

INTERNATIONAL STANDARD



**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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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

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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.

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- withdrawn,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
- amended.

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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 wobble

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