SLOVENSKI STANDARD
oSIST prEN 16603-50-26:2021

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Vesoljska tehnika - Sprejem obvestila CCSDS 232.1-B-2, postopek delovanja komunikacij-1, številka 2, september 2010

Space engineering - Adoption Notice of CCSDS 232.1-B-2, Communications Operation Procedure-1, Issue 2, September 2010

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Ta slovenski standard je istoveten z: **prEN 16603-50-26**

ICS:

49.140	Vesoljski sistemi in operacije	Space systems and operations

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EUROPEAN STANDARD

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Space engineering - Adoption Notice of CCSDS 232.1-B-2, Communications Operation Procedure-1, Issue 2, September 2010

Raumfahrttechnik - Adoption Notice von CCSDS 232.1-B-2, Kommunikationsbetriebsverfahren 1, Ausgabe 2, September 2010

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/CLC/JTC 5.

If this draft becomes a European Standard, CEN and CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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European Foreword

This document (prEN 16603-50-26:2021) has been prepared by Technical Committee CEN/CLC/TC 5 "Space", the secretariat of which is held by DIN (Germany).

This document (prEN 16603-50-26:2021) originates from ECSS-E-AS-50-26C-DIR1.

This document is currently submitted to the ENQUIRY.

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

The main changes with respect to EN 16603-50-04:2014 are listed below:

- Replacement of document by three Adoption Notices.

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

prEN 16603-50-26:2021 (E)

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1
Scope

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This document identifies the clauses and requirements modified with respect to the standards CCSDS 232.1-B-2, *Communications Operation Procedure-1*, Issue 2, September 2010 for application in ECSS.

> NOTE The recently published technical corrigendum has modified CCSDS 232.1-B-2. However, the changes are not affecting the AS.

2
Context information

The standard CCSDS 232.1-B-2, *Communications Operation Procedure-1*, Issue 2, has been developed by CCSDS in support of CCSDS 231.0-B adopted by ECSS with EN 16603-50-26 (ECSS-E-AS-50-26).

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 232.1-B-2 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 COP-1 protocol of CCSDS 232.1-B-2 was specified in clause 7 (COP-1) of 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 this Adoption Note and EN 16603-50-04:2014 (ECSS-E-ST-50-04) 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 (August 2016)
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)

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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

4
Application requirements

a.   CCSDS 232.1-B-2, Communications Operation Procedure-1, Issue 2, September 2010 shall apply with the following modifications listed in Table 4-1.

Table 4-1: Applicability table for CCSDS 232.1-B-2

Clause or requirement number	Applicability	Applicable text (the new/added text is underlined)	Comments	Text as in the original document (deleted text with strikethrough)
3rd and 4th paragraphs of 3.3.2	Modified	When a Type-BD Transfer Frame is accepted by FARM-1, the FDU contained in the Transfer Frame shall be placed in a buffer for delivery to the Higher Procedures even if there is no buffer available, in which case the data in the buffer is erased. When a new FDU is accepted, FARM-1 shall send the following signal to the Higher Procedures to indicate the arrival of the new FDU: FDU Arrived Indication (GVCID, FDU aborted indication).	Requirements in 1st and 2nd paragraphs of 3.3.2 are not shown here and are unchanged. CCSDS requirement modified: words "will be erased and an optional 'Aborted Indication' signal may be sent to the Higher Procedures" deleted and replaced by words "is erased". Words "FDU aborted indication" added.	When a Type-BD Transfer Frame is accepted by FARM-1, the FDU contained in the Transfer Frame shall be placed in a buffer for delivery to the Higher Procedures even if there is no buffer available, in which case the data in the buffer will be erased and an optional 'Aborted Indication' signal may be sent to the Higher Procedures. When a new FDU is accepted, FARM-1 shall send the following signal to the Higher Procedures to indicate the arrival of the new FDU: FDU Arrived Indication (GVCID).
new paragraph following 4th paragraph of 3.3.2	New requirement	The FDU aborted indication shall be used as follows: - the indication is set when a Type-BD Transfer Frame is accepted by FARM-1 and there is no buffer available; - the indication is otherwise not set.	New requirement added	