

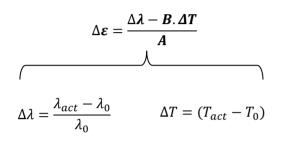
ex FIBER OPTICS

LIST OF CALIBRATION COEFFICIENTS - EXAMPLE

Customer order: Revision: A Print date: 07.12.2020

EQUATIONS

STRAIN EQUATION



Measurand	Description
Δε [με]	Strain shift
λ _{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
L _{FFL} [m]	Free fiber length
	-

STRING EXPRESSION

 $\Delta \varepsilon = ((\Delta \lambda - B * \Delta T) / A)$ $\Delta \lambda = ((\lambda act - \lambda 0) / \lambda 0)$ $\Delta T = (T act - T0)$

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

				STRAIN COEFFICIENTS			
Nr.	Serial number	Customer code	Product	Α [με ⁻¹]	B [°C ⁻¹]	L _{FFL} [m]	
	197366/0001	FBG1	MSA-01; 6xFBGs (8x anchors); WL:1520-1570nm; TL = 13m, LCP-03: 1x 7,8mtr, 1x FC/APC, 1x WCP-01	7,75842E-07	5,89292E-06	0,500	
		FBG2				0,500	
1		FBG3				0,500	
		FBG4				0,500	
		FBG5				0,500	
		FBG6				0,500	