



Sunburst Sensors, LLC  
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## SAMI<sup>2</sup> pH Validation Certificate

November 13, 2024

Serial Number: P0153  
RMA Number: 785  
Technician: BW  
Reagent: 1403

Table 1: SAMI<sup>2</sup> pH E-values.

Ea <sub>434</sub>	Eb <sub>434</sub>	Ea <sub>578</sub>	Eb <sub>578</sub>
19168.0	2546.0	111.0	41962.0

### Validation Notes

Tris Batch: 090924

$\Delta T = 0.12^{\circ}\text{C}$

Tris Bottle: 5

$N = 9$

Validation Temp: 24.85 °C

$\Delta \text{pH} = 0.0007 \pm 0.0004$

### Build Notes

Pressure Test: 200 psi – Passed

Modifications:

standard refurb

IR testing

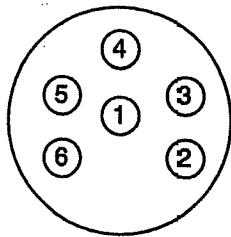
2x sem

replaced bad z cell

new diaphragm

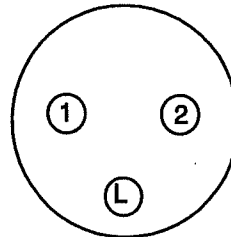
# INSULATION RESISTANCE TEST: OOI - UW/OSU UNITS

## Communications and Power - TI Bulkhead



Top view of MCBH(WB)-FS-6-TI

Pin	Connection	Switch	
		L	R
1	GND (pwr)	1	0
2	Rx (SAMI)	2	0
3	Tx (SAMI)	3	0
4	V+ (PWR)	4	0
5	RTS	0	1
6	GND (com)	0	2



Pump Bulkhead  
Top view of MCBH(WB)-FS-2-TI

Pin	Connection	Switch	
		L	R
1	GND	0	3
2	PWR +	0	4
L	Locate		

1. Plug test cable(s) into SAMI bulkhead(s) and immerse unit past bulkhead connection. Allow to soak for at least 2 hours.
2. Plug anode into Common on Fluke 1507. Black jumper connects 'Insulation' to box banana receptacle.
3. Set Fluke 1507 to 50V range and proceed to test each switch position in table below by pressing the 'Test' button. Hold 'Test' button until reading stabilizes. Record the insulation resistance value in table. Note that one of the switches is zero in each condition.
4. If out of spec ( $<10 \text{ M}\Omega$ ), contact customer w/r/t replacement of suspected parts (typically penetrator, bulkhead or biofouling cable).
5. Replace suspected part and re-test if needed.

Connection	Left switch	Right switch	Resistance (MegaOhms)	Re-Test Resistance (MegaOhms)
GND	1	0	42	36
Rx	2	0	42	36
Tx	3	0	55	55
V+	4	0	42	37
RTS	0	1	42	36
GND	0	2	55	55
GND - Pump	0	3	X	X
V+ - Pump	0	4	X	X

UNIT # P153  
DATE 11-13-24

Technician Signature \_\_\_\_\_

Notes:

Likely to need new BH on next refurb cycle

# Sunburst SAMI Service Report

Ver 1.0 3 Oct 2024

SAMI Type: PHSEN-A

Serial number: P0153

AT number: ATAPL-58337-00011

Service date: 11-5-24

Remaining reagent amount: 220g / 40%

## Incoming observations/remarks:

Good cond.

Likely needs IR replacements next return

## Repairs/Replacements made:

SEM rock optical filters

New flow cell

did phosgen repl. - cracked

ORIGIN ID:MSOA (406) 532-3246  
KATHERINE F. BECK  
SUNBURST SENSORS, LLC  
1226 WEST BROADWAY

MISSOULA, MT 59802  
UNITED STATES US

SHIP DATE: 21NOV24  
ACTWTG: 44.00 LB  
CAD: 545212/IN/EI 4760  
DIMS: 32x21x12 IN

BILL RECIPIENT

TO TRINA LITCHENDORF

UNIVERSITY OF WASHINGTON

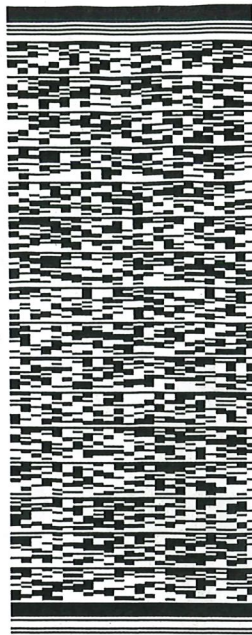
APPLIED PHYSICS LAB

1013 NE 40TH ST.-HENDERSON HALL

SEATTLE WA 98105

(206) 221-5906  
REF: P162,P153,P163,P132,P159,11212  
DEPT:  
PO:

58CJ8/39D3/C6C4



3 of 5

MPS# 7701 3759 7013  
0263

Mst# 7701 3759 5834

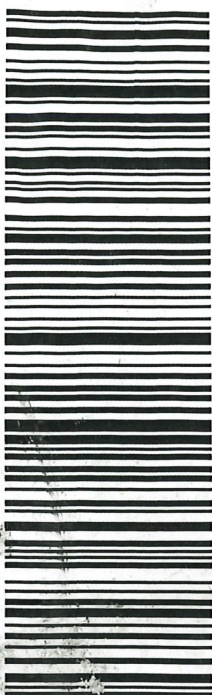
0201

MON - 25 NOV 5:00P

\*\* 2DAY \*\*

SS SEATG

LKEA 98105  
WA-US SEA



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