SLOVENSKI STANDARD
SIST EN IEC 62239-1:2019

01-februar-2019

Upravljanje procesov v avioniki - Načrt upravljanja - 1. del: Priprava in vzdrževanje načrta upravljanja elektronskih komponent

Process management for avionics - Management plan - Part 1: Preparation and maintenance of an electronic components management plan

Luftfahrtelektronik-Prozessmanagement -Managementplan - Teil 1: Erstellung und Überarbeitung eines Managementplanes für elektronische Bauelemente

Gestion des processus pour l'avionique - Plan de gestion - Partie 1: Préparation et maintenance d'un plan de gestion des composants électroniques

Ta slovenski standard je istoveten z: **EN IEC 62239-1:2018**

ICS:

03.100.50	Proizvodnja. Vodenje proizvodnje	Production. Production management
31.020	Elektronske komponente na splošno	Electronic components in general
49.060	Letalska in vesoljska električna oprema in sistemi	Aerospace electric equipment and systems

SIST EN IEC 62239-1:2019 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 62239-1

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English Version

Process management for avionics - Management plan - Part 1: Preparation and maintenance of an electronic components management plan (IEC 62239-1:2018)

Gestion des processus pour l'avionique - Plan de gestion - Partie 1: Préparation et maintenance d'un plan de gestion des composants électroniques (IEC 62239-1:2018)

Luftfahrtelektronik-Prozessmanagement - Managementplan - Teil 1: Erarbeitung und Instandhaltung eines Managementplanes für elektronische Bauelemente (IEC 62239-1:2018)

This European Standard was approved by CENELEC on 2018-10-29. 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 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 CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 107/320/CDV, future edition 1 of IEC 62239-1, prepared by IEC/TC 107 "Process management for avionics" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62239-1:2018.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2019-07-29
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2021-10-29

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

Endorsement notice

The text of the International Standard IEC 62239-1:2018 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 60068-2-58	NOTE	Harmonized as EN 60068-2-58
IEC 60695-11-5	NOTE	Harmonized as EN 60695-11-5
IEC 61193-2	NOTE	Harmonized as EN 61193-2
IEC 61340-5-1	NOTE	Harmonized as EN 61340-5-1
IEC/TR 61340-5-2	NOTE	Harmonized as CLC/TR 61340-5-2
IEC 61760-4	NOTE	Harmonized as EN 61760-4
IEC 61967 (series)	NOTE	Harmonized as EN 61967 (series)
IEC 61967-1	NOTE	Harmonized as EN 61967-1
IEC 62435-1	NOTE	Harmonized as EN 62435-1
IEC 62132 (series)	NOTE	Harmonized as EN 62132 (series)
IEC 62402	NOTE	Harmonized as EN 62402
IEC 62435-1	NOTE	Harmonized as EN 62435-1
ISO 9000	NOTE	Harmonized as EN ISO 9000
ISO 9001	NOTE	Harmonized as EN ISO 9001
ISO 9004	NOTE	Harmonized as EN ISO 9004

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 62396	series	Process management for avionics - Atmospheric radiation effects	-	-
IEC 62396-1	2016	Process management for avionics - Atmospheric radiation effects - Part 1: Accommodation of atmospheric radiation effects via single event effects within avionics electronic equipment	-	-
IEC/TS 62647-1	-	Process management for avionics - Aerospace and defence electronic systems containing lead-free solder - Part 1: Preparation for a lead-free control plan	-	-
GEIA-STD-0005-1	-	Performance Standard for Aerospace and High Performance Electronic Systems Containing Lead-Free Solder	-	-
IPC/JEDEC J-STD-20	-	Moisture/Reflow Sensitivity Classification for Nonhermetic Solid State Surface Mount Devices	-	-

IEC 62239-1

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Process management for avionics – Management plan – Part 1: Preparation and maintenance of an electronic components management plan

Gestion des processus pour l'avionique – Plan de gestion – Partie 1: Préparation et maintenance d'un plan de gestion des composants électroniques

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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PROCESS MANAGEMENT FOR AVIONICS – MANAGEMENT PLAN –

Part 1: Preparation and maintenance of an electronic components management plan

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 62239-1 has been prepared by IEC technical committee 107: Process management for avionics.

IEC 62239-1 cancels and replaces IEC TS 62239-1 published in 2015.

This first edition cancels and replaces the first edition of IEC TS 62239-1 published in2015. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) added references to SAE EIA-STD-4899, IECQ OD 3702, IECQ OD 3407-1, IEC TR 62240-2, IECQ component schemes, SAE AS6081, SAE AS6171. GEIA-STD-0005-1 GEIA STD 0008;

b) replaced Annex C (which was transferred into IEC TR 62240-2) with a cross-reference table to SAE EIASTD4899 rev C clauses/subclauses for guidance purposes only;

c) added the analysis of component technical erratum in 4.8.2;

d) updated Bibliography and reference documents.

The text of this international standard is based on the following documents:

CDV	Report on voting
107/320/CDV	107/333/RVC

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all the parts in the IEC 62239 series under the general title *Process management for avionics – Management plan,* can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

This document provides the structure for avionics equipment manufacturers, subcontractors, maintenance facilities, and other aerospace component users to develop their own electronic component management plan (ECMP), hereinafter also referred to as ‘plan’. This document states objectives to be accomplished. The plan does not describe specific requirements and those who prepare plans in compliance with this document will document processes that are the most effective and efficient for them in accomplishing the objectives of this document. In order to allow flexibility in implementing and updating the documented processes, plan owners are encouraged to refer to their own internal process documents instead of including detailed process documentation within their plans.

NOTE The equipment manufacturer, often called in the industry the original equipment manufacturer (OEM) is in general considered as the plan owner.

This component management document is intended for aerospace users of electronic components. This document is not intended for use by the manufacturers of electronic components. Components selected and managed according to the requirements of a plan compliant with this document may be approved by the concerned parties for the proposed application, and for other applications with equal or less severe requirements.

Organizations that prepare such plans may prepare a single plan and use it for all relevant products supplied by the organization or may prepare a separate plan for each relevant product or customer.

PROCESS MANAGEMENT FOR AVIONICS – MANAGEMENT PLAN –

Part 1: Preparation and maintenance of an electronic components management plan

1 Scope

This part of IEC 62239 defines the requirements for developing an electronic components management plan (ECMP) to guarantee to customers that all of the electronic components in the equipment of the plan owner are selected and applied in controlled processes compatible with the end application and that the technical requirements detailed in Clause 4 are accomplished.

In general, the plan owner of a complete electronic components management plan (ECMP) is the avionics original equipment manufacturer (OEM).

NOTE SAE EIA-STD-4899 can be used to comply with the requirements of IEC 62239-1 where applicable (see Annex C), to enable the plan owner to harmonise its plan for both documents.

This document provides an aid in the aerospace certification process.

Although developed for the avionics industry, this process can be applied by other industrial sectors.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 62396 (all parts), *Process management for avionics – Atmospheric radiation effects*

IEC 62396-1:2016, *Process management for avionics – Atmospheric radiation effects – Part 1: Accommodation of atmospheric radiation effects via single event effects within avionics electronic equipment*

IEC TS 62647-1, *Process management for avionics – Aerospace and defence electronic systems containing lead-free solder – Part 1: Preparation for a lead-free control plan*

GEIA-STD-0005-1, *Performance Standard for Aerospace and High Performance Electronic Systems Containing Lead-Free Solder*

IPC/JEDEC J-STD-20, *Moisture/Reflow Sensitivity Classification for Nonhermetic Solid State Surface Mount Devices*

3 Terms, definitions and abbreviated terms

For the purposes of this document, the following terms, definitions and abbreviated terms apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

NOTE In their plan, plan owners can use alternative definitions consistent with convention in their company.

3.1 Terms and definitions

3.1.1
environment
applicable environmental conditions (as described in the equipment specification) that the equipment is able to withstand without loss or degradation in equipment performance throughout its manufacturing cycle and maintenance life (the length of which is defined by the plan owner in conjunction with customers)

3.1.2
purchased
bought outside the plan owner's organization, from an independent supplier

Note 1 to entry: This indicates that the plan owner does not manufacture this in-house.

3.1.3
capable
capacity of a component to be used successfully in the intended application

3.1.4
certified
assessed to and compliant with an applicable certification body

3.1.5
characterization
process of testing a sample of components to determine the key electrical parameter values that can be expected of all produced components of the type tested

3.1.6
component application
domain of use where the component meets the design requirements

3.1.7
component manufacturer
organization responsible for the component specification and its production

3.1.8
component obsolescence
absence of availability of a component which is not procurable due to the manufacturer(s) ceasing production

Note 1 to entry: Component obsolescence management is considered an element of component dependability.

3.1.9
component qualification
process used to demonstrate that the component is capable of meeting its specification for all the required conditions and environments

3.1.10
component quality assurance
activities and processes to provide adequate confidence that each individual component meets the performance and environmental requirements

3.1.11
component selection
process of choosing a specific component for a specific application

3.1.12
component standardization
process of developing and agreeing by consensus on uniform engineering criteria for products and methods for achieving compatibility, interoperability, interchangeability, or commonality of material

Note 1 to entry: Standardization is used to reduce proliferation of components into inventory.

3.1.13
counterfeit, verb
action of simulating, reproducing or modifying a material good or its packaging without authorization

Note 1 to entry: It is the practice of producing products which are imitations or are fake goods or services. This activity infringes the intellectual property rights of the original manufacturer and is an illegal act. Counterfeiting generally relates to wilful trade mark infringement.

[SOURCE: IEC TS 62668-1:2016, 3.1.4]

3.1.14
counterfeited component
material good imitating or copying an authentic material good which may be covered by the protection of one or more registered or confidential intellectual property rights

Note 1 to entry: A counterfeited component is one whose identity or pedigree has been altered or misrepresented by its supplier.

Identity = original manufacturer, part number, date code, lot number, testing, inspection, documentation or warranty etc.

Pedigree = origin, ownership history, storage, handling, physical condition, previous use etc.

[SOURCE: IEC TS 62668-1:2016, 3.1.5]

3.1.15
fraudulent component
electronic component produced or distributed either in violation of regional or local law or regulation, or with the intent to deceive the customer

Note 1 to entry: This includes, but is not limited to the following which are examples of components which are fraudulently sold as new ones to a customer:

(1) a stolen component;

(2) a component scrapped by the original component manufacturer (OCM) or by any user;

(3) a recycled component, that becomes a fraudulent recycled component when it is a disassembled component resold as new component (see Figure 1), where typically there is evidence of prior use and rework (e.g. solder, re-plating or lead re-attachment activity) on the package terminations;

(4) a counterfeit component, copy, imitation, full or partial substitute of brands;