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Elektriska mätinstrument – Direktvisande analoga elektriska mätinstrument och tillbehör – Del 2: Särskilda fordringar på amperemetrar och voltmetrar

*Direct acting indicating analogue electrical measuring instruments and their accessories –
Part 2: Special requirements for ammeters and voltmeters*

Som svensk standard gäller europastandarden EN IEC 60051-2:2021. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 60051-2:2021.

Nationellt förord

Europastandarden EN IEC 60051-2:2021

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 60051-2, Fifth edition, 2018 - Direct acting indicating analogue electrical measuring instruments and their accessories - Part 2: Special requirements for ammeters and voltmeters**

utarbetad inom International Electrotechnical Commission, IEC.

Standarden ska användas tillsammans med SS-EN 60051-1, utgåva 2, 2017.

Tidigare fastställd svensk standard SS-EN 60051-2, utgåva 1, 1999, gäller ej fr o m 2024-04-30.

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SEK Svensk Elstandard

Box 1284
164 29 Kista
Tel 08-444 14 00
www.elstandard.se

English Version

Direct acting indicating analogue electrical measuring
instruments and their accessories - Part 2: Special requirements
for ammeters and voltmeters
(IEC 60051-2:2018)

Appareils mesureurs électriques indicateurs analogiques à
action directe et leurs accessoires - Partie 2: Exigences
particulières pour les ampèremètres et les voltmètres
(IEC 60051-2:2018)

Direkt wirkend anzeigende analoge elektrische
Messgeräte und ihr Zubehör - Teil 2: Spezielle
Anforderungen für Strom- und Spannungs- Messgeräte
(IEC 60051-2:2018)

This European Standard was approved by CENELEC on 2018-10-04. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



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 85/555/CDV, future edition 5 of IEC 60051-2, 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 60051-2:2021.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2021-10-30 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2024-04-30 document have to be withdrawn

This document supersedes EN 60051-2:1989 and all of its amendments and corrigenda (if any).

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.

Endorsement notice

The text of the International Standard IEC 60051-2:2018 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 60051-7 NOTE Harmonized as EN IEC 60051-7

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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60051-1	2016	Direct acting indicating analogue electrical measuring instruments and their accessories – Part 1: Definitions and general requirements common to all parts	EN 60051-1	2017
IEC 60051-9	-	Direct acting indicating analogue electrical measuring instruments and their accessories - Part 9: Recommended test methods	EN 60051-9	-
IEC 61869-2	-	Instrument transformers - Part 2: Additional requirements for current transformers	EN 61869-2	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

DIRECT ACTING INDICATING ANALOGUE ELECTRICAL MEASURING INSTRUMENTS AND THEIR ACCESSORIES –

Part 2: Special requirements for ammeters and voltmeters

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as “IEC Publication(s)”). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 60051-2 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
85/555/CDV	85/578A/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 document has been drafted in accordance with the ISO/IEC Directives, Part 2.

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

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 synchrosopes
- 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 60051-2 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 2: Special requirements for ammeters and voltmeters

1 Scope

This part of IEC 60051 applies to direct acting indicating ammeters and voltmeters having an analogue display.

NOTE For multi-function instruments, see IEC 60051-7.

It also applies to:

- direct acting indicating ammeters and voltmeters whose scale marks do not correspond directly to their electrical input quantity, provided that the relationship between them is known;
- direct acting indicating ammeters and voltmeters and accessories having electronic devices in their measuring and/or auxiliary circuits.

This document does not apply to:

- special purpose instruments which are covered by their own IEC standards;
- special purpose devices which are covered by their own IEC standards when they are used as accessories.

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*

IEC 60051-9, *Direct acting indicating analogue electrical measuring instruments and their accessories – Part 9: Recommended test methods*

IEC 61869-2, *Instrument transformers – Part 2: Additional requirements for current transformers*