EULYNX

EULYNX Initiative

Europe's Rail Joint Undertaking

Interface specification SDI-LC

Document number: Eu.Doc.110
Version: 3.0 (0.A)

Contents

1 Introduction **1**

1.1 Release information 1

1.2 Impressum 1

1.3 Purpose 1

1.4 Applicable standards and regulations 1

1.5 Applicable documents 1

1.6 Appendices 1

1.7 Terms and abbreviations 2

1.8 Variability management 2

1.9 Definition of object types 2

2 Telegram SDI **2**

2.1 Definition of columns 2

2.2 Telegrams SDI-LC 2

ID	Type	Requirement	Meaning	Model Type	Data Type	Event/Timepoint	Attribute Type	Optionality	Func. Pkg.
Eu.SDI-LC.1	Head	**1 Introduction**							
Eu.SDI-LC.2	Head	**1.1 Release information**							
Eu.SDI-LC.3	Info	[Eu.Doc.110] Interface specification SDI-LC CENELEC Phase: 5 Version: 3.0 (0.A) Approval date: 15.06.2023							
Eu.SDI-LC.4	Info	**Version history**							
Eu.SDI-LC.195	Info	version number: 2.0 (0.A) date: 16.05.2022 author: Philipp Wolber review: CCB changes: -							
Eu.SDI-LC.196	Info	version number: 2.1 (0.A) date: 08.06.2023 author: SDI task force review: changes: EULX-534, EULX-550, EULX-559							
Eu.SDI-LC.206	Info	version number: 3.0 (0.A) date: 27.06.2023 author: SDI task force review: TACS Mirror Group changes: EULX-560, EULX-563, EULX-564							
Eu.SDI-LC.6	Head	**1.2 Impressum**							
Eu.SDI-LC.7	Info	Publishers: **Europe's Rail Joint Undertaking** https://rail-research.europa.eu **EULYNX Initiative** A full list of the **EULYNX Partners** can be found on www.eulynx.eu/index.php/members							
Eu.SDI-LC.8	Info	Responsible for this document: EU-Rail System Pillar Trackside Assets Control and Supervision domain							
Eu.SDI-LC.9	Info	Copyright EULYNX Partners All information included or disclosed in this document is licensed under the European Union Public Licence EUPL, Version 1.2 or later.							
Eu.SDI-LC.10	Head	**1.3 Purpose**							
Eu.SDI-LC.11	Info	This document specifies the diagnostic messages (data point IDs and values) as parts of the data point contents of the standardised diagnosis interface for a communication between the Subsystem - Maintenance and Data Management and Subsystem - Level Crossing (SDI-LC).							
Eu.SDI-LC.12	Info	This document contains the Subsystem - Level Crossing (SDI-LC) specific diagnostic messages. The specifications defined in this document shall be complemented by the generic specification defined in Interface specification SDI Generic [Eu.Doc.94].							
Eu.SDI-LC.13	Info	Some items, referring to "interface-related" functionality of the communication partners, have been added to this specification as information, providing an overview only. In any case these are subject to appropriate systems (national) specification.							
Eu.SDI-LC.14	Info	This document is intended for the following users: • safety authorities • infrastructure managers • safety assessors • signalling system suppliers • validators							
Eu.SDI-LC.197	Info	This document is applicable for both the EU-Rail System Pillar target architecture and the EULYNX architecture. The document is delivered as a single specification fitting both the System Pillar documentation sets and the EULYNX documentation sets. EU-Rail System Pillar is the technical authority for this document.							
Eu.SDI-LC.15	Head	**1.4 Applicable standards and regulations**							
Eu.SDI-LC.16	Info	The applicable standards and regulations used in EULYNX are listed in the EULYNX Reference Document List [Eu.Doc.12].							
Eu.SDI-LC.17	Info	The references listed in the EULYNX Reference Document List [Eu.Doc.12] shall be considered where they are indicated as being applicable to SDI in the “Applies to” column of the EULYNX Reference Document List [Eu.Doc.12].							
Eu.SDI-LC.18	Head	**1.5 Applicable documents**							
Eu.SDI-LC.19	Info	The current versions of documents used as input or related to this document are listed in the EULYNX Documentation Plan [Eu.Doc.11]. The relationships between the documents are displayed in the Appendix A1 Documentation plan and structure [Eu.Doc.11_A1].							
Eu.SDI-LC.20	Head	**1.6 Appendices**							

ID	Type	Requirement	Meaning	Model Type	Data Type	Event/Timepoint	Attribute Type	Optionality	Func. Pkg.
Eu.SDI-LC.21	Info	*- intentionally left blank -*							
Eu.SDI-LC.22	Head	**1.7 Terms and abbreviations**							
Eu.SDI-LC.23	Info	The terms and abbreviations are listed in the EULYNX Glossary [Eu.Doc.9].							
Eu.SDI-LC.24	Head	**1.8 Variability management**							
Eu.SDI-LC.25	Info	This document describes harmonised requirements. Variability management is not applicable.							
Eu.SDI-LC.26	Head	**1.9 Definition of object types**							
Eu.SDI-LC.27	Info	The following definition for object types is applied in this document:							
Eu.SDI-LC.28	Info	• "Req" - This denotes a mandatory requirement.							
Eu.SDI-LC.29	Info	• "Info" - This denotes additional information to help understand the specification. These objects do not specify any additional requirements.							
Eu.SDI-LC.30	Info	• "Head" - This denotes chapter headings.							
Eu.SDI-LC.31	Head	**2 Telegram SDI**							
Eu.SDI-LC.194	Req	All references to Eu.Doc.94 refer to Interface specification SDI Generic version 4.0 (0.A).							Basic LC
Eu.SDI-LC.32	Info	This chapter defines the diagnostic messages - specifically the data points and values applied in the SDI-LC telegrams. The generic data points are defined in Eu.Doc.94.							Basic LC
Eu.SDI-LC.190	Info	The defined diagnostic messages are mandatory only when the physical interfaces related to the specific diagnostic message are available on the Subsystem – Level Crossing.							Basic LC
Eu.SDI-LC.198	Head	**2.1 Definition of columns**							
Eu.SDI-LC.199	Info	**Model Type:** Column that marks whether an entry is a model class (Class), a diagnostic data point (Attribute), an enumeration header (ValueType (Enumeration)) or an enumeration value (Enumeration Literal).							Basic LC
Eu.SDI-LC.200	Info	**Data Type:** Column that indicates the data type for the diagnostic data points. Enumeration values are defined in the section 'Enumeration'.							Basic LC
Eu.SDI-LC.201	Info	**Event/Timepoint:** Column that indicates the trigger events to send a diagnostic data point.							Basic LC
Eu.SDI-LC.202	Info	**Attribute Type:** Column that indicates the type of diagnostic information contained in the data point. **raw data**: uninterpreted data that is measured. **diagnosis**: an attribute with discrete values (enumeration or boolean) that interprets the status of a system. There must be a table that directly links diagnostic enumeration values to statusTechnical values of that system. **configuration**: data that is not measured but often set by the manufacturer or operator; it describes characteristics of the system.							Basic LC
Eu.SDI-LC.203	Info	**Optionality :** Column that indicates whether a diagnostic data point in mandatory inside the model class (1), or optional (0..1). The diagnostic data of optional attributes may be required by national specifications. If an equipment or subsystem has the capability to collect and report the related diagnostic data, it must be reported in this data point. Note: In future phases of the System Pillar, national specifications will be replaced by harmonised specifications.							Basic LC
Eu.SDI-LC.204	Head	**2.2 Telegrams SDI-LC**							
Eu.SDI-LC.205	Info	To be developed in a later release.							Basic LC