

Industrial-process measurement, control and automation - Evaluation of system properties for the purpose of system assessment - Part 1: Terminology and basic concepts

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 61069-1:2016 sisaldab Euroopa standardi EN 61069-1:2016 ingliskeelset teksti.	This Estonian standard EVS-EN 61069-1:2016 consists of the English text of the European standard EN 61069-1:2016.
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English Version

**Industrial-process measurement, control and automation -
Evaluation of system properties for the purpose of system
assessment - Part 1: Terminology and basic concepts
(IEC 61069-1:2016)**

Mesure, commande et automation dans les processus
industriels - Appréciation des propriétés d'un système en
vue de son évaluation - Partie 1: Terminologie et principes
de base
(IEC 61069-1:2016)

Leittechnik für industrielle Prozesse - Ermittlung der
Systemeigenschaften zum Zweck der Eignungsbeurteilung
eines Systems - Teil 1: Terminologie und Konzepte
(IEC 61069-1:2016)

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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.

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

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European foreword

The text of document 65A/788/FDIS, future edition 2 of IEC 61069-1, 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 61069-1:2016.

The following dates are fixed:

- latest date by which the document has to be (dop) 2017-04-28
implemented at national level by
publication of an identical national
standard or by endorsement
- latest date by which the national (dow) 2019-10-28
standards conflicting with the
document have to be withdrawn

This document supersedes EN 61069-1:1993.

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

Endorsement notice

The text of the International Standard IEC 61069-1:2016 was approved by CENELEC as a European Standard without any modification.

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

IEC 61069 Series	NOTE	Harmonized as EN 61069 Series.
IEC/TS 62603-1	NOTE	Harmonized as CLC/TS 62603-1.
IEC 61800-7-1:2015	NOTE	Harmonized as EN 61800-7-1:2016 (not modified).
IEC 61987-1:2006	NOTE	Harmonized as EN 61987-1:2007 (not modified).
IEC 61508-1:2010	NOTE	Harmonized as EN 61508-1:2010 (not modified).
IEC 82045-1:2001	NOTE	Harmonized as EN 82045-1:2001 (not modified).
IEC 60300-3-1	NOTE	Harmonized as EN 60300-3-1.
IEC 60654 Series	NOTE	Harmonized as EN 60654 Series.
IEC 60654-1	NOTE	Harmonized as EN 60654-1.
IEC 60654-2	NOTE	Harmonized as EN 60654-2.
IEC 60654-3	NOTE	Harmonized as EN 60654-3.
IEC 60654-4	NOTE	Harmonized as EN 60654-4.
IEC 60038	NOTE	Harmonized as EN 60038.
IEC 60721-3-1	NOTE	Harmonized as EN 60721-3-1.
IEC 60721-3-2	NOTE	Harmonized as EN 60721-3-2.
IEC 60721-3-3	NOTE	Harmonized as EN 60721-3-3.
IEC 60721-3-4	NOTE	Harmonized as EN 60721-3-4.
IEC 61326-1:2012	NOTE	Harmonized as EN 61326-1:2013 (not modified).
IEC 61000-4-3	NOTE	Harmonized as EN 61000-4-3.
IEC 61000-4-4	NOTE	Harmonized as EN 61000-4-4.
IEC 61000-4-5	NOTE	Harmonized as EN 61000-4-5.

IEC 61000-4-6	NOTE	Harmonized as EN 61000-4-6.
IEC 61000-4-8	NOTE	Harmonized as EN 61000-4-8.
IEC 61000-4-9	NOTE	Harmonized as EN 61000-4-9.
IEC 61000-4-10	NOTE	Harmonized as EN 61000-4-10.
IEC 61000-4-11	NOTE	Harmonized as EN 61000-4-11.
IEC 61000-2-4	NOTE	Harmonized as EN 61000-2-4.
ISO 9001:2015	NOTE	Harmonized as EN ISO 9001:2015.
IEC 60664-1	NOTE	Harmonized as EN 60664-1.
IEC 61010-1	NOTE	Harmonized as EN 61010-1.
IEC 62381	NOTE	Harmonized as EN 62381.
IEC 62443 Series	NOTE	Harmonized as EN 62443 Series ¹⁾ .

¹⁾ At draft stage.

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 61000-4-2	-	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test	EN 61000-4-2	-
IEC 61000-6-4	2006	Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments	EN 61000-6-4	2007
+A1	2010		+A1	2011
IEC 61508-4	2010	Functional safety of electrical/electronic/programmable electronic safety-related systems - Part 4: Definitions and abbreviations	EN 61508-4	2010
IEC 61511-1	2003	Functional safety - Safety instrumented systems for the process industry sector - Part 1: Framework, definitions, system, hardware and software requirements	EN 61511-1	2004

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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, examination of the system to gather and organize data for a later assessment done by others is possible. In such cases, the standard 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, e.g., 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.

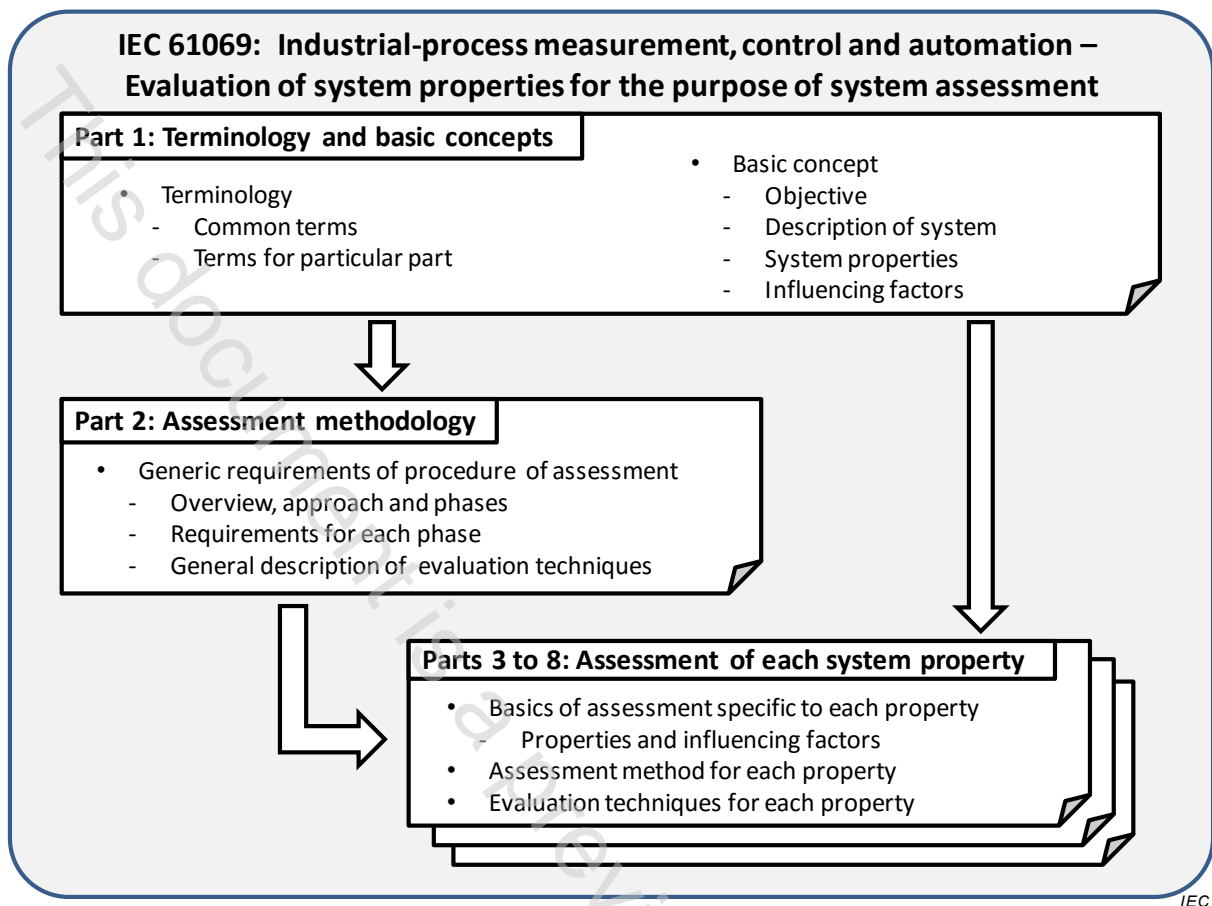


Figure 1 – General layout of IEC 61069

Some example assessment items are integrated in Annex A.