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Draft Indian Standard

FREQUENCIES FOR SPECIAL POWER APPLICATIONS
(First Revision)

(ICS 29.020)

Basic Electrotechnical Standards
Sectional Committee, ETD 01

Last date of receipt of comments: **15/05/2024**

FOREWORD

This draft Indian Standard (*First Revision*) will be adopted by the Bureau of Indian Standards, after the draft finalized by the Basic Electrotechnical Standards and Power Quality Sectional Committee had been approved by the Electrotechnical Division Council.

This standard was first published on 30 April 1975. The revision of this standard has been taken up to align it with the latest practices.

It is well known that in some special applications, such as in industries like traction systems, aircraft, machine tools, etc, special frequencies are required for control purposes. Keeping in mind that such applications are becoming increasingly common in this country owing to rapid industrialization, this standard has been drawn up to bring about uniformity in the frequencies adopted for such purposes.

In preparing this standard assistance has been derived from IEC 60196: 2009 “IEC standard frequencies”, issued by the International Electrotechnical Commission.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2: 2022 ‘Rules for rounding off numerical values (*second revision*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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FREQUENCIES FOR SPECIAL POWER APPLICATIONS
(First Revision)

1 SCOPE

1.1 This standard prescribes standard frequencies required for special control applications required for single phase and three phase ac systems for installation in ships, for ac traction systems, machine tools and aircraft. This standard is limited to frequencies up to 10 000 Hz.

1.2 The standard frequencies for centralized control installations are not covered in this standard.

2. STANDARD FREQUENCIES

2.1 The standard frequencies for application specified in **1.1** shall be in accordance with Table 1.

TABLE 1 STANDARD FREQUENCIES
(Clause 2.1)

System and Installations in ships	Traction	Industrial Use (<i>See Note</i> 3)	Air Craft
(1) Hz	(2) Hz	(3) Hz	(4) Hz
50	50	50	
60		100	
		150	
		200	
		250	
		300	
		400	400
		500	
		600	
		750	
		1 000	
		1 200	
		1 500	
		2 000	
		2 400	
		3 000	
		4 000	
		8 000	
		10 000	

Notes

1. When the frequencies are produced by rotating sets with induction motors, the real frequencies will be slightly lower than the values shown.
 2. The values underlined in the 50 Hz series are recommended as preferred values for non-portable tools.
 3. These recommendations are not applicable for 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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