

Industrial-process measurement, control and automation - Evaluation of system properties for the purpose of system assessment - Part 4: Assessment of system performance

EESTI STANDARDI EESSÕNA

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English Version

**Industrial-process measurement, control and automation -
Evaluation of system properties for the purpose of system
assessment - Part 4: Assessment of system performance
(IEC 61069-4:2016)**

Mesure, commande et automation dans les processus
industriels - Appréciation des propriétés d'un système en
vue de son évaluation - Partie 4: Évaluation des
caractéristiques de fonctionnement d'un système
(IEC 61069-4:2016)

Leittechnik für industrielle Prozesse - Ermittlung der
Systemeigenschaften zum Zweck der Eignungsbeurteilung
eines Systems - Teil 4: Eignungsbeurteilung des
Systembetriebsverhaltens
(IEC 61069-4:2016)

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

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

European foreword

The text of document 65A/792/FDIS, future edition 2 of IEC 61069-4, 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 61069-4:2016.

The following dates are fixed:

- latest date by which the document has to be (dop) 2017-05-11
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publication of an identical national
standard or by endorsement
- latest date by which the national (dow) 2019-11-11
standards conflicting with the
document have to be withdrawn

This document supersedes EN 61069-4:1997.

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

IEC 60359	NOTE	Harmonized as EN 60359.
IEC 60546-1	NOTE	Harmonized as EN 60546-1.
IEC 60770 Series	NOTE	Harmonized as EN 60770 Series.
IEC 60870 Series	NOTE	Harmonized as EN 60870 Series.
IEC 60873 Series	NOTE	Harmonized as EN 60873 Series.
IEC 61069-3:2016	NOTE	Harmonized as EN 61069-3:2016 (not modified).
IEC 61069-5:2016	NOTE	Harmonized as EN 61069-5:2016 (not modified).
IEC 61298-1	NOTE	Harmonized as EN 61298-1.
IEC 61298-2	NOTE	Harmonized as EN 61298-2.
IEC 61298-3	NOTE	Harmonized as EN 61298-3.
IEC 61298-4	NOTE	Harmonized as EN 61298-4.
IEC/TS 62603-1:2014	NOTE	Harmonized as CLC/TS 62603-1:2014 (not modified).

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 60068	Series	Environmental testing	EN 60068	Series
IEC 60654	Series	Industrial-process measurement and control equipment - Operating conditions	EN 60654	Series
IEC 60721-2	Series	Classification of environmental conditions	EN 60721-2	Series
IEC 61000-1	Series	Electromagnetic compatibility (EMC)	-	-
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
IEC 61326	Series	Electrical equipment for measurement, control and laboratory use - EMC requirements	EN 61326	Series

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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.

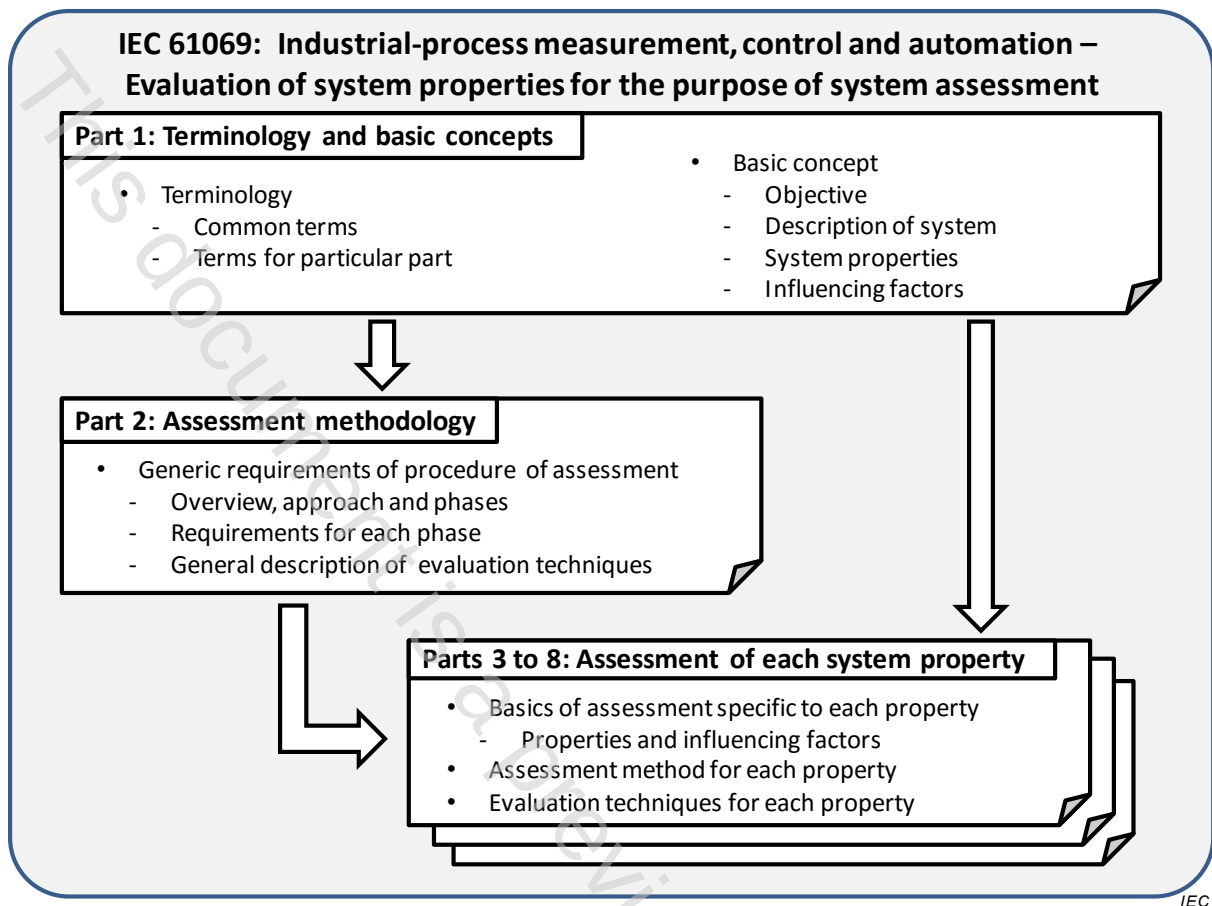


Figure 1 – General layout of IEC 61069

Some example assessment items are integrated in Annex C.