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

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 06/22

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# EN IEC 62714-5

April 2022

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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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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.

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(normative)

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| 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 |

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## 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

IEC 62714-5:2022-03(en-fr)

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## 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

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

## Part 5: Communication

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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.

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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/standardsdev/publications.

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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.

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