IEC 60358-4

Edition 1.0 2018-07

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Coupling capacitors and capacitor dividers – Part 4: DC or AC single-phase capacitor dividers

Condensateurs de couplage et diviseurs capacitifs – Partie 4: Diviseurs capacitifs monophasés pour courant alternatif ou pour courant continu

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

COUPLING CAPACITORS AND CAPACITOR DIVIDERS –

Part 4: DC or AC single-phase capacitor dividers

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International Standard IEC 60358-4 has been prepared by IEC technical committee 33: Power capacitors and their applications.

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

FDIS	Report on voting
33/616/FDIS	33/617/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.

A list of all Parts in the IEC 60358 series, published under the general title *Coupling capacitors and capacitor dividers*, can be found on the IEC website.

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Parts 2 through 4 of IEC 60358 are to be used in conjunction with the latest edition of IEC 60358-1 and its amendments. They were established on the basis of the first edition (2012) of that standard.

Parts 2 through 4 of IEC 60358 supplement or modify the corresponding clauses in IEC 60358-1.

When a particular subclause of Part 1 is not mentioned in Parts 2 through 4, that subclause applies as far as is reasonable. When this document states “addition”, “modification” or “replacement”, the relevant text in Part 1 is to be adapted accordingly.

For additional clauses, subclauses, figures, tables or annexes, the following numbering system is used:

- subclauses, tables and figures which are additional to those in Part 1 are numbered starting from 200 for Part 2, 300 for Part 3 and 400 for Part 4;
- additional tables or annexes in the remaining Parts are lettered 2A, 2B, 3A, 3B, etc.
- as the notes are integrated into the clauses, their numbering are starting from 1 as usual.

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
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INTRODUCTION

This series consists of the following Parts:

IEC 60358-1, *Coupling capacitors and capacitor dividers – Part 1: General rules*

IEC 60358-2, *Coupling capacitors 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 60358-3, *Coupling capacitors and capacitor dividers – Part 3: AC or DC coupling capacitor for harmonic-filters applications*

IEC 60358-4, *Coupling capacitors and capacitor dividers – Part 4: DC or AC single-phase capacitor dividers*

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COUPLING CAPACITORS AND CAPACITOR DIVIDERS –

Part 4: DC or AC single-phase capacitor dividers

1 Scope

This Part 4 of IEC 60358 applies to DC or AC single-phase capacitor-dividers connected between line and ground used for manufacturing Voltage Transformers as well as for other applications.

NOTE 1 Diagrams of dividers to which this standard applies are given in Figures 401 and 402 (402.1 and 402.2).

NOTE 2 This standard specifies the basic requirements of the dividers; the requirements of the complete Voltage Transformers are given in the IEC 61869 series.

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 60358-1:2012, *Coupling capacitors and capacitor dividers – Part 1: General rules*

3 Terms and definitions

Clause 3 of IEC 60358-1:2012 is applicable with the following additional text:

Subclause 3.1.6 is applicable with the following additional Note:

NOTE For DC voltage divider, U_m include also peak voltage of harmonics.

For the purposes 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

3.400 Voltage divider definitions

3.400.1
voltage divider
device comprising resistors, inductors, capacitors, transformer(s) or a combination of these components such that, between two points of the device, a desired fraction of the voltage applied to the device as a whole can be obtained

Note 1 to entry: In this standard, voltage divider consists on HV-part, internal and/or external LV-part.

[SOURCE: IEC 60050-312:2001, 312-02-32]

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3.400.2
rated primary voltage
U_{pr}
value of the primary voltage which appears in the designation of the voltage divider and on which its performance is based

Note 1 to entry For a divider the performance is everything concerning the measurement behaviour: transformation ratio, accuracy, burden, input voltage range, etc.

[SOURCE: IEC 60050-321:1986, 321-01-12, modified ("voltage transformer" replaced by "voltage divider", Note 1 to entry added)]

3.400.3
rated secondary voltage
U_{sr}
value of the secondary voltage which appears in the designation of the voltage transformer and on which its performance is based

[SOURCE: IEC 60050-321:1986, 321-01-16]

3.400.4
capacitor voltage divider
C-Divider
voltage divider consisting only of capacitors

[SOURCE: IEC 60050-321:1986, 321-03-15]

3.400.5
R-C voltage divider
RC-Divider
voltage divider consisting capacitors with parallel connected resistors

3.400.6
C-R voltage divider
CR-divider
voltage divider consisting capacitors with series connected resistors

3.400.7
R-C-R voltage divider
RCR-divider
voltage divider consisting capacitors with series & parallel connected resistors

3.400.8
rated capacitance of divider C_R
capacitance value for which the divider has been designed

(resultant capacitance: $C_R = C_1 \times C_2/(C_1 + C_2)$)

Note 1 to entry: C_1 and C_2 are as presented in Figure 401.

3.400.9
rated parallel resistance of divider R_{PR}
resistance value for which the RC- & RCR-voltage divider has been designed

(resultant resistance: $R_{PR} = R_{P1} + R_{P2}$)

Note 1 to entry: R_{P1} and R_{P2} are as presented in Figure 401.

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