BRITISH STANDARD

BS EN 61300-2-49: 2007

Fibre optic interconnecting devices and passive components — Basic test and measurement procedures —

Part 2-49: Tests — Connector installation test

The European Standard EN 61300-2-49:2007 has the status of a British Standard

ICS 33.180.20

National foreword

This British Standard is the UK implementation of EN 61300-2-49:2007. It is identical to IEC 61300-2-49:2007.

The UK participation in its preparation was entrusted by Technical Committee GEL/86, Fibre optics, to Subcommittee GEL/86/2, Fibre optic interconnecting devices and passive components.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

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EUROPEAN STANDARD

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EN 61300-2-49

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ICS 33.180.20

English version

Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-49: Tests - Connector installation test

(IEC 61300-2-49:2007)

Dispositifs d'interconnexion
et composants passifs à fibres optiques -
Méthodes fondamentales d'essais
et de mesures -
Partie 2-49: Essais -
Essai d'installation de connecteur
(CEI 61300-2-49:2007)

Lichtwellenleiter -
Verbindungselemente
und passive Bauteile -
Grundlegende Prüf- und Messverfahren -
Teil 2-49: Prüfungen -
Einbauprüfung für Steckverbinder
(IEC 61300-2-49:2007)

This European Standard was approved by CENELEC on 2007-07-01. 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.

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.

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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

Ref. No. EN 61300-2-49:2007 E

Foreword

The text of document 86B/2508/FDIS, future edition 1 of IEC 61300-2-49, prepared by SC 86B, Fibre optic interconnecting devices and passive components, of IEC TC 86, Fibre optics, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61300-2-49 on 2007-07-01.

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)	2008-04-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2010-07-01

Annex ZA has been added by CENELEC.

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Notice

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Endorsement notice

The text of the International Standard IEC 61300-2-49:2007 was approved by CENELEC as a European Standard without any modification.

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CONTENTS

FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – BASIC TEST AND MEASUREMENT PROCEDURES –

Part 2-49: Tests – Connector installation test

1 Scope

This part of IEC 61300 provides a test to determine that a connector is capable of functioning when installed in a cabinet or other enclosure in which the space available is limited.

2 Normative references

The following referenced documents are indispensable for the application 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.

IEC 61300-1, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 1: General guidance*

IEC 61300-3-1, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-1: Examinations and measurements – Visual examination*

IEC 61300-3-4, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-4: Measurements – Attenuation*

3 General description

The specimen is mounted into the test apparatus as shown in Figure 1. A panel is brought parallel to the mounting fixture and change in loss is measured.

4 Apparatus

4.1 Mounting fixture

The mounting fixture is a vertical surface that consists of a means to hold the device under test in a stable and representative manner. For connectors the mounting fixture will incorporate an adaptor. The mounting fixture shall be capable of accommodating those devices where the input and output fibre cables are co-located on the same side of the device. For connectors, where an adapter is used to connect two connectors, if there is more than one way to mount the adapter in the fixture, the adapter should be mounted so as to maximize the distance from the end of the connector to the panel.

4.2 Panel

The panel consists of a flat surface that is brought parallel to the mounting fixture to simulate a cabinet door closing on the installed device.

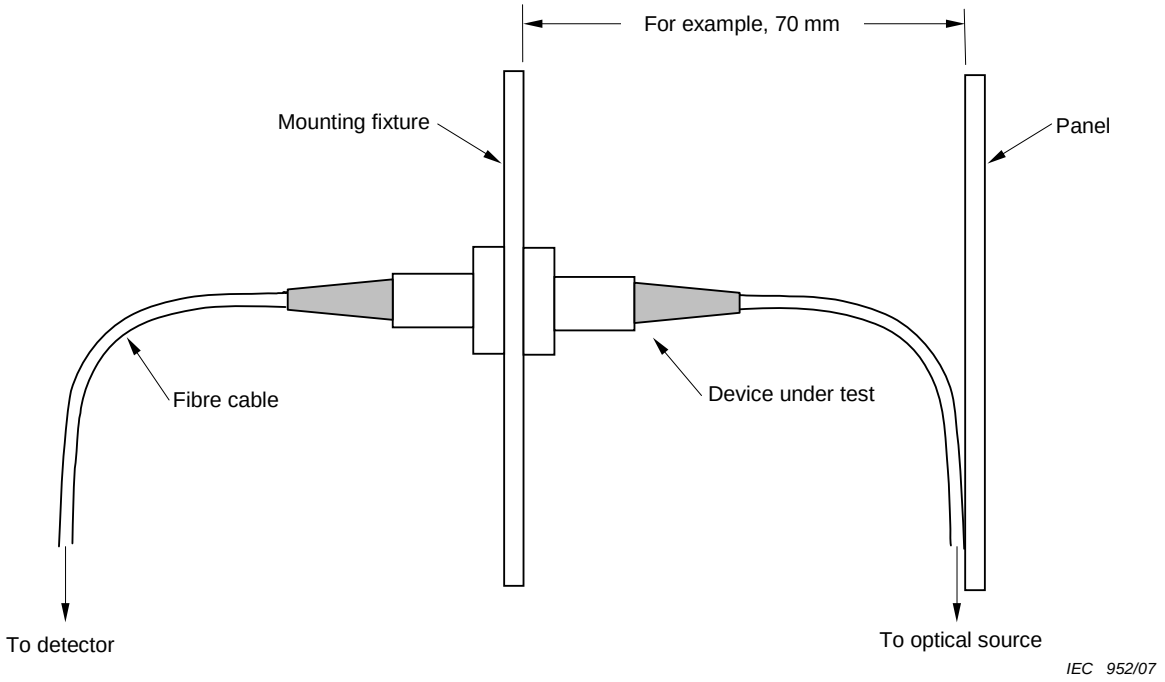

Figure 1 – Example of the connector installation test

4.3 Optical source and detector

The optical source and detector used to measure changes in attenuation shall comply with that specified in IEC 61300-3-4. See Table 1 for preferred wavelengths.

Table 1 – Preferred wavelengths

Singlemode	1 310 nm and 1 550 nm, optional 1 625 nm
Multimode	850 nm and 1300 nm

5 Procedure

5.1 Preparation of specimens

Prepare the specimens according to the manufacturer's instructions or as specified in the relevant specification. The device under test shall be terminated with a sufficient length of fibre cable to facilitate interfacing with the optical source and detector.

5.2 Pre-conditioning

Pre-condition the device under test for 2 h at the standard test conditions as given in IEC 61300-1, unless otherwise specified in the relevant specification. Measure and record the attenuation of the device under test.

5.3 Initial measurements

Complete initial examinations and measurements on the specimen as required by the relevant specification.

5.4 Conditioning

Clean the connector according to the manufacturer's instructions. The body of the specimen shall be mounted in a representative manner onto the mounting fixture (see Figure 1). The jumper cable that exits from the device under test is to be dressed so that about one metre of cable is supported by the end of the connector boot.

5.5 Measuring the attenuation

Re-measure the attenuation to ensure that the fixturing has not affected the cable's attenuation.

5.6 Applying the panel

Bring the panel to a position that is parallel to the mounting fixture surface and at a distance from the mounting panel as illustrated in Figure 1.

5.7 Monitoring attenuation with the panel applied

The attenuation of the specimen shall be measured with the panel in position, as described in IEC 61300-3-4, unless otherwise specified in the relevant specification. Any deviation in the device attenuation from that measured in 5.5 shall be considered attributable to the cable/device interface, or to fibre-to-fibre interfaces in the device.

5.8 Final measurements and examinations

On completion of the test, remove the panel and make a final attenuation measurement to ensure that there is no permanent damage to the device under test.

Remove the device from the mounting fixture and, unless otherwise specified, visually examine the specimen in accordance with IEC 61300-3-1. Check for evidence of any degradation in the specimen. This may include, for example:

– broken, loose or damaged parts or accessories;
– breaking or damage to the cable jacket, seals, strain relief, or fibres;
– displaced, bent, or broken parts;

6 Severity

The severity of the test is dependent upon the distance of the panel from the sample's mounting position and the length of the connector.

7 Details to be specified

The following details, as applicable, shall be specified in the relevant specification:

– distance of the panel to the mounting device/fixture;
– initial examinations, measurements and performance requirements;
– examinations, measurements and performance requirements during test;
– final examinations, measurements and performance requirements;
– deviations from this test method;
– additional pass/fail criteria.

Bibliography

IEC 61300-3-3, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-3: Examinations and measurements – Active monitoring of changes in attenuation and return loss*

NOTE Harmonized as EN 61300-3-3:2003 (not modified).

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application 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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 61300-1	-[1)]	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 1: General and guidance	EN 61300-1	2003[2)]
IEC 61300-3-1	-[1)]	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-1: Examinations and measurements - Visual examination	EN 61300-3-1	2005[2)]
IEC 61300-3-4	-[1)]	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-4: Examinations and measurements - Attenuation	EN 61300-3-4	2001[2)]

[1)] Undated reference.

[2)] Valid edition at date of issue.

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