

**Madalpinge elektripaigaldistel olev  
signalisatsioon sagedusalal 3 kHz kuni  
148,5 kHz. Osa 1: Üldnõuded,  
sagedusalad ja elektromagnetilised  
häiringud**

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

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 50065-1:2002 sisaldab Euroopa standardi EN 50065-1:2001 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 50065-1:2002 consists of the English text of the European standard EN 50065-1:2001.</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><b>Käsitlusala:</b></p> <p>This standard applies to electrical equipment using signals in the frequency range 3 kHz to 148,5 kHz to transmit information on low-voltage electrical systems, either on the public supply system or within installations in consumers' premises.</p>	<p><b>Scope:</b></p> <p>This standard applies to electrical equipment using signals in the frequency range 3 kHz to 148,5 kHz to transmit information on low-voltage electrical systems, either on the public supply system or within installations in consumers' premises.</p>
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ICS 29.020, 33.040.30

Võtmesõnad:

English version

**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**

Transmission de signaux sur les réseaux  
électriques basse-tension dans la bande  
de fréquences de 3 kHz à 148,5 kHz  
Partie 1: Règles générales, bandes  
de fréquences et perturbations  
électromagnétiques

Signalübertragung auf elektrischen  
Niederspannungsnetzen im  
Frequenzbereich 3 kHz bis 148,5 kHz  
Teil 1: Allgemeine Anforderungen,  
Frequenzbänder und elektromagnetische  
Störungen

This European Standard was approved by CENELEC on 2000-08-01. 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.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

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 Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

**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 standard has been prepared by the CENELEC technical subcommittee SC 205A, Mains communication systems, of Technical Committee CENELEC TC 205, Home and Building Electronic Systems (HBES) following the quinquennial review of EN 50065-1:1991 with the incorporation of amendments A1:1992, A2:1995 and A3:1996.

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 50065-1 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) 2002-02-01
- 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, D and E are normative and annex F is informative.

Modifications have been made to clause 5 to take account of false band-in-use detection. Common-mode signalling in the 3 – 9 kHz sub-band has been deleted. Additions have also been made to clause 6 in order to take account of three-phase signalling and an extra test for two transmitters operating simultaneously has been added in subclause 8.5. Sub-divisions of the utility and consumer bands are now referred to as sub-bands.

SC 205A has taken the advice of CENELEC BT regarding the conflict arising from the publication of EN 55015:1996 and has therefore increased the threshold and lower transmit level for the consumer band by +6 dB( $\mu$ V).

References have been updated to include CISPR 16-1 and CISPR 16-2. Other changes have been made to add clarity and bring the figures up to date.

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 electrical equipment using signals in the frequency range 3 kHz to 148,5 kHz to transmit information on low voltage electrical systems, either on the public supply system or within installations in consumers' premises.

It specifies the frequency bands allocated to the different applications, limits for the terminal output voltage in the operating band and limits for conducted and radiated disturbance. It also gives the methods of measurement.

It does not specify the signal modulation methods nor the coding methods nor functional features (except those for the prevention of mutual interference).

Environmental requirements and tests are not included.

NOTE In most countries the transmission of information is subject to regulation. Compliance with this standard does not imply permission to establish communication with locations outside the consumer's installation or with other consumers through the public supply system where this would not otherwise be allowed.

The object of the standard is to limit mutual influence between signal transmission equipment in electrical installations and between such equipment and other equipment. In addition this standard is intended to limit interference caused by signal transmission equipment to sensitive electronic equipment. However, complete freedom from such interference cannot be assured.

## 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).

IEC 60050-161		International electrotechnical vocabulary – Chapter 161: Electromagnetic compatibility
CISPR 16-1	1993	Specification for radio disturbance and immunity measuring apparatus and methods – Part 1: Radio disturbance and immunity measuring apparatus
CISPR 16-2	1996	Specification for radio disturbance and immunity measuring apparatus and methods – Part 2: Methods of measurement of disturbances and immunity

## 3 Definitions

The definitions in Chapter 161 of the International Electrotechnical Vocabulary apply.

## 4 Frequency bands and classifications

NOTE Additional provisions may apply in the event of interference to radio communication service.

### 4.1 Band 3 kHz up to 95 kHz

The use of frequencies in this band shall be restricted to electricity suppliers and their licensees.