EULYNX Initiative

Europe's Rail Joint Undertaking

Interface specification SDI Generic

Document number: Eu.Doc.94
Version: 4.0 (0.A)

Contents

ID	Type	Requirement	Meaning	Model Type	Data Type	Event/Timepoint	Attribute type	Optionality
Eu.SDI-XX.1	Head	**1 Introduction**						
Eu.SDI-XX.7	Head	**1.1 Release information**						
Eu.SDI-XX.2	Info	[Eu.Doc.94] Interface specification SDI Generic CENELEC Phase: 5 Version: 4.0 (0.A) Approval date: 15.06.2023						
Eu.SDI-XX.3	Info	**Version history**						
Eu.SDI-XX.230	Info	version number: 3.0 (0.A) date: 17.05.2022 author: Nico Huurman review: CCB changes: -						
Eu.SDI-XX.231	Info	version number: 3.1 (0.A) date: 08.06.2023 author: SDI task force review: changes: EUAR-430, EUAR-561, EUAR-589, EUAR-594						
Eu.SDI-XX.666	Info	version number: 4.0 (0.A) date: 28.06.2023 author: SDI task force review: TACS Mirror Group changes: EUAR-613, EUAR-612, EUAR-616						
Eu.SDI-XX.5	Head	**1.2 Impressum**						
Eu.SDI-XX.8	Info	Publishers: **Europe's Rail Joint Undertaking** https://rail-research.europa.eu/ **EULYNX Initiative** A full list of the EULYNX Partners can be found on www.eulynx.eu/index.php/members						
Eu.SDI-XX.9	Info	Responsible for this document: EU-Rail System Pillar Trackside Assets Control and Supervision domain						
Eu.SDI-XX.10	Info	Copyright EULYNX Partners All information included or disclosed in this document is licensed under the European Union Public License EUPL, Version 1.2 or later.						
Eu.SDI-XX.11	Head	**1.3 Purpose**						
Eu.SDI-XX.13	Info	This document specifies the diagnostic messages (data point IDs and values) as parts of the telegram contents of the standardised diagnosis interface for a communication between the service function Diagnostics collector and EULYNX field element subsystem (SDI-XX).						
Eu.SDI-XX.172	Info	This document contains the general generic requirements for communication and the technical specification (e.g. telegrams) of all SDI-XX.						
Eu.SDI-XX.174	Info	Some items, referring to "interface-related" functionality of the communication partners, have been added to this specification as information, providing an overview only. In any case these are subject to appropriate systems (national) specification.						
Eu.SDI-XX.15	Info	This document is intended for the following users: • safety authorities • infrastructure managers • safety assessors • signalling system suppliers • validators						
Eu.SDI-XX.232	Info	This document is applicable for both the EU-Rail System Pillar target architecture and the EULYNX architecture. The document is delivered as a single specification fitting both the System Pillar documentation sets and the EULYNX documentation sets. EU-Rail System Pillar is the technical authority for this document.						
Eu.SDI-XX.17	Head	**1.4 Applicable standards and regulations**						
Eu.SDI-XX.175	Info	The applicable standards and regulations used in EULYNX are listed in the EULYNX Reference Document List [Eu.Doc.12].						
Eu.SDI-XX.18	Info	The references listed in the EULYNX Reference Document List [Eu.Doc.12] shall be considered where they are indicated as being applicable to SDI in the "Applies to" column of the EULYNX Reference Document List [Eu.Doc.12].						
Eu.SDI-XX.20	Head	**1.5 Applicable documents**						
Eu.SDI-XX.21	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-XX.22	Head	**1.6 Appendices**						
Eu.SDI-XX.23	Info	*- intentionally left blank -*						

ID	Type	Requirement	Meaning	Model Type	Data Type	Event/Timepoint	Attribute type	Optionality
Eu.SDI-XX.24	Head	**1.7 Terms and abbreviations**						
Eu.SDI-XX.25	Info	The terms and abbreviations are listed in the EULYNX Glossary [Eu.Doc.9].						
Eu.SDI-XX.26	Head	**1.8 Variability management**						
Eu.SDI-XX.27	Info	This document describes harmonised requirements. Variability management is not applicable.						
Eu.SDI-XX.28	Head	**1.9 Definition of object types**						
Eu.SDI-XX.29	Info	The following definition for object types is applied in this document:						
Eu.SDI-XX.30	Info	• "Req" - This denotes a mandatory requirement.						
Eu.SDI-XX.31	Info	• "Info" - This denotes additional information to help understand the specification. These objects do not specify any additional requirements.						
Eu.SDI-XX.32	Info	• "Head" - This denotes chapter headings.						
Eu.SDI-XX.34	Head	**2 Telegram SDI**						
Eu.SDI-XX.229	Info	All references to Eu.Doc.77 refer to Interface definition SDI version 3.0 (1.A).						
Eu.SDI-XX.35	Info	This chapter defines the diagnostic messages - specifically the data points and values applied in the SDI-XX telegrams. The full telegram structure is defined in the document Interface definition SDI (Eu.Doc.77).						
Eu.SDI-XX.586	Head	**2.1 Definition of columns**						
Eu.SDI-XX.587	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).						
Eu.SDI-XX.588	Info	**Data Type:** Column that indicates the data type for the diagnostic data points. Enumeration values are defined in the section 'Enumeration'.						
Eu.SDI-XX.589	Info	**Event/Timepoint:** Column that indicates the trigger events to send a diagnostic data point.						
Eu.SDI-XX.590	Info	**Attribute Type:** Column that indicates the type of diagnostic information contained in the data point. **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. **configuration**: data that is not measured but often set by the manufacturer or operator; it describes characteristics of the system.						
Eu.SDI-XX.591	Info	**Optionality :** Column that indicates whether a diagnostic data point in 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.						
Eu.SDI-XX.38	Head	**2.2 Generic Telegrams**						
Eu.SDI-XX.407	Head	**2.2.1 Generic.Subsystem**		Package				
Eu.SDI-XX.408	Req	FieldElement	infrastructure element in the field	Class				
Eu.SDI-XX.409	Req	basicDataReadable	Indicates the status of the basic configuration data required for the subsystem functionality.	Attribute	basicDataReadable : BasicDataReadable	on system init || on Sw or Cfg change	diagnosis	1
Eu.SDI-XX.410	Req	fieldElementSpecificationRevision	Indicates the version of the EULYNX field element subsystem Requirements specification for subsystem XX which was used for development and production of the EULYNX field element subsystem. For example the EULYNX field element subsystem is developed and produced based on Requirements specification for subsystem XX version 1.6 (1.A), the subsystemSpecificationRevision has the value "1.6 (1.A)".	Attribute	fieldElementSpecificationRevision : String	on system init || on Sw or Cfg change	configuration	1
Eu.SDI-XX.411	Req	operationStatus	Indicates the operations status of the logical EfeS according to the essential state machine in Eu.Doc.20 (Eu.Gen.3294)	Attribute	operationStatus : FieldElementOperationStatus	On mdm connect || On change	diagnosis	1
Eu.SDI-XX.421	Req	Interface		Class				
Eu.SDI-XX.422	Req	connectionStatus	Indicates the overall connection status of the endpoint	Attribute	connectionStatus : ConnectionStatus	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.423	Req	interfaceRevisionGeneric	indicates the revision of the generic interface	Attribute	interfaceRevisionGeneric : String	on system init || on Sw or Cfg change	configuration	1
Eu.SDI-XX.425	Req	statusTechnical	Technical Status of the system, that represents the aggregated status of all hierarchical lower systems. This allows to have a top level information on the status of the system which can be drilled down if the system is in any other state than "Ok".	Attribute	statusTechnical : StatusTechnical	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.426	Req	statusTechnicalManufacturerSpecificMessage	Must be used by the supplier to describe the reasons for a StatusTechnical != OK, that cannot be explained by existing datapoints. This Information MUST be provided from the supplier. This allows to provide additional information when "StatusTechnical" != OK. This should provide flexibility for future uses. Multiple states can be indicated at the same time if multiple diagnosis have not been included in the model during the design phase.	Attribute	statusTechnicalManufacturerSpecificMessage : MultiStateDiscreteTypeSupplier	on mdm connect || on change	diagnosis	1

ID	Type	Requirement	Meaning	Model Type	Data Type	Event/Timepoint	Attribute type	Optionality
Eu.SDI-XX.434	Req	OpcUaServer	a service that serves data according to the OPC UA standard using the information models defined (e.g. for diagnosric or maintencnace data)	Class				
Eu.SDI-XX.435	Req	SCI_PDI		Class				
Eu.SDI-XX.436	Req	connectionStatus	Indicates the connection status of the pdi connection	Attribute	connectionStatus : PdiConnectionStatus	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.437	Req	version	Indicates the SCI PDI version	Attribute	version : String [0..1]	on system init || on Sw or Cfg change	configuration	0..1
Eu.SDI-XX.663	Req	interfaceRevisionSubsystem	indicates the revision of the subsystem-specific interface	Attribute	interfaceRevisionSubsystem : String	on system init || on Sw or Cfg change	configuration	1
Eu.SDI-XX.480	Req	transportLayer	Indicates the protocol type used on the transport layer	Attribute	transportLayer : TransportLayer	on system init || on Sw or Cfg change	configuration	1
Eu.SDI-XX.438	Req	SCP	Indicates the SCP connection status	Class				
Eu.SDI-XX.439	Req	EC_address	Counts number of received messages with inplausible sender/receiver identification number	Attribute	EC_address : Integer	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.440	Req	EC_CS	Counts number of received messages with inplausible confirmed sequence number	Attribute	EC_CS : Integer	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.441	Req	EC_safety	Counts number of received messages with faulty safety code	Attribute	EC_safety : Integer	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.442	Req	EC_SN	Counts number of received messages with inplausible sequence number	Attribute	EC_SN : Integer	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.443	Req	EC_type	Counts number of received messages with undefined message type	Attribute	EC_type : Integer	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.444	Req	N_diagnosis	Measurement window for diagnosis reports of the redundancy layer.	Attribute	N_diagnosis : Integer	on system init || on Sw or Cfg change	configuration	1
Eu.SDI-XX.445	Req	rastaId	Indicates the configured rastaId of the SCP endpoint	Attribute	rastaId : String	on system init || on Sw or Cfg change	configuration	1
Eu.SDI-XX.446	Req	scpConnectionStatus		Attribute	scpConnectionStatus : ScpConnectionStatus	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.447	Req	T_seq	Timespan to monitor how long a message, received in the redundancy layer outside of the sequence, should be stored in the queue	Attribute	T_seq : Double	on system init || on Sw or Cfg change	configuration	1
Eu.SDI-XX.448	Req	SDI		Class				
Eu.SDI-XX.664	Req	interfaceRevisionSubsystem	indicates the revision of the subsystem-specific interface	Attribute	interfaceRevisionSubsystem : String	on system init || on Sw or Cfg change	configuration	1
Eu.SDI-XX.451	Req	SSI		Class				
Eu.SDI-XX.452	Req	Subsystem	a subsystem for operational or service functions	Class				
Eu.SDI-XX.453	Req	isTimeSynchonized	Indicates whether the last time synchronisation was successful or not. This is important for the subsystem communication and diagnostic data gathering.TRUE: current time of this subsystem is syncronized.	Attribute	isTimeSynchonized : Boolean	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.454	Req	statusTechnical	Technical Status of the system, that represents the aggregated status of all hierarchical lower systems. This allows to have a top level information on the status of the system which can be drilled down if the system is in any other state than "Ok"	Attribute	statusTechnical : StatusTechnical	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.455	Req	statusTechnicalManufacturerSpecificMessage	Must be used by the supplier to describe the reasons for a StatusTechnical != OK, that cannot be explained by existing datapoints. This Information must be provided from the supplier. This allows to provide additional information when "StatusTechnical" != OK. This should provide flexibility for future uses. Multiple states can be indicated at the same time if multiple diagnosis have not been included in the model during the design phase.	Attribute	statusTechnicalManufacturerSpecificMessage : MultiStateDiscreteTypeSupplier	On mdm connect || On change	diagnosis	1
Eu.SDI-XX.456	Req	subsystemIdentification	The technical identifier of the subsystem or adjacent systems (see Eu.Doc.16 - Eu.SAS.77)	Attribute	subsystemIdentification : String	on system init || on Sw or Cfg change	configuration	1
Eu.SDI-XX.469	Req	TlsCertificate		Class				
Eu.SDI-XX.470	Req	caName	Indicates the CA Name of the currently active certificate	Attribute	caName : String	on system init || on Sw or Cfg change	configuration	1
Eu.SDI-XX.471	Req	errorMessage	Indicates the latest message about errors in relation with the certificate; string must be cleared if no error	Attribute	errorMessage : String	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.472	Req	status	status of the certificate	Attribute	status : TlsStatus	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.473	Req	validationMessage	Indicates the latest message about certificate validation	Attribute	validationMessage : String	on mdm connect || on change	diagnosis	1

ID	Type	Requirement	Meaning	Model Type	Data Type	Event/Timepoint	Attribute type	Optionality
Eu.SDI-XX.474	Req	TransportChannelOpcua	Placeholder Class for OPC UA transport channel related parameters	Class				
Eu.SDI-XX.475	Req	TransportChannelRasta		Class				
Eu.SDI-XX.476	Req	N_missed	number of delayed or missed messages	Attribute	N_missed : Integer	on mdm connect || on change	raw data	1
Eu.SDI-XX.477	Req	status	Status of the RaSTA Channel	Attribute	status : TransportChannelRastaStatus	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.478	Req	T_drift	Average delay-indicator	Attribute	T_drift : Double	on mdm connect || on change	raw data	1
Eu.SDI-XX.479	Req	T_drift2	Average delay-indicator squard	Attribute	T_drift2 : Double	on mdm connect || on change	raw data	1
Eu.SDI-XX.665	Req	TransportChannel	a transport channel (Layer 4)	Class				
Eu.SDI-XX.247	Head	**2.2.2 Generic.Equipment**		Package				
Eu.SDI-XX.248	Req	Controller	The controller class is used to represent any controller that an equipment might have	Class				
Eu.SDI-XX.249	Req	coolingFanStatus	Indicates the current status of the cooling fan	Attribute	coolingFanStatus : CoolingFanStatus [0..1]	on mdm connect || on change	diagnosis	0..1
Eu.SDI-XX.250	Req	cpu15MinLoad	Indicates the average load of the Cpu in the last 15 minutes in [%]	Attribute	cpu15MinLoad : Integer [0..1]	on mdm connect || on change >= |5%|	raw data	0..1
Eu.SDI-XX.251	Req	cpu1MinLoad	Indicates the average load of the Cpu in the last minute in [%]	Attribute	cpu1MinLoad : Integer [0..1]	on mdm connect || on change >= |5%|	raw data	0..1
Eu.SDI-XX.252	Req	cpu5MinLoad	Indicates the average load of the Cpu in the last 5 minutes in [%]	Attribute	cpu5MinLoad : Integer [0..1]	on mdm connect || on change >= |5%|	raw data	0..1
Eu.SDI-XX.253	Req	cpuHealthStatus	Indicates the health status of the Cpu	Attribute	cpuHealthStatus : CpuHealthStatus	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.254	Req	cpuLoadStatus	Indicates the load status of the Cpu	Attribute	cpuLoadStatus : CpuLoadStatus	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.255	Req	cpuTemperature	Temperature given in Kelvin. Aggregated temperature, if multiple CPU cores are present.	Attribute	cpuTemperature : Integer	on mdm connect || on change >=| 2 °K|	raw data	1
Eu.SDI-XX.256	Req	cpuTemperatureStatus	Indicates the temperature status of the Cpu	Attribute	cpuTemperatureStatus : TemperatureStatus	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.257	Req	isTimeSynconized	Indicates whether the last time synchronisation was successful or not. This is important for the subsystem communication and diagnostic data gathering.	Attribute	isTimeSynconized : Boolean [0..1]	on mdm connect || on change	diagnosis	0..1
Eu.SDI-XX.258	Req	operatingSystem	Operating system of controller unit. It contains the information needed to identify the specific version of the OS (example: distribution, main version and kernel version).	Attribute	operatingSystem : String [0..1]	on system init || on Sw or Cfg change	configuration	0..1
Eu.SDI-XX.259	Req	operationStatus	Indicates the operation status of the controller	Attribute	operationStatus : ControllerOperationStatus	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.260	Req	ramHealthStatus	Indicates the health status of the RAM	Attribute	ramHealthStatus : RamHealthStatus	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.262	Req	ramSize	Indicates the total available RAM in mega bytes	Attribute	ramSize : Integer	on system init || on Sw or Cfg change	configuration	1
Eu.SDI-XX.263	Req	ramUsedPercent	Indicates the usage of the RAM in [%]	Attribute	ramUsedPercent : Integer	on mdm connect || on change >= |5 %|	raw data	1
Eu.SDI-XX.264	Req	resetLastDateTime	Indicates the date and time on which the last reset of the controller happened	Attribute	resetLastDateTime : DateTime [0..1]	on system init || on Sw or Cfg change	raw data	0..1
Eu.SDI-XX.265	Req	resetLastReason	Indicates the type of the latest reset (The reason for the reset)	Attribute	resetLastReason : ControllerResetReason [0..1]	on system init || on Sw or Cfg change	diagnosis	0..1
Eu.SDI-XX.266	Req	statusTechnical	Technical Status of the system, that represents the aggregated status of all hierarchical lower systems. This allows to have a top level information on the status of the system which can be drilled down if the system is in any other state than "Ok".	Attribute	statusTechnical : StatusTechnical	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.267	Req	statusTechnicalManufacturerSpecificMessage	Must be used by the supplier to describe the reasons for a StatusTechnical != OK, that cannot be explained by existing datapoints. This Information must be provided from the supplier. This allows to provide additional information when "StatusTechnical" != OK. This should provide flexibility for future uses. Multiple states can be indicated at the same time if multiple diagnosis have not been included in the model during the design phase.	Attribute	statusTechnicalManufacturerSpecificMessage : MultiStateDiscreteTypeSupplier	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.268	Req	systemDescription	Controller Type and Version Number (manufacturer defined)	Attribute	systemDescription : String [0..1]	on system init || on Sw or Cfg change	configuration	0..1

ID	Type	Requirement	Meaning	Model Type	Data Type	Event/Timepoint	Attribute type	Optionality
Eu.SDI-XX.269	Req	Equipment	The equipment class is used to represent the physical view of the system. Equipment classes represent unique instances down to the last replaceable units (hierarchical structure of equipment classes, parent-child). Linking multiple equipment classes allows manufacturers to represent their specific system.	Class				
Eu.SDI-XX.270	Req	hardwareRevision	The data point hardwareRevision indicates the hardware revision level of the equipment. Hardware can only be changed by replacing an instance of Equipment.	Attribute	hardwareRevision : String	on mdm connect || on change	configuration	1
Eu.SDI-XX.271	Req	interfaceRevision	Indicates the interface revision	Attribute	interfaceRevision : String	on system init || on Sw or Cfg change	configuration	1
Eu.SDI-XX.272	Req	manufacturer	The name of the manufacturer of the equipment.	Attribute	manufacturer : String	on system init || on Sw or Cfg change	configuration	1
Eu.SDI-XX.273	Req	manufacturerModel	The name of the equipment model	Attribute	manufacturerModel : String	on system init || on Sw or Cfg change	configuration	1
Eu.SDI-XX.274	Req	manufacturingDateTime : DateTime	Indicates the production date of the equipment	Attribute	manufacturingDateTime : DateTime	on system init || on Sw or Cfg change	configuration	1
Eu.SDI-XX.275	Req	replacementIndication	Indicates when the equipment requests a replacement. The decision to act on this indication is up to the operator, in accordance with the equipment manual.	Attribute	replacementIndication : EquipmentReplaceabilityStatus	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.276	Req	serialNumber	Number defined and provided by the manufacturer. The serial number combined with the manufacturer information must be unique.	Attribute	serialNumber : String	on system init || on Sw or Cfg change	configuration	1
Eu.SDI-XX.277	Req	softwareRevision	The data point softwareRevision (not interface revision) indicates the software revision level of the equipment. It contains the information to identify all software components, including firmware. It does not include changes in the configuration data. The format and semantics are defined by the manufacturer.	Attribute	softwareRevision : String	on mdm connect || on change	configuration	1
Eu.SDI-XX.278	Req	statusTechnical	Technical Status of the system, that represents the aggregated status of all hierarchical lower systems. This allows to have a top level information on the status of the system which can be drilled down if the system is in any other state than "Ok".	Attribute	statusTechnical : StatusTechnical	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.279	Req	statusTechnicalManufacturerSpecificMessage	Must be used by the supplier to describe the reasons for a StatusTechnical != OK, that cannot be explained by existing datapoints. This Information must be provided from the supplier. This allows to provide additional information when "StatusTechnical" != OK. This should provide flexibility for future uses. Multiple states can be indicated at the same time if multiple diagnosis have not been included in the model during the design phase.	Attribute	statusTechnicalManufacturerSpecificMessage : MultiStateDiscreteTypeSupplier	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.292	Req	PhysicalAnalogInput	Contains attributes of a physical analog input	Class				
Eu.SDI-XX.293	Req	current	Indicates the measured current at the analog input.	Attribute	current : Real	on mdm connect || on |change| >= 0.1A	raw data	1
Eu.SDI-XX.294	Req	voltage	Indicates the measured voltage at the analog input.	Attribute	voltage : Real	on mdm connect || on |change| >= 0.1V	raw data	1
Eu.SDI-XX.295	Req	PhysicalAnalogOutput	Contains attributes of a physical analog output	Class				
Eu.SDI-XX.296	Req	current	Indicates the measured current at the analog output.	Attribute	current : Real	on mdm connect || on |change| >= 0.1A	raw data	1
Eu.SDI-XX.297	Req	voltage	Indicates the generated voltage of the analog output	Attribute	voltage : Real	on mdm connect || on |change| >= 1V	raw data	1
Eu.SDI-XX.298	Req	PhysicalDigitalInput	Contains attributes of a physical digital input	Class				
Eu.SDI-XX.299	Req	inputVoltage	Input voltage (analog value),physical unit : Volt	Attribute	inputVoltage : Real [0..1]	on mdm connect || on |change| >= 0.1V	raw data	0..1
Eu.SDI-XX.300	Req	physicalInputValue	Indicates whether the physical channel is 'on' (high) or 'off' (low)	Attribute	physicalInputValue : HighLow	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.301	Req	PhysicalDigitalOutput	Contains attributes of a physical digital output	Class				
Eu.SDI-XX.302	Req	outputVoltage	Output voltage (analog value),physical unit : Volt	Attribute	outputVoltage : Real [0..1]	on mdm connect || on |change| >= 0.1V	raw data	0..1
Eu.SDI-XX.303	Req	physicalOutputValue	Indicates whether the physical channel is 'on' (high) or 'off' (low)	Attribute	physicalOutputValue : HighLow	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.304	Req	PhysicalInput	Contains general purpose attributes of a physical input	Class				
Eu.SDI-XX.305	Req	statusTechnical	Technical Status of the system, that represents the aggregated status of all hierarchical lower systems. This allows to have a top level information on the status of the system which can be drilled down if the system is in any other state than "Ok".	Attribute	statusTechnical : StatusTechnical	on mdm connect || on change	diagnosis	1

ID	Type	Requirement	Meaning	Model Type	Data Type	Event/Timepoint	Attribute type	Optionality
Eu.SDI-XX.306	Req	statusTechnicalManufacturerSpecificMessage	Must be used by the supplier to describe the reasons for a StatusTechnical != OK, that cannot be explained by existing datapoints. This Information MUST be provided from the supplier. This allows to provide additional information when "StatusTechnical" != OK. This should provide flexibility for future uses. Multiple states can be indicated at the same time if multiple diagnosis have not been included in the model during the design phase.	Attribute	statusTechnicalManufacturerSpecificMessage : MultiStateDiscreteTypeSupplier	on mdm connect || On change	diagnosis	1
Eu.SDI-XX.307	Req	PhysicalNetworkInterface	Represents 1 instance of 1 networking interface talking to 1 PoS-Signalling interface	Class				
Eu.SDI-XX.308	Req	nominal bandwidth	States the nominal bandwidth in Mbits of physical network interface	Attribute	nominal bandwidth : Long	on system init || on Sw or Cfg change	configuration	1
Eu.SDI-XX.309	Req	macAddress	MAC Address of the interface in the FieldElement	Attribute	macAddress : String	on system init || on Sw or Cfg change	configuration	1
Eu.SDI-XX.310	Req	operationStatus	Indicates the operation status of the PhysicalNetworkInterface	Attribute	operationStatus : PhysicalNetworkInterfaceOperationalStatus	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.312	Req	statusTechnical	Technical Status of the system, that represents the aggregated status of all hierarchical lower systems. This allows to have a top level information on the status of the system which can be drilled down if the system is in any other state than "Ok".	Attribute	statusTechnical : StatusTechnical	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.313	Req	statusTechnicalManufacturerSpecificMessage	Must be used by the supplier to describe the reasons for a StatusTechnical != OK, that cannot be explained by existing datapoints. This Information must be provided from the supplier. This allows to provide additional information when "StatusTechnical" != OK. This should provide flexibility for future uses. Multiple states can be indicated at the same time if multiple diagnosis have not been included in the model during the design phase.	Attribute	statusTechnicalManufacturerSpecificMessage : MultiStateDiscreteTypeSupplier	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.314	Req	totalReceivedBytes	Indicates the totally received bytes since the last restart	Attribute	totalReceivedBytes : Long [0..1]	on mdm connect || on change >= 1KB	raw data	0..1
Eu.SDI-XX.315	Req	totalReceivedDiscardedPackets	indicates the total number of received discarded packages	Attribute	totalReceivedDiscardedPackets : Long	on mdm connect || on change > =100 packets	raw data	1
Eu.SDI-XX.316	Req	totalReceivedErrorPackets	indicates the total number of received error packages	Attribute	totalReceivedErrorPackets : Long	on mdm connect || on change > =100 packets	raw data	1
Eu.SDI-XX.317	Req	totalReceivedPackets	Indicates the total number of received packages	Attribute	totalReceivedPackets : Long	on mdm connect || on change > =100 packets	raw data	1
Eu.SDI-XX.318	Req	totalSentBytes	Indicates the totally sent bytes since last restart of the IP endpoint	Attribute	totalSentBytes : Long [0..1]	on mdm connect || on change >= 1KB	raw data	0..1
Eu.SDI-XX.319	Req	totalSentDiscardedPackets	indicates the total number of sent discarded packages	Attribute	totalSentDiscardedPackets : Long	on mdm connect || on change > =100 packets	raw data	1
Eu.SDI-XX.320	Req	totalSentErrorPackets	Indicates the total number of sent error packages	Attribute	totalSentErrorPackets : Long	on mdm connect || on change > =100 packets	raw data	1
Eu.SDI-XX.321	Req	totalSentPackets	Indicates the total number of sent packages	Attribute	totalSentPackets : Long	on mdm connect || on change > =100 packets	raw data	1
Eu.SDI-XX.322	Req	PhysicalOutput	Contains general purpose attributes of a physical output	Class				
Eu.SDI-XX.323	Req	statusTechnical	Technical Status of the system, that represents the aggregated status of all hierarchical lower systems. This allows to have a top level information on the status of the system which can be drilled down if the system is in any other state than "Ok".	Attribute	statusTechnical : StatusTechnical	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.324	Req	statusTechnicalManufacturerSpecificMessage	Must be used by the supplier to describe the reasons for a StatusTechnical != OK, that cannot be explained by existing datapoints. This Information MUST be provided from the supplier. This allows to provide additional information when "StatusTechnical" != OK. This should provide flexibility for future uses. Multiple states can be indicated at the same time if multiple diagnosis have not been included in the model during the design phase.	Attribute	statusTechnicalManufacturerSpecificMessage : MultiStateDiscreteTypeSupplier	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.325	Req	StorageMedium	Contains general purpose attributes of persistent storage	Class				
Eu.SDI-XX.326	Req	memorySize	indicates memory of the storage medium in MBytes	Attribute	memorySize : Integer	on system init || on Sw or Cfg change	configuration	1
Eu.SDI-XX.327	Req	memoryUsedPercent	Indicates how much memory is used. Send update if value has changed by 1% or more	Attribute	memoryUsedPercent : Integer	on mdm connect || on change >= |1 %|	raw data	1

ID	Type	Requirement	Meaning	Model Type	Data Type	Event/Timepoint	Attribute type	Optionality
Eu.SDI-XX.328	Req	statusTechnical	Technical Status of the system, that represents the aggregated status of all hierarchical lower systems. This allows to have a top level information on the status of the system which can be drilled down if the system is in any other state than "Ok".	Attribute	statusTechnical : StatusTechnical	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.329	Req	statusTechnicalManufacturerSpecificMessage	Must be used by the supplier to describe the reasons for a StatusTechnical != OK, that cannot be explained by existing datapoints. This Information MUST be provided from the supplier. This allows to provide additional information when "StatusTechnical" != OK. This should provide flexibility for future uses. Multiple states can be indicated at the same time if multiple diagnosis have not been included in the model during the design phase.	Attribute	statusTechnicalManufacturerSpecificMessage : MultiStateDiscreteTypeSupplier	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.330	Req	temperature	indicates the temperature [K] of the storage medium	Attribute	temperature : Integer [0..1]	on mdm connect || on change >=| 2 °K|	raw data	0..1
Eu.SDI-XX.331	Req	temperatureStatus	Indicates the temperature status of the storage medium	Attribute	temperatureStatus : TemperatureStatus [0..1]	on mdm connect || on |change| >= 1°K	diagnosis	0..1
Eu.SDI-XX.332	Req	StorageMediumFlashMemory	Contains attributes of flash memory storage	Class				
Eu.SDI-XX.333	Req	eraseFailCount	Indicates the total number of Flash erase operation failures since the drive was deployed.	Attribute	eraseFailCount : Long	on mdm connect || on change	raw data	1
Eu.SDI-XX.334	Req	programFailCount	The total number of flash program operation failures since the drive was deployed.	Attribute	programFailCount : Long	on mdm connect || on change	raw data	1
Eu.SDI-XX.335	Req	wearLevelingCount	Counts the maximum worst erase count on any block	Attribute	wearLevelingCount : Long	on mdm connect || on change	raw data	1
Eu.SDI-XX.760	Req	PowerSupply	Contains general purpose attributes of the power supply within the efeS	Class				
Eu.SDI-XX.761	Req	inputVoltageStatus	Indicates the input voltage status	Attribute	inputVoltageStatus : VoltageStatus	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.762	Req	outputPower	indicates the output power	Attribute	outputPower : Integer	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.763	Req	outputPowerLimit	indicates the maximally supported output power	Attribute	outputPowerLimit : Integer	on system init || on Sw or Cfg change	configuration	1
Eu.SDI-XX.764	Req	outputVoltageNominal	indicates the output voltage	Attribute	outputVoltageNominal : Integer	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.765	Req	outputVoltageStatus	indicates the output voltage status	Attribute	outputVoltageStatus : VoltageStatus	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.766	Req	statusTechnical	Technical Status of the system, that represents the aggregated status of all hierarchical lower systems. This allows to have a top level information on the status of the system which can be drilled down if the system is in any other state than "Ok".	Attribute	statusTechnical	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.767	Req	statusTechnicalManufacturerSpecificMessage	Must be used by the supplier to describe the reasons for a StatusTechnical != OK, that cannot be explained by existing datapoints. This Information MUST be provided from the supplier. This allows to provide additional information when "StatusTechnical" != OK. This should provide flexibility for future uses. Multiple states can be indicated at the same time if multiple diagnosis have not been included in the model during the design phase.	Attribute	statusTechnicalManufacturerSpecificMessage : MultiStateDiscreteTypeSupplier	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.768	Req	temperature	Indicates the temperature of the power supply	Attribute	temperature : Real [0..1]	on mdm connect || on change >= |1°K|	raw data	0..1
Eu.SDI-XX.769	Req	temperatureStatus	Indicates the temperature status of the power supply	Attribute	temperatureStatus : TemperatureStatus [0..1]	on mdm connect || on change	diagnosis	0..1
Eu.SDI-XX.397	Head	**2.2.3 Generic.Redundancy**		Package				
Eu.SDI-XX.399	Req	RedundancyGroup	Watches the combined status of the instances that perform redundancy.	Class				
Eu.SDI-XX.400	Req	isAvailable	TRUE if available instances >= minimum available.	Attribute	isAvailable : Boolean	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.401	Req	label	name of redundancy group, used to identify the specific group	Attribute	label : String	on system init || on Sw or Cfg change	configuration	1
Eu.SDI-XX.402	Req	minimumAvailable	indicates the minimal number of available units to operate "normally" (for a 2oo3 system this would indicate 2)	Attribute	minimumAvailable : Integer	on system init || on Sw or Cfg change	configuration	1
Eu.SDI-XX.403	Req	RedundancyStatus	This object is added as a child object to the item (Equipment, Controller or other class) that is part of a redundancy.	Class				
Eu.SDI-XX.404	Req	isActive	TRUE if the item is part of hot redundancy.	Attribute	isActive : Boolean	on mdm connect || on change	raw data	1

ID	Type	Requirement	Meaning	Model Type	Data Type	Event/Timepoint	Attribute type	Optionality
Eu.SDI-XX.405	Req	isAvailable	TRUE if at least all the primary functions of the redundant element are available (observed on the level of the RedundancyGroup)	Attribute	isAvailable : Boolean	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.406	Req	isTurnedOff	TRUE if the redundant element is turned off.	Attribute	isTurnedOff : Boolean	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.649	Head	**2.2.4 Generic.Log**		Package				
Eu.SDI-XX.650	Req	LogEvent	logging the events	Class				
Eu.SDI-XX.651	Req	messageId	Unique Id linked to a localized Text	Attribute	messageId : Long [0..1]			0..1
Eu.SDI-XX.652	Req	LogEventInterface		Class				
Eu.SDI-XX.653	Req	nodeIdSource	OPC UA Source id	Attribute	nodeIdSource : String	on system init || on Sw or Cfg change	configuration	1
Eu.SDI-XX.654	Req	nodeIdTarget	OPC UA Target id	Attribute	nodeIdTarget : String	on system init || on Sw or Cfg change	configuration	1
Eu.SDI-XX.655	Req	LogEventSubsystem		Class				
Eu.SDI-XX.667	Req	BaseEvent	Log events are derived from the OPC UA 'BaseEventType'	Class				
Eu.SDI-XX.668	Req	eventId	see OPC UA 'BaseEventType'	Attribute	eventId : String	on event	configuration	1
Eu.SDI-XX.669	Req	message		Attribute	message : String			1
Eu.SDI-XX.670	Req	severityLevel	the level of log severity	Attribute	severityLevel : LogSeverityLevel			1
Eu.SDI-XX.671	Req	time	UTC time of the start of all measurements taken for this event (e.g. start of point turn event)	Attribute	time : DateTime	on event	raw data	1
Eu.SDI-XX.431	Req	LogEventInterfacePdiEvent	an event on the application layer of the SCP	Class				
Eu.SDI-XX.432	Req	error	indicates the type of PDI error, if the communication error is detected by the reporting communication partner	Attribute	error : PdiError [0..1]	on mdm connect || on change	diagnosis	0..1
Eu.SDI-XX.433	Req	eventNotification	indicates the PDI event notification	Attribute	eventNotification : PdiEventNotification	on mdm connect || on change	diagnosis	1
Eu.SDI-XX.759	Head	**2.2.5 Generic.Enumeration**		Package				
Eu.SDI-XX.336	Head	**2.2.5.1 Enumeration.Equipment**		Package				
Eu.SDI-XX.337	Req	ControllerOperationStatus	Enumeration: Indicates the operation status of the controller	ValueType (Enumeration)				
Eu.SDI-XX.342	Req	Unknown	0	Enumeration Literal				
Eu.SDI-XX.338	Req	Booting	1	Enumeration Literal				
Eu.SDI-XX.340	Req	Initializing	2	Enumeration Literal				
Eu.SDI-XX.341	Req	Operational	3	Enumeration Literal				
Eu.SDI-XX.339	Req	FallbackMode	4	Enumeration Literal				
Eu.SDI-XX.343	Req	ControllerResetReason	Enumeration: Indicates the type of the latest reset (The reason for the reset)	ValueType (Enumeration)				
Eu.SDI-XX.349	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				
Eu.SDI-XX.347	Req	OnSite	1 e.g. if someonen resets the device on-site	Enumeration Literal				
Eu.SDI-XX.348	Req	RemoteMdm	2	Enumeration Literal				
Eu.SDI-XX.346	Req	InternalMaintenanceOk	3 e.g. during sw-loading	Enumeration Literal				
Eu.SDI-XX.345	Req	InternalMaintenanceFailure	4 e.g. in-case of a failure during sw-loading	Enumeration Literal				
Eu.SDI-XX.344	Req	InternalFailure	5	Enumeration Literal				
Eu.SDI-XX.350	Req	CoolingFanStatus	Enumeration: Indicates the current status of the cooling fan	ValueType (Enumeration)				
Eu.SDI-XX.353	Req	Unknown	0	Enumeration Literal				
Eu.SDI-XX.352	Req	Normal	1	Enumeration Literal				
Eu.SDI-XX.351	Req	Failure	2	Enumeration Literal				
Eu.SDI-XX.354	Req	CpuHealthStatus	Enumeration: Indicates the health status of the Cpu	ValueType (Enumeration)				
Eu.SDI-XX.358	Req	Unknown	0	Enumeration Literal				
Eu.SDI-XX.357	Req	Normal	1	Enumeration Literal				
Eu.SDI-XX.355	Req	Degraded	2	Enumeration Literal				

ID	Type	Requirement	Meaning	Model Type	Data Type	Event/Timepoint	Attribute type	Optionality
Eu.SDI-XX.356	Req	Failure	3	Enumeration Literal				
Eu.SDI-XX.359	Req	CpuLoadStatus	Enumeration: Indicates the load status of the Cpu	ValueType (Enumeration)				
Eu.SDI-XX.363	Req	Unknown		Enumeration Literal				
Eu.SDI-XX.362	Req	Normal	1	Enumeration Literal				
Eu.SDI-XX.361	Req	High	2	Enumeration Literal				
Eu.SDI-XX.360	Req	Critical	3	Enumeration Literal				
Eu.SDI-XX.364	Req	EquipmentReplaceabilityStatus	Enumeration: Indicates when the equipment requests a replacement. The decision to act on this indication is up to the operator, in accordance with the equipment manual.	ValueType (Enumeration)				
Eu.SDI-XX.369	Req	Unknown	0	Enumeration Literal				
Eu.SDI-XX.365	Req	NotReplaceable	1	Enumeration Literal				
Eu.SDI-XX.366	Req	ReplaceableAtOperation	2	Enumeration Literal				
Eu.SDI-XX.367	Req	ReplaceableMaintenance	3	Enumeration Literal				
Eu.SDI-XX.368	Req	ReplaceableRevalidation	4	Enumeration Literal				
Eu.SDI-XX.370	Req	PhysicalNetworkInterfaceOperationalStatus	Enumeration	ValueType (Enumeration)				
Eu.SDI-XX.375	Req	Unknown	0	Enumeration Literal				
Eu.SDI-XX.373	Req	NotAvailableNotConnected	1	Enumeration Literal				
Eu.SDI-XX.371	Req	AvailableNotConnected	2	Enumeration Literal				
Eu.SDI-XX.372	Req	Connected	3	Enumeration Literal				
Eu.SDI-XX.374	Req	NotConnectedDisturbed	4	Enumeration Literal				
Eu.SDI-XX.376	Req	RamHealthStatus	Enumeration :Indicates the health status of the RAM	ValueType (Enumeration)				
Eu.SDI-XX.380	Req	Unknown	0	Enumeration Literal				
Eu.SDI-XX.379	Req	Normal	1	Enumeration Literal				
Eu.SDI-XX.377	Req	Degraded	2	Enumeration Literal				
Eu.SDI-XX.378	Req	Failure	3	Enumeration Literal				
Eu.SDI-XX.387	Req	TemperatureStatus	Enumeration: Indicates the temperature status of the Cpu	ValueType (Enumeration)				
Eu.SDI-XX.390	Req	Unknown	0	Enumeration Literal				
Eu.SDI-XX.388	Req	Normal	1	Enumeration Literal				
Eu.SDI-XX.389	Req	TooHigh	2	Enumeration Literal				
Eu.SDI-XX.391	Req	VoltageStatus	Enumeration	ValueType (Enumeration)				
Eu.SDI-XX.396	Req	Unknown	0	Enumeration Literal				
Eu.SDI-XX.393	Req	NotUsed	1	Enumeration Literal				
Eu.SDI-XX.395	Req	Undervoltage	2	Enumeration Literal				
Eu.SDI-XX.392	Req	Nominal	3	Enumeration Literal				
Eu.SDI-XX.394	Req	Overvoltage	4	Enumeration Literal				
Eu.SDI-XX.234	Req	HighLow	Enumeration	ValueType (Enumeration)				
Eu.SDI-XX.596	Req	Unknown	0	Enumeration Literal				
Eu.SDI-XX.235	Req	High	1	Enumeration Literal				
Eu.SDI-XX.236	Req	Low	2	Enumeration Literal				
Eu.SDI-XX.615	Head	**2.2.5.2 Enumeration.Log**		Package				
Eu.SDI-XX.616	Req	LogSeverityLevel	Enumeration	ValueType (Enumeration)				
Eu.SDI-XX.617	Req	DEBUG	1	Enumeration Literal				
Eu.SDI-XX.620	Req	INFO	2	Enumeration Literal				
Eu.SDI-XX.621	Req	WARN	3	Enumeration Literal				
Eu.SDI-XX.618	Req	ERROR	4	Enumeration Literal				

ID	Type	Requirement	Meaning	Model Type	Data Type	Event/Timepoint	Attribute type	Optionality
Eu.SDI-XX.619	Req	FATAL	5	Enumeration Literal				
Eu.SDI-XX.481	Head	**2.2.5.3 Enumeration.Subsystem**		Package				
Eu.SDI-XX.482	Req	BasicDataReadable	Enumeration	ValueType (Enumeration)				
Eu.SDI-XX.486	Req	Unknown	0	Enumeration Literal				
Eu.SDI-XX.485	Req	NotReadable	1	Enumeration Literal				
Eu.SDI-XX.484	Req	Incomplete	2	Enumeration Literal				
Eu.SDI-XX.483	Req	FormallyCorrect	3	Enumeration Literal				
Eu.SDI-XX.501	Req	ConnectionStatus	Enumeration	ValueType (Enumeration)				
Eu.SDI-XX.506	Req	Unknown	0	Enumeration Literal				
Eu.SDI-XX.504	Req	NotAvailableNotConnected	1	Enumeration Literal				
Eu.SDI-XX.502	Req	AvailableNotConnected	2	Enumeration Literal				
Eu.SDI-XX.503	Req	Connected	3	Enumeration Literal				
Eu.SDI-XX.505	Req	NotConnectedDisturbed	4	Enumeration Literal				
Eu.SDI-XX.507	Req	FieldElementOperationStatus	Enumeration : BL4 SCI states (represents essential state machine)	ValueType (Enumeration)				
Eu.SDI-XX.511	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				
Eu.SDI-XX.508	Req	Booting	1	Enumeration Literal				
Eu.SDI-XX.515	Req	InitialisingWaitingForPdiOrMaintenance	2	Enumeration Literal				
Eu.SDI-XX.514	Req	InitialisingWaitingForPdi	3	Enumeration Literal				
Eu.SDI-XX.512	Req	InitialisingWaitingForDataUpdate	4	Enumeration Literal				
Eu.SDI-XX.513	Req	InitialisingWaitingForNoMainteananceTimout	5	Enumeration Literal				
Eu.SDI-XX.510	Req	Operational	6	Enumeration Literal				
Eu.SDI-XX.509	Req	FallbackMode	7	Enumeration Literal				
Eu.SDI-XX.526	Req	PdiConnectionStatus	Enumeration	ValueType (Enumeration)				
Eu.SDI-XX.533	Req	UnKnown	0	Enumeration Literal				
Eu.SDI-XX.530	Req	NotReadyForPdi	1	Enumeration Literal				
Eu.SDI-XX.531	Req	ReadyForPdi	2	Enumeration Literal				
Eu.SDI-XX.528	Req	ActiveEstablishing	3	Enumeration Literal				
Eu.SDI-XX.529	Req	ActiveEstablishingVersionUnequal	4	Enumeration Literal				
Eu.SDI-XX.527	Req	ActiveEstablished	5	Enumeration Literal				
Eu.SDI-XX.532	Req	Suspended	6	Enumeration Literal				
Eu.SDI-XX.534	Req	PdiError	Enumeration	ValueType (Enumeration)				
Eu.SDI-XX.546	Req	Unknown	0	Enumeration Literal				
Eu.SDI-XX.540	Req	IncompleteActivation1	1	Enumeration Literal				
Eu.SDI-XX.541	Req	IncompleteActivation2	2	Enumeration Literal				
Eu.SDI-XX.538	Req	ImproperMessageSequence	3	Enumeration Literal				
Eu.SDI-XX.543	Req	MessageAtImproperInstantCase1	4	Enumeration Literal				
Eu.SDI-XX.544	Req	MessageAtImproperInstantCase2	5	Enumeration Literal				
Eu.SDI-XX.535	Req	DeviatingMessageType	6	Enumeration Literal				
Eu.SDI-XX.536	Req	DeviatingProtocolType	7	Enumeration Literal				
Eu.SDI-XX.545	Req	MessageLength	8	Enumeration Literal				
Eu.SDI-XX.547	Req	UnknownSenderOrReceiver	9	Enumeration Literal				
Eu.SDI-XX.539	Req	ImproperValue	10	Enumeration Literal				
Eu.SDI-XX.542	Req	LocallyImproperValue	11	Enumeration Literal				
Eu.SDI-XX.537	Req	ImproperCombinationOfValues	12	Enumeration Literal				

ID	Type	Requirement	Meaning	Model Type	Data Type	Event/Timepoint	Attribute type	Optionality
Eu.SDI-XX.548	Req	PdiEventNotification	Enumeration : BL4 SCI PDI actions	ValueType (Enumeration)				
Eu.SDI-XX.555	Req	NormalClose	0	Enumeration Literal				
Eu.SDI-XX.556	Req	OtherPdiRequested	1	Enumeration Literal				
Eu.SDI-XX.558	Req	PdiTimeout	2	Enumeration Literal				
Eu.SDI-XX.554	Req	EilProtocolError	3	Enumeration Literal				
Eu.SDI-XX.553	Req	EilFormalTelegramError	4	Enumeration Literal				
Eu.SDI-XX.552	Req	EilContentTelegramError	5	Enumeration Literal				
Eu.SDI-XX.551	Req	EfesProtocolError	6	Enumeration Literal				
Eu.SDI-XX.550	Req	EfesFormalTelegramError	7	Enumeration Literal				
Eu.SDI-XX.549	Req	EfesContentTelegramError	8	Enumeration Literal				
Eu.SDI-XX.559	Req	ReleaseForMaintenance	9	Enumeration Literal				
Eu.SDI-XX.557	Req	pdiEstablishingError	10	Enumeration Literal				
Eu.SDI-XX.563	Req	ScpConnectionStatus	Enumeration	ValueType (Enumeration)				
Eu.SDI-XX.568	Req	UnKnown	0	Enumeration Literal				
Eu.SDI-XX.566	Req	NotAvailableNotConnected	1	Enumeration Literal				
Eu.SDI-XX.564	Req	AvailableNotConnected	2	Enumeration Literal				
Eu.SDI-XX.565	Req	Connected	3	Enumeration Literal				
Eu.SDI-XX.567	Req	NotConnectedDisturbed	4	Enumeration Literal				
Eu.SDI-XX.569	Req	TlsStatus	Enumeration	ValueType (Enumeration)				
Eu.SDI-XX.574	Req	Unknown	0	Enumeration Literal				
Eu.SDI-XX.572	Req	CertificateInvalid	1	Enumeration Literal				
Eu.SDI-XX.570	Req	CertificateError	2	Enumeration Literal				
Eu.SDI-XX.575	Req	UnkownError	3	Enumeration Literal				
Eu.SDI-XX.573	Req	CertificateOk	4	Enumeration Literal				
Eu.SDI-XX.571	Req	CertificateGracePeriod	5	Enumeration Literal				
Eu.SDI-XX.576	Req	TransportChannelRastaStatus	Enumeration	ValueType (Enumeration)				
Eu.SDI-XX.577	Req	Unknown	0	Enumeration Literal				
Eu.SDI-XX.578	Req	NotAvailableNotConnected	1	Enumeration Literal				
Eu.SDI-XX.581	Req	AvailableNotConnected	2	Enumeration Literal				
Eu.SDI-XX.582	Req	Connected	3	Enumeration Literal				
Eu.SDI-XX.579	Req	NotConnectedDisturbed	4	Enumeration Literal				
Eu.SDI-XX.583	Req	TransportLayer	Enumeration	ValueType (Enumeration)				
Eu.SDI-XX.585	Req	UDP	1	Enumeration Literal				
Eu.SDI-XX.584	Req	TLS over TCP	2	Enumeration Literal				
Eu.SDI-XX.237	Req	MultiStateDiscreteTypeSupplier	Allows to provide additional information when "StatusTechnical" != OK	ValueType (Enumeration)				
Eu.SDI-XX.636	Info	AdditionalErrorState1		Enumeration Literal				
Eu.SDI-XX.637	Info	AdditionalErrorState2		Enumeration Literal				
Eu.SDI-XX.638	Info	AdditionalFailureState1		Enumeration Literal				
Eu.SDI-XX.241	Req	StatusTechnical	Enumeration : Technical Status of the system, that represents the aggregated status of all hierarchical lower systems. This allows to have a top level information on the status of the system which can be drilled down if the system is in any other state than "Ok".	ValueType (Enumeration)				
Eu.SDI-XX.245	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				
Eu.SDI-XX.244	Req	Ok	1 System serves all primary functions and has no deviations, errors or failures	Enumeration Literal				

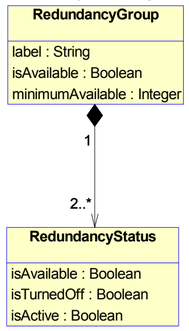
ID	Type	Requirement	Meaning	Model Type	Data Type	Event/Timepoint	Attribute type	Optionality
Eu.SDI-XX.246	Req	Warning	2 All subsystems are working as intended, but the system detects unexpected behavior (e.g. deviation from expected values).	Enumeration Literal				
Eu.SDI-XX.242	Req	FailureNonCritical	3 At least one error in one of the (sub)systems, but on this system level all primary functions are available	Enumeration Literal				
Eu.SDI-XX.243	Req	FailureCritical	4 At least one primary function is not available; operational consequences possible	Enumeration Literal				
Eu.SDI-XX.611	Head	**2.2.6 Generic.Class.Diagrams**		Package				
Eu.SDI-XX.594	Head	**2.2.6.1 Subsystem class diagram**		Package				
Eu.SDI-XX.457	Info	Subsystem class diagram See Figure 1 on page 13.		Class Diagram				
Eu.SDI-XX.593	Head	**2.2.6.2 Interface class diagram**		Package				
Eu.SDI-XX.427	Info	Interface class diagram See Figure 2 on page 14.		Class Diagram				
Eu.SDI-XX.592	Head	**2.2.6.3 Equipment class diagram**		Package				
Eu.SDI-XX.280	Info	Materials and Equipments class diagram See Figure 3 on page 15.		Class Diagram				
Eu.SDI-XX.595	Head	**2.2.6.4 Redundancy class diagram**		Package				
Eu.SDI-XX.398	Info	Redundancy class diagram 		Class Diagram				
Eu.SDI-XX.612	Head	**2.2.6.5 Log class diagram**		Package				
Eu.SDI-XX.613	Info	Log class diagram See Figure 4 on page 16.		Class Diagram				

Figure 1: From object 457 on page 12.

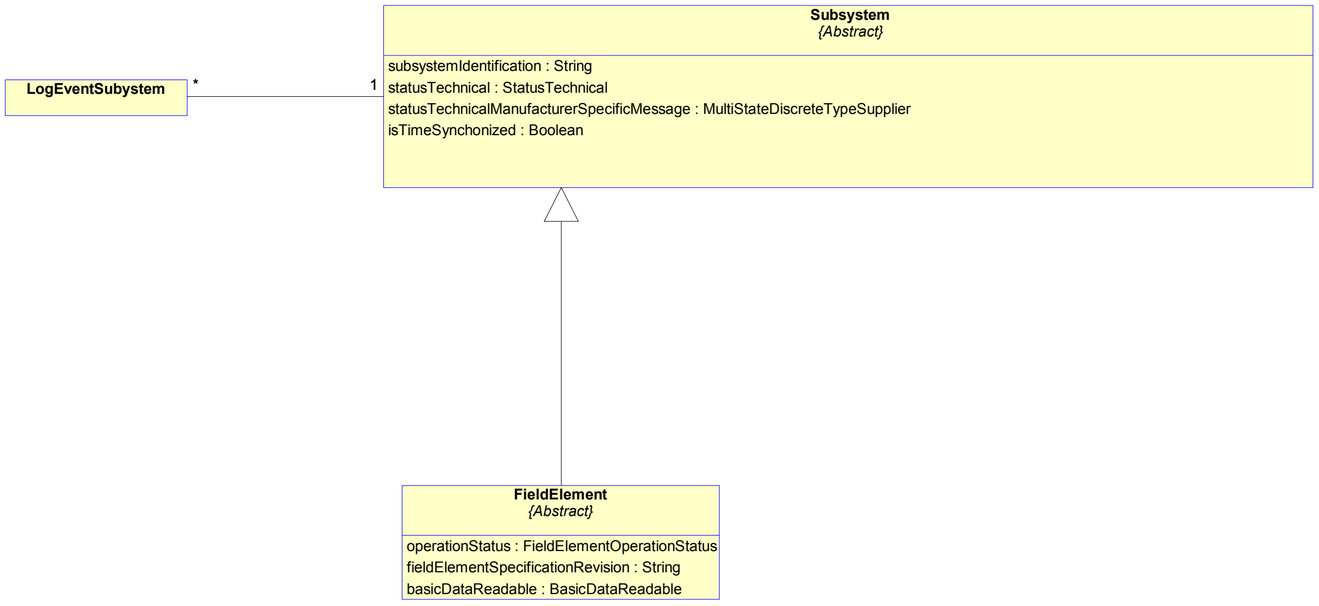


Figure 2: From object 427 on page 12.

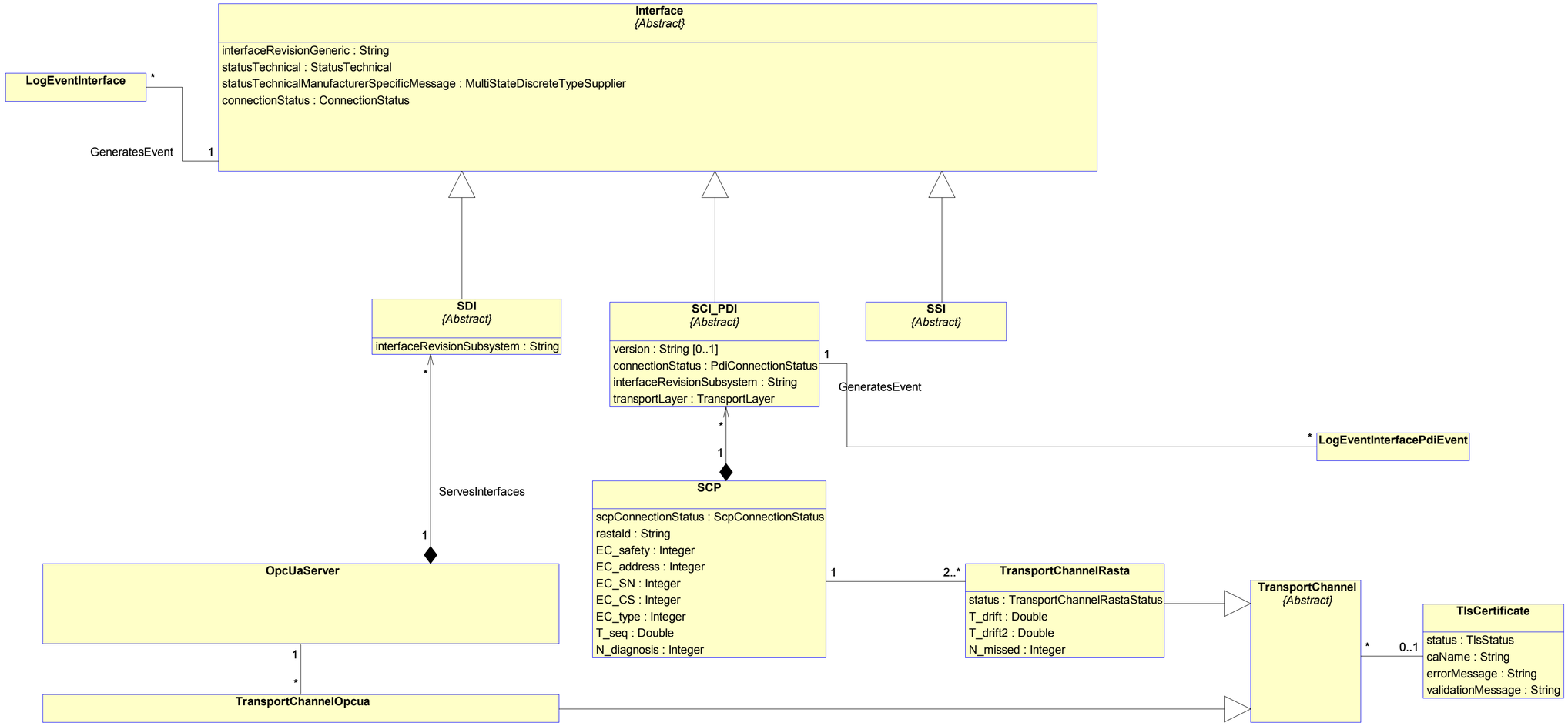


Figure 3: From object 280 on page 12.

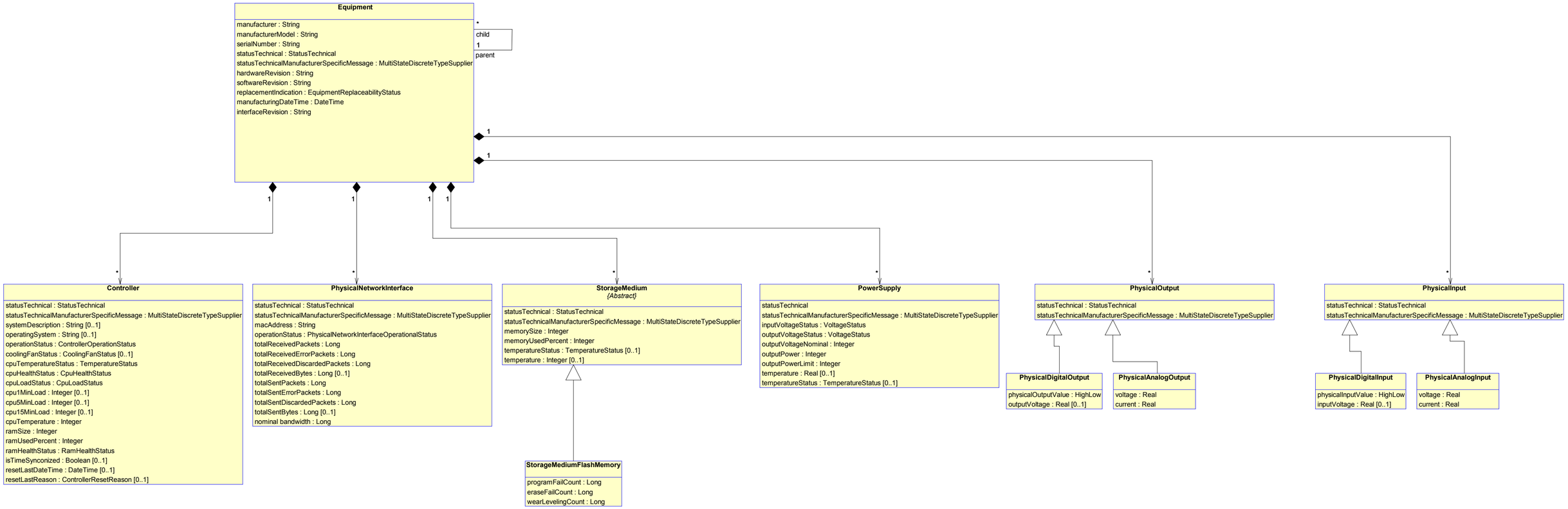


Figure 4: From object 613 on page 12.