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Expression of performance of gas analyzers - Part 6:Photometric analyzers

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 06/15

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EN 61207-6

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 2015

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Supersedes EN 61207-6:1994

English Version

**Expression of performance of gas analyzers -
Part 6:Photometric analyzers
(IEC 61207-6:2014)**

Expression des performances des analyseurs de gaz -
Partie 6: Analyseurs photométriques
(IEC 61207-6:2014)

Angabe zum Betriebsverhalten von Gasanalysatoren -
Teil 6: Fotometrische Analysatoren
(IEC 61207-6:2014)

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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

Foreword

The text of document 65B/947/FDIS, future edition 2 of IEC 61207-6, prepared by SC 65B "Measurement and control devices", of IEC/TC 65 "Industrial-process measurement, control and automation" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61207-6:2015.

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) 2015-09-30
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Annex ZA (normative)

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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 60079-29-1	-	Explosive atmospheres - Part 29-1: Gas detectors - Performance requirements of detectors for flammable gases	EN 60079-29-1	-
IEC 60079-29-4	-	Explosive atmospheres - Part 29-4: Gas detectors - Performance requirements of open path detectors for flammable gases	EN 60079-29-4	-
IEC 60654	series	Operating conditions for industrial-process measurement and control equipment	EN 60654	series
IEC 61207-1	-	Expression of performance of gas analyzers - Part 1: General	EN 61207-1	-
IEC 61207-7	-	Expression of performance of gas analyzers - Part 7: Tuneable semiconductor laser gas analyzers	EN 61207-7	-
ISO 9001	-	Quality management systems - Requirements	EN ISO 9001	-



INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Expression of performance of gas analyzers –
Part 6: Photometric analyzers**

**Expression des performances des analyseurs de gaz –
Partie 6: Analyseurs photométriques**





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INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Expression of performance of gas analyzers –
Part 6: Photometric analyzers**

**Expression des performances des analyseurs de gaz –
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

EXPRESSION OF PERFORMANCE OF GAS ANALYZERS –**Part 6: Photometric analyzers**

FOREWORD

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International Standard IEC 61207-6 has been prepared by sub-committee 65B: Measurement and control devices, of IEC technical committee 65: Industrial-process measurement, control and automation.

This second edition cancels and replaces the first edition published in 1994. This edition constitutes a technical revision.

The major changes with respect to the previous edition are as follows.

- All references (normative and informative) have been updated, deleted or added to as appropriate.
- All the terms and definitions relating to the document have been updated where appropriate.
- New definitions have been added for generic photometric equipment and measurements.

- All references to “errors” have been replaced by “uncertainties” and appropriate updated definitions applied.
- Figures A.1, A.2 and A.4 have been updated.

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

FDIS	Report on voting
65B/947/FDIS	65B/956/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 61207 series, published under the general title *Expression of performance of gas analyzers*, 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 web site 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.

INTRODUCTION

Photometric analyzers utilize detectors which respond to wavelengths in the ultraviolet, visible and infrared part of the electromagnetic spectrum within the wavelength range 0,1 μm to 50 μm (see Figure A.1). Within this range of wavelengths, many gases have absorption and/or emission bands. Analyzers designed to utilize these bands employ several techniques, including sensing of specific absorbed radiation by the sample gas or emitted radiation from the gas sample after artificial excitation. The volume of gas measured may be contained within a sample cell and this sample may or may not be conditioned, or (for in-situ analyzers) the concentration may be directly measured within the sample gas itself (see Figure A.2).

EXPRESSION OF PERFORMANCE OF GAS ANALYZERS –

Part 6: Photometric analyzers

1 Scope and object

This part of IEC 61207 applies to all aspects of analyzers using photometric techniques for the measurement of concentration of one or more components in a mixture of gases or vapors. It should be used in conjunction with IEC 61207-1.

For photometric analyzers utilizing tuneable semiconductor laser absorption spectroscopy (TSLAS) for gas measurements, IEC 61207-7 should also be referred to.

This part of IEC 61207 applies to analyzers using non-dispersive and dispersive wavelength selection and using absorption, emission, wavelength derivative or scattering techniques.

It applies to analyzers which receive either a conditioned or unconditioned sample of gas either under vacuum, at ambient pressure or pressurized.

It applies to analyzers which measure gas concentrations directly within the sample gas.

The object of this part is:

- to specify the terminology and definitions related to the functional performance of gas analyzers, utilizing a photometric analyzer, for the continuous measurement of gas or vapor concentration in a source gas;
- to unify methods used in making and verifying statements on the functional performance of such analyzers;
- to specify what tests should be performed to determine the functional performance and how such tests should be carried out;
- to provide basic documents to support the application of standards of quality assurance ISO 9001.

2 Normative references

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.

IEC 60079-29-1, *Explosive atmospheres – Part 29-1: Gas detectors – Performance requirements of detectors for flammable gases*

IEC 60079-29-4, *Explosive atmospheres – Part 29-4: Gas detectors – Performance requirements of open path detectors for flammable gases*

IEC 60654 (all parts), *Operating conditions for industrial-process measurement and control equipment*

IEC 61207-1, *Expression of performance of gas analyzers – Part 1: General*

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IEC 61207-7, *Expression of performance of gas analyzers – Part 7: Tuneable semiconductor laser gas analyzers*

ISO 9001, *Quality management systems – Requirements*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN