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SS-EN IEC 62714-5, utg 1:2022

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Dataformat för utbyte av konfigurationsdata för industriella automationssystem (AutomationML) – Del 5: Kommunikation

Engineering data exchange format for use in industrial automation systems engineering – Automation Markup Language – Part 5: Communication

Som svensk standard gäller europastandarden EN IEC 62714-5:2022. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 62714-5:2022.

Nationellt förord

Europastandarden EN IEC 62714-5:2022

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 62714-5, First edition, 2022 - Engineering data exchange format for use in industrial automation systems engineering - Automation Markup Language - Part 5: Communication**

utarbetad inom International Electrotechnical Commission, IEC.

ICS 25.040.00; 25.040.01

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 62714-5

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English Version

Engineering data exchange format for use in industrial automation systems engineering - Automation markup language - Part 5: Communication (IEC 62714-5:2022)

Format d'échange de données techniques pour une utilisation dans l'ingénierie des systèmes d'automatisation industrielle - Automation markup language - Partie 5: Communication (IEC 62714-5:2022)

Datenaustauschformat für Planungsdaten industrieller Automatisierungssysteme - Automation markup language - Teil 5: Kommunikation (IEC 62714-5:2022)

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SEK Svensk Elstandard SS-EN IEC 62714-5, utg 1:2022

European foreword

The text of document 65E/844/FDIS, future edition 1 of IEC 62714-5, 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 62714-5:2022.

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) 2023-01-15
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2025-04-15

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Endorsement notice

The text of the International Standard IEC 62714-5:2022 was approved by CENELEC as a European Standard without any modification.

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.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 61131-3	-	Programmable controllers - Part 3: Programming languages	EN 61131-3	-
IEC 61131-10	2019	Programmable controllers - Part 10: PLC open XML exchange format	EN IEC 61131-10	2019
IEC 62424	2016	Representation of process control engineering - Requests in P&I diagrams and data exchange between P&ID tools and PCE-CAE tools	EN 62424	2016
IEC 62714-1	-	Engineering data exchange format for use in industrial automation systems engineering - Automation Markup Language - Part 1: Architecture and general requirements	EN IEC 62714-1	-
IEC 62714-4	-	Engineering data exchange format for use in industrial automation systems engineering - Automation markup language - Part 4: Logic	EN IEC 62714-4	-
IEC 81346	series	Industrial systems, installations and equipment and industrial products - Structuring principles and reference designations	-	series

IEC 62714-5

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Engineering data exchange format for use in industrial automation systems engineering – Automation markup language – Part 5: Communication

Format d'échange de données techniques pour une utilisation dans l'ingénierie des systèmes d'automatisation industrielle – Automation markup language – Partie 5: Communication

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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ENGINEERING DATA EXCHANGE FORMAT FOR USE IN INDUSTRIAL AUTOMATION SYSTEMS ENGINEERING – AUTOMATION MARKUP LANGUAGE –

Part 5: Communication

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.
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IEC 62714-5 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/844/FDIS	65E/886/RVD

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 of the IEC 62714 series, under the general title *Engineering data exchange format for use in industrial automation systems engineering – Automation markup language,* 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,
- replaced by a revised edition, or
- amended.

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ENGINEERING DATA EXCHANGE FORMAT FOR USE IN INDUSTRIAL AUTOMATION SYSTEMS ENGINEERING – AUTOMATION MARKUP LANGUAGE –

Part 5: Communication

1 Scope

Engineering processes of technical systems and their embedded automation systems are executed with increasing efficiency and quality. Especially since the project duration tends to increase as the complexity of the engineered system increases. To solve this problem, the engineering process is more often being executed by exploiting software based engineering tools exchanging engineering information and artefacts along the engineering process related tool chain.

Communication systems establish an important part of modern technical systems and, especially, of automation systems embedded within them. Following the increasing decentralisation of automation systems and the application of fieldbus and Ethernet technology connecting automation devices and further interacting entities need to fulfil special requirements on communication quality, safety and security. Thus, within the engineering process of modern technical systems, engineering information and artefacts relating to communication systems also need to be exchanged along the engineering process tool chain.

In each phase of the engineering process of technical systems, communication system related information can be created which can be consumed in later engineering phases. A typical application case is the creation of configuration information for communication components of automation devices including communication addresses and communication package structuring within controller programming devices during the control programming phase and its use in a device configuration tool. Another typical application case is the transmission of communication device configurations to virtual commissioning tools, to documentation tools, or to diagnosis tools.

At present, the consistent and lossless transfer of communication system engineering information along the complete engineering chain of technical systems is unsolved. While user organisations and companies have provided data exchange formats for parts of the relevant information like FDCML, EDDL, and GSD, the above named application cases cannot be covered by a data exchange format. Notably the networking related information describing communication relations and their properties and qualities cannot be modelled by a data exchange format.

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 61131-3, *Programmable controllers − Part 3: Programming languages*

IEC 61131-10:2019, *Programmable controllers – Part 10: PLC open XML exchange format*

IEC 62424:2016, *Representation of process control engineering − Requests in P&I diagrams and data exchange between P&ID tools and PCE-CAE tools*

IEC 62714-1, *Engineering data exchange format for use in industrial systems engineering – Automation Markup Language – Part 1: Architecture and general requirements*

IEC 62714-4, *Engineering data exchange format for use in industrial systems engineering – Automation markup language − Part 4: Logic*

IEC 81346 (all parts), *Industrial systems, installations and equipment and industrial products – Structuring principles and reference designations*