

Home and Building Electronic Systems (HBES) - Part
5-1: Media and media dependent layers - Power line for
HBES Class 1

EESTI STANDARDI EESSÕNA

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English Version

**Home and Building Electronic Systems (HBES) - Part 5-1: Media
and media dependent layers - Power line for HBES Class 1**

Systèmes électroniques pour les foyers domestiques et les
bâtiments (HBES) - Partie 5-1: Médias et couches
dépendantes des médias - Courants porteurs pour HBES
Classe 1

Elektrische Systemtechnik für Heim und Gebäude (ESHG) -
Teil 5-1: Medien und medienabhängige Schichten -
Signalübertragung auf elektrischen Niederspannungsnetzen
für ESHG Klasse 1

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Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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European foreword

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The following dates are fixed:

- latest date by which this document has (dop) 2020-10-24
to be implemented at national level by
publication of an identical national
standard or by endorsement
- latest date by which the national (dow) 2023-04-24
standards conflicting with this document
have to be withdrawn

This document will supersede EN 50090-5-1 and all of its amendments and corrigenda (if any).

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EN 50090-5-1 is part of the EN 50090 series of European Standards, which comprises the following parts:

- Part 1: Standardization structure
- Part 3: Aspects of application
- Part 4: Media independent layers
- Part 5: Media and media dependent layers
- Part 6: Interfaces
- Part 7: System management

NOTE Part 2 has been withdrawn.

¹ This document was prepared with the help of CENELEC co-operation partner KNX Association, De Kleetlaan 5, B-1831 Diegem.

1 Scope

This document defines the mandatory and optional requirements for the medium specific physical and data link layer of power line Class 1 PL110.

Data link layer interface and general definitions, which are medium independent, are given in EN 50090-4-1.

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.

EN 50090-1, *Home and Building Electronic Systems (HBES) - Part 1: Standardization structure*

EN 50090-4-2, *Home and Building Electronic Systems (HBES) - Part 4-2: Media independent layers - Transport layer, network layer and general parts of data link layer for HBES Class 1*

EN 50090-5-2, *Home and Building Electronic Systems (HBES) - Part 5-2: Media and media dependent layers - Network based on HBES Class 1, Twisted Pair*

EN 50065-1, *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*

EN 50065-7, *Signalling on low-voltage electrical installations in the frequency range 3 kHz to 148,5 kHz - Part 7: Equipment impedance*

EN 50160, *Voltage characteristics of electricity supplied by public electricity networks*

EN 55016-1-2, *Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-2: Radio disturbance and immunity measuring apparatus - Coupling devices for conducted disturbance measurements (CISPR-16-1-2)*

EN 61643-11, *Low-voltage surge protective devices - Part 11: Surge protective devices connected to low-voltage power systems - Requirements and test methods (IEC 61643-11)*

3 Terms, definitions and symbols

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 50090-1 and the following 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>

3.1.1

differential mode

PL signals that are injected between phase and neutral

3.1.2

router

connects one sub-network with another sub-network