



EULYNX Initiative



Europe's Rail Joint Undertaking

Interface specification SDI-P

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| ID | Type | Requirement | Meaning | Model Type | Data Type | Trigger | Attribute Type | Sampling | 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: 4.3 (1.A) Approval date: 02.06.2025 | | | | | | | | |
| 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.317 | Info | version number: 4.1 (0.A) date: 30.04.2024 author: SDI task force review: cluster changes: EUP-521, EUP-522, EUP-523, EUP-524, EUP-525, EUP-526, EUP-527, EUP-528, EUP-554, EUP-560, EUP-561, EUP-562, EUP-563 | | | | | | | | |
| Eu.SDI-P.333 | Info | version number: 4.2 (0.A) date: 20.06.2024 author: SDI task force review: TACS Mirror Group changes: EUP-559, EUP-574, EUP-575 | | | | | | | | |
| Eu.SDI-P.343 | Info | version number: 4.3 (0.A) date: 25.03.2025 author: SDI task force review: cluster changes: EUP-564, EUP-580 | | | | | | | | |
| Eu.SDI-P.346 | Info | version number: 4.3 (1.A) date: 19.06.2025 author: SDI task force review: TACS Mirror Group changes: EUP-582, EUP-585, EUP-586, EUP-587, EUP-588 | | | | | | | | |
| 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 https://eulynx.eu/ | | | | | | | | |
| Eu.SDI-P.8 | Info | Responsible for this document: EU-Rail System Pillar Trackside Assets Control and Supervision domain | | | | | | | | |
| Eu.SDI-P.9 | Info | <p>This document is drafted by and belongs to EU Rail.</p> <p>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.</p> <p>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].</p> <p>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.</p> <p>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</p> | | | | | | | | |

| Interface specification SDI-P | | | | | | | | | | |
|-------------------------------|------|---|---------|------------|-----------|---------|----------------|----------|-------------|--|
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| | | 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 use, for your own purposes | | | | | | | | |
| 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: <ul style="list-style-type: none">• 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]. | | | | | | | | |
| Eu.SDI-P.18 | Head | 1.6 Appendices | | | | | | | | |
| Eu.SDI-P.19 | Info | - <i>intentionally left blank</i> - | | | | | | | | |
| 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 | <ul style="list-style-type: none">• "Req" - This denotes a mandatory requirement. | | | | | | | | |
| Eu.SDI-P.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-P.28 | Info | <ul style="list-style-type: none">• "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 4.3. | | | | | | | | 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.347 | Req | The version number of the OPC UA Information model as described in this document is 1.1.0. | | | | | | | | 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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| ID | Type | Requirement | Meaning | Model Type | Data Type | Trigger | Attribute Type | Sampling | Optionality | Func. Pkg. |
| 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 | Trigger: Column that indicates the precision of data that shall be provided by the back-end to the OPC UA server [OPC] 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 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. 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. 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. | | | | | | | | 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.331 | 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 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 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 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 | The class represents the Subsystem - 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, considering the ability to move of the Subsystem - Point and all the configured Point Machines. | Attribute | aggregateAbleToMoveStatus : PointAbleToMoveStatus | Current value | diagnosis | 1000 | Optional | Option Able to move |

| ID | Type | Requirement | Meaning | Model Type | Data Type | Trigger | Attribute Type | Sampling | Optionality | Func. Pkg. |
|--------------|------|-----------------------|--|------------|--|---------------|----------------|----------|-------------|--|
| Eu.SDI-P.199 | Req | driveCutoffPrinciple | Reports whether the point uses individual drive or common drive as cut-off principle. | Attribute | driveCutoffPrinciple : PointDriveCutOffPrinciple | Current value | configuration | 1000 | Optional | Option Common Drive |
| Eu.SDI-P.200 | Req | isUsingRedrive | True: The Subsystem - Point is using redrive. | Attribute | isUsingRedrive : Boolean | Current value | configuration | 1000 | Mandatory | Option Redrive |
| Eu.SDI-P.201 | Req | lastCommandedPosition | Reports the last point position commanded at the point by the interlocking. | Attribute | lastCommandedPosition : PointCommandedPosition | Current value | diagnosis | 1000 | Mandatory | 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 | Current value | diagnosis | 250 | Mandatory | 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 | Current value | diagnosis | 1000 | Optional | Option Able to move |
| Eu.SDI-P.204 | Req | position | Reports the position of the point. | Attribute | position : PointPosition | Current value | diagnosis | 250 | Mandatory | 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 | Current value | diagnosis | 250 | Mandatory | 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 | Current value | configuration | 250 | Mandatory | 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 started overall point movements since the last reset. | Attribute | turnCounter : Long | Current value | counter | 1000 | Optional | 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.315 | Req | pointOperationTimer | Timer Con_tmax_Point_Operation that defines the maximum time period the Point has to arrive to an End position, starting with the command moving to the point machine. | Attribute | pointOperationTimer : Real | Current value | configuration | 1000 | Mandatory | Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire multiple P |
| Eu.SDI-P.336 | Req | operationalIdentifier | Operational identifier of the connected subsystem (see Eu.SAS.1784 in [Eu.Doc.16]). | Attribute | operationalIdentifier : Byte [20] | Current value | configuration | 1000 | Mandatory | 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 | Motor of a 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.209 | Req | ableToMoveStatus | Reports the ability to move status of the point machine. | Attribute | ableToMoveStatus : PointAbleToMoveStatus | Current value | diagnosis | 1000 | Optional | Option Able to move |

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|-------------------------------|------|----------------------|---|------------|--|---------------|----------------|----------|-------------|--|
| ID | Type | Requirement | Meaning | Model Type | Data Type | Trigger | Attribute Type | Sampling | Optionality | Func. Pkg. |
| Eu.SDI-P.210 | Req | index | Index of the point machine. | Attribute | index : String | Current value | configuration | 1000 | Mandatory | 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 end position of this PointMachine is a necessary condition for the point as a whole to reach a degraded end position. | Attribute | isCrucial : Boolean | Current value | configuration | 1000 | Mandatory | Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P |
| Eu.SDI-P.212 | Req | machineType | The type of each point machine. | Attribute | machineType : PointMachineType | Current value | configuration | 1000 | Mandatory | 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 | Current value | diagnosis | 250 | Mandatory | 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 | Current value | configuration | 1000 | Optional | Basic non-4-wire multiple P Basic 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 | Current value | configuration | 1000 | Optional | Basic non-4-wire multiple P Basic 4-wire multiple P |
| Eu.SDI-P.316 | Req | turnCounter | The number of started point machine movements since the last reset. | Attribute | turnCounter : Long | Current value | counter | 1000 | Mandatory | Basic non-4-wire single P Basic non-4-wire multiple P |
| Eu.SDI-P.340 | Req | IsEquippedWithDrive | True: The point machine is equipped with drive capability. False: For a detector only point machine. | Attribute | IsEquippedWithDrive : Boolean | Current value | configuration | 1000 | Mandatory | 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 | Summarises data for one respective point turn cycle. The data is provided immediately after the completion of the cycle at the interface. The collection of array data of all aggregated MotorTurnData classes starts when the first point machine starts running to a direction and ends when the last point machine either reaches the commanded end position or the last point machine is turned off in timeout or failure of movement. | 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 point position commanded at the point by the interlocking. | Attribute | commandedPosition : PointCommandedPosition | On event | diagnosis | 1000 | Mandatory | 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 : PointTurnFailureStatus | On event | diagnosis | 1000 | Mandatory | 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 | Trigger | Attribute Type | Sampling | Optionality | Func. Pkg. |
|--------------|------|--------------------------|---|----------------------------|--------------------------------|----------|----------------|----------|-------------|--|
| Eu.SDI-P.249 | Req | humidity | Relative humidity of the air in [%] at turn time. | Attribute | humidity : Real | On event | raw data | 1000 | Optional | 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 | 1000 | Mandatory | 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 in [K] at turn time. | Attribute | temperatureAir : Real | On event | raw data | 1000 | Optional | 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 | 1000 | Mandatory | 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.327 | Req | DetectionCircuitRight | Electrical circuit to determine the point is in the position 'Right'. | Class | | | | | Optional | Basic non-4-wire single P Basic non-4-wire multiple P |
| Eu.SDI-P.326 | Req | DetectionCircuitLeft | Electrical circuit to determine the point is in the position 'Left'. | Class | | | | | Optional | Basic non-4-wire single P Basic non-4-wire multiple P |
| Eu.SDI-P.254 | Head | 2.2.1 Enumeration | | | | | | | | |
| Eu.SDI-P.262 | Req | PointAbleToMoveStatus | Enumeration: Status of the point's ability to move | ValueType (Enumeration) | | | | | | Option Able to move |
| Eu.SDI-P.265 | 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 Able to move |
| Eu.SDI-P.263 | Req | Able | 1: Point is able to move | Enumeration Literal | | | | | | Option Able to move |
| Eu.SDI-P.264 | Req | NotAble | 2: Point is unable to move | Enumeration Literal | | | | | | Option Able to move |
| Eu.SDI-P.269 | Req | PointCommandedPosition | Enumeration: Commanded position of the Point | 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: The status unknown is used when the state is not yet established e.g. if connection to the system is lost | 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: Point is commanded LEFT | 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: Point is commanded RIGHT | Enumeration Literal | | | | | | Basic non-4-wire single P Basic non-4-wire multiple P |

| ID | Type | Requirement | Meaning | Model Type | Data Type | Trigger | Attribute Type | Sampling | Optionality | Func. Pkg. |
|--------------|------|---------------------------|--|----------------------------|-----------|---------|----------------|----------|-------------|--|
| | | | | | | | | | | Basic 4-wire single P Basic 4-wire multiple P |
| Eu.SDI-P.273 | Req | PointDriveCutOffPrinciple | Enumeration: Drive capacity removal of point machine | ValueType (Enumeration) | | | | | | Option Common Drive |
| Eu.SDI-P.329 | 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 Common Drive |
| Eu.SDI-P.275 | Req | Individual | 1: The Subsystem - Point is configured to stop driving Point Machines individually | Enumeration Literal | | | | | | Option Common Drive |
| Eu.SDI-P.274 | Req | Common | 2: The Subsystem - Point is configured to stop driving Point Machines according to common drive. | Enumeration Literal | | | | | | Option Common Drive |
| Eu.SDI-P.276 | Req | PointMachineType | Enumeration: Type of point machine | 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.330 | 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 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 | PointBladeDrive | 1: Point machine that drives or detects the movement of the moveable point blades of the point | 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 | FrogDrive | 2: Point machine that drives or detects the movement of the moveable frog of the point | 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 | FrogDownholder | 3: Point machine that holds the position of the moveable frog of the point. | 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.341 | Req | Derailer | 4: Point machine that drives or detects the movement of a derailer device | 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.344 | Req | CombinedDrive | 5: Point machine that is used for combined functions (e.g. moving point drive and frog drive by hydraulic coupling). | 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: Status of point movement | ValueType (Enumeration) | | | | | | 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.284 | 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 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: Point is moving to the left | 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.282 | Req | MovingToRight | 2: Point is moving to the right | 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: Point is not moving | 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: Position of the point | 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: The status unknown is used when the state is not yet established e.g. if connection to the system is lost | 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: Point is in no end position | 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: Point is in an unintended position | 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 | Trigger | Attribute Type | Sampling | Optionality | Func. Pkg. |
|--------------|------|--|--|----------------------------|-----------|---------|----------------|----------|-------------|--|
| Eu.SDI-P.291 | Req | PointPositionDegraded | Enumeration: Degraded status of point position | ValueType (Enumeration) | | | | | | Basic non-4-wire multiple P Basic 4-wire multiple P |
| Eu.SDI-P.296 | 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 non-4-wire multiple P Basic 4-wire multiple P |
| Eu.SDI-P.292 | Req | DegradedLeft | 1: Point is degraded at left position | Enumeration Literal | | | | | | Basic non-4-wire multiple P Basic 4-wire multiple P |
| Eu.SDI-P.293 | Req | DegradedRight | 2: Point is degraded at right position | Enumeration Literal | | | | | | Basic non-4-wire multiple P Basic 4-wire multiple P |
| Eu.SDI-P.295 | Req | NotDegraded | 3: Point is not degraded | Enumeration Literal | | | | | | Basic non-4-wire multiple P Basic 4-wire multiple P |
| Eu.SDI-P.294 | Req | NotApplicable | 4: Degraded status is not applicable to the point | Enumeration Literal | | | | | | Basic non-4-wire multiple P Basic 4-wire multiple P |
| Eu.SDI-P.297 | Req | PointTurnFailureStatus | Enumeration: Status of point movement failure | 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: No point movement failure | 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: Point movement failed due to timeout of point movement. | 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: The start of the point movement was unsuccessful | 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: All driven point machines have stopped but commanded point position not reached | Enumeration Literal | | | | | | Basic non-4-wire multiple P Basic 4-wire multiple P |
| Eu.SDI-P.299 | Req | NoDrivePower | 4: No power available to drive the point machines | 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.301 | Req | Other | 5: Other miscellaneous reason/s for point movement failure | 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 | | | | | | | | |

| ID | Type | Requirement | Meaning | Model Type | Data Type | Trigger | Attribute Type | Sampling | Optionality | Func. Pkg. |
|--------------|------|--|---|---------------|-----------|---------|----------------|----------|-------------|--|
| Eu.SDI-P.328 | 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 non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P |
| Eu.SDI-P.305 | Info | Point class diagram See Figure 1 on page 11. | The class diagram represents the static structure of the Subsystem - Point from the point of view of diagnostics. | Class Diagram | | | | | | Basic non-4-wire single P Basic non-4-wire multiple P Basic 4-wire single P Basic 4-wire multiple P |

