BS EN IEC 60051-7:2018

BSI Standards Publication

Direct acting indicating analogue electrical measuring instruments and their accessories

Part 7: Special requirements for multi-function instruments

bsi.

National foreword

This British Standard is the UK implementation of EN IEC 60051-7:2018. It is identical to IEC 60051-7:2017. It supersedes BS 89-7:1990, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PEL/85, Measuring equipment for electrical and electromagnetic quantities.

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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Compliance with a British Standard cannot confer immunity from legal obligations.

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EUROPEAN STANDARD

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English Version

Direct acting indicating analogue electrical measuring instruments and their accessories - Part 7: Special requirements for multi-function instruments (IEC 60051-7:2017)

Appareils mesureurs électriques indicateurs analogiques à action directe et leurs accessoires - Partie 7: Exigences particulières pour les appareils à fonctions multiples (IEC 60051-7:2017)

Direkt wirkende anzeigende elektrische Meßgeräte und ihr Zubehör - Meßgeräte mit Skalenanzeige - Teil 7: Spezielle Anforderungen für Vielfach-Meßgeräte (IEC 60051-7:2017)

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

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

European foreword

The text of document 85/560/CDV, future edition 5 of IEC 60051-7, prepared by IEC/TC 85 "Measuring equipment for electrical and electromagnetic quantities" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60051-7:2018.

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)	2018-10-19
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2021-01-19

This document supersedes EN 60051-7:1989.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directives.

For the relationship with EU Directives see informative Annex ZZ, which is an integral part of this document.

Endorsement notice

The text of the International Standard IEC 60051-7:2017 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 60051-9[1]	NOTE	Harmonized as EN 60051-9[2].

[1] To be published. Stage at the time of publication: IEC CDV 60051-9:2018.
[2] To be published. Stage at the time of publication: prEN 60051-9:2018.

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.

Publication	Year	Title	EN/HD	Year
IEC 60051-1	2016	Direct acting indicating analogue electrical measuring instruments and their accessories – Part1: Definitions and general requirements common to all parts	EN 60051-1	2017

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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DIRECT ACTING INDICATING ANALOGUE ELECTRICAL MEASURING INSTRUMENTS AND THEIR ACCESSORIES –

Part 7: Special requirements for multi-function instruments

FOREWORD

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International Standard IEC 60051-7 has been prepared by IEC technical committee 85: Measuring equipment for electrical and electromagnetic quantities.

This fifth edition cancels and replaces the fourth edition published in 1984. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) updating of content in line with new editions of IEC 60051-1 and IEC 60051-9;
b) addition of Annex A to specify the nonconformity classification of test items.

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

CDV	Report on voting
85/560/CDV	85/583A/RVC

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 International Standard is to be used in conjunction with IEC 60051-1:2016.

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

A list of all parts in the IEC 60051 series, published under the general title *Direct acting indicating analogue electrical measuring instruments and their accessories*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

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

INTRODUCTION

IEC 60051 is published in separate parts according to the following structure and under the general title: *Direct acting indicating analogue electrical measuring instruments and their accessories*.

Part 1: Definitions and general requirements common to all parts

Part 2: Special requirements for ammeters and voltmeters

Part 3: Special requirements for wattmeters and varmeters

Part 4: Special requirements for frequency meters

Part 5: Special requirements for phase meters, power factor meters and synchroscopes

Part 6: Special requirements for ohmmeters (impedance meters) and conductance meters

Part 7: Special requirements for multi-function instruments

Part 8: Special requirements for accessories

Part 9: Recommended test methods

IEC 60051-7 is not complete in itself and is read in conjunction with IEC 60051-1.

All of these parts are arranged in the same format and a standard relationship between subject and clause number is maintained throughout these parts. This arrangement will assist the reader of IEC 60051 to distinguish information relating to the different types of instruments.

DIRECT ACTING INDICATING ANALOGUE ELECTRICAL MEASURING INSTRUMENTS AND THEIR ACCESSORIES –

Part 7: Special requirements for multi-function instruments

1 Scope

This part of IEC 60051 applies to multi-function analogue instruments.

This document also applies to non-interchangeable accessories (as defined in 3.1.23 of IEC 60051-1:2016) used with multi-function analogue instruments.

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 60051-1:2016, *Direct acting indicating analogue electrical measuring instruments and their accessories – Part 1: Definitions and general requirements common to all parts*

3 Terms and definitions

See IEC 60051-1:2016.

4 Description, classification and compliance

4.1 Description

See IEC 60051-1:2016.

4.2 Classification

See IEC 60051-1:2016.

Each function of a multi-function instrument shall be classified in one of the accuracy classes denoted by the class indices as given in 4.2 of the part relevant to that function.

Each function may have a different class index.

DC and AC are considered to be different measuring functions as are the measurement of current and voltage.

Some ranges of a function may have a different class index from the other ranges.

4.3 Compliance with the requirements of this standard

See IEC 60051-1:2016.