

Program Version: 04.09.2001

Product: Oxygen Optode 4831

Serial No: 673

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)	23.1	mA
2.2	CANBus Current drain at 0.5 Hz sampling (Max.: 33 mA)		mA
2.3	Current drain in sleep (Max.: 180 μ A)	222	μ A
2.4	CANBus Current drain in sleep (Max.: 180 μ A)		μ A
2.5	DSP IO voltage, J4.18 (3.3 \pm 0.15V)		V
2.6	DSP Core voltage, J4.17 (1.8 \pm 0.05 V)	1.82	V
2.7	Excitation driver voltage, C4 Analog Board (4.5 \pm 0.15 V)	4.33	V

Performance test:

	Channel:	Blue	Red
3.1	Average of Receiver readings (0 \pm 150mV)	-3.1 mV	-2.1 mV
3.2	Standard Deviation of Receiver readings (Max.: 45mV/10mV)	0.98 mV	0.64 mV
3.3	Amplitude measm. with non-fluorescence foil (<60mV/650-1200mV)	12 mV	845.2 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 >650 mV)	598.1 mV	659.7 mV
4.2	Maximum amplitude measurement (Blue: <1600 mV, Red <1400 mV)	900.1 mV	1016.3 mV
4.3	Minimum phase measurement (Blue: >24°, Red: >1°)	35 °	8.41 °
4.4	Maximum phase measurement (Blue: <34°, Red: <5°)	40.44 °	9.39 °
4.5	Maximum standard deviation of Phase measurement: (< 0.02°)	0.05 °	0.03 °
4.6	Minimum temperature raw data measurement: (<-200 mV)		-418.5 mV
4.7	Maximum temperature raw data measurement: (>450 mV)		656.4 mV

Pressure test :

5.1	Pressure (IW version: 20MPa, DW version 60MPa)	60MPa
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Date: 23 Mar 2017

Sign:



Vidar Selsvik, Production Engineer



PRESSURE CERTIFICATE

Form No. 667, Sept 2009

Product: Oxygen Optode 4831
Serial No: 673
Date: 06,03,2017

Certificate No: 128751260673

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: 23 Mar 2017

Sign:

Vidar Selsvik, Production Engineer



a xylem brand

CALIBRATION CERTIFICATE

Form No 830, Juli 2012

Certificate no: 4831_673_00128390
Foil batch no: 1517M

Product: 4831
Calibration date: 15.03.2017

Serial no: 673
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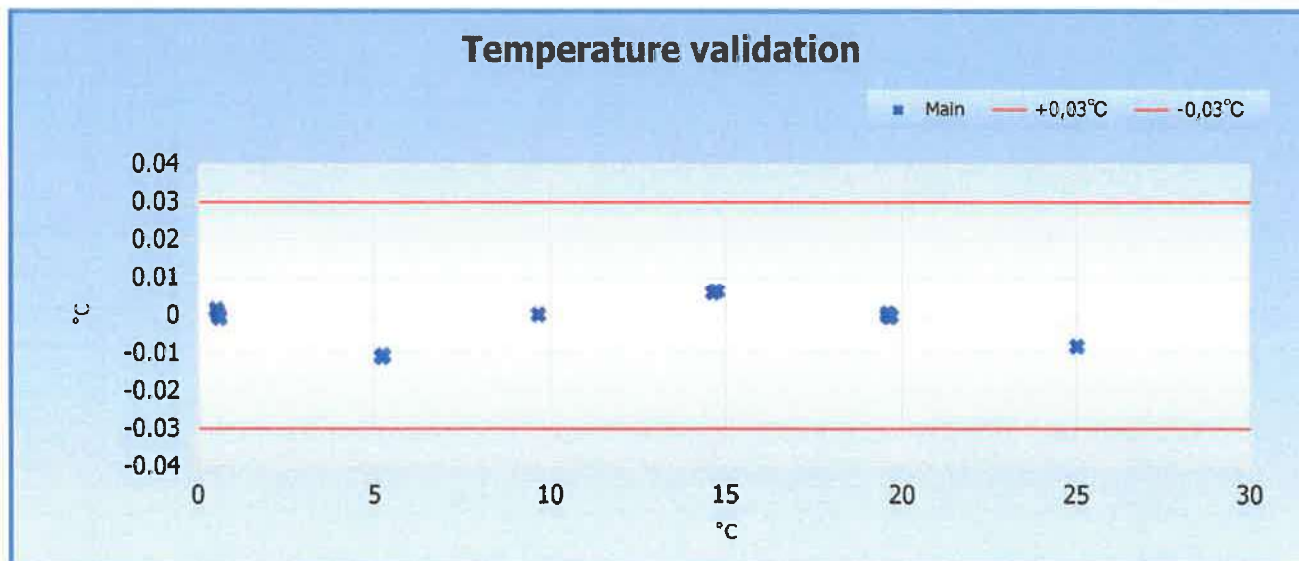
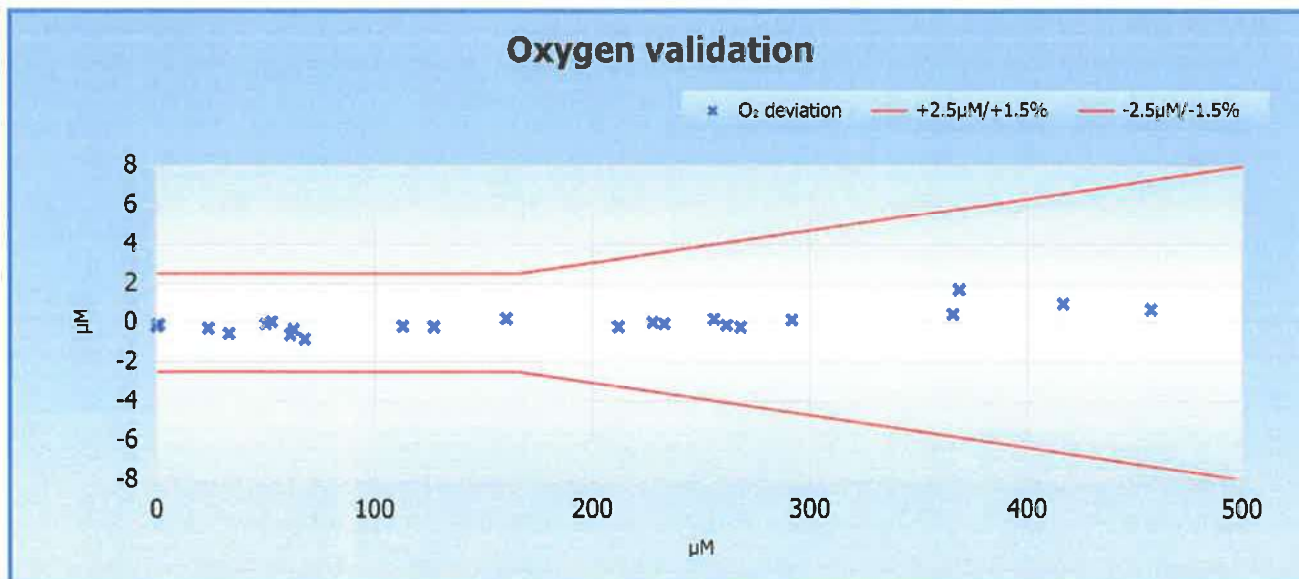
Index	Temperature reference(°C)	[O2] Reference(µM)	Temperature raw data(mV)	Phase reading(°)
0	30.276	0.30	-120.910	59.84
1	19.743	0.19	212.780	60.98
2	9.708	0.39	532.660	61.78
3	0.532	1.29	804.850	62.43
4	0.549	20.04	804.370	59.87
5	0.562	42.73	804.015	57.13
6	0.561	63.42	804.090	54.89
7	0.583	102.52	803.420	51.20
8	0.586	141.57	803.340	48.11
9	0.574	210.70	803.680	43.70
10	0.581	310.77	803.490	38.95
11	0.589	412.16	803.235	35.39
12	0.586	518.33	803.340	32.56
13	10.051	13.17	521.985	59.28
14	9.983	31.69	524.115	56.04
15	9.923	48.53	525.965	53.47
16	9.883	80.05	527.215	49.41
17	9.847	110.93	528.325	46.15
18	9.817	164.71	529.260	41.65
19	9.805	243.87	529.655	36.86
20	9.807	323.57	529.600	33.38
21	9.808	405.48	529.555	30.70
22	19.859	9.79	209.055	58.33
23	19.787	24.24	211.370	54.81
24	19.726	37.08	213.340	52.12
25	19.678	62.01	214.865	47.76
26	19.642	87.29	216.050	44.23
27	19.608	129.96	217.140	39.66
28	19.595	194.65	217.535	34.76
29	19.588	258.58	217.790	31.37
30	19.586	324.07	217.805	28.82
31	29.997	7.38	-112.300	57.37
32	29.998	18.93	-112.365	53.57
33	30.005	29.64	-112.570	50.57
34	30.014	49.60	-112.825	46.00
35	30.021	70.62	-113.020	42.25
36	30.030	105.39	-113.310	37.58
37	30.059	158.30	-114.205	32.74
38	30.063	210.15	-114.350	29.49
39	30.060	265.35	-114.275	27.01

Certificate no: 4831_673_00128390
Foil batch no: 1517M

Product: 4831
Calibration date: 15.03.2017

Serial no: 673
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Index	0	1	2	3	4	5	6
SVUFoilCoef	2.78565E-03	1.17409E-04	2.39332E-06	2.32859E02	-3.80398E-01	-4.79825E01	4.62200E00
TempCoef	2.63894E01	-3.17042E-02	3.17376E-06	-4.59502E-09	0.00000E00	0.00000E00	



Date:15.03.2017

Tor-Ove Kvalvaag
Tor-Ove Kvalvaag, Calibration Engineer