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I.S. EN 62150-3:2015

Fibre optic active components and devices - Test and measurement procedures - Part 3: Optical power variation induced by mechanical disturbance in optical receptacles and transceiver interfaces

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EUROPEAN STANDARD

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EN 62150-3

August 2015

ICS 33.180.20

Supersedes EN 62150-3:2012

English Version

Fibre optic active components and devices - Test and measurement procedures - Part 3: Optical power variation induced by mechanical disturbance in optical receptacles and transceiver interfaces (IEC 62150-3:2015)

Composants et dispositifs actifs à fibres optiques - Procédures fondamentales d'essais et de mesures - Partie 3: Variation de puissance optique induite par des perturbations mécaniques dans les interfaces d'embases et d'émetteurs-récepteurs optiques (IEC 62150-3:2015)

Aktive Lichtwellenleiter-Bauteile und -Bauelemente - Grundlegende Prüf- und Messverfahren - Teil 3: Optische Leistungsabweichungen bedingt durch mechanische Störungen in optischen Kupplungen und Transceiver-Schnittstellen (IEC 62150-3:2015)

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Ref. No. EN 62150-3:2015 E

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European foreword

The text of document 86C/1311/FDIS, future edition 2 of IEC 62150-3, 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 approved by CENELEC as EN 62150-3:2015.

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)	2016-03-11
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2018-06-11

This document supersedes EN 62150-3:2012.

EN 62150-3:2015 includes the following significant technical changes with respect to EN 62150-3:2012:

– extension of application field to SC connector interface transceivers in addition to LC connector interface transceivers specified in the first edition as both transceiver interfaces are very important in the industry;

– addition of a new Annex E dealing with load value difference for connector type in Method A.

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In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 61300 Series	NOTE	Harmonized as EN 61300 Series.
IEC 61754-4	NOTE	Harmonized as EN 61754-4.
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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

Publication	Year	Title	EN/HD	Year
IEC 61753	Series	Fibre optic interconnecting devices and passive components - Performance standard	EN 61753	Series
IEC 61753-021-6	-	Fibre optic interconnecting devices and passive components performance standard - Part 021-6: Grade B/2 single-mode fibre optic connectors for category O - Uncontrolled environment	EN 61753-021-6	-
IEC 61754	Series	Fibre optic interconnecting devices and passive components - Fibre optic connector interfaces	EN 61754	Series

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IEC 62150-3

Edition 2.0 2015-05

INTERNATIONAL STANDARD

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Fibre optic active components and devices – Test and measurement procedures – Part 3: Optical power variation induced by mechanical disturbance in optical receptacles and transceiver interfaces

IEC 62150-3:2015-05(en)

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IEC Central Office
3, rue de Varembé
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00
info@iec.ch
www.iec.ch

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIBRE OPTIC ACTIVE COMPONENTS AND DEVICES – TEST AND MEASUREMENT PROCEDURES –

Part 3: Optical power variation induced by mechanical disturbance in optical receptacles and transceiver interfaces

FOREWORD

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International Standard IEC 62150-3 has been prepared by subcommittee 86C: Fibre optic systems and active devices, of IEC technical committee 86: Fibre optics.

This second edition cancels and replaces the first edition published in 2012 and constitutes a technical revision.

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

– extension of application field to SC connector interface transceivers in addition to LC connector interface transceivers specified in the first edition as both transceiver interfaces are very important in the industry;
– addition of a new Annex E dealing with load value difference for connector type in Method A.

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

FDIS	Report on voting
86C/1311/FDIS	86C/1330/RVD

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 62150 series, published under the general title *Fibre optic active components and devices – 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
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FIBRE OPTIC ACTIVE COMPONENTS AND DEVICES – TEST AND MEASUREMENT PROCEDURES –

Part 3: Optical power variation induced by mechanical disturbance in optical receptacles and transceiver interfaces

1 Scope

It has been found that some optical transceivers and receptacles are susceptible to fibre optic cable induced stress when side forces are applied to the mated cable-connector assembly, resulting in variations in the transmitted optical power. The purpose of this part of IEC 62150 is to define physical stress tests to ensure that such optical connections (cable and receptacle) can continue to function within specifications.

This standard specifies the test requirements and procedures for qualifying optical devices for sensitivity to coupled power variations induced by mechanical disturbance at the optical ports of the device.

This standard applies to active devices with optical receptacle interfaces.

This standard describes the testing of transceivers for use with single-mode connectors having either 2,5 mm or 1,25 mm ferrules.

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 61753 (all parts), *Fibre optic interconnecting devices and passive components performance standard*

IEC 61753-021-6, *Fibre optic interconnecting devices and passive components performance standard – Part 021-6: Grade B/2 single-mode fibre optic connectors for category O – Uncontrolled environment*

IEC 61754 (all parts), *Fibre optic interconnecting devices and passive components – Fibre optic connector interfaces*

3 Terms, definitions and abbreviations

3.1 Terms and definitions

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

3.1.1
wiggle
mechanical disturbances that induce coupled optical power variation in the optical receptacle and transceiver interface

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