ICS 49.140 SLOVENSKÁ TECHNICKÁ NORMA Február 2016

STN	**Kozmická technika. Požiadavky na systémy riadenia orientácie a dráhy (AOCS) satelitov.**	**STN EN 16603-60-30** 31 0543

Space engineering - Satellite AOCS requirements

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 01/16

Obsahuje: EN 16603-60-30:2015

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 16603-60-30

September 2015

ICS 49.140

English version

Space engineering - Satellite AOCS requirements

Ingénierie spatiale - Exigences pour le système de contrôle d'attitude et d'orbite d'un satellite

Raumfahrttechnik - Anforderungen an Satelliten-AOCS

This European Standard was approved by CEN on 16 November 2014.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN and CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN and CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN and CENELEC members are the national standards bodies and national electrotechnical committees of 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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

CEN-CENELEC Management Centre:
Avenue Marnix 17, B-1000 Brussels

Ref. No. EN 16603-60-30:2015 E

Table of contents

Tables

European foreword

This document (EN 16603-60-30:2015) has been prepared by Technical Committee CEN/CLC/TC 5 “Space”, the secretariat of which is held by DIN.

This standard (EN 16603-60-30:2015) originates from ECSS-E-ST-60-30C.

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 March 2016, and conflicting national standards shall be withdrawn at the latest by March 2016.

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

This document has been prepared under a mandate 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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

The Attitude and Orbit Control System (AOCS) requirements for the development of space programmes are typically part of the Project Requirements Document. The level of completeness and the level of detail vary very much from project to project.

This Standard provides a baseline for the AOCS requirements which are used in the specification and the validation process.

The Standard is intended to be used for each programme as an input for writing the Project Requirements Document. It includes all subjects related to AOCS:

- Functional and FDIR requirements
- Operational requirements
- Performance requirements
- Verification requirements
- Documentation requirements

1 Scope

This Standard specifies a baseline for the attitude and orbit control system requirements to be used in the Project Requirements Document for space applications.

Project requirements documents are included in business agreements, which are agreed between the parties and binding them, at any level of space programmes, as described in ECSS-S-ST-00.

This Standard deals with the attitude and orbit control systems developed as part of a satellite space project. The classical attitude and orbit control systems considered here include the following functions:

- Attitude estimation
- Attitude guidance
- Attitude control
- Orbit control
- Orbit estimation, called Navigation in this document, can be part of the function for missions which explicitly require this function
- Acquisition and maintenance of a safe attitude in emergency cases and return to nominal mission upon command

The present Standard does not cover missions that include the following functions:

- Real-time on-board trajectory guidance and control
- Real-time on-board relative position estimation and control

Example of such missions are rendezvous, formation flying, launch vehicles and interplanetary vehicles.

Although the present document does not cover the above mentioned types of mission, it can be used as a reference document for them.

This standard may be tailored for the specific characteristic and constraints of a space project in conformance with ECSS-S-ST-00.

2
Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this ECSS Standard. For dated references, subsequent amendments to, or revision of, any of these publications do not apply. However, parties to agreements based on this ECSS Standard are encouraged to investigate the possibility of applying the more recent editions of the normative documents indicated below. For undated references, the latest edition of the publication referred to applies.

EN reference	Reference in text	Title
EN 16601-00-01	ECSS-S-ST-00-01	ECSS system - Glossary of terms
EN 16603-10	ECSS-E-ST-10	Space engineering - System engineering general requirements
EN 16603-10-03	ECSS-E-ST-10-03	Space engineering - Testing
EN 16603-60-10	ECSS-E-ST-60-10	Space engineering - Control performances
EN 16603-70-11	ECSS-E-ST-70-11	Space engineering - Space segment operability