



**NSAI**  
Standards

Irish Standard  
I.S. EN 62884-1:2017

# Measurement techniques of piezoelectric, dielectric and electrostatic oscillators - Part 1: Basic methods for the measurement

**I.S. EN 62884-1:2017**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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NSAI  
1 Swift Square,  
Northwood, Santry  
Dublin 9

T +353 1 807 3800  
F +353 1 807 3838  
E standards@nsai.ie  
W NSAI.ie

Sales:  
T +353 1 857 6730  
F +353 1 857 6729  
W standards.ie

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## National Foreword

I.S. EN 62884-1:2017 is the adopted Irish version of the European Document EN 62884-1:2017, Measurement techniques of piezoelectric, dielectric and electrostatic oscillators - Part 1: Basic methods for the measurement

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EUROPEAN STANDARD

**EN 62884-1**

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2017

ICS 31.140

English Version

**Measurement techniques of piezoelectric,  
dielectric and electrostatic oscillators -  
Part 1: Basic methods for the measurement  
(IEC 62884-1:2017)**

Techniques de mesure des oscillateurs piézoélectriques,  
diélectriques et électrostatiques -  
Partie 1 : Méthodes fondamentales pour le mesurage  
(IEC 62884-1:2017)

Messverfahren für piezoelektrische, dielektrische  
und elektrostatische Oszillatoren -  
Teil 1: Grundlegende Messverfahren  
(IEC 62884-1:2017)

This European Standard was approved by CENELEC on 2017-07-13. 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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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.

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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

**EN 62884-1:2017****European foreword**

The text of document 49/1187A/CDV, future edition 1 of IEC 62884-1, 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 62884-1:2017.

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) 2018-04-13
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2020-07-13

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**Endorsement notice**

The text of the International Standard IEC 62884-1:2017 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 60122-1:2002	NOTE	Harmonized as EN 60122-1:2002 (not modified).
IEC 60679-3:2012	NOTE	Harmonized as EN 60679-3:2013 (not modified).
IEC 60679-4	NOTE	Harmonized as EN 60679-4.
IEC 60679-5	NOTE	Harmonized as EN 60679-5.
IEC 60749-26	NOTE	Harmonized as EN 60749-26.
IEC 60749-27	NOTE	Harmonized as EN 60749-27.
IEC 61000-4-2	NOTE	Harmonized as EN 61000-4-2.
IEC 61019-1:2004	NOTE	Harmonized as EN 61019-1:2005 (not modified).
IEC 61019-2:2005	NOTE	Harmonized as EN 61019-2:2005 (not modified).
IEC 61837-1:2012	NOTE	Harmonized as EN 61837-1:2012 (not modified).
IEC 61837-2:2011	NOTE	Harmonized as EN 61837-2:2011 (not modified).
IEC 61837-4:2015	NOTE	Harmonized as EN 61837-4:2015 (not modified).
ISO 80000-4:2006	NOTE	Harmonized as EN ISO 80000-4:2013 (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 When 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	EN 60027	series
IEC 60050-561	-	International electrotechnical vocabulary - Part 561: Piezoelectric, dielectric and electrostatic devices and associated materials for frequency control, selection and detection	-	-
IEC 60068-1	2013	Environmental testing - Part 1: General and guidance	EN 60068-1	2014
IEC 60068-2-1	-	Environmental testing - Part 2-1: Tests - Test A: Cold	EN 60068-2-1	-
IEC 60068-2-2	-	Environmental testing - Part 2-2: Tests - Test B: Dry heat	EN 60068-2-2	-
IEC 60068-2-6	-	Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	-
IEC 60068-2-7	-	Basic environmental testing procedures - Part 2-7: Tests - Test Ga and guidance: Acceleration, steady state	EN 60068-2-7	-
IEC 60068-2-10	2005	Environmental testing - Part 2-10: Tests - Test J and guidance: Mould growth	EN 60068-2-10	2005
IEC 60068-2-13	-	Basic environmental testing procedures - Part 2-13: Tests - Test M: Low air pressure	EN 60068-2-13	-
IEC 60068-2-14	-	Environmental testing - Part 2-14: Tests - Test N: Change of temperature	EN 60068-2-14	-
IEC 60068-2-17	1994	Basic environmental testing procedures - Part 2-17: Tests - Test Q: Sealing	EN 60068-2-17	1994

## EN 62884-1:2017

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-2-20	-	Environmental testing - Part 2-20: Tests - Test T: Test methods for solderability and resistance to soldering heat of devices with leads	EN 60068-2-20	-
IEC 60068-2-21	-	Environmental testing - Part 2-21: Tests - Test U: Robustness of terminations and integral mounting devices	EN 60068-2-21	-
IEC 60068-2-27	-	Environmental testing - Part 2-27: Tests - Test Ea and guidance: Shock	EN 60068-2-27	-
IEC 60068-2-30	-	Environmental testing - Part 2-30: Tests - Test Db: Damp heat, cyclic (12 h + 12 h cycle)	EN 60068-2-30	-
IEC 60068-2-31	-	Environmental testing - Part 2-31: Tests - Test Ec: Rough handling shocks, primarily for equipment-type specimens	EN 60068-2-31	-
IEC 60068-2-45	-	Basic environmental testing procedures - Part 2-45: Tests - Test XA and guidance: Immersion in cleaning solvents	EN 60068-2-45	-
IEC 60068-2-52	-	Environmental testing - Part 2-52: Tests - Test Kb: Salt mist, cyclic (sodium chloride solution)	EN 60068-2-52	-
IEC 60068-2-58	-	Environmental testing - Part 2-58: Tests - Test Td: Test methods for solderability, resistance to dissolution of metallization and to soldering heat of surface mounting devices (SMD)	EN 60068-2-58	-
IEC 60068-2-64	-	Environmental testing - Part 2-64: Tests - Test Fh: Vibration, broadband random and guidance	EN 60068-2-64	-
IEC 60068-2-78	-	Environmental testing - Part 2-78: Tests - Test Cab: Damp heat, steady state	EN 60068-2-78	-
IEC 60469	-	Transitions, pulses and related waveforms - Terms, definitions and algorithms	EN 60469	-
IEC 60617-DB	-	Graphical symbols for diagrams	-	-
IEC 60679-1	2017	Piezoelectric, dielectric and electrostatic oscillators of assessed quality - Part 1 : Generic specification	EN 60679-1	— <sup>1)</sup>
ISO 80000-1	-	Quantities and units - Part 1: General	EN ISO 80000-1	-

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# INTERNATIONAL STANDARD



**Measurement techniques of piezoelectric, dielectric and electrostatic  
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Part 1: Basic methods for the measurement**



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IEC Central Office  
3, rue de Varembe  
CH-1211 Geneva 20  
Switzerland

Tel.: +41 22 919 02 11  
Fax: +41 22 919 03 00  
[info@iec.ch](mailto:info@iec.ch)  
[www.iec.ch](http://www.iec.ch)

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**IEC 62884-1**

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# INTERNATIONAL STANDARD



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**Measurement techniques of piezoelectric, dielectric and electrostatic  
oscillators –  
Part 1: Basic methods for the measurement**

INTERNATIONAL  
ELECTROTECHNICAL  
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## CONTENTS

FOREWORD.....	6
1 Scope .....	8
2 Normative references .....	8
3 Terms and definitions .....	9
3.1 General.....	9
3.2 Terms and definitions.....	10
4 Test and measurement procedures.....	10
4.1 General.....	10
4.2 Test and measurement conditions.....	10
4.2.1 Standard conditions for testing .....	10
4.2.2 Equilibrium conditions.....	10
4.2.3 Air flow conditions for temperature tests .....	10
4.2.4 Power supplies .....	11
4.2.5 Precision of measurement .....	11
4.2.6 Precautions .....	11
4.2.7 Alternative test methods .....	11
4.3 Visual inspection.....	11
4.3.1 General .....	11
4.3.2 Visual test A .....	11
4.3.3 Visual test B .....	11
4.3.4 Visual test C .....	12
4.4 Dimensions and gauging procedures .....	12
4.4.1 Dimensions – Test A.....	12
4.4.2 Dimensions – Test B.....	12
4.5 Electrical test procedures.....	12
4.5.1 Insulation resistance.....	12
4.5.2 Voltage proof.....	12
4.5.3 Input power .....	13
4.5.4 Output frequency.....	14
4.5.5 Frequency/temperature characteristics .....	15
4.5.6 Frequency/load coefficient.....	16
4.5.7 Frequency/voltage coefficient .....	17
4.5.8 Frequency stability with thermal transient .....	17
4.5.9 Oscillation start-up.....	18
4.5.10 Stabilization time .....	22
4.5.11 Frequency adjustment range.....	22
4.5.12 Retrace characteristics .....	22
4.5.13 Oscillator output voltage (sinusoidal) .....	23
4.5.14 Oscillator output voltage (pulse waveform) .....	24
4.5.15 Oscillator output waveform (sinusoidal) .....	25
4.5.16 Oscillator output waveform (pulse).....	27
4.5.17 Oscillator output power (sinusoidal).....	27
4.5.18 Oscillator output impedance (sinusoidal) .....	27
4.5.19 Re-entrant isolation .....	28
4.5.20 Output suppression of gated oscillators .....	28
4.5.21 3-state output characteristics.....	29
4.5.22 Amplitude modulation characteristics.....	30

4.5.23	Frequency modulation characteristics .....	36
4.5.24	Spurious response .....	40
4.5.25	Phase noise .....	40
4.5.26	Phase noise – vibration .....	41
4.5.27	Phase noise – acoustic .....	41
4.5.28	Noise pedestal .....	42
4.5.29	Spectral purity .....	43
4.5.30	Incidental frequency modulation .....	43
4.5.31	RMS fractional frequency fluctuations .....	44
4.5.32	Electromagnetic interference (radiated) .....	48
4.6	Mechanical and environmental test procedures .....	52
4.6.1	Robustness of terminations (destructive) .....	52
4.6.2	Sealing test (non-destructive) .....	54
4.6.3	Soldering (solderability and resistance to soldering heat) (destructive) .....	54
4.6.4	Rapid change of temperature: severe shock by liquid immersion (non-destructive) .....	57
4.6.5	Rapid change of temperature: thermal shock in air (non-destructive) .....	57
4.6.6	Bump (destructive) .....	57
4.6.7	Vibration (destructive) .....	58
4.6.8	Shock (destructive) .....	58
4.6.9	Free fall (destructive) .....	59
4.6.10	Acceleration, steady-state (non-destructive) .....	59
4.6.11	Acceleration – 2g tip over .....	59
4.6.12	Acceleration noise .....	59
4.6.13	Low air pressure (non-destructive) .....	59
4.6.14	Dry heat (non-destructive) .....	59
4.6.15	Damp heat, cyclic (destructive) .....	59
4.6.16	Cold (non-destructive) .....	60
4.6.17	Climatic sequence (destructive) .....	60
4.6.18	Damp heat, steady-state (destructive) .....	60
4.6.19	Salt mist, cyclic (destructive) .....	60
4.6.20	Mould growth (non-destructive) .....	60
4.6.21	Immersion in cleaning solvent (non-destructive) .....	60
4.6.22	Radiation hardness .....	60
	Bibliography .....	61
	Figure 1 – Test circuits for insulation resistance measurements .....	12
	Figure 2 – Test circuit for voltage proof test .....	13
	Figure 3 – Test circuit for oscillator input power measurement .....	13
	Figure 4 – Test circuit for oven and oscillator input power measurement .....	14
	Figure 5 – Test circuit for measurement of output frequency, method 1 .....	15
	Figure 6 – Test circuit for measurement of output frequency, method 2 .....	15
	Figure 7 – Test circuit for measurement of frequency/temperature characteristics .....	16
	Figure 8 – Thermal transient behaviour of typical oscillator .....	18
	Figure 9 – Generalized oscillator circuit .....	19
	Figure 10 – Test circuit for start-up behaviour and start-up time measurement .....	20
	Figure 11 – Typical start-up behaviour with slow supply voltage ramp .....	20

Figure 12 – Definition of start-up time .....	21
Figure 13 – Supply voltage waveform for periodical $t_{SU}$ measurement .....	22
Figure 14 – Typical oscillator stabilization characteristic .....	22
Figure 15 – Example of retrace characteristic .....	23
Figure 16 – Test circuit for the measurement of output voltage .....	24
Figure 17 – Test circuit for the measurement of pulse outputs .....	24
Figure 18 – Characteristics of an output waveform.....	24
Figure 19 – Test circuit for harmonic distortion measurement .....	25
Figure 20 – Quasi-sinusoidal output waveforms .....	25
Figure 21 – Frequency spectrum for harmonic distortion .....	26
Figure 22 – Test circuit for the determination of isolation between output ports.....	28
Figure 23 – Test circuit for measuring suppression of gated oscillators .....	29
Figure 24 – Test circuit for 3-state disable mode output current .....	29
Figure 25 – Test circuit for output gating time – 3-state.....	30
Figure 26 – Test circuit for modulation index measurement.....	31
Figure 27 – Modulation waveform for index calculation .....	31
Figure 28 – Logarithmic signal amplitude scale .....	31
Figure 29 – Test circuit to determine amplitude modulation sensitivity .....	33
Figure 30 – Frequency spectrum of amplitude modulation distortion .....	33
Figure 31 – Test circuit to determine pulse amplitude modulation .....	34
Figure 32 – Pulse modulation characteristic .....	35
Figure 33 – Test circuit for the determination of modulation input impedance.....	36
Figure 34 – Test circuit for the measurement of f.m. deviation .....	36
Figure 35 – Test circuit for the measurement of f.m. sensitivity .....	38
Figure 36 – Test circuit for the measurement of frequency modulation distortion.....	39
Figure 37 – Test circuit for the measurement of single-sideband phase noise .....	40
Figure 38 – Typical noise pedestal spectrum .....	42
Figure 39 – Test circuit for the measurement of incidental frequency modulation .....	44
Figure 40 – Test circuit for method 1.....	45
Figure 41 – Test circuit for method 2.....	46
Figure 42 – Circuit modifications for methods 1 and 2.....	47
Figure 43 – Time-domain short-term frequency stability of a typical 5 MHz precision oscillator .....	48
Figure 44 – Radiated interference tests .....	49
Figure 45 – Characteristics of line impedance of stabilizing network .....	50
Figure 46 – Circuit diagram of line impedance of stabilizing network.....	51
Figure 47 – Reflow temperature profile for solderability .....	55
Figure 48 – Reflow temperature profile for resistance to soldering heat .....	56
Table 1 – Measuring sets bandwidth .....	52
Table 2 – Tensile force .....	52
Table 3 – Thrust force.....	53
Table 4 – Bending force.....	53

Table 5 – Torque force.....	54
Table 6 – Solderability – Test condition, reflow method.....	55
Table 7 – Resistance to soldering heat – Test condition and severity, reflow method .....	57

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MEASUREMENT TECHNIQUES OF PIEZOELECTRIC,  
DIELECTRIC AND ELECTROSTATIC OSCILLATORS –****Part 1: Basic methods for the measurement****FOREWORD**

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International Standard IEC 62884-1 has been prepared by IEC technical committee 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
49/1187A/CDV	49/1200/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 62884 series, published under the general title *Measurement techniques of piezoelectric, dielectric and electrostatic oscillators*, can be found on the IEC website.

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

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# MEASUREMENT TECHNIQUES OF PIEZOELECTRIC, DIELECTRIC AND ELECTROSTATIC OSCILLATORS –

## Part 1: Basic methods for the measurement

### 1 Scope

This part of IEC 62884 specifies the measurement techniques for piezoelectric, dielectric and electrostatic oscillators, including Dielectric Resonator Oscillators (DROs) and oscillators using FBAR (hereinafter referred to as "Oscillator").

NOTE Dielectric Resonator Oscillators (DROs) and oscillators using FBAR are under consideration.

### 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, *International electrotechnical vocabulary – Part 561: Piezoelectric, dielectric and electrostatic devices and associated materials for frequency control, selection and detection*. Available at <http://www.electropedia.org>

IEC 60068-1:2013, *Environmental testing – Part 1: General and guidance*

IEC 60068-2-1, *Environmental testing – Part 2-1: Tests – Test A: Cold*

IEC 60068-2-2, *Environmental testing – Part 2-2: Tests – Test B: Dry heat*

IEC 60068-2-6, *Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal)*

IEC 60068-2-7, *Basic environmental testing procedures – Part 2-7: Tests – Test Ga and guidance: Acceleration, steady state*

IEC 60068-2-10:2005, *Environmental testing – Part 2-10: Tests – Test J and guidance: Mould growth*

IEC 60068-2-13, *Basic environmental testing procedures – Part 2-13: Tests – Test M: Low air pressure*

IEC 60068-2-14, *Environmental testing – Part 2-14: Tests – Test N: Change of temperature*

IEC 60068-2-17:1994, *Basic environmental testing procedures – Part 2-17: Tests – Test Q: Sealing*

IEC 60068-2-20, *Environmental testing – Part 2-20: Tests – Test T: Test methods for solderability and resistance to soldering heat of devices with leads*

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