



**NSAI**  
Standards

Irish Standard  
I.S. EN 61300-3-21:2015

Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-21: Examinations and measurements - Switching time

**I.S. EN 61300-3-21:2015**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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## National Foreword

I.S. EN 61300-3-21:2015 is the adopted Irish version of the European Document EN 61300-3-21:2015, Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-21: Examinations and measurements - Switching time

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EUROPEAN STANDARD

**EN 61300-3-21**

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2015

ICS 33.180.20

Supersedes EN 61300-3-21:1998

English Version

**Fibre optic interconnecting devices and passive components -  
Basic test and measurement procedures - Part 3-21:  
Examinations and measurements - Switching time  
(IEC 61300-3-21:2014)**

Dispositifs d'interconnexion et composants passifs à fibres optiques - Procédures fondamentales d'essais et de mesures - Partie 3-21: Examens et mesures - Temps de commutation  
(IEC 61300-3-21:2014)

Lichtwellenleiter - Verbindungselemente und passive Bauteile - Grundlegende Prüf- und Messverfahren - Teil 3-21: Untersuchungen und Messungen - Schaltzeit  
(IEC 61300-3-21:2014)

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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

**EN 61300-3-21:2015**

**European foreword**

The text of document 86B/3623/CDV, future edition 2 of IEC 61300-3-21, 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 approved by CENELEC as EN 61300-3-21:2015.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2016-06-18
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2018-12-18

This document supersedes EN 61300-3-21:1998.

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The text of the International Standard IEC 61300-3-21:2014 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 60876-1

NOTE Harmonized as EN 60876-1.

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: [www.cenelec.eu](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61300-1	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures -- Part 1: General and guidance	EN 61300-1	-
IEC 61300-3-4	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures -- Part 3-4: Examinations and measurements - Attenuation	EN 61300-3-4	-

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**IEC 61300-3-21**

Edition 2.0 2014-04

# **INTERNATIONAL STANDARD**

# **NORME INTERNATIONALE**

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**Fibre optic interconnecting devices and passive components – Basic test and measurement procedures –  
Part 3-21: Examinations and measurements – Switching time**

**Dispositifs d'interconnexion et composants passifs à fibres optiques –  
Procédures fondamentales d'essais et de mesures –  
Partie 3-21: Examens et mesures – Temps de commutation**





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**IEC 61300-3-21**

Edition 2.0 2014-04

# **INTERNATIONAL STANDARD**

# **NORME INTERNATIONALE**

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**Fibre optic interconnecting devices and passive components – Basic test and measurement procedures –  
Part 3-21: Examinations and measurements – Switching time**

**Dispositifs d'interconnexion et composants passifs à fibres optiques –  
Procédures fondamentales d'essais et de mesures –  
Partie 3-21: Examens et mesures – Temps de commutation**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

#### **Part 3-21: Examinations and measurements – Switching time**

#### FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 61300-3-21 has been prepared by subcommittee 86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics.

This second edition cancels and replaces the first edition published in 1998. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) removal of "bounce time" from the title;
- b) update and alignment of definitions with IEC 60876-1;
- c) generalization of the detection apparatus beyond an oscilloscope.

The text of this standard is based on the following documents:

CDV	Report on voting
86B/3623/CDV	86B/3702/RVC

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 61300 series, published under the general title, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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

### **Part 3-21: Examinations and measurements – Switching time**

#### **1 Scope**

This part of IEC 61300 is a method to measure the switching time and related performance parameters of an optical switch when the actuation energy is applied or removed to change the state of the switch.

#### **2 Normative references**

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 and guidance*

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

#### **3 Terms and definitions**

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

##### **3.1**

##### **latency time**

##### **3.1.1**

##### **latency time**

<switching from isolated state to conducting state> elapsed time until the output power of a specified output port reaches 10 % of its steady-state value of the output power from the time the actuation energy is applied for a normally-on switch or is removed for a normally-off switch

[SOURCE: IEC 60876-1:2012, 3.3.4.1, modified – “for a normally-on switch or is removed for a normally-off switch” has been added.]

##### **3.1.2**

##### **latency time**

<switching from conducting state to isolated state> elapsed time until the output power of a specified output port reaches 90 % of its steady-state value of the output power from the time the actuation energy is removed for a normally-on switch or is applied for a normally-off switch

Note 1 to entry: For a latch type optical switch, in case of switching from conducting state to isolated state, actuation energy is applied or removed.

[SOURCE: IEC 60876-1:2012, 3.3.4.2, modified – “for a normally-on switch or is removed for a normally-off switch” and Note 1 to entry have been added.]

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