

## REDLINE VERSION



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**Fibre optic interconnecting devices and passive components – Basic test and measurement procedures –  
Part 3-35: Examinations and measurements –  
Visual inspection of fibre optic connectors and fibre-stub transceivers**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

#### Part 3-35: Examinations and measurements – **Visual inspection of fibre optic connectors – ~~endface visual and automated~~ inspection and fibre-stub transceivers**

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International Standard IEC 61300-3-35 has been prepared by subcommittee SC86B: 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 2009 and constitutes a technical revision.

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

- a) modification to the title;
- b) addition of some terms and definitions;
- c) reconsideration of the specific values of Tables 1 to 4 to reflect the current market situation;
- d) addition of visual requirements for single-mode transceivers using a fibre-stub interface in Table 3;
- e) addition of a sentence in 4.1 concerning the susceptibility of the methods to system variability.

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

FDIS	Report on voting
86B/3886/FDIS	86B/3912/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 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

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

### Part 3-35: Examinations and measurements –

### **Visual inspection of fibre optic connectors ~~endface visual and automated inspection and fibre-stub transceivers~~**

#### 1 Scope

This part of IEC 61300 describes methods for quantitatively assessing the end face quality of a polished fibre optic connector ~~or of a fibre optic transceiver using a fibre-stub type interface. The information is intended for use with other standards which set requirements for allowable surface defects such as scratches, pits and debris which may affect optical performance. Sub-surface cracks and fractures are not considered in this standard.~~ In general, the methods described in this standard apply to 125 µm cladding fibres contained within a ferrule and intended for use with sources of  $\leq 2$  W of input power. However, portions are applicable to non-ferruled connectors and other fibre types. Those portions are identified where appropriate. ~~It is not the intention of this standard that the size of scratches should be measured, the dimensions and requirements are selected such that they can be estimated. There is no need to measure for example if a scratch is 2,3 µm wide.~~

#### 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.

~~None~~ Void.

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



**Fibre optic interconnecting devices and passive components – Basic test and measurement procedures –  
Part 3-35: Examinations and measurements –  
Visual inspection of fibre optic connectors and fibre-stub transceivers**

**Dispositifs d'interconnexion et composants passifs à fibres optiques –  
Procédures fondamentales d'essais et de mesures –  
Partie 3-35: Examens et mesures – Examen visuel des connecteurs à fibres optiques et des émetteurs-récepteurs à embase fibrée**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

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#### **1 Scope**

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Void.

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## COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

### **DISPOSITIFS D'INTERCONNEXION ET COMPOSANTS PASSIFS À FIBRES OPTIQUES – PROCÉDURES FONDAMENTALES D'ESSAIS ET DE MESURES –**

#### **Partie 3-35: Examens et mesures – Examen visuel des connecteurs à fibres optiques et des émetteurs-récepteurs à embase fibrée**

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Cette deuxième édition annule et remplace la première édition parue en 2009. Cette édition constitue une révision technique.

Cette édition inclut les modifications techniques majeures suivantes par rapport à l'édition précédente:

- a) modification du titre;
- b) ajout de termes et définitions;
- c) révision des valeurs spécifiques des Tableaux 1 à 4 en vue de refléter les réalités actuelles du marché;
- d) ajout dans le Tableau 3 des exigences visuelles relatives aux émetteurs-récepteurs unimodaux utilisant une interface à embase fibrée;
- e) ajout d'une phrase en 4.1 précisant que les méthodes sont sujettes à une variabilité du système.

Le texte de la présente norme est issu des documents suivants:

FDIS	Rapport de vote
86B/3886/FDIS	86B/3912/RVD

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à l'approbation de cette norme.

Cette publication a été rédigée selon les Directives ISO/IEC, Partie 2.

Une liste de toutes les parties de la série IEC 61300, publiées sous le titre général *Dispositifs d'interconnexion et composants passifs à fibres optiques – Procédures fondamentales d'essais et de mesures*, peut être consultée sur le site web de l'IEC.

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## **DISPOSITIFS D'INTERCONNEXION ET COMPOSANTS PASSIFS À FIBRES OPTIQUES – PROCÉDURES FONDAMENTALES D'ESSAIS ET DE MESURES –**

### **Partie 3-35: Examens et mesures – Examen visuel des connecteurs à fibres optiques et des émetteurs-récepteurs à embase fibrée**

#### **1 Domaine d'application**

La présente partie de l'IEC 61300 décrit des méthodes pour évaluer quantitativement la qualité de l'extrémité d'un connecteur à fibres optiques polies ou d'un émetteur-récepteur à fibres optiques utilisant une interface de type à embase fibrée. Les craquelures et fractures internes ne sont pas traitées dans la présente norme. En général, les méthodes décrites dans la présente norme s'appliquent aux fibres à gaine de 125 µm contenues dans une férule et destinées à être utilisées avec des sources de puissance d'entrée  $\leq 2$  W. Toutefois, des parties sont applicables aux connecteurs exempts de férules et autres types de fibres. Ces parties sont identifiées s'il y a lieu. La présente norme n'a pas pour objet de préconiser le mesurage de la taille des éraflures; les dimensions et les exigences sont choisies de telle sorte à pouvoir les estimer. Un mesurage n'est pas nécessaire dans le cas où, par exemple, la largeur de l'éraflure est égale à 2,3 µm.

#### **2 Références normatives**

Les documents suivants sont cités en référence de manière normative, en intégralité ou en partie, dans le présent document et sont indispensables pour son application. Pour les références datées, seule l'édition citée s'applique. Pour les références non datées, la dernière édition du document de référence s'applique (y compris les éventuels amendements).

Aucune.