

# Quality Control & Calibration Certification

**Customer:** Liviatan Technologies Ltd.

**Date:** 2/13/2023

**Order No.:** S226290 / H790

**Model No.:** PI2-MS-500-W PPB Oxygen Analyzer

**Configuration:** A-1146-24 PCB Assembly, Main/Display  
 ( x ) A-1147 PCB Assy, Interconnect, 4-20mA, 0-1V, 1-5 V  
 ( ) A-1174 PCB Assy, Interconnect, ( ) 1-5 V + Contacts **OR** ( ) 4-20mA + Contacts

**S/N:** 3026796dd  
**Batch:** 221107004  
**Batch:** 221014045  
**Software Ver:** S1011 1.04

Ranges: 0-500 PPB, 0-1000 PPB, 0-10 PPM, 0-100 PPM, 0-1000 PPM  
 Enclosure: Wall mount 12"W x 12"H x 8"D  
 SS sensor housing, flow control & bypass valves, 1/8" tube connections  
 Temperature Controlled Sample System: ( ) 110 VAC **OR** ( ) 220 VAC  
 ( ) "Oxygen Service" see P-1507 Rev 1, label analyzer, provide certificate  
 ( ) Automated Sample/Span/Zero Inlet Valves


**Sensor:** ( x ) GPR-12-2000 MS2E PPB Oxygen Sensor

**S/N:** 212680181

**Accessories:** Owner's Manual

A-3491-1 Power Cord, Filtered (CABL-1008-1, FLTR-1014)

**Test & Verify:**

Expected Value	Observed Value	Pass
0.0 ±3 low range	0.00 ppm	✓
110 PPM ±2 PPM	110 ppm	✓
After sensor installation, reading on continued zero gas purge is < 1 PPM after < 1 hour	30 min	✓
Reading after calibration with 8.138 PPM oxygen span gas	8.140 ppm	✓
Baseline drift on zero gas over 24 hour period (±5% FS)	±10 PPB of reading	✓
Noise level (+1% FS)	±5 PPB of reading	✓
Reading after 24 hours in static (no flow to sensor) condition	< 40 PPM	✓
Analog signal output 4-20 mA full scale	1.81 ppm	✓
Analog Range ID output 4-20 mA full scale or relay contacts (above)		✓

	Alarm 1	Alarm 2	
SETPOINT - Set alarm thresholds	✓	✓	✓
MODE - Verify activation mode HIGH / LOW relative to setpoint	✓	✓	✓
ENABLED - Verify alarms do not activate and OFF replaces SETPOINT	✓	✓	✓
DELAY - Verify setpoint must be exceeded before activation	✓	✓	✓
SILENCE/BYPASS - Verify main menu option de-activates alarm	✓	✓	✓
Overall inspection for physical defects			✓

**Options:** REG-1021 10PSI Fixed Regulator

**Other:**

NA

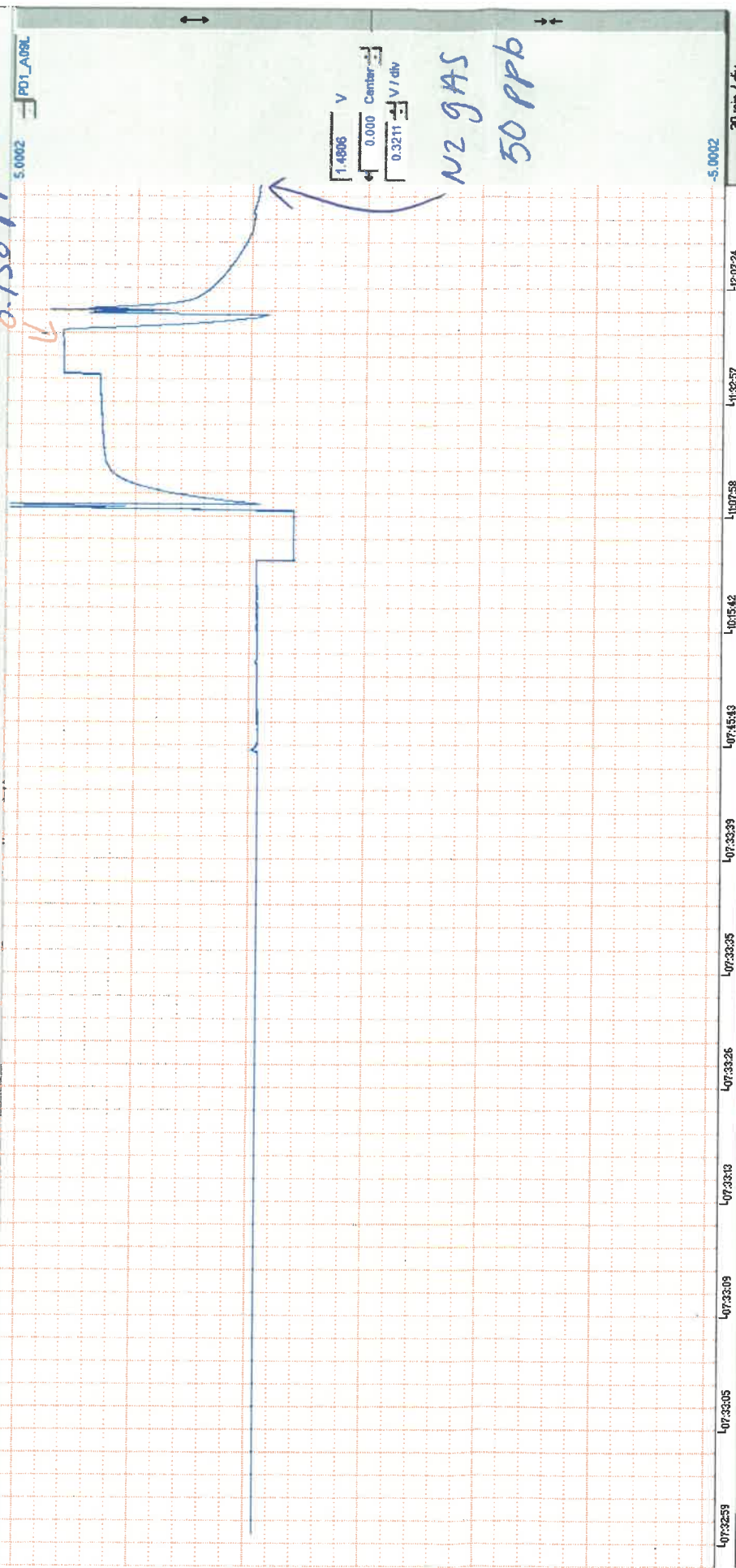
*Kyle Jensen*  
 2/14/23

S226290 / 2/14/23

Personal DaqView Plus - Chart Display

Chart Control View Timestamps

Group 17



Liviatrum Technologies Ltd. P12-MS-500 W # 302079661

Sensor: GM-12-2000-MS2E # 2126576181