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01-november-2023

Integracija procesne naprave (FDI®) - 8. del: Preslikava EDD v OPC-UA (IEC 62769-8:2023)

Field device integration (FDI®) - Part 8: EDD to OPC-UA Mapping (IEC 62769-8:2023)

Feldgeräteintegration (FDI®) - Teil 8: EDD zu OPC-UA Mapping (IEC 62769-8:2023)

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 62769-8

May 2023

ICS 33.040.40

English Version

Field device integration (FDI®) - Part 8: EDD to OPC-UA Mapping (IEC 62769-8:2023)

Intégration des appareils de terrain (FDI®) - Partie 8: Mapping de l'EDD avec l'OPC-UA (IEC 62769-8:2023)

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European foreword

The text of document 65E/851/CDV, future edition 1 of IEC 62769-8, 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 62769-8:2023.

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) 2024-02-10
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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 61804-3	-	Devices and integration in enterprise systems - Function blocks (FB) for process control and electronic device description language (EDDL) - Part 3: EDDL syntax and semantics	EN IEC 61804-3	-
IEC 62541-3	-	OPC Unified Architecture - Part 3: Address Space Model	EN IEC 62541-3	-
IEC 62541-4	-	OPC Unified Architecture - Part 4: Services	EN IEC 62541-4	-
IEC 62541-5	-	OPC Unified Architecture - Part 5: Information Model	EN IEC 62541-5	-
IEC 62541-8	-	OPC Unified Architecture - Part 8: Data Access	EN IEC 62541-8	-
IEC 62541-9	2020	OPC Unified Architecture - Part 9: Alarms and Conditions	EN IEC 62541-9	2020
IEC 62541-100	-	OPC Unified Architecture - Part 100: Device Interface	-	-
IEC 62769-1	-	Field Device Integration (FDI®) - Part 1: Overview	EN IEC 62769-1	-
IEC 62769-5	-	Field Device Integration (FDI®) - Part 5: FDI Information Model	EN IEC 62769-5	-
IEC 62769-6	-	Field Device Integration (FDI®) - Part 6: FDI Technology Mappings	EN IEC 62769-6	-
ISO/IEC 11179-6	-	Information technology - Metadata registries (MDR) - Part 6: Registration	-	-
OPC 30081	-	Process Automation Devices - PADIM	-	-
UN/CEFACT	-	UNECE Recommendation 20, Codes for Units of Measure Used in International Trade	-	-

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Edition 1.0 2023-04

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FIELD DEVICE INTEGRATION (FDI®) –

Part 8: EDD to OPC-UA Mapping

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IEC 62769-8 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/851/CDV	65E/909/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.

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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/publications.

A list of all parts in the IEC 62769 series, published under the general title *Field device integration (FDI®)*, 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

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FIELD DEVICE INTEGRATION (FDI®) –

Part 8: EDD to OPC-UA Mapping

1 Scope

This part of IEC 62769 specifies how the internal view of a device model represented by the EDD can be transferred into an external view as an OPC-UA information model by mapping EDD constructs to OPC-UA objects.

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.

NOTE For undated references, the edition of the referenced document (including any amendments), which applies for a specific FDI®[1] Technology Version is defined within the FDI® Technology Management Document and on the support portals of FieldComm Group and PI International.

IEC 61804-3, *Devices and integration in enterprise systems − Function blocks (FB) for process control and electronic device description language (EDDL) − Part 3: EDDL syntax and semantics*

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

IEC 62541-4, *OPC Unified Architecture – Part 4: Services*

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

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

IEC 62541-9:2020, *OPC Unified Architecture – Part 9: Alarms and Conditions*

OPC 10000-17, *OPC Unified Architecture – Part 17: Alias Names*

OPC 10000-19, *OPC Unified Architecture – Part 19: Dictionary Reference*

IEC 62541-100, *OPC unified architecture – Part 100: Device Interface*

IEC 62769-1, *Field Device Integration (FDI®) – Part 1: Overview*

IEC 62769-5, *Field Device Integration (FDI®) – Part 5: FDI® Information Model*

IEC 62769-6, *Field Device Integration (FDI®) – Part 6: FDI® Technology Mappings*

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ISO/IEC 11179-6, *Information technology – Metadata registries (MDR) – Part 6: Registration*

OPC 30081, *Process Automation Devices – PADIM*

UN/CEFACT, UNECE Recommendation 20, Codes for Units of Measure Used in International Trade
available at https://www.unece.org/cefact/codesfortrade/codes_index.html [viewed 2023-02-07]

3 Terms, definitions, abbreviated terms, acronyms and conventions

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 62769-1, IEC 62769-5, IEC 62769-6, IEC 62541-3, IEC 62541-4, IEC 62541-5, IEC 62541-8, IEC 62541-9, OPC 10000-17, IEC 62541-100, and OPC 30081 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

3.2 Abbreviated terms and acronyms

For the purposes of this document, the abbreviated terms and acronyms given in IEC 62769-1 as well as the following apply.

PA-DIM Process Automation Device Information Model

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3.3 Conventions

3.3.1 Capitalization

Capitalization of the first letter of words is used in the IEC 62769 series to emphasize an FDI® defined term.

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3.3.2 Graphical notation

OPC UA defines a graphical notation for an OPC UA AddressSpace. It defines graphical symbols for all NodeClasses and how different types of References between Nodes can be visualized. Figure 1 shows the symbols for the NodeClasses used in this document. NodeClasses representing types always have a shadow.

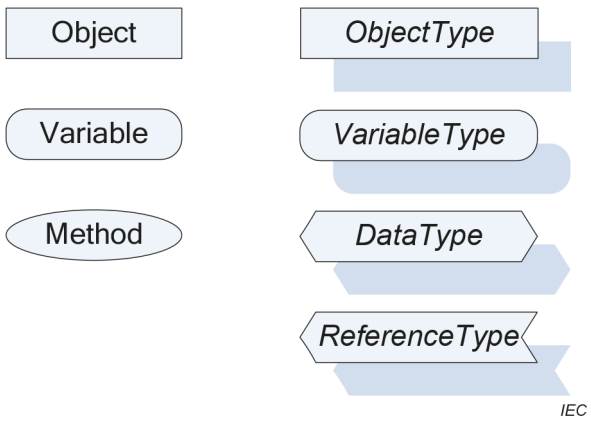

Figure 1 – OPC UA Graphical notation for NodeClasses