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## Mätning av små resistanser – Metoder och vägledning

*Low resistance measurements –  
Methods and guidance*

Som svensk standard gäller europastandarden EN IEC 62812:2019. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 62812:2019.

### Nationellt förord

Europastandarden EN IEC 62812:2019

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 62812, First edition, 2019 - Low resistance measurements - Methods and guidance**

utarbetad inom International Electrotechnical Commission, IEC.

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ICS 31.040.01

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EUROPEAN STANDARD

**EN IEC 62812**

NORME EUROPÉENNE

EUROPÄISCHE NORM

July 2019

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ICS 31.040.01

English Version

## Low resistance measurements - Methods and guidance (IEC 62812:2019)

Mesures de faibles résistances - Méthodes et  
recommandations  
(IEC 62812:2019)

Messung niederohmiger Widerstände - Verfahren und  
Leitfaden  
(IEC 62812:2019)

This European Standard was approved by CENELEC on 2019-06-06. 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.

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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**

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Ref. No. EN IEC 62812:2019 E

SEK Svensk Elstandard

SS-EN IEC 62812, utg 1:2020

## **European foreword**

The text of document 40/2665/FDIS, future edition 1 of IEC 62812, prepared by IEC/TC 40 "Capacitors and resistors for electronic equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62812:2019.

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) 2020-03-06
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2022-06-06

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.

## **Endorsement notice**

The text of the International Standard IEC 62812:2019 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60115-2	NOTE	Harmonized as EN 60115-2
IEC 60115-8	NOTE	Harmonized as EN 60115-8
IEC 60301	NOTE	Harmonized as EN 60301
IEC 61249-5-1	NOTE	Harmonized as EN 61249-5-1

## 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](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-1	-	Environmental testing - Part 1: General and guidance	EN 60068-1	-
IEC 60115-1 (mod)	2008	Fixed resistors for use in electronic equipment - Part 1: Generic specification	EN 60115-1	2011
-	-		+ A11	2015
IEC 60294	-	Measurement of the dimensions of a cylindrical component with axial terminations	EN 60294	-

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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**LOW RESISTANCE MEASUREMENTS –  
METHODS AND GUIDANCE**
**FOREWORD**

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International Standard IEC 62812 has been prepared by IEC technical committee 40: Capacitors and resistors for electronic equipment.

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

FDIS	Report on voting
40/2665/FDIS	40/2671/RVD

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.



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.

## LOW RESISTANCE MEASUREMENTS – METHODS AND GUIDANCE

### 1 Scope

Resistance measurements are typically compromised by a variety of phenomena, for example serial resistance in the measurement path, self-heating or non-ohmic properties. Whether the effect of such phenomena on a resistance measurement is acceptable or not depends on the magnitude of each effect in comparison to the resistance and to the required accuracy. Hence, the risk of erroneous resistance measurements increases with decreasing resistance and with a tightening of the permissible tolerance.

This document specifies methods of measurement and associated test conditions that eliminate or reduce the influence of adverse phenomena in order to improve the attainable accuracy of low-resistance measurements.

The methods described in this document are applicable for the individual measurements of the resistance of individual resistors, and also for resistance measurements as part of a test sequence. They are applied if prescribed by a relevant component specification, or if agreed between a customer and a manufacturer.

### 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 60068-1, *Environmental testing – Part 1: General and guidance*

IEC 60115-1:2008, *Fixed resistors for use in electronic equipment – Part 1: Generic specification*

IEC 60294, *Measurement of the dimensions of a cylindrical component with axial terminations*