

Certificate no: 4831_958_00181586
Foil batch no: 1824M

Product: 4831
Calibration date: 14.02.2021

Serial no: 958
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Index	Temperature reference(°C)	[O2] Reference(μM)	Temperature raw data(mV)	Phase reading(°)
0	30.229	1.60	-102.920	59.96
1	20.144	1.15	222.387	60.96
2	10.107	0.95	546.720	61.66
3	0.864	0.83	822.940	62.29
4	0.949	21.03	820.547	59.63
5	1.023	42.83	818.467	57.08
6	1.085	63.30	816.740	54.94
7	1.133	110.00	815.353	50.75
8	1.169	151.47	814.360	47.70
9	1.203	217.99	813.407	43.73
10	1.234	323.87	812.540	39.01
11	1.250	436.82	812.080	35.36
12	1.262	540.06	811.727	32.84
13	10.810	16.50	524.507	58.68
14	10.713	34.69	527.607	55.66
15	10.641	51.52	529.847	53.26
16	10.592	86.46	531.427	49.06
17	10.565	122.86	532.293	45.58
18	10.544	172.50	532.953	41.80
19	10.531	262.60	533.340	36.83
20	10.520	341.25	533.713	33.76
21	10.499	430.12	534.353	31.13
22	20.672	13.31	205.073	57.72
23	20.613	27.49	207.020	54.46
24	20.568	41.88	208.493	51.68
25	20.534	67.66	209.580	47.56
26	20.505	95.26	210.540	44.09
27	20.482	138.17	211.293	39.90
28	20.462	204.25	211.947	35.31
29	20.450	273.72	212.320	31.95
30	20.440	344.86	212.660	29.43
31	30.402	10.82	-108.320	56.68
32	30.386	22.45	-107.827	53.20
33	30.380	34.04	-107.607	50.28
34	30.381	56.06	-107.640	45.82
35	30.385	79.35	-107.800	42.16
36	30.392	112.91	-108.000	38.15
37	30.409	167.14	-108.540	33.62
38	30.416	227.18	-108.773	30.19
39	30.422	284.31	-108.953	27.88

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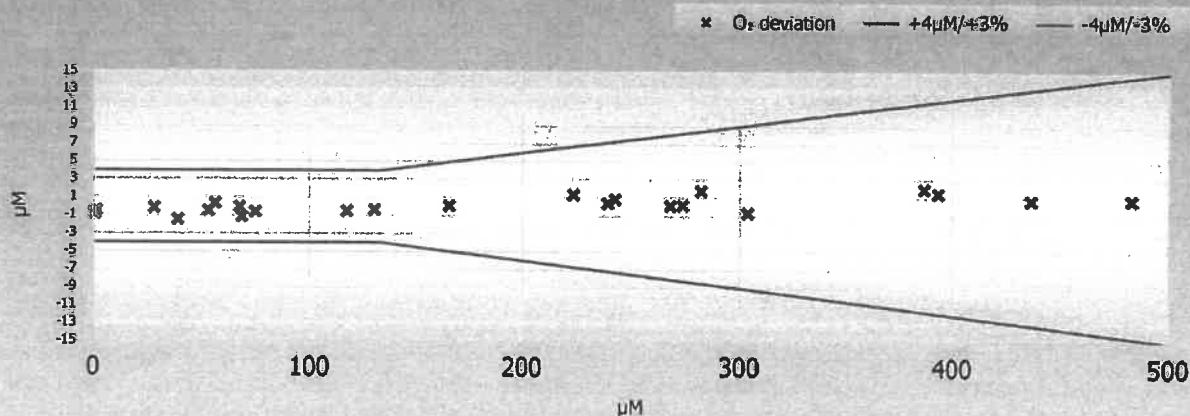
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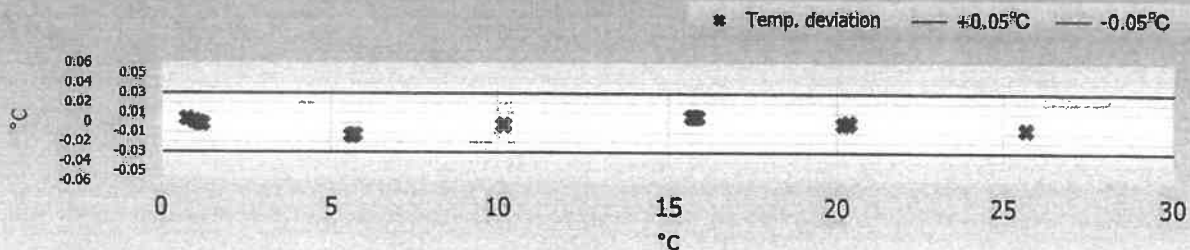
Giving these coefficients

Index	0	1	2	3	4	5	6
SVUFoilCoef	2.72340E-03	1.07222E-04	2.28628E-06	1.73503E02	-2.33249E-01	-4.40995E01	3.56786E00
TempCoef	2.69790E01	-3.12065E-02	3.13273E-06	-4.58253E-09	0.00000E00	0.00000E00	

Oxygen validation



Temperature validation



With following settings

Index	0	1	2	3
PhaseCoef	-1.42200E00	1.00000E00	0.00000E00	0.00000E00

Index	0 (Offset)	1 (Slope)
ConsCoef	0.00000E00	1.00000E00
SatSatety	0.00	
Firmware Version	5.3.1	

Date:14.02.2021

Tor-Ove Kvalvaag
Tor-Ove Kvalvaag, Calibration Engineer

AANDERAA

a xylem brand

PRESSURE CERTIFICATE

Form No. 667, Sept 2009

Product: Oxygen Optode 4831**Serial No:** 958**Date:** 11.02.2021**Certificate No:** 181490260958

This is to certify that this product has been pressure tested with the following instrument, and we confirm that no irregularities were found during the test:

Autoklav 800 bar – sn: 0210005

Pressure readings:

Pressure (Bar)	Pressure time (hour)
600	1

Date: 11 Feb 2021

Sign:

Laila A. Skålnes

Laila Skålnes, Production Engineer

Program Version: 5.3.1

Product: Oxygen Optode 4831

Serial No: 958

Visual and Mechanical Checks:

- 1.1 Soldering quality
- 1.2 Visual surface
- 1.3 Galvanic isolation between housing and electronics

Current Drain and Voltages:

2.1 Average current drain at 0.5 Hz sampling (Max.: 33 mA)	23.2	mA
2.2 CANBus Current drain at 0.5 Hz sampling (Max.: 33 mA)		mA
2.3 Current drain in sleep (Max.: 270 μ A)	236	μ A
2.4 CANBus Current drain in sleep (Max.: 180 μ A)		μ A
2.5 DSP IO voltage, J4.18 (3.3 ± 0.15 V)	3.28	V
2.6 DSP Core voltage, J4.17 (1.8 ± 0.05 V)	1.82	V
2.7 Excitation driver voltage, C4 Analog Board (4.3 ± 0.1 V)	4.28	V

Performance test:

	Channel:	Blue	Red
3.1 Average of Receiver readings (0 ± 150 mV)		-8.0 mV	-5.4 mV
3.2 Standard Deviation of Receiver readings (Max.: 45 mV/10 mV)		1.23 mV	0.27 mV
3.3 Amplitude measurement with non-fluorescence foil (<60 mV/650-1200 mV)		10 mV	976.5 mV
3.4 CANBus Output test			

Function test from 0 to 40°C:

	Channel:	Blue	Red
4.1 Minimum amplitude measurement (Blue: >550 mV, Red >550 mV)		740.8 mV	799.7 mV
4.2 Maximum amplitude measurement (Blue: <1600 mV, Red <1400 mV)		1113.8 mV	1220.1 mV
4.3 Minimum phase measurement (Blue: >32°, Red: >3°)		35.39 °	7.65 °
4.4 Maximum phase measurement (Blue: <45°, Red: <10°)		41.12 °	9.02 °
4.5 Maximum standard deviation of Phase measurement: (< 0.07°)		0.05 °	0.05 °
4.6 Minimum temperature raw data measurement: (<-200 mV)			-425.6 mV
4.7 Maximum temperature raw data measurement: (>450 mV)			704.1 mV

Date: 11 Feb 2021

Sign:

Laila A. Skålnes

Laila Skålnes, Production Engineer