

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**

The European Standard EN 50065-2-3:2003, with the incorporation of amendment A1:2005, has the status of a British Standard

ICS 33.040.30; 33.100.01

National foreword

This British Standard is the official English language version of EN 50065-2-3:2003, including Corrigendum August 2003 and amendment A1:2005.

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Summary of pages

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English version

**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
(includes amendment A1:2005)**

Transmission de signaux sur les réseaux
électriques basse tension dans la bande de
fréquences de 3 kHz à 148,5 kHz
Partie 2-1: Exigences d'immunité pour
les appareils et les systèmes de
communication sur le réseau électrique
dans la bande de fréquences de 3 kHz à 95
kHz et destinés à être utilisés par
les fournisseurs et les distributeurs
d'énergie électrique
(inclut l'amendement A1:2005)

Signalübertragung auf elektrischen
Niederspannungsnetzen im
Frequenzbereich 3 kHz bis 148,5 kHz
Teil 2-3: Störfestigkeitsanforderungen
an Netz-Datenübertragungsgeräte und -
systeme die im Frequenzbereich 3 kHz
bis 95 kHz betrieben werden und für den
Gebrauch durch Stromversorgungs- und
-verteilungsunternehmen bestimmt sind
(enthält Änderung A1:2005)

This European Standard was approved by CENELEC on 2001-09-01; amendment A1 was approved by CENELEC on 2005-07-01. 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.

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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
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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 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 50065-2-3 on 2001-09-01.

The following dates were fixed:

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with the EN have to be withdrawn (dow) 2004-08-01

This part of this standard defines limits and test methods for the immunity of mains communication equipment and systems (MCES) operating in the range of frequencies from 3 kHz to 95 kHz and intended for use by electricity suppliers and distributors. Immunity requirements for similar equipment intended for operation in residential, commercial and light industrial environments are given in Part 2-1 of this standard. Immunity requirements and tests applicable to similar equipment intended for operation in industrial environments are given in Part 2-2 of this standard. For MCES intended to be operated by utilities in the frequency range 3 kHz to 95 kHz, with lower immunity requirements than specified in this Part 2-3, the specifications of Part 2-2 or Part 2-1 may be applied.

These tests and limits represent essential electromagnetic compatibility and immunity requirements for the environment according to the scope. Not all known disturbances have been included for testing purposes which have been limited to those disturbances known to be critical for the operation of such equipment including specific MCES disturbances such as conducted narrow band.

The immunity requirements have been selected to ensure an adequate level of immunity for MCES for use by electricity utilities. The levels do not however cover extreme cases which may occur in any location but with an extremely low probability of occurrence.

NOTE This standard takes into account EN 50082-2, the generic immunity standard for the industrial environment, from which much of the material is taken, but considering also the specific requirements for MCES in utilities' environment. However the nature of MCES is such that the performance criteria given in clause 5 of this standard differ from those given in EN 50082-2, particularly regarding the recovery of equipment following a disturbance. For clarity and completeness all the affected sections of EN 50082-2 are therefore repeated in this part.

Annexes designated "normative" are part of the body of the standard.
In this standard, annex A is normative.

Foreword to amendment A1

This amendment to the European Standard EN 50065-2-3:2003 was prepared by SC 205A, Mains communicating systems, of Technical Committee CENELEC TC 205, Home and Building Electronic Systems (HBES).

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1 Scope

A1 This standard applies to electrical equipment using signals in the frequency range 3 kHz to 95 kHz to transmit or receive information on low voltage electrical systems, for electricity suppliers and distributors. In the case of equipment which includes functions other than the transmission or reception of information on low voltage electrical supplies, this standard applies only to that part of the equipment intended for such transmission or reception of information. Other parts of the equipment shall comply with the immunity standard or standards relevant to the functions of those other parts. In the event of tests being specified in those other standards of a different severity and where the construction of the equipment is such that the functions cannot be tested separately, the higher severity shall apply to all affected functions.

The object of this standard is to limit mutual influence between mains communication equipment and systems (MCES) operating in different frequency bands as defined in EN 50065-1 and to contribute to ensuring electromagnetic compatibility in general. It specifies essential immunity requirements and test methods, including those tests which are to be performed during type-testing of MCES on low-voltage installations, for electromagnetic interference in general and more specific interference coming from other MCES. It therefore defines the immunity test requirements for apparatus in relation to continuous and transient disturbances, both conducted and radiated, and electrostatic discharges. Test requirements are specified for each port considered.

This standard gives limits which are applicable to products operating in the public supply network, operated by electricity utilities. The levels do not however cover extreme cases which may occur in any location but with a low probability of occurrence. In special cases situations will arise where the level of disturbances may exceed the levels specified in this standard e.g. where a hand-held transmitter is used in proximity to an apparatus. In these instances special mitigation measures may have to be employed.

It does not specify immunity between mains communication systems operating in the same band (as defined in EN 50065-1) or immunity to signals originating from power line carrier systems operating on high or medium voltage networks.

Safety considerations are not included in this standard. **A1**

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).

A1 EN 50065-1 A1	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 50082-2	Electromagnetic compatibility – Generic immunity standard – Part 2: Industrial environment
EN 55022	1998 Information technology equipment – Radio disturbance characteristics – Limits and methods of measurement (CISPR 22:1997, mod)