



EULYNX Initiative



Europe's Rail Joint Undertaking

Interface specification SCI-LS

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ID	Type	Requirement	Func. Pkg.
Eu.SCI-LS.PDI.4	Head	1 Introduction	
Eu.SCI-LS.PDI.5	Head	1.1 Release information	
Eu.SCI-LS.PDI.6	Info	[Eu.Doc.33] Interface specification SCI-LS CENELEC Phase: 5 Version: 4.2 (0.A) Approval date: 15.06.2023	
Eu.SCI-LS.PDI.1	Info	Version history	
Eu.SCI-LS.PDI.398	Info	version number: 4.0 (0.A) date: 16.05.2022 author: Filip Giering review: CCB changes: EULS-384, EULS-385, EULS-386, EULS-393	
Eu.SCI-LS.PDI.399	Info	version number: 4.1 (0.A) date: 24.03.2023 author: Filip Giering review: changes: EULS-404	
Eu.SCI-LS.PDI.427	Info	version number: 4.1 (1.A) date: 11.05.2023 author: Filip Giering review: cluster changes: EULS-406, EULS-416, EULS-418	
Eu.SCI-LS.PDI.429	Info	version number: 4.2 (0.A) date: 27.06.2023 author: Filip Giering review: TACS Mirror Group changes: EULS-409, EULS-419, EULS-420, EULS-422, EULS-424	
Eu.SCI-LS.PDI.7	Head	1.2 Impressum	

ID	Type	Requirement	Func. Pkg.
Eu.SCI-LS.PDI.8	Info	Publishers: Europe's Rail Joint Undertaking https://rail-research.europa.eu EULYNX Initiative A full list of the EULYNX Partners can be found on www.eulynx.eu/index.php/members	
Eu.SCI-LS.PDI.9	Info	Responsible for this document: EU-Rail System Pillar Trackside Assets Control and Supervision domain	
Eu.SCI-LS.PDI.283	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.SCI-LS.PDI.10	Head	1.3 Purpose	
Eu.SCI-LS.PDI.11	Info	This document specifies the application layer of the standardised interface for safe communication between the Subsystem - Electronic Interlocking and Subsystem - Light Signal (SCI-LS).	
Eu.SCI-LS.PDI.12	Info	This application layer is designated as SCI-LS.PDI.	
Eu.SCI-LS.PDI.13	Info	This document contains the general requirements for communication and the technical specification (e.g. telegrams) of the SCI-LS.PDI	
Eu.SCI-LS.PDI.14	Info	This specification does not define the detailed behaviour of the interfacing partners (Subsystem - Electronic Interlocking and Subsystem - Light Signal), nor the situations in which the defined telegrams are sent. This behaviour is the subject of the individual system specifications.	
Eu.SCI-LS.PDI.15	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.SCI-LS.PDI.16	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 	

ID	Type	Requirement	Func. Pkg.
Eu.SCI-LS.PDI.428	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.SCI-LS.PDI.18	Head	1.4 Applicable standards and regulations	
Eu.SCI-LS.PDI.19	Info	The applicable standards and regulations used in EULYNX are listed in the EULYNX Reference Document List [Eu.Doc.12].	
Eu.SCI-LS.PDI.281	Info	The applicability of each reference of this specification is provided by the column "applicability" in the EULYNX Reference Document [Eu.Doc.12], when the value "SCI-LS" is stated.	
Eu.SCI-LS.PDI.20	Head	1.5 Applicable documents	
Eu.SCI-LS.PDI.21	Info	The current versions of documents used as input or related to this document are listed in the EULYNX Documentation Plan [Eu.Doc.11]. The relationships between the documents are displayed in the Appendix A1 Documentation plan and structure [Eu.Doc.11_A1].	
Eu.SCI-LS.PDI.24	Head	1.6 Appendices	
Eu.SCI-LS.PDI.25	Info	<i>- intentionally left blank -</i>	
Eu.SCI-LS.PDI.150	Head	1.7 Terms and abbreviations	
Eu.SCI-LS.PDI.151	Info	The terms and abbreviations are listed in the EULYNX Glossary [Eu.Doc.9].	
Eu.SCI-LS.PDI.152	Head	1.8 Variability management	
Eu.SCI-LS.PDI.153	Info	This document describes harmonised requirements. Variability management is not applicable.	
Eu.SCI-LS.PDI.26	Head	1.9 Definition of object types	
Eu.SCI-LS.PDI.27	Info	The following definition for object types is applied in this document:	
Eu.SCI-LS.PDI.28	Info	<ul style="list-style-type: none"> • "Req" - This denotes a mandatory requirement. 	
Eu.SCI-LS.PDI.31	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.SCI-LS.PDI.32	Info	<ul style="list-style-type: none"> • "Head" - This denotes chapter headings. 	

ID	Type	Requirement	Func. Pkg.
Eu.SCI-LS.PDI.33	Head	2 General requirements	
Eu.SCI-LS.PDI.395	Req	All references to Eu.Doc.32 refer to Requirements specification for subsystem Light Signal version 4.2 (0.A).	
Eu.SCI-LS.PDI.386	Req	All references to Eu.Doc.93 refer to Interface specification SCI Generic version 3.2 (0.A).	
Eu.SCI-LS.PDI.42	Head	2.1 Version handling	
Eu.SCI-LS.PDI.327	Info	The Version handling is described in Eu.Doc.93.	
Eu.SCI-LS.PDI.385	Req	The PDI-version of the SCI-LS as described in this document is 0x04.	
Eu.SCI-LS.PDI.49	Head	2.2 Communication requirements	
Eu.SCI-LS.PDI.378	Info	The Communication requirements are described in Eu.Doc.93.	
Eu.SCI-LS.PDI.396	Head	2.3 Functional requirements	
Eu.SCI-LS.PDI.397	Info	The functional requirements for SCI-LS are described in Eu.Doc.32.	
Eu.SCI-LS.PDI.54	Head	3 Telegrams SCI-LS.PDI	
Eu.SCI-LS.PDI.55	Info	This chapter defines the SCI-LS.PDI telegrams.	Basic LS
Eu.SCI-LS.PDI.56	Head	3.1 Telegram structure	
Eu.SCI-LS.PDI.328	Info	The telegram structure is specified in Eu.Doc.93.	Basic LS
Eu.SCI-LS.PDI.64	Head	3.2 Sender and Receiver Identifier	
Eu.SCI-LS.PDI.329	Info	The identification of communications partners is specified in Eu.Doc.93.	Basic LS
Eu.SCI-LS.PDI.70	Head	3.3 Message and command type overview	
Eu.SCI-LS.PDI.71	Info	The following table shows permitted subsystem specific message types for the SCI-LS.PDI. The permitted generic message types are specified in Eu.Doc.93.	Basic LS

ID	Type	Requirement					Func. Pkg.																									
		<table border="1"> <thead> <tr> <th data-bbox="479 197 831 245">Message Type</th> <th data-bbox="831 197 965 245">Value</th> <th data-bbox="965 197 1137 245">Sender</th> <th data-bbox="1137 197 1308 245">Receiver</th> <th data-bbox="1308 197 1742 245">Purpose</th> </tr> </thead> <tbody> <tr> <td data-bbox="479 245 831 357"><i>command</i> Indicate Signal Aspect</td> <td data-bbox="831 245 965 357">0x0001</td> <td data-bbox="965 245 1137 357">Subsystem – Electronic Interlocking</td> <td data-bbox="1137 245 1308 357">Subsystem - Light Signal</td> <td data-bbox="1308 245 1742 357">Command to indicate Signal Aspect</td> </tr> <tr> <td data-bbox="479 357 831 469"><i>message</i> <i>Indicated Signal Aspect</i></td> <td data-bbox="831 357 965 469">0x0003</td> <td data-bbox="965 357 1137 469">Subsystem - Light Signal</td> <td data-bbox="1137 357 1308 469">Subsystem – Electronic Interlocking</td> <td data-bbox="1308 357 1742 469">Notification about the indicated Signal Aspect</td> </tr> <tr> <td data-bbox="479 469 831 580"><i>command</i> <i>Set Luminosity</i></td> <td data-bbox="831 469 965 580">0x0002</td> <td data-bbox="965 469 1137 580">Subsystem – Electronic Interlocking</td> <td data-bbox="1137 469 1308 580">Subsystem - Light Signal</td> <td data-bbox="1308 469 1742 580">Command to set Luminosity</td> </tr> <tr> <td data-bbox="479 580 831 692"><i>message</i> <i>Set Luminosity</i></td> <td data-bbox="831 580 965 692">0x0004</td> <td data-bbox="965 580 1137 692">Subsystem - Light Signal</td> <td data-bbox="1137 580 1308 692">Subsystem – Electronic Interlocking</td> <td data-bbox="1308 580 1742 692">Notification about set Luminosity</td> </tr> </tbody> </table>					Message Type	Value	Sender	Receiver	Purpose	<i>command</i> Indicate Signal Aspect	0x0001	Subsystem – Electronic Interlocking	Subsystem - Light Signal	Command to indicate Signal Aspect	<i>message</i> <i>Indicated Signal Aspect</i>	0x0003	Subsystem - Light Signal	Subsystem – Electronic Interlocking	Notification about the indicated Signal Aspect	<i>command</i> <i>Set Luminosity</i>	0x0002	Subsystem – Electronic Interlocking	Subsystem - Light Signal	Command to set Luminosity	<i>message</i> <i>Set Luminosity</i>	0x0004	Subsystem - Light Signal	Subsystem – Electronic Interlocking	Notification about set Luminosity	
Message Type	Value	Sender	Receiver	Purpose																												
<i>command</i> Indicate Signal Aspect	0x0001	Subsystem – Electronic Interlocking	Subsystem - Light Signal	Command to indicate Signal Aspect																												
<i>message</i> <i>Indicated Signal Aspect</i>	0x0003	Subsystem - Light Signal	Subsystem – Electronic Interlocking	Notification about the indicated Signal Aspect																												
<i>command</i> <i>Set Luminosity</i>	0x0002	Subsystem – Electronic Interlocking	Subsystem - Light Signal	Command to set Luminosity																												
<i>message</i> <i>Set Luminosity</i>	0x0004	Subsystem - Light Signal	Subsystem – Electronic Interlocking	Notification about set Luminosity																												
Eu.SCI-LS.PDI.72	Head	3.4 Telegram definitions																														
Eu.SCI-LS.PDI.73	Info	In this chapter, specific telegrams for SCI-LS.PDI are defined. The generic telegrams are defined in Eu.Doc.93.					Basic LS																									
Eu.SCI-LS.PDI.158	Head	3.4.1 Command "Indicate Signal Aspect"																														
Eu.SCI-LS.PDI.166	Info	With this telegram the Subsystem - Electronic Interlocking commands the Subsystem - Light Signal to indicate the transmitted Signal Aspect. This telegram refines the InformationFlow "Cd_Indicate_Signal_Aspect" specified in the requirements specification (ID Eu.LS.7586).					Basic LS																									
Eu.SCI-LS.PDI.162	Info	Telegram definition for command "Indicate Signal Aspect" (Main Signal Aspect)					Basic LS																									

ID	Type	Requirement	Func. Pkg.																														
		<table border="1"> <thead> <tr> <th data-bbox="479 197 645 240">Byte-Nr.</th> <th data-bbox="645 197 1453 240">Content</th> </tr> </thead> <tbody> <tr> <td data-bbox="479 240 645 288">00</td> <td data-bbox="645 240 1453 288">Protocol Type: 0x30 (1 Byte binary)</td> </tr> <tr> <td data-bbox="479 288 645 336">01..02</td> <td data-bbox="645 288 1453 336">Message Type: 0x0001 (2 Bytes binary)</td> </tr> <tr> <td data-bbox="479 336 645 384">03..22</td> <td data-bbox="645 336 1453 384">Sender Identifier (20 Bytes ISO IEC 8859-1:1998)</td> </tr> <tr> <td data-bbox="479 384 645 432">23..42</td> <td data-bbox="645 384 1453 432">Receiver Identifier (20 Bytes ISO IEC 8859-1:1998)</td> </tr> <tr> <td data-bbox="479 432 645 480">43</td> <td data-bbox="645 432 1453 480">code for basic aspect types (1 Byte binary)</td> </tr> <tr> <td data-bbox="479 480 645 528">44</td> <td data-bbox="645 480 1453 528">code for extension of basic aspect types (1 Byte binary)</td> </tr> <tr> <td data-bbox="479 528 645 576">45</td> <td data-bbox="645 528 1453 576">speed indicators (1 Byte binary)</td> </tr> <tr> <td data-bbox="479 576 645 624">46</td> <td data-bbox="645 576 1453 624">speed indicator announcements (1 Byte binary)</td> </tr> <tr> <td data-bbox="479 624 645 671">47</td> <td data-bbox="645 624 1453 671">direction indicators (1 Byte binary)</td> </tr> <tr> <td data-bbox="479 671 645 719">48</td> <td data-bbox="645 671 1453 719">direction indicator announcements (1 Byte binary)</td> </tr> <tr> <td data-bbox="479 719 645 767">49</td> <td data-bbox="645 719 1453 767">downgrade information (1 Byte binary)</td> </tr> <tr> <td data-bbox="479 767 645 815">50</td> <td data-bbox="645 767 1453 815">route information (1 Byte binary)</td> </tr> <tr> <td data-bbox="479 815 645 863">51</td> <td data-bbox="645 815 1453 863">intentionally dark (1 Byte binary)</td> </tr> <tr> <td data-bbox="479 863 645 911">52..60</td> <td data-bbox="645 863 1453 911">national specified (9 Bytes binary)</td> </tr> </tbody> </table>	Byte-Nr.	Content	00	Protocol Type: 0x30 (1 Byte binary)	01..02	Message Type: 0x0001 (2 Bytes binary)	03..22	Sender Identifier (20 Bytes ISO IEC 8859-1:1998)	23..42	Receiver Identifier (20 Bytes ISO IEC 8859-1:1998)	43	code for basic aspect types (1 Byte binary)	44	code for extension of basic aspect types (1 Byte binary)	45	speed indicators (1 Byte binary)	46	speed indicator announcements (1 Byte binary)	47	direction indicators (1 Byte binary)	48	direction indicator announcements (1 Byte binary)	49	downgrade information (1 Byte binary)	50	route information (1 Byte binary)	51	intentionally dark (1 Byte binary)	52..60	national specified (9 Bytes binary)	
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52..60	national specified (9 Bytes binary)																																
Eu.SCI-LS.PDI.173	Req	Permitted values for command "Indicate Signal Aspect":	Basic LS																														
Eu.SCI-LS.PDI.170	Req	Message Type The message bytes 1 - 2 shall be set to 0x0001.	Basic LS																														
Eu.SCI-LS.PDI.171	Req	Sender Identifier The message bytes 3 - 22 shall contain the technical identifier of the Subsystem - Electronic Interlocking according to ID Eu.SCI-XX.PDI.59 in ISO IEC 8859-1:1998 format.	Basic LS																														
Eu.SCI-LS.PDI.172	Req	Receiver Identifier The message bytes 23 - 42 shall contain the operational identifier of the Subsystem - Light Signal according to ID Eu.SCI-XX.PDI.59 in ISO IEC 8859-1:1998 format.	Basic LS																														
Eu.SCI-LS.PDI.191	Req	code for basic aspect types (see Eu.Doc.37) The message byte 43 shall contain the code for the basic aspect types, including main, distant and shunting aspects.	Basic LS																														

ID	Type	Requirement	Func. Pkg.				
Eu.SCI-LS.PDI.192	Req	code for extension of basic aspect types (see Eu.Doc.37) The message byte 44 shall contain the code for the extension of the basic aspect types, such as indication of route to opposite track or route without an overlap.	Basic LS				
Eu.SCI-LS.PDI.193	Req	speed indicators (see Eu.Doc.37) The message byte 45 shall contain the speed indicators.	Basic LS				
Eu.SCI-LS.PDI.194	Req	speed indicator announcements (see Eu.Doc.37) The message byte 46 shall contain the speed indicator announcements.	Basic LS				
Eu.SCI-LS.PDI.195	Req	direction indicators (see Eu.Doc.37) The message byte 47 shall contain the direction indicators.	Basic LS				
Eu.SCI-LS.PDI.196	Req	direction indicator announcements (see Eu.Doc.37) The message byte 48 shall contain the direction indicator announcements.	Basic LS				
Eu.SCI-LS.PDI.298	Req	downgrade information The message byte 49 shall contain the downgrade information. Permitted values: <table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 150px;">value</td> <td style="width: 100px;">meaning</td> </tr> <tr> <td>-----</td> <td>-----</td> </tr> </table>	value	meaning	-----	-----	Basic LS
value	meaning						
-----	-----						
Eu.SCI-LS.PDI.307	Req	0x01..0x7F Defined by national specifications. Note: In future phases of the System Pillar, national specifications will be replaced by harmonised specifications.	Basic LS				
Eu.SCI-LS.PDI.365	Req	0xFE No downgrade information.	Basic LS				
Eu.SCI-LS.PDI.310	Req	0xFF Downgrade information not applicable.	Basic LS				
Eu.SCI-LS.PDI.299	Req	route information The message byte 50 shall contain the route information. Permitted values: <table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 150px;">value</td> <td style="width: 100px;">meaning</td> </tr> <tr> <td>-----</td> <td>-----</td> </tr> </table>	value	meaning	-----	-----	Basic LS
value	meaning						
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ID	Type	Requirement	Func. Pkg.				
Eu.SCI-LS.PDI.312	Req	0x01..0xFD Defined by national specifications. Note: In future phases of the System Pillar, national specifications will be replaced by harmonised specifications.	Basic LS				
Eu.SCI-LS.PDI.368	Req	0xFE No route information.	Basic LS				
Eu.SCI-LS.PDI.323	Req	0xFF Route information not applicable.	Basic LS				
Eu.SCI-LS.PDI.300	Req	<p>Byte Nr. 51: Signal Aspect intentionally dark</p> <p>The message byte 51 shall contain the Signal Aspect intentionally dark. Permitted value:</p> <table border="0" data-bbox="472 608 815 660"> <tr> <td style="padding-right: 20px;">value</td> <td>meaning</td> </tr> <tr> <td>-----</td> <td>-----</td> </tr> </table>	value	meaning	-----	-----	Basic LS
value	meaning						
-----	-----						
Eu.SCI-LS.PDI.325	Req	0x01 The commanded Signal Aspect or the related downgraded Aspect shall be indicated in the set Luminosity.	Basic LS				
Eu.SCI-LS.PDI.326	Req	0x0F The commanded Signal Aspect or the related downgraded Aspect shall be indicated dark.	Basic LS				
Eu.SCI-LS.PDI.369	Req	0xFF Intentionally dark not applicable.	Basic LS				
Eu.SCI-LS.PDI.301	Req	<p>Byte Nr. 52 to 60: specified by national requirements</p> <p>The message bytes 52 to 60 shall contain the national specified requirements. Permitted values for each byte:</p> <table border="0" data-bbox="472 1040 815 1093"> <tr> <td style="padding-right: 20px;">value</td> <td>meaning</td> </tr> <tr> <td>-----</td> <td>-----</td> </tr> </table>	value	meaning	-----	-----	Basic LS
value	meaning						
-----	-----						
Eu.SCI-LS.PDI.304	Req	0x01..FD Specified by national specifications. Note: In future phases of the System Pillar, national specifications will be replaced by harmonised specifications.	Basic LS				
Eu.SCI-LS.PDI.370	Req	0xFE No information.	Basic LS				
Eu.SCI-LS.PDI.159	Head	3.4.2 Command "Set Luminosity"					
Eu.SCI-LS.PDI.167	Info	With this telegram the Subsystem - Electronic Interlocking commands the Subsystem - Light Signal to set the luminosity. This telegram refines the InformationFlow "Cd_Set_Luminosity" specified in the requirements specification (ID Eu.LS.7587).	Basic LS				

ID	Type	Requirement	Func. Pkg.												
Eu.SCI-LS.PDI.163	Info	Telegram definition for command "Set Luminosity" <table border="1" data-bbox="479 261 1429 552"> <thead> <tr> <th data-bbox="479 261 645 309">Byte-Nr.</th> <th data-bbox="645 261 1429 309">Content</th> </tr> </thead> <tbody> <tr> <td data-bbox="479 309 645 357">00</td> <td data-bbox="645 309 1429 357">Protocol Type: 0x30 (1 Byte binary)</td> </tr> <tr> <td data-bbox="479 357 645 405">01..02</td> <td data-bbox="645 357 1429 405">Message Type: 0x0002 (2 Bytes binary)</td> </tr> <tr> <td data-bbox="479 405 645 453">03..22</td> <td data-bbox="645 405 1429 453">Sender Identifier (20 Bytes ISO IEC 8859-1:1998)</td> </tr> <tr> <td data-bbox="479 453 645 501">23..42</td> <td data-bbox="645 453 1429 501">Receiver Identifier (20 Bytes ISO IEC 8859-1:1998)</td> </tr> <tr> <td data-bbox="479 501 645 552">43</td> <td data-bbox="645 501 1429 552">Luminosity (1 Byte binary)</td> </tr> </tbody> </table>	Byte-Nr.	Content	00	Protocol Type: 0x30 (1 Byte binary)	01..02	Message Type: 0x0002 (2 Bytes binary)	03..22	Sender Identifier (20 Bytes ISO IEC 8859-1:1998)	23..42	Receiver Identifier (20 Bytes ISO IEC 8859-1:1998)	43	Luminosity (1 Byte binary)	Basic LS
Byte-Nr.	Content														
00	Protocol Type: 0x30 (1 Byte binary)														
01..02	Message Type: 0x0002 (2 Bytes binary)														
03..22	Sender Identifier (20 Bytes ISO IEC 8859-1:1998)														
23..42	Receiver Identifier (20 Bytes ISO IEC 8859-1:1998)														
43	Luminosity (1 Byte binary)														
Eu.SCI-LS.PDI.177	Req	Permitted values for command "Set Luminosity":	Basic LS												
Eu.SCI-LS.PDI.174	Req	Message Type The message bytes 1 - 2 shall be set to 0x0002.	Basic LS												
Eu.SCI-LS.PDI.175	Req	Sender Identifier The message bytes 3 - 22 shall contain the technical identifier of the Subsystem - Electronic Interlocking according to ID Eu.SCI-XX.PDI.59 in ISO IEC 8859-1:1998 format.	Basic LS												
Eu.SCI-LS.PDI.176	Req	Receiver Identifier The message bytes 23 - 42 shall contain the operational identifier of the Subsystem - Light Signal according to ID Eu.SCI-XX.PDI.59 in ISO IEC 8859-1:1998 format.	Basic LS												
Eu.SCI-LS.PDI.200	Req	Byte Nr. 43: Luminosity The message byte 43 shall contain the Luminosity Permitted values: <table data-bbox="479 1165 815 1219"> <thead> <tr> <th data-bbox="479 1165 658 1193">value</th> <th data-bbox="658 1165 815 1193">meaning</th> </tr> </thead> <tbody> <tr> <td data-bbox="479 1193 658 1219">-----</td> <td data-bbox="658 1193 815 1219">-----</td> </tr> </tbody> </table>	value	meaning	-----	-----	Basic LS								
value	meaning														
-----	-----														
Eu.SCI-LS.PDI.278	Req	0x01 Luminosity for day	Basic LS												
Eu.SCI-LS.PDI.280	Req	0x02 Luminosity for night	Basic LS												
Eu.SCI-LS.PDI.371	Req	0xFE Intentionally deleted	Basic LS												

ID	Type	Requirement	Func. Pkg.																														
Eu.SCI-LS.PDI.160	Head	3.4.3 Message "Indicated Signal Aspect"																															
Eu.SCI-LS.PDI.168	Info	With this telegram the Subsystem - Light Signal tells the Subsystem - Electronic Interlocking the indicated Signal Aspect. This telegram refines the InformationFlow "Msg_Indicated_Signal_Aspect" specified in the requirements specification (ID Eu.LS.7588).	Basic LS																														
Eu.SCI-LS.PDI.164	Info	Telegram definition for message "Indicated Signal Aspect" <table border="1" data-bbox="479 453 1456 1177"> <thead> <tr> <th data-bbox="479 453 645 501">Byte-Nr.</th> <th data-bbox="645 453 1456 501">Content</th> </tr> </thead> <tbody> <tr> <td data-bbox="479 501 645 549">00</td> <td data-bbox="645 501 1456 549">Protocol Type: 0x30 (1 Byte binary)</td> </tr> <tr> <td data-bbox="479 549 645 596">01..02</td> <td data-bbox="645 549 1456 596">Message Type: 0x0003 (2 Bytes binary)</td> </tr> <tr> <td data-bbox="479 596 645 644">03..22</td> <td data-bbox="645 596 1456 644">Sender Identifier (20 Bytes ISO IEC 8859-1:1998)</td> </tr> <tr> <td data-bbox="479 644 645 692">23..42</td> <td data-bbox="645 644 1456 692">Receiver Identifier (20 Bytes ISO IEC 8859-1:1998)</td> </tr> <tr> <td data-bbox="479 692 645 740">43</td> <td data-bbox="645 692 1456 740">code for basic aspect types (1 Byte binary)</td> </tr> <tr> <td data-bbox="479 740 645 788">44</td> <td data-bbox="645 740 1456 788">code for extension of basic aspect types (1 Byte binary)</td> </tr> <tr> <td data-bbox="479 788 645 836">45</td> <td data-bbox="645 788 1456 836">speed indicators (1 Byte binary)</td> </tr> <tr> <td data-bbox="479 836 645 884">46</td> <td data-bbox="645 836 1456 884">speed indicator announcements (1 Byte binary)</td> </tr> <tr> <td data-bbox="479 884 645 932">47</td> <td data-bbox="645 884 1456 932">direction indicators (1 Byte binary)</td> </tr> <tr> <td data-bbox="479 932 645 979">48</td> <td data-bbox="645 932 1456 979">direction indicator announcements (1 Byte binary)</td> </tr> <tr> <td data-bbox="479 979 645 1027">49</td> <td data-bbox="645 979 1456 1027">downgrade information (1 Byte binary)</td> </tr> <tr> <td data-bbox="479 1027 645 1075">50</td> <td data-bbox="645 1027 1456 1075">route information (1 Byte binary)</td> </tr> <tr> <td data-bbox="479 1075 645 1123">51</td> <td data-bbox="645 1075 1456 1123">intentionally dark (1 Byte binary)</td> </tr> <tr> <td data-bbox="479 1123 645 1171">52..60</td> <td data-bbox="645 1123 1456 1171">national specified (9 Bytes binary)</td> </tr> </tbody> </table>	Byte-Nr.	Content	00	Protocol Type: 0x30 (1 Byte binary)	01..02	Message Type: 0x0003 (2 Bytes binary)	03..22	Sender Identifier (20 Bytes ISO IEC 8859-1:1998)	23..42	Receiver Identifier (20 Bytes ISO IEC 8859-1:1998)	43	code for basic aspect types (1 Byte binary)	44	code for extension of basic aspect types (1 Byte binary)	45	speed indicators (1 Byte binary)	46	speed indicator announcements (1 Byte binary)	47	direction indicators (1 Byte binary)	48	direction indicator announcements (1 Byte binary)	49	downgrade information (1 Byte binary)	50	route information (1 Byte binary)	51	intentionally dark (1 Byte binary)	52..60	national specified (9 Bytes binary)	Basic LS
Byte-Nr.	Content																																
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51	intentionally dark (1 Byte binary)																																
52..60	national specified (9 Bytes binary)																																
Eu.SCI-LS.PDI.178	Req	Permitted values for message "Indicated Signal Aspect":	Basic LS																														
Eu.SCI-LS.PDI.179	Req	Message Type The message bytes 1 - 2 shall be set to 0x0003.	Basic LS																														

ID	Type	Requirement	Func. Pkg.				
Eu.SCI-LS.PDI.180	Req	Sender Identifier The message bytes 3 - 22 shall contain the operational identifier of the Subsystem - Light Signal according to ID Eu.SCI-XX.PDI.59 in ISO IEC 8859-1:1998 format.	Basic LS				
Eu.SCI-LS.PDI.181	Req	Receiver Identifier The message bytes 23 - 42 shall contain the technical identifier of the Subsystem - Electronic Interlocking according to ID Eu.SCI-XX.PDI.59 in ISO IEC 8859-1:1998 format.	Basic LS				
Eu.SCI-LS.PDI.286	Req	code for basic aspect types (see Eu.Doc.37) The message byte 43 shall contain the lamp combinations for the basic aspect types, including main, distant and shunting aspects.	Basic LS				
Eu.SCI-LS.PDI.287	Req	code for extension of basic aspect types (See Eu.Doc.37) The message byte 44 shall contain the lamp combinations for the extension of the basic aspects, such as indication of route to opposite track or route without an overlap.	Basic LS				
Eu.SCI-LS.PDI.288	Req	speed indicators (See Eu.Doc.37) The message byte 45 shall contain the speed indicators.	Basic LS				
Eu.SCI-LS.PDI.289	Req	speed indicator announcements (See Eu.Doc.37) The message byte 46 shall contain the speed indication announcements.	Basic LS				
Eu.SCI-LS.PDI.290	Req	direction indicators (See Eu.Doc.37) The message byte 47 shall contain the direction indicators.	Basic LS				
Eu.SCI-LS.PDI.291	Req	direction indicator announcements (See Eu.Doc.37) The message byte 48 shall contain the direction indicator announcements.	Basic LS				
Eu.SCI-LS.PDI.292	Req	downgrade information The message byte 49 shall contain the downgrade information. Permitted values: <table data-bbox="477 1233 813 1289"> <tr> <td>value</td> <td>meaning</td> </tr> <tr> <td>-----</td> <td>-----</td> </tr> </table>	value	meaning	-----	-----	Basic LS
value	meaning						
-----	-----						
Eu.SCI-LS.PDI.336	Req	0x01..0x7F Defined by national specifications. Note: In future phases of the System Pillar, national specifications will be replaced by harmonised specifications.	Basic LS				

ID	Type	Requirement	Func. Pkg.				
Eu.SCI-LS.PDI.373	Req	0xFE No downgrade information.	Basic LS				
Eu.SCI-LS.PDI.339	Req	0xFF Downgrade information not applicable.	Basic LS				
Eu.SCI-LS.PDI.331	Req	<p>route information</p> <p>The message byte 50 shall contain the route information. Permitted values for the low half-byte:</p> <table data-bbox="479 485 815 533"> <thead> <tr> <th>value</th> <th>meaning</th> </tr> </thead> <tbody> <tr> <td>-----</td> <td>-----</td> </tr> </tbody> </table>	value	meaning	-----	-----	Basic LS
value	meaning						
-----	-----						
Eu.SCI-LS.PDI.341	Req	0x01..0xFD Defined by national specifications. Note: In future phases of the System Pillar, national specifications will be replaced by harmonised specifications.	Basic LS				
Eu.SCI-LS.PDI.376	Req	0xFE No route information.	Basic LS				
Eu.SCI-LS.PDI.352	Req	0xFF Route information not applicable.	Basic LS				
Eu.SCI-LS.PDI.332	Req	<p>Signal Aspect intentionally dark</p> <p>The message byte 51 shall contain the Signal Aspect intentionally dark. Permitted values:</p> <table data-bbox="479 1011 815 1059"> <thead> <tr> <th>value</th> <th>meaning</th> </tr> </thead> <tbody> <tr> <td>-----</td> <td>-----</td> </tr> </tbody> </table>	value	meaning	-----	-----	Basic LS
value	meaning						
-----	-----						
Eu.SCI-LS.PDI.354	Req	0x01 The commanded Signal Aspect or the related downgraded Aspect is indicated in the set Luminosity.	Basic LS				
Eu.SCI-LS.PDI.355	Req	0x0F The commanded Signal Aspect or the related downgraded Aspect is indicated dark.	Basic LS				
Eu.SCI-LS.PDI.374	Req	0xFF Intentionally dark not applicable.	Basic LS				

ID	Type	Requirement	Func. Pkg.												
Eu.SCI-LS.PDI.333	Req	<p>specified by national requirements</p> <p>The message bytes 52 to 60 shall contain national specified requirements. Permitted values for each byte:</p> <table border="1" data-bbox="477 359 817 414"> <thead> <tr> <th>value</th> <th>meaning</th> </tr> </thead> <tbody> <tr> <td>-----</td> <td>-----</td> </tr> </tbody> </table>	value	meaning	-----	-----	Basic LS								
value	meaning														
-----	-----														
Eu.SCI-LS.PDI.357	Req	<p>0x01..FD Specified by national specifications. Note: In future phases of the System Pillar, national specifications will be replaced by harmonised specifications.</p>	Basic LS												
Eu.SCI-LS.PDI.377	Req	<p>0xFE No information.</p>	Basic LS												
Eu.SCI-LS.PDI.161	Head	<p>3.4.4 Message "Set Luminosity"</p>													
Eu.SCI-LS.PDI.169	Info	<p>With this telegram the Subsystem - Light Signal tells the Subsystem - Electronic Interlocking the set luminosity. This telegram refines the InformationFlow "Msg_Set_Luminosity" specified in the requirements specification (ID Eu.LS.7589).</p>	Basic LS												
Eu.SCI-LS.PDI.165	Info	<p>Telegram definition for message "Set Luminosity"</p> <table border="1" data-bbox="477 861 1429 1157"> <thead> <tr> <th>Byte-Nr.</th> <th>Content</th> </tr> </thead> <tbody> <tr> <td>00</td> <td>Protocol Type: 0x30 (1 Byte binary)</td> </tr> <tr> <td>01..02</td> <td>Message Type: 0x0004 (2 Bytes binary)</td> </tr> <tr> <td>03..22</td> <td>Sender Identifier (20 Bytes ISO IEC 8859-1:1998)</td> </tr> <tr> <td>23..42</td> <td>Receiver Identifier (20 Bytes ISO IEC 8859-1:1998)</td> </tr> <tr> <td>43</td> <td>Luminosity (1 Byte binary)</td> </tr> </tbody> </table>	Byte-Nr.	Content	00	Protocol Type: 0x30 (1 Byte binary)	01..02	Message Type: 0x0004 (2 Bytes binary)	03..22	Sender Identifier (20 Bytes ISO IEC 8859-1:1998)	23..42	Receiver Identifier (20 Bytes ISO IEC 8859-1:1998)	43	Luminosity (1 Byte binary)	Basic LS
Byte-Nr.	Content														
00	Protocol Type: 0x30 (1 Byte binary)														
01..02	Message Type: 0x0004 (2 Bytes binary)														
03..22	Sender Identifier (20 Bytes ISO IEC 8859-1:1998)														
23..42	Receiver Identifier (20 Bytes ISO IEC 8859-1:1998)														
43	Luminosity (1 Byte binary)														
Eu.SCI-LS.PDI.182	Req	<p>Permitted values for message "Set Luminosity":</p>	Basic LS												
Eu.SCI-LS.PDI.183	Req	<p>Message Type The message bytes 1 - 2 shall be set to 0x0004.</p>	Basic LS												
Eu.SCI-LS.PDI.184	Req	<p>Sender Identifier The message bytes 3 - 22 shall contain the operational identifier of the Subsystem - Light Signal according to ID Eu.SCI-XX.PDI.59 in ISO IEC 8859-1:1998 format.</p>	Basic LS												

ID	Type	Requirement	Func. Pkg.				
Eu.SCI-LS.PDI.185	Req	Receiver Identifier The message bytes 23 - 42 shall contain the technical identifier of the Subsystem - Electronic Interlocking according to ID Eu.SCI-XX.PDI.59 in ISO IEC 8859-1:1998 format.	Basic LS				
Eu.SCI-LS.PDI.276	Req	Byte Nr. 43: Luminosity The message byte 43 shall contain the Luminosity. Permitted values: <table data-bbox="479 485 815 539"> <tr> <td style="text-align: center;">value</td> <td style="text-align: center;">meaning</td> </tr> <tr> <td style="text-align: center;">-----</td> <td style="text-align: center;">-----</td> </tr> </table>	value	meaning	-----	-----	Basic LS
value	meaning						
-----	-----						
Eu.SCI-LS.PDI.360	Req	0x01 Luminosity for day	Basic LS				
Eu.SCI-LS.PDI.361	Req	0x02 Luminosity for night	Basic LS				
Eu.SCI-LS.PDI.372	Req	0xFE Intentionally deleted	Basic LS				