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Fibre optic sensors - Part 1-2: Strain measurement - Distributed sensing based on Brillouin scattering

Táto norma obsahuje anglickú verziu európskej normy.

This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 11/23

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EN IEC 61757-1-2

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English Version

**Fibre optic sensors - Part 1-2: Strain measurement - Distributed
sensing based on Brillouin scattering
(IEC 61757-1-2:2023)**

Capteurs fibroniques - Partie 1-2: Mesure de déformation -
Détection répartie basée sur la diffusion de Brillouin
(IEC 61757-1-2:2023)

Lichtwellenleiter-Sensoren - Teil 1-2: Dehnungsmessung -
Verteilte Sensorik auf der Basis von Brillouin-Streuung
(IEC 61757-1-2:2023)

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EN IEC 61757-1-2:2023 (E)**European foreword**

The text of document 86C/1857/CDV, future edition 1 of IEC 61757-1-2, 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 IEC 61757-1-2:2023.

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Annex ZA (normative)

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<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61757	2018	Fibre optic sensors - Generic specification	EN IEC 61757	2018
IEC 61757-2-2	2016	Fibre optic sensors - Part 2-2: Temperature measurement - Distributed sensing	EN 61757-2-2	2017
IEC 61757-3-2	2022	Fibre optic sensors - Part 3-2: Acoustic sensing and vibration measurement - Distributed sensing	EN IEC 61757-3-2	2022
ISO/IEC Guide 98-3 -		Uncertainty of measurement - Part 3: Guide to the expression of uncertainty in measurement (GUM:1995)	-	-



IEC 61757-1-2

Edition 1.0 2023-08

INTERNATIONAL STANDARD

NORME INTERNATIONALE



Fibre optic sensors –

Part 1-2: Strain measurement – Distributed sensing based on Brillouin scattering

Capteurs fibroniques –

Partie 1-2: Mesure de déformation – Détection répartie basée sur la diffusion de Brillouin

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IEC Secretariat
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

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

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IEC 61757-1-2

Edition 1.0 2023-08

INTERNATIONAL STANDARD

NORME INTERNATIONALE



Fibre optic sensors –

Part 1-2: Strain measurement – Distributed sensing based on Brillouin scattering

Capteurs fibroniques –

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FIBRE OPTIC SENSORS –

**Part 1-2: Strain measurement –
Distributed sensing based on Brillouin scattering**

FOREWORD

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

Draft	Report on voting
86C/1857/CDV	86C/1872/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 of the fibre optic sensor. The IEC 61757-1-*T* series is concerned with strain measurements.

FIBRE OPTIC SENSORS –

Part 1-2: Strain measurement – Distributed sensing based on Brillouin scattering

1 Scope

This part of IEC 61757 defines detailed specifications for distributed strain measurements with a fibre optic sensor, also known as "fibre optic distributed strain sensing". It is applicable to distributed strain sensing systems (DSS) based on spontaneous or stimulated Brillouin scattering in the optical fibre sensor (strain sensitive element), that is, to sensors capable of measuring absolute strain.

This document specifies the most important DSS performance parameters and defines the procedures for their determination.

2 Normative references

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IEC 61757:2018, *Fibre optic sensors – Generic specification*

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