

Signalling on low-voltage electrical installations in the frequency range 3 kHz to 148,5 kHz - Part 7: Equipment impedance

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 50065-7:2002 sisaldab Euroopa standardi EN 50065-7:2001 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 18.12.2002 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 50065-7:2002 consists of the English text of the European standard EN 50065-7:2001.</p> <p>This document is endorsed on 18.12.2002 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 electrical equipment, excluding decoupling filters, using signals in the frequency range 3 kHz to 148,5 kHz for data transmission on low voltage electrical networks, either on the public supply network or within installations in consumers' premises.</p>	<p>Scope:</p> <p>This standard applies to electrical equipment, excluding decoupling filters, using signals in the frequency range 3 kHz to 148,5 kHz for data transmission on low voltage electrical networks, either on the public supply network or within installations in consumers' premises.</p>
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Võtmesõnad: communication equipment, load imped, low voltage installati, low voltage mains, low-voltage installations, public- address systems, resistors, signal transmission, signals, specification (approval), specifications, transmission performance, transmission systems

**Signalling on low-voltage electrical installations
in the frequency range 3 kHz to 148,5 kHz
Part 7: Equipment impedance**

Transmission de signaux sur les réseaux
électriques basse tension dans la bande
de fréquences de 3 kHz à 148,5 kHz
Partie 7: Impédance des appareils

Signalübertragung auf elektrischen
Niederspannungsnetzen im
Frequenzbereich 3 kHz bis 148,5 kHz
Teil 7: Geräteimpedanzen

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CENELEC

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

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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 50065-7 on 2000-08-01.

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) 2002-06-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2003-04-01

Annexes designated "normative" are part of the body of the standard.

Annexes designated "informative" are given for information only.

In this standard, annexes A, B, C and D are informative.

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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Introduction

Mains communication equipment connected to the low voltage network will load the mains with their inherent impedance.

In general, many types of equipment connected to the same low voltage communication network will present a summative load impedance for transmitters injecting signals onto the mains network.

As a result, the mains impedance, which is time variable, will in general decrease and the attenuation increase, deteriorating the communication over the mains network.

The aim of this standard is to limit the deterioration in communication due to the contribution of the loads formed by other communication equipment connected to the same low voltage network and operating in the same frequency band or adjacent frequency bands.

This standard will therefore specify the suitable minimum impedance (modulus) of the communication equipment impedance in this operating frequency range for both transmitting and receiving mode in order to minimise mutual interference.

An informative annex is included with this part of the standard, identifying characteristics that can influence performance of equipment connected to the same mains network.

1 Scope

This standard applies to electrical equipment, excluding decoupling filters, using signals in the frequency range 3 kHz to 148,5 kHz for data transmission on low voltage electrical networks, either on the public supply network or within installations in consumers' premises.

It specifies requirements for mains communication equipment with respect to the load impedance of the mains.

It does not specify the impedance of external components that are not necessary for the normal functioning of the communication equipment.

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).

EN 50065-1	2001	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
CISPR 16-1	1993	Specification for radio disturbance and immunity measuring apparatus and methods - Part 1: Radio disturbance and immunity measuring apparatus
IEC 60050-161		International Electrotechnical Vocabulary – Chapter 161: Electromagnetic compatibility

3 Definitions

For the purpose of this standard the following definitions apply. Further, the definitions given in the International Electrical Vocabulary IEC 60050-161 apply.

3.1

Type 1 equipment

the equipment using signals in the frequency range 3 kHz to 95 kHz (see 4.1 of EN 50065-1)

3.2

Type 2 equipment

the equipment using signals in the frequency range 95 kHz to 148,5 kHz (see 4.2 of EN 50065-1)

3.3

bandwidth, BW

see 6.2.1 of EN 50065-1