



**EULYNX Initiative**



**Europe's Rail Joint Undertaking**

## **Interface specification SDI-LC**

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ID	Type	Requirement	Meaning	Model Type	Data Type	Trigger	Attribute Type	Sampling	Optionality	Func. Pkg.	JIRA	V 3.3 (1.A) > V 3.2 (0.A)
Eu.SDI-LC.1	Head	<b>1 Introduction</b>										
Eu.SDI-LC.2	Head	<b>1.1 Release information</b>										
Eu.SDI-LC.3	Info	[Eu.Doc.110] Interface specification SDI-LC CENELEC Phase: 5 Version: 3.3 (1.A) Approval date: 02.06.2025										<b>Object Text:</b> [Eu.Doc.110] Interface specification SDI-LC CENELEC Phase: 5 Version: 3. <del>2</del> <del>3</del> ( <del>0</del> <del>1</del> .A) Approval date: <del>29</del> <del>02.05</del> <del>06.2024</del> <del>2025</del>
Eu.SDI-LC.4	Info	<b>Version history</b>										
Eu.SDI-LC.195	Info	version number: 2.0 (0.A) date: 16.05.2022 author: Philipp Wolber review: CCB changes: -										
Eu.SDI-LC.196	Info	version number: 2.1 (0.A) date: 08.06.2023 author: SDI task force review: changes: EULX-534, EULX-550, EULX-559										
Eu.SDI-LC.206	Info	version number: 3.0 (0.A) date: 27.06.2023 author: SDI task force review: TACS Mirror Group changes: EULX-560, EULX-563, EULX-564										
Eu.SDI-LC.343	Info	version number: 3.1 (0.A) date: 30.04.2024 author: SDI task force review: cluster changes: EULX-583, EULX-611, EULX-621, EULX-622, EULX-624, EULX-625										
Eu.SDI-LC.360	Info	version number: 3.2 (0.A) date: 20.06.2024 author: SDI task force review: TACS Mirror Group changes: EULX-619, EULX-639, EULX-640										
Eu.SDI-LC.364	Info	version number: 3.3 (0.A) date: 25.03.2025 author: SDI task force review: - changes: EULX-642, EULX-643, EULX-645										object created after baseline 3.2 (0.A)
Eu.SDI-LC.366	Info	version number: 3.3 (1.A) date: 19.06.2025 author: SDI task force review: TACS Mirror Group changes: EULX-647, EULX-649, EULX-650, EULX-651										object created after baseline 3.2 (0.A)
Eu.SDI-LC.6	Head	<b>1.2 Impressum</b>										
Eu.SDI-LC.7	Info	Publishers: <b>Europe's Rail Joint Undertaking</b> <a href="https://rail-research.europa.eu">https://rail-research.europa.eu</a>  <b>EULYNX Initiative</b> <a href="https://eulynx.eu/">https://eulynx.eu/</a>										
Eu.SDI-LC.8	Info	Responsible for this document: EU-Rail System Pillar Trackside Assets Control and Supervision domain										
Eu.SDI-LC.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>										

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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-LC.10	Head	<b>1.3 Purpose</b>										
Eu.SDI-LC.11	Info	This document specifies the diagnostic messages (data point IDs and values) as parts of the data point contents of the standardised diagnosis interface for a communication between the Subsystem - Maintenance and Data Management and Subsystem - Level Crossing (SDI-LC).										
Eu.SDI-LC.12	Info	This document contains the Subsystem - Level Crossing (SDI-LC) 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-LC.13	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-LC.14	Info	This document is intended for the following users: <ul style="list-style-type: none"><li>• safety authorities</li><li>• infrastructure managers</li><li>• safety assessors</li><li>• signalling system suppliers</li><li>• validators</li></ul>										
Eu.SDI-LC.197	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-LC.15	Head	<b>1.4 Applicable standards and regulations</b>										
Eu.SDI-LC.16	Info	The applicable standards and regulations used in EULYNX are listed in the EULYNX Reference Document List [Eu.Doc.12].										
Eu.SDI-LC.17	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-LC.18	Head	<b>1.5 Applicable documents</b>										
Eu.SDI-LC.19	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-LC.20	Head	<b>1.6 Appendices</b>										
Eu.SDI-LC.21	Info	- <i>intentionally left blank</i> -										
Eu.SDI-LC.22	Head	<b>1.7 Terms and abbreviations</b>										
Eu.SDI-LC.23	Info	The terms and abbreviations are listed in the EULYNX Glossary [Eu.Doc.9].										
Eu.SDI-LC.24	Head	<b>1.8 Variability management</b>										
Eu.SDI-LC.25	Info	This document describes harmonised requirements. Variability management is not applicable.										
Eu.SDI-LC.26	Head	<b>1.9 Definition of object types</b>										
Eu.SDI-LC.27	Info	The following definition for object types is applied in this document:										
Eu.SDI-LC.28	Info	<ul style="list-style-type: none"><li>• "Req" - This denotes a mandatory requirement.</li></ul>										
Eu.SDI-LC.29	Info	<ul style="list-style-type: none"><li>• "Info" - This denotes additional information to help understand the specification. These objects do not specify any additional requirements.</li></ul>										
Eu.SDI-LC.30	Info	<ul style="list-style-type: none"><li>• "Head" - This denotes chapter headings.</li></ul>										
Eu.SDI-LC.31	Head	<b>2 Telegram SDI</b>										
Eu.SDI-LC.194	Req	All references to [Eu.Doc.94] refer to Interface specification SDI Generic version 4.3.								Basic LC	EULX-647 / EULX-650	<b>Object Text:</b> All references to [Eu.Doc.94] refer to Interface specification SDI Generic version 4.2- <del>(0.A)</del> <b>3</b> . <b>a_JIRA_Ticket_BL4R4:</b> <a href="#">EULX-647, EULX-650</a>
Eu.SDI-LC.367	Req	The version number of the OPC UA Information model as described in this document is 1.0.0.								Basic LC	EULX-651	object created after baseline 3.2 (0.A)
Eu.SDI-LC.32	Info	This chapter defines the diagnostic messages - specifically the data points and values applied in the SDI-LC telegrams. The generic data points are defined in [Eu.Doc.94].								Basic LC		
Eu.SDI-LC.190	Info	The defined diagnostic messages are mandatory only when the physical interfaces related to the specific diagnostic message are available on the Subsystem – Level Crossing.								Basic LC		

ID	Type	Requirement	Meaning	Model Type	Data Type	Trigger	Attribute Type	Sampling	Optionality	Func. Pkg.	JIRA	V 3.3 (1.A) > V 3.2 (0.A)
Eu.SDI-LC.198	Head	<b>2.1 Definition of columns</b>										
Eu.SDI-LC.199	Info	<b>Model Type:</b> 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 LC		
Eu.SDI-LC.200	Info	<b>Data Type:</b> Column that indicates the data type for the diagnostic data points. Enumeration values are defined in the section 'Enumeration'.								Basic LC		
Eu.SDI-LC.201	Info	<b>Trigger:</b> 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 LC	EULX-649	<b>Object Text:</b> Trigger: Column that indicates the precision of data_ that shall be_ provided by the back-end to the OPC UA server [ <u>OPC</u> ] 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. <b>a_JIRA_Ticket_BL4R4:</b> <a href="#">EULX-649</a>
Eu.SDI-LC.202	Info	<b>Attribute Type:</b> Column that indicates the type of diagnostic information contained in the data point. Values are: <b>raw data:</b> uninterpreted data that is measured. <b>diagnosis:</b> 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. <b>configuration:</b> data that is not measured but often set by the manufacturer or operator; it describes characteristics of the system. <b>counter:</b> diagnostic information that counts occurrences of a specific data measurement or event.								Basic LC		
Eu.SDI-LC.359	Info	<b>Sampling:</b> 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 LC		
Eu.SDI-LC.203	Info	<b>Optionality:</b> 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 LC		
Eu.SDI-LC.344	Head	<b>2.2 Class diagram legend</b>										
Eu.SDI-LC.345	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 corresponding SDI subsystem documents.								Basic LC		
Eu.SDI-LC.204	Head	<b>2.3 Telegrams SDI-LC</b>										
Eu.SDI-LC.207	Req	Barrier	A movable obstacle which is placed across the road to deter road traffic and pedestrians from using the level crossing.	Class						Basic LC		
Eu.SDI-LC.208	Req	barrierBoomLightStatus	Current status of boom barrier lights.	Attribute	barrierBoomLightStatus : BarrierBoomLightsStatus	Current value	diagnosis	1000	Optional	Basic LC		
Eu.SDI-LC.210	Req	barrierStatus	Current status of the barrier.	Attribute	barrierStatus : BarrierStatus	Current value	diagnosis	1000	Mandatory	Basic LC		
Eu.SDI-LC.211	Req	expectedPosition	Current expected position of the barrier.	Attribute	expectedPosition : BarrierExpectedPosition	Current value	diagnosis	1000	Mandatory	Basic LC		
Eu.SDI-LC.212	Req	isUnexpectedPosition	Check if barrier is in an unexpected position.	Attribute	isUnexpectedPosition : Boolean	Current value	diagnosis	1000	Mandatory	Basic LC		
Eu.SDI-LC.213	Req	label	It is assigned to all classes representing physically identifiable entities. This string, corresponding to a physically identifiable label, facilitates consistent reference between the physical entities in the field and their digital representations within the model.	Attribute	label : String	Current value	configuration	1000	Optional	Basic LC		
Eu.SDI-LC.214	Req	turnCounter	Total number of times the barrier has moved up or down since the last reset.	Attribute	turnCounter : Long	Current value	counter	1000	Mandatory	Basic LC		
Eu.SDI-LC.215	Req	BarrierTurnEvent	Occurrence of barrier movement.	Class						Basic LC		



ID	Type	Requirement	Meaning	Model Type	Data Type	Trigger	Attribute Type	Sampling	Optionality	Func. Pkg.	JIRA	V 3.3 (1.A) > V 3.2 (0.A)
Eu.SDI-LC.216	Req	barrierTurnFailureReason	Information of barrier turn failure.	Attribute	barrierTurnFailureReason : BarrierTurnFailureReason	On event	diagnosis	1000	Mandatory	Basic LC		
Eu.SDI-LC.217	Req	expectedPosition	Expected position of the barrier at the end of the ongoing turn event.	Attribute	expectedPosition : BarrierExpectedPosition	On event	diagnosis	1000	Mandatory	Basic LC		
Eu.SDI-LC.218	Req	humidity	Relative humidity of the air in [%] at barrier turn time.	Attribute	humidity : Real	On event	raw data	1000	Optional	Basic LC		
Eu.SDI-LC.219	Req	isEndpositionReached	Check if barrier turn event has resulted in an end position.	Attribute	isEndpositionReached : Boolean	On event	diagnosis	1000	Mandatory	Basic LC		
Eu.SDI-LC.220	Req	temperatureAir	Temperature of the air in [K] at barrier turn time.	Attribute	temperatureAir : Real	On event	raw data	1000	Optional	Basic LC		
Eu.SDI-LC.221	Req	turnTime	Time taken in seconds to turn barrier.	Attribute	turnTime : Real	On event	raw data	1000	Mandatory	Basic LC		
Eu.SDI-LC.222	Req	DetectionElement	The Detection element at the Level Crossing protection area is used to detect the passage of trains.	Class						Basic LC		
Eu.SDI-LC.223	Req	label	It is assigned to all classes representing physically identifiable entities. This string, corresponding to a physically identifiable label, facilitates consistent reference between the physical entities in the field and their digital representations within the model.	Attribute	label : String	Current value	configuration	1000	Optional	Basic LC		
Eu.SDI-LC.225	Req	statusDetectionElement	Current status of the detection element.	Attribute	statusDetectionElement : StatusDetectionElement	Current value	diagnosis	250	Mandatory	Basic LC		
Eu.SDI-LC.226	Req	LevelCrossing	The class represents the Subsystem - Level Crossing.	Class						Basic LC		
Eu.SDI-LC.227	Req	functionalStatus	Current functional status of the Subsystem - Level Crossing.	Attribute	functionalStatus : FunctionalStatus	Current value	diagnosis	1000	Mandatory	Basic LC		
Eu.SDI-LC.228	Req	label	It is assigned to all classes representing physically identifiable entities. This string, corresponding to a physically identifiable label, facilitates consistent reference between the physical entities in the field and their digital representations within the model.	Attribute	label : String	Current value	configuration	1000	Optional	Basic LC		
Eu.SDI-LC.229	Req	statusTechnical	Indicates the generic technical status of the logical channel. Note: Enumeration values defined in Interface specification SDI Generic [Eu.Doc.94].	Attribute	statusTechnical : StatusTechnical	Current value	diagnosis	1000	Mandatory	Basic LC		
Eu.SDI-LC.230	Req	statusTechnicalManufacturerSpecificMessage	Must be used by the supplier to describe the reasons for a StatusTechnical != OK, that cannot be explained by existing datapoints (NOT including IM and manufacturer specific diagnostic messages). This Information MUST be provided from the supplier. This should provide flexibility for future uses. Multiple states can be indicated at the same time if multiple diagnosis have not been included in the model during the design phase. The supplier specific reason may not overlap with reasons already covered in other attributes.	Attribute	statusTechnicalManufacturerSpecificMessage : MultiStateDiscreteTypeSupplier	Current value	diagnosis	1000	Optional	Basic LC		
Eu.SDI-LC.231	Req	isClosureTimerOverrun	Indicates whether the closure time has exceeded during the activation of the level crossing.	Attribute	isClosureTimerOverrun : Boolean	Current value	diagnosis	1000	Mandatory	Basic LC	EULX-642	<b>art_Meaning (en) (MD Meaning (en)):</b> Indicates whether the <del>cluster</del> <b>closure</b> time has exceeded during the activation of the level crossing. <b>a_JIRA_Ticket_BL4R4:</b> <a href="#">EULX-642</a>
Eu.SDI-LC.363	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 LC		
Eu.SDI-LC.232	Req	LevelCrossingProtectionFacility	All equipment at a Level Crossing protecting vehicles and persons crossing the tracks.	Class						Basic LC		
Eu.SDI-LC.233	Req	activationCounter	Total number of activations of the LCPF since installation.	Attribute	activationCounter : Long	Current value	raw data	1000	Mandatory	Basic LC		
Eu.SDI-LC.234	Req	label	It is assigned to all classes representing physically identifiable entities. This string, corresponding to a physically identifiable label, facilitates consistent reference between the physical entities in the field and their digital representations within the model.	Attribute	label : String	Current value	configuration	1000	Optional	Basic LC		
Eu.SDI-LC.235	Req	protectionfacilityStatus	Current status of the level crossing protection facility.	Attribute	protectionfacilityStatus : ProtectionFacilityStatus	Current value	raw data	1000	Mandatory	Basic LC		

ID	Type	Requirement	Meaning	Model Type	Data Type	Trigger	Attribute Type	Sampling	Optionality	Func. Pkg.	JIRA	V 3.3 (1.A) > V 3.2 (0.A)
Eu.SDI-LC.243	Req	LogEventLocalHandover		Class						Option LOH		
Eu.SDI-LC.244	Req	handoverCommandStatus	Logging status of the handover command.	Attribute	handoverCommandStatus : HandoverCommandStatus	Current value	diagnosis	250	Mandatory	Option LOH		
Eu.SDI-LC.245	Req	handoverReactionStatus	Logging status of the handover reaction.	Attribute	handoverReactionStatus : HandoverReactionStatus	Current value	diagnosis	250	Mandatory	Option LOH		
Eu.SDI-LC.246	Req	requestIndex	Index of the local request, as defined in Eu.LC.1339.	Attribute	requestIndex : Integer	Current value	configuration	1000	Mandatory	Option LOH		
Eu.SDI-LC.247	Req	LogEventLocalRequest		Class						Option LOH		
Eu.SDI-LC.248	Req	isRequestToActivate	Indicates whether the local request is a request to activate the level crossing.	Attribute	isRequestToActivate : Boolean	Current value	diagnosis	250	Mandatory	Option LOH		
Eu.SDI-LC.249	Req	isRequestToDeactivate	Indicates whether the local request is a request to deactivate the level crossing.	Attribute	isRequestToDeactivate : Boolean	Current value	diagnosis	250	Mandatory	Option LOH		
Eu.SDI-LC.250	Req	handoverIndex	Index of the local handover, as defined in Eu.LC.1337.	Attribute	handoverIndex : Integer	Current value	configuration	1000	Mandatory	Option LOH		
Eu.SDI-LC.251	Req	ObstacleDetector	The Obstacle detector informs whether the Level Crossing protection area is clear of obstacles when the Barriers are closed.	Class						Basic LC		
Eu.SDI-LC.252	Req	label	It is assigned to all classes representing physically identifiable entities. This string, corresponding to a physically identifiable label, facilitates consistent reference between the physical entities in the field and their digital representations within the model.	Attribute	label : String	Current value	configuration	1000	Optional	Basic LC		
Eu.SDI-LC.253	Req	obstacleDetectionStatus	Current detection status of the obstacle detector.	Attribute	obstacleDetectionStatus : ObstacleDetectorStatus	Current value	diagnosis	250	Mandatory	Basic LC		
Eu.SDI-LC.254	Req	statusTechnical	Indicates the generic technical status of the logical channel. Note: Enumeration values defined in Interface specification SDI Generic [Eu.Doc.94].	Attribute	statusTechnical : StatusTechnical	Current value	diagnosis	1000	Mandatory	Basic LC		
Eu.SDI-LC.255	Req	statusTechnicalManufacturerSpecificMessage	Must be used by the supplier to describe the reasons for a StatusTechnical != OK, that cannot be explained by existing datapoints (NOT including IM and manufacturer specific diagnostic messages). This Information MUST be provided from the supplier. This should provide flexibility for future uses. Multiple states can be indicated at the same time if multiple diagnosis have not been included in the model during the design phase. The supplier specific reason may not overlap with reasons already covered in other attributes.	Attribute	statusTechnicalManufacturerSpecificMessage : MultiStateDiscreteTypeSupplier	Current value	diagnosis	1000	Optional	Basic LC		
Eu.SDI-LC.256	Req	ObstacleDetectorOther	The obstacle detection system is of an other type (not radar).	Class						Basic LC		
Eu.SDI-LC.257	Req	ObstacleDetectorRadar	The obstacle detection system is a radar.	Class						Basic LC		
Eu.SDI-LC.258	Req	isHeatingFailure	Check if the heating of the radar obstacle detector has failed.	Attribute	isHeatingFailure : Boolean	Current value	diagnosis	1000	Mandatory	Basic LC		
Eu.SDI-LC.259	Req	isMotorFailure	Check if the motor of the radar obstacle detector has failed.	Attribute	isMotorFailure : Boolean	Current value	diagnosis	1000	Mandatory	Basic LC		
Eu.SDI-LC.260	Req	isOccupancyDetectionFailure	Check if the occupancy detection of the radar obstacle detector has failed.	Attribute	isOccupancyDetectionFailure : Boolean	Current value	diagnosis	1000	Mandatory	Basic LC		
Eu.SDI-LC.261	Req	isScannerBasicPosition	Indicates whether the radar obstacle detector is in its basic position.	Attribute	isScannerBasicPosition : Boolean	Current value	diagnosis	1000	Mandatory	Basic LC		
Eu.SDI-LC.262	Req	isScannerFailure	Check if the scanner of the radar obstacle detector has failed.	Attribute	isScannerFailure : Boolean	Current value	diagnosis	1000	Mandatory	Basic LC		
Eu.SDI-LC.263	Req	RoadSignals	The road signal is a signal providing warning to the road users crossing the tracks.	Class						Basic LC		
Eu.SDI-LC.264	Req	label	It is assigned to all classes representing physically identifiable entities. This string, corresponding to a physically identifiable label, facilitates consistent reference between the physical entities in the field and their digital representations within the model.	Attribute	label : String	Current value	configuration	1000	Optional	Basic LC		
Eu.SDI-LC.265	Req	WarningBell	A warning bell provides aural alerts.	Class						Basic LC		

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Eu.SDI-LC.266	Req	label	It is assigned to all classes representing physically identifiable entities. This string, corresponding to a physically identifiable label, facilitates consistent reference between the physical entities in the field and their digital representations within the model.	Attribute	label : String	Current value	configuration	1000	Optional	Basic LC		
Eu.SDI-LC.267	Req	warningBellStatus	Current status of the warning bell.	Attribute	warningBellStatus : WarningBellStatus	Current value	diagnosis	1000	Mandatory	Basic LC	EULX-645	<b>art_Signature:</b> warningBellStatus : <a href="#">WarningBellStatus</a> <b>a_JIRA_Ticket_BL4R4:</b> <a href="#">EULX-645</a>
Eu.SDI-LC.268	Req	WarningLamp	A warning lamp provides visual alerts.	Class						Basic LC		
Eu.SDI-LC.269	Req	label	It is assigned to all classes representing physically identifiable entities. This string, corresponding to a physically identifiable label, facilitates consistent reference between the physical entities in the field and their digital representations within the model.	Attribute	label : String	Current value	configuration	1000	Optional	Basic LC		
Eu.SDI-LC.270	Req	warningLampStatus	Current status of the warning lamp.	Attribute	warningLampStatus : WarningLampStatus	Current value	diagnosis	1000	Mandatory	Basic LC	EULX-645	<b>art_Signature:</b> warningLampStatus : <a href="#">WarningLampStatus</a> <b>a_JIRA_Ticket_BL4R4:</b> <a href="#">EULX-645</a>
Eu.SDI-LC.271	Head	<b>2.3.1 Enumeration</b>								Basic LC		
Eu.SDI-LC.272	Req	BarrierBoomLightsStatus	Enumeration: Status of the lights of the boom barrier	ValueType (Enumeration)						Basic LC		
Eu.SDI-LC.275	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 LC		
Eu.SDI-LC.273	Req	Lit	1	Enumeration Literal						Basic LC		
Eu.SDI-LC.274	Req	Not lit	2	Enumeration Literal						Basic LC		
Eu.SDI-LC.276	Req	BarrierExpectedPosition	Enumeration: Expected position of the barrier	ValueType (Enumeration)						Basic LC		
Eu.SDI-LC.278	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 LC		
Eu.SDI-LC.279	Req	Up	1	Enumeration Literal						Basic LC		
Eu.SDI-LC.277	Req	Down	2	Enumeration Literal						Basic LC		
Eu.SDI-LC.280	Req	BarrierStatus	Enumeration: The status of a determined Barrier	ValueType (Enumeration)						Basic LC		
Eu.SDI-LC.287	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 LC		
Eu.SDI-LC.282	Req	BarrierDown	1	Enumeration Literal						Basic LC		
Eu.SDI-LC.285	Req	BarrierMovingUp	2	Enumeration Literal						Basic LC		
Eu.SDI-LC.284	Req	BarrierUp	3	Enumeration Literal						Basic LC		
Eu.SDI-LC.283	Req	BarrierMovingDown	4	Enumeration Literal						Basic LC		
Eu.SDI-LC.281	Req	BarrierBoomBroken	5	Enumeration Literal						Basic LC		
Eu.SDI-LC.286	Req	BarrierMovementBlockedByPhysicalObstruction	6	Enumeration Literal						Basic LC		
Eu.SDI-LC.288	Req	BarrierTurnFailureReason	Enumeration: Reason for barrier failure	ValueType (Enumeration)						Basic LC		
Eu.SDI-LC.290	Req	None	0	Enumeration Literal						Basic LC		
Eu.SDI-LC.289	Req	NoDrivePower	1	Enumeration Literal						Basic LC		
Eu.SDI-LC.291	Req	Other	2	Enumeration Literal						Basic LC		
Eu.SDI-LC.299	Req	FunctionalStatus	Enumeration: Functional status of the level crossing	ValueType (Enumeration)						Basic LC		
Eu.SDI-LC.305	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 LC		
Eu.SDI-LC.302	Req	DeactivatingAndUnprotected	1	Enumeration Literal						Basic LC		
Eu.SDI-LC.301	Req	ActivatedAndUnprotected	2	Enumeration Literal						Basic LC		
Eu.SDI-LC.300	Req	ActivatedAndProtected	3	Enumeration Literal						Basic LC		
Eu.SDI-LC.304	Req	PreActivated	4	Enumeration Literal						Basic LC		



ID	Type	Requirement	Meaning	Model Type	Data Type	Trigger	Attribute Type	Sampling	Optionality	Func. Pkg.	JIRA	V 3.3 (1.A) > V 3.2 (0.A)
Eu.SDI-LC.303	Req	IsolatedLC	5	Enumeration Literal						Basic LC		
Eu.SDI-LC.358	Req	DeactivatedAndIdle	6	Enumeration Literal						Basic LC		
Eu.SDI-LC.306	Req	HandoverCommandStatus	Enumeration: Status of the handover command	ValueType (Enumeration)						Basic LC		
Eu.SDI-LC.310	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 LC		
Eu.SDI-LC.309	Req	No handover	1	Enumeration Literal						Basic LC		
Eu.SDI-LC.308	Req	Handover initiated	2	Enumeration Literal						Basic LC		
Eu.SDI-LC.307	Req	Handover established	3	Enumeration Literal						Basic LC		
Eu.SDI-LC.311	Req	HandoverReactionStatus	Enumeration: Status of the handover reaction	ValueType (Enumeration)						Basic LC		
Eu.SDI-LC.314	Req	Unknown	0: The status unknown is used when the state is not yet established e.g. if connection to the system is lost	Enumeration Literal						Basic LC		
Eu.SDI-LC.312	Req	AllowHandover	1	Enumeration Literal						Basic LC		
Eu.SDI-LC.313	Req	ReturnHandover	2	Enumeration Literal						Basic LC		
Eu.SDI-LC.320	Req	ObstacleDetectorStatus	Enumeration: The detection of an Obstacle of a determined Obstacle detector	ValueType (Enumeration)						Basic LC		
Eu.SDI-LC.323	Req	Unknown	0: The status unknown is used when the state is not yet established e.g. if connection to the system is lost	Enumeration Literal						Basic LC		
Eu.SDI-LC.321	Req	No obstacle	1	Enumeration Literal						Basic LC		
Eu.SDI-LC.322	Req	Obstacle in conflict area	2	Enumeration Literal						Basic LC		
Eu.SDI-LC.324	Req	ProtectionFacilityStatus	Enumeration: Status of the level crossing protection facility	ValueType (Enumeration)						Basic LC		
Eu.SDI-LC.327	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 LC		
Eu.SDI-LC.326	Req	Protected	1	Enumeration Literal						Basic LC		
Eu.SDI-LC.328	Req	Unprotected	2	Enumeration Literal						Basic LC		
Eu.SDI-LC.325	Req	Idle	3	Enumeration Literal						Basic LC		
Eu.SDI-LC.329	Req	StatusDetectionElement	Enumeration: The current status of the Level Crossing	ValueType (Enumeration)						Basic LC		
Eu.SDI-LC.331	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 LC		
Eu.SDI-LC.332	Req	Vacant	1	Enumeration Literal						Basic LC		
Eu.SDI-LC.330	Req	Occupied	2	Enumeration Literal						Basic LC		
Eu.SDI-LC.333	Req	TimeoutStatus	Enumeration: The Status of a Timeout for a moving Barrier Machine Motor	ValueType (Enumeration)						Basic LC		
Eu.SDI-LC.336	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 LC		
Eu.SDI-LC.334	Req	NoTimeout	1	Enumeration Literal						Basic LC		
Eu.SDI-LC.335	Req	Timeout	2	Enumeration Literal						Basic LC		
Eu.SDI-LC.337	Req	WarningBellStatus	Enumeration	ValueType (Enumeration)						Basic LC		
Eu.SDI-LC.340	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 LC		
Eu.SDI-LC.338	Req	Signal1	1	Enumeration Literal						Basic LC		
Eu.SDI-LC.339	Req	Signal2	2	Enumeration Literal						Basic LC		
Eu.SDI-LC.352	Req	Off	3	Enumeration Literal						Basic LC		
Eu.SDI-LC.353	Req	WarningLampStatus	Enumeration	ValueType (Enumeration)						Basic LC		
Eu.SDI-LC.357	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 LC		

ID	Type	Requirement	Meaning	Model Type	Data Type	Trigger	Attribute Type	Sampling	Optionality	Func. Pkg.	JIRA	V 3.3 (1.A) > V 3.2 (0.A)
Eu.SDI-LC.356	Req	On	1	Enumeration Literal						Basic LC		
Eu.SDI-LC.354	Req	Flashing	2	Enumeration Literal						Basic LC		
Eu.SDI-LC.355	Req	Off	3	Enumeration Literal						Basic LC		
Eu.SDI-LC.341	Head	<b>2.3.2 LC Class Diagram</b>								Basic LC		
Eu.SDI-LC.351	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 LC		
Eu.SDI-LC.342	Info	LC class diagram See Figure 1 on page 9.		Class Diagram						Basic LC	EULX-643	<b>a_JIRA_Ticket_BL4R4:</b> <a href="#">EULX-643</a>

Figure 1: From object 342 on page 8.

