Fibre optic communication subsystem basic test procedures - Part 2-1: Test procedures for digital systems - Receiver sensitivity and overload measurement

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NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 61280-2-1:2010 sisaldab Euroopa standardi EN 61280-2-1:2010 ingliskeelset teksti.	This Estonian standard EVS-EN 61280-2-1:2010 consists of the English text of the European standard EN 61280-2-1:2010.
Standard on kinnitatud Eesti Standardikeskuse 31.05.2010 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 31.05.2010 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 14.08.2009.	Date of Availability of the European standard text 14.08.2009.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

ICS 33.180.01

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61280-2-1

May 2010

ICS 33.180.01

Supersedes EN 61280-2-1:1999

English version

Fibre optic communication subsystem test procedures - Part 2-1: Digital systems - Receiver sensitivity and overload measurement

(IEC 61280-2-1:2010)

Procédures d'essai des sous-systèmes de télécommunications à fibres optiques - Partie 2-1: Systèmes numériques - Mesure de la sensibilité et de la surcharge d'un récepteur
(CEI 61280-2-1:2010)

Prüfverfahren für Lichtwellenleiter-Kommunikationsuntersysteme - Teil 2-1: Prüfverfahren für digitale Systeme - Messung der Empfindlichkeitsschwelle und der maximalen Eingangsleistung von Empfängern
(IEC 61280-2-1:2010)

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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.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Ref. No. EN 61280-2-1:2010 E

Foreword

The text of document 86C/881/CDV, future edition 2 of IEC 61280-2-1, prepared by SC 86C, Fibre optic systems and active devices, of IEC TC 86, Fibre optics, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61280-2-1 on 2010-04-01.

This European Standard supersedes EN 61280-2-1:1999.

The main changes with respect to EN 61280-2-1:1999 are listed below:

– revised to include the requirements associated with data communication equipment, regenerators and amplifiers;

– the term “jumper lead” has been replaced by “test cord”:

– a section for definitions has been added;

– a section on measurement uncertainties has been added.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

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)	2011-01-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2013-04-01

Endorsement notice

The text of the International Standard IEC 61280-2-1:2010 was approved by CENELEC as a European Standard without any modification.

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FIBRE OPTIC COMMUNICATION SUBSYSTEM TEST PROCEDURES –

Part 2-1: Digital systems – Receiver sensitivity and overload measurement

1 Scope and object

This part of IEC 61280 describes the test procedures applicable to digital fibre optic communication and data systems.

The object of this test procedure is to measure the minimum and maximum optical powers required and allowed at the optical input port of a fibre optic system to ensure its operation within specified limits. Another objective is to verify that the guaranteed error performance is obtained at the minimum and the maximum optical input powers specified by the terminal equipment manufacturer.

Figure 1 shows the typical elements associated with optical fibre systems. Optical amplifiers or regenerators may be used in long haul telecom systems, but are not usually associated with data transport systems such as Ethernet, etc. In bi-directional systems the transmitter and corresponding receiver are usually co-located, as indicated by the dotted lines. This specification is concerned with the characteristics of the optical input interface of the receiver, amplifier or regenerator shown.

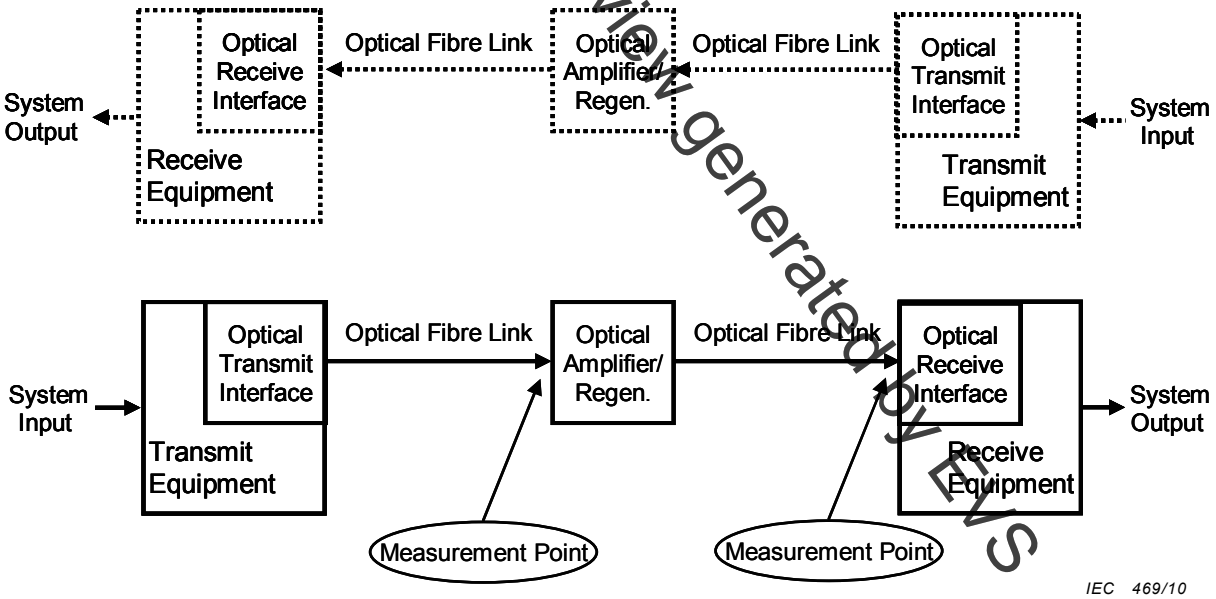

Figure 1 – Optical fibre system

It should be noted that the performance of fibre optic receivers may differ for different signal formats. It is therefore necessary to use the signal format that represents actual operating conditions.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.