

**Sidestuskondensaatorid ja kondensaator-pingejagurid.
Osa 1: Üldreeglid**

**Coupling capacitors and capacitor dividers - Part 1:
General rules**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 60358-1:2012 sisaldab Euroopa standardi EN 60358-1:2012 ingliskeelset teksti.	This Estonian standard EVS-EN 60358-1:2012 consists of the English text of the European standard EN 60358-1:2012.
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English version

**Coupling capacitors and capacitor dividers -
Part 1: General rules
(IEC 60358-1:2012)**

Condensateurs de couplage et diviseurs
capacitifs -
Partie 1: Règles générales
(CEI 60358-1:2012)

Kopplungskondensatoren und kapazitive
Teiler -
Teil 1: Allgemeine Bestimmungen
(IEC 60358-1:2012)

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CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 33/499/FDIS, future edition 1 of IEC 60358-1, prepared by IEC/TC 33, "Power capacitors" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60358-1:2012.

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) 2013-04-17
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2015-07-17

This document supersedes HD 597 S1:1992 (partially).

EN 60358-1:2012 includes the following significant technical changes with respect to HD 597 S1:1992:

- The standard has been split into different parts; Part 1 is the general rules and Parts 2, 3, 4 will be specific to the PLC, filters and dividers applications.
- The routine and type test have been reviewed and are presented in Figure 2.

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

This standard covers the Principle Elements of the Safety Objectives for Electrical Equipment Designed for Use within Certain Voltage Limits (LVD - 2006/95/EC).

Endorsement notice

The text of the International Standard IEC 60358-1:2012 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 60060-2	NOTE	Harmonized as EN 60060-2.
IEC 60085	NOTE	Harmonized as EN 60085.
IEC 60358-2	NOTE	Harmonized as EN 60358-2 ¹⁾ .
IEC 60422	NOTE	Harmonized as EN 60422.
IEC 61869-5	NOTE	Harmonized as EN 61869-5.
IEC 62155	NOTE	Harmonized as EN 62155.
CISPR 16-1-1	NOTE	Harmonized as EN 55016-1-1.

¹⁾ To be published.

Annex ZA

(normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60038 (mod)	-	IEC standard voltages	EN 60038	-
IEC 60050-321	1986	International Electrotechnical vocabulary - Chapter 321: Instrument transformers	-	-
IEC 60050-436	1990	International Electrotechnical Vocabulary (IEV) - Chapter 436: Power capacitors	-	-
IEC 60050-601	1985	International Electrotechnical Vocabulary (IEV) - Chapter 601: Generation, transmission and distribution of electricity - General	-	-
IEC 60050-604	1987	International Electrotechnical Vocabulary (IEV) - Chapter 604: Generation, transmission and distribution of electricity - Operation	-	-
IEC 60060-1	-	High-voltage test techniques - Part 1: General definitions and test requirements	EN 60060-1	-
IEC 60068-2-17	-	Environmental testing - Part 2: Tests - Test Q: Sealing	EN 60068-2-17	-
IEC 60071-1	-	Insulation co-ordination - Part 1: Definitions, principles and rules	EN 60071-1	-
IEC 60270	-	High-voltage test techniques - Partial discharge measurements	EN 60270	-
IEC 60721	Series	Classification of environmental conditions	EN 60721	Series
IEC 61462	-	Composite hollow insulators - Pressurized and unpressurized insulators for use in electrical equipment with rated voltage greater than 1 000 V - Definitions, test methods, acceptance criteria and design recommendations	EN 61462	-
CISPR/TR 18-2	-	Radio interference characteristics of overhead - power lines and high-voltage equipment - Part 2: Methods of measurement and procedure for determining limits	-	-

CONTENTS

FOREWORD.....	5
INTRODUCTION.....	7
1 Scope.....	8
2 Normative references.....	8
3 Terms and definitions	9
3.1 General terms and definitions	9
3.2 Coupling capacitor terms and definitions	12
4 Service conditions.....	13
4.1 General.....	13
4.2 Normal service conditions.....	14
4.2.1 Ambient air temperature.....	14
4.2.2 Altitude.....	14
4.2.3 Vibrations or earthquakes	14
4.2.4 Other service conditions for indoor equipment.....	14
4.2.5 Other service conditions for outdoor equipment.....	14
4.3 Special service conditions.....	15
4.3.1 General	15
4.3.2 Altitude	15
4.3.3 Ambient temperature	15
4.3.4 Earthquakes	16
4.4 System earthing.....	16
5 Ratings.....	16
5.1 Standard values of rated frequency.....	16
5.2 Standard values of rated voltages	16
5.2.1 Rated voltages U_R for a.c.....	16
5.2.2 Rated voltages U_R for d.c.....	16
5.3 Standard values of rated voltage factor	17
5.3.1 standard values of rated voltage factor for a.c. voltages	17
5.3.2 Standard values of rated voltage factor for d.c. voltages.....	17
6 Design requirements.....	18
6.1 Insulation requirements	18
6.2 Other insulation requirements	20
6.2.1 Low voltage terminal not exposed to weather	20
6.2.2 Low voltage terminal exposed to weather	20
6.2.3 Partial discharges	21
6.2.4 Chopped lightning impulse test	21
6.2.5 Capacitance at power frequency	21
6.2.6 Losses of the capacitor at power frequency.....	22
6.2.7 External insulation requirements	23
6.3 Electromagnetic emission requirements – Radio interference voltage (RIV).....	23
6.4 Mechanical requirements	23
6.5 Tightness of equipment.....	24
6.5.1 General	24
6.5.2 Gas tightness	24
6.6 Voltage grading for d.c. capacitors.....	25

7	Test conditions	25
8	Classification of tests	26
8.1	General	26
8.2	Routine tests	26
8.3	Type tests	26
8.4	Special tests	27
9	Routine tests	28
9.1	Tightness of the liquid-filled equipment	28
9.1.1	General	28
9.1.2	Closed pressure systems for gas	29
9.2	Electrical routine tests	29
9.2.1	General	29
9.2.2	Capacitance and $\tan\delta$ measurement at power-frequency	29
9.2.3	Power-frequency or d.c. withstand test	30
9.2.4	Partial discharge measurement	31
9.2.5	AC-withstand test on low-voltage terminal of the equipment (6.2.1 and 6.2.2)	31
9.2.6	Resistance measurement for d.c. equipment	32
10	Type tests	32
10.1	Impulse tests	32
10.1.1	General	32
10.1.2	Discharge test for d.c. coupling/filter capacitor	32
10.1.3	Lightning-impulse test	33
10.2	Wet test for outdoor equipment	33
10.2.1	a.c./d.c. withstand wet test on equipment	33
10.2.2	Switching impulse withstand wet test on equipment “range II” (a.c.: $U_m \geq 300$ kV and d.c.: $U_{SIL} \geq 750$ kV (peak))	33
10.3	Radio interference voltage test	34
10.4	Voltage polarity reversal test for d.c. equipment	34
11	Special tests – Mechanical strength test	35
12	Marking of the equipment	36
12.1	General	36
12.2	Markings of the rating plate	37
	Annex A (informative) Typical diagram of an equipment	38
	Annex B (informative) Partial discharge test circuit and instrumentation	39
	Annex C (normative) Radio interference voltage – Measurement circuit	41
	Bibliography	43
	Figure 1 – Altitude correction factor for insulation	15
	Figure 2 – Flow charts test sequence to be applied when performing the type test (Figure 2a) and routine test (Figure 2b)	28
	Figure A.1 – Example of a diagram for a coupling capacitor (with and without low voltage terminal)	38
	Figure B.1 – Test circuit	39
	Figure B.2 – Alternative circuit	39
	Figure B.3 – Example of balanced test circuit	40
	Figure B.4 – Example of calibration circuit	40

Figure C.1 – Measuring circuit.....	42
Table 1 – Rated ambient temperature categories.....	14
Table 2 – Standard values of rated voltage factors	17
Table 3 – Standard insulation levels for a.c. voltages.....	18
Table 4 – Partial discharge test voltages and permissible levels	21
Table 5 – Creepage distance.....	23
Table 6 – Static withstand test loads for insulators.....	24
Table 7 – Permissible temporary leakage rates for gas systems	25
Table 8 – Test voltages for units, stacks and complete equipment	31
Table 9 – Modalities of application of the test loads to the line primary terminals.....	36
Table 10 – Marking of the rating plate.....	37

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INTRODUCTION

For the new re-structured IEC 60358 series, the following parts are envisaged:

- IEC 60358-1¹, Coupling capacitors and capacitor dividers – Part 1: General rules
- IEC 60358-2², Coupling capacitor and capacitor dividers – Part 2: AC or DC single-phase coupling capacitor connected between line and ground for power line carrier-frequency (PLC) application
- IEC 60358-3³, Coupling capacitors and capacitor dividers – Part 3: AC or DC single-phase coupling capacitor for harmonic-filters applications
- IEC 60358-4⁴, Coupling capacitor and capacitor dividers – Part 4: AC or DC single-phase capacitor-divider and RC-divider connected between line and ground (except for CVT's which belong to IEC 61869-5)

¹ To be published.

² To be published.

³ Under consideration.

⁴ Under consideration.

COUPLING CAPACITORS AND CAPACITOR DIVIDERS –

Part 1: General rules

1 Scope

This part of IEC 60358 applies to:

- Capacitors, with rated voltage > 1 000 V, connected line to ground with the low voltage terminal either permanently earthed or connected to devices, for applications listed hereunder and other similar uses.

This standard serves as basic standard for the coupling capacitor, the different parts of this standard will present the supplementary specifications and tests, for example IEC 60358-2, IEC 60358-3 or IEC 60358-4.

NOTE Diagrams of coupling capacitor to which this standard applies are given in Figures A.1.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60038, *IEC standard voltages*

IEC 60050-321:1986, *International Electrotechnical Vocabulary – Chapter 321: Instrument transformers*

IEC 60050-436:1990, *International Electrotechnical Vocabulary – Chapter 436: Power capacitors*

IEC 60050-601:1985, *International Electrotechnical Vocabulary – Chapter 601: Generation, transmission and distribution of electricity – General*

IEC 60050-604:1987, *International Electrotechnical Vocabulary – Chapter 604: Generation, transmission and distribution of electricity – Operation*

IEC 60060-1, *High-voltage test techniques – Part 1: General definitions and test requirements*

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

IEC 60071-1, *Insulation co-ordination – Part 1: Definitions, principles and rules*

IEC 60270, *High-voltage test techniques – Partial discharge measurements*

IEC 60721 (all parts), *Classification of environmental conditions*

IEC 61462, *Composite hollow insulators – Pressurized and unpressurized insulators for use in electrical equipment with rated voltage greater than 1 000 V – Definitions, test methods, acceptance criteria and design recommendations*

CISPR/TR 18-2, *Radio interference characteristics of overhead power lines and high-voltage equipment – Part 2: Methods of measurement and procedure for determining limits*

3 Terms and definitions

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

NOTE Some of these terms and definitions are identical with or are similar to those of IEC 60050-321:1986, IEC 60050-436:1990, IEC 60050-601:1985 and IEC 60050-604:1987. These are indicated by the relevant reference in brackets.

3.1 General terms and definitions

3.1.1 equipment

general term used for this standard, either for complete capacitor, capacitor divider, RC-divider

3.1.2 coupling capacitor

capacitor used for the transmission of signals in a power system

[SOURCE: IEC 60050-436:1990, 436-02-11]

3.1.3 rated frequency of equipment

frequency for which the coupling capacitor has been designed

3.1.4 standard reference range of frequency

range of frequency which is applicable for the equipment.

3.1.5 rated voltage

U_R

value of the voltage which appears in the designation of the equipment and on which its performance is based

[SOURCE: IEC 60050-321:1986, 321-01-12]

3.1.6 highest voltage for equipment

U_m

a.c.: the highest r.m.s. value of phase-to-phase voltage for which the equipment is designed and may be used in respect of its insulation

d.c.: the highest value of line to ground voltage for which the equipment is designed and may be used in respect of its insulation

3.1.7 d.c.-system voltage

U_{DC}

highest mean or average operating voltage to earth, excluding harmonics and commutation overshoots

[SOURCE: IEC 60071-5]