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	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



65E/1181/CD

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United States of America

SECRETARY:

Mr David Richmond

OF INTEREST TO THE FOLLOWING COMMITTEES:

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TITLE:

Engineering data exchange format for use in industrial automation systems engineering - Automation Markup Language - Part 6: AutomationML Components

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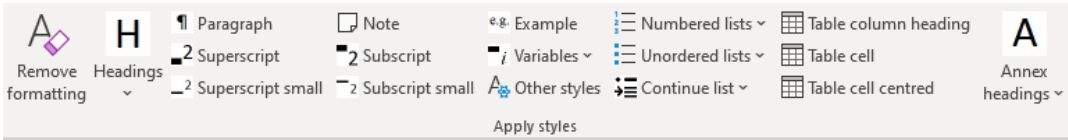
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CONTENTS

22		
23	FOREWORD	5
24	INTRODUCTION	7
25	1 Scope	8
26	2 Normative references	8
27	3 Terms and definitions	8
28	3.1 Terms and definitions	8
29	4 Conformity	9
30	5 Overview	9
31	6 Automation Component	9
32	6.1 Aspects of Automation Components	9
33	6.2 Stakeholders and Lifecycle	10
34	6.3 Considered Information and Sub-Model of Automation Components	13
35	7 Representation in AML	14
36	7.1 Structuring of AML Components and Composite Components	14
37	7.2 Composition of AML Automation Components	16
38	7.2.1 General Provisions	16
39	7.2.2 Example Simple AML Component	17
40	7.2.3 Example AML Composite Component	18
41	7.3 Nameplate Integration	20
42	7.4 Connector Integration	20
43	7.5 Classification Integration	21
44	7.6 Technical Data Integration	22
45	7.7 Model Integration	23
46	7.8 Graphic Representation Integration	23
47	7.9 Documentation Integration	24
48	7.10 Commercial Data Integration	25
49	8 Extensions of AML classes for components	26
50	8.1 General	26
51	8.2 Role Class Libraries	26
52	8.2.1 Overview Role Class Libraries	26
53	8.2.2 AutomationML_AutomationComponent_RoleClassLib	26
54	8.2.3 AutomationML_AutomationComponent.AspectCollections_RoleClassLib	31
55	8.3 Interface Class Libraries	34
56	8.3.1 Overview Interface Class Libraries	34
57	8.3.2 AutomationML_AutomationComponent_InterfaceClassLib	34
58	8.4 Attribute Type Libraries	35
59	8.4.1 Overview	35
60	8.4.2 AutomationML_AutomationComponent_AttributeTypeLib	35
61	Annex A (normative) Manufacturer Specific Extensions of Component Description	36
62	Bibliography	37
63		
64	Figure 1 – Aspects of an automation component or production system	9
65	Figure 2 – Information and sub-model integration into to the AutomationML Component	12

66	Figure 3 – Overview structure of an automation component (Type Model) in	
67	AutomationML.....	14
68	Figure 4 – Overview structure of an automation component (Type Model) in	
69	AutomationML.....	14
70	Figure 5 – Overview structure of an automation component (Type Model) in	
71	AutomationML.....	16
72	Figure 6 – Example simple AutomationML Component structure overview	17
73	Figure 7 – Example simple AutomationML Component with AutomationML Objects	17
74	Figure 8 – Example AutomationML Composite Component structure overview	18
75	Figure 9 – Example AutomationML Composite Component with AutomationML Objects	18
76	Figure 10 – Example usage of the AutomationML role classes “NamePlateCollection”	
77	and “NamePlate”.....	19
78	Figure 11 – AutomationML representation of “NamePlate” and “NamePlateCollection”	
79	role class	19
80	Figure 12 – Example usage of the AutomationML role classes “ConnectorCollection”	
81	and “Connector”	20
82	Figure 13 – AutomationML representation of “Connector” and “ConnectorCollection”	
83	role class	20
84	Figure 14 – Example usage of the AutomationML role classes “ClassificationCollection”	
85	and “Classification”	21
86	Figure 15 – AutomationML representation of “ClassificationCollection” and	
87	“Classification” role class	21
88	Figure 16 – Example usage of the AutomationML role classes	
89	“TechnicalDataCollection” and “TechnicalData”.....	21
90	Figure 17 – AutomationML representation of “TechnicalDataCollection” and	
91	“TechnicalData” role class	22
92	Figure 18 – Example usage of the AutomationML role classes “ModelCollection” and	
93	“Model”	22
94	Figure 19 – AutomationML representation of “ModelCollection” and “Model” role class	22
95	Figure 20 – Example usage of the AutomationML role classes	
96	“GraphicRepresentationCollection” and “GraphicRepresentation”.....	23
97	Figure 21 – AutomationML representation of “GraphicRepresentationCollection” and	
98	“GraphicRepresentation” role classes	23
99	Figure 22 – Example usage of the AutomationML role classes “Documentation” and	
100	“DocumentCollection”	24
101	Figure 23 – AutomationML representation of “Documentation” and	
102	“DocumentationCollection” role class	24
103	Figure 24 – AutomationML representation of “CommercialData” and	
104	“CommercialDataCollection” role class.....	25
105	Figure 25 – AutomationML representation of “CommercialData” and	
106	“CommercialDataCollection” role class.....	25
107	Figure 26 – Overview “AutomationML_AutomationComponent_RoleClassLib”	26
108	Figure 27 – Overview	
109	„AutomationML_AutomationComponent.AspectCollections_RoleClassLib“	30
110	Figure 31: Overview „AutomationML_AutomationComponent_InterfaceClassLib“	33
111	Figure 32: Overview „AutomationML_AutomationComponent_AttributeTypeLib“	34
112		
113	Table 1 – Abbreviated terms	8

114	Table 2 – Hierarchical structure of AutomationML Components.....	15
115	Table 3 – RoleClass AutomationComponent	26
116	Table 4 – RoleClass AspectCollection.....	27
117	Table 5 – RoleClass Classification	27
118	Table 6 – RoleClass Connector.....	27
119	Table 7 – RoleClass Documentation	28
120	Table 8 – RoleClass GraphicRepresentation	28
121	Table 9 – RoleClass NamePlate.....	28
122	Table 10 – RoleClass Model	29
123	Table 11 – RoleClass TechnicalData	29
124	Table 12 – RoleClass CommercialData	29
125	Table 13 – RoleClass NamePlateCollection	30
126	Table 14 – RoleClass ConnectorCollection	31
127	Table 15 – RoleClass ClassificationCollection.....	31
128	Table 16 – RoleClass TechnicalDataCollection	31
129	Table 17 – RoleClass ModelCollection	32
130	Table 18 – RoleClass GraphicRepresentationCollection.....	32
131	Table 19 – RoleClass DocumentCollection.....	32
132	Table 20 – RoleClass CommetctialDataCollection	33
133	Table 20 – RoleClass GraphicRepresentationReference	34
134	Table 20 – Attribute Type globalAssetID	34

135

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 4: AutomationML Components

FOREWORD

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This XXX edition cancels and replaces the XXX edition published in [publication_date], Amendment 1:[publication_date] and Amendment 2:[publication_date]. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) ...;

a)

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

Draft	Report on voting
XX/XX/FDIS	XX/XX/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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- reconfirmed,
- withdrawn, or
- revised.

210

INTRODUCTION

211 **1 Scope**

212 This part of IEC 62714 specifies the structure and method for modelling automation components
213 and automation systems in AutomationML.

214 This document focuses on the basic structure for AutomationML Component to integrate
215 information needed for successfully handling automation components in a digitalised
216 engineering process

217 ...

218 **2 Normative references**

219 The following documents are referred to in the text in such a way that some or all of their content
220 constitutes requirements of this document. For dated references, only the edition cited applies.
221 For undated references, the latest edition of the referenced document (including any
222 amendments) applies.

223 [WP-Part1:2018] Whitepaper AutomationML Part 1 - Architecture and general requirements, V
224 2.1.0, Jul 2018

225 [IEC61406:2022] IEC 61406-1:2022 Identification Link - Part 1: General requirements, 2022

226 [AML-Con:2025] AutomationML e.V. Conventions for the modelling of AutomationML libraries,
227 V1.4.6, Feb 2025

228 **3 Terms and definitions**229 **3.1 Terms and definitions**

230 For the purposes of this document, the terms and definitions given in IEC 62714-1 and the
231 following apply.

232 ISO and IEC maintain terminological databases for use in standardization at the following
233 addresses:

- 234 • IEC Electropedia: available at <http://www.electropedia.org/>
- 235 • ISO Online browsing platform: available at <http://www.iso.org/obp>

236

237 **3.1.1**238 **Automation component**

239 A component that supports partial or fully automated operation of industrial processes.

240 **3.1.2**241 **AML Component Meta Model**

242 The meta model of an AML Component defines the model and structure of AML Component.
243 This includes the role classes and interfaces class that shall be used to describe type model
244 and instance model of AML Components, UML Diagrams defining the relations between
245 different elements of an AML Component and the specification.

3.1.3

AML Component Type Model

A type model of an AML Component or Composite Component describes a automation component or system. The root element of the Automation Component type Model shall be a SystemUnitClass. Within type models of AML Composite Components all child lower AML Components or Composite Components are modeled as InternalElements.

3.1.4

AML Component Instance Model

AML Component instance models of automation components are instances of AML Components or Composite Components. The root element of instance models shall be an InternalElement. Instance models can be used within the InstanceHierarchies of an AML file or as InternalElement within an AML Composite Component.

3.1.5

AML Component

An AML Component is an AML object that describes an automation component or system. This can be the type or the instance model of the automation component. Additionally, the automation component has no sub components. An AML Component can be stored as SystemUnitClass or InternalElement.

3.1.6

AML Composite Component

An AML Composite Component is an AML object that describes an automation component that is composed of AML Components. An AML Composite Component can be defined as type model or an instance model. An example for an AML Composite Component is a handling system that combines two motors and a valve.

3.1.7

Automation System

A group of automation components interacting to support partial or fully automated operation of industrial processes.

3.2 Abbreviated terms

For the purpose of this document, the abbreviated terms ... Table 1.

Table 1 – Abbreviated terms

4 Conformity

5 Overview

todo

6 Automation Component

6.1 Aspects of Automation Components

A mechatronic production system component (consisting of automation components) interacts with other automation components within a complex production system in different ways. The design of production systems involves different engineering disciplines covering -but not limited to- functional, mechanical, electrical, control and HMI engineering. Each discipline needs specific information aspects about an automation component. The approach of this whitepaper is to present a meta model for an AML Component that allows to describe such automation components and production systems with all these aspects on different levels. Within these meta model, functional roles are applied to identify information related to aspects by using role classes within AML. Figure 1 gives an overview about a selection of different aspects that belong to an automation component or production system.

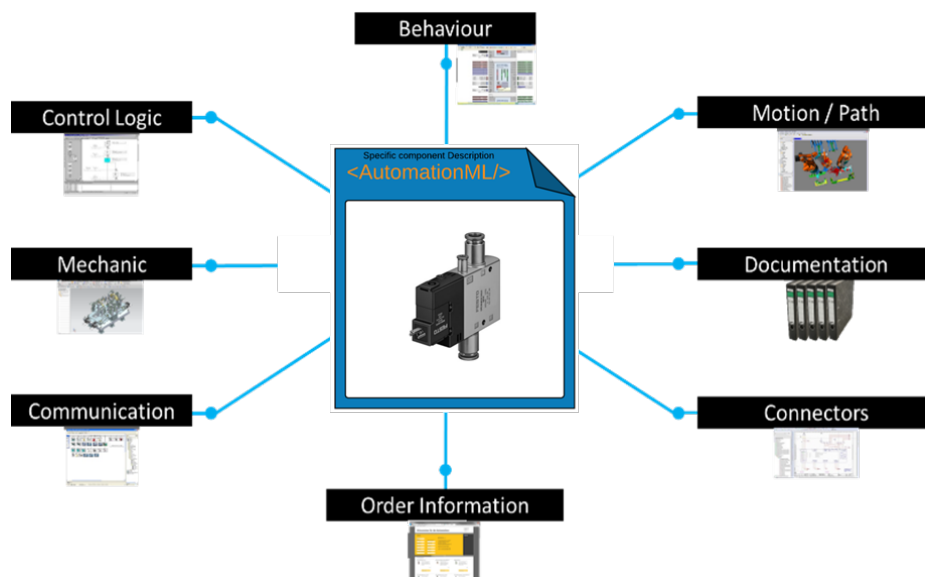


Figure 1 – Aspects of an automation component or production system

Another aspect that is considered within the AML Components is the relations the automation component can be within. To model this, it is necessary to describe interfaces and connectors of automation components to interlink them and to define internal linking of component aspects and external information references.

The lifecycle of production systems encompasses various phases that can benefit from the use of consistent component descriptions by providing consistent information to the applied tool chains.

6.2 Stakeholders and Lifecycle

The model of an automation component and production system described as AML Component has in general three stakeholder groups during its lifecycle.

The first stakeholder group is a Standardisation Consortium, here the AML Association, who defines the meta model of AML Components.

Second stakeholder group encompasses the Component Manufacturers (Vendors), who create their type model AML Component libraries based on the meta model from the Standardisation Organisation. In this way the meta model serves to ensure interoperability between different manufacturers and consistency of the models throughout its life cycle.