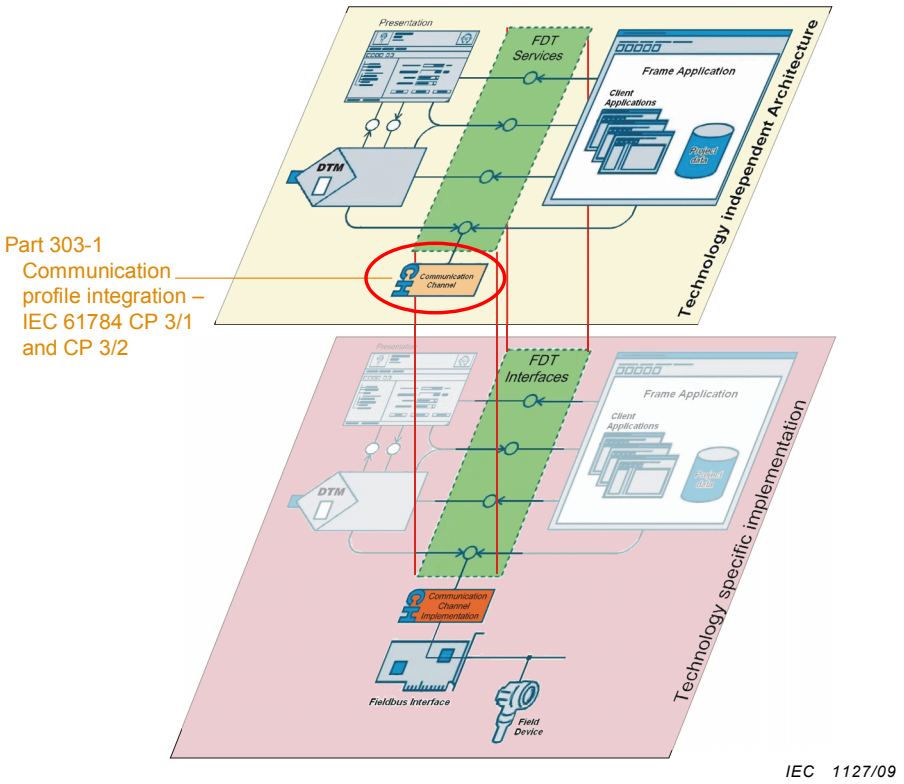

Figure 1 – Part 303-1 of the IEC 62453 series

FIELD DEVICE TOOL (FDT) INTERFACE SPECIFICATION –

Part 303-1: Communication profile integration – IEC 61784 CP 3/1 and CP 3/2

1 Scope

Communication Profile 3/1 and Communication Profile 3/2 (commonly known as PROFIBUS™ [1]) defines communication profiles based on IEC 61158-2 Type 3, IEC 61158-3-3, IEC 61158-4-3, IEC 61158-5-3, and IEC 61158-6-3. The basic profiles CP 3/1 (PROFIBUS DP) and CP 3/2 (PROFIBUS PA) are defined in IEC 61784-1.

This part of IEC 62453 provides information for integrating the PROFIBUS protocol into the FDT interface specification (IEC 62453–2).

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

This specification neither contains the FDT specification nor modifies it.

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 61131-3:2003, *Programmable controllers – Part 3: Programming languages*

IEC 61158 (all parts), *Industrial communication networks – Fieldbus specifications*

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

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

IEC 61158-4-3 *Industrial communication networks – Fieldbus specifications – Part 4-3: Data-link layer protocol specification – Type 3 elements*

IEC 61158-5-3: *Industrial communication networks – Fieldbus specifications – Part 5-3: Application layer service definition – Type 3 elements*

IEC 61158-6-3, *Industrial communication networks – Fieldbus specifications – Part 6-3: Application layer protocol specification – Type 3 elements*

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

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[1] PROFIBUS™ is a trade names of the non-profit organization PROFIBUS Nutzerorganisation e.V. (PNO). 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 registered logos for PROFIBUS™. Use of the registered logos for PROFIBUS™ requires permission of PNO.