

Letter symbols to be used in electric technology —

Part 4: Rotating electric machines

The European Standard EN 60027-4:2007 has the status of a
British Standard

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National foreword

This British Standard is the UK implementation of EN 60027-4:2007. It is identical to IEC 60027-4:2006.

The UK participation in its preparation was entrusted to Technical Committee SS/7, General metrology, quantities, units and symbols.

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

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**Letter symbols to be used in electric technology -
Part 4: Rotating electric machines
(IEC 60027-4:2006)**

Symboles littéraux
à utiliser en électrotechnique -
Partie 4: Machines électriques tournantes
(CEI 60027-4:2006)

Formelzeichen für die Elektrotechnik -
Teil 4: Drehende elektrische Maschinen
(IEC 60027-4:2006)

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CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 25/330/FDIS, future edition 2 of IEC 60027-4, prepared by IEC TC 25, Quantities and units, and their letter symbols, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60027-4 on 2007-10-01.

This European Standard supersedes HD 245.4 S1:1987.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
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- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2010-10-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60027-4:2006 was approved by CENELEC as a European Standard without any modification.

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LETTER SYMBOLS TO BE USED IN ELECTRICAL TECHNOLOGY –

Part 4: Rotating electric machines

1 Scope

This part of IEC 60027 is applicable to rotating electric machines. It gives names and symbols for quantities and units.

2 Normative references

The following referenced documents are indispensable for the application 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 60027-1:1992, *Letter symbols to be used in electrical technology – Part 1: General*

IEC 60034-1:2004, *Rotating electrical machines – Part 1: Rating and performance*

IEC 60034-2:1972, *Rotating electrical machines – Part 2: Methods for determining losses and efficiency of rotating electrical machinery from tests (excluding machines for traction vehicles)*

IEC 60034-4:1985, *Rotating electrical machines – Part 4: Methods for determining synchronous machine quantities from tests*

IEC 60034-9:2003, *Rotating electrical machines – Part 9: Noise limits*

IEC 60034-12:2002, *Rotating electrical machines – Part 12: Starting performance of single-speed three-phase cage induction motors*

IEC 60034-17:2002, *Rotating electrical machines – Part 17: Cage induction motors when fed from converters – Application guide*

IEC 60034-20-1:2002, *Rotating electrical machines – Part 20-1: Control motors – Stepping motors*

IEC 60034-26:2006, *Rotating electrical machines – Part 26: Effects of unbalanced voltages on the performance of three-phase cage induction motors*

IEC 60050-101:1998, *International Electrotechnical Vocabulary (IEV) – Part 101: Mathematics*

IEC 60050-111:1996, *International Electrotechnical Vocabulary (IEV) – Part 111: Physics and chemistry*

IEC 60050-121:1998, *International Electrotechnical Vocabulary (IEV) – Part 121: Electro-magnetism*

IEC 60050-131:2002, *International Electrotechnical Vocabulary (IEV) – Part 131: Circuit theory*

IEC 60050-151:2001, *International Electrotechnical Vocabulary (IEV) – Part 151: Electrical and magnetic devices*

IEC 60050-411:1996, *International Electrotechnical Vocabulary (IEV) – Part 411: Rotating machines*

IEC 61986:2002, *Rotating electrical machines – Equivalent loading and superposition techniques – Indirect testing to determine temperature rise*

3 Currents and related quantities

Item number	Quantities					Units			
	Entry number in IEC	Name of quantity	Chief symbol	Reserve symbol	Remarks	Unit, coherent with the SI		Other units	
						Name	Symbol	Name	Symbol
101		rated current	I_{rat}	I_N		ampere	A		
102	411-48-24	transient current	I'_k	I'_{sc}		ampere	A		
103	411-48-25	sub-transient current	I''_k	I''_{sc}		ampere	A		
104	411-48-20	steady short-circuit current	I_k	I_{sc}		ampere	A		
105	411-48-23	maximum aperiodic short-circuit current	$\hat{I}_k$	$\hat{I}_{sc}$		ampere	A		
106	411-48-21	initial periodic short-circuit current	I_{k0}	$I_{sc,0}$		ampere	A		
107	411-46-03	electric loading	A			ampere per metre	A/m		