



EULYNX Initiative



Europe's Rail Joint Undertaking

Interface specification SDI-IO

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ID	Type	Requirement	Meaning	Model Type	Data Type	Trigger	Attribute Type	Sampling	Optionality	Func. Pkg.	JIRA	V 4.2 (0.A) > V 4.0 (0.A)
Eu.SDI-IO.1	Head	1 Introduction										
Eu.SDI-IO.5	Head	1.1 Release information										
Eu.SDI-IO.7	Info	[Eu.Doc.82] Interface specification SDI-IO CENELEC Phase: 5 Version: 4.2 (0.A) Approval date: 29.05.2024										Object Text: [Eu.Doc.82] Interface specification SDI-IO CENELEC Phase: 5 Version: 4.02 (0.A) Approval date: 1529.0605.20232024
Eu.SDI-IO.6	Info	Version history										
Eu.SDI-IO.133	Info	version number: 3.0 (0.A) date: 16.05.2022 author: Jorge Block review: CCB changes: -										
Eu.SDI-IO.322	Info	version number: 3.1 (0.A) date: 08.06.2023 author: SDI task force review: changes: EUIO-373, EUIO-374, EUIO-377, EUIO-389										
Eu.SDI-IO.336	Info	version number: 4.0 (0.A) date: 27.06.2023 author: SDI task force review: TACS Mirror Group changes: EUIO-392, EUIO-395, EUIO-398										
Eu.SDI-IO.449	Info	version number: 4.1 (0.A) date: 01.04.2024 author: SDI task force review: cluster changes: EUIO-400, EUIO-401, EUIO-422, EUIO-424, EUIO-425, EUIO-426										object created after baseline 4.0 (0.A)
Eu.SDI-IO.452	Info	version number: 4.2 (0.A) date: 20.06.2024 author: SDI task force review: TACS Mirror Group changes: EUIO-423, EUIO-433, EUIO-437, EUIO-438										object created after baseline 4.0 (0.A)
Eu.SDI-IO.3	Head	1.2 Impressum										
Eu.SDI-IO.4	Info	Publisher: Europe’s Rail Joint Undertaking https://rail-research.europa.eu/ EULYNX Initiative https://eulynx.eu/									EUIO-433	Object Text: Publisher: Europe’s Rail Joint Undertaking https://rail-research.europa.eu/ EULYNX Initiative A full list of the EULYNX- Partners can be found on- www- https://eulynx.eu/index.php/members a_Jira_BL4_R3: EUIO-433
Eu.SDI-IO.2	Info	Responsible for this document: EU-Rail System Pillar Trackside Assets Control and Supervision domain										
Eu.SDI-IO.9	Info	This document is drafted by and belongs to EU Rail. EU Rail encourages the distribution and re-use of this document, the technical specifications and the information it contains. EU Rail holds several intellectual property rights, such as copyright and trade mark rights, which need to be considered when this document is used. EU Rail authorizes you to re-publish, re-use, copy and store this document without changing it, provided that you indicate its source and include the following mention [EU Rail trade mark, title of the document, year of publication, version of document]. EU Rail makes no representation or warranty as to the accuracy or completeness of the information contained within these documents. EU Rail shall have no liability to any party as a result of the use of the information contained herein. EU Rail will have no liability whatsoever for any indirect or consequential loss or damage, and any such liability is expressly excluded. You may study, research, implement, adapt, improve and otherwise use the information, the content and the models in this document for your own purposes. If you decide to publish or disclose any adapted, modified or improved version of this document, any amended implementation or derivative work, then you must indicate that you have modified this document, with a reference to the document name and the terms of use of this document. You may not use EU Rail’s trade marks or name in any way that may state or suggest, directly or indirectly, that EU Rail is the author of your adaptations. EU Rail cannot be held responsible for your product, even if you have used this document and its content. It is your responsibility to verify the quality, completeness and the accuracy of the information you									EUIO-433	Object Text: Copyright This EULYNX document Partners is drafted by and belongs to EU Rail. All EU Rail encourages the distribution and re-use of this document, the technical specifications and the information included it or contains, disclosed EU in Rail holds several intellectual property rights, such as copyright and trade mark rights, which need to be considered when this document is licensed used. EU under Rail authorizes you to re-publish, re-use, copy and store this document without changing it, provided that you indicate its source and include the European following Union mention Public EU

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ID	Type	Requirement	Meaning	Model Type	Data Type	Trigger	Attribute Type	Sampling	Optionality	Func. Pkg.	JIRA	V 4.2 (0.A) > V 4.0 (0.A)
Eu.SDI-IO.17	Info	The current versions of documents used as input or related to this document are listed in the EULYNX Documentation Plan [Eu.Doc.11]. The relationships between the documents are displayed in the Appendix A1 Documentation plan and structure [Eu.Doc.11_A1].										
Eu.SDI-IO.18	Head	1.6 Appendices										
Eu.SDI-IO.19	Info	- <i>intentionally left blank</i> -										
Eu.SDI-IO.20	Head	1.7 Terms and abbreviations										
Eu.SDI-IO.21	Info	The terms and abbreviations are listed in the EULYNX Glossary [Eu.Doc.9].										
Eu.SDI-IO.22	Head	1.8 Variability management										
Eu.SDI-IO.23	Info	This document describes harmonised requirements. Variability management is not applicable.										
Eu.SDI-IO.24	Head	1.9 Definition of object types										
Eu.SDI-IO.25	Info	The following definition for object types is applied in this document:										
Eu.SDI-IO.26	Info	<ul style="list-style-type: none">"Req" - This denotes a mandatory requirement.										
Eu.SDI-IO.27	Info	<ul style="list-style-type: none">"Info" - This denotes additional information to help understand the specification. These objects do not specify any additional requirements.										
Eu.SDI-IO.28	Info	<ul style="list-style-type: none">"Head" - This denotes chapter headings.										
Eu.SDI-IO.30	Head	2 Telegram SDI										
Eu.SDI-IO.129	Req	All references to [Eu.Doc.94] refer to Interface specification SDI Generic version 4.2 (0.A).								Basic IO	EUIO-422	Object Text: All references to [Eu.Doc.94] refer to Interface specification SDI Generic version 4. 02 (0.A). a_Jira_BL4_R3: EUIO-422
Eu.SDI-IO.31	Info	This chapter defines the diagnostic messages - specifically the data points and values applied in the SDI-IO telegrams. The generic data points are defined in [Eu.Doc.94].								Basic IO	EUIO-422	Object Text: This chapter defines the diagnostic messages - specifically the data points and values applied in the SDI-IO telegrams. The generic data points are defined in [Eu.Doc.94]. a_Jira_BL4_R3: EUIO-422
Eu.SDI-IO.130	Info	The defined diagnostic messages are mandatory only when the physical interfaces related to the specific diagnostic message are available on the Subsystem – Generic IO.								Basic IO		
Eu.SDI-IO.327	Head	2.1 Definition of columns										
Eu.SDI-IO.328	Info	Model Type: Column that marks whether an entry is a model class (Class), a diagnostic data point (Attribute), an enumeration header (ValueType (Enumeration)) or an enumeration value (Enumeration Literal).								Basic IO		
Eu.SDI-IO.329	Info	Data Type: Column that indicates the data type for the diagnostic data points. Enumeration values are defined in the section 'Enumeration'.								Basic IO		
Eu.SDI-IO.330	Info	Trigger: Column that indicates the precision of data that shall be provided by the back-end to the OPC UA server on a subsystem. It represents the minimum level of change of the measures or reported value that shall trigger an update of the data point on the OPC UA server. For discrete data types (Boolean, enumeration, string), any change shall trigger an update on the OPC UA server. This is expressed as 'current value' in the column. For data that is part of an event class, the value 'on event' is used.								Basic IO		Object Text: Event/Timepoint Trigger: Column that indicates the trigger precision events of data that shall be provided by the back-end to send the OPC UA server on a diagnostic subsystem. It represents the minimum level of change of the measures or reported value that shall trigger an update of the data point on the OPC UA server. For discrete data types (Boolean, enumeration, string), any change shall trigger an update on the OPC UA server. This is expressed as 'current value' in the column. For data that is part of an event class, the value 'on event' is used.
Eu.SDI-IO.331	Info	Attribute Type: Column that indicates the type of diagnostic information contained in the data point. Values are: raw data: uninterpreted data that is measured. diagnosis: an attribute with discrete values (enumeration or Boolean) that interprets the status of a system. There must be a table that directly links diagnostic enumeration values to statusTechnical values of that system.								Basic IO		Object Text: Attribute Type: Column that indicates the type of diagnostic information contained in the data point. <u>Values are:</u> raw data: uninterpreted data

ID	Type	Requirement	Meaning	Model Type	Data Type	Trigger	Attribute Type	Sampling	Optionality	Func. Pkg.	JIRA	V 4.2 (0.A) > V 4.0 (0.A)
		configuration: data that is not measured but often set by the manufacturer or operator; it describes characteristics of the system. counter: diagnostic information that counts occurrences of a specific data measurement or event.										that is measured. diagnosis: an attribute with discrete values (enumeration or boolean Boolean) that interprets the status of a system. There must be a table that directly links diagnostic enumeration values to statusTechnical values of that system. configuration: data that is not measured but often set by the manufacturer or operator; it describes characteristics of the system. counter: diagnostic information that counts occurrences of a specific data measurement or event.
Eu.SDI-IO.451	Info	Sampling: Column that indicates the required sampling interval of the data point, that is how often the OPC UA Server determines the values for an attribute, provided by the back-end. Value in milliseconds.								Basic IO		object created after baseline 4.0 (0.A)
Eu.SDI-IO.332	Info	Optionality: Column that indicates whether a diagnostic data point is mandatory inside the model class, or optional. The diagnostic data of optional attributes may be required by national specifications. If an equipment or subsystem has the capability to collect and report the related diagnostic data, it must be reported in this data point. Note: In future phases of the System Pillar, national specifications will be replaced by harmonised specifications.								Basic IO	EUIO-424	Object Text: Optionality:- Column that indicates whether a diagnostic data point is is mandatory inside the model class -(1) , or optional -(0..1) . The diagnostic data of optional attributes may be required by national specifications. If an equipment or subsystem has the capability to collect and report the related diagnostic data, it must be reported in this data point. Note: In future phases of the System Pillar, national specifications will be replaced by harmonised specifications. a_Jira_BL4_R3: EUIO-424
Eu.SDI-IO.34	Head	2.2 Telegrams SDI-IO										
Eu.SDI-IO.286	Req	PhysicalChannelConnection		Class						Basic IO		Object Text: PortInputType PhysicalChannelC onnection
Eu.SDI-IO.287	Req	channelType	Indicates whether the physical channels acts as reference or validation channel.	Attribute	channelType : PhysicalChannelTwo ChannelsType	Current value	configuration	1000	Mandatory	Basic IO		Object Text: portType channelType art_Meaning (en) (MD Meaning (en)): Indicates whether the physical channels acts as reference or validation channel. art_Signature: portType channelType : ChannelTwoPortsType PhysicalC hannelTwoChannelsType art_Accuracy (Accuracy): Current value art_Sampling Rate (Sampling Rate): 1000 art_Modelling Rule (Modelling Rule): Mandatory
Eu.SDI-IO.237	Req	GenericIO	The class represents the Subsystem - Generic IO.	Class						Basic IO		Object Text: IoController GenericIO art_Meaning (en) (MD Meaning (en)): The specific structure of the system from the point of view of the specifications is specified in the class diagram inserted in this chapter. The structure of represents the generic part is described in the Subsystem chapter_ "generic Generic requirements" IO .

ID	Type	Requirement	Meaning	Model Type	Data Type	Trigger	Attribute Type	Sampling	Optionality	Func. Pkg.	JIRA	V 4.2 (0.A) > V 4.0 (0.A)
Eu.SDI-IO.438	Req	label	It is assigned to all classes representing physically identifiable entities. This string, corresponding to a physically identifiable label, facilitates consistent reference between the physical entities in the field and their digital representations within the model.	Attribute	label : String	Current value	configuration	1000	Optional	Basic IO	EUIO-401	object created after baseline 4.0 (0.A)
Eu.SDI-IO.254	Req	LogicalChannel	The abstract class generalises all logical channels.	Class						Basic IO	EUIO-424	art_Meaning (en) (MD Meaning (en)): The abstract class generalises all logical channels. a_Jira_BL4_R3: EUIO-424
Eu.SDI-IO.255	Req	index	The index expresses the numbered order of channels per Adjacent IO System, as used in the SCI-IO telegrams (see Eu.IO.7609 and Eu.IO.7610 in [Eu.Doc.45] and Eu.SCI-IO.PDI.164, Eu.SCI-IO.PDI.178 and Eu.SCI-IO.PDI.192 in [Eu.Doc.46]).	Attribute	index : Integer	Current value	configuration	1000	Mandatory	Basic IO	EUIO-400 EUIO-425 EUIO-422 EUIO-437	art_Meaning (en) (MD Meaning (en)): See The index expresses the numbered order of channels per Adjacent IO System, as used in the SCI-IO telegrams (see Eu.IO.7609 and Eu.IO.7610 in [Eu.Doc.45] and Eu.SCI-IO.PDI.164, Eu.SCI-IO.7609PDI.178 and Eu.SCI-IO.7910PDI.192 in [Eu.Doc.46]). art_Signature: index : String Integer art_Accuracy (Accuracy): Current value art_Sampling Rate (Sampling Rate): 1000 art_Modelling Rule (Modelling Rule): Mandatory a_Jira_BL4_R3: EUIO-400 EUIO-425 EUIO-422 EUIO-437
Eu.SDI-IO.256	Req	operationalIdentifierAdjacentSystem	Operational identifier of the connected adjacent IO system (see Eu.SAS.1784 in [Eu.Doc.16]).	Attribute	operationalIdentifierAdjacentSystem : Byte [20]	Current value	configuration	1000	Mandatory	Basic IO	EUIO-425 EUIO-437 EUIO-438	art_Meaning (en) (MD Meaning (en)): Operational identifier of the connected subsystem adjacent IO system (see Eu.SAS.1784 in [Eu.Doc.16]). art_Signature: operationalIdentifierAdjacentSystem : Byte [20] art_Accuracy (Accuracy): Current value art_Sampling Rate (Sampling Rate): 1000 art_Modelling Rule (Modelling Rule): Mandatory a_Jira_BL4_R3: EUIO-425 EUIO-437 EUIO-438
Eu.SDI-IO.257	Req	statusTechnical	Indicates the generic technical status of the logical channel. Note: Enumeration values defined in Interface specification SDI Generic [Eu.Doc.94].	Attribute	statusTechnical : StatusTechnical	Current value	diagnosis	1000	Mandatory	Basic IO	EUIO-424	art_Meaning (en) (MD Meaning (en)): Indicates the generic technical status of the logical channel. Note: Enumeration values defined in Interface specification SDI Generic [Eu.Doc.94]. art_Accuracy (Accuracy): Current value art_Sampling Rate (Sampling Rate): 1000 art_Modelling Rule (Modelling Rule): Mandatory a_Jira_BL4_R3: EUIO-424
Eu.SDI-IO.258	Req	statusTechnicalManufacturerSpecificMessage	Must be used by the supplier to describe the reasons for a StatusTechnical != OK, that cannot be explained by existing datapoints (NOT including IM and manufacturer specific diagnostic messages). This Information MUST be provided from the supplier. This should provide flexibility for future uses. Multiple states can be indicated at the same	Attribute	statusTechnicalManufacturerSpecificMessage : MultiStateDiscreteTypeSupplier	Current value	diagnosis	1000	Optional	Basic IO		art_Meaning (en) (MD Meaning (en)): Must be used by the supplier to describe the reasons for a StatusTechnical != OK, that cannot be explained by existing datapoints:

ID	Type	Requirement	Meaning	Model Type	Data Type	Trigger	Attribute Type	Sampling	Optionality	Func. Pkg.	JIRA	V 4.2 (0.A) > V 4.0 (0.A)
			time if multiple diagnosis have not been included in the model during the design phase. The supplier specific reason may not overlap with reasons already covered in other attributes.									<div>This Information MUST be provided from the supplier, if there is not already a defined attribute (NOT that including explainsIM a and statusTechnical manufacturer other specific than diagnostic Ok messages).</div> <div>Allows to extend This "StatusTechnical" Information for MUST future be uses provided from IMs & Suppliers if the StatusTechnical = not OK-supplier. This should provide flexibility for future uses. Multiple states can be indicated at the same time if multiple-reasons are diagnosis present. Note: have Enumeration not values been defined included in Interface the specification model SDI during Generic the {Eu design phase. Doe The supplier specific reason may not overlap with reasons already covered in other attributes.94}</div> <div>art_Signature: statusTechnicalManufacturerSpecifcMessage : MultiStateDiscreteTypeSupplier-{0..1}</div> <div>art_Accuracy (Accuracy): Current value</div> <div>art_Sampling Rate (Sampling Rate): 1000</div> <div>art_Modelling Rule (Modelling Rule): Optional</div>
Eu.SDI-IO.252	Req	LogicalInputChannel	The abstract class generalises all logical input channels.	Class						Basic IO		<div>art_Meaning (en) (MD Meaning (en)):</div> <div>The abstract class generalises all logical input channels.</div>
Eu.SDI-IO.260	Req	logicalInputValue	Reports the current state of the Input Channel.	Attribute	logicalInputValue : LogicalInputValue	Current value	diagnosis	250	Mandatory	Basic IO	EUIO-424 EUIO-437	<div>art_Meaning (en) (MD Meaning (en)):</div> <div>reportsReports the current state of the Input ChannelsChannel.</div> <div>art_Accuracy (Accuracy): Current value</div> <div>art_Sampling Rate (Sampling Rate): 250</div> <div>art_Modelling Rule (Modelling Rule): Mandatory</div> <div>a_Jira_BL4_R3: EUIO-424 EUIO-437</div>
Eu.SDI-IO.261	Req	LogicalInputChannelSingleChannel	Representation of a logical input channel with one physical channel.	Class						Basic IO		<div>Object Text:</div> <div>LogicalInputChannelSinglePortLogicalInputChannelSingleChannel</div> <div>art_Meaning (en) (MD Meaning (en)):</div> <div>Representation of a logical input channel with one physical channel.</div>
Eu.SDI-IO.265	Req	LogicalInputChannelTwoChannels	Representation of a logical input channel with two physical channels.	Class						Basic IO		<div>Object Text:</div> <div>LogicalInputChannelTwoPortsLogicalInputChannelTwoChannels</div> <div>art_Meaning (en) (MD Meaning (en)):</div> <div>Representation of a logical input channel with two physical channels.</div>
Eu.SDI-IO.269	Req	isValenceFailure	True: Depending on the set valence type, a valency error results when the corresponding timer has expired. Example: Physical channels (reference and validation) have the same value, although antivalence is set.	Attribute	isValenceFailure : Boolean	Current value	diagnosis	250	Mandatory	Basic IO		<div>art_Meaning (en) (MD Meaning (en)):</div> <div>True: Depending on the set valence type, a valency error results when the corresponding timer has expired. Example: Physical portschannels (reference and validation) have the same value, although</div>

ID	Type	Requirement	Meaning	Model Type	Data Type	Trigger	Attribute Type	Sampling	Optionality	Func. Pkg.	JIRA	V 4.2 (0.A) > V 4.0 (0.A)
												antivalence is set. art_Accuracy (Accuracy): Current value art_Sampling Rate (Sampling Rate): 250 art_Modelling Rule (Modelling Rule): Mandatory
Eu.SDI-IO.270	Req	valenceType	Valence type of a dual channel	Attribute	valenceType : ValenceType	Current value	configuration	1000	Mandatory	Basic IO		art_Accuracy (Accuracy): Current value art_Sampling Rate (Sampling Rate): 1000 art_Modelling Rule (Modelling Rule): Mandatory
Eu.SDI-IO.249	Req	LogicalOutputChannel	The abstract class generalises all logical output channels.	Class						Basic IO		art_Meaning (en) (MD Meaning (en)): The abstract class generalises all logical output channels.
Eu.SDI-IO.272	Req	dutyRatioFixedConfiguration	Con_Flash_Duty_Cycle as defined in Eu.IO.7683 in [Eu.Doc.45].	Attribute	dutyRatioFixedConfi guration : DutyRatioFixedConfi guration	Current value	configuration	1000	Mandatory	Option flashing	EUIO-424 EUIO-437	Object Text: dutyRatioFixedConfuration dutyR atioFixedConfiguration art_Meaning (en) (MD Meaning (en)): Con_t_Flash_Duty_Cycle Con_Fl ash_Duty_Cycle as defined in Eu.IO.7683 in [Eu.Doc.45]. art_Signature: dutyRatioFixedConfuration dutyR atioFixedConfiguration : DutyRatioFixedConfiguration art_Accuracy (Accuracy): Current value art_Sampling Rate (Sampling Rate): 1000 art_Modelling Rule (Modelling Rule): Mandatory a_Jira_BL4_R3: EUIO-424 EUIO-437
Eu.SDI-IO.273	Req	flashingPeriodFixedConfiguration	Con_t_Flash_Period as defined in Eu.IO.7684 in [Eu.Doc.45].	Attribute	flashingPeriodFixedC onfiguration : FlashingPeriodFixed Configuration	Current value	configuration	1000	Mandatory	Option flashing	EUIO-437	art_Meaning (en) (MD Meaning (en)): Con_t_Flash_Period as defined in Eu.IO.7684 in [Eu.Doc.45]. art_Accuracy (Accuracy): Current value art_Sampling Rate (Sampling Rate): 1000 art_Modelling Rule (Modelling Rule): Mandatory a_Jira_BL4_R3: EUIO-437
Eu.SDI-IO.274	Req	logicalOutputValueCommanded	Reports the state of the logical output channel commanded by the electronic interlocking.	Attribute	logicalOutputValueC ommanded : LogicalOutputValue	Current value	diagnosis	250	Mandatory	Basic IO	EUIO-425	art_Meaning (en) (MD Meaning (en)): received Reports commands the to state set of at the given logical state output at channel . commanded by the Output electronic Channels interlocking . art_Accuracy (Accuracy): Current value art_Attribute Type (MD Attribute Type): raw-data diagnosis art_Sampling Rate (Sampling Rate): 250 art_Modelling Rule (Modelling Rule): Mandatory a_Jira_BL4_R3: EUIO-425
Eu.SDI-IO.275	Req	outputStatus	Reports the status related to disturbance of the Output Channels.	Attribute	outputStatus : OutputDisturbanceSt atus	Current value	diagnosis	250	Mandatory	Basic IO	EUIO-437	art_Meaning (en) (MD Meaning (en)): reports Reports the status related to disturbance of the

ID	Type	Requirement	Meaning	Model Type	Data Type	Trigger	Attribute Type	Sampling	Optionality	Func. Pkg.	JIRA	V 4.2 (0.A) > V 4.0 (0.A)
												Output Channels_ art_Signature: outputStatus : OutputStatus OutputDisturbance Status art_Accuracy (Accuracy): Current value art_Sampling Rate (Sampling Rate): 250 art_Modelling Rule (Modelling Rule): Mandatory a_Jira_BL4_R3: EUIO-437
Eu.SDI-IO.276	Req	LogicalOutputChannelSingleChannel	Representation of a logical output channel with one physical channel.	Class						Basic IO		Object Text: LogicalOutputChannelSinglePort LogicalOutputChannelSingleChannel art_Meaning (en) (MD Meaning (en)): Representation of a logical output channel with one physical channel.
Eu.SDI-IO.280	Req	LogicalOutputChannelTwoChannels	Representation of a logical output channel with two physical channels.	Class						Basic IO		Object Text: LogicalOutputChannelTwoPorts LogicalOutputChannelTwoChannels art_Meaning (en) (MD Meaning (en)): Representation of a logical output channel with two physical channels.
Eu.SDI-IO.284	Req	isValenceFailure	True: Depending on the set valence type, a valency error results when the corresponding timer has expired. Example: Physical channels (reference and validation) have the same value, although antivalence is set.	Attribute	isValenceFailure : Boolean	Current value	diagnosis	250	Mandatory	Basic IO	EUIO-437	art_Meaning (en) (MD Meaning (en)): True: Depending on the set valence type, a valency error results when the corresponding timer has expired. Example: Physical ports channels (reference and validation) have the same value, although antivalence is set, art_Accuracy (Accuracy): Current value art_Sampling Rate (Sampling Rate): 250 art_Modelling Rule (Modelling Rule): Mandatory a_Jira_BL4_R3: EUIO-437
Eu.SDI-IO.285	Req	valenceType	Valence type of a dual channel.	Attribute	valenceType : ValenceType	Current value	configuration	1000	Mandatory	Basic IO		art_Meaning (en) (MD Meaning (en)): Valence type of a dual channel, art_Accuracy (Accuracy): Current value art_Sampling Rate (Sampling Rate): 1000 art_Modelling Rule (Modelling Rule): Mandatory
Eu.SDI-IO.290	Head	2.3 Enumeration										ART Model Element Type: Package
Eu.SDI-IO.291	Req	PhysicalChannelTwoChannelsType	Enumeration: Role of one physical channel within a logical channels with two physical channels.	ValueType (Enumeration)						Basic IO		Object Text: ChannelTwoPortsType PhysicalChannelTwoChannelsType art_Meaning (en) (MD Meaning (en)): Enumeration: Role of one physical channel within a logical channels with two physical channels.
Eu.SDI-IO.292	Req	ReferenceChannel	1	Enumeration Literal						Basic IO	EUIO-426	art_Meaning (en) (MD Meaning (en)): 0 1 a_Jira_BL4_R3: EUIO-426

ID	Type	Requirement	Meaning	Model Type	Data Type	Trigger	Attribute Type	Sampling	Optionality	Func. Pkg.	JIRA	V 4.2 (0.A) > V 4.0 (0.A)
Eu.SDI-IO.293	Req	ValidationChannel	2	Enumeration Literal						Basic IO	EUIO-426	art_Meaning (en) (MD Meaning (en)): 42 a_Jira_BL4_R3: EUIO-426
Eu.SDI-IO.294	Req	DutyRatioFixedConfiguration	Enumeration: Configurable value of the Con_Flash_Duty_Cycle for each logical output channel	ValueType (Enumeration)						Option flashing		art_Meaning (en) (MD Meaning (en)): Enumeration: Configurable value of the Con_Flash_Duty_Cycle for each logical output channel
Eu.SDI-IO.323	Req	Unknown	0: The status unknown is used when the state is not yet established e.g. if connection to the system is lost	Enumeration Literal						Option flashing		art_Meaning (en) (MD Meaning (en)): 0: The status unknown is used when the state is not yet established e.g. if connection to the system is lost
Eu.SDI-IO.295	Req	75%on	1: 75% on, 25% off	Enumeration Literal						Option flashing	EUIO-425	Object Text: 25 75%on art_Meaning (en) (MD Meaning (en)): 1: 75% on, 25% off a_Jira_BL4_R3: EUIO-425
Eu.SDI-IO.296	Req	50%on	2: 50% on, 50% off	Enumeration Literal						Option flashing	EUIO-425	art_Meaning (en) (MD Meaning (en)): 2: 50% on, 50% off a_Jira_BL4_R3: EUIO-425
Eu.SDI-IO.297	Req	25%on	3: 25% on, 75% off	Enumeration Literal						Option flashing	EUIO-425	Object Text: 75 25%on art_Meaning (en) (MD Meaning (en)): 3: 25% on, 75% off a_Jira_BL4_R3: EUIO-425
Eu.SDI-IO.334	Req	NotConfigured	4	Enumeration Literal						Option flashing		Object Text: notConfigured NotConfigured art_Meaning (en) (MD Meaning (en)): 54
Eu.SDI-IO.299	Req	FlashingPeriodFixedConfiguration	Enumeration: Configurable central value of the Con_t_Flash_Period for one Subsystem - Generic IO.	ValueType (Enumeration)						Option flashing		art_Meaning (en) (MD Meaning (en)): Enumeration: Configurable central value of the Con t_Flash_Period for one Subsystem - Generic IO.
Eu.SDI-IO.324	Req	Unknown	0: The status unknown is used when the state is not yet established e.g. if connection to the system is lost	Enumeration Literal						Option flashing		art_Meaning (en) (MD Meaning (en)): 0: The status unknown is used when the state is not yet established e.g. if connection to the system is lost
Eu.SDI-IO.302	Req	2000ms	1	Enumeration Literal						Option flashing		
Eu.SDI-IO.301	Req	1333ms	2	Enumeration Literal						Option flashing		
Eu.SDI-IO.300	Req	1000ms	3	Enumeration Literal						Option flashing		
Eu.SDI-IO.303	Req	800ms	4	Enumeration Literal						Option flashing		
Eu.SDI-IO.335	Req	NotConfigured	5	Enumeration Literal						Option flashing		Object Text: notConfigured NotConfigured art_Meaning (en) (MD Meaning (en)): 65
Eu.SDI-IO.305	Req	LogicalInputValue	Enumeration: Value of the logical input channel	ValueType (Enumeration)						Basic IO		art_Meaning (en) (MD Meaning (en)): Enumeration: Value of the logical input channel
Eu.SDI-IO.309	Req	Unknown	0: The status unknown is used when the state is not yet established e.g. if connection to the system is lost	Enumeration Literal						Basic IO		art_Meaning (en) (MD Meaning (en)): 0: The status unknown is used when the state is not yet established e.g. if connection to the system is lost

ID	Type	Requirement	Meaning	Model Type	Data Type	Trigger	Attribute Type	Sampling	Optionality	Func. Pkg.	JIRA	V 4.2 (0.A) > V 4.0 (0.A)
Eu.SDI-IO.307	Req	SwitchedOff	1	Enumeration Literal						Basic IO		
Eu.SDI-IO.308	Req	SwitchedOn	2	Enumeration Literal						Basic IO		
Eu.SDI-IO.306	Req	Disturbed	3	Enumeration Literal						Basic IO		
Eu.SDI-IO.310	Req	LogicalOutputValue	Enumeration: Value of the logical output channel	ValueType (Enumeration)						Basic IO		art_Meaning (en) (MD Meaning (en)): Enumeration: Value of the logical output channel
Eu.SDI-IO.314	Req	Unknown	0: The status unknown is used when the state is not yet established e.g. if connection to the system is lost	Enumeration Literal						Basic IO		Object Text: Unknown Unknown art_Meaning (en) (MD Meaning (en)): 0: The status unknown is used when the state is not yet established e.g. if connection to the system is lost
Eu.SDI-IO.312	Req	SwitchedOff	1	Enumeration Literal						Basic IO		
Eu.SDI-IO.313	Req	SwitchedOn	2	Enumeration Literal						Basic IO		
Eu.SDI-IO.311	Req	Flashing	3	Enumeration Literal						Option flashing		
Eu.SDI-IO.315	Req	OutputDisturbanceStatus	Enumeration: Disturbance status of the logical output channel	ValueType (Enumeration)						Basic IO		Object Text: OutputStatus OutputDisturbanceStatus art_Meaning (en) (MD Meaning (en)): Enumeration: Disturbance status of the logical output channel
Eu.SDI-IO.318	Req	Unknown	0: The status unknown is used when the state is not yet established e.g. if connection to the system is lost	Enumeration Literal						Basic IO		art_Meaning (en) (MD Meaning (en)): 0: The status unknown is used when the state is not yet established e.g. if connection to the system is lost
Eu.SDI-IO.316	Req	NotPhysicallyDisturbed	1	Enumeration Literal						Basic IO		
Eu.SDI-IO.317	Req	PhysicallyDisturbed	2	Enumeration Literal						Basic IO		
Eu.SDI-IO.319	Req	ValenceType	Enumeration: Indicates whether digital signals are transmitted as antivalent or equivalent.	ValueType (Enumeration)						Basic IO		art_Meaning (en) (MD Meaning (en)): Enumeration: Indicates whether digital signals are transmitted as antivalent or equivalent.
Eu.SDI-IO.325	Req	Unknown	0: The status unknown is used when the state is not yet established e.g. if connection to the system is lost	Enumeration Literal						Basic IO		art_Meaning (en) (MD Meaning (en)): 0: The status unknown is used when the state is not yet established e.g. if connection to the system is lost
Eu.SDI-IO.320	Req	Antivalence	1: Two physical channels are switched to antivalent values. Opposite values are expected. Equal values lead to errors.	Enumeration Literal						Basic IO		art_Meaning (en) (MD Meaning (en)): 1: Two physical channels are switched to antivalent values. Opposite values are expected. Equal values lead to errors.
Eu.SDI-IO.321	Req	Equivalence	2: Two physical channels are switched to equivalent. Equal values are expected. Opposite values lead to errors.	Enumeration Literal						Basic IO		art_Meaning (en) (MD Meaning (en)): 2: Two physical channels are switched to equivalent. Equal values are expected. Opposite values lead to errors.
Eu.SDI-IO.333	Head	2.4 IO class diagram										ART Model Element Type: Package
Eu.SDI-IO.450	Info	In the class diagram, classes presented in yellow indicate classes from the generic SDI model and are covered in [Eu.Doc.94]. Classes presented in blue are specific classes and covered in this document.								Basic IO	EUIO-422	object created after baseline 4.0 (0.A)
Eu.SDI-IO.236	Info	IO class diagram See Figure 1 on page 11.	The class diagram represents the static structure of the Subsystem - Generic IO from the point of view of diagnostics.	Class Diagram						Basic IO	EUIO-423	art_Meaning (en) (MD Meaning (en)): The class diagram represents the static structure of the Subsystem - Generic IO from the point of view of diagnostics. a_Jira_BL4_R3: EUIO-423

Figure 1: From object 236 on page 10.

