

SLOVENSKI STANDARD

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Meritve, krmiljenje in avtomatizacija v industrijskih procesih - Ocenjevanje lastnosti sistema zaradi njegovega vrednotenja - 3. del: Vrednotenje funkcionalnosti sistema (IEC 61069-3:2016)

Industrial-process measurement, control and automation - Evaluation of system properties for the purpose of system assessment - Part 3: Assessment of system functionality (IEC 61069-3:2016)

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Leittechnik für industrielle Prozesse - Ermittlung der Systemeigenschaften zum Zweck der Eignungsbeurteilung eines Systems - Teil 3: Eignungsbeurteilung der Systemfunktionalität (IEC 61069-3:2016)

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Mesure, commande et automation dans les processus industriels - Appréciation des propriétés d'un système en vue de son évaluation - Partie 3: Évaluation de la fonctionnalité d'un système (IEC 61069-3:2016)

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**Industrial-process measurement, control and automation -
Evaluation of system properties for the purpose of system
assessment - Part 3: Assessment of system functionality
(IEC 61069-3:2016)**

Measure, commande et automation dans les processus
industriels - Appréciation des propriétés d'un système en
vue de son évaluation - Partie 3: Évaluation de la
fonctionnalité d'un système
(IEC 61069-3:2016)

Leittechnik für industrielle Prozesse - Ermittlung der
Systemeigenschaften zum Zweck der Eignungsbeurteilung
eines Systems - Teil 3: Eignungsbeurteilung der
Systemfunktionalität
(IEC 61069-3:2016)

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Europäisches Komitee für Elektrotechnische Normung

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EN 61069-3:2016**European foreword**

The text of document 65A/791/FDIS, future edition 2 of IEC 61069-3, prepared by SC 65A "System aspects" of IEC/TC 65 "Industrial-process measurement, control and automation" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61069-3:2016.

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) 2017-04-28
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2019-10-28

This document supersedes EN 61069-3:1996.

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In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 61069-5:2016	NOTE	Harmonized as EN 61069-5:2016 (not modified).
IEC 61131-3	NOTE	Harmonized as EN 61131-3.
IEC 61158 Series	NOTE	Harmonized as EN 61158 Series.
IEC 61297	NOTE	Harmonized as EN 61297.
IEC 61512 Series	NOTE	Harmonized as EN 61512 Series.
IEC 61784 Series	NOTE	Harmonized as EN 61784 Series.
IEC/TS 62603-1:2014	NOTE	Harmonized as CLC/TS 62603-1:2014.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When 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

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61069-1	2016	Industrial-process measurement, control and automation - Evaluation of system properties for the purpose of system assessment - Part 1: Terminology and basic concepts	EN 61069-1	2016
IEC 61069-2	2016	Industrial-process measurement, control and automation - Evaluation of system properties for the purpose of system assessment - Part 2: Assessment methodology	EN 61069-2	2016

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IEC 61069-3

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INTERNATIONAL STANDARD

NORME INTERNATIONALE



Industrial-process measurement, control and automation – Evaluation of system properties for the purpose of system assessment – Part 3: Assessment of system functionality

Mesure, commande et automation dans les processus industriels – Appréciation des propriétés d'un système en vue de son évaluation – Partie 3: Évaluation de la fonctionnalité d'un système

INTERNATIONAL
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**INDUSTRIAL-PROCESS MEASUREMENT, CONTROL AND AUTOMATION –
EVALUATION OF SYSTEM PROPERTIES FOR
THE PURPOSE OF SYSTEM ASSESSMENT –****Part 3: Assessment of system functionality**

FOREWORD

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International Standard IEC 61069-3 has been prepared by subcommittee 65A: System aspects, of IEC technical committee 65: Industrial-process measurement, control and automation.

This second edition cancels and replaces the first edition published in 1996. This edition constitutes a technical revision.

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

- a) Reorganization of the material of IEC 61069-3:1996 to make the overall set of standards more organized and consistent;
- b) IEC TS 62603-1:2014 has been incorporated into this edition.

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

FDIS	Report on voting
65A/791/FDIS	65A/800/RVD

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

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

A list of all parts in the IEC 61069 series, published under the general title *Industrial-process measurement, control and automation – Evaluation of system properties for the purpose of system assessment*, can be found on the IEC website.

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

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

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INTRODUCTION

IEC 61069 deals with the method which should be used to assess system properties of a basic control system (BCS). IEC 61069 consists of the following parts:

- Part 1: Terminology and basic concepts
- Part 2: Assessment methodology
- Part 3: Assessment of system functionality
- Part 4: Assessment of system performance
- Part 5: Assessment of system dependability
- Part 6: Assessment of system operability
- Part 7: Assessment of system safety
- Part 8: Assessment of other system properties

Assessment of a system is the judgement, based on evidence, of the suitability of the system for a specific mission or class of missions.

To obtain total evidence would require complete evaluation (for example under all influencing factors) of all system properties relevant to the specific mission or class of missions.

Since this is rarely practical, the rationale on which an assessment of a system should be based is:

- the identification of the importance of each of the relevant system properties,
- the planning for evaluation of the relevant system properties with a cost-effective dedication of effort to the various system properties.

In conducting an assessment of a system, it is crucial to bear in mind the need to gain a maximum increase in confidence in the suitability of a system within practical cost and time constraints.

An assessment can only be carried out if a mission has been stated (or given), or if any mission can be hypothesized. In the absence of a mission, no assessment can be made; however, evaluations can still be specified and carried out for use in assessments performed by others. In such cases, IEC 61069 can be used as a guide for planning an evaluation and it provides methods for performing evaluations, since evaluations are an integral part of assessment.

In preparing the assessment, it can be discovered that the definition of the system is too narrow. For example, a facility with two or more revisions of the control systems sharing resources, for example a network, should consider issues of co-existence and inter-operability. In this case, the system to be investigated should not be limited to the “new” BCS; it should include both. That is, it should change the boundaries of the system to include enough of the other system to address these concerns.

The part structure and the relationship among the parts of IEC 61069 are shown in Figure 1.

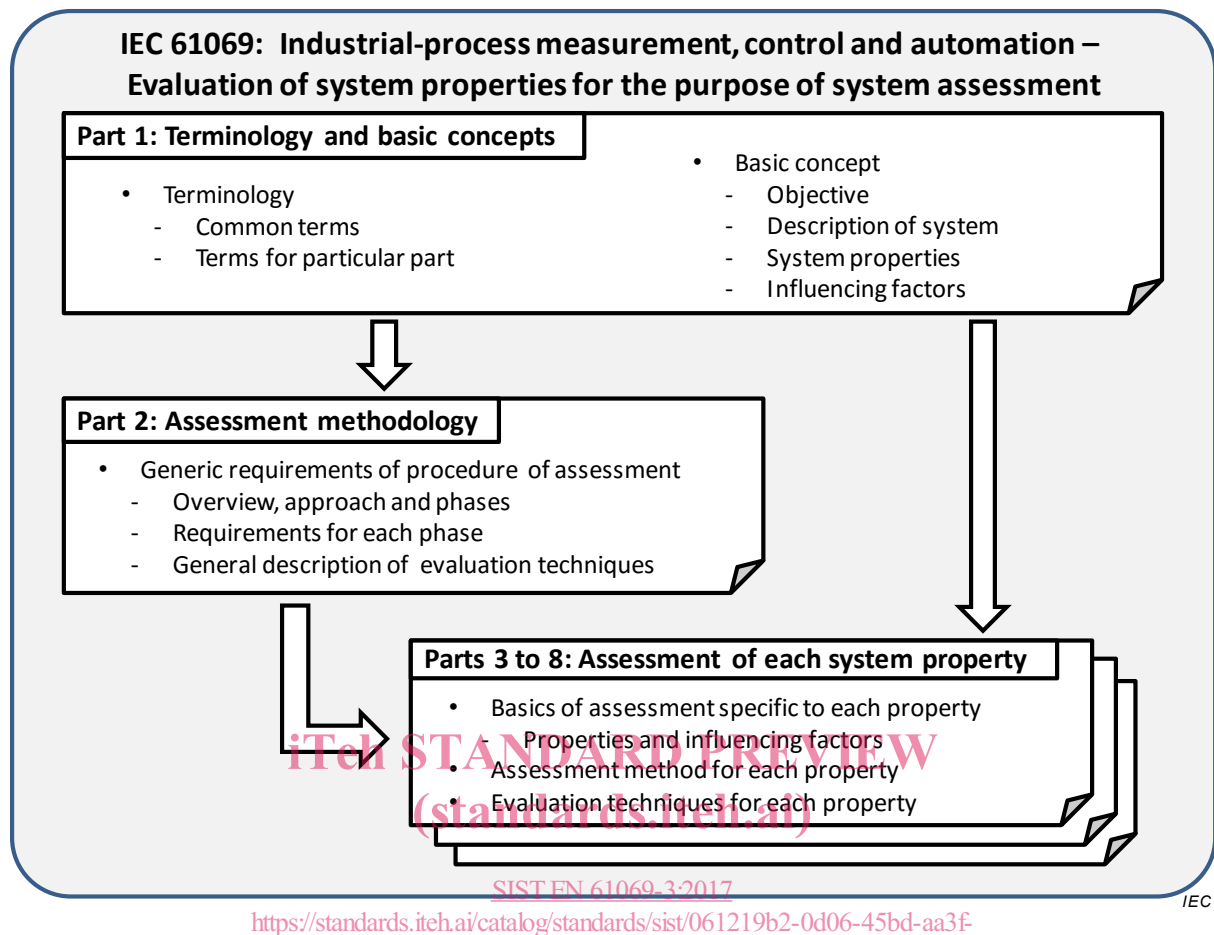


Figure 1 – General layout of IEC 61069

Some example assessment items are integrated in Annex C.