sylex® FIBER OPTICS

LIST OF CALIBRATION COEFFICIENTS - EXAMPLE

Customer order:	N/A	**Revision:**	A	**Print date:**	19.04.2021
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EQUATIONS

STRAIN EQUATION

$$\Delta\varepsilon = \frac{\Delta\lambda - B.\Delta T}{A}$$

$$\Delta\lambda = \frac{\lambda_{act} - \lambda_0}{\lambda_0} \qquad \Delta T = (T_{act} - T_0)$$

Measurand	Description
$\Delta\varepsilon$ [µε]	Strain shift
$\lambda_{0,inst,strain}$ [nm] **1	Initial strain wavelength
$T_{0,inst}$ [°C] **1	Initial temperature
T_{act} [°C] **2	Actual temperature
$\lambda_{act,strain}$ [nm] **2	Actual strain wavelength

STRING EXPRESSION

$\Delta\varepsilon$ = (($\Delta\lambda$ - B * ΔT) / A)
$\Delta\lambda$ = ((λact - λ0) / λ0)
ΔT = (T act - T0)

For the determination of the strain sensitivity the free fiber length was used as a basis

**1 To be measured after installation of the sensor

**2 Measured value during monitoring of the sensor

CALIBRATION COEFFICIENTS

Nr.	Serial number	Customer code	Product	STRAIN COEFFICIENTS	
				A [µε⁻¹]	B [°C⁻¹]
1	194716/0001		SWS-03; WL: 1549,9nm, LCP-03: 2x 1mtr; 2x FC/APC, 2x WCP-01	7,75842E-07	5,89292E-06