



## LIST OF CALIBRATION COEFFICIENTS

Customer order:

Revision: A

Print date: 24.04.2023

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### EQUATIONS

#### STRAIN EQUATION

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

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

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

#### STRING EXPRESSION

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

$$\Delta\lambda = ((\lambda_{act} - \lambda_0) / \lambda_0)$$

$$\Delta T = (T_{act} - T_0)$$

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 [ $\mu\varepsilon^{-1}$ ] | B [ $^{\circ}$ C $^{-1}$ ] |
| 1   | 193075/0001   |               | DSP-01; WL: 1538,5nm, LCP-03:1x1,1mtr, 1x2,9mtr, 2x FC/APC | 7,75842E-07                 | 5,89292E-06                |