sylex® FIBER OPTICS

LIST OF CALIBRATION COEFFICIENTS

Customer order:		**Revision:**	A	**Print date:**	04.12.2023
Quality supervisor:	tsalat@sylex.sk	**Production supervisor:**		mmucka@sylex.sk	

EQUATIONS

TEMPERATURE EQUATION

$$T = T_{S1}\left(\frac{\lambda_{T,act} - \lambda_{T,ref}}{\lambda_{T,ref}}\right)^3 + T_{S2}\left(\frac{\lambda_{T,act} - \lambda_{T,ref}}{\lambda_{T,ref}}\right)^2 + T_{S3}\left(\frac{\lambda_{T,act} - \lambda_{T,ref}}{\lambda_{T,ref}}\right) + T_{S4}$$

Measurand	Description
T [°C]	Temperature
$\lambda_{T,act}$ [nm] **1	Actual temp. wavelength
$\lambda_{T,ref}$ [nm]	Reference temp. wavelength
T_{S1} [°C]	Temperature sensitivity 1
T_{S2} [°C]	Temperature sensitivity 2
T_{S3} [°C]	Temperature sensitivity 3
T_{S4} [°C]	Temperature sensitivity 4

STRING EXPRESSION

Ts1*((λT,act-λT,ref)/λT,ref)^3+Ts2*((λT,act-λT,ref)/λT,ref)^2+Ts3*((λT,act-λT,ref)/λT,ref)+Ts4

***1 Measured value during monitoring of the sensor*

CALIBRATION COEFFICIENTS

Nr.	Serial number	Customer code	Product	T_{S1} [°C]	T_{S2} [°C]	T_{S3} [°C]	T_{S4} [°C]	$\lambda_{T,ref}$ [nm]
1	197367/0001		STS-11; WL: 1540nm; LCP-03: 2x 1m; 2x FC/APC; 2x WCP-01; Range: -70/+150°C	1,01355E+10	-4,49008E+07	1,92066E+05	-4,94289E+01	1540,41240

The sensor is compliant with IEC 61757-1-1:2020 and IEC 61757:2018
Sensor is manufactured according to ISO 9001:2015 and ISO 14001:2015

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EQUATIONS

TEMPERATURE EQUATION

$$T = T_{S1}\left(\frac{\lambda_{T,act} - \lambda_{T,ref}}{\lambda_{T,ref}}\right)^2 + T_{S2}\left(\frac{\lambda_{T,act} - \lambda_{T,ref}}{\lambda_{T,ref}}\right) + T_{S3}$$

Measurand	Description	String expression
T [°C]	Temperature	T
$\lambda_{T,act}$ [nm] **1	Actual temp. wavelength	λT,act
$\lambda_{T,ref}$ [nm]	Reference temp. wavelength	λT,ref
T_{S1} [°C]	Temperature sensitivity 1	Ts1
T_{S2} [°C]	Temperature sensitivity 2	Ts2
T_{S3} [°C]	Temperature sensitivity 3	Ts3

STRING EXPRESSION

T = Ts1*((λT,act-λT,ref)/λT,ref)^2+Ts2*((λT,act-λT,ref)/λT,ref)+Ts3

***1 Measured value during monitoring of the sensor*

CALIBRATION COEFFICIENTS

Nr.	Serial number	Customer code	Product	T_{S1} [°C]	T_{S2} [°C]	T_{S3} [°C]	$\lambda_{T,ref}$ [nm]
1	197367/0001		STS-11; WL: 1511,9nm; LCP-03: 2x 1m; 2x FC/APC; 2x WCP-01; Range: -20/+60°C	-1,612492E+06	5,242901E+04	2,250111E+01	1511,738906

The sensor is compliant with IEC 61757-2-1:2021 and IEC 61757:2018
Sensor is manufactured according to ISO 9001:2015 and ISO 14001:2015