



SLOVENSKI STANDARD
SIST EN IEC 62541-5:2026

01-maj-2026

Enotna arhitektura OPC - 5. del: Informacijski model (IEC 62541-5:2026)

OPC unified architecture - Part 5: Information model (IEC 62541-5:2026)

OPC Unified Architecture - Teil 5: Informationsmodell (IEC 62541-5:2026)

Architecture unifiée OPC - Partie 5: Modèle d'informations (IEC 62541-5:2026)

Ta slovenski standard je istoveten z: EN IEC 62541-5:2026

ICS:

25.040.40	Merjenje in krmiljenje industrijskih postopkov	Industrial process measurement and control
35.240.50	Uporabniške rešitve IT v industriji	IT applications in industry

SIST EN IEC 62541-5:2026

en,fr,de

2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

Sample Document

get full document from standards.iteh.ai

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN IEC 62541-5

February 2026

ICS 25.040.40; 35.100.05

Supersedes EN IEC 62541-5:2020

English Version

OPC unified architecture - Part 5: Information Model (IEC 62541-5:2026)

Architecture unifiée OPC - Partie 5: Modèle d'information
(IEC 62541-5:2026)

OPC Unified Architecture - Teil 5: Informationsmodell
(IEC 62541-5:2026)

This European Standard was approved by CENELEC on 2026-02-10. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.



European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN IEC 62541-5:2026 (E)

European foreword

The text of document 65E/1062/CDV, future edition 4 of IEC 62541-5, 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 62541-5:2026.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2027-02-28 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2029-02-28 document have to be withdrawn

This document supersedes EN IEC 62541-5:2020 and all of its amendments and corrigenda (if any).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a standardization request addressed to CENELEC by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 62541-5:2026 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 62541-11 NOTE Approved as EN IEC 62541-11

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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 62541-1	-	OPC Unified Architecture - Part 1: Overview and concepts	EN IEC 62541-1	-
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 62541-6	-	OPC unified architecture - Part 6: Mappings	EN IEC 62541-6	-
IEC 62541-7	-	OPC Unified Architecture - Part 7: Profiles	EN IEC 62541-7	-
IEC 62541-8	-	OPC unified architecture - Part 8: Data access	EN IEC 62541-8	-
IEC 62541-9	-	OPC Unified Architecture - Part 9: Alarms and Conditions	EN IEC 62541-9	-
IEC 62541-18	-	OPC unified architecture - Part 18: Role-Based Security	EN IEC 62541-18	-
IEC 62541-20	-	OPC unified architecture - Part 20: File transfer	EN IEC 62541-20	-
ISO/IEC 11578	1996	Information technology - Open Systems Interconnection - Remote Procedure Call (RPC)	-	-
ISO/IEC/IEEE 60559	2011	Information technology - Microprocessor Systems - Floating-Point arithmetic	-	-
IETF RFC 3629	-	UTF-8, a transformation format of ISO 10646	-	-
IETF RFC 3986	-	Uniform Resource Identifier (URI): Generic Syntax	-	-
	-	Semantic Versioning 2.0.0	-	-
	-	Unicode Character Database	-	-

Sample Document

get full document from standards.iteh.ai



IEC 62541-5

Edition 4.0 2026-01

INTERNATIONAL STANDARD

**OPC unified architecture -
Part 5: Information Model**

Sample Document

get full document from standards.iteh.ai

CONTENTS

FOREWORD	15
1 Scope	17
2 Normative references	17
3 Terms, definitions, abbreviated terms and conventions	18
3.1 Terms and definitions	18
3.2 Abbreviated terms	18
3.3 Conventions for Node descriptions	18
4 NodeIds and BrowseNames	20
4.1 NodeIds	20
4.2 BrowseNames	21
5 Common Attributes	21
5.1 General	21
5.2 Objects	21
5.3 Variables	21
5.4 VariableTypes	22
5.5 Methods	22
6 Standard ObjectTypes	23
6.1 General	23
6.2 BaseObjectType	23
6.3 ObjectTypes for the Server Object	23
6.3.1 ServerType	23
6.3.2 ServerCapabilitiesType	26
6.3.3 ServerDiagnosticsType	30
6.3.4 SessionsDiagnosticsSummaryType	31
6.3.5 SessionDiagnosticsObjectType	32
6.3.6 VendorServerInfoType	32
6.3.7 ServerRedundancyType	33
6.3.8 TransparentRedundancyType	33
6.3.9 NonTransparentRedundancyType	34
6.3.10 NonTransparentNetworkRedundancyType	34
6.3.11 OperationLimitsType	35
6.3.12 AddressSpaceFileType	37
6.3.13 NamespaceMetadataType	37
6.3.14 NamespacesType	39
6.3.15 NonTransparentBackupRedundancyType	40
6.4 ObjectTypes used as EventTypes	41
6.4.1 General	41
6.4.2 BaseEventType	41
6.4.3 AuditEventType	45
6.4.4 AuditSecurityEventType	46
6.4.5 AuditChannelEventType	46
6.4.6 AuditOpenSecureChannelEventType	47
6.4.7 AuditSessionEventType	48
6.4.8 AuditCreateSessionEventType	48
6.4.9 AuditUrlMismatchEventType	49
6.4.10 AuditActivateSessionEventType	50

IEC 62541-5:2026 © IEC 2026

6.4.11	AuditCancelEventType	50
6.4.12	AuditCertificateEventType.....	51
6.4.13	AuditCertificateDataMismatchEventType	51
6.4.14	AuditCertificateExpiredEventType.....	52
6.4.15	AuditCertificateInvalidEventType	52
6.4.16	AuditCertificateUntrustedEventType.....	53
6.4.17	AuditCertificateRevokedEventType	53
6.4.18	AuditCertificateMismatchEventType.....	54
6.4.19	AuditNodeManagementEventType	54
6.4.20	AuditAddNodesEventType	55
6.4.21	AuditDeleteNodesEventType.....	55
6.4.22	AuditAddReferencesEventType	56
6.4.23	AuditDeleteReferencesEventType.....	56
6.4.24	AuditUpdateEventType	57
6.4.25	AuditWriteUpdateEventType	57
6.4.26	AuditHistoryUpdateEventType.....	58
6.4.27	AuditUpdateMethodEventType	59
6.4.28	SystemEventType	59
6.4.29	DeviceFailureEventType.....	60
6.4.30	SystemStatusChangeEvent.....	60
6.4.31	BaseModelChangeEvent.....	61
6.4.32	GeneralModelChangeEvent	61
6.4.33	SemanticChangeEvent	62
6.4.34	EventQueueOverflowEventType	62
6.4.35	ProgressEventType.....	63
6.4.36	AuditClientEventType	64
6.4.37	AuditClientUpdateMethodResultEventType.....	64
6.5	ModellingRuleType	65
6.6	FolderType	65
6.7	DataTypeEncodingType	65
6.8	AggregateFunctionType	66
6.9	BaseInterfaceType.....	66
6.10	OrderedListType.....	67
6.11	IOrderedObjectType Definition	67
7	Standard VariableTypes	68
7.1	General	68
7.2	BaseVariableType	68
7.3	PropertyType	69
7.4	BaseDataVariableType.....	69
7.5	ServerVendorCapabilityType.....	70
7.6	ServerStatusType	70
7.7	BuildInfoType	71
7.8	ServerDiagnosticsSummaryType	72
7.9	SamplingIntervalDiagnosticsArrayType	72
7.10	SamplingIntervalDiagnosticsType.....	73
7.11	SubscriptionDiagnosticsArrayType	73
7.12	SubscriptionDiagnosticsType	74
7.13	SessionDiagnosticsArrayType.....	75
7.14	SessionDiagnosticsVariableType.....	76

IEC 62541-5:2026 © IEC 2026

7.15	SessionSecurityDiagnosticsArrayType	79
7.16	SessionSecurityDiagnosticsType	79
7.17	OptionSetType	80
7.18	SelectionListType	81
7.19	AudioVariableType	82
7.20	RationalNumberType	83
7.21	VectorType	83
7.22	3DVectorType	83
7.23	CartesianCoordinatesType	84
7.24	3DCartesianCoordinatesType	84
7.25	OrientationType	85
7.26	FrameType	85
7.27	BitFieldType	86
8	Standard Objects and their Variables	87
8.1	General	87
8.2	Objects used to organise the AddressSpace structure	87
8.2.1	Overview	87
8.2.2	Root	88
8.2.3	Views	88
8.2.4	Objects	89
8.2.5	Types	90
8.2.6	ObjectTypes	90
8.2.7	VariableTypes	91
8.2.8	ReferenceTypes	92
8.2.9	DataTypes	92
8.2.10	EventTypes	93
8.2.11	InterfaceTypes	94
8.2.12	Locations	94
8.3	Server Object and its containing Objects	95
8.3.1	General	95
8.3.2	Server Object	96
8.4	ModellingRule Objects	99
8.4.1	ExposesItsArray	99
8.4.2	Mandatory	99
8.4.3	Optional	99
8.4.4	OptionalPlaceholder	99
8.4.5	MandatoryPlaceholder	100
9	Standard Methods	100
9.1	GetMonitoredItems	100
9.2	ResendData	101
9.3	SetSubscriptionDurable	102
9.4	RequestServerStateChange	103
10	Standard Views	104
11	Standard ReferenceTypes	104
11.1	References	104
11.2	HierarchicalReferences	104
11.3	NonHierarchicalReferences	105
11.4	HasChild	105

IEC 62541-5:2026 © IEC 2026

11.5	Aggregates	105
11.6	Organizes	106
11.7	HasComponent.....	106
11.8	HasOrderedComponent.....	107
11.9	HasProperty.....	107
11.10	HasSubtype	107
11.11	HasModellingRule.....	108
11.12	HasTypeDefinition	108
11.13	HasEncoding.....	109
11.14	HasEventSource.....	109
11.15	HasNotifier.....	109
11.16	GeneratesEvent.....	110
11.17	AlwaysGeneratesEvent	110
11.18	HasArgumentDescription.....	111
11.19	HasOptionalInputArgumentDescription.....	111
11.20	HasInterface	111
11.21	HasAddIn.....	112
11.22	IsDeprecated.....	112
11.23	HasStructuredComponent.....	113
11.24	AssociatedWith.....	113
11.25	HasKeyValueDescription	113
12	Standard DataTypes	114
12.1	General	114
12.2	DataTypes defined in IEC 62541-3	114
12.2.1	BaseDataType.....	114
12.2.2	Boolean	114
12.2.3	ByteString.....	115
12.2.4	DateTime	117
12.2.5	Enumeration.....	118
12.2.6	Guid	119
12.2.7	LocalizedText	119
12.2.8	NodeId.....	120
12.2.9	Number.....	120
12.2.10	QualifiedName.....	125
12.2.11	String	126
12.2.12	Structure.....	128
12.2.13	XmlElement.....	132
12.3	DataTypes defined in IEC 62541-4	133
12.3.1	AddNodesItem.....	133
12.3.2	AddReferencesItem.....	133
12.3.3	ApplicationDescription	133
12.3.4	ContentFilter	134
12.3.5	DataValue	134
12.3.6	DeleteNodesItem	134
12.3.7	DeleteReferencesItem	135
12.3.8	DiagnosticInfo	135
12.3.9	ExpandedNodeId	135
12.3.10	MessageSecurityMode	136
12.3.11	NumericRange.....	136

IEC 62541-5:2026 © IEC 2026

12.3.12	SecurityTokenRequestType	136
12.3.13	SignedSoftwareCertificate.....	137
12.3.14	StatusCode	137
12.3.15	UserIdentityToken.....	137
12.3.16	VersionTime.....	139
12.4	BuildInfo	139
12.5	RedundancySupport.....	140
12.6	ServerState.....	141
12.7	RedundantServerDataType.....	142
12.8	SamplingIntervalDiagnosticsDataType	142
12.9	ServerDiagnosticsSummaryDataType	143
12.10	ServerStatusDataType	144
12.11	SessionDiagnosticsDataType.....	145
12.12	SessionSecurityDiagnosticsDataType	147
12.13	ServiceCounterDataType.....	148
12.14	StatusResult	149
12.15	SubscriptionDiagnosticsDataType	150
12.16	ModelChangeStructureDataType.....	151
12.17	SemanticChangeStructureDataType	153
12.18	BitFieldMaskDataType	153
12.19	NetworkGroupDataType	154
12.20	EndpointUrlListDataType.....	154
12.21	KeyValuePair	155
12.22	RationalNumber.....	155
12.23	Vector	156
12.24	3DVector	156
12.25	CartesianCoordinates.....	157
12.26	3DCartesianCoordinates	157
12.27	Orientation.....	158
12.28	Frame	158
12.29	DataTypeSchemaHeader.....	159
12.30	DataTypeDescription.....	160
12.31	StructureDescription	160
12.32	EnumDescription	161
12.33	SimpleTypeDescription.....	161
12.34	UABinaryFileDataType	162
12.35	PortableQualifiedName	163
12.36	PortableNodeId	163
12.37	UriString	164
12.38	UnsignedRationalNumber.....	164
12.39	SemanticVersionString DataType	165
12.40	Handle.....	167
12.41	TrimmedString.....	167
12.42	RedundantServerMode.....	167
12.43	BitFieldDefinition	168
12.43.1	Type Definition	168
12.43.2	Example (informative).....	169
Annex A (informative)	Design decisions when modelling the server information	172
A.1	Overview	172

IEC 62541-5:2026 © IEC 2026

A.2	ServerType and Server Object	172
A.3	Typed complex Objects beneath the Server Object	172
A.4	Properties versus DataVariables	172
A.5	Complex Variables using complex DataTypes	173
A.6	Complex Variables having an array	173
A.7	Redundant information	173
A.8	Usage of the BaseDataVariableType	174
A.9	Subtyping	174
A.10	Extensibility mechanism	174
Annex B (informative)	DataTypeDictionary	175
B.1	Overview	175
Annex C (informative)	OPC Binary Type Description System	176
C.1	Concepts	176
C.2	Schema description	177
C.2.1	TypeDictionary	177
C.2.2	TypeDescription	177
C.2.3	OpaqueType	178
C.2.4	EnumeratedType	178
C.2.5	StructuredType	179
C.2.6	FieldType	179
C.2.7	EnumeratedValue	181
C.2.8	ByteOrder	182
C.2.9	ImportDirective	182
C.3	Standard Type descriptions	182
C.4	Type Description examples	183
C.5	OPC Binary XML schema	185
C.6	OPC Binary Standard TypeDictionary	186
Bibliography	189
Figure 1	– Standard AddressSpace structure	87
Figure 2	– Views organization	88
Figure 3	– Objects organization	89
Figure 4	– ObjectTypes organization	90
Figure 5	– VariableTypes organization	91
Figure 6	– ReferenceType definitions	92
Figure 7	– EventTypes organization	93
Figure 8	– InterfaceTypes Organization	94
Figure 9	– Locations organization	95
Figure 10	– Excerpt of diagnostic information of the Server	96
Figure 11	– MyBitFieldType Example Illustration	170
Figure 12	– MyBitFieldArrayType Example Illustration	171
Figure C.1	– OPC Binary Dictionary structure	176
Table 1	– Examples of DataTypes	19
Table 2	– TypeDefinition Table	20
Table 3	– Common Node Attributes	21

IEC 62541-5:2026 © IEC 2026

Table 4 – Common Object Attributes	21
Table 5 – Common Variable Attributes	22
Table 6 – Common VariableType Attributes	22
Table 7 – Common Method Attributes	22
Table 8 – BaseObjectType definition	23
Table 9 – ServerType definition	24
Table 10 – ServerCapabilitiesType definition	27
Table 11 – ServerDiagnosticsType definition	30
Table 12 – SessionsDiagnosticsSummaryType definition	31
Table 13 – SessionDiagnosticsObjectType definition	32
Table 14 – VendorServerInfoType definition	32
Table 15 – ServerRedundancyType definition	33
Table 16 – TransparentRedundancyType definition	33
Table 17 – NonTransparentRedundancyType definition	34
Table 18 – NonTransparentNetworkRedundancyType definition	34
Table 19 – OperationLimitsType definition	35
Table 20 – AddressSpaceFileType definition	37
Table 21 – NamespaceMetadataType definition	38
Table 22 – NamespacesType definition	40
Table 23 – NonTransparentBackupRedundancyType definition	40
Table 24 – BaseEventType definition	42
Table 25 – AuditEventType definition	45
Table 26 – AuditSecurityEventType definition	46
Table 27 – AuditChannelEventType definition	46
Table 28 – AuditOpenSecureChannelEventType definition	47
Table 29 – AuditSessionEventType definition	48
Table 30 – AuditCreateSessionEventType definition	49
Table 31 – AuditUrlMismatchEventType definition	49
Table 32 – AuditActivateSessionEventType definition	50
Table 33 – AuditCancelEventType definition	51
Table 34 – AuditCertificateEventType definition	51
Table 35 – AuditCertificateDataMismatchEventType definition	52
Table 36 – AuditCertificateExpiredEventType definition	52
Table 37 – AuditCertificateInvalidEventType definition	53
Table 38 – AuditCertificateUntrustedEventType definition	53
Table 39 – AuditCertificateRevokedEventType definition	54
Table 40 – AuditCertificateMismatchEventType definition	54
Table 41 – AuditNodeManagementEventType definition	55
Table 42 – AuditAddNodesEventType definition	55
Table 43 – AuditDeleteNodesEventType definition	56
Table 44 – AuditAddReferencesEventType definition	56
Table 45 – AuditDeleteReferencesEventType definition	57
Table 46 – AuditUpdateEventType definition	57

IEC 62541-5:2026 © IEC 2026

Table 47 – AuditWriteUpdateEventType definition.....	58
Table 48 – AuditHistoryUpdateEventType definition	58
Table 49 – AuditUpdateMethodEventType definition.....	59
Table 50 – SystemEventType definition	60
Table 51 – DeviceFailureEventType definition	60
Table 52 – SystemStatusChangeEvent definition	61
Table 53 – BaseModelChangeEvent definition.....	61
Table 54 – GeneralModelChangeEvent definition.....	62
Table 55 – SemanticChangeEvent definition	62
Table 56 – EventQueueOverflowEventType definition	63
Table 57 – ProgressEventType definition	63
Table 58 – AuditClientEventType definition	64
Table 59 – AuditClientUpdateMethodResultEventType definition	64
Table 60 – ModellingRuleType definition.....	65
Table 61 – FolderType definition.....	65
Table 62 – DataTypeEncodingType definition.....	66
Table 63 – AggregateFunctionType definition.....	66
Table 64 – BaseInterfaceType definition	66
Table 65 – OrderedListType Definition.....	67
Table 66 – OrderedListType Additional Subcomponents	67
Table 67 – IOrderedObjectType Definition.....	68
Table 68 – BaseVariableType definition.....	69
Table 69 – PropertyType definition.....	69
Table 70 – BaseDataVariableType definition	70
Table 71 – ServerVendorCapabilityType definition	70
Table 72 – ServerStatusType definition	71
Table 73 – BuildInfoType definition	71
Table 74 – ServerDiagnosticsSummaryType definition	72
Table 75 – SamplingIntervalDiagnosticsArrayType definition.....	73
Table 76 – SamplingIntervalDiagnosticsType definition	73
Table 77 – SubscriptionDiagnosticsArrayType definition.....	74
Table 78 – SubscriptionDiagnosticsType definition.....	74
Table 79 – SessionDiagnosticsArrayType definition	76
Table 80 – SessionDiagnosticsVariableType definition	76
Table 81 – SessionSecurityDiagnosticsArrayType definition.....	79
Table 82 – SessionSecurityDiagnosticsType definition	80
Table 83 – OptionSetType definition.....	81
Table 84 – SelectionListType definition.....	82
Table 85 – AudioVariableType definition	82
Table 86 – RationalNumberType Definition	83
Table 87 – VectorType Definition	83
Table 88 – 3DVectorType Definition	84
Table 89 – CartesianCoordinatesType Definition	84