



**EULYNX Initiative**



**Europe's Rail Joint Undertaking**

## **Interface specification SCI-LS**

Document number: Eu.Doc.33  
Version: 4.3 (0.A)

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ID	Type	Requirement	Func. Pkg.
Eu.SCI-LS.PDI.4	Head	<b>1 Introduction</b>	
Eu.SCI-LS.PDI.5	Head	<b>1.1 Release information</b>	
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	
Eu.SCI-LS.PDI.1	Info	<b>Version history</b>	
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	

ID	Type	Requirement	Func. Pkg.
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	
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	
Eu.SCI-LS.PDI.7	Head	<b>1.2 Impressum</b>	
Eu.SCI-LS.PDI.8	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.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	This document is drafted by and belongs to EU Rail.  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.  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].  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.  You may study, research, implement, adapt, improve and otherwise use the information, the content and the models in this	

ID	Type	Requirement	Func. Pkg.
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Eu.SCI-LS.PDI.10	Head	<b>1.3 Purpose</b>	
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"> <li>• safety authorities</li> <li>• infrastructure managers</li> <li>• safety assessors</li> <li>• signalling system suppliers</li> <li>• validators</li> </ul>	
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	<b>1.4 Applicable standards and regulations</b>	
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].	

ID	Type	Requirement	Func. Pkg.
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	<b>1.5 Applicable documents</b>	
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	<b>1.6 Appendices</b>	
Eu.SCI-LS.PDI.25	Info	<i>- intentionally left blank -</i>	
Eu.SCI-LS.PDI.150	Head	<b>1.7 Terms and abbreviations</b>	
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	<b>1.8 Variability management</b>	
Eu.SCI-LS.PDI.153	Info	This document describes harmonised requirements. Variability management is not applicable.	
Eu.SCI-LS.PDI.26	Head	<b>1.9 Definition of object types</b>	
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"> <li>• "Req" - This denotes a mandatory requirement.</li> </ul>	
Eu.SCI-LS.PDI.31	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.SCI-LS.PDI.32	Info	<ul style="list-style-type: none"> <li>• "Head" - This denotes chapter headings.</li> </ul>	
Eu.SCI-LS.PDI.33	Head	<b>2 General requirements</b>	
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).	
Eu.SCI-LS.PDI.386	Req	All references to [Eu.Doc.93] refer to Interface specification SCI Generic version 3.3 (0.A).	
Eu.SCI-LS.PDI.42	Head	<b>2.1 Version handling</b>	

ID	Type	Requirement	Func. Pkg.
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 0x05.	
Eu.SCI-LS.PDI.49	Head	<b>2.2 Communication requirements</b>	
Eu.SCI-LS.PDI.378	Info	The Communication requirements are described in [Eu.Doc.93].	
Eu.SCI-LS.PDI.396	Head	<b>2.3 Functional requirements</b>	
Eu.SCI-LS.PDI.397	Info	The functional requirements for SCI-LS are described in [Eu.Doc.32].	
Eu.SCI-LS.PDI.54	Head	<b>3 Telegrams SCI-LS.PDI</b>	
Eu.SCI-LS.PDI.55	Info	This chapter defines the SCI-LS.PDI telegrams.	Basic LS
Eu.SCI-LS.PDI.56	Head	<b>3.1 Telegram structure</b>	
Eu.SCI-LS.PDI.328	Info	The telegram structure is specified in [Eu.Doc.93].	Basic LS
Eu.SCI-LS.PDI.64	Head	<b>3.2 Sender and Receiver Identifier</b>	
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	<b>3.3 Message and command type overview</b>	
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><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	
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><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)																																
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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	<b>Message Type</b> The message bytes 1 - 2 shall be set to 0x0001.	Basic LS																														
Eu.SCI-LS.PDI.171	Req	<b>Sender Identifier</b> 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	<b>Receiver Identifier</b> 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	<b>code for basic aspect types</b> (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	<b>code for extension of basic aspect types</b> (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	<b>speed indicators</b> (see [Eu.Doc.37]) The message byte 45 shall contain the speed indicators.	Basic LS
Eu.SCI-LS.PDI.194	Req	<b>speed indicator announcements</b> (see [Eu.Doc.37]) The message byte 46 shall contain the speed indicator announcements.	Basic LS
Eu.SCI-LS.PDI.195	Req	<b>direction indicators</b> (see [Eu.Doc.37]) The message byte 47 shall contain the direction indicators.	Basic LS
Eu.SCI-LS.PDI.196	Req	<b>direction indicator announcements</b> (see [Eu.Doc.37]) The message byte 48 shall contain the direction indicator announcements.	Basic LS
Eu.SCI-LS.PDI.298	Req	<b>downgrade information</b>  The message byte 49 shall contain the downgrade information. Permitted values:  <div style="display: flex; justify-content: space-between; width: 100%;"> <div>value</div> <div>meaning</div> </div> <div style="display: flex; justify-content: space-between; width: 100%;"> <div>-----</div> <div>-----</div> </div>	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	<b>route information</b>  The message byte 50 shall contain the route information. Permitted values:  <div style="display: flex; justify-content: space-between; width: 100%;"> <div>value</div> <div>meaning</div> </div> <div style="display: flex; justify-content: space-between; width: 100%;"> <div>-----</div> <div>-----</div> </div>	Basic LS

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	<b>Byte Nr. 51: Signal Aspect intentionally dark</b>  The message byte 51 shall contain the Signal Aspect intentionally dark. Permitted value:  <div> <div>value</div> <div>meaning</div> <div>-----</div> <div>-----</div> </div>	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	<b>Byte Nr. 52 to 60: specified by national requirements</b>  The message bytes 52 to 60 shall contain the national specified requirements. Permitted values for each byte:  <div> <div>value</div> <div>meaning</div> <div>-----</div> <div>-----</div> </div>	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	<b>3.4.2 Command "Set Luminosity"</b>	
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"	Basic LS												
		<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)
		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	<b>Message Type</b> The message bytes 1 - 2 shall be set to 0x0002.	Basic LS												
Eu.SCI-LS.PDI.175	Req	<b>Sender Identifier</b> 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	<b>Receiver Identifier</b> 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	<b>Byte Nr. 43: Luminosity</b>  The message byte 43 shall contain the Luminosity Permitted values:  <table><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.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												

ID	Type	Requirement	Func. Pkg.																														
Eu.SCI-LS.PDI.160	Head	<b>3.4.3 Message "Indicated Signal Aspect"</b>																															
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	<div>Telegram definition for message "Indicated Signal Aspect"</div> <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)																																
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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	<b>Message Type</b> The message bytes 1 - 2 shall be set to 0x0003.	Basic LS																														

<b>ID</b>	<b>Type</b>	<b>Requirement</b>	<b>Func. Pkg.</b>
Eu.SCI-LS.PDI.180	Req	<b>Sender Identifier</b> 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	<b>Receiver Identifier</b> 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	<b>code for basic aspect types</b> (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	<b>code for extension of basic aspect types</b> (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	<b>speed indicators</b> (See [Eu.Doc.37]) The message byte 45 shall contain the speed indicators.	Basic LS
Eu.SCI-LS.PDI.289	Req	<b>speed indicator announcements</b> (See [Eu.Doc.37]) The message byte 46 shall contain the speed indication announcements.	Basic LS
Eu.SCI-LS.PDI.290	Req	<b>direction indicators</b> (See [Eu.Doc.37]) The message byte 47 shall contain the direction indicators.	Basic LS
Eu.SCI-LS.PDI.291	Req	<b>direction indicator announcements</b> (See [Eu.Doc.37]) The message byte 48 shall contain the direction indicator announcements.	Basic LS
Eu.SCI-LS.PDI.292	Req	<b>downgrade information</b>  The message byte 49 shall contain the downgrade information. Permitted values:  <div style="display: flex; justify-content: space-between; width: 100%;"> <div>value</div> <div>meaning</div> </div> <div style="display: flex; justify-content: space-between; width: 100%;"> <div>-----</div> <div>-----</div> </div>	Basic LS
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	<b>route information</b>  The message byte 50 shall contain the route information. Permitted values for the low half-byte:  value            meaning -----        -----	Basic LS
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	<b>Signal Aspect intentionally dark</b>  The message byte 51 shall contain the Signal Aspect intentionally dark. Permitted values:  value            meaning -----        -----	Basic LS
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	<b>specified by national requirements</b>  The message bytes 52 to 60 shall contain national specified requirements. Permitted values for each byte:  value            meaning -----        -----	Basic LS												
Eu.SCI-LS.PDI.357	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.377	Req	0xFE            No information.	Basic LS												
Eu.SCI-LS.PDI.161	Head	<b>3.4.4 Message "Set Luminosity"</b>													
Eu.SCI-LS.PDI.169	Info	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).	Basic LS												
Eu.SCI-LS.PDI.165	Info	Telegram definition for message "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: 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)	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	Permitted values for message "Set Luminosity":	Basic LS												
Eu.SCI-LS.PDI.183	Req	<b>Message Type</b> The message bytes 1 - 2 shall be set to 0x0004.	Basic LS												
Eu.SCI-LS.PDI.184	Req	<b>Sender Identifier</b> 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												



<b>ID</b>	<b>Type</b>	<b>Requirement</b>	<b>Func. Pkg.</b>
Eu.SCI-LS.PDI.185	Req	<b>Receiver Identifier</b> 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	<b>Byte Nr. 43: Luminosity</b>  The message byte 43 shall contain the Luminosity. Permitted values:  <div> <div>value</div> <div>meaning</div> <div>-----</div> <div>-----</div> </div>	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