

## **Control technology - Rules for the designation of measuring instruments**

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 62419:2009 sisaldab Euroopa standardi EN 62419:2009 ingliskeelset teksti.</p> <p>Standard on kinnitatud Eesti Standardikeskuse 27.03.2009 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 12.02.2009.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 62419:2009 consists of the English text of the European standard EN 62419:2009.</p> <p>This standard is ratified with the order of Estonian Centre for Standardisation dated 27.03.2009 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p> <p>Date of Availability of the European standard text 12.02.2009.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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**Võtmesõnad:**

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**Control technology -  
Rules for the designation of measuring instruments  
(IEC 62419:2008)**

Technologies de contrôle-commande -  
Règles pour la désignation  
des instruments de mesure  
(CEI 62419:2008)

Leittechnik -  
Regeln für die Benennung  
von Messgeräten  
(IEC 62419:2008)

This European Standard was approved by CENELEC on 2009-02-01. 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 Central Secretariat or to any CENELEC member.

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**CENELEC**

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

**Central Secretariat: avenue Marnix 17, B - 1000 Brussels**

## Foreword

The text of document 65/429/FDIS, future edition 1 of IEC 62419, prepared by IEC TC 65, Industrial-process measurement, control and automation, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62419 on 2009-02-01.

The following dates were fixed:

- latest date by which the EN has to be implemented  
at national level by publication of an identical  
national standard or by endorsement (dop) 2009-11-01
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 2012-02-01

Annex ZA has been added by CENELEC.

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## Endorsement notice

The text of the International Standard IEC 62419:2008 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 60027 series      NOTE Harmonized in EN 60027 series (not modified).

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## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application 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 When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050-300	- <sup>1)</sup>	International Electrotechnical Vocabulary (IEV) - Electrical and electronic measurements and measuring instruments - Part 311: General terms relating to measurements - Part 312: General terms relating to electrical measurements - Part 313: Types of electrical measuring instruments - Part 314: Specific terms according to the type of instrument	-	-
IEC 60050-351	2006	International Electrotechnical Vocabulary (IEV) - Part 351: Control technology	-	-
ISO/IEC Guide 99	2007	International vocabulary of metrology - Basic and general concepts and associated terms (VIM)	-	-
ISO 31	Series	Quantities and units	-	-
ISO 1000	- <sup>1)</sup>	SI units and recommendations for the use of their multiples and of certain other units	-	-

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<sup>1)</sup> Undated reference.

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## INTRODUCTION

The state of science concerning quantities and units has undergone significant changes in the last century. During the period from 1920 to 1960 there was a fundamental change in the comprehension and usage of physical quantities, which was particularly promoted by the works of Julius Wallot published between 1922 and 1953. In this process the various systems of physical units and the usage of numerical equations were replaced by the SI-units (see ISO 1000) and the usage of quantity equations. So the quantities were no longer linked to certain units.

This development culminated in the publishing of the first edition of the German standard DIN 1313 *Notation of physical equations in sciences and technology* in 1931 and the resolutions of the tenth general conference of weights and measures in 1954. Since then it has been considered incorrect to address a quantity by its unit.

In view of this, measuring instruments should not be addressed by the unit of the measured quantity but only by the measured quantity or the measuring task itself.

Referring to the question of market relevance, it must be stated, that especially with respect to the international project of standardized classification and documentation in multilingual equipment descriptions, it is important to critically address the situation regarding the designation of measuring instruments. Ideally, every manufacturer should use the same terminology. In practice, there is confusion in the proper designation of measuring instruments within catalogues and sales brochures which also has consequences in technical literature.

It is not the intention of this standard to enforce particular usages in any language but to make recommendations that remove the linguistic confusion in this field – or at least, reduce it. Considering the urgent necessity of unambiguous technical communication over language boundaries, this is a legitimate goal. This could also be considered to be a matter of global importance.

## **CONTROL TECHNOLOGY – RULES FOR THE DESIGNATION OF MEASURING INSTRUMENTS**

### **1 Scope and object**

This International Standard is applicable to measurement technology. It defines rules for the unambiguous designation of different types of measuring instruments and of measuring instrument features with the intention of enabling unambiguous technical communication over language boundaries.

The scope of this International Standard is

- the adaptation of the designation of measuring instruments and of measuring instrument features to the state of science by designating them according to the measuring quantity or the measuring task instead of the unit, and
- the adaptation of the designation of measuring instruments and of measuring instrument features to the terms given in the ISO/IEC Guide 99 (VIM).

It is strongly recommended that “..... measuring instrument” is used as secondary component in compound terms. This is consistent with the objective of standardization, namely uniformity, especially since the meaning of other secondary components, e.g. “indicator”, “gauge”, “meter”, is no more descriptive than that of the standard component in this context. For exceptions see 4.1 and A.2.

The ambiguous secondary component “... sensor” shall not be used. In its place one of the secondary components “... sensing element”, “... detector”, “... transformer”, “... transducer”, “... transmitter”, “... measuring instrument” or “... measuring chain” shall be used, depending on the task of the functional unit being termed. The definitions for detector (detecting device), transformer, transducer and transmitter are given in IEC 60050-351.

### **2 Normative references**

The following referenced documents are indispensable for the application 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 60050-311, *International Electrotechnical Vocabulary – Part 311: General terms relating to measurements*

IEC 60050-312, *International Electrotechnical Vocabulary – Part 312: General terms relating to electrical measurements*

IEC 60050-351: 2006, *International Electrotechnical Vocabulary – Part 351: Control Technology*

ISO/IEC Guide 99: 2007, *International vocabulary of metrology – Basic and general concepts and associated terms (VIM)*

ISO 31 series, *Quantities and units*

ISO 1000, *SI units and recommendations for the use of their multiples and of certain other units*