

Signalling on low voltage electrical installations in the frequency range 3 kHz to 148,5 kHz - Part 4-5: Low voltage decoupling filter - Segmentation filter

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 50065-4-5:2003 sisaldab Euroopa standardi EN 50065-4-5:2003 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 08.05.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 50065-4-5:2003 consists of the English text of the European standard EN 50065-4-5:2003.</p> <p>This document is endorsed on 08.05.2003 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala:</p> <p>This standard applies to segmentation filters in a mains communication system used for single or multiphase installations having a phase to neutral voltage not exceeding 250 V a.c. and a nominal current not exceeding 125 A, intended for household and similar fixed installation including residential, commercial and light industrial buildings and utility networks</p>	<p>Scope:</p> <p>This standard applies to segmentation filters in a mains communication system used for single or multiphase installations having a phase to neutral voltage not exceeding 250 V a.c. and a nominal current not exceeding 125 A, intended for household and similar fixed installation including residential, commercial and light industrial buildings and utility networks</p>
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Võtmesõnad: inf, information transfer, limits (mathematics), low voltage, low voltage mains, mathematics, output signals, radio disturbances, signal transmission, signals, specification (approval), specifications, testing, testing conditions, transmission performance, voltage

**Signalling on low-voltage electrical installations
in the frequency range 3 kHz to 148,5 kHz
Part 4-5: Low voltage decoupling filter -
Segmentation filter**

Transmission de signaux sur les réseaux
électriques basse tension dans la bande
de fréquences de 3 kHz à 148,5 kHz
Partie 4-5: Filtres basse tension
de découplage -
Filtre de segmentation

Signalübertragung auf elektrischen
Niederspannungsnetzen im
Frequenzbereich 3 kHz bis 148,5 kHz
Teil 4-5: Niederspannungs-
Entkopplungsfilter -
Bereichsfilter

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CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

This European Standard was prepared by SC 205A, Mains communicating systems, of Technical Committee CENELEC TC 205, Home and Building Electronic Systems (HBES).

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 50065-4-5 on 2002-04-01.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2003-08-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2005-04-01

EN 50065 consists of the following parts, under the general title: Signalling on low-voltage electrical installations in the frequency range 3 kHz to 148,5 kHz

Part 1	General requirements, frequency bands and electromagnetic disturbances
Part 2-1	Immunity requirements for mains communications equipment and systems operating in the range of frequencies 95 kHz to 148,5 kHz and intended for use in residential, commercial and light industrial environments
Part 2-2	Immunity requirements for mains communications equipment and systems operating in the range of frequencies 95 kHz to 148,5 kHz and intended for use in industrial environments
Part 2-3	Immunity requirements for mains communications equipment and systems operating in the range of frequencies 3 kHz to 95 kHz and intended for use by electricity suppliers and distributors
Part 4-1	Low voltage decoupling filters – Generic specification
Part 4-2	Low voltage decoupling filters – Safety requirements
Part 4-3	Low voltage decoupling filters – Incoming filter
Part 4-4	Low voltage decoupling filters – Impedance filter
Part 4-5	Low voltage decoupling filters – Segmentation filter
Part 4-6	Low voltage decoupling filters – Phase coupler
Part 7	Equipment impedance

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1 Scope

This standard applies to segmentation filters in a mains communication system used for single or multiphase installations having a phase to neutral voltage not exceeding 250 V a.c. and a nominal current not exceeding 125 A, intended for household and similar fixed installation including residential, commercial and light industrial buildings and utility networks.

These filters (see Figure 1) are used to control the coupling of signals between two areas of a mains communication system.

The standard defines

- the minimum impedance in the relevant frequency range(s) at both ports,
- the minimum attenuation of signals transmitted between port.

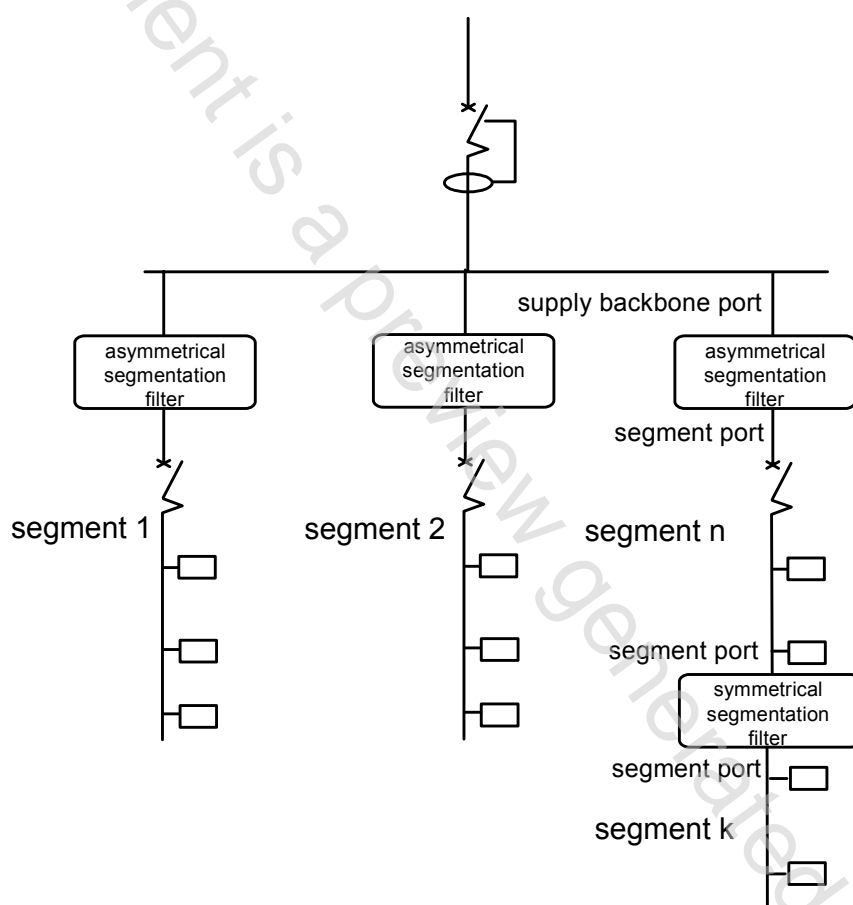


Figure 1 - The application of segmentation filters

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

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| EN 50065-2-1 | Signalling on low-voltage electrical installations in the frequency range 3 kHz to 148,5 kHz – Part 2-1: Immunity requirements for mains communications equipment and systems operating in the range of frequencies 95 kHz to 148,5 kHz and intended for use in residential, commercial and light industrial environments |
| EN 50065-2-2 | Signalling on low-voltage electrical installations in the frequency range 3 kHz to 148,5 kHz – Part 2-2: Immunity requirements for mains communications equipment and systems operating in the range of frequencies 95 kHz to 148,5 kHz and intended for use in industrial environments |
| EN 50065-2-3 | Signalling on low-voltage electrical installations in the frequency range 3 kHz to 148,5 kHz – Part 2-3: Immunity requirements for mains communications equipment and systems operating in the range of frequencies 3 kHz to 95 kHz and intended for use by electricity suppliers and distributors |
| EN 50065-4-1 | Signalling on low-voltage electrical installations in the frequency range 3 kHz to 148,5 kHz – Part 4-1: Low voltage decoupling filters - Generic specification |
| EN 50065-4-2 | Signalling on low-voltage electrical installations in the frequency range 3 kHz to 148,5 kHz – Part 4-2: Low voltage decoupling filters - Safety requirements |

3 Classification

Segmentation filters are used to separate one powerline communication system that operates in one operating frequency band, in several independent segments.

The combination of the appropriate segmentation filter in conjunction with an incoming filter and/or with an impedance filter shall be made according to local regulations.

3.1 Type 1: Asymmetrical filter

This filter has one "supply backbone port" and one "segment port". The "supply backbone port" and the "segment port" have different impedance characteristics in the operating frequency band and shall not be inverted. Communication may not be possible on the "supply backbone port".

3.2 Type 2: Symmetrical filter

This filter has two "segment port". Both "segment ports" have the same impedance characteristics at the operating frequency band and may be inverted. Usually the ports of a symmetrical segmentation filter are connected to different segments of one mains communication system.