

BS EN 60196:2009



# BSI British Standards

## IEC standard frequencies

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British Standards

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This British Standard is the UK implementation of EN 60196:2009. It is identical to IEC 60196:2009.

The UK participation in its preparation was entrusted to Technical Committee GEL/8, Systems aspects for electrical energy supply.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 October 2009

### **Amendments issued since publication**

<b>Amd. No.</b>	<b>Date</b>	<b>Text affected</b>
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English version

**IEC standard frequencies**  
(IEC 60196:2009)

Fréquences normales de la CEI  
(CEI 60196:2009)

IEC-Normfrequenzen  
(IEC 60196:2009)

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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 8/1262/FDIS, future edition 2 of IEC 60196, prepared by IEC TC 8, Systems aspects for electrical energy supply, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60196 on 2009-07-01.

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) 2010-04-01
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 2012-07-01

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## Endorsement notice

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International Standard IEC 60196 has been prepared by IEC technical committee 8: System aspects for electrical energy supply.

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

FDIS	Report on voting
8/1262/FDIS	8/1266/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 second edition cancels and replaces the first edition published in 1965. It constitutes a technical revision. The main change is the removal of the standard frequencies for the rayon industry.

It has the status of a horizontal standard in accordance with IEC Guide 108.

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

The committee has decided that the contents of this publication will remain unchanged until the maintenance result 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.

## IEC STANDARD FREQUENCIES

### 1 Scope

The standard frequencies are the frequencies to be adopted for single-phase and three-phase a.c. systems, for installations in ships, for a.c. traction systems, for tools and for aircraft.

This standardization is limited to frequencies up to 10 000 Hz.

### 2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

#### 2.1

##### **standard frequency**

preferred frequency for the design and operation of electrical systems and/or equipment

### 3 Table of standard frequencies

Systems and installations in ships Hz	Traction Hz	Tools (see Note 3)		Aircraft Hz
		Series I 50 Hz Hz	Series II 60 Hz Hz	
	16 $\frac{2}{3}$			
50	50	<u>50</u>	60	
60	60	<u>100</u>		
		<u>150</u>	180	
		<u>200</u>		
		<u>250</u>		
		<u>300</u>		
		<u>400</u>	400	400
		<u>500</u>		
			540	
		600	720	
		750		
		<u>1 000</u>	1 000	
		1 200	1 440	
		1 500		
		<u>2 000</u>		
			2 160	
		2 400	2 880	
		3 000		
			3 420	
		<u>4 000</u>		
		8 000		
		<u>10 000</u>		

NOTE 1 When the frequencies are produced by rotating sets with induction motors, the real frequencies will be slightly lower than the values shown.

NOTE 2 The values underlined in series I (50 Hz) for tools are recommended as preferred values.

NOTE 3 The present recommendation is not applicable to the circuits of control devices of machine tools when these circuits form part only of a closed assembly peculiar to one machine tool or to a combination of such machines.





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