



EULYNX Initiative



Europe's Rail Joint Undertaking

Interface specification SCI-TDS

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ID	Type	Requirement	Func. Pkg.
Eu.SCI-TDS.PDI.4	Head	1 Introduction	
Eu.SCI-TDS.PDI.5	Head	1.1 Release information	
Eu.SCI-TDS.PDI.6	Info	[Eu.Doc.44] Interface specification SCI-TDS CENELEC Phase: 5 Version: 4.1 (0.A) Approval date: 29.05.2024	
Eu.SCI-TDS.PDI.1	Info	Version history	
Eu.SCI-TDS.PDI.714	Info	version number: 4.0 (0.A) date: 17.05.2022 author: Marie Gehrmann review: CCB changes: EUTDS-404, EUTDS-408, EUTDS-413	
Eu.SCI-TDS.PDI.730	Info	version number: 4.0 (1.A) date: 06.03.2023 author: Marie Gehrmann review: - changes: EUTDS-414, EUTDS-418, EUTDS-427, EUTDS-429	
Eu.SCI-TDS.PDI.733	Info	version number: 4.0 (2.A) date: 28.06.2023 author: Marie Gehrmann review: TACS Mirror Group changes: EUTDS-435, EUTDS-441, EUTDS-449, EUTDS-450, EUTDS-459, EUTDS-460, EUTDS-462	
Eu.SCI-TDS.PDI.735	Info	version number: 4.0 (3.A) date: 15.12.2023 author: Marie Gehrmann review: M&T changes: EUTDS-466, EUTDS-498	

ID	Type	Requirement	Func. Pkg.
Eu.SCI-TDS.PDI.736	Info	version number: 4.0 (4.A) date: 30.04.2024 author: Marie Gehrmann review: cluster changes: EUTDS-509, EUTDS-510, EUTDS-514, EUTDS-516	
Eu.SCI-TDS.PDI.737	Info	version number: 4.1 (0.A) date: 18.06.2024 author: Marie Gehrmann review: TACS Mirror Group changes: EUTDS-522, EUTDS-524	
Eu.SCI-TDS.PDI.7	Head	1.2 Impressum	
Eu.SCI-TDS.PDI.8	Info	Publishers: Europe's Rail Joint Undertaking https://rail-research.europa.eu/ EULYNX Initiative https://eulynx.eu/	
Eu.SCI-TDS.PDI.9	Info	Responsible for this document: EU-Rail System Pillar Trackside Assets Control and Supervision domain	
Eu.SCI-TDS.PDI.594	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.	

ID	Type	Requirement	Func. Pkg.
		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.	
Eu.SCI-TDS.PDI.10	Head	1.3 Purpose	
Eu.SCI-TDS.PDI.11	Info	This document specifies the application layer of the standardised interface for safe communication between the Subsystem - Electronic Interlocking and Subsystem - Train Detection System (SCI-TDS).	
Eu.SCI-TDS.PDI.12	Info	This application layer is designated as SCI-TDS.PDI.	
Eu.SCI-TDS.PDI.13	Info	This document contains the general requirements for communication and the technical specification (e.g. telegrams) of the SCI-TDS.PDI.	
Eu.SCI-TDS.PDI.14	Info	This specification does not define the detailed behaviour of the interfacing partners (Subsystem - Electronic Interlocking and Subsystem - Train Detection System), nor the situations in which the defined telegrams are sent. This behaviour is the subject of the individual system specifications.	
Eu.SCI-TDS.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-TDS.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-TDS.PDI.734	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-TDS.PDI.18	Head	1.4 Applicable standards and regulations	

ID	Type	Requirement	Func. Pkg.
Eu.SCI-TDS.PDI.19	Info	The applicable standards and regulations used in EULYNX are listed in the EULYNX Reference Document List [Eu.Doc.12].	
Eu.SCI-TDS.PDI.293	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-TDS" is stated.	
Eu.SCI-TDS.PDI.20	Head	1.5 Applicable documents	
Eu.SCI-TDS.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-TDS.PDI.24	Head	1.6 Appendices	
Eu.SCI-TDS.PDI.25	Info	<i>- intentionally left blank -</i>	
Eu.SCI-TDS.PDI.150	Head	1.7 Terms and abbreviations	
Eu.SCI-TDS.PDI.151	Info	The terms and abbreviations are listed in the EULYNX Glossary [Eu.Doc.9].	
Eu.SCI-TDS.PDI.152	Head	1.8 Variability management	
Eu.SCI-TDS.PDI.153	Info	This document describes harmonised requirements. Variability management is not applicable.	
Eu.SCI-TDS.PDI.26	Head	1.9 Definition of object types	
Eu.SCI-TDS.PDI.27	Info	The following definition for object types is applied in this document:	
Eu.SCI-TDS.PDI.28	Info	<ul style="list-style-type: none"> • "Req" - This denotes a mandatory requirement. 	
Eu.SCI-TDS.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-TDS.PDI.32	Info	<ul style="list-style-type: none"> • "Head" - This denotes chapter headings. 	
Eu.SCI-TDS.PDI.33	Head	2 General requirements	
Eu.SCI-TDS.PDI.711	Req	All references to [Eu.Doc.43] refer to Requirements specification for subsystem TDS version 4.2 (0.A).	
Eu.SCI-TDS.PDI.672	Req	All references to [Eu.Doc.93] refer to Interface specification SCI Generic version 3.3 (0.A).	

ID	Type	Requirement	Func. Pkg.
Eu.SCI-TDS.PDI.42	Head	2.1 Version handling	
Eu.SCI-TDS.PDI.602	Info	The Version handling is described in [Eu.Doc.93].	
Eu.SCI-TDS.PDI.671	Req	The PDI-version of the SCI-TDS as described in this document is 0x04.	
Eu.SCI-TDS.PDI.49	Head	2.2 Communication requirements	
Eu.SCI-TDS.PDI.50	Req	The Communication requirements are described in [Eu.Doc.93].	
Eu.SCI-TDS.PDI.712	Head	2.3 Functional requirements	
Eu.SCI-TDS.PDI.713	Info	The functional requirements for SCI-TDS are described in [Eu.Doc.43].	
Eu.SCI-TDS.PDI.54	Head	3 Telegrams SCI-TDS.PDI	
Eu.SCI-TDS.PDI.55	Info	This chapter defines the SCI-TDS.PDI telegrams.	Basic TDS AC Basic TDS TDP Basic TDS TC
Eu.SCI-TDS.PDI.56	Head	3.1 Telegram structure	
Eu.SCI-TDS.PDI.603	Info	The telegram structure is specified in [Eu.Doc.93].	Basic TDS AC Basic TDS TDP Basic TDS TC
Eu.SCI-TDS.PDI.64	Head	3.2 Sender and Receiver Identifier	
Eu.SCI-TDS.PDI.604	Info	The identification of communications partners is specified in [Eu.Doc.93].	Basic TDS AC Basic TDS TDP Basic TDS TC

ID	Type	Requirement	Func. Pkg.
Eu.SCI-TDS.PDI.70	Head	3.3 Message and command type overview	

ID	Type	Requirement					Func. Pkg.
Eu.SCI-TDS.PDI.71	Info	The following table shows permitted subsystem specific message types for the SCI-TDS.PDI. The permitted generic message types are specified in [Eu.Doc.93].					Basic TDS AC Basic TDS TDP Basic TDS TC Option FC-P/-A Option Update FL
		Message Type	Value	Sender	Receiver	Purpose	
		<i>command</i> FC	0x0001	Subsystem - Electronic Interlocking	TVPS	Force section status to clear command to the Subsystem - Train Detection System. The Modes are: FC-C FC-U FC-P FC-P-A	
		<i>Command</i> Update Filling Level	0x0002	Subsystem - Electronic Interlocking	TVPS	Request from the Subsystem - Electronic Interlocking to send the current Filling Level.	
		<i>command</i> DRFC	0x0003	Subsystem - Electronic Interlocking	TVPS	Command to execute the Disable the restriction to force section status to clear operation to the Subsystem - Train Detection System.	
		<i>command</i> Cancel	0x0008	Subsystem - Electronic Interlocking	TVPS	Command to cancel the execution of FC-P and FC-P-A.	
		<i>message</i> Command Rejected	0x0006	TVPS	Subsystem - Electronic Interlocking	Message from the Subsystem - Train Detection System, that the previously sent command was rejected.	
		<i>message</i> TVPS Occupancy Status	0x0007	TVPS	Subsystem - Electronic Interlocking	Message of the TVPS status. Parameter: occupancy status and ability to be forced to clear.	
		<i>message</i> TVPS FC-P failed	0x0010	TVPS	Subsystem - Electronic Interlocking	Message from the Subsystem - Train Detection System to the Subsystem - Electronic Interlocking that the execution of the FC-P was not successful.	
		<i>message</i> TVPS FC-P-A failed	0x0011	TVPS	Subsystem - Electronic Interlocking	Message from the Subsystem - Train Detection System to the Subsystem - Electronic Interlocking that the execution of the FC-P-A was not successful.	
		<i>message</i> TDP Status	0x000B	TDP	Subsystem - Electronic Interlocking	Message of the TDP status.	

ID	Type	Requirement	Func. Pkg.												
Eu.SCI-TDS.PDI.72	Head	3.4 Telegram definitions													
Eu.SCI-TDS.PDI.73	Info	In this chapter, specific telegrams for SCI-TDS.PDI are defined. The generic telegrams are defined in [Eu.Doc.93].	Basic TDS AC Basic TDS TDP Basic TDS TC												
Eu.SCI-TDS.PDI.163	Head	3.4.1 Command "FC"													
Eu.SCI-TDS.PDI.164	Info	With this command the Subsystem - Electronic Interlocking forces a TVPS status to clear. This telegram refines the InformationFlow "Cd_FC" specified in the requirements specification (ID Eu.TDS.6803).	Basic TDS AC												
Eu.SCI-TDS.PDI.165	Info	Telegram definition for command "FC" <table><tr><th>Byte-Nr.</th><th>Content</th></tr><tr><td>00</td><td>Protocol Type: 0x20 (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>Mode of FC (1 Byte binary)</td></tr></table>	Byte-Nr.	Content	00	Protocol Type: 0x20 (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	Mode of FC (1 Byte binary)	Basic TDS AC
Byte-Nr.	Content														
00	Protocol Type: 0x20 (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	Mode of FC (1 Byte binary)														
Eu.SCI-TDS.PDI.166	Req	Permitted values for message "FC":	Basic TDS AC												
Eu.SCI-TDS.PDI.167	Req	Message Type The message bytes 1 and 2 shall be set to 0x0001.	Basic TDS AC												
Eu.SCI-TDS.PDI.168	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 TDS AC												
Eu.SCI-TDS.PDI.169	Req	Receiver Identifier The messages bytes 23-42 shall contain the operational identifier of the TVPS according to ID Eu.SCI-XX.PDI.59 in ISO IEC 8859-1:1998 format.	Basic TDS AC												

ID	Type	Requirement	Func. Pkg.										
Eu.SCI-TDS.PDI.170	Req	Mode of FC The message byte 43 shall contain the modes of FC. Permitted values: value meaning ----- -----	Basic TDS AC										
Eu.SCI-TDS.PDI.172	Req	0x01 FC-U	Basic TDS AC										
Eu.SCI-TDS.PDI.173	Req	0x02 FC-C	Basic TDS AC										
Eu.SCI-TDS.PDI.174	Req	0x03 FC-P-A	Option FC-P/-A										
Eu.SCI-TDS.PDI.175	Req	0x04 FC-P	Option FC-P/-A										
Eu.SCI-TDS.PDI.587	Req	0x05 Acknowledgment after FC-P-A command	Option FC-P/-A										
Eu.SCI-TDS.PDI.614	Head	3.4.2 Command "Update Filling Level"											
Eu.SCI-TDS.PDI.615	Info	With this command the Subsystem - Electronic Interlocking requests the TVPS to send the current Filling Level of the given TVPS. This telegram refines the InformationFlow "Cd_Update_Filling_Level" specified in the requirements specification (ID Eu.TDS.6806).	Option Update FL										
Eu.SCI-TDS.PDI.616	Info	Telegram definition for command "Update Filling Level" <table><tr><th>Byte-Nr.</th><th>Content</th></tr><tr><td>00</td><td>Protocol Type: 0x20 (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></table>	Byte-Nr.	Content	00	Protocol Type: 0x20 (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)	Option Update FL
Byte-Nr.	Content												
00	Protocol Type: 0x20 (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)												

ID	Type	Requirement	Func. Pkg.										
Eu.SCI-TDS.PDI.617	Req	Permitted values for message "Update Filling Level"	Option Update FL										
Eu.SCI-TDS.PDI.618	Req	Message Type The message bytes 1 and 2 shall be set to 0x0002.	Option Update FL										
Eu.SCI-TDS.PDI.619	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.	Option Update FL										
Eu.SCI-TDS.PDI.620	Req	Receiver Identifier The message bytes 23-42 shall contain the operational identifier of the TVPS according to ID Eu.SCI-XX.PDI.59 in ISO IEC 8859-1:1998 format.	Option Update FL										
Eu.SCI-TDS.PDI.696	Head	3.4.3 Command "Cancel"											
Eu.SCI-TDS.PDI.697	Info	With this command the Subsystem - Electronic Interlocking forces the TVPS to cancel the execution of FC-P and FC-P-A. This telegram refines the InformationFlow "Cd_Cancel" specified in the requirements specification (ID Eu.TDS.6801).	Option FC-P/-A										
Eu.SCI-TDS.PDI.698	Info	Telegram definition for command "Cancel" <table><tr><th>Byte-Nr.</th><th>Content</th></tr><tr><td>00</td><td>Protocol Type: 0x20 (1 Byte binary)</td></tr><tr><td>01..02</td><td>Message Type: 0x0008 (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></table>	Byte-Nr.	Content	00	Protocol Type: 0x20 (1 Byte binary)	01..02	Message Type: 0x0008 (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)	Option FC-P/-A
Byte-Nr.	Content												
00	Protocol Type: 0x20 (1 Byte binary)												
01..02	Message Type: 0x0008 (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)												
Eu.SCI-TDS.PDI.699	Req	Permitted values for message "Cancel":	Option FC-P/-A										
Eu.SCI-TDS.PDI.700	Req	Message Type The message bytes 1 and 2 shall be set to 0x0008.	Option FC-P/-A										

ID	Type	Requirement	Func. Pkg.										
Eu.SCI-TDS.PDI.701	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.	Option FC-P/-A										
Eu.SCI-TDS.PDI.702	Req	Receiver Identifier The message bytes 23-42 shall contain the operational identifier of the TVPS according to ID Eu.SCI-XX.PDI.59 in ISO IEC 8859-1:1998 format.	Option FC-P/-A										
Eu.SCI-TDS.PDI.181	Head	3.4.4 Command "Disable the restriction to force section status to clear"											
Eu.SCI-TDS.PDI.182	Info	With this command the Subsystem - Electronic Interlocking forces the TVPS to change its status to be able to be forced to clear. This telegram refines the InformationFlow "Cd_DRFC" specified in the requirements specification (ID Eu.TDS.6802).	Basic TDS AC										
Eu.SCI-TDS.PDI.183	Info	Telegram definition for command "DRFC" <table><tr><th>Byte-Nr.</th><th>Content</th></tr><tr><td>00</td><td>Protocol Type: 0x20 (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></table>	Byte-Nr.	Content	00	Protocol Type: 0x20 (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)	Basic TDS AC
Byte-Nr.	Content												
00	Protocol Type: 0x20 (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)												
Eu.SCI-TDS.PDI.184	Req	Permitted values for message "DRFC":	Basic TDS AC										
Eu.SCI-TDS.PDI.185	Req	Message Type The message bytes 1 and 2 shall be set to 0x0003.	Basic TDS AC										
Eu.SCI-TDS.PDI.186	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 TDS AC										
Eu.SCI-TDS.PDI.187	Req	Receiver Identifier The message bytes 23-42 shall contain the operational identifier of the TVPS according to ID Eu.SCI-XX.PDI.59 in ISO IEC 8859-1:1998 format.	Basic TDS AC										
Eu.SCI-TDS.PDI.194	Head	3.4.5 Message "TVPS Occupancy Status"											

ID	Type	Requirement	Func. Pkg.																						
Eu.SCI-TDS.PDI.195	Info	With this telegram the Subsystem - Train Detection System reports the status of a TVPS. This telegram refines the InformationFlow "Msg_TVPS_Occupancy_Status" specified in the requirements specification (ID Eu.TDS.6824).	Basic TDS AC Basic TDS TC																						
Eu.SCI-TDS.PDI.196	Info	<div>Telegram definition for message "TVPS Occupancy Status"</div> <table><tr><th>Byte-Nr.</th><th>Content</th></tr><tr><td>00</td><td>Protocol Type: 0x20 (1 Byte binary)</td></tr><tr><td>01..02</td><td>Message Type: 0x0007 (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>Occupancy Status (1 Byte binary)</td></tr><tr><td>44</td><td>Ability to be forced to clear (1 Byte binary - Boolean)</td></tr><tr><td>45..46</td><td>Filling Level (2 Bytes binary - signed integer)</td></tr><tr><td>47</td><td>POM Status (1 Byte binary)</td></tr><tr><td>48</td><td>Disturbance Status (1 Byte binary)</td></tr><tr><td>49</td><td>Change Trigger (1 Byte binary)</td></tr></table>	Byte-Nr.	Content	00	Protocol Type: 0x20 (1 Byte binary)	01..02	Message Type: 0x0007 (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	Occupancy Status (1 Byte binary)	44	Ability to be forced to clear (1 Byte binary - Boolean)	45..46	Filling Level (2 Bytes binary - signed integer)	47	POM Status (1 Byte binary)	48	Disturbance Status (1 Byte binary)	49	Change Trigger (1 Byte binary)	Basic TDS AC Basic TDS TC
Byte-Nr.	Content																								
00	Protocol Type: 0x20 (1 Byte binary)																								
01..02	Message Type: 0x0007 (2 Bytes binary)																								
03..22	Sender Identifier (20 Bytes ISO IEC 8859-1:1998)																								
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43	Occupancy Status (1 Byte binary)																								
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47	POM Status (1 Byte binary)																								
48	Disturbance Status (1 Byte binary)																								
49	Change Trigger (1 Byte binary)																								
Eu.SCI-TDS.PDI.197	Req	Permitted values for message "TVPS Occupancy Status":	Basic TDS AC Basic TDS TC																						
Eu.SCI-TDS.PDI.198	Req	Message Type The message bytes 1 and 2 shall be set to 0x0007.	Basic TDS AC Basic TDS TC																						
Eu.SCI-TDS.PDI.199	Req	Sender Identifier The message bytes 3-22 shall contain the operational identifier of the TVPS according to ID Eu.SCI-XX.PDI.59 in ISO IEC 8859-1:1998 format.	Basic TDS AC Basic TDS TC																						

ID	Type	Requirement	Func. Pkg.
Eu.SCI-TDS.PDI.200	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 TDS AC Basic TDS TC
Eu.SCI-TDS.PDI.201	Req	Occupancy Status The message byte 43 shall contain the Occupancy Status. Permitted values: <div style="display: flex; justify-content: space-between;"> <div>value -----</div> <div>meaning -----</div> </div>	Basic TDS AC Basic TDS TC
Eu.SCI-TDS.PDI.203	Req	0x01 TVPS is in state vacant	Basic TDS AC Basic TDS TC
Eu.SCI-TDS.PDI.210	Req	0x02 TVPS is in state occupied	Basic TDS AC Basic TDS TC
Eu.SCI-TDS.PDI.211	Req	0x03 TVPS is in state disturbed	Basic TDS AC Basic TDS TC
Eu.SCI-TDS.PDI.212	Req	0x04 TVPS is in state waiting for a sweeping train after FC-P-A or FC-P command	Option FC-P/-A
Eu.SCI-TDS.PDI.588	Req	0x05 TVPS is in state waiting for an acknowledgment after FC-P-A command	Option FC-P/-A
Eu.SCI-TDS.PDI.705	Req	0x06 TVPS is in state sweeping train detected	Option FC-P/-A
Eu.SCI-TDS.PDI.207	Req	Ability to be forced to clear The message byte 44 shall contain the Ability to be forced to clear. Permitted values: <div style="display: flex; justify-content: space-between;"> <div>value -----</div> <div>meaning -----</div> </div>	Basic TDS AC Basic TDS TC

ID	Type	Requirement	Func. Pkg.
Eu.SCI-TDS.PDI.208	Req	0x01 TVPS is not able to be forced to clear	Basic TDS AC Basic TDS TC
Eu.SCI-TDS.PDI.209	Req	0x02 TVPS is able to be forced to clear	Basic TDS AC
Eu.SCI-TDS.PDI.607	Req	Filling Level The message bytes 45-46 shall contain the Filling Level in signed integer. Permitted values: value meaning -----	Basic TDS AC Basic TDS TC
Eu.SCI-TDS.PDI.609	Req	0x0000 Filling Level is 0	Option Update FL
Eu.SCI-TDS.PDI.731	Req	(0x0001...0x3FFF) Filling Level is 1 until 16.383	Option Update FL
Eu.SCI-TDS.PDI.732	Req	(0x7FFF...0x4000) Filling Level is -1 until -16.384	Option Update FL
Eu.SCI-TDS.PDI.611	Req	0xFFFF Filling Level is not applicable	Basic TDS AC Basic TDS TC
Eu.SCI-TDS.PDI.669	Info	The payload 'Filling Level' will be filled with a value only when the message "TVPS Occupancy Status" is transmitted after receiving the command "Update Filling Level" from the Subsystem – Electronic Interlocking. In all other cases, the payload 'Filling Level' will be marked as not applicable.	Option Update FL
Eu.SCI-TDS.PDI.623	Req	POM Status The message byte 47 shall contain the POM Status. Permitted values: value meaning -----	Basic TDS AC Basic TDS TC
Eu.SCI-TDS.PDI.624	Req	0x01 Power supply OK	Basic TDS TC

ID	Type	Requirement	Func. Pkg.
Eu.SCI-TDS.PDI.625	Req	0x02 Power supply NOK	Basic TDS TC
Eu.SCI-TDS.PDI.626	Req	0xFF POM Status is not applicable	Basic TDS AC Basic TDS TC
Eu.SCI-TDS.PDI.692	Req	Disturbance Status The message byte 48 shall contain the Disturbance Status. Permitted values: value meaning ----- -----	Basic TDS AC Basic TDS TC
Eu.SCI-TDS.PDI.693	Req	0x01 Disturbance is operational	Basic TDS AC
Eu.SCI-TDS.PDI.694	Req	0x02 Disturbance is technical	Basic TDS AC Basic TDS TC
Eu.SCI-TDS.PDI.695	Req	0xFF Disturbance status is not applicable	Basic TDS AC Basic TDS TC
Eu.SCI-TDS.PDI.680	Req	Change Trigger The message byte 49 shall contain the Change Trigger. Permitted values: value meaning ----- -----	Basic TDS AC Basic TDS TC
Eu.SCI-TDS.PDI.681	Req	0x01 Passing detected	Basic TDS AC Basic TDS TC
Eu.SCI-TDS.PDI.682	Req	0x02 Command from EIL accepted	Basic TDS AC

ID	Type	Requirement	Func. Pkg.												
Eu.SCI-TDS.PDI.684	Req	0x03 Command from maintainer accepted	Basic TDS AC												
Eu.SCI-TDS.PDI.685	Req	0x04 Technical failure	Basic TDS AC												
Eu.SCI-TDS.PDI.686	Req	0x05 Initial section state	Basic TDS AC												
Eu.SCI-TDS.PDI.707	Req	0x06 Internal trigger	Basic TDS AC												
Eu.SCI-TDS.PDI.683	Req	0xFF Change Trigger is not applicable	Basic TDS AC Basic TDS TC												
Eu.SCI-TDS.PDI.230	Head	3.4.6 Message "Command Rejected"													
Eu.SCI-TDS.PDI.231	Info	With this telegram the Subsystem - Train Detection System reports, that the previously sent command was rejected. This telegram refines the InformationFlow "Msg_Command_Rejected" specified in the requirements specification (ID Eu.TDS.6817).	Basic TDS AC												
Eu.SCI-TDS.PDI.232	Info	Telegram definition for message "Command Rejected" <table><tr><th>Byte-Nr.</th><th>Content</th></tr><tr><td>00</td><td>Protocol Type: 0x20 (1 Byte binary)</td></tr><tr><td>01..02</td><td>Message Type: 0x0006 (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>Reason for Rejection (1 Byte binary)</td></tr></table>	Byte-Nr.	Content	00	Protocol Type: 0x20 (1 Byte binary)	01..02	Message Type: 0x0006 (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	Reason for Rejection (1 Byte binary)	Basic TDS AC
Byte-Nr.	Content														
00	Protocol Type: 0x20 (1 Byte binary)														
01..02	Message Type: 0x0006 (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	Reason for Rejection (1 Byte binary)														
Eu.SCI-TDS.PDI.233	Req	Permitted values for message "Command Rejected":	Basic TDS AC												
Eu.SCI-TDS.PDI.234	Req	Message Type The message bytes 1 and 2 shall be set to 0x0006.	Basic TDS AC												

ID	Type	Requirement	Func. Pkg.												
Eu.SCI-TDS.PDI.235	Req	Sender Identifier The message bytes 3-22 shall contain the operational identifier of the TVPS according to ID Eu.SCI-XX.PDI.59 in ISO IEC 8859-1:1998 format.	Basic TDS AC												
Eu.SCI-TDS.PDI.236	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 TDS AC												
Eu.SCI-TDS.PDI.237	Req	Reason for Rejection The message byte 43 shall contain the Reason for Rejection. Permitted values: value meaning ----- -----	Basic TDS AC												
Eu.SCI-TDS.PDI.239	Req	0x01 operational rejected	Basic TDS AC												
Eu.SCI-TDS.PDI.240	Req	0x02 technical rejected	Basic TDS AC												
Eu.SCI-TDS.PDI.246	Head	3.4.7 Message "TVPS FC-P failed"													
Eu.SCI-TDS.PDI.247	Info	With this telegram the Subsystem - Train Detection System reports, that the execution of the FC-P has failed. This telegram refines the InformationFlow "Msg_FC_P_Failed" specified in the requirements specification (ID Eu.TDS.6823).	Option FC-P/-A												
Eu.SCI-TDS.PDI.248	Info	Telegram definition for message "TVPS FC-P failed" <table><tr><th>Byte-Nr.</th><th>Content</th></tr><tr><td>00</td><td>Protocol Type: 0x20 (1 Byte binary)</td></tr><tr><td>01..02</td><td>Message Type: 0x0010 (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>Reason for failure (1 Byte binary)</td></tr></table>	Byte-Nr.	Content	00	Protocol Type: 0x20 (1 Byte binary)	01..02	Message Type: 0x0010 (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	Reason for failure (1 Byte binary)	Option FC-P/-A
Byte-Nr.	Content														
00	Protocol Type: 0x20 (1 Byte binary)														
01..02	Message Type: 0x0010 (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	Reason for failure (1 Byte binary)														
Eu.SCI-TDS.PDI.249	Req	Permitted values for message "TVPS FC-P failed":	Option FC-P/-A												

ID	Type	Requirement	Func. Pkg.
Eu.SCI-TDS.PDI.250	Req	Message Type The message bytes 1 and 2 shall be set to 0x0010.	Option FC-P/-A
Eu.SCI-TDS.PDI.251	Req	Sender Identifier The message bytes 3-22 shall contain the operational identifier of the TVPS according to ID Eu.SCI-XX.PDI.59 in ISO IEC 8859-1:1998 format.	Option FC-P/-A
Eu.SCI-TDS.PDI.252	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.	Option FC-P/-A
Eu.SCI-TDS.PDI.573	Req	Reason for failure The message byte 43 shall contain the Reason for Rejection. Permitted values: <div> <div>value</div> <div>meaning</div> <div>-----</div> <div>-----</div> </div>	Option FC-P/-A
Eu.SCI-TDS.PDI.575	Req	0x01 incorrect count of the sweeping train	Option FC-P/-A
Eu.SCI-TDS.PDI.576	Req	0x02 Expiration of time value "Con_tmax_Response_Time_FC_P"	Option FC-P/-A
Eu.SCI-TDS.PDI.577	Req	0x03 Bounding detection point is configured as not permitted for FC-P	Option FC-P/-A
Eu.SCI-TDS.PDI.687	Info	0x04 Intentionally deleted	Option FC-P/-A
Eu.SCI-TDS.PDI.688	Req	0x05 Outgoing axle detected before expiration of minimum time	Option FC-P/-A
Eu.SCI-TDS.PDI.689	Req	0x06 Process cancelled	Option FC-P/-A
Eu.SCI-TDS.PDI.253	Head	3.4.8 Message "TVPS FC-P-A failed"	
Eu.SCI-TDS.PDI.254	Info	With this telegram the Subsystem - Train Detection System reports, that the execution of the FC-P-A has failed. This telegram refines the InformationFlow "Msg_FC_P_A_Failed" specified in the requirements specification (ID Eu.TDS.6822).	Option FC-P/-A

ID	Type	Requirement	Func. Pkg.												
Eu.SCI-TDS.PDI.255	Info	<div>Telegram definition for message "TVPS FC-P-A failed"</div> <table><tr><th>Byte-Nr.</th><th>Content</th></tr><tr><td>00</td><td>Protocol Type: 0x20 (1 Byte binary)</td></tr><tr><td>01..02</td><td>Message Type: 0x0011 (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>Reason for failure (1 Byte binary)</td></tr></table>	Byte-Nr.	Content	00	Protocol Type: 0x20 (1 Byte binary)	01..02	Message Type: 0x0011 (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	Reason for failure (1 Byte binary)	Option FC-P/-A
Byte-Nr.	Content														
00	Protocol Type: 0x20 (1 Byte binary)														
01..02	Message Type: 0x0011 (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	Reason for failure (1 Byte binary)														
Eu.SCI-TDS.PDI.256	Req	Permitted values for message "TVPS FC-P-A failed":	Option FC-P/-A												
Eu.SCI-TDS.PDI.257	Req	Message Type The message bytes 1 and 2 shall be set to 0x0011.	Option FC-P/-A												
Eu.SCI-TDS.PDI.258	Req	Sender Identifier The message bytes 3-22 shall contain the operational identifier of the TVPS according to ID Eu.SCI-XX.PDI.59 in ISO IEC 8859-1:1998 format.	Option FC-P/-A												
Eu.SCI-TDS.PDI.259	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.	Option FC-P/-A												
Eu.SCI-TDS.PDI.578	Req	Reason for failure The message byte 43 shall contain the Reason for Rejection. Permitted values: <table><tr><td>value</td><td>meaning</td></tr><tr><td>-----</td><td>-----</td></tr></table>	value	meaning	-----	-----	Option FC-P/-A								
value	meaning														
-----	-----														
Eu.SCI-TDS.PDI.580	Req	0x01 incorrect count of the sweeping train	Option FC-P/-A												
Eu.SCI-TDS.PDI.581	Req	0x02 Expiration of time "Con_tmax_Response_Time_FC_P_A"	Option FC-P/-A												
Eu.SCI-TDS.PDI.582	Req	0x03 Bounding detection point is configured as not permitted for FC-P-A	Option FC-P/-A												

ID	Type	Requirement	Func. Pkg.														
Eu.SCI-TDS.PDI.583	Info	0x04 Intentionally deleted	Option FC-P/-A														
Eu.SCI-TDS.PDI.690	Req	0x05 Outgoing axle detected before expiration of minimum time	Option FC-P/-A														
Eu.SCI-TDS.PDI.691	Req	0x06 Process cancelled	Option FC-P/-A														
Eu.SCI-TDS.PDI.645	Head	3.4.9 Message "TDP Status"															
Eu.SCI-TDS.PDI.646	Info	With this telegram the Subsystem - Train Detection System reports, reports the current status of the TDP. This telegram refines the InformationFlow "Msg_TDP_Status" specified in the requirements specification (ID Eu.TDS.6832).	Basic TDS TDP														
Eu.SCI-TDS.PDI.647	Info	Telegram definition for message "TDP Status" <table><tr><th>Byte-Nr.</th><th>Content</th></tr><tr><td>00</td><td>Protocol Type: 0x20 (1 Byte binary)</td></tr><tr><td>01..02</td><td>Message Type: 0x000B (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>State of passing (1 Byte binary)</td></tr><tr><td>44</td><td>Direction of passing (1 Bytes binary)</td></tr></table>	Byte-Nr.	Content	00	Protocol Type: 0x20 (1 Byte binary)	01..02	Message Type: 0x000B (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	State of passing (1 Byte binary)	44	Direction of passing (1 Bytes binary)	Basic TDS TDP
Byte-Nr.	Content																
00	Protocol Type: 0x20 (1 Byte binary)																
01..02	Message Type: 0x000B (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	State of passing (1 Byte binary)																
44	Direction of passing (1 Bytes binary)																
Eu.SCI-TDS.PDI.648	Req	Message Type The message bytes 1 and 2 shall be set to 0x000B.	Basic TDS TDP														
Eu.SCI-TDS.PDI.649	Req	Sender Identifier The message bytes 3-22 shall contain the operational identifier of the TDP according to ID Eu.SCI-XX.PDI.59 in ISO IEC 8859-1:1998 format.	Basic TDS TDP														
Eu.SCI-TDS.PDI.650	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 TDS TDP														

ID	Type	Requirement	Func. Pkg.
Eu.SCI-TDS.PDI.651	Req	State of passing The message byte 43 shall contain the State of passing. Permitted values: <div> <div>value</div> <div>meaning</div> <div>-----</div> <div>-----</div> </div>	Basic TDS TDP
Eu.SCI-TDS.PDI.652	Req	0x01 not passed	Basic TDS TDP
Eu.SCI-TDS.PDI.654	Req	0x02 passed	Basic TDS TDP
Eu.SCI-TDS.PDI.655	Req	0x03 disturbed	Basic TDS TDP
Eu.SCI-TDS.PDI.656	Req	Direction of passing The message byte 44 shall contain the Direction of passing. Permitted values: <div> <div>value</div> <div>meaning</div> <div>-----</div> <div>-----</div> </div>	Basic TDS TDP
Eu.SCI-TDS.PDI.657	Req	0x01 reference direction	Basic TDS TDP
Eu.SCI-TDS.PDI.658	Req	0x02 against reference direction	Basic TDS TDP
Eu.SCI-TDS.PDI.659	Req	0x03 without indicated direction	Basic TDS TDP