

Fibre optic sensors - Part 6-1: Displacement
measurement - Displacement sensors based on fibre
Bragg gratings

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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English Version

Fibre optic sensors - Part 6-1: Displacement measurement -
Displacement sensors based on fibre Bragg gratings
(IEC 61757-6-1:2024)

Capteurs fibroniques - Partie 6-1: Mesure de déplacement -
Capteurs de déplacement basés sur des réseaux de Bragg
sur fibre
(IEC 61757-6-1:2024)

Lichtwellenleistersensoren - Teil 6-1: Wegmessung -
Wegsensoren auf der Basis von Faser Bragg-Gittern
(IEC 61757-6-1:2024)

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European foreword

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

Fibre optic sensors –

Part 6-1: Displacement measurement – Displacement sensors based on fibre Bragg gratings

Capteurs fibroniques –

Partie 6-1: Mesure de déplacement – Capteurs de déplacement basés sur des réseaux de Bragg sur fibre



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INTERNATIONAL STANDARD

NORME INTERNATIONALE

Fibre optic sensors –

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIBRE OPTIC SENSORS –

**Part 6-1: Displacement measurement –
Displacement sensors based on fibre Bragg gratings**

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The text of this International Standard is based on the following documents:

Draft	Report on voting
86C/1874/CDV	86C/1891/RVC

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

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INTRODUCTION

This document is part of the IEC 61757 series, which is dedicated to fibre optic sensors. Generic specifications for fibre optic sensors are defined in IEC 61757.

The individual parts of the IEC 61757 series are numbered as IEC 61757- M - T , where M denotes the measure and T the technology. The IEC 61757-6- T series is concerned with displacement measurements.

FIBRE OPTIC SENSORS –

Part 6-1: Displacement measurement – Displacement sensors based on fibre Bragg gratings

1 Scope

This part of IEC 61757 defines the terminology, structure, and measurement methods of optical displacement sensors based on fibre Bragg gratings (FBGs) as the sensing element. This document also specifies the most important features and characteristics of these fibre optic displacement sensors and defines procedures for measuring these features and characteristics.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 60068-2 (all parts), *Environmental testing – Part 2-X: Tests*

IEC 61300-2 (all parts), *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-X: Tests*

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

IEC 61757, *Fibre optic sensors – Generic specification*

IEC 61757-1-1:2020, *Fibre optic sensors – Part 1-1: Strain measurement – Strain sensors based on fibre Bragg gratings*

IEC 62129-1, *Calibration of wavelength/optical frequency measurement instruments – Part 1: Optical spectrum analyzers*

IEC 62129-2, *Calibration of wavelength/optical frequency measurement instruments – Part 2: Michelson interferometer single wavelength meters*

IEC 62129-3, *Calibration of wavelength/optical frequency measurement instruments – Part 3: Optical frequency meters internally referenced to a frequency comb*

ISO/IEC GUIDE 98-3, *Uncertainty of measurement – Part 3: Guide to the expression of uncertainty in measurement (GUM:1995)*