Space engineering - Adoption Notice of CCSDS 232.0-B-3, TC Space Data Link Protocol

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 16603-50-25:2022 sisaldab Euroopa standardi EN 16603-50-25:2022 ingliskeelset teksti.	This Estonian standard EVS-EN 16603-50-25:2022 consists of the English text of the European standard EN 16603-50-25:2022.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 06.07.2022.	Date of Availability of the European standard is 06.07.2022.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 49.140

EUROPEAN STANDARD

NORME EUROPÉENNE

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English version

Space engineering - Adoption Notice of CCSDS 232.0-B-3, TC Space Data Link Protocol

Ingénierie spatiale - Notice d'adoption de la CCSDS 232.0-B-3, TC Space Data Link Protocol

Raumfahrttechnik - Adaption CCSDS 232.0-B-3, Telekommando-Weltraum-Datenübertragungsprotokoll

This European Standard was approved by CEN on 13 March 2022.

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European Foreword

This document (EN 16603-50-25:2022) has been prepared by Technical Committee CEN-CENELEC/TC 5 “Space”, the secretariat of which is held by DIN.

This standard (EN 16603-50-25:2022) originates from ECSS-E-AS-50-25C.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by January 2023, and conflicting national standards shall be withdrawn at the latest by January 2023.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

EN 16603-50-24, EN 16603-50-25 and EN 16603-50-26 together supersede EN16603-50-04:2014.

The main changes with respect to EN16603-50-04:2014 are listed below:

- Replacement of document by three Adoption Notices.

This document has been prepared under a standardization request given to CEN by the European Commission and the European Free Trade Association.

This document has been developed to cover specifically space systems and has therefore precedence over any EN covering the same scope but with a wider domain of applicability (e.g. : aerospace).

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1
Scope

This document identifies the clauses and requirements modified with respect to the standard CCSDS 232.0-B-3, *TC Space Data Link Protocol*, Issue 3, September 2015 for application in ECSS.

2
Context information

In the standard CCSDS 232.0-B-3, *TC Space Data Link Protocol*, CCSDS specifies a data link layer protocol for the efficient transfer of space application data of various types and characteristics over ground-to-space links. The Communications Operation Procedure-1 (COP-1) specified in CCSDS 232.1-B-2 is used with the TC Space Data Link Protocol: it provides a mechanism for delivery of frames in sequence and without gaps or duplication.

This Adoption Notice adopts and applies CCSDS 232.0-B-3 with a minimum set of modifications, identified in the present document, to allow for reference and for a consistent integration in the ECSS system of standards.

The TC Transfer Frame specified in CCSDS 232.0-B-3 is similar to the TC Transfer Frame specified in clauses 5 (Segmentation sublayer) and 6 (Transfer sublayer) in the EN 16603-50-04:2014 (ECSS-E-ST-50-04) *Space data links – Telecommand protocols synchronization and channel coding*.

EN 16603-50-04:2014 (ECSS-E-ST-50-04) is superseded by the following three Adoption Notices: EN 16603-50-24 (ECSS-E-ST-50-24), EN 16603-50-25 (ECSS-E-AS-50-25) and EN 16603-50-26 (ECSS-E-AS-50-26).

Differences between these two standards that are not covered by the normative modifications in clause 4 are described in the informative Annex A.

Overview of superseded EN 16603-50-xx Standards

Superseded EN	**New EN**	**Based on CCSDS**
EN 16603-50-01:2014	EN 16603-50-21	CCSDS 131.0-B-3 (Sept. 2017)
EN 16603-50-03:2014	EN 16603-50-22	CCSDS 132.0-B-2 (Sept. 2015)
	EN 16603-50-23	CCSDS 732.0-B-3 (Sept. 2015)
EN 16603-50-04:2014	EN 16603-50-24	CCSDS 231.0-B-3 (Sept. 2017)
	EN 16603-50-25	CCSDS 232.0-B-3 (Sept. 2015)
	EN 16603-50-26	CCSDS 232.1-B-2 (Sept. 2010)

3 Abbreviated terms

Abbreviation	Meaning
COP	Communications Operation Procedure
FARM	Frame Acceptance and Reporting Mechanism
FDU	Frame Data Unit
GVCID	Global Virtual Channel Identifier
SDLS	Space Data Link Security