EULYNX Initiative

Europe's Rail Joint Undertaking

Interface specification SDI-P

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Contents

ID	Type	Requirement	Meaning	Model Type	Data Type	Event/Timepoint	Attribute Type	Optionality	Func. Pkg.
Eu.SDI-P.1	Head	**1 Introduction**							
Eu.SDI-P.2	Head	**1.1 Release information**							
Eu.SDI-P.3	Info	[Eu.Doc.80] Interface specification SDI-P CENELEC Phase: 5 Version: 4.0 (0.A) Approval date: 15.06.2023							
Eu.SDI-P.4	Info	**Version history**							
Eu.SDI-P.187	Info	version number: 3.0 (0.A) date: 16.05.2022 author: Andreas Staudte review: CCB changes: EUP-394							
Eu.SDI-P.188	Info	version number: 3.1 (0.A) date: 08.06.2023 author: SDI task force review: changes: EUP-424, EUP-425, EUP-440, EUP-445, EUP-481							
Eu.SDI-P.314	Info	version number: 4.0 (0.A) date: 27.06.2023 author: SDI task force review: TACS Mirror Group changes: EUP-504, EUP-510, EUP-512							
Eu.SDI-P.6	Head	**1.2 Impressum**							
Eu.SDI-P.7	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-P.8	Info	Responsible for this document: EU-Rail System Pillar Trackside Assets Control and Supervision domain							
Eu.SDI-P.9	Info	Copyright EULYNX Partners All information included or disclosed in this document is licensed under the European Union Public Licence EUPL, Version 1.2 or later.							
Eu.SDI-P.10	Head	**1.3 Purpose**							
Eu.SDI-P.11	Info	This document specifies the application layer of the standardised diagnosis interface for a communication between the Subsystem - Maintenance and Data Management and Subsystem - Point (SDI-P).							
Eu.SDI-P.29	Info	This document contains the Subsystem - Point specific diagnostic messages. The specifications defined in this document shall be complemented by the generic specification defined in Interface specification SDI Generic [Eu.Doc.94].							
Eu.SDI-P.31	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-P.13	Info	This document is intended for the following users: • safety authorities • infrastructure managers • safety assessors • signalling system suppliers • validators							
Eu.SDI-P.189	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-P.14	Head	**1.4 Applicable standards and regulations**							
Eu.SDI-P.15	Info	The applicable standards and regulations used in EULYNX are listed in the EULYNX Reference Document List [Eu.Doc.12].							
Eu.SDI-P.32	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-P.16	Head	**1.5 Applicable documents**							
Eu.SDI-P.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].							

ID	Type	Requirement	Meaning	Model Type	Data Type	Event/Timepoint	Attribute Type	Optionality	Func. Pkg.
Eu.SDI-P.18	Head	**1.6 Appendices**							
Eu.SDI-P.19	Info	*- intentionally left blank -*							
Eu.SDI-P.20	Head	**1.7 Terms and abbreviations**							
Eu.SDI-P.21	Info	The terms and abbreviations are listed in the EULYNX Glossary [Eu.Doc.9].							
Eu.SDI-P.22	Head	**1.8 Variability management**							
Eu.SDI-P.23	Info	This document describes harmonised requirements. Variability management is not applicable.							
Eu.SDI-P.24	Head	**1.9 Definition of object types**							
Eu.SDI-P.25	Info	The following definition for object types is applied in this document:							
Eu.SDI-P.26	Info	• "Req" - This denotes a mandatory requirement.							
Eu.SDI-P.27	Info	• "Info" - This denotes additional information to help understand the specification. These objects do not specify any additional requirements.							
Eu.SDI-P.28	Info	• "Head" - This denotes chapter headings.							
Eu.SDI-P.36	Head	**2 Telegram SDI**							
Eu.SDI-P.184	Req	All references to Eu.Doc.94 refer to Interface specification SDI Generic version 4.0 (0.A).							Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.37	Info	This chapter defines the diagnostic messages - specifically the data points and values applied in the SDI-P telegrams. The generic data points are defined in Eu.Doc.94.							Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.183	Info	The defined diagnostic messages are mandatory only when the physical interfaces related to the specific diagnostic message are available on the Subsystem – Point.							Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.190	Head	**2.1 Definition of columns**							
Eu.SDI-P.192	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 non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.193	Info	**Data Type:** Column that indicates the data type for the diagnostic data points. Enumeration values are defined in the section 'Enumeration'.							Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.194	Info	**Event/Timepoint:** Column that indicates the trigger events to send a diagnostic data point.							Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.195	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.							Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.196	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.							Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.38	Head	**2.2 Telegrams SDI-P**							
Eu.SDI-P.197	Req	Point		Class					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.198	Req	aggregateAbleToMoveStatus	reports the aggregated ability to move status	Attribute	aggregateAbleToMoveStatus : PointAbleToMoveStatus [0..1]	on mdm connect || on change	diagnosis	0..1	Option Able to move
Eu.SDI-P.199	Req	driveCutoffPrinciple	reports whether the point uses individual drive or common drive as cut-off principle	Attribute	driveCutoffPrinciple : PointDriveCutOffPrinciple [0..1]	on system init||on Sw or Cfg change	configuration	0..1	Option Common Drive
Eu.SDI-P.200	Req	isUsingRedrive	True: The Subsystem Point is using redrive	Attribute	isUsingRedrive : Boolean	on system init||on Sw or Cfg change	configuration	1	Option Redrive

ID	Type	Requirement	Meaning	Model Type	Data Type	Event/Timepoint	Attribute Type	Optionality	Func. Pkg.
Eu.SDI-P.201	Req	lastCommandedPosition	reports the last point position commanded at the point by the interlocking	Attribute	lastCommandedPosition : PointCommandedPosition	on mdm connect || on change	raw data	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.202	Req	movementStatus	reports the movement status of the point	Attribute	movementStatus : PointMovementStatus	on mdm connect || on change	raw data	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.203	Req	pointAbleToMoveStatus	reports the ability to move status of the internal logic of the Subsystem Point	Attribute	pointAbleToMoveStatus : PointAbleToMoveStatus [0..1]	on mdm connect || on change	diagnosis	0..1	Option Able to move
Eu.SDI-P.204	Req	position	reports the position of the point	Attribute	position : PointPosition	on mdm connect || on change	raw data	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.205	Req	positionDegraded	reports the degraded point position	Attribute	positionDegraded : PointPositionDegraded	on mdm connect || on change	diagnosis	1	Basic non-4-wire multiple P Basic 4-wire multiple P
Eu.SDI-P.206	Req	pSamplingInterval	the time between measurements in the PointTurnEvent in [sec]	Attribute	pSamplingInterval : Real	on system init||on Sw or Cfg change	configuration	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.207	Req	turnCounter	the number of executed point movement since the first installation	Attribute	turnCounter : Long	on mdm connect || on change	raw data	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.208	Req	PointMachine		Class					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.209	Req	ableToMoveStatus	reports the ability to move status of the point machine	Attribute	ableToMoveStatus : PointAbleToMoveStatus [0..1]	on mdm connect || on change	diagnosis	0..1	Option Able to move
Eu.SDI-P.210	Req	index	this index must be different for each PointMotor	Attribute	index : String	on system init||on Sw or Cfg change	raw data	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.211	Req	isCrucial	True: Reaching endposition of this PointMachine is a necessary condition for the point as a whole to reach a degraded end position	Attribute	isCrucial : Boolean	on system init||on Sw or Cfg change	configuration	1	Basic non-4-wire multiple P Basic 4-wire multiple P
Eu.SDI-P.212	Req	machineType	the type of each point machine	Attribute	machineType : PointMachineType	on system init||on Sw or Cfg change	configuration	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.213	Req	position	reports the position of the point machine	Attribute	position : PointPosition	on mdm connect || on change	raw data	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.214	Req	timeOffsetStartLeft	delay of this motor starting in [sec] compared to the PointMachine that starts first when moving to the left	Attribute	timeOffsetStartLeft : Real [0..1]	on system init||on Sw or Cfg change	configuration	0..1	Basic non-4-wire single P Basic non-4-wire multiple P
Eu.SDI-P.215	Req	timeOffsetStartRight	delay of this motor starting in [sec] compared to the PointMachine that starts first when moving to the right	Attribute	timeOffsetStartRight : Real [0..1]	on system init||on Sw or Cfg change	configuration	0..1	Basic non-4-wire single P Basic non-4-wire multiple P
Eu.SDI-P.216	Req	PointMachineTurnData	To be implemented by one of the alternative underlying classes, depending on the implementation of the point machine	Class					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.217	Req	index	this index must be different for each PointMachine and must be identical to the respective PointMachine	Attribute	index : String	on event	raw data	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.218	Req	PointMachineTurnData_1AC	one of the alternative implementations to collect turn data from a point machine	Class					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.219	Req	cosPhi	one-dimensional array of power factor cos phi values in [°]	Attribute	cosPhi : Real	on event	raw data	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.220	Req	current	one-dimensional array of current values in [A]	Attribute	current : Real	on event	raw data	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P

ID	Type	Requirement	Meaning	Model Type	Data Type	Event/Timepoint	Attribute Type	Optionality	Func. Pkg.
Eu.SDI-P.221	Req	voltage	one-dimensional array of voltage values in [V]	Attribute	voltage : Real	on event	raw data	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.225	Req	PointMachineTurnData_1AC_Power	one of the alternative implementations to collect turn data from a point machine	Class					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.226	Req	power	one-dimensinal array of power values in [W]	Attribute	power : Real	on event	raw data	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.227	Req	PointMachineTurnData_3AC	one of the alternative implementations to collect turn data from a point machine	Class					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.228	Req	cosPhi_L1	one-dimensional array of power factor cos phi values L1 in [°]	Attribute	cosPhi_L1 : Real	on event	raw data	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.229	Req	cosPhi_L2	one-dimensional array of power factor cos phi values L2 in [°]	Attribute	cosPhi_L2 : Real	on event	raw data	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.230	Req	cosPhi_L3	one-dimensional array of power factor cos phi values L3 in [°]	Attribute	cosPhi_L3 : Real	on event	raw data	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.231	Req	current_L1	one-dimensional array of current values L1 in [A]	Attribute	current_L1 : Real	on event	raw data	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.232	Req	current_L2	one-dimensional array of current values L2 in [A]	Attribute	current_L2 : Real	on event	raw data	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.233	Req	current_L3	one-dimensional array of current values L3 in [A]	Attribute	current_L3 : Real	on event	raw data	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.234	Req	voltage_L1	one-dimensional array of voltage values L1 in [V]	Attribute	voltage_L1 : Real	on event	raw data	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.235	Req	voltage_L2	one-dimensional array of voltage values L2 in [V]	Attribute	voltage_L2 : Real	on event	raw data	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.236	Req	voltage_L3	one-dimensinal array of voltage values L3 in [V]	Attribute	voltage_L3 : Real	on event	raw data	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.237	Req	PointMachineTurnData_3AC_Power	one of the alternative implementations to collect turn data from a point machine	Class					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.238	Req	power_L1	one-dimensional array of power values in [W] for L1	Attribute	power_L1 : Real	on event	raw data	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.239	Req	power_L2	one-dimensional array of power values in [W] for L2	Attribute	power_L2 : Real	on event	raw data	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.240	Req	power_L3	one-dimensional array of power values in [W] for L3	Attribute	power_L3 : Real	on event	raw data	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.241	Req	PointMachineTurnData_Hydraulic	one of the alternative implementations to collect turn data from a point machine	Class					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P

ID	Type	Requirement	Meaning	Model Type	Data Type	Event/Timepoint	Attribute Type	Optionality	Func. Pkg.
Eu.SDI-P.242	Req	fluidLevelStatus	the status of the fluid level	Attribute	fluidLevelStatus : FluidLevelStatus	on event	diagnosis	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.243	Req	fluidPressure_left	one-dimensional array of pressure values in [bar] at the left side	Attribute	fluidPressure_left : Real	on event	raw data	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.244	Req	fluidPressure_right	one dimensional array of pressure values in [bar] at the right side	Attribute	fluidPressure_right : Real	on event	raw data	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.245	Req	voltageOnEndposition	reports the voltage in [V] to measure point detection contact conditions	Attribute	voltageOnEndposition : Real	on event	raw data	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.246	Req	PointTurnEvent		Class					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.247	Req	commandedPosition	reports the commanded position of the point.	Attribute	commandedPosition : PointCommandedPosition	on event	raw data	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.248	Req	failureReason	the reason why the point movement failed; None if the point movement was successful	Attribute	failureReason : PointTurnFailureReason	on event	diagnosis	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.249	Req	humidity	relative humidity in [%] at turn time	Attribute	humidity : Real [0..1]	on event	raw data	0..1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.250	Req	isEndpositionReached	True: the point turn has reached its commandedPosition	Attribute	isEndpositionReached : Boolean	on event	diagnosis	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.252	Req	temperatureAir	temperature of the air (2m height) in [K] at turn time	Attribute	temperatureAir : Real [0..1]	on event	raw data	0..1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.253	Req	turnTime	the time interval in milliseconds between the first point machine starting running to a direction and the last point machine either reaching the commanded end position or the last point machine being turned off in timeout or failure of movement	Attribute	turnTime : Real	on event	raw data	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.310	Req	PointMachineTurnData_1AC_ActiveCurrentInductiveCompensation	one of the alternative implementations to collect turn data from a point machine	Class					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.311	Req	activeCurrent	one-dimensional array of active current values in [A]	Attribute	activeCurrent : Real	on event	raw data	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.312	Req	PointMachineTurnData_1AC_ActiveCurrentPhaseAngleCompensation	one of the alternative implementations to collect turn data from a point machine	Class					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.313	Req	activeCurrent	one-dimensional array of active current values in [A]	Attribute	activeCurrent : Real	on event	raw data	1	Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.254	Head	**2.2.1 Enumeration**		Package					
Eu.SDI-P.255	Req	FluidLevelStatus	Enumeration	ValueType (Enumeration)					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.261	Req	Unknown	0	Enumeration Literal					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.256	Req	HighAlarm	1	Enumeration Literal					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P

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Eu.SDI-P.257	Req	HighWarning	2	Enumeration Literal					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.260	Req	Normal	3	Enumeration Literal					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.259	Req	LowWarning	4	Enumeration Literal					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.258	Req	LowAlarm	5	Enumeration Literal					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.262	Req	PointAbleToMoveStatus	Enumeration	ValueType (Enumeration)					Option Able to move
Eu.SDI-P.265	Req	Unknown	0	Enumeration Literal					Option Able to move
Eu.SDI-P.263	Req	Able	1	Enumeration Literal					Option Able to move
Eu.SDI-P.264	Req	NotAble	2	Enumeration Literal					Option Able to move
Eu.SDI-P.269	Req	PointCommandedPosition	Enumeration	ValueType (Enumeration)					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.272	Req	Unknown	0	Enumeration Literal					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.270	Req	Left	1	Enumeration Literal					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.271	Req	Right	2	Enumeration Literal					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.273	Req	PointDriveCutOffPrinciple	Enumeration	ValueType (Enumeration)					Option Common Drive
Eu.SDI-P.275	Req	Individual	0	Enumeration Literal					Option Common Drive
Eu.SDI-P.274	Req	Common	1	Enumeration Literal					Option Common Drive
Eu.SDI-P.276	Req	PointMachineType	Enumeration	ValueType (Enumeration)					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.279	Req	Drive	0	Enumeration Literal					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.278	Req	Downholder	1	Enumeration Literal					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.277	Req	DetectorOnly	2	Enumeration Literal					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.280	Req	PointMovementStatus	Enumeration	ValueType (Enumeration)					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.284	Req	Unknown	0	Enumeration Literal					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.281	Req	MovingToLeft	1	Enumeration Literal					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P

ID	Type	Requirement	Meaning	Model Type	Data Type	Event/Timepoint	Attribute Type	Optionality	Func. Pkg.
Eu.SDI-P.282	Req	MovingToRight	2	Enumeration Literal					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.283	Req	NotMoving	3	Enumeration Literal					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.285	Req	PointPosition	Enumeration	ValueType (Enumeration)					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.290	Req	Unknown	0	Enumeration Literal					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.286	Req	Left	1	Enumeration Literal					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.288	Req	Right	2	Enumeration Literal					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.287	Req	NoEndpostion	3	Enumeration Literal					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.289	Req	UnintendedPosition	4	Enumeration Literal					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.291	Req	PointPositionDegraded	Enumeration	ValueType (Enumeration)					Basic non-4-wire multiple P Basic 4-wire multiple P
Eu.SDI-P.296	Req	Unknown	0	Enumeration Literal					Basic non-4-wire multiple P Basic 4-wire multiple P
Eu.SDI-P.292	Req	DegradedLeft	1	Enumeration Literal					Basic non-4-wire multiple P Basic 4-wire multiple P
Eu.SDI-P.293	Req	DegradedRight	2	Enumeration Literal					Basic non-4-wire multiple P Basic 4-wire multiple P
Eu.SDI-P.295	Req	NotDegraded	3	Enumeration Literal					Basic non-4-wire multiple P Basic 4-wire multiple P
Eu.SDI-P.294	Req	NotApplicable	4	Enumeration Literal					Basic non-4-wire multiple P Basic 4-wire multiple P
Eu.SDI-P.297	Req	PointTurnFailureReason	Enumeration	ValueType (Enumeration)					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.300	Req	None	0	Enumeration Literal					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.302	Req	Timeout	1	Enumeration Literal					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.303	Req	UnsuccessfulStartOfMovement	2	Enumeration Literal					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.298	Req	AllPmStoppedButCommandedPositionNotReached	3	Enumeration Literal					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.299	Req	NoDrivePower	4	Enumeration Literal					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P

ID	Type	Requirement	Meaning	Model Type	Data Type	Event/Timepoint	Attribute Type	Optionality	Func. Pkg.
Eu.SDI-P.301	Req	Other	5	Enumeration Literal					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P
Eu.SDI-P.304	Head	**2.2.2 Point class diagram**		Package					
Eu.SDI-P.305	Info	Point class diagram See Figure 1 on page 9.		Class Diagram					Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P

Figure 1: From object 305 on page 8.