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BS EN 16603-50-14:2014

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Space engineering — Spacecraft discrete interfaces

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Foreword

This document (EN 16603-50-14:2014) has been prepared by Technical Committee CEN/CLC/TC 5 “Space”, the secretariat of which is held by DIN.

This standard (EN 16603-50-14:2014) originates from ECSS-E-ST-50-14C.

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of an identical text or by endorsement, at the latest by March 2015, and conflicting national standards shall be withdrawn at the latest by March 2015.

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).

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1 Scope

This standard specifies a common set of spacecraft onboard electrical interfaces for sensor acquisition and actuator control. The interfaces specified in this standard are the traditional point-to-point interfaces that are commonly used on modern spacecraft.

The interfaces specified in this standard include analogue and discrete digital interfaces used for status measurement and control, as well as point-to-point serial digital interfaces used for digital data acquisition and commanding of devices.

This standard specifies:

- interface signal identification;
- interface signal waveforms;
- signal timing requirements;
- signal modulation;
- voltage levels;
- input and output impedance;
- overvoltage protection requirements;
- bit ordering in digital data words;
- cabling requirements where appropriate.

This standard does not cover:

- connector requirements;
- digital data word semantics;
- message or block formats and semantics.

Connector requirements are not covered because these are normally mission or project specific. The goal of this standard is to establish a single set of definitions for these interfaces and to promote generic implementations that can be re-used throughout different missions.

When referred, the present standard is applicable as a complement of the already existing interface standards ANSI/TIA/EIA-422B-1994 and ITU-T Recommendation V.11 (Previously “CCITT Recommendation”) – (03/93).

Guidance for tailoring of the present standard can be found in Annex A.

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