

INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Field device tool (FDT) interface specification –
Part 71: OPC UA Information Model for FDT**

<https://standards.iteh.ai>

**Spécification des interfaces des outils des dispositifs de terrain (FDT) –
Partie 71: Modèle d'information de l'OPC UA pour outils FDT**

[IEC 62453-71:2023](https://standards.iteh.ai/catalog/standards/sist/c7e6d356-5a96-46b1-ad9c-b028cae0da2a/iec-62453-71-2023)

<https://standards.iteh.ai/catalog/standards/sist/c7e6d356-5a96-46b1-ad9c-b028cae0da2a/iec-62453-71-2023>



THIS PUBLICATION IS COPYRIGHT PROTECTED
Copyright © 2023 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

IEC Secretariat
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigendum or an amendment might have been published.

IEC publications search - webstore.iec.ch/advsearchform

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee, ...). It also gives information on projects, replaced and withdrawn publications.

IEC Products & Services Portal - products.iec.ch

Discover our powerful search engine and read freely all the publications previews. With a subscription you will always have access to up to date content tailored to your needs.

IEC Just Published - webstore.iec.ch/justpublished

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and once a month by email.

Electropedia - www.electropedia.org

The world's leading online dictionary on electrotechnology, containing more than 22 300 terminological entries in English and French, with equivalent terms in 19 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC Customer Service Centre - webstore.iec.ch/csc

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: sales@iec.ch.

A propos de l'IEC

La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications IEC

Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

Recherche de publications IEC -

webstore.iec.ch/advsearchform

La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études, ...). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

IEC Products & Services Portal - products.iec.ch

Découvrez notre puissant moteur de recherche et consultez gratuitement tous les aperçus des publications. Avec un abonnement, vous aurez toujours accès à un contenu à jour adapté à vos besoins.

IEC Just Published - webstore.iec.ch/justpublished

Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et une fois par mois par email.

Electropedia - www.electropedia.org

Le premier dictionnaire d'électrotechnologie en ligne au monde, avec plus de 22 300 articles terminologiques en anglais et en français, ainsi que les termes équivalents dans 19 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

Service Clients - webstore.iec.ch/csc

Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: sales@iec.ch.

INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Field device tool (FDT) interface specification –
Part 71: OPC UA Information Model for FDT**

**Spécification des interfaces des outils des dispositifs de terrain (FDT) –
Partie 71: Modèle d'information de l'OPC UA pour outils FDT**

[IEC 62453-71:2023](https://standards.iteh.ai/catalog/standards/sist/c7e6d356-5a96-46b1-ad9c-b028cae0da2a/iec-62453-71-2023)

<https://standards.iteh.ai/catalog/standards/sist/c7e6d356-5a96-46b1-ad9c-b028cae0da2a/iec-62453-71-2023>

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 25.040

ISBN 978-2-8322-7619-8

**Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.**

CONTENTS

FOREWORD.....	7
INTRODUCTION.....	9
0.1 General.....	9
0.2 Presentation of FDT.....	9
0.3 Presentation of OPC Unified Architecture.....	9
0.4 Presentation of OPC UA Device Integration.....	10
1 Scope.....	12
2 Normative references.....	12
3 Terms, definitions and abbreviated terms.....	12
3.1 Terms and definitions.....	12
3.2 Abbreviated terms.....	13
4 Conventions used in this document.....	13
4.1.1 Document conventions.....	13
4.1.2 Conventions for FDT methods.....	13
4.1.3 Conventions for Node descriptions.....	13
4.1.4 NodeIds and BrowseNames.....	16
4.1.5 Common Attributes.....	17
4.1.6 Graphical notation.....	19
5 Concept.....	20
5.1 System architecture.....	20
6 FDT specific OPC UA ObjectTypes.....	21
6.1 General.....	21
6.2 FdtDeviceType.....	21
6.3 FdtFunctionalGroupType.....	23
6.4 IFdtDeviceHealthType interface.....	23
6.5 IFdtSupportInfoType interface.....	23
6.5.1 Overview.....	23
6.6 Document types.....	24
6.6.1 FdtDocumentType.....	24
6.6.2 FdtDocumentFile.....	24
6.6.3 FdtDocumentUrl.....	25
6.7 FdtProtocolType.....	25
6.8 FdtTransferServiceType.....	26
6.9 FdtIoSignalInfoType.....	26
7 OPC UA EventTypes.....	27
7.1 Overview.....	27
7.2 FdtAuditEventType.....	28
7.3 FdtStartMethodEventType.....	28
7.4 FdtEndMethodEventType.....	28
7.5 FdtAuditWriteUpdateEventType.....	29
8 OPC UA VariableTypes.....	29
8.1 FdtParameter.....	29
9 OPC UA DataTypes.....	31
9.1 DataRefType.....	31
9.2 FdtDeviceClassificationType.....	31
9.3 SemanticInfoType.....	32

9.4	Enumeration datatypes	32
9.4.1	AlarmType	32
9.4.2	ApplicationIdEnumeration	33
9.4.3	ClassificationDomainId	33
9.4.4	ClassificationId	34
9.4.5	DocumentClassification	36
9.4.6	FunctionExecutionResultState	36
9.4.7	IECDatatype	37
9.4.8	RangeType	38
9.4.9	SignalTypeEnumeration	38
9.4.10	SubstitutionType	38
9.4.11	SupportedTransfer	39
10	OPC UA ReferenceTypes – HasIOSignalRef	39
11	Mapping of DataTypes	40
11.1	Primitive data types – DeviceHealthEnumeration	40
11.2	Mapping to OPC DI types	40
11.2.1	Device type	40
11.2.2	TopologyElementType	45
11.2.3	FunctionalGroupType	46
11.2.4	Identification FunctionalGroup	47
11.2.5	Device data and device methods	48
11.2.6	Methods	49
11.2.7	Variable	52
11.2.8	Device support information	54
11.2.9	FdtProtocolType	56
12	Profiles and Conformance Units	56
12.1	Conformance Units	56
12.2	Profiles	57
12.2.1	Profile list	57
12.2.2	Server Facets	57
12.2.3	Client Facets	58
13	Namespaces	59
13.1	Namespace metadata	59
13.2	Handling of OPC UA namespaces	60
Annex A (normative) FDT namespace and identifiers		61
Annex B (informative) Use cases		62
B.1	General	62
B.2	Use case: List topology	62
B.3	Use case: Identify device	63
B.4	Get list of available device parameters	64
B.4.1	Use case: Browse device parameters	64
B.4.2	Use case: Get attributes of a device parameter	65
B.5	Use case: Get Device Status	66
B.6	Use case: Get Device Diagnostics	67
B.7	Read parameters	68
B.7.1	Use case: Read offline data	68
B.7.2	Use case: Read online data	69
B.8	Use case: Write device parameters	70

B.9 Use case: Audit trail.....	71
Bibliography.....	72
Figure 1 – OPC UA Devices Example	11
Figure 2 – The OPC UA Information Model Notation	19
Figure 3 – System architecture according to IEC 62453-42	21
Figure 4 – FdtDeviceType overview	22
Figure 5 – FdtProtocolType overview	25
Figure 6 – FdtTransferServiceType overview	26
Figure 7 – FdtIoSignalInfoType overview	27
Figure 8 – Audit event type overview	28
Figure 9 – Example for sources of DeviceType information	41
Figure 10 – Example for sources of TopologyType information	45
Figure 11 – Example for mapping of data and function information	49
Figure 12 – Example for source of function information.....	50
Figure 13 – Example for source of static function information	51
Table 1 – Examples of DataTypes.....	14
Table 2 – Example for type definition	15
Table 3 – Examples of other characteristics.....	15
Table 4 – <some>Type Additional References	15
Table 5 – <some>Type Additional sub-components	16
Table 6 – <some>Type Attribute values for child Nodes.....	16
Table 7 – Common Node Attributes	17
Table 8 – Common Object Attributes.....	18
Table 9 – Common Variable Attributes	18
Table 10 – Common VariableType Attributes	18
Table 11 – Common Method Attributes	19
Table 12 – FdtDeviceType definition	22
Table 13 – FdtFunctionalGroupType definition	23
Table 14 – IFdtDeviceHealthType definition.....	23
Table 15 – IFdtSupportInfoType definition.....	24
Table 16 – IFdtSupportInfoType additional subcomponents	24
Table 17 – FdtDocumentType definition	24
Table 18 – FdtDocumentFile definition	25
Table 19 – FdtDocumentUrl definition	25
Table 20 – FdtProtocolType definition.....	26
Table 21 – FdtTransferServiceType definition	26
Table 22 – FdtIoSignalInfoType definition	27
Table 23 – FdtAuditEventType definition.....	28
Table 24 – FdtStartMethodEventType definition	28
Table 25 – FdtEndMethodEventType definition	29
Table 26 – FdtAuditWriteUpdateEventType definition.....	29

Table 27 – FdtParameter definition	30
Table 28 – DataRefType structure	31
Table 29 – DataRefType definition	31
Table 30 – FdtDeviceClassificationType structure	31
Table 31 – FdtDeviceClassificationType definition	32
Table 32 – SemanticInfoType structure	32
Table 33 – SemanticInfoType definition	32
Table 34 – AlarmType items	32
Table 35 – AlarmType definition.....	33
Table 36 – ApplicationIdEnumeration items	33
Table 37 – ApplicationIdEnumeration definition.....	33
Table 38 – ClassificationDomainId items.....	34
Table 39 – ClassificationDomainId definition.....	34
Table 40 – ClassificationId items	34
Table 41 – ClassificationId definition.....	36
Table 42 – DocumentClassification items.....	36
Table 43 – DocumentClassification definition.....	36
Table 44 – FunctionExecutionResultState items.....	36
Table 45 – FunctionExecutionResultState definition.....	37
Table 46 – IECDatatype items	37
Table 47 – IECDatatype definition.....	37
Table 48 – RangeType items	38
Table 49 – RangeType definition.....	38
Table 50 – SignalTypeEnumeration items	38
Table 51 – SignalTypeEnumeration definition	38
Table 52 – SubstitutionType items	39
Table 53 – SubstitutionType definition	39
Table 54 – SupportedTransfer items	39
Table 55 – SupportedTransfer definition	39
Table 56 – HasIOSignalRef definition	40
Table 57 – Mapping for DeviceHealthEnumeration	40
Table 58 – DeviceType mapping	42
Table 59 – Device information mapping	43
Table 60 – Offline device parameter mapping	44
Table 61 – Online device parameter mapping	44
Table 62 – TopologyElementType mapping.....	46
Table 63 – FunctionalGroupType mapping.....	47
Table 64 – Mapping for FunctionalGroup Identification.....	47
Table 65 – Method node information mapping.....	50
Table 66 – Method node information mapping for static function	51
Table 67 – TransferService mapping.....	52
Table 68 – Mapping of FDT data items.....	52
Table 69 – FdtParameter mapping	53

Table 70 – Mapping of simple data types	54
Table 71 – Device Type Image mapping	55
Table 72 – ProtocolSupport mapping	55
Table 73 – FdtIoSignallInfoType node information mapping	56
Table 74 – FdtProtocolType node information mapping	56
Table 75 – Conformance Units for FDT	57
Table 76 – Profile URIs for FDT	57
Table 77 – FDT Base Server Profile	58
Table 78 – FDT General Server Facet	58
Table 79 – FDT General Client Facet	59
Table 80 – NamespaceMetadata Object for this document	59
Table 81 – Namespaces used in a FDT Server	60
Table 82 – Namespaces used in this document	60

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[IEC 62453-71:2023](https://standards.iteh.ai/catalog/standards/sist/c7e6d356-5a96-46b1-ad9c-b028cae0da2a/iec-62453-71-2023)

<https://standards.iteh.ai/catalog/standards/sist/c7e6d356-5a96-46b1-ad9c-b028cae0da2a/iec-62453-71-2023>

INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIELD DEVICE TOOL (FDT) INTERFACE SPECIFICATION –

Part 71: OPC UA Information Model for FDT

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.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at <https://patents.iec.ch>. IEC shall not be held responsible for identifying any or all such patent rights.

IEC 62453-71 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.

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

Draft	Report on voting
65E/806/CDV	65E/897A/RVC

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 in the IEC 62453 series, published 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, or
- revised.

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.

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[IEC 62453-71:2023](#)

<https://standards.iteh.ai/catalog/standards/sist/c7e6d356-5a96-46b1-ad9c-b028cae0da2a/iec-62453-71-2023>

INTRODUCTION

0.1 General

The new OPC Unified Architecture (OPC UA) unifies the existing standards and brings them to state-of-the-art technology using service-oriented architecture (SOA). Platform-independent technology allows the deployment of OPC UA beyond current OPC applications only running on Windows-based PC systems. OPC UA can also run on embedded systems as well as Linux / UNIX based enterprise systems. The provided information can be generically modelled and therefore arbitrary information models can be provided using OPC UA.

FDT standardizes the communication and configuration interface between all field devices and host systems. FDT provides a common environment for accessing the devices' most sophisticated features. Any device can be configured, operated, and maintained through the standardized user interface – regardless of supplier, type or communication protocol.

This document specifies a synergy of both approaches, thus allowing easy, standardized access via OPC UA interfaces to device know-how provided on base of FDT.

0.2 Presentation of FDT

FDT is a technology supporting the data exchange between field devices and automation systems. The technology is based on an interface specification standardized as IEC 62453. The specification defines two main concepts: Device Type Manager (DTM) and Frame Application. A DTM is a software component specific to a field device type. A Frame Application is a software environment (part of the automation system) for integration of DTMs. Within a Frame Application every DTM provides data and services specific to the respective field device. Since the technology is based on a standardized set of interfaces, every DTM may be integrated in every Frame Application. Based on FDT it is possible to integrate communication devices, communication infrastructure devices (e.g. gateways) and field devices, depending on their communication protocols. Support for different communication protocols is provided by means of supplemental communication protocol specifications (e.g. for PROFINET, PROFIBUS, Ethernet IP, TCP, HART and FF) or by means of manufacturer-specific protocol integration.

<https://standards.itec.ai/catalog/standards/sist/c7c6d356-5a96-46b1-ad9c-b028cae0da2a/iec-62453-71-2023>

0.3 Presentation of OPC Unified Architecture

The main use case for OPC standards is the online data exchange between devices and HMI or SCADA systems using Data Access functionality. In this use case the device data is provided by an OPC server and is consumed by an OPC client integrated into the HMI or SCADA system. OPC DA provides functionality to browse through a hierarchical namespace containing data items and to read, to write and to monitor these items for data changes. The OPC Classic specifications are based on Microsoft COM/DCOM technology for the communication between software components from different vendors. Therefore OPC Classic server and clients are restricted to Windows OS based automation systems.

OPC UA incorporates all features of OPC Class specifications like OPC DA, A&E and HDA, but defines platform independent communication mechanisms and generic, extensible and object-oriented modelling capabilities for the information a system wants to expose.

The OPC UA network communication part defines different mechanisms optimized for different use cases. The first version of OPC UA is defining an optimized binary TCP protocol for high performance intranet communication as well as a mapping to accepted internet standards like Web Services. The abstract communication model does not depend on a specific protocol mapping and allows the addition of new protocols in the future. Features like security, access control and reliability are directly built into the transport mechanisms. Based on the platform independence of the protocols, OPC UA servers and clients can be directly integrated into devices and controllers.

The OPC UA Information Model provides a standard way for Servers to expose Objects to Clients. Objects in OPC UA terms are composed of other Objects, Variables and Methods. OPC UA also allows relationships to other Objects to be expressed.

The set of Objects and related information that an OPC UA Server makes available to Clients is referred to as its AddressSpace. The elements of the OPC UA Object Model are represented in the AddressSpace as a set of Nodes described by Attributes and interconnected by References. OPC UA defines eight classes of Nodes to represent AddressSpace components. The classes are Object, Variable, Method, ObjectType, DataType, ReferenceType and View. Each NodeClass has a defined set of Attributes.

This specification makes use of two essential OPC UA NodeClasses: Objects and Variables.

Objects are used to represent components of a system. An Object is associated with a corresponding ObjectType that provides definitions for that Object.

Variables are used to represent values. Two categories of Variables are defined, Properties and DataVariables.

Properties are Server-defined characteristics of Objects, DataVariables and other Nodes. Properties are not allowed to have Properties defined for them. An example for Properties of Objects is the Revision Property of a DeviceType.

DataVariables represent the contents of an Object. DataVariables might have component DataVariables. This is typically used by Servers to expose individual elements of arrays and structures. This specification uses DataVariables to represent data like the process variables provided by a device.

0.4 Presentation of OPC UA Device Integration

The specification "OPC UA Device Integration" is an extension of the overall OPC Unified Architecture specification series and defines the information model associated with Devices. The model is intended to provide a unified view of Devices irrespective of the underlying Device protocols. FDT deals with physical or logical Devices and the information model of IEC 62541-100 therefore is used as base for the FDT information model.

The Devices information model specifies different ObjectTypes and procedures used to represent devices and related components like the communication infrastructure in an OPC UA Address Space. The main use cases are device configuration and diagnostic, but it allows a general and standardized way for any kind of application to access device related information. The following examples illustrate the concepts used in this specification. See UA Devices for the complete definition of the Devices information model.

Figure 1 shows an example for a temperature controller represented as Device Object. The component ParameterSet contains all Variables describing the Device. The component MethodSet contains all Methods provided by the Device. Both components are inherited from the TopologyElementType which is the root Object type of the Device Object type hierarchy. Objects of the type FunctionalGroupType are used to group the Parameters and Methods of the Device into logical groups. The FunctionalGroupType and the grouping concept are defined in UA Devices but the groups are device type specific i.e. the groups ProcessData and Configuration are defined by the TemperatureControllerType in this example.

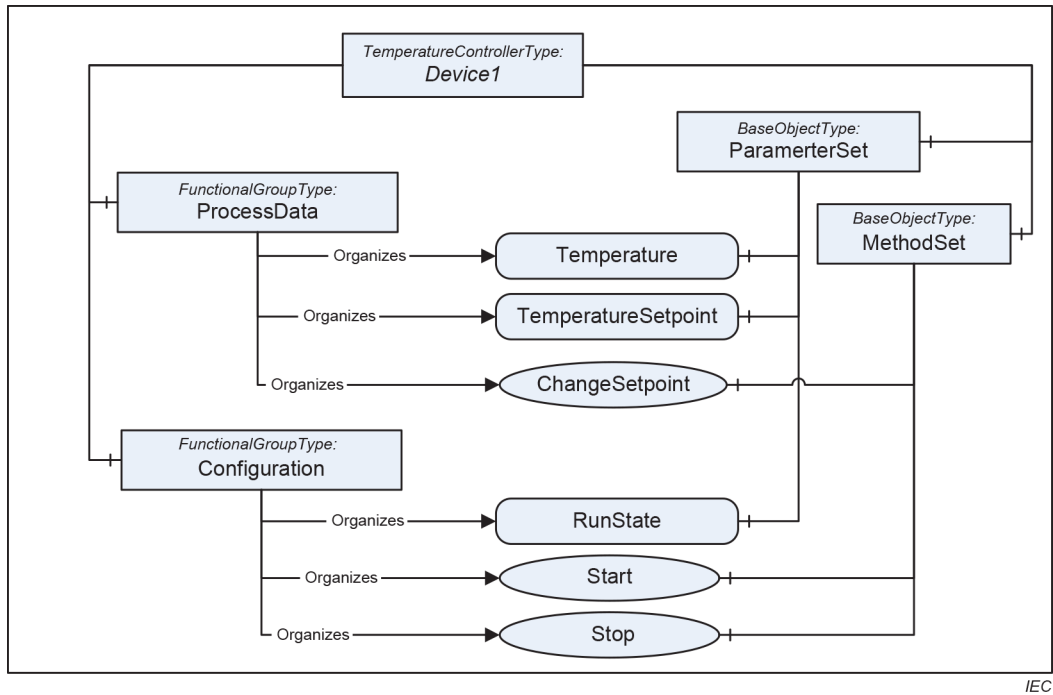


Figure 1 – OPC UA Devices Example

The use cases in Annex B illustrate the usage of the information model. Not all necessary Objects need to be realized within a concrete OPC UA Server.

Document Preview

[IEC 62453-71:2023](https://standards.iteh.ai/catalog/standards/sist/c7e6d356-5a96-46b1-ad9c-b028cae0da2a/iec-62453-71-2023)

<https://standards.iteh.ai/catalog/standards/sist/c7e6d356-5a96-46b1-ad9c-b028cae0da2a/iec-62453-71-2023>

FIELD DEVICE TOOL (FDT) INTERFACE SPECIFICATION –

Part 71: OPC UA Information Model for FDT

1 Scope

This part of IEC 62453 specifies an OPC UA Information Model to represent the device information based on FDT-defined device integration.

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 62453-1:2023, *Field Device Tool (FDT) interface specification – Part 1: Overview and guidance*

IEC 62453-2:2022, *Field Device Tool (FDT) interface specification – Part 2: Concepts and detailed description*

IEC 62541-3:2020, *OPC Unified Architecture – Part 3: Address Space Model*

IEC 62541-5:2020, *OPC Unified Architecture – Part 5: Information Model*

IEC 62541-6, *OPC Unified Architecture – Part 6: Mappings*

IEC 62541-7, *OPC Unified Architecture – Part 7: Profiles*

IEC 62541-8, *OPC Unified Architecture – Part 8: Data Access*

IEC 62541-100:2015, *OPC Unified Architecture – Part 100: Device Interface*

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 62453-1, IEC 62453-2 and IEC 62451-100 apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>