

Letter symbols to be used in electrical technology —

Part 3: Logarithmic and related quantities, and their units

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National foreword

This British Standard is the UK implementation of EN 60027-3:2007. It is identical to IEC 60027-3:2002. It supersedes BS 7998-3:2002 which is withdrawn.

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.

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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Part 3: Logarithmic and related quantities, and their units
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Symboles littéraux à utiliser
en électrotechnique
Partie 3: Grandeurs logarithmiques
et connexes, et leurs unités
(CEI 60027-3:2002)

Formelzeichen für die Elektrotechnik
Teil 3: Logarithmische und verwandte
Größen und ihre Einheiten
(IEC 60027-3:2002)

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CENELEC

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

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Foreword

The text of the International Standard IEC 60027-3:2002, prepared by IEC TC 25, Quantities and units, and their letter symbols, was approved by CENELEC as HD 60027-3:2004 on 2003-12-01.

This Harmonization Document was submitted to the formal vote for conversion into a European Standard and was approved by CENELEC as EN 60027-3 on 2006-12-01.

This European Standard supersedes HD 60027-3:2004.

The following date was 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) 2007-12-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60027-3:2002 was approved by CENELEC as a European Standard without any modification.

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LETTER SYMBOLS TO BE USED IN ELECTRICAL TECHNOLOGY –

Part 3: Logarithmic and related quantities, and their units

1 Scope

This part of IEC 60027 gives general information about logarithmic and related quantities, and their units. Names and symbols for logarithmic quantities are given in other parts of IEC 60027, mainly in part 2, in the context where they belong.

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 60027-2:2000, *Letter symbols to be used in electrical technology – Part 2: Telecommunications and electronics*

ISO 31-0:1992, *Quantities and units – Part 0: General principles*

ISO 31-2:1992, *Quantities and units – Part 2: Periodic and related phenomena*

ISO 31-7:1992, *Quantities and units – Part 7: Acoustics*

ISO 31-11:1992, *Quantities and units – Part 11: Mathematical signs and symbols for use in the physical sciences and technology*

ISO/IEC 2382-16:1996, *Information technology – Vocabulary – Part 16: Information theory*

3 Logarithmic quantities

Logarithmic quantities are quantities defined by means of logarithmic functions. For a definition of a logarithmic quantity to be complete, the base of the logarithm must be specified.

Depending on the source of the argument of the logarithm, logarithmic quantities may be classified as follows:

- a) *logarithmic ratios* which are defined by the logarithm of the ratio of two field quantities of the same kind or of two power quantities of the same kind, for example attenuations and gains in telecommunication, where the argument may be the ratio of two electric currents or powers, and levels in acoustics, where the argument may be the ratio of a sound pressure or a sound power to a reference quantity of the same kind;