



EULYNX Initiative



Europe's Rail Joint Undertaking

Interface specification SCI-LS

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ID	Type	Requirement	Func. Pkg.	JIRA	V 4.3 (0.A) > V 4.2 (0.A)
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: 4.3 (0.A) Approval date: 29.05.2024			Object Text: [Eu.Doc.33] Interface specification SCI-LS CENELEC Phase: 5 Version: 4. 2 3 (0.A) Approval date: 15 29 . 06 05 . 20 23 <u>2024</u>
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.430	Info	version number: 4.2 (1.A) date: 20.03.2024 author: Filip Giering review: cluster changes: EULS-457, EULS-459, EULS-460			object created after baseline 4.2 (0.A)
Eu.SCI-LS.PDI.431	Info	version number: 4.3 (0.A) date: 18.06.2024 author: Filip Giering review: TACS Mirror Group changes: EULS-471, EULS-474			object created after baseline 4.2 (0.A)
Eu.SCI-LS.PDI.7	Head	1.2 Impressum			

ID	Type	Requirement	Func. Pkg.	JIRA	V 4.3 (0.A) > V 4.2 (0.A)
Eu.SCI-LS.PDI.8	Info	<p>Publishers: Europe's Rail Joint Undertaking https://rail-research.europa.eu</p> <p>EULYNX Initiative https://eulynx.eu/</p>		EULS-471	<p>Object Text: Publishers: Europe's Rail Joint Undertaking https://rail-research.europa.eu</p> <p>EULYNX Initiative A full list of the EULYNX Partners can be found on www.https://eulynx.eu/index.php/members a_JIRA_BL4R3: EULS-471</p>
Eu.SCI-LS.PDI.9	Info	<p>Responsible for this document: EU-Rail System Pillar Trackside Assets Control and Supervision domain</p>			
Eu.SCI-LS.PDI.283	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 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.</p>		EULS-471	<p>Object Text: CopyrightThis EULYNX document Partnersis drafted by and belongs to EU Rail. All EU Rail encourages the distribution and re-use of this document, the technical specifications and the information included it or contains, disclosed inRail holds several intellectual property rights, such as copyright and trade mark rights, which need to be considered when this document is licensedused.</p> <p>EU underRail authorizes you to re-publish, re-use, copy and store this document without changing it, provided that you indicate its source and include the European following Union mention PublicEU LicenceRail EUPtrade mark, Version1 of the document, year of publication, version of document].2</p> <p>EU Rail makes no representation or laterwarranty 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 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</p>

ID	Type	Requirement	Func. Pkg.	JIRA	V 4.3 (0.A) > V 4.2 (0.A)
					and the accuracy of the information you use, for your own purposes. a_JIRA_BL4R3: EULS-471
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			
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			

ID	Type	Requirement	Func. Pkg.	JIRA	V 4.3 (0.A) > V 4.2 (0.A)
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.			
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 4.3 (0.A).		EULS-460 EULS-474	Object Text: All references to [Eu.Doc.32] refer to Requirements specification for subsystem Light Signal version 4. 23 (0.A). a_JIRA_BL4R3: EULS-460 EULS-474
Eu.SCI-LS.PDI.386	Req	All references to [Eu.Doc.93] refer to Interface specification SCI Generic version 3.3 (0.A).		EULS-460 EULS-474	Object Text: All references to [Eu.Doc.93] refer to Interface specification SCI Generic version 3. 23 (0.A). a_JIRA_BL4R3: EULS-460 EULS-474
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].		EULS-460	Object Text: The Version handling is described in [Eu.Doc.93]. a_JIRA_BL4R3: EULS-460
Eu.SCI-LS.PDI.385	Req	The PDI-version of the SCI-LS as described in this document is 0x05.		EULS-457	Object Text: The PDI-version of the SCI-LS as described in this document is 0x04 0x05 . a_JIRA_BL4R3: EULS-457
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].		EULS-460	Object Text: The Communication requirements are described in [Eu.Doc.93]. a_JIRA_BL4R3: EULS-460
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].		EULS-460	Object Text: The functional requirements for SCI-LS are described in [Eu.Doc.32]. a_JIRA_BL4R3: EULS-460
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			

ID	Type	Requirement	Func. Pkg.	JIRA	V 4.3 (0.A) > V 4.2 (0.A)																									
Eu.SCI-LS.PDI.328	Info	The telegram structure is specified in [Eu.Doc.93].	Basic LS	EULS-460	Object Text: The telegram structure is specified in [Eu.Doc.93]. a_JIRA_BL4R3: EULS-460																									
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	EULS-460	Object Text: The identification of communications partners is specified in [Eu.Doc.93]. a_JIRA_BL4R3: EULS-460																									
Eu.SCI-LS.PDI.70	Head	3.3 Message and command type overview																												
Eu.SCI-LS.PDI.71	Info	<div>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].</div> <table><tr><th>Message Type</th><th>Value</th><th>Sender</th><th>Receiver</th><th>Purpose</th></tr><tr><td><i>command</i> Indicate Signal Aspect</td><td>0x0001</td><td>Subsystem – Electronic Interlocking</td><td>Subsystem - Light Signal</td><td>Command to indicate Signal Aspect</td></tr><tr><td><i>message</i> <i>Indicated Signal Aspect</i></td><td>0x0003</td><td>Subsystem - Light Signal</td><td>Subsystem – Electronic Interlocking</td><td>Notification about the indicated Signal Aspect</td></tr><tr><td><i>command</i> <i>Set Luminosity</i></td><td>0x0002</td><td>Subsystem – Electronic Interlocking</td><td>Subsystem - Light Signal</td><td>Command to set Luminosity</td></tr><tr><td><i>message</i> <i>Set Luminosity</i></td><td>0x0004</td><td>Subsystem - Light Signal</td><td>Subsystem – Electronic Interlocking</td><td>Notification about set Luminosity</td></tr></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	Basic LS	EULS-460	Object Text: 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]. a_JIRA_BL4R3: EULS-460
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	EULS-460	Object Text: In this chapter, specific telegrams for SCI-LS.PDI are defined. The generic telegrams are defined in [Eu.Doc.93]. a_JIRA_BL4R3: EULS-460																									
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.	JIRA	V 4.3 (0.A) > V 4.2 (0.A)																														
		<table><tr><th>Byte-Nr.</th><th>Content</th></tr><tr><td>00</td><td>Protocol Type: 0x30 (1 Byte binary)</td></tr><tr><td>01..02</td><td>Message Type: 0x0001 (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>code for basic aspect types (1 Byte binary)</td></tr><tr><td>44</td><td>code for extension of basic aspect types (1 Byte binary)</td></tr><tr><td>45</td><td>speed indicators (1 Byte binary)</td></tr><tr><td>46</td><td>speed indicator announcements (1 Byte binary)</td></tr><tr><td>47</td><td>direction indicators (1 Byte binary)</td></tr><tr><td>48</td><td>direction indicator announcements (1 Byte binary)</td></tr><tr><td>49</td><td>downgrade information (1 Byte binary)</td></tr><tr><td>50</td><td>route information (1 Byte binary)</td></tr><tr><td>51</td><td>intentionally dark (1 Byte binary)</td></tr><tr><td>52..60</td><td>national specified (9 Bytes binary)</td></tr></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)				
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)																																			
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	EULS-460	Object Text: 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. a_JIRA_BL4R3: EULS-460																														
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	EULS-460	Object Text: 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. a_JIRA_BL4R3: EULS-460																														

ID	Type	Requirement	Func. Pkg.	JIRA	V 4.3 (0.A) > V 4.2 (0.A)
Eu.SCI-LS.PDI.193	Req	speed indicators (see [Eu.Doc.37]) The message byte 45 shall contain the speed indicators.	Basic LS	EULS-460	Object Text: speed indicators (see [Eu.Doc.37]) The message byte 45 shall contain the speed indicators. a_JIRA_BL4R3: EULS-460
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	EULS-460	Object Text: speed indicator announcements (see [Eu.Doc.37]) The message byte 46 shall contain the speed indicator announcements. a_JIRA_BL4R3: EULS-460
Eu.SCI-LS.PDI.195	Req	direction indicators (see [Eu.Doc.37]) The message byte 47 shall contain the direction indicators.	Basic LS	EULS-460	Object Text: direction indicators (see [Eu.Doc.37]) The message byte 47 shall contain the direction indicators. a_JIRA_BL4R3: EULS-460
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	EULS-460	Object Text: direction indicator announcements (see [Eu.Doc.37]) The message byte 48 shall contain the direction indicator announcements. a_JIRA_BL4R3: EULS-460
Eu.SCI-LS.PDI.298	Req	downgrade information The message byte 49 shall contain the downgrade information. Permitted values: value meaning ----- -----	Basic LS		
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: value meaning ----- -----	Basic LS		
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		

ID	Type	Requirement	Func. Pkg.	JIRA	V 4.3 (0.A) > V 4.2 (0.A)												
Eu.SCI-LS.PDI.300	Req	Byte Nr. 51: Signal Aspect intentionally dark The message byte 51 shall contain the Signal Aspect intentionally dark. Permitted value: value meaning ----- -----	Basic LS														
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	Byte Nr. 52 to 60: specified by national requirements The message bytes 52 to 60 shall contain the national specified requirements. Permitted values for each byte: value meaning ----- -----	Basic LS														
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														
Eu.SCI-LS.PDI.163	Info	Telegram definition for command "Set Luminosity" <table><tr><th>Byte-Nr.</th><th>Content</th></tr><tr><td>00</td><td>Protocol Type: 0x30 (1 Byte binary)</td></tr><tr><td>01..02</td><td>Message Type: 0x0002 (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></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														

ID	Type	Requirement	Func. Pkg.	JIRA	V 4.3 (0.A) > V 4.2 (0.A)																														
Eu.SCI-LS.PDI.200	Req	Byte Nr. 43: Luminosity The message byte 43 shall contain the Luminosity Permitted values: value meaning ----- -----	Basic LS																																
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	Info	0xFE Intentionally deleted	Basic LS	EULS-459	a_Object_Type: ReqInfo a_JIRA_BL4R3: EULS-459																														
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><tr><th>Byte-Nr.</th><th>Content</th></tr><tr><td>00</td><td>Protocol Type: 0x30 (1 Byte binary)</td></tr><tr><td>01..02</td><td>Message Type: 0x0003 (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>code for basic aspect types (1 Byte binary)</td></tr><tr><td>44</td><td>code for extension of basic aspect types (1 Byte binary)</td></tr><tr><td>45</td><td>speed indicators (1 Byte binary)</td></tr><tr><td>46</td><td>speed indicator announcements (1 Byte binary)</td></tr><tr><td>47</td><td>direction indicators (1 Byte binary)</td></tr><tr><td>48</td><td>direction indicator announcements (1 Byte binary)</td></tr><tr><td>49</td><td>downgrade information (1 Byte binary)</td></tr><tr><td>50</td><td>route information (1 Byte binary)</td></tr><tr><td>51</td><td>intentionally dark (1 Byte binary)</td></tr><tr><td>52..60</td><td>national specified (9 Bytes binary)</td></tr></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																																		
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)																																		
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																																
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																																

ID	Type	Requirement	Func. Pkg.	JIRA	V 4.3 (0.A) > V 4.2 (0.A)
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	EULS-460	Object Text: 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. a_JIRA_BL4R3: EULS-460
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	EULS-460	Object Text: 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. a_JIRA_BL4R3: EULS-460
Eu.SCI-LS.PDI.288	Req	speed indicators (See [Eu.Doc.37]) The message byte 45 shall contain the speed indicators.	Basic LS	EULS-460	Object Text: speed indicators (See [Eu.Doc.37]) The message byte 45 shall contain the speed indicators. a_JIRA_BL4R3: EULS-460
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	EULS-460	Object Text: speed indicator announcements (See [Eu.Doc.37]) The message byte 46 shall contain the speed indication announcements. a_JIRA_BL4R3: EULS-460
Eu.SCI-LS.PDI.290	Req	direction indicators (See [Eu.Doc.37]) The message byte 47 shall contain the direction indicators.	Basic LS	EULS-460	Object Text: direction indicators (See [Eu.Doc.37]) The message byte 47 shall contain the direction indicators. a_JIRA_BL4R3: EULS-460
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	EULS-460	Object Text: direction indicator announcements (See [Eu.Doc.37]) The message byte 48 shall contain the direction indicator announcements. a_JIRA_BL4R3: EULS-460
Eu.SCI-LS.PDI.292	Req	downgrade information The message byte 49 shall contain the downgrade information. Permitted values: value meaning ----- -----	Basic LS		

ID	Type	Requirement		Func. Pkg.	JIRA	V 4.3 (0.A) > V 4.2 (0.A)												
		<table><tr><th>Byte-Nr.</th><th>Content</th></tr><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></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)				
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	Permitted values for message "Set Luminosity":		Basic LS														
Eu.SCI-LS.PDI.183	Req	Message Type The message bytes 1 - 2 shall be set to 0x0004.		Basic LS														
Eu.SCI-LS.PDI.184	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.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: value meaning ----- -----		Basic LS														
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	Info	0xFE	Intentionally deleted	Basic LS	EULS-459	a_Object_Type: Req Info a_JIRA_BL4R3: EULS-459												