

Electroacoustics - Instruments for measurement of aircraft noise - Performance requirements for systems to measure sound pressure levels in noise certification of aircraft

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 61265:2018 sisaldab Euroopa standardi EN IEC 61265:2018 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 61265:2018 consists of the English text of the European standard EN IEC 61265:2018.
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English Version

**Electroacoustics - Instruments for measurement of aircraft noise
- Performance requirements for systems to measure sound
pressure levels in noise certification of aircraft
(IEC 61265:2018)**

Électroacoustique - Instruments pour la mesure du bruit des
aéronefs - Exigences relatives aux systèmes de mesure
des niveaux de pression acoustique pour la certification
acoustique des aéronaves
(IEC 61265:2018)

Elektroakustik - Geräte zur Messung des Geräuschs von
Luftfahrzeugen - Anforderungen an die Eigenschaften von
Systemen zur Messung von Schalldruckpegeln bei der
Zertifizierung von Luftfahrzeugen
(IEC 61265:2018)

This European Standard was approved by CENELEC on 2018-06-12. 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.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 29/958/CDV, future edition 2 of IEC 61265, prepared by IEC/TC 29 "Electroacoustics" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61265:2018.

The following dates are fixed:

- latest date by which the document has to be (dop) 2019-03-12
implemented at national level by
publication of an identical national
standard or by endorsement
- latest date by which the national (dow) 2021-06-12
standards conflicting with the
document have to be withdrawn

This document supersedes EN 61265:1995.

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Endorsement notice

The text of the International Standard IEC 61265:2018 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 61094-4	NOTE	Harmonized as EN 61094-4.
IEC 61326-1:2012	NOTE	Harmonized as EN 61326-1:2013 (not modified).
IEC 61000-4-2	NOTE	Harmonized as EN 61000-4-2.
IEC 61000-4-3	NOTE	Harmonized as EN 61000-4-3.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1 Where 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 60942	-	Electroacoustics - Sound calibrators	EN IEC 60942	-
IEC 61260-1	-	Electroacoustics - Octave-band and fractional-octave-band filters - Part 1: Specifications	EN 61260-1	-
IEC 61672-1	-	Electroacoustics - Sound level meters - Part 1: Specifications	EN 61672-1	-

CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references	7
3 Terms and definitions	7
4 Purpose.....	11
5 Requirements	12
5.1 General.....	12
5.1.1 Output data	12
5.1.2 Time-pressure history	12
5.1.3 Measurements of sound from aircraft ground power units	12
5.1.4 Measurements of aircraft operations on the ground	12
5.2 Measurement uncertainty.....	12
5.2.1 Relationship with regulatory requirements	12
5.2.2 Performance verification	13
5.2.3 Periodic tests.....	13
5.3 Reference environmental conditions	13
5.4 Sound calibrator.....	13
5.5 Microphone system	13
5.5.1 Pressure and free-field type microphones	13
5.5.2 Grazing incidence microphone configuration.....	14
5.5.3 Ground plane microphone configuration.....	15
5.5.4 Measurement configurations	16
5.6 Measurement system exclusive of the microphone.....	16
5.6.1 Frequency response	16
5.6.2 Level linearity	16
5.6.3 Floating-range measurement systems	17
5.7 Spectrum analysis system.....	17
5.7.1 Third-octave analysis.....	17
5.7.2 Time constants	17
5.7.3 Time offset	17
5.7.4 Anti-aliasing.....	18
5.8 Readout device resolution.....	18
5.9 Sensitivity to various environments	18
5.9.1 General	18
5.9.2 Atmospheric pressure	18
5.9.3 Air temperature.....	18
5.9.4 Humidity	19
5.9.5 Electromagnetic compatibility	19
Annex A (informative) Methods of testing the electroacoustical performance of a measurement system	20
A.1 General.....	20
A.2 Operating conditions for test	20
A.3 Sound calibrator.....	20

A.4	Microphone system frequency response	20
A.5	Frequency response of the measurement system exclusive of the microphone	21
A.6	Linear operating range of the measurement system exclusive of the microphone	21
A.7	Spectrum analysis system	21
Annex B (informative) Relationship between tolerance interval, corresponding acceptance interval and the maximum permitted uncertainty of measurement		22
Bibliography		24
Figure 1 – Illustration of sound incidence angles from the principal axis of the microphone		15
Figure B.1 – Relationship between tolerance interval, corresponding acceptance interval and the maximum permitted uncertainty of measurement		22
Table 1 – ICAO measurement protocols (informative)		11
Table 2 – Maximum difference between the free-field sensitivity level of a microphone used in grazing-incidence microphone configuration at normal incidence and at specified sound incidence angles		15

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTROACOUSTICS – INSTRUMENTS FOR MEASUREMENT OF AIRCRAFT NOISE – PERFORMANCE REQUIREMENTS FOR SYSTEMS TO MEASURE SOUND PRESSURE LEVELS IN NOISE CERTIFICATION OF AIRCRAFT

FOREWORD

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International Standard IEC 61265 has been prepared by IEC technical committee 29: Electroacoustics.

This second edition cancels and replaces the first edition published in 1995. This edition constitutes a technical revision.

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

- a) addition of guidance for measurements for aircraft other than large transport aeroplanes;
- b) addition of microphones used in ground plane measurement systems;
- c) addition of weighted sound level measurements other than one-third-octave band measurements, for certain aircraft types;
- d) revision and clarification of requirements for digital audio recording;

e) addition of requirements for evaluation of measurement uncertainty.

The text of this International Standard is based on the following documents:

CDV	Report on voting
29/958/CDV	29/980A/RVC

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

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

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

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

INTRODUCTION

IEC 61265 provides requirements for the electroacoustical performance of instruments for measurement of the sound produced by aircraft in flight or on the ground, or by an aircraft engine installed on an outdoor test stand, for the purposes of demonstrating compliance with aircraft noise certification limits established by relevant national aviation authorities and for other comparisons among aircraft models. The instruments can be components of a complete measurement system. Methods are also indicated by which the performance of such instruments can be tested periodically.

Measurement and data-analysis procedures for aircraft noise certification are described in Volume I of Annex 16 to the Convention on International Civil Aviation, with further guidance and descriptions of acceptable "equivalent procedures" given in the *Environmental Technical Manual* prepared by the Committee on Aviation Environmental Protection (CAEP) of the International Civil Aviation Organization (ICAO). Together these documents are referred to in this document as "ICAO Annex 16". The procedures include measurement and analysis of the sound from aircraft in operation, and, in some circumstances, of the sound from static engines and engines under test, under given operating and atmospheric conditions.

Several of the requirements given in this document differ from the requirements of IEC 61672-1 for sound level meters, especially concerning the frequency and directional response, linear operating range and sensitivity to various environments. Many of these differences are due to the requirement for uniform response at a wide range of angles of sound arrival as an aircraft moves through the certification test flight. If the output signal from a measurement system conforming to this document is processed to yield an overall sound pressure level from all frequency bands, the level derived can differ from that obtained from a sound level meter conforming to IEC 61672-1.

Systems in accordance with this document are used to perform measurements meeting the requirements of ICAO Annex 16 or a certifying authority's specific procedures to demonstrate that a given aircraft complies with the limits for noise level near the ground over the course of a test flight. Uncertainty of each measurement is considered when establishing the test procedures, and it is not the intent of this document to duplicate the confidence interval analysis inherent in the noise flight test procedure.