Communication cables - Specifications for test methods - Part 1-11: Electrical test methods - Characteristic impedance, input impedance, return loss

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 50289-1-11:2002 sisaldab Euroopa standardi EN 50289-1-11:2001 ingliskeelset teksti. Käesolev dokument on jõustatud 15.10.2002 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 50289-1-11:2002 consists of the English text of the European standard EN 50289-1-11:2001. This document is endorsed on 15.10.2002 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This Part 1-11 of EN 50289 details the test methods to determine the characteristic impedance, input impedance and return loss of cables used in analogue and digital communication systems. It is to be read in conjunction with Part 1-1 of EN 50289, which contains essential provisions for its application.	**Scope:** This Part 1-11 of EN 50289 details the test methods to determine the characteristic impedance, input impedance and return loss of cables used in analogue and digital communication systems. It is to be read in conjunction with Part 1-1 of EN 50289, which contains essential provisions for its application.

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Võtmesõnad: analog signals, definitions, digital, digital signals, electric cables, electrical engineering, electrical resistance, electrical testing, impedance, input impedance, marking, measuring techniques, resistance, return loss, specification, telecommunication, testing

EUROPEAN STANDARD **EN 50289-1-11**

NORME EUROPÉENNE

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English version

Communication cables - Specifications for test methods Part 1-11: Electrical test methods - Characteristic impedance, input impedance, return loss

Câbles de communication - Spécifications des méthodes d'essai Partie 1-11: Méthodes d'essais électriques - Impédance caractéristique, impédance d'entrée, affaiblissement de réflexion

Kommunikationskabel - Spezifikationen für Prüfverfahren Teil 1-11: Elektrische Prüfverfahren - Wellenwiderstand, Eingangsimpedanz, Rückflußdämpfung

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

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Foreword

This European Standard was prepared by the Technical Committee CENELEC TC 46X, Communication cables.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50289-1-11 on 2001-03-01.

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)	2002-05-01
- latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2004-04-01

This European Standard has been prepared under the European Mandate M/212 given to CENELEC by the European Commission and the European Free Trade Association.

Contents

1 Scope

This Part 1-11 of EN 50289 details the test methods to determine characteristic impedance, input impedance and return loss of cables used in analogue and digital communication systems.

It is to be read in conjunction with Part 1-1 of EN 50289-1-1, which contains essential provisions for its application.

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 50289-1-1	2001	Communication cables - Specifications for test methods - Part 1-1: Electrical test methods - General requirements
EN 50289-1-5	2001	Communication cables - Specifications for test methods - Part 1-5: Electrical test methods - Capacitance
EN 50289-1-7	2001	Communication cables - Specifications for test methods - Part 1-7: Electrical test methods - Velocity of propagation
EN 50289-1-8	2001	Communication cables - Specifications for test methods - Part 1-8: Electrical test methods – Attenuation
EN 50290-1-2 [1)]		Communication cables - Part 1-2: Definitions

3 Definitions

For the purpose of this European Standard, the definitions of EN 50290-1-2 apply in addition to the following ones.

3.1
characteristic impedance (Z_c)
the characteristic impedance Z_c of a cable is defined as the quotient of a voltage and current wave which are propagating in the same direction. In theory for homogeneous cables with no structural variations the characteristic impedance could be measured directly as the quotient of voltage and current at the cable ends

$$Z_c = \frac{U_f}{i_f} = \frac{U_r}{i_r} \quad (1)$$

[1)] At draft stage.