

SLOVENSKI STANDARD

SIST EN 50065-1:1997/A1:1997

01-marec-1997

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 - Amendment 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 - Amendment 1

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

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

Ta slovenski standard je istoveten z: EN 50065-1:1991/A1:1992

ICS:

33.040.30	Komutacijski in signalizacijski sistem	Switching and signalling systems
33.100.01	Elektromagnetna združljivost na splošno	Electromagnetic compatibility in general

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EUROPEAN STANDARD

EN 50065-1/A1

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 1992

UDC 621.394.45

Descriptors: Supply mains, low voltage, transmission, frequency, signal, quality

Amendment A1 to the English version of 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**

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

Signalübertragung auf elektrischen
Niederspannungsnetzen im
Frequenzbereich 3 kHz bis 148,5 kHz
Teil 1: Allgemeine Anforderungen,
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This amendment A1 modifies the European Standard EN 50065-1:1991. It was approved by CENELEC on 15 September 1992. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 amendment 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, 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

As signalling in the band 3 kHz up to 9 kHz was left under consideration in EN 50065-1, CENELEC Subcommittee SC 105A decided to set up a working group WG 1 to prepare an amendment to EN 50065-1 to deal with this matter.

As maximum output levels in the band 9 kHz up to 95 kHz were left under consideration in EN 50065-1, CENELEC Subcommittee SC 105A decided to set up a working group WG 5 to prepare an amendment to EN 50065-1 to deal with this matter.

The work results of CLC/SC 105A/WG 1, document CLC/SC 105A (Secretary) 48, and CLC/SC 105A/WG 5, document CLC/SC 105A (Secretary) 46A, were discussed by SC 105A during their meeting on 8 and 9 October 1991 in Brussels, when it was decided submit these documents to the CENELEC Unique Acceptance Procedure (UAP).

The documents were circulated as prAA and prAB in December 1991 and were approved by CENELEC as amendment A1 to EN 50065 on 15 September 1992.

The following dates were fixed:

- latest date of publication of an identical national standard (dop) 1993-06-01
- latest date of withdrawal of conflicting national standards (dow) 1994-12-01

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NOTES: 1. The text of the standard is identical to the text of the European Standard EN 50065-1:1997/A1:1992, published by the European Committee for Standardization (CEN) in 1992. 2. The text of the standard is identical to the text of the European Standard EN 50065-1:1997/A1:1992, published by the European Committee for Standardization (CEN) in 1992. 3. The text of the standard is identical to the text of the European Standard EN 50065-1:1997/A1:1992, published by the European Committee for Standardization (CEN) in 1992.

4 Frequency bands**4.1.1** Replace the text by:

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

Frequencies in this band may, however, be used for common mode signalling within consumers' premises in cases and under conditions authorised by the electricity supplier provided the requirements of 6.3.1 are met.

6 Transmitter output voltage**6.1** Replace subclauses 6.1.1 and 6.1.2 by:

For any measuring method the output voltage in the frequency range 9 kHz up to 150 kHz shall be measured using an artificial network of $(50\ \Omega/50\ \mu\text{H} + 5\ \Omega)$ conforming to subclause 8.2.1 of CISPR Publication 16, second edition. For the band 3 kHz up to 9 kHz an amendment of the above network to $(50\ \Omega/50\ \mu\text{H} + 1,6\ \Omega)$ shall be used. The idealized impedance curve is shown in Figure 7 and a practical realization of the curve including isolation from the supply is shown in Figure 4.

In the case of differential mode transmitters the measurement output is 6 dB below the true differential output.

6.3.1 Replace "under consideration" by:

Measurements shall be made as defined in 6.2.2.

Differential Mode:

With the device connected as shown in Figure 5 the output level measurement at points A and A¹ shall not exceed 134 dB (μV) with respect to earth.

Common Mode:

With the device connected as shown in Figure 6 the output level measured at points B and B¹ shall not exceed 134 dB (μV).

The output level measured between points A and A¹ shall not exceed 89 dB (μV) measured differentially.

6.3.2 Replace "under consideration" by:

For output level measurements as given under A) and B) below, the artificial network in Figure 8 shall be used.

A) Narrow band signals:

The measured level shall not exceed 134 dB (μV) at 9 kHz decreasing linearly with the logarithm of frequency to 120 dB (μV) at 95 kHz.

B) Wide band signals:

The measured level shall not exceed 134 dB (μV).

In addition, no part of the spectrum of the signal shall exceed 120 dB (μV) measured with a peak detector with 200 Hz bandwidth.

The signal shall be considered as a narrow band signal if its bandwidth is less than 5 kHz and as a wide band signal if the bandwidth is equal to or greater than 5 kHz. The signal bandwidth shall be measured by the method given in 6.2.1.

7 Disturbance limits

Replace the text up to 7.1.1 inclusive by:

The interference limits given below apply to frequencies outside the band as listed in 4.1.1, 4.1.2, 4.2.1, 4.2.2 and 4.2.3 in which the signalling equipment operates. For the purposes of disturbance measurement bands 4.1.1 and 4.1.2 shall be considered one band. The test conditions shall be those given in clause 8. For the frequency range 9 kHz to 30 MHz the measuring receiver shall conform to CISPR Publication 16, second edition. For the frequency band 3 kHz to 9 kHz the measuring receiver shall have a narrow band peak detection with a bandwidth of 100 Hz.

NOTE: The limits have been chosen to conform with limits already agreed or under discussion by CISPR to protect radio communication services.

7.1 Conducted Disturbances

7.1.1 Frequency range 3 kHz to 9 kHz

Not greater than 89 dB (μ V) peak.

NOTE: For consumers using this band this level will also apply to in band interference measured at the point of supply to the consumers premises with the measurement carried out as in 6.3.1 above.

Annex C

Replace the title by "Methods of Measurement 3 kHz to 30 MHz"

C.1.2 Add after the title:

C.1.2.1 Frequency range 3 kHz to 9 kHz

For the band 3 kHz to 9 kHz an amendment to the CISPR Publication 16 network shall be used as shown in Figure 4.

NOTE: The 0,47 μ F capacitor (See Figure 4) does not have a negligible impedance. Unless otherwise specified it will be necessary to correct the reading of the measuring set for the voltage division caused by this impedance.

C.1.2.1 Frequency range 9 kHz to 30 MHz

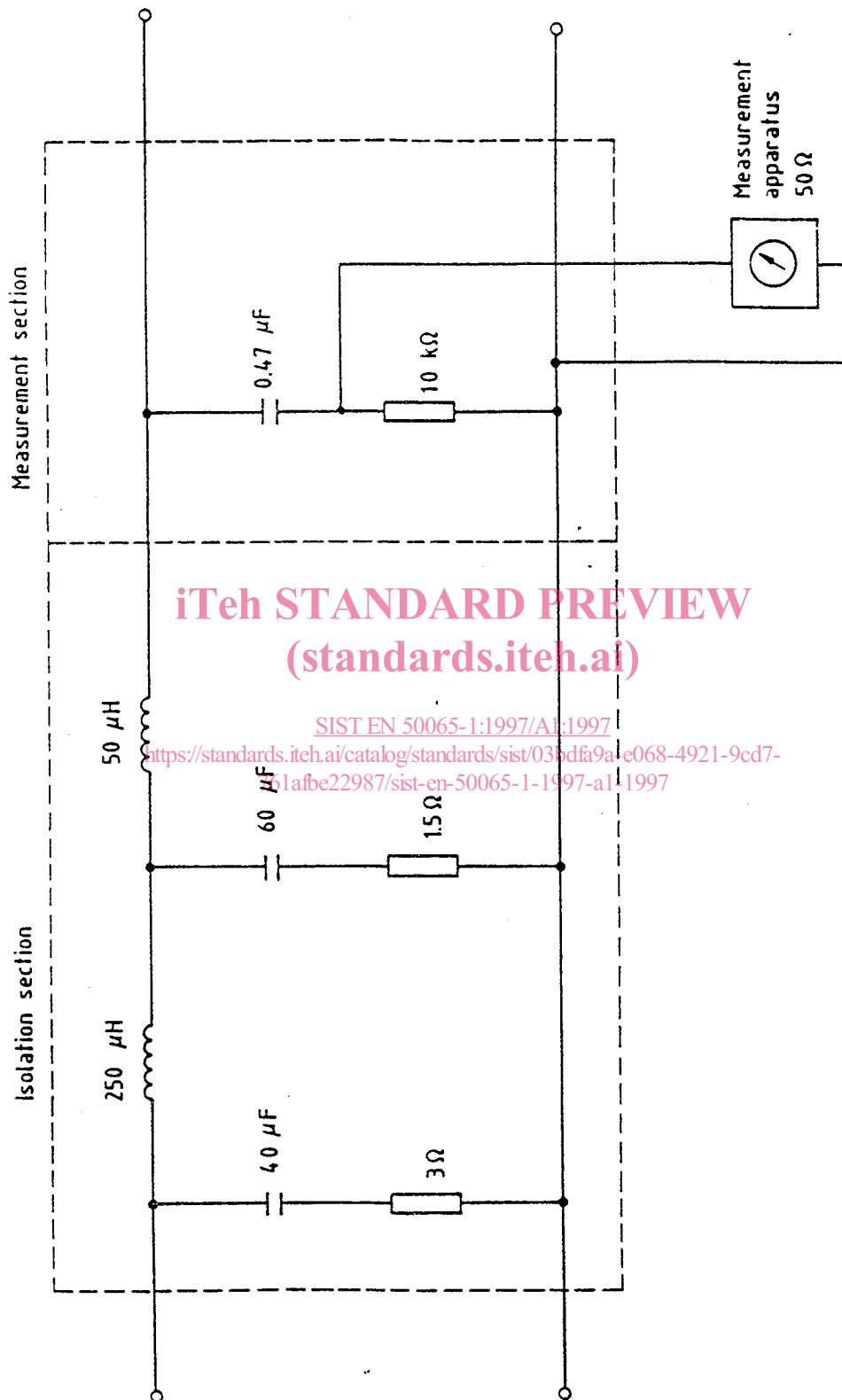


Figure 4 - Artificial mains network 3 kHz - 9 kHz

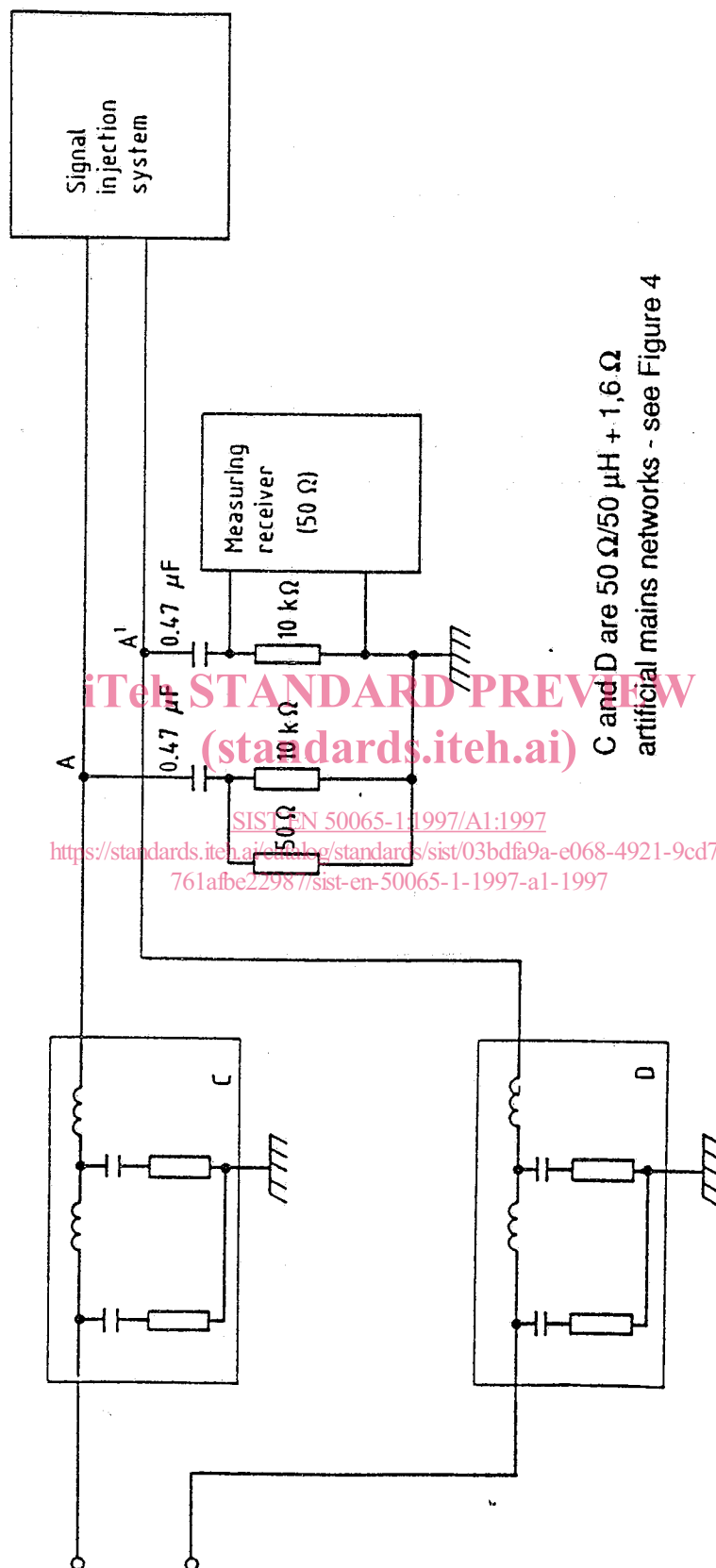
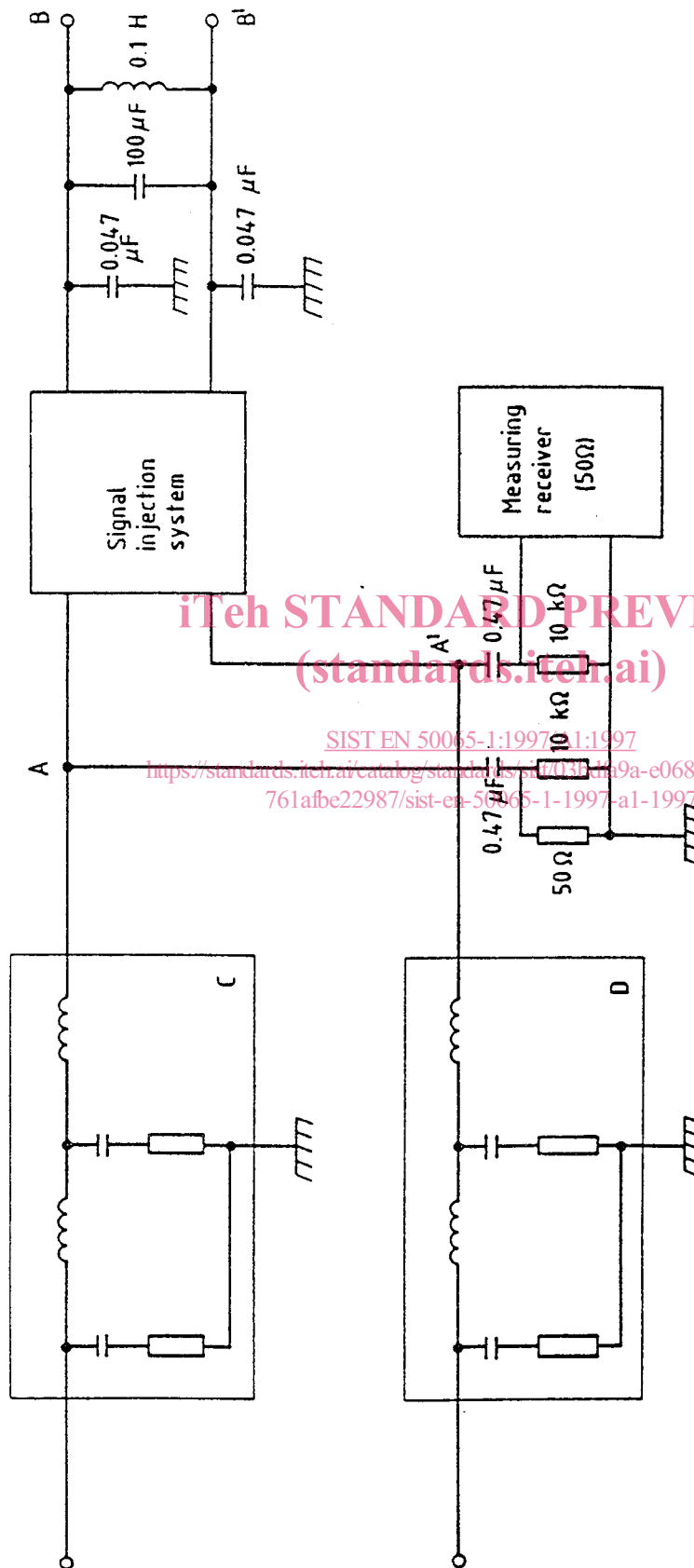


Figure 5 - Measurement of output level in 3 kHz - 9 kHz band (differential mode)



C and D are artificial mains networks - see Figure 4

NOTE: A 0,1 H inductor may be connected in parallel with the capacitor to reduce the standing 50 Hz current in the artificial mains network

Figure 6 - Measurement of output levels in 3 kHz - 9 kHz band (common mode)