



BSI Standards Publication

## Piezoelectric sensors

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Part 2: Chemical and biochemical sensors

## National foreword

This British Standard is the UK implementation of EN IEC 63041-2:2018. It is identical to IEC 63041-2:2017.

The UK participation in its preparation was entrusted to Technical Committee EPL/49, Piezoelectric devices for frequency control and selection.

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

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EUROPEAN STANDARD

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English Version

**Piezoelectric sensors - Part 2: chemical and biochemical  
sensors  
(IEC 63041-2:2017)**

Capteurs piézoélectriques - Partie 2: Capteurs chimiques et  
biochimiques  
(IEC 63041-2:2017)

Piezoelektrische Sensoren - Teil 2: Chemische und  
biochemische Sensoren  
(IEC 63041-2:2017)

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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 49/1221/CDV, future edition 1 of IEC 63041-2, prepared by IEC/TC 49 "Piezoelectric, dielectric and electrostatic devices and associated materials for frequency control, selection and detection" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 63041-2:2018.

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) 2018-10-17
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2021-01-17

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

IEC 60068 (series)	NOTE	Harmonized as EN 60068 (series).
IEC 60122-1	NOTE	Harmonized as EN 60122-1.
IEC 60444-1	NOTE	Harmonized as EN 60444-1.
IEC 60444-5	NOTE	Harmonized as EN 60444-5.
IEC 60444-9	NOTE	Harmonized as EN 60444-9.
IEC 60679 (series)	NOTE	Harmonized as EN 60679 (series).
IEC 60758:2008	NOTE	Harmonized as EN 60758:2009 (not modified).
IEC 60862-1	NOTE	Harmonized as EN 60862-1.
IEC 61019-1:2004	NOTE	Harmonized as EN 61019-1:2005 (not modified).
IEC 61240:2016	NOTE	Harmonized as EN 61240:2016 (not modified).
IEC 61760 (series)	NOTE	Harmonized as EN 61760 (series).
IEC 61837 (series)	NOTE	Harmonized as EN 61837 (series).
IEC 62276:2016	NOTE	Harmonized as EN 62276:2016 (not modified).

**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 60027	series	Letter symbols to be used in electrical technology - Part 1: General	EN 60027	series
IEC 60050-561	2014	International electrotechnical vocabulary - Part 561: Piezoelectric, dielectric and electrostatic devices and associated materials for frequency control, selection and detection	-	-
IEC 60617	-	Standard data element types with associated classification scheme for electric components - Part 4: IEC reference collection fo standard data element types and component classes	-	-
IEC 63041-1	-	Piezoelectric sensors - Part 1: Generic specifications	EN IEC 63041-1	-
ISO 80000-1	2009	Quantities and units - Part 1: General	EN ISO 80000-1	2013



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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## PIEZOELECTRIC SENSORS –

## Part 2: Chemical and biochemical sensors

## FOREWORD

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International Standard IEC 63041-2 has been prepared by IEC technical committee TC 49: Piezoelectric, dielectric and electrostatic devices and associated materials for frequency control, selection and detection.

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

CDV	Report on voting
49/1221/CDV	49/1250/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.

A list of all parts in the IEC 63041 series, published under the general title *Piezoelectric sensors*, can be found on the IEC website.



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

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

A bilingual version of this publication may be issued at a later date.

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## PIEZOELECTRIC SENSORS –

### Part 2: Chemical and biochemical sensors

#### 1 Scope

This part of IEC 63041 is applicable to piezoelectric chemical sensors mainly used in the field of biological, medical, gas and environmental sciences. It provides users with technical guidelines on biochemical sensors as well as basic knowledge of common chemical sensors.

#### 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 60027 (all parts), *Letter symbols to be used in electrical technology*

IEC 60050-561:-2014, *International Electrotechnical Vocabulary – Part 561: Piezoelectric, dielectric and electrostatic devices and associated materials for frequency control, selection and detection*

IEC 60617, *Graphical symbols for diagrams*, available at <http://std.iec.ch/iec60617>

IEC 63041-1, *Piezoelectric sensors – Part 1: Generic specifications*

ISO 80000-1:2009, *Quantities and units – Part 1: General*

#### 3 Terms and definitions

##### 3.1 General

For the purpose of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses;

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

Units, letter symbols and terminology shall, wherever possible, be taken from the following standards: IEC 60027, IEC 60050-561, IEC 60617, IEC 63041-1, and ISO 80000-1.

NOTE 1 In the market of chemical and biochemical sensors, the terms related in fields such as chemistry, biochemistry, healthcare, etc. are widely used.

NOTE 2 Piezoelectric sensors covered herein are those used for the detection and measurement of either chemical substance in the gas phase or biological molecules in aqueous media.