

<b>STN</b>	<b>Točivé elektrické stroje</b> <b>Časť 14: Mechanické kmitanie určitých strojov s</b> <b>výškou osi od 56 mm</b> <b>Meranie, hodnotenie a medzné hodnoty kmitania</b>	<b>STN</b> <b>EN IEC 60034-14</b>  35 0000
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Rotating electrical machines - Part 14: Mechanical vibration of certain machines with shaft heights 56 mm and higher - Measurement, evaluation and limits of vibration severity

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. 02/19

Obsahuje: EN IEC 60034-14:2018, IEC 60034-14:2018

Oznámením tejto normy sa od 21.09.2021 ruší  
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EUROPEAN STANDARD

**EN IEC 60034-14**

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2018

ICS 29.160.01

Supersedes EN 60034-14:2004

English Version

**Rotating electrical machines - Part 14: Mechanical vibration of  
certain machines with shaft heights 56 mm and higher -  
Measurement, evaluation and limits of vibration severity  
(IEC 60034-14:2018)**

Machines électriques tournantes - Partie 14: Vibrations  
mécaniques de certaines machines de hauteur d'axe  
supérieure ou égale à 56 mm - Mesurage, évaluation et  
limites de l'intensité vibratoire  
(IEC 60034-14:2018)

Drehende elektrische Maschinen - Teil 14: Mechanische  
Schwingungen von bestimmten Maschinen mit einer  
Achshöhe von 56 mm und höher - Messung, Bewertung  
und Grenzwerte der Schwingstärke  
(IEC 60034-14:2018)

This European Standard was approved by CENELEC on 2018-09-21. 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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Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

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

**EN IEC 60034-14:2018 (E)****European foreword**

The text of document 2/1906/FDIS, future edition 4 of IEC 60034-14, prepared by IEC/TC 2 "Rotating machinery" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60034-14:2018.

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) 2019-06-21
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2021-09-21

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## 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](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60034-1	-	Rotating electrical machines - Part 1: Rating and performance	EN 60034-1 <sup>1</sup>	-
IEC 60034-7	-	Rotating electrical machines - Part 7: Classification of types of constructions and mounting arrangements (IM Code)	EN 60034-7	-
ISO 2954	-	Mechanical vibration of rotating and reciprocating machinery; Requirements for instruments for measuring vibration severity	-	-
ISO 10817-1	-	Rotating shaft vibration measuring systems - Part 1: Relative and absolute sensing of radial vibration	-	-
ISO 20816-1	-	Mechanical vibration - Measurement and evaluation of machine vibration - Part 1: General guidelines	-	-
ISO 21940-32	-	Mechanical vibration - Rotor balancing - Part 32: Shaft and fitment key convention	-	-

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<sup>1</sup>Under preparation. Stage at the time of publication: FprEN 60034-1:2017.



IEC 60034-14

Edition 4.0 2018-08

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Rotating electrical machines –  
Part 14: Mechanical vibration of certain machines with shaft heights 56 mm  
and higher – Measurement, evaluation and limits of vibration severity**

**Machines électriques tournantes –  
Partie 14: Vibrations mécaniques de certaines machines de hauteur d'axe  
supérieure ou égale à 56 mm – Mesurage, évaluation et limites de l'intensité  
vibratoire**



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IEC 60034-14

Edition 4.0 2018-08

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# NORME INTERNATIONALE

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**Rotating electrical machines –  
Part 14: Mechanical vibration of certain machines with shaft heights 56 mm  
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**Machines électriques tournantes –  
Partie 14: Vibrations mécaniques de certaines machines de hauteur d'axe  
supérieure ou égale à 56 mm – Mesurage, évaluation et limites de l'intensité  
vibratoire**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ROTATING ELECTRICAL MACHINES –****Part 14: Mechanical vibration of certain machines  
with shaft heights 56 mm and higher – Measurement,  
evaluation and limits of vibration severity**

## FOREWORD

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International Standard IEC 60034-14 has been prepared by IEC technical committee 2: Rotating machinery.

This fourth edition cancels and replaces the third edition, published in 2003, and its amendment 1, published in 2007. It constitutes a technical revision.

The significant technical changes with respect to the previous edition are:

- a) 6.2 is significantly changed to better explain the definition "free suspension".
- b) 6.3: a second method of rigid mount is added since the first method is not always possible on the test floor.
- c) 7.1: an improved option for shaft key is defined.

- d) Clause 8: considerable effort to harmonize with NEMA MG 1 and IEEE 841 and API 541, and also establish levels which are achievable and more in line with best practices. Table 1 is reduced to two shaft-height range sections.
- e) 8.2: definition of twice line frequency simplified along with Figure 7 added.

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

FDIS	Report on voting
2/1906/FDIS	2/1914/RVD

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.

A list of all parts in the IEC 60034 series, published under the general title *Rotating electrical machines*, can be found on the IEC website.

NOTE For A table of cross-references of all IEC TC 2 publications can be found in the IEC TC 2 dashboard on the IEC website.

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

## ROTATING ELECTRICAL MACHINES –

### Part 14: Mechanical vibration of certain machines with shaft heights 56 mm and higher – Measurement, evaluation and limits of vibration severity

#### 1 Scope

This part of IEC 60034 specifies the factory acceptance vibration test procedures and vibration limits for certain electrical machines under specified conditions, when uncoupled from any load or prime mover.

It is applicable to DC and three-phase AC machines, with shaft heights 56 mm and higher and a rated output up to 50 MW, at operational speeds from 120 min<sup>-1</sup> up to and including 15 000 min<sup>-1</sup>.

This document is not applicable to machines mounted *in situ* (on site), three-phase commutator motors, single-phase machines, three-phase machines operated on single-phase systems, vertical waterpower generators, turbine generators greater than 20 MW and machines with magnetic bearings or series-wound machines.

NOTE For machines measured *in situ*, refer to applicable parts of ISO 20816, ISO 10816 and ISO 7919.

#### 2 Normative references

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.

IEC 60034-1, *Rotating electrical machines – Part 1: Rating and performance*

IEC 60034-7, *Rotating electrical machines – Part 7: Classification of types of constructions and mounting arrangements (IM Code)*

ISO 2954, *Mechanical vibration of rotating and reciprocating machinery – Requirements for instruments for measuring vibration severity*

ISO 10817-1, *Rotating shaft vibration measuring systems – Part 1: Relative and absolute sensing of radial vibration from rotating shafts*

ISO 20816-1, *Mechanical vibration – Measurement and evaluation of machine vibration – Part 1: General guidelines*

ISO 21940-32, *Mechanical vibration – Rotor balancing – Part 32: Shaft and fitment key convention*

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**